REQUEST FOR PROJECT/PROGRAMME FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN P4-400
Washington, D.C., 20433
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Email: afbsec@adaptation-fund.org

ADAPTATION FUND

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	REGULAR-SIZED Project Concept
Country/ies:	INDONESIA
Title of Project/Programme:	*Building Coastal City Resilience to Climate Change Impacts and Natural Disasters in Pekalongan City, Central Java Province*
Type of Implementing Entity:	National Implementing Entity
Implementing Entity:	Kemitraan (The Partnership for Governance Reform)
Executing Entity/ies:	Kemitraan (The Partnership for Governance Reform)
Amount of Financing Requested:	4,127,065 (in U.S Dollars Equivalent)

Project / Programme Background and Context:

Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.

Indonesia and Climate Change Impact

Indonesia is among the largest archipelago in the world which constituted of over 18,000 islands (both populated and not populated islands) with around 230 million populations. Its vast coastline that stretches over 18,000 km (in total) is the home for almost 60% of Indonesian population[1]. Scientists had observed changes in climate indicators in Indonesia over the past several decades, and concurrently made projection using AR-4 IPCC model to assess the future changes with results as below[2]:

- Average surface temperature increases will reach 0.8°C-1°C until 2020-2050 relative to the final climate period in the 20th century.
- Sea surface temperature increases will reach 1-1.2°C by 2050 relative to 2000.
- In the period of 2001-2100, there will be significant changes (especially in 2080s period) with a tendency of rainfall increase in wet season and a decrease in transition months.

[1] Akhmadi et.al., 2012, *Impact of Climate Change on Households in the Indonesia CBMS Area*, SMERU Research Institute

[2] Bappenas, 2010, *Indonesia Climate Change Sectoral Roadmap*

- Sea level rise (SLR) is projected to reach 35-40 cm in 2050 relative to the value of 2000. The maximum SLR may reach 175 cm in 2100.

Considering its geographic traits as an archipelagic country that consists of not only large but also great numbers of small islands, changes in the above indicators could potentially bring a significant impact and affect diverse development sectors in Indonesia, and consequently affecting the area's sustainability. The risks are deemed as higher for coastal area and population as a result of close exposure to coastal-related climate change impacts in the forms of climate-related disaster events, coupled with their low socio-economic capacity. In March 2015, Indonesian poverty rate reaches 11.22%[3]. Poverty is claimed as rural phenomenon considering that 60% of the poor are living in rural areas; where most of the poor were identified as living in Java Island[4]. Research conducted by the Ministry of Marine and Fishery shows that from a total of around 41 million poor population of Indonesia, over 13.5% of them are living in coastal area; they live in poverty level with minimum services to basic infrastructure[5]. Exposed to sea level rise, high tide, extreme weather and also the subsequent impact such as salt water intrusion; the coastal population often does not have adequate resources to face those risks, leaving them highly vulnerable to climate change impacts.

Climate Change Impact Affects the Economic Sustainability of North Coast of Java

North Coast of Java is one region that have repeatedly affected by climate change impact. Sea level in this region is rising between 6-10 mm/year[6]. Despite SLR projection in this region is not the highest in Indonesia, but its high population density and rapid urban development in comparison to other coastal area has placed North Coast of Java as highly vulnerable to climate change impact. As the major and busiest corridor for human and logistics mobilization in Java as well as one of the largest rice producer regions in Indonesia, disruption to this region will hinder economic activity in the island. For instance, flash flood and coastal flooding in 2014 (in Central and East Java region of North Coast Java) had inundated over 40,000 Ha of paddy field and damaging thousands of hectares of brackish water fish pond, causing failed harvesting in those land; imposing significant economic cost to the farmers and fishermen[7]. Another coastal flooding in mid-2016 (in Central Java area of North Coast Java) have caused 50-120 cm inundation in the major road access, leads to a significant delay in logistics distribution to several industrial area in central and eastern Java; crippling the industrial activity[8].

This program will focus on building resilience to climate change impacts in Pekalongan City, one of the coastal cities in Central Java Province (in North Coast of Java region), by employing interventions in the form of not only hard structure but also soft structure; touching not only physical interventions but also building their socio-economic and institutional capacity.

[3] Indonesia Central Bureau of Statistics, 2015
[4] Akhmadi et.al., 2012
[5] Secretariat of Republic of Indonesia Vice President, 2011, *Presentation on Inventory on Poor Household in Coastal Area/Fishermen*
[6] Suhelmi, 2012, *Assessment on the Vulnerability of Semarang Coastal Area to Sea Level Rise by Utilizing Composite Vulnerability Index*
[7] Kompas, 2014, *Food Production is At Risk (online-reading)*
[8] Kompas, 2016, *When Nature Responds to Human Greed (online-reading)*

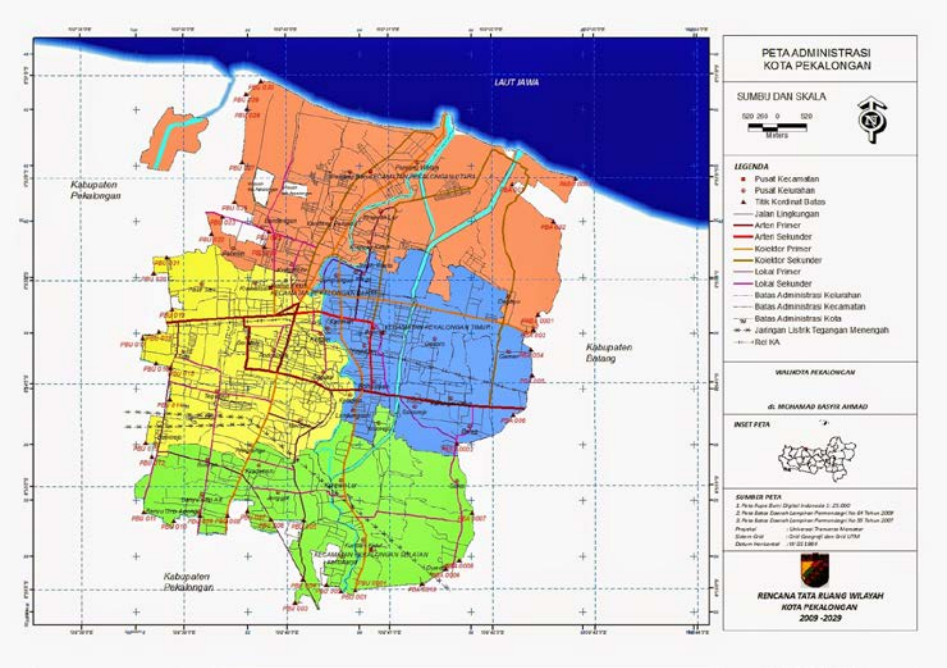


Figure 1. Administrative Map of Pekalongan City

Geographical, Social and Economic Condition of Pekalongan City

The City of Pekalongan is comprises of 4 sub-districts with a total administrative area of 45.25 km^2 and a total population of 296,533 people, where 31.3% of the population lives in Pekalongan Barat sub-district[9]. In 2015, 8.09% of Pekalongan population lives below poverty level, which in this particular city is set at Rp. 352,717 (27.13 USD)/capita/month. This is a slight increase in comparison to 2014, where the poor population was accounted for 8.02% of the population[10]. Geographically, the city is located in lowland plain with an average height of 1 m above sea level (a.s.l) and highest point within the city at 6.5 m a.s.l.

Seven rivers flow through the city and reaches Java Sea as the estuary, with Pekalongan River as the main river. There are several rivers that often overflow during high intensity rain event, namely Pekalongan River, Bremi River and Bangger River; causing 50-100cm inundation in many villages, and at times forcing the population to be evacuated for several days. This flash flood is considered as a recurring disaster in Pekalongan City.

Its economic state in 2014 shows that Manufacturing Industry, Trading and Retail, and Construction are three economic sectors with the highest contribution for the city's Gross Regional Domestic Product (GRDP), with GRDP growth for each sector ranging between 4-6% from 2013. Looking at the GDRP contributor, it is suitable to see that 38.46% and 28.14% of the population works in Industrial and Trade sector respectively. This also attributed to the fact that Pekalongan City is one of the main 'Batik' producers in Indonesia that not only supply national but also international market. As part of the largest rice producer region, Agriculture, Forestry and Fisheries sector is also one of the main economic sectors in Pekalongan City; ranks 6th on

[9] Pekalongan Bureau of Statistics, 2015
[10] Pekalongan Bureau of Statistics, 2015

the GDRP contribution in 2014 with over IDR 400 million of income, and attracts 4.65% of the population to work in the said sector[11].

Changes in Climate Change Indicators in Pekalongan City

Over the past several decades, assessment shows that there have been changes to climate indicators in Pekalongan City, especially those related to sea level, precipitation level and frequency, as well as temperature. These changes were also felt by the city population, particularly in the form of increasing frequency and intensity of climate-disaster events.

Historical trend shows that there is a 0.6-0.8 cm rise in sea level annually. In 2030, this number is projected to increase up to 22.5±1.5 cm annually; and in 2100, sea level rise in Pekalongan City is projected to reach 0.8 m and consequently affect 913.8 Ha area within 1.63-2.01 km distance from the city coastline. According to Pekalongan City Agriculture and Marine Agency, the city coastal vulnerability index is at 2.4 from a maximum scale of 3[12]. The impact of coastal flooding will not only affect coastal-related sector such as fishery and tourism, but could also create domino effect to other development sectors; posing an imminent threat to the sustainability of the city.

Figure 2. Projected Inundation in Pekalongan City Coastal Area in 100 Years Period (Pekalongan City Government, 2011)

The same study also shows how the precipitation pattern and level in Pekalongan City have change in 40 years period. The peak rainy season is shifting and occuring in a shorter period but with an increasing intensity. In future time, the peak rainy period is projected as will become shorter and occuring in November-January period, which could potentially leads to an increase in flooding intensity and frequency. Meanwhile dry season will occur in a longer period with a lower precipitation intensity that could cause prolong drought and water scarcity subsequently[13].

Other changes that was assessed is surface and sea surface temperature in North Coast of Java. Historically, there is only slight increase in the surface temperature, with 0.004-0.04ºC increase annually. Yet projection shows that in the next 100 years, there will be 0.4-4 ºC increases in surface temperature. This believed as will then affect the sea surface temperature

[11] Pekalongan Bureau of Statistics, 2015
[12] DKP, 2008 in Pekalongan City Government, 2011, *Pekalongan City Risk Profile*
[13] DKP, 2008 in Pekalongan City Government, 2011, *Pekalongan City Risk Profile*

at coastal area in a rate of 0.05-0.1ºC annually, prompting changes in the surrounding ecosystem[14].

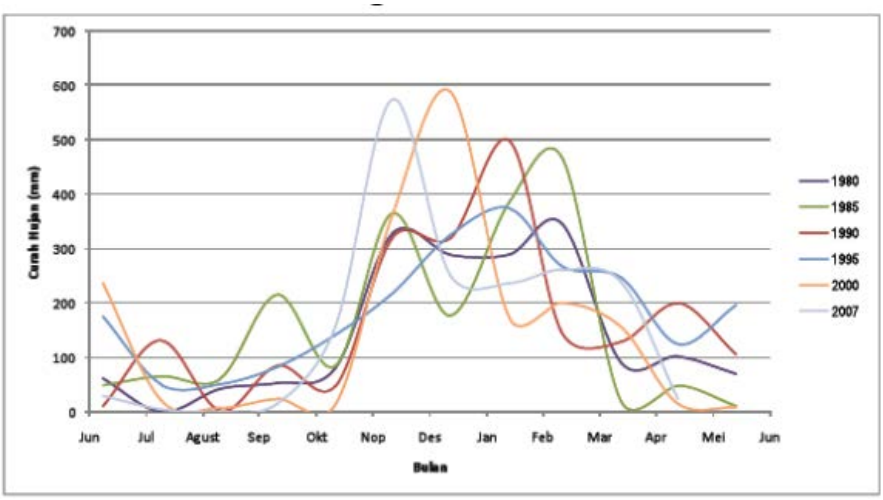


Figure 3. Precipitation Pattern in Pekalongan City in 1980-2007 Period (Pekalongan City Government, 2011)

Pekalongan City is at Risks from Climate Change Impact

Considering its geographical and hydrological attributes, Pekalongan City is no stranger to climate change impact in the forms of climate-disaster events. Changes in the aforementioned climate indicators are believed to increase the severity of the impacts. The city has a history of recurring events of coastal flooding and flash flood. Added with extreme weather events and prolonged drought, Pekalongan population have suffered significant damage from this climate-disaster events that goes beyond physical structure damage and inundated productive land in the coastal area, but they also imposed by socio-economic cost.

Coastal flooding is one of the most frequent risks faced by Pekalongan City. The coastal community experiences daily coastal flooding for the past 10 years. During high tide, the affected villages will be inundated for a period of 2-4 hours. Houses, public facilities, roads and also paddy field are all overflowed by the flood. The flood intensity is deemed as increasing each year. In 2012, coastal flooding inundated 8 villages and causing significant damages to ports and settlement area (and the infrastructure within) with water level reaches 110 cm, while also affecting 100 Ha of paddy field; whilst in 2016 the affected area is increasing to 10 villages and 197,5 Ha of paddy fields. Historical record shows that the height of coastal flooding in 2016 is considerably higher compared to the previous years; prompted the Mayor to declare Pekalongan City as in emergency state to coastal flooding[15].

Climate Change Vulnerability Index of Pekalongan City

To validate and further emphasize the correlation between the aforementioned risks to climate change impact, a study was conducted in 2012 on Pekalongan City Climate Vulnerability by

[14] DKP, 2008 in Pekalongan City Government, 2011, *Pekalongan City Risk Profile*
[15] Marfai et.al., 2013, *Spatial Modelling of Coastal Flooding Inundation Based on Climate Scenario and Its Impact on Pekalongan Coastal Area*

SMERU Research Institute. The study assesses the exposure of Pekalongan City to three types of climate-related disasters frequently occurred in the city (flash flood, coastal flooding and landslides), the area's human and ecological sensitivity, and their adaptive capacity.

The result shows that more than 25% and 10% of Pekalongan City population are exposed to flash flood and coastal flooding due to SLR in that order. With respective climate exposure index to flash flood and coastal flooding of 0.39 and 0.31, Pekalongan Utara sub-district is assessed as the most exposed area to both climate-related disaster events; putting them at a total Climate Change Exposure Index of 1[16].

Table 1. Climate Change Exposure Index of Pekalongan City (SMERU, 2012)

Sub-district	Flash Flood	Coastal Flooding from SLR	Landslide	Exposure Index
Pekalongan Barat	0.2365	0.0067	0.0994	0.3426
Pekalongan Timur	0.0851	0.0303	0	0.1154
Pekalongan Selatan	0	0	0.2812	0.2812
Pekalongan Utara	0.3900	0.3100	0.300	1

For Sensitivity Index, livelihood, ecology and population are three aspects that being considered. Based on the sensitivity assessment, Pekalongan Selatan is the most sensitive sub-district with 0.60 sensitivity index, due to the fact that the area is the center for batik industry and agricultural land in the city. As one of the major industries in Pekalongan, disruption to the sustainability of Batik industry could affect the economic condition of batik workers in particular and the city's income in general. Climate-related disaster could affect batik industry either by flooding the industrial area or contamination of immersion water from flood water. Meanwhile inundation from flash flood in agricultural area could leads to a severe failed harvesting. The second most sensitive sub-district is Pekalongan Utara with 0.48 sensitivity index attributed to the fact that majority of the sub-district's population works in fisheries sector, which at risk of economic losses from the loss of brackish water fish pond, damage to their house as well as changing fishing pattern and location[17].

Table 2. Climate Change Sensitivity Index of Pekalongan City (SMERU, 2012)

Sub-district	Livelihood at Risk	Ecology at Risk	Population at Risk	Sensitivity Index
Pekalongan Barat	0.06	0.00	0.16	0.21
Pekalongan Timur	0.02	0.14	0.22	0.38
Pekalongan Selatan	0.23	0.13	0.24	0.60
Pekalongan Utara	0.18	0.05	0.25	0.48

For adaptive capacity index, the calculation take account of aspects that are deemed as most needed for facing and recovering from climate-related disaster events, comprising of

[16] Akhmadi et.al., 2012
[17] Akhmadi et.al., 2012

infrastructure, technology, health facilities, institutions and economic conditions. Pekalongan Barat has the lowest Adaptive Capacity Index of 0.0010 which indicates the area is the most adaptive amongst other sub-districts[18].

Table 3. Climate Change Adaptive Capacity Index of Pekalongan City (SMERU, 2012)

Sub-district	Infrastructure	Technological Information	Health	Institution	Economic	Adaptive Capacity Index
Pekalongan Barat	0.2600	0.1389	0.1900	0.2000	0.2100	0.0010
Pekalongan Timur	0	0.0883	0.0382	0.0363	0.0946	0.7426
Pekalongan Selatan	0.0469	0.0073	0	0.0557	0.1409	0.7492
Pekalongan Utara	0.2414	0.0315	0.0331	0.669	0	0.6270

Having aggregated the exposure, sensitivity and adaptive capacity index, **Pekalongan Utara** is assessed as being the **most vulnerable sub-district** to climate change with 0.72 index. The high vulnerability of Pekalongan Utara is due to the fact that the area is highly exposed to climate change impact, particularly coastal flooding; while also has a relatively high sensitivity and low adaptive capacity. Meanwhile its high sensitivity and low adaptive capacity is the major factor for Pekalongan Selatan's vulnerability, despite the fact that the area has a relatively low exposure index.

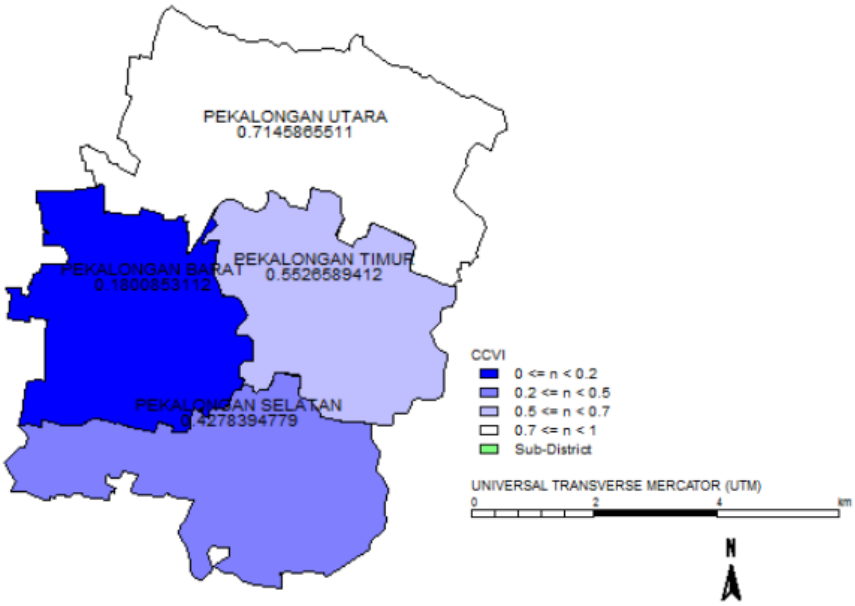


Figure 4. Climate Change Vulnerability Index of Pekalongan City (SMERU, 2012)

Climate Risks are Detrimental to Socio-Economic-Ecological State of Pekalongan City

[18] Akhmadi et.al., 2012

It was projected that in 2050, the maximum inundation water level could reach 135 cm that could cover up to 1,295 Ha of residential area, 507 Ha of paddy field and 230 Ha of wetland and fish pond; covering 51% of the Pekalongan administrative area[19], where Pekalongan Utara will experience the most severe impact from this event because of its geographical location in the coastline of Pekalongan City. The previously mentioned sea level rise projection in 2100 that would affect area up to 2.01 km from the city coastline further highlights the vulnerability of Pekalongan Utara[20].

Pekalongan Utara population that predominantly works in fishing industries will be highly affected economically from this; forcing them to alter their fishing practices (both those who fishes in the sea and cultivating fish pond) and adapting to recurring inundation in their neighbourhood. For a city where fisheries became one of the major economic sectors such as Pekalongan (6th GDRP contributor), a recurring coastal flooding would potentially hurting its economic condition. Not to mention impact to the surrounding ecosystem. Inundation in the herding area leaves the livestock without proper feed; several fruit plantations cannot grow due to changes in water salinity after flooding. Overexploitation of groundwater further exacerbated the flood intensity and impacts by causing land subsidence in the coastal area. Salt water intrusion have been experienced by those who rely on ground water for their daily needs, for instance in Panjang Wetan village (Pekalongan Utara Sub-district)[21].

As mentioned above, these climate-related risks will not only damaging the settlement and infrastructure but also pose a severe threat to the area's food security, as well as other area that depends on Pekalongan for their staple food supply. Losses from the inundation of the paddy field are predicted to extend between IDR 19.33 and 24.10 billion (USD 1.486.923 – 1.853.846) for a range of affected paddy field area between 945-1,339 Ha[22]. Another study conducted on loss and damage due to coastal flooding in Bandengan Village (Pekalongan Utara Sub-district) shows that the said village experience over IDR 188 billion (USD 14.461.5380 loss and damage over the period of 2000-2016. This number encompasses the loss of agricultural land productivity, infrastructure damage as well as loss of income and increasing household expenses due to the flooding events[23].

Pekalongan City Efforts to Address Climate Risks

Considering the above climate-related risks and their domino effect faced by Pekalongan, addressing the risks become of importance to the city. Diverse measures have been taken by local government of Pekalongan City to address this issue; both conducted self-sufficiently as well as with the assistance from third party. Self-sufficiently, the local government has developed evacuation plan annually for the purpose of community mobilization during flooding. They have also implemented short-term measures by providing economic assistance in the form of fish seed and fish nets, as well as physical assistance such as raising embankments and

[19] Marfai et.al., 2013, *Spatial Modelling of Coastal Flooding Inundation Based on Climate Scenario and Its Impact on Pekalongan Coastal Area*
[20] DKP, 2008 in Pekalongan City Government, 2011, *Pekalongan City Risk Profile*
[21] Akhmadi et.al., 2012
[22] Kasbullah&Marfai, 2014, *Spatial Modelling of Coastal Flooding Inundation and Assessment on Potential Loss on Paddy Field Agricultural Land, Case Study: Coastal Area of Pekalongan District*
[23] Bintari, 2016, *Loss and Damage – Climate Change Impact in Coastal Area of Pekalongan City*

build productive roads in the embankments area. The local community have also implementing voluntary adaptive measures, albeit a simple one due to economic restraints; such as: raising their floor levels, changing livelihood, river cleaning etc. Yet these measures were conducted partially, without a comprehensive planning that could relate the root cause of the issue to the implemented activities, so that the results are slightly ineffective, especially when considering long-term perspective.

Pekalongan City had also cooperated with different local and international NGOs as well as development partners in this climate change issue. PAKLIM-GIZ had assisted the city in developing their GHG Emission Profile, Risk Profile and also deriving the relevant Integrated Climate Change Strategy (ICCS); in which the latter is claimed as successfully integrated to the existing Mid-Term Development Plan of Pekalongan City. However in actual, the integration is limited to inserting the actions into development plan matrix, without consideration of climate change as the strategic development issue for the city; losing the actual meaning of mainstreaming process. ACCCRN Indonesia (a program under Mercy Corps Indonesia) further assist the city in managing the issue by providing capacity building for both the community and local government to enhanced their awareness and knowledge on this matter. By doing so, the program expected that the city could develop the corresponding adaptation activities.

How will the Program assist the City of Pekalongan in Effectively Addressing Climate Risks

Despite these diverse measures and partnership, when talking about the effectiveness of the measures to reduce climate-related risk in the city, there is lack of evidence that can be offered. There is no study on how the measures assist in reducing the city's risk level or was it really reducing at all; no assessment that can relate the implemented measures to the initial and post-intervention risk level. Nonetheless, the community and local government have been exposed to climate change issue in the past few years, so that many can be said about their increasing level of awareness.

From the above narration, it can be said that adaptation measures taken in Pekalongan City to address climate change issue are somewhat lacking in evaluation, in which derives from the non-existent of a comprehensive climate risk assessment. A such-complex issue as climate change needs across-the-board measures to be able to address the issue effectively, and from its roots. Considering that most of the risks are deriving from changes in climate indicators, hence it is of importance to develop climate risk assessment prior to intervening with different projects, so that the projects results can be tracked back to the initial level of risk.

It is this gap that this proposed program tries to bridge, by implementing comprehensive approach encompassing technical assessment, planning, intervention, and also monitoring and evaluation; which will be supported by framework and measures to fortify institutional mechanism on climate adaptation and resilience issue. In practical the program components will be started with identifying the roots of the problem (climate risk assessment) and followed by developing and implementing the adaptation plan (in the form of intervention projects) which results can be track back to the problem; while simultaneously building stakeholders' capacity and advocating climate resilience policy along the course of the program.

This approach will be taken at 4 governance level; starting from village (community) level, city level, provincial level up to the national level; to ensure the interlink of plan and actions across those different level. Capacity building and developing adaptation plan as well as implementing the corresponding plan will be the fundamental of the approach at village and city level. Meanwhile at provincial and national level, mainstreaming and advocacy will be the primary component. Synchronization of adaptation plan will be at the core of the approach at every level.

Climate risk assessment process will be done at village and city level. At city level, the assessment will utilize Vulnerability Index Data Information System (Sistem Informasi Data Indeks Kerentanan/SIDIK), a vulnerability assessment tool developed by the Ministry of Environment and Forestry. SIDIK is a web-based data and information system that can be used to assess the vulnerability level of an area and/or sector to climate change impact. SIDIK has a standardized data and methodology which enable the user to compare vulnerability level across different areas in Indonesia. Despite its standardized character, SIDIK acknowledge that every region has different level of data, type and accuracy; and thus the system provides space for adjustment. SIDIK user could use a more accurate data and indicator for the system that is available in their region.

For the purpose of this program, given that the system is initially built for land-based region, adjustment will be made to SIDIK. To be able to capture the vulnerability of Pekalongan City with its coastal characteristics, vulnerability indicator within SIDIK system need to incorporate coastal-related data. The adjustment will then provide input for SIDIK developer to improve their system by including coastal attributes. This future improvement will be essential seeing how coastal cities/districts are spread out across Indonesian coastline.

At village level, a Participatory Climate Risk Assessment will be the chosen approach. The initial step of the program at this level will be establishing village working group, and delivering a series of training to build their knowledge on climate change adaptation and coastal resilience. This is expected to assist them in developing much sounder climate risk assessment. This two-tier risk assessment at community and city level will be done to ensure a synchronized adaptation planning at both level, which does not happen often in the past; the city government project at times did not fully serve the actual community needs.

Having taken into account the existing Climate Change Vulnerability Index, climate risks faced by the area, as well as losses imposed to the respective community, hence the geographical scope of this program at village level will focus on the coastal part of Pekalongan City which historically imposed by climate-related risk in the form of coastal flooding and abrasion. The coastal area falls under the administrative area of Pekalongan Utara sub-district. Pekalongan Utara is the largest sub-district in Pekalongan City with a total administrative area of 14.88 km^2 that inhabited by 78,470 population (in 2014), the second highest population number amongst sub-districts in Pekalongan City. From that number, 50.2% are women[24]. The sub-district is located in the northern part of Pekalongan City, directly interfacing the Java Sea which subsequently placing them vulnerable to coastal flooding with intensity that could potentially

[24] Pekalongan Bureau of Statistics, 2014

higher from sea level rise. Pekalongan Utara constitutes of 7 villages; in which Panjang Wetan village is the most vulnerable to flash flood, while Krapyak Lor is the most vulnerable to coastal flooding[25]. In addition to 7 villages within Pekalongan Utara Sub-district, the village level scope for this program will also include Pasirkraton Kramat village in Pekalongan Barat Sub-district that assessed as prone to coastal flooding. The significance of addressing coastal flooding risks in these villages further underlined by the city government publication of Pekalongan City Coastal Flooding-prone Map 2016 which shows how the all of the villages targeted in this particular program are categorized as highly prone to coastal flooding.

Figure 5. Pekalongan City Coastal Flooding-prone Map Year 2016 (Pekalongan City Government, 2017)

Historical data shows that between the period of 2007 and 2016, the total inundated area in 9 villages (Degayu, Krapyak, Panjang Wetan, Panjang Baru, Kandang Panjang, Padukuhan Kraton, Bandengan, Pasirkraton kramat and Tirto) keeps increasing; from 70 Ha in 2007 to 247 Ha in 2016. The 2016 event was recorded as affecting a total of 9,301 households in those villages. The severity of this flood event further highlighted by the loss of land over the past 10 years period. Since 2007, over 73% of paddy fields within the 9 villages are permanently inundated, where some of the area can be salvaged into brackish water pond whilst the other became unproductive land; leaving only 119 Ha of productive paddy field in 3 villages, which are Degayu, Krapyak and Tirto village. For this proposed program, intervention area at village level will only cover 8 villages. Tirto village will not be included considering the fact that flooding and inundation occurring in the said village are mostly due to river flooding, instead of coastal flooding.

[25] Akhmadi et.al., 2012

Figure 6. Permanently Inundated Agricultural Land in Pekalongan Utara (Site Observation, 2017)

Figure 7. Inundated Settlement Area in Pekalongan Utara (before Rainfall) (Site Observation, 2017)

Pertinent to institutional mechanism and framework that are trying to be instilled within this program, designing an effective mainstreaming mechanism will be among the basics. This program is intending to mainstream the risk assessment results and the subsequent adaptation plan to local government development plan, as well as synchronize it with local spatial plan, to ensure that activities taken in the coastal area are consistent with its legal designation. Adaptation plan at village level will be mainstreamed to the village development plan, and subsequently submitted and advocated during development plan meeting at sub-district level. This plan will continue to be advocated during the succeeding development meeting at city level. The results will also be synchronized with adaptation and development plan at provincial and national level. This vertical synchronization is believed as will be able to inform and foster a better climate adaptation policy.

In 2014, the Government of Indonesia had published their National Action Plan on Climate Change Adaptation (RAN-API), a document outlining adaptation strategy and program that will be implemented nationally by the country for a 5-year period. RAN API is expected to be mainstreamed into provincial and local level, in which adaptation plan made at both level should reflect and in harmony with the content of RAN API, while at the same time aiming to address climate-related risks in the respective area.

At this moment, the RAN API Secretariat is in the process of tagging adaptation activities at national level, whereas the locus area for the said activities will be at city/district level. Ensuring a synchronize local-provincial-national adaptation plan would potentially assist the city in tapping adaptation-related funding that budgeted at the national level. Not to mention the fact that a synchronize activities will assist the national government in assessing the effectiveness of RAN API implementation. Planning can be made at national level, but the implementation would almost always be at local level, as the party that directly facing the risks. Hence developing an effective adaptation activity at local level is essential here.

In relation to RAN API, Pekalongan City also has the benefit being chosen as one among 15 pilot locations of RAN API; putting them at the forefront for adaptation-related activities. Pertinent to this matter, mainstreaming process that will be conducted under this program is expected as will set an example on how to synchronize adaptation plan and program at four government levels, as well as mainstream the said plan to the local development plan. Lessons learned from the mainstreaming process can be disseminated to other pilot locations.

Managing climate change impact in coastal area is already a complex issue, which intricacy can be amplified seeing how nature and physical resources are interconnected in a manner where changes in one area could affect the other. Examples on this interconnection are displayed at Pekalongan City. Around 70% of paddy fields were inundated from coastal flooding, forcing the farmers to change their livelihood and alter the inundated land into brackish water pond, whereas this livelihood shift had somewhat assist the community from losing their economic income completely, but on the other hand this alteration could lead to environmental pollution if the conventional fish farming practices employed at the moment did not consider or mitigate potential soil and water contamination. Furthermore the loss of this agricultural land has caused a decrease in rice production, tipping the food supply balance in the particular area and other dependent area. Another example is how the dense coastal settlement area is not serviced by water piping from the state-owned water company, prompting the community to rely heavily on groundwater. Land subsidence from significant coastal land use change over the years, coupled with this groundwater exploitation, topped by frequent coastal flooding; all those combined and have caused salt water intrusion in the settlement area, leaving the community susceptible to health issue from daily consumption of water that has salinity above standard.

Seeing these risks faced by the area, resilience building process in this proposed program will be focusing its work in strengthening food security, enhancing community livelihood while simultaneously preserving the environment; touching not only practical aspect but also promoting policy. Sustainable development principle will be held at core here to ensure efforts being done at one sector will not create negative impact and incremental losses in the other.

In view of this multifaceted issue, the proposed program framework will be instilled by multidisciplinary and iterative process, with a series of assessment, study and activities to be derived from. Accordingly, the program will not only emphasizing on building hard structure, but also strengthen soft structure (institutional realms, including capacity building) in addressing the issue; creating a paradigm shift from the conventional approach that mostly revolving around building infrastructure that could only serve short-term purposes to newer perspective that allow for continual development and evaluation. This approach will try to simultaneously address the issue of physical structure for coastal protection and adaptation, preserving and developing community livelihood in addition to developing and promoting local tourism in coastal area; balancing the objectives in the above sectors without jeopardizing the sustainability of the others. At the core of this framework is collaborative approach by fostering multi-stakeholder involvement, to bring about different interest on the issue and resolve it amicably to achieve common goals.

Project / Programme Objectives:
List the main objectives of the project/programme.

Goal
This project is specifically designed to *Building Coastal City Resilience to Climate Change Impacts and Natural Disasters*, with a particular focus on pro-poor adaptation actions that involve and benefit the most vulnerable communities in the city.

Objective:

The program will be conducted at 4 governance level, with the main objectives at each level are as follows:

1. **Village Level**
   (i). Enhancing coastal community capacity in developing and implementing Climate change adaptation actions and village information system including developing livelihood strategies, by also taking into account relevant local wisdom
2. **City Level:**
   (i). Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart actions
3. **Provincial Level:**
   (i). Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan, which in turn could foster better climate-related policy on climate financing and bottom-up planning.

4. **National Level**
   (i). Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government

Table 4. Alignment with the Adaptation Fund Results Framework

Project Objective Components	Expected Outcomes	AF Outcomes
1. Village Level: Enhancing coastal community capacity in developing and implementing Climate change adaptation actions and village information system	Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster; including capacity in integrating the actions to village development plan	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
	Enhancing local community adaptive capacity, including developing livelihood strategies to face climate change impacts and natural disasters	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas
2. City Level Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart	Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API),	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses

	Implementing Climate smart initiatives, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors
	Establishing city-level knowledge management platform	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
3. Province Level Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan, which in turn could foster better climate-related policy on climate financing and bottom-up planning	Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	Outcome 2: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses
4. National Level Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government	Enriching SIDIK as risk assessment tools for coastal area based on local experience	Outcome1, Output 1: Risk and vulnerability assessments conducted and updated at a national level

	Strengthening vertical coordination and collaboration between national and local government in climate adaptation context	Outcome 7: Improved policies and regulations that promote and enforce resilience measures

Project / Programme Components and Financing:

Fill in the table presenting the relationships among project components, activities, expected concrete outputs, and the corresponding budgets. If necessary, please refer to the attached instructions for a detailed description of each term.

For the case of a programme, individual components are likely to refer to specific sub-sets of stakeholders, regions and/or sectors that can be addressed through a set of well defined interventions / projects.

Project/Programme Components	Expected Outputs	Expected Outcomes	Amount (US$)
1. Village Level Enhancing coastal community capacity in developing and implementing Climate change adaptation actions and village information system	1.1.1. Village climate working group established and functioning in each of the 8 villages 1.1.2. Enhancing coastal community capacity in developing the village informtion system and implementing the ensuing climate change adaptation actions	1.1. Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster; including capacity in integrating the actions to village development plan	304.327
	1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove	1.2. Enhancing local community adaptive capacity, including	643.846

Project/Programme Components	Expected Outputs	Expected Outcomes	Amount (US$)
	restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity,Sanitation, latterin, rain water harvesting , coastal embankment, etc.)	developing livelihood strategies to face climate change impacts and natural disasters	
2. City Level Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart initiatives	1.1.1. City climate working group reactivated 1.1.2. RAD API developed based on City Climate Risk Assessment and Climate Coastal Impact 1.1.3. Strategy to integrate CCA into local government planning processes (annual work plan or mid-term development plan of city) is developed	1.1. Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API)	194.930
	2.2.1 Innovative and collaboration adaptation actions are implemented in collaboration with private sector, Government bodies	1.2. Enhanced resilience of coastal community from the Implementing Climate smart initiatives,	**2.172.539**

Project/Programme Components	Expected Outputs	Expected Outcomes	Amount (US$)
	and NGO (i.e. technology for main productive sectors, model on collaborative CCA program across coastal villages/ upstream and downstream villages); and also evaluated for future reference	including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience	
	2.3.1 Climate change atraining and knowledge sharing conducted 2.3.2 Knowledge product, Advocay material (i.e. lessons learned, research paper, newsletter) published and shared 2.3.3 Local knowledge sharing platform established	2.3. Establishing city-level knowledge management platform	**248.076**
3. Province Level Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java	3.1.1 Enhanced provincial capacity to develop RAD API 3.1.2 appropriate strategy to integrate CCA into Provinciall government planning processes (annual work plan or mid-term development plan	3.1 Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	**31.074**

Project/Programme Components	Expected Outputs	Expected Outcomes	Amount (US$)
Province development plan which in turn could foster better climate-related policy on climate financing and bottom-up planning	of city) is developed		
4. National Level Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government	4.1.1 Knowledge product in the form Handbook on how to use SIDIK for risk assessment at coastal city is published and shared. This handbook is targeted to be used by local government, NGOs and civil society organizations	4.1 Enriching SIDIK as risk assessment tools for coastal area based on local experience	**31.638**
	4.2.1 Strengthened vertical coordination and collaboration between national and local government in climate adaptation context	4.2. Strengthening vertical coordination and collaboration between national and local government in climate adaptation context	**91.647**
5.Total Project/Programme Cost			3.718.077
6.Project/Programme Execution cost and ME cost			353.217
7.Project/Programme Cycle Management Fee charged by the Implementing Entity			55.771
Amount of Financing Requested			**4.127.065**

Projected Calendar:

Project Duration: *3 years (36 months)*

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

Milestones	Expected Dates
Start of Project/Programme Implementation	November 2018
Mid-term Review (if planned)	Juni 2020
Project/Programme Closing	September 2021
Terminal Evaluation	October 2021

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.

Climate change has led to the rise of sea level and changes in rainfall patterns in Pekalongan City. The rainfall pattern in recent years has become more intense and occurs in a shorter period, which then leads to flooding. Flooding in northern part of Pekalongan City, either those caused by increased rainfall or sea level rise, have contributed to many interconnected problems. Extreme climate events like heavy rains, combined with sea-level rise have resulted in more frequent and more unpredictable floods that threaten populations' security and goods. Climate change is thus impeding Pekalongan City development. One example of this impediment is the decrease of agricultural land area in nine villages of Pekalongan city that reaches 73% between the period 2007-2016 due to the land being submerged in sea water and also high salinity level of the irrigation water. This condition has threatened Pekalongan City food security by reducing rice and other agricultural production.

This program is specifically designed to *Building Coastal City Resilience to Climate Change Impacts and Natural Disasters*, with a particular focus economic/livelihood, food security and environmental issues. The development of local climate change adaptation plans required scientific basis to corroborate and better understand the pattern of current and future of climate risk. This information is essential to create and develop an effective adaptation. Effective adaptation action should also be built on existing actions; adjusting and leveraging practices that are socially- and environmentally-friendly, while leaving practices that potentially cause adverse impact.

Another key to effective adaptation is it needs to be locally driven and to involve those most at risk. This notion thus highlights the importance of two key actors, the local government and

community based organizations (Satterthwaite, 2010). The development of local adaptation actions then should not only consider the national policies but also local condition and characteristics. Having considered the above, employing a combined bottom-up and top-down approach, while simultaneously taking into account the current and future climate risk pattern, is considered as important for this program in developing an effective local adaptation action plan.

Bottom-up approach means that the development of local action plan should meet local needs and involve diverse actors by taking into account the local condition (human capacity, resource availability, local knowledge and practices, etc.). Top-down approach means that national actors play role in providing direction, guidance and resources for supporting local government in developing adaptation action plan that is in line with national development goals. This program will combine two approaches and facilitate interaction between national and local actors, in order to achieve better overall results. Combined approach is expected to become best practice and set out example on how to synergize national policies (RAN API) into all level of government (Province, City and Village). Following this approach, activities under this project will then be designed and implemented at four governance level (National, Province, City and Village).

This proposed program will be focusing its work on economic/livelihood, food security and environmental issues. From legal perspective, these 3 issues are in line with resilience sectors in RAN API (specifically Cluster 1, 2 and 3) and with direction for improvement of communities' resilience in 2015-2019 National Mid-Term Development Plan (RPJMN). In addition to that, the combined approach at four governance level is in line with Law Number 23 year 2014 on Regional Government. Indicative activities at each level are explained below. More detailed explanation on activities will be developed during program preparation stage.

Village Level

The main focus at village level is to strengthen the capacity of coastal community in developing village profile/village information system and adaptation action plan, on top of implementing the derived climate change adaptation action. The profile itself will be built upon participatory climate risk assessment conducted by the community. The project in village level will also stimulate the implementation of community-based adaptation actions that will be focusing mostly on livelihood context; how the community can adjust their conventional livelihood practices to be able to face climate change impact. The other focus will be on impact from climate-related disaster faced by the community, namely coastal flooding and erosion and sea level rise. Prior to implementing the actions, scoping and feasibility study will be undertaken for each prioritized actions to ensure its feasibility and potential effectiveness. Among the activities are: (i) Strengthening marine-farming practices by emphasizing on the improvement of aquaculture (fish, crab, shrimp, seaweed) technology and methods, (ii) integration of mangroves into fish pond design and development in order to increase the physical resilience of the coastline with natural and local-based structure intervention (iii) promoting individual/communal household-scale innovative latrine and simple waste water management installation design to address sanitation issue in flood-prone area.

City Level

At city level, more emphasis is placed on increasing the capacity of local government bodies, universities and local NGOs in order for them to have the ability to develop local climate change adaptation action plan (RAD API). The development process will be facilitated by the Project Management Unit (PMU). The core steps in developing RAD API document will be translation and adjustment of RAN API content into local context. To provide scientific ground to the document, training on utilizing SIDIK to assess climate vulnerability and risk of the city will be conducted. The assessment result will then be a part of local context in RAD API and among the key considerations to develop the list of adaptation actions. Training will also be given on mainstreaming process of adaptation plan to local development plan. The training participants at city level will also involve village representatives. This is to ensure that all stakeholders will have the ability to evaluate and find synergy between RAD API and other relevant regional/local development plans. Furthermore, approach at city level would not only encourage community, but also private sector participation in implementing adaptation action, by exploring the potential of private sector cooperation in supporting local adaptation action. Promoting collaborative climate change adaptation actions, not only within program timeframe, but also in future time.

The collaborative adaptation actions that will be implemented in city level will be designed with implementation and financing scheme that will allow for replication and wider implementation, so that benefit derived from the program can be further shared after the program is ended, not only relying from program funding. Adaptation actions that will be implemented at city level will be focusing on:

(1). Enhancing the resilience of main productive sectors through (i) aquaculture development (shrimp, fish, crab, seaweed) by introducing new technology and cooperate with financial institution in developing aquaculture scheme (ii) construction of coastal embankment with sediment/sand trap system
(2). Introducing innovative latrine in flood prone area to reduce impact from water-borne disease that complemented with financing scheme
(3). Developing and promoting community-based ecotourism. Despite its nature will be community-based, this ecotourism activity will falls under the responsibility of Pekalongan City Government considering that village does not have jurisdictional authority in the city administrative area. Yet the community will be the main actor in implementation and will work closely with city government officials on this matter.

Additionally, knowledge management platform will be established at city level; enabling information sharing between stakeholders and creating a transparent program implementation. Among knowledge product that will be produced are documentation of lessons learned, training materials, research paper, and advocacy materials.

Provincial Level

Activities at provincial level are more focus in assisting the provincial team to develop climate risk assessment with village level as the smallest level of analysis, in which the assessment results will be the basis to develop RAD API. The provincial will undergo a series of training to equip them with the following technical skill and knowledge: SIDIK utilization, RAD API development by considering RAN API and city adaptation plan, translate RAD API into

provincial development plan. These will be the basis to build a synchronize adaptation action between city, province and national. RAD API at province level that developed by taking into account the context of City's RAD API is believed as will promote the notion of climate-resilient development in city/district under their administrative region, by showcasing bottom-up planning and providing climate financing potential.

National Level

At national level, the team will be focusing in strengthening vertical coordination and advocacy process by working closely with 2 national government bodies and secretariats in issue that will be elaborated as follows:

(1). The Ministry of Environment and Foresty (MoEF) has developed a free web-based tool to calculate climate risk index known as SIDIK. This tool is highly beneficial for local government to assess their area risk index in an easy and user friendly manner. Yet the tool has a drawback in its inability to accurately calculating climate risks in coastal areas. Therefore, this program will support MoEF in refining the tool in order to improve its effectiveness and accuracy of its utilisation in coastal area. Building upon experience of using SIDIK at city level, a handbook will be developed on how to use SIDIK for risk assessment at coastal city area. This handbook will be communicated to MoEF and made available for local government, NGOs and civil society organizations.

(2). Secretariat of RAN API had developed gap analysis of RAN API document. Building upon experience in translating RAN API at provincial and city level, the team will provide input to the secretariat on gaps identified during the translation process. This input will be beneficial for RAN API review process that is planned to be conducted in 2017-2018. Cooperation with Secretariat of RAN API will also be done to explore potential synergy between the national (RAN API) and regional adaptation actions (RAD API), that could prompt vertical collaboration between line ministries/government agencies and local governments for implementing adaptation actions that can be implemented at the provincial, city or village level. Seeing Pekalongan City position as one of the pilot areas of RAN API, this such synergy and collaboration is seen as highly potential to be implemented.

In order to explore the potential vertical collaboration in implementing adaptation action, there will be a series of national dialogue as a consultative meeting/forum among national, province and city representatives. To further strengthen the need for collaboration as well as highlighting the role of local level in climate adaptation context, a set of policy advocacy materials (i.e. policy paper on gaps in national policy, fiscal, regulatory and legal framework that built upon experience and findings at local level; lessons learned documentation, research paper) will be developed and communicated to relevant stakeholders. Engagement with national platform that advocating the same interest is believed as will provide an assistance to this advocacy process, and thus the team will actively engage and communicate with Indonesia Climate Alliance (ICA); a national platform comprises of different national institutions, research institutes and NGOs with interest on climate resilience issue.

Interconnection of Program Implementation at 4 Governance Level

Combination of bottom-up and top-down approach will be implemented within the proposed program to ensure a cohesive climate adaptation plan/program/policy and its implementation at all governance level. In general, the program will focus on 4 aspects, which are capacity development, adaptation action, knowledge management and policy advocacy. Figure 8 below shows the interconnection between actions at different governance level within the program, with brief information on each aspect.

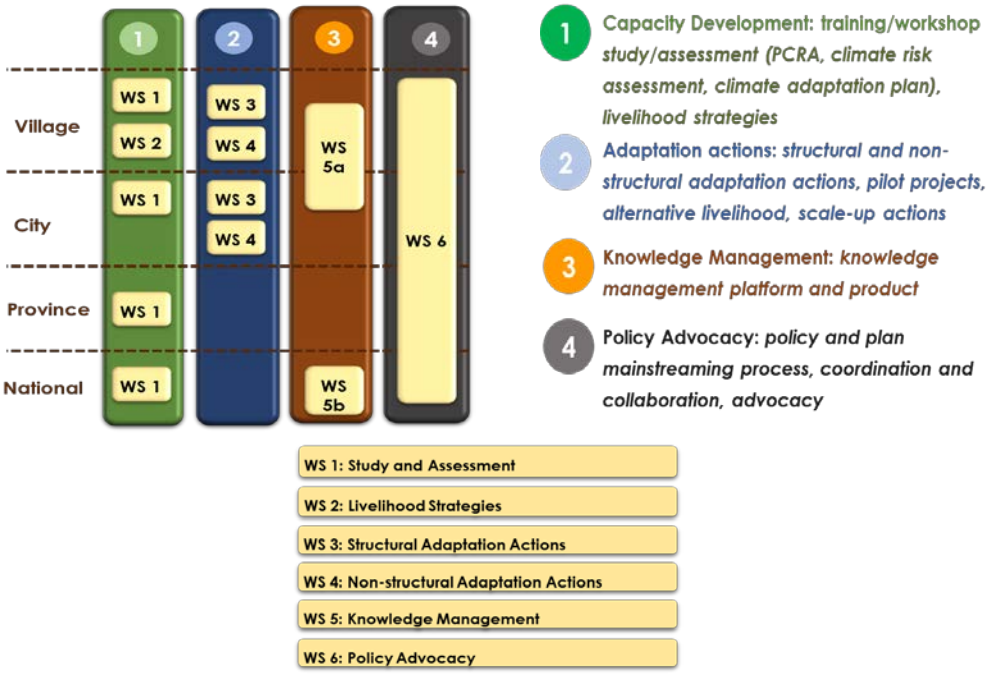
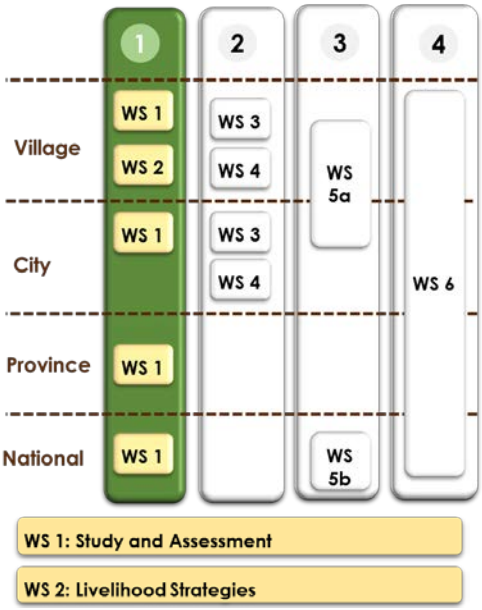


Figure 8. Interconnection of 4 Aspects at 4 Governance Level

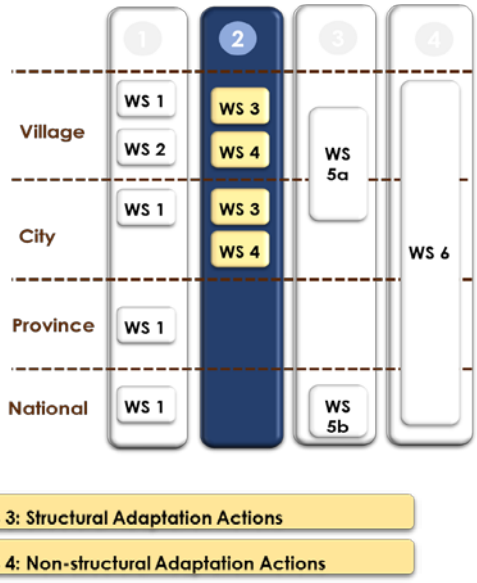
Capacity Development

Focusing in equipping implementer and beneficiaries with sufficient knowledge and skill to address climate-related issue. Capacity development activities will be done at all governance level, with materials including how to develop, use and integrate climate risk assessment at lower governance level into risk assessment process at higher governance level and its relevant policy-making process. At village level, capacity development process will also include participatory assessment in determining the most suitable and appropriate alternative livelihood strategies for their area. This particular strategy will also be advocated to the city government for broader replication that complemented with financing scheme.



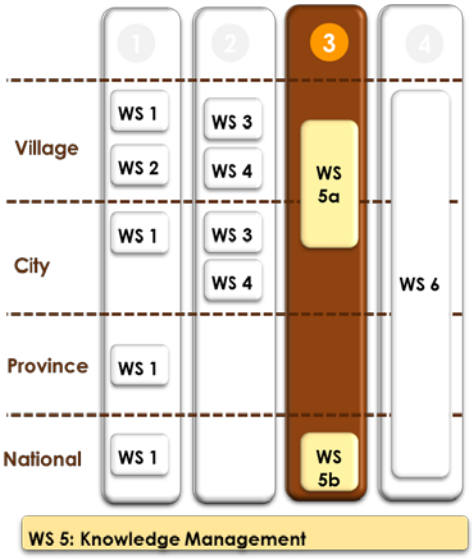
Adaptation Actions

Focusing in implementing physical and non-physical interventions that are expected to assist Pekalongan City in reducing coastal-related climate risk. Considering the scope of program implementation as well as the fact that local autonomy in Indonesia falls under city government (instead of province/state government) and its lower governance level, hence adaptation actions for this proposed program will only be implemented at village and city level. Adaptation actions that will be implemented at both level will be depending on the corresponding climate risk assessment results. At city level, the content of climate adaptation plan (and subsequent adaptation actions) will not only consider city climate risk assessment results, but also input from participatory climate risk assessment at village level.



Knowledge Management

Focusing in platform development for information dissemination and knowledge products development. This aspect is aiming to ensure an effective horizontal and vertical information sharing on climate-related issue. For the purpose of this program, knowledge management aspect is embedded in each of 4 governance level. Hence the relevant knowledge management activities are located scattered in each level.

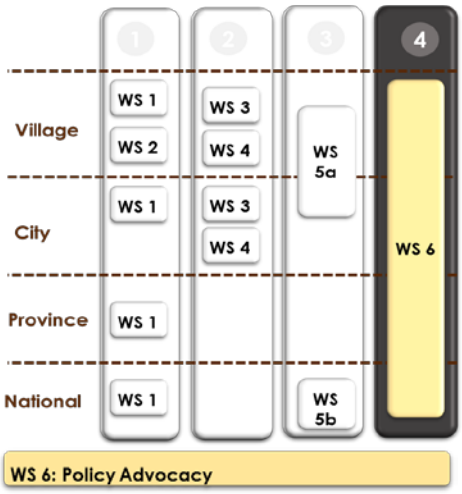


At village level, knowledge management aspect will be focusing on collecting and documenting lessons learned at local level and also two-way vertical communication with city government on climate-related issue. Knowledge management platform will be developed at city level with information coming also from lessons learned at village level, in which the platform is deemed as will allow a more effective information sharing process. Among knowledge products that will be developed at city level are research paper and policy brief that will support policy-making process at city and higher governance level. At national level, knowledge management activities will be focusing on refinement of SIDIK as risk assessment tools that can be utilized by coastal area. The refinement itself will be utilizing lessons learned obtained from activities conducted at village and city level. Knowledge management activities

will not be implemented at province level since province government role in Indonesia governance system is mostly as the extension of national government, with no actual administrative area, since autonomy falls under the hand of city/district government. Yet, city government will continually feed climate-related information and the relevant adaptation plan to province government as key information for them to develop Central Java Province Climate Adaptation Plan which obligated to be developed by the national government.

Policy Advocacy

Focusing in ensuring the integration of climate-related issue into government plan/program/policy. Policy advocacy will be a continuous and interconnected activity at 4 governance level within this particular program. Adaptation plan at village level will be mainstreamed to village development plan, and then submitted and advocated during development plan meeting at sub-district level. This plan will continue to be advocated during the succeeding development meeting at city level. Furthermore, the results will also be synchronized with adaptation and development plan at province and national level. Aside from the plan, lessons learned obtained at village and city level will be utilized to build research paper and policy brief as bottom-up advocacy material.



To better illustrate how the advocacy process can be done throughout the program, figure 9 below shows the applicable National Development Planning System in Indonesia. Village Adaptation and Development Plan will provide an input to local adaptation plan at city level which will then be integrated to city development plan. Moving vertically, city adaptation plan and development plan will subsequently feed information to shape province adaptation and development plan. Considering their role as national government extension, provincial adaptation and development plan will also be influenced by policy at national level. On the other hand, city government also has the ability to directly feed information to national government by providing sound lessons learned in the form of policy brief. For this particular program, the city government will provide policy brief which showcasing lessons learned from development and implementation process of coastal adaptation plan that at the moment still lacking in Indonesia, including outlining how coastal characteristics can be integrated into SIDIK.

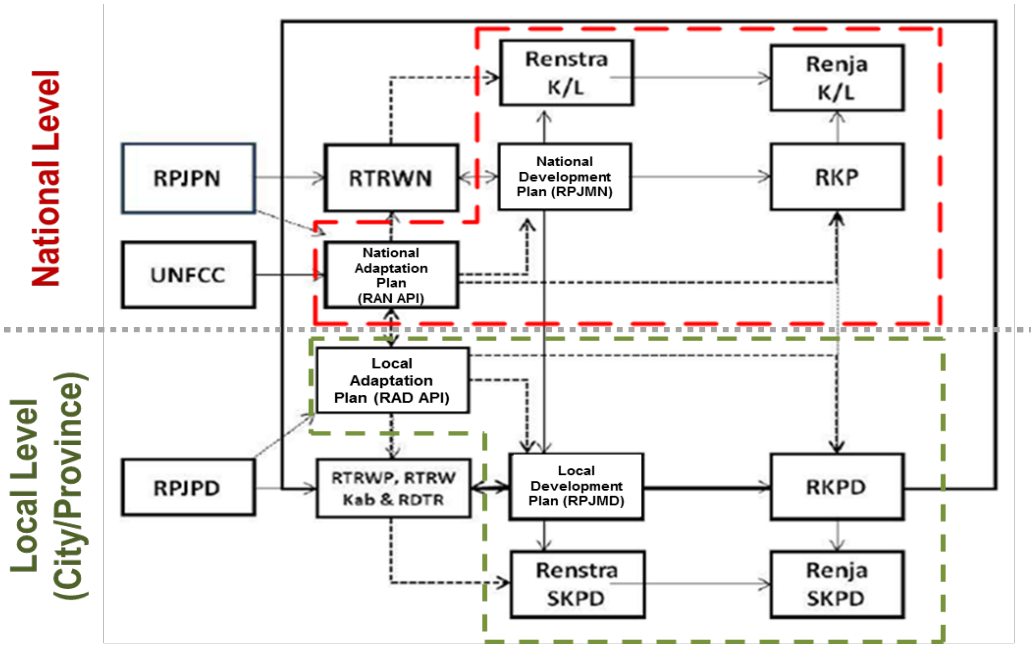


Figure 9. National Development Planning System

Meanwhile figure 10 shows how the local government could incorporate climate adaptation plan into their development plan. This scheme would inform the PMU on how to design the best approach for advocacy. Climate adaptation strategy and plan would provide different perspective to local government in formulating their local development strategy and plan, in addition to the conventional approach which often only considering local and regional economic perspective.

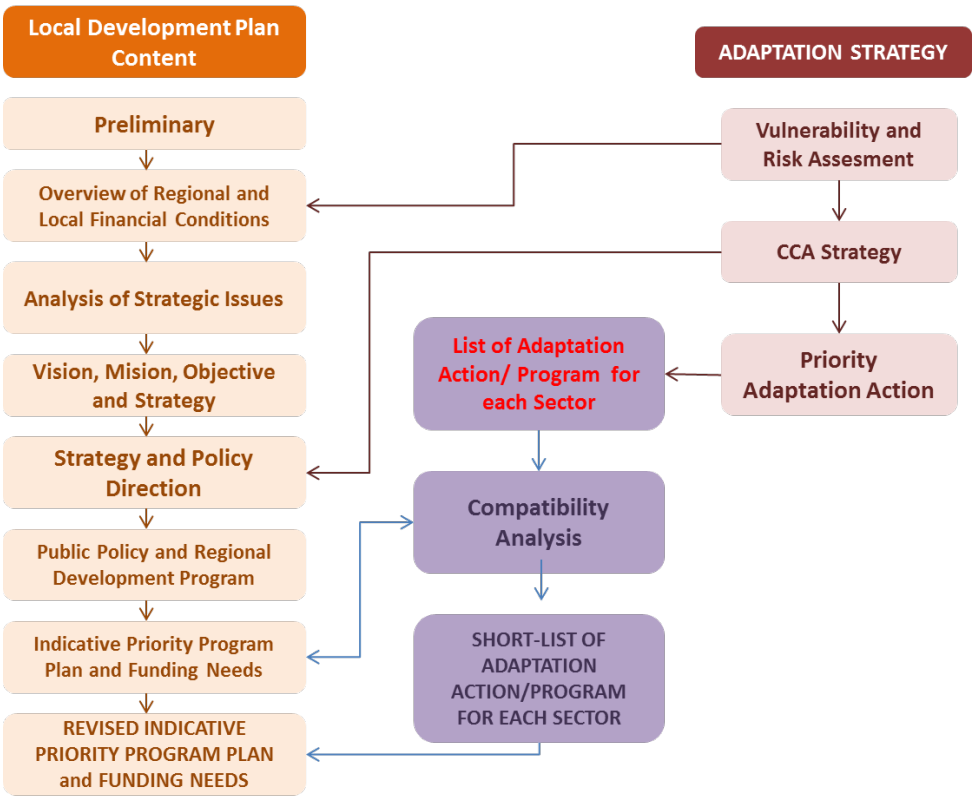


Figure 10. Potential Scheme to Integrate Climate Change Adaptation into Local Development Plan

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 of the Adaptation Fund.

The program implementation will generate economic, social and environmental benefits. These benefits came not only from introducing alternative livelihoods and implementing adaptation actions, but also from implementing the whole course of the program. It will bring about and promote a set of innovations that will help improve the lives of the most vulnerable communities. In general, benefits that can be obtained from this program including protection of the livelihoods assets of coastal communities, sustainability of ecotourism, assist in increasing access to financial institution and reducing impact from water-borne disease. Furthermore, the program's focus in strengthening local government's capacity in developing and mainstreaming climate change adaptation plan to local development plan and spatial plan will generate valuable lessons in building coastal resilience. This benefit will not only be acquired by Pekalongan City but also other local government facing similar climate change-related threats through knowledge sharing mechanism.

Capacity Development

Capacity development activities being conducted throughout the program will provide social, economic and environmental benefits for the vulnerable communities in particular, and the city in general

- Village Level

  Capacity development activity at village level will be mostly done in the form of training and awareness building that are focusing on strengthening coastal community's capacity in climate-related knowledge as well as planning, implementing and monitoring village adaptation plan. These activities will introduce new knowledge that intending to stimulate behaviour changes. For the local environment this would mean less adverse environmental impact from anthropogenic activity as well as an opportunity for promoting new ecosystem services (e.g. coastal conservation activity) and increasing social capital. The community thus will obtain social benefit in the form of improved knowledge and capacity to better address climate-related issue which in turn will increase their adaptive capacity to climate risks; and also environmental benefit that derived from behavioural changes. Meanwhile the economic benefit comes as an indirect impact of capacity development at village level, particularly from alternative livelihood training that is aimed to increase the coastal population income. The vulnerable groups (including women) will be trained and equipped with new skills; and open up new employment opportunities for them.

- City and Provincial Level

  This program will provide social benefit to the local government by enhancing their capacity to develop a participatory and sustainable local development plan that incorporate climate change context; fostering a better institutional framework for climate-related planning and thus creating a ripple effect in building a more resilient coastal city. The existence and implementation of this plan will assist them in better allocating resources (both in terms of monetary, physical and human resources), including improving public services to vulnerable people. Often times, resources allocation done by the local government was not on target due to minimal information, especially when trying to synergized vertical planning between city and provincial government; resulting in an ineffective not on-target resource allocation. Implementation of this program is expected as will remedied these previous practices, fostering a better and more synergized planning, and also a more effective and on-target resource allocation.

  At city level, social benefit will also be obtained from the establishment of local knowledge management platform that enable information sharing (including technical information) between stakeholders. As one of the member of the knowledge platform, local NGO and community-based organizations will also gain social benefit from this program since they will receive technical training that will be useful for their future operational activity in the area.

Advocacy

Advocacy conducted at national level has the potential to promote economic benefit for the city by synergizing city adaptation plan (that built upon village level context), provincial adaptation

plan and national adaptation plan; open-up city opportunity to tap funding access from the national government budget. For national government itself, this synergy would enrich their existing information on climate-related issues at local level and also set example for vertical coordination mechanism to other RAN API pilot areas

Potential Adaptation Actions

- Village Level
  Potential adaptation actions at village level will be focusing on addressing impact from climate-related disaster faced by the community, namely coastal flooding, erosion, sea level rise and changes in sea water properties. Among the potential actions and their corresponding benefit are:

  - Promoting the cultivation of Vennamei shrimp and its cultivating method to local fishermen in 2 villages that have shrimp as their main commodities. This species is known for their high adaptability to changes in their environment and high tolerance to diseases so that they are deemed as suitable for Pekalongan City coastal area that is threatened from climate change impact. Altering from the existing species to Vennamei shrimp will provide economic benefit to the fishermen by reducing the potential losses from failed harvesting due to shrimp's inability to grow in the changing sea water properties; and thus increasing their income.

  - Integrating mangrove into fish pond design and development in order to increase the physical resilience of the coastline with natural and local-based structure intervention will be done in 8 targeted villages that are prone to coastal flooding. Mangrove in this design will generate environmental benefit by acting as sediment trap for coastal erosion protection (from prevailing wind) and water purifier; hence creating a more suitable environment for fish pond that will be located behind the mangrove layer. Additionally, mangrove will also act as a natural barrier to protect coastal environment and community from coastal flooding. All of this environmental benefit would in turn create economic benefit for the coastal community by increasing fish production from better water quality and also generate income from mangrove, as well as reducing economic losses and burden due to physical (including damage to fish pond) and environmental damage from inundation/coastal flooding.

  - Installing individual/communal latrine to address sanitary issue, including reducing the risk of water-borne disease. Due to permanent inundation, some household are suffering from inoperable latrine, hence open defecation in body of water can be found in some area. The open defecation habit also driven by the community's economic condition which majority at low level, and thus often do not have individual latrine. The community had indeed provided with communal latrine in the past. However these facilities are also deemed as inoperable due to inundation as well as low level of maintenance. The communal installation will be installed in public facilities/village offices to serve internal purposes and

community purposes (if possible); while individual installation will be installed in some individual household (as pilot implementation) in 8 targeted villages. To complement this latrine, a communal waste water management installation will also be built to prevent water pollution from latrine effluent. Both the latrine and waste water installation will be designed to suit with the area's characteristics that at risk from inundation, but still take account on the ease of access and maintenance for the community so that the facilities will be well maintained throughout the time and continually benefit the community.

- City Level

  Potential adaptation actions at city level will be focusing on addressing climate change impact at city scale, in which the potential actions will be designed with implementation and financing scheme that allow for replication. Among the potential actions and their corresponding benefit are:

  - Aquaculture development by promoting new and more adaptive main commodity's species as well as fostering cooperation with financial institution for the said development. Cultivation of Vennamei shrimp and its cultivating method will be promoted to fishermen in 2 villages (different villages from the one at village level) with shrimp as their main commodities. This model can be replicated in future time by other coastal villages in Pekalongan City. From this action, the fishermen will not only gain economic benefit from the increases of shrimp production but also from the introduction of financing scheme that will provide them with soft loan to further develop their farm/pond. From city perspective, the increase of fish production will provide economic benefit in the form of the increases of City's Gross Domestic Product (GDP), particularly from fisheries sector; and also social benefit from stronger food security.

  - Construction of coastal embankment in 2 flood-prone villages with sediment/sand trap system in combination with planting mangrove as coastal green belt will functioned as coastal protection from flooding, erosion and sea level rise. The mangrove will also be beneficial in creating a suitable environment for fish farming that will in turn increase fish production.

    From environmental perspective, the existence of coastal embankment and mangrove is expected as will reduce inundated area and the subsequent public infrastructure damage within the city; and thus reduce economic cost from having to rehabilitate/repair the damage. Meanwhile the eco-tourism development will provide alternative livelihood for the community who will be involved in the eco-tourism management and day to day activities, as well as fostering environmental protection within the site. Other economic benefit from this action is contributing to the increase of city's income from fisheries sector.

  - Building latrine in flood-prone area to reduce impact from water-borne disease. Due to its low economic level, some part of coastal population in the 8 targeted flood-prone villages is not equipped with adequate latrine, so that they often use

body of water to serve these purposes and concurrently raise the potential for water pollution. This action will provide social and environmental benefit by providing the community with suitable individual and communal latrine that will in turn reduce the potential for environmental degradation. The difference between latrine construction at city level with those implemented at village level lies on the introduction of financing scheme at city level. The financing scheme will be in the form of micro loan managed by local financial institution. This such scheme has been implemented in Semarang City, so that the program PMU and Pekalongan City government could learn from their lessons learned.

Alternative Livelihood

Alternative livelihood will be introduced in this program to reduce coastal community's high reliance to their existing livelihood which has the potential to be highly affected by climate change impact, and also to provide additional income for those who currently live in low level economic income. Mangrove honey production and eco-tourism are 2 types of livelihood that will be fostered by this program.

- Village Level
  At village level, the introduction of mangrove honey production will not only provide economic benefit from creating additional income for those who lives in low economic level (including women-headed household that has limitation for livelihood options in comparison to men-headed household), but also social benefit to the community by opening up their knowledge on other beneficial activities that can be exercised in their environment. Meanwhile environmental benefit from these alternatives livelihood came from its character that fostering environmental protection within the site. In order to maintain the yield of mangrove honey, the mangrove site should be preserved.

- City Level
  This new livelihood relies heavily on the existence of mangrove belt which for city level has a high environmental value by providing coastal protection. Environmental benefit could also be obtained from the introduction and management of eco-tourism. To ensure the site is attractive enough for eco-tourism, protection of its condition is of essential; and hence the management will be driven to preserve environmental condition of the eco-tourism site and its surroundings. At the moment, the existing site can be considered as unkempt despite its potential as tourism site. Having the site dedicated for eco-tourism will drive the community and government officials to preserve its environmental condition. Other benefit arising from these new livelihoods is its potential to contribute in increasing Pekalongan city's income from fisheries and tourism sector as well as provide job opportunity for the community.

From the abovementioned activities and benefits, the vulnerable groups that will gain benefits from this program are encompassing:

(i) Flood-prone household
Data recorded in 2016 shows that 9300 households located in the targeted 9 villages are categorized as prone to coastal flooding. These households will

receive direct socio-economic and environmental benefit from the program since they will be the core subject for project interventions; not to mention how they will receive knowledge enhancement from their involvement in series of trainings and workshops.

(ii) Fishermen, farmers and fishpond farmers
In 2014, 4.65% Pekalongan City population works in Agriculture, Forestry and Fishery sector. This percentage represents over 13,700 people. For these people whose works are highly influenced by climate variability, this program will assist them in creating a livelihood strategy that is more resilient and sustainable; fostering a potential economic benefit for them

(iii) Women-headed household, women, children and elderly
From approximately 87,000 population of 9 villages that become the geographical scope of the program, around 50% of the population are women, including women who act as the head of their household. This program will assist this specific women group by providing alternative livelihood to increase their income as well as possible adaptation actions they are able to implement themselves. Meanwhile children and elderly are accounted for around 29% of the total population of Pekalongan City. As vulnerable group with limited capacity, children and elderly will be benefited by the creation of a coastal resilient environment that takes account of their needs during the development process.

To avoid, mitigate and reduce the potential negative impacts resulting from the program activities, an environmental impact study (or assessment depending on the project scale) will be conducted early in the project preparation stage as part of scoping and feasibility study.

Program Benefits		
Type of Benefit	**Baseline**	**With/at the project completion**
Social	• Poor adaptive capacities • Lack of mechanism for disseminating proven strategies to adapt to risks has led to relatively high fatality rates, disease incidence and food security, especially for vulnerable people (child, elderly and women-headed household) • High exposure to hazards can be considered as co-drivers of poverty and compounded social problems such as, disease, sanitation, food security issues, etc	• New capacities acquired by populations on coastal protection and aquaculture • Improved food security • Leverage on lessons learnt on coastal management and adaptation to climate change • Improved adaptive capacity through a greater awareness of climate risks and adaptation options at the community and city level. • Strengthening social capital and capacity development to protect the community and surrounding area from disasters, fatality rates,

	• Slow onset event such as sea level rise and droughts have affected the social well-being and cohesion of local communities and reduce their ability to cope	diseases and food security threat • Increased resilience of coastal city and its communities, ecosystems and livelihood • Coastal city resilient planning, infrastructure and services contribute to social well-being
Economic	• Economic losses, physical infrastructure loss and also loss or disruption to livelihood options • Low cost-effectiveness of investments in the main productive sectors • Continuous decline in populations' revenue	• Improved institutional framework and aspect, improved communities and physical and natural assets, and also more resilient ecosystems and livelihoods • Revival of the economic activity • Improved food security and promotion of urban agriculture, changes to resource management, and identification of alternative livelihoods. • Capacity development of urban poor / women to gain new skills and employment opportunities.
Environment	• Abrasion/ coastal erosion • Mangrove degradation • Degradation of the vegetation • Land salinization/salt water intrusion • Ecosystem degradation and increased waste production lead to health issues especially in poor urban communities	• Decreases in climate-induced environmental degradation and losses, and improved planning and preparation for disasters • Promotion of ecosystem-based adaptation in the urban environment, leading to environmental benefits • Rebuilding of coastal belt and protection against coastal erosion by sediment trap method • Rebuilding the vegetation • Protection of fishpond fields against salinity and flood by sediment trap method • Reduced adverse impact

		from anthropogenic activity through changes to coastal zoning and waste management e.g. community-based waste reduction and recycling schemes and energy efficient building construction techniques. • Enhanced resilience of urban poor communities

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

Expected result	Output	Cost-effectiveness (assessment of alternative approaches)
1 Village Level 1.1 Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster; including capacity in integrating the actions to village development plan 1.2 Individual and community livelihood strategies strengthened to face climate change impacts, including variability 1.3 Increase adaptive capacity of local community, by also taking local wisdom	1.1.1 Village climate working group established and functioning in each of the 8 villages 1.1.2 Enhancing coastal community capacity in developing the village informtion system and implementing the ensuing climate change adaptation actions 1.1.3 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that	Project Management Unit (PMU) of this program will work closely with Pekalongan city team in program implementation at village level, in which the city team will play a major role at this level. As part of the city team, the local NGO that has been working in the targeted area will act as the spearhead for establishing village working group and delivering the series of training/workshop. This division of responsibility will ensure effective allocation of financial and human resources Drawing community support and involvement (in the form of village working group) in arranging village adaptation plan and development plan will reduce the costs since the proposed actions will be on-target and as needed. Alternatively, if actions are implemented without calculating

into account	tolerant to high salinity,Sanitation, latterin, rain water harvesting , coastal embankment, etc.)	risk assessment and the implementer is not equipped with training, the end result can be more costly; unnecessary actions may be implemented which may not assist in addressing the targeted risk This proposed program will select the implemented actions based on scenario, scoping study and feasibility study. This process will result in better climate adaptation actions that suitable for the area's risks and characteristics. PMU will work closely with city team to deliver technical support to the village working group in assessing and selecting adaptation options that are cost-effective and have the highest impact. Drawing community support and involvement in selecting the adaptation actions will be a cost-effective mechanism since the proposed actions and its corresponding budget and man power allocation will be on-target and as needed. This approach, along with assigning the spearhead role to the local NGO will also ensure program ownership and subsequently the maintenance of the interventions after the program ended. Alternatively, actions that based solely on local climate wisdom or typical development may be selected and implemented as the actions, however it will not target the most vulnerable areas and people. Not to mention that the particular action will not be sustainable

2 City Level Enhancing local government and other city stakeholders' capacity in developing local climate change adaptation action plan (RAD API) and implement Climate smart initiatives	2.1.1 City climate working group reactivated 2.1.2 RAD API developed based on City Climate Risk Assessment and Climate Coastal Impact 2.1.3 Strategy to integrate CCA into local government planning processes (annual work plan or mid-term development plan of city) is developed 2.1.4 Innovative and collaboration adaptation actions are implemented in collaboration with private sector, Government bodies and NGO (i.e. technology for main productive sectors, model on collaborative CCA program across coastal villages/ upstream and downstream villages); and also evaluated for future reference 2.1.5 Climate change training and knowledge sharing conducted 2.1.6 Knowledge product, Advocay material	The project pursues a participatory and integrated approach where community, local government, university, NGO, and private sector work together to develop adaptation action plan (RAD API) and integrate it into local development. This approach reflects a more sustainable way and will be more cost-effective especially if considering long-term time scale. A city climate working group that comprises of the abovementioned city stakeholders had previously formed in Pekalongan City, yet the said team is not active in the past year. The first action that will be conducted at city level under this program is reactivating the working group. Activating and optimizing the role of city team in this program is deemed as cost-effective since they already have basic knowledge on climate change and the relevant issues and assessment, so that the team does not has to be trained rigorously on basic matter. As part of the city team, local government will be equipped with skills to integrate adaptation action and planning to their city development plan (RPJMD/RKP). This integration is considered to be cost-effective measures since it will ensure that there will be budget allocation for adaptation actions that will not be funded under the program but included in the RPJMD /RKP (including integration of city-wide replication/scaling up of

		(i.e. lessons learned, research paper, newsletter) published and shared	adaptation actions funded by the program); the program thus can focus in the most prioritized actions in the prioritized area. Furthermore, the integration would also allow M&E activity for actions undertaken under the program to be included in the city development plan. Hence this city-level engagement will ensure that local adaptation action will be adequately supported in long-term. From their experience and acquired knowledge and skill during risk assessment development process, the local government officials can use this approach for periodical M&E activity of the city development This proposed program will select the implemented adaptation actions based on scenario, scoping study and feasibility study. This process will result in better and appropriate climate adaptation actions. Technical support will ensure that options with the highest resilience impact will be selected, as well as options that foster sustainable utilization of natural resources. The selected options should be complemented with implementation and financing scheme that can be replicated and disseminated to broader audience. This process of selecting on-target actions that have the highest impact will ensure the effectiveness of the selected actions in addressing climate change impact.
	2.1.7	Local knowledge sharing platform established	

		Adaptation actions conducted in the targeted village will be treated as pilot measures for city-wide replication, allowing for evaluation on the implemented pilot scheme. This piloting approach is seen as cost-effective approach rather than implementing city-wide scale directly. This approach will assist in identifying weaknesses and strengths arise from the pilot process; where the weaknesses can be addressed and the strengths can be amplified for the purpose of city-wide replication. Alternatively, climate change adaptation and DRR planning activity can be implemented but in an unsustainable way and with a limited vulnerable target group (where the activity may not be suitable in future time since calculation will only be made on current risk)
3 Province Level Enhanced provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan, which fosters better climate-related policy on climate financing and bottom-up planning; and in turn driving cities and districts (particularly Pekalongan City) towards a more climate-resilient development	3.1.1 Enhanced provincial capacity to develop RAD API 3.2 appropriate strategy to integrate CCA into Provinciall government planning processes (annual work plan or mid-term development plan of city) is developed	Provincial government have limited authority on activities conducted at city level, yet they play significant role in vertical coordination and conveying national budget allocation for climate-related program/activity (provincial government responsible for one national budgeting channel to city). Considering this role, the program will not touch physical development at this level, merely capacity development and advocacy process. Thus activity at this level will be focusing on building provincial officials' knowledge on climate risk assessment so that

		they could develop risk assessment at province scale. This assessment and the corresponding RAD API will be the basis to build a synchronize adaptation action between city, province and national. Mainstreaming climate change adaptation and resilience into Central Java Province development plan could in turn foster better climate-related policy at provincial level and bottom-up planning. This approach is deemed as a cost-effective and resource-effective approach at provincial level to achieve the targeted objectives of the program Alternatively, climate change adaptation and DRR planning can be implemented without considering the city's/district's characteristics and needs, however the results will be most likely unsustainable
4 National 4.1 Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government	4.1.1. Knowledge product in the form Handbook on how to use SIDIK for risk assessment at coastal city is published and shared. This handbook is targeted to be used by local government, NGOs and civil society	SIDIK has significantly help cities and regencies in developing climate risk assessment. However SIDIK has drawbacks when being used to asses coastal city, resulting in an inaccurate assessment, which could consequently leads to the implementation of action that considered as maladaptation Since SIDIK cannot accurately assess the vulnerability and risk area with coastal characteristics, hence adjustment is needed when using SIDIK in Pekalongan City so

	organizations 4.1.2. Strengthened vertical coordination and collaboration between national and local government in climate adaptation context	as appropriate coastal resilience/adaptation actions are developed SIDIK adjustment for coastal area based on experience from Pekalongan City is expected as will provide valuable lessons learned for other Indonesian coastal cities that intending to use SIDIK. Dissemination of this lessons learned is deemed as more efficient and cost-effective by developing SIDIK Handbook specifically for coastal city that accessible for coastal cities throughout Indonesia, rather than through knowledge sharing forum or training solely which often only attended by limited cities/representatives. Yet this handbook development does not necessarily means the materials will not be shared in such forum and trainings. This program will collaborate with national level platform in advocating climate resilience issue (ICA), including advocating lessons learned drawn from local experience, in which the handbook is amongst them. To date, adaptation action often implemented in silo manner by each level of government, so that the adaptation actions are not synchronized. At national level, the project is aiming to foster a stronger vertical coordination and collaboration between national and local government in climate adaptation context to make the local adaptation action synchronized with adaptation plan

		at the higher level of government. This objective is in sync with the line of work of the national platform that always thriving to foster bottom-up planning process in climate change context; connecting local experience with policy at different level of government. Having considered the similar objective, thus advocacy through national platform engine is deemed as the most cost-effective approach to foster vertical coordination. To date, the national platform itself is an active platform and had provided different climate resilience-related input to different line ministries in Indonesia. Riding on this platform is believed to more cost-effective in comparison to conducting the advocacy process on our own.

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

I. This proposed program is consistent with the following institutional and policy framework and commitment at National Level:

1. First Nationally Determined Contributions (NDC) Republic of Indonesia

The document stated how the Government of Indonesia (GoI) will implement enhanced actions to study and map regional vulnerabilities as the basis of adaptation information system, and to strengthen institutional capacity and promulgation of climate change sensitive policies and regulations. It further emphasized the need for local capacity strengthening, improved knowledge management, convergent policy on climate change adaptation and disaster risks reduction, and also application of adaptive technology; in order to achieve the medium-term goal of Indonesia's climate change adaptation strategy which

aiming to reduce risks on all development sectors. The proposed approach of this program is in line with the NDC document by focusing on mapping area vulnerability and risk, fostering public and institutional capacity building and also advocating relevant policy.

2. National Action Plan for Climate Change Adaptation (RAN-API)

Action Plan in RAN API is divided into 5 sectors with Resilience of Special Areas as one of the sectors. This particular sector is further divided into 2 sub-sectors, one of which is Sub-sector of Coastal Area and Small Islands. There are 5 strategies developed for this sub-sector, which are:

- Life stability of coastal and small islands communities against climate change threat;
- Improvement of environmental quality of coastal areas and small islands;
- Development of adaptation structures in coastal areas and small islands;
- Adjustment of urban spatial plan by taking into account the risk of climate change;
- Development and optimization of research and information system on climate change in coastal areas and small islands.

This proposed program have tried to deliver the abovementioned strategies in the form of different project components and outputs, including developing and implementing adaptation plan, mainstreaming process into local development plan and spatial plan, and also developing knowledge management platform.

3. Law No. 32 Year 2009 on Environmental Protection and Management

Climate change issue was taken into account in 2 articles in Chapter 3 on The Development of Environmental Protection and Management Plan (RPPLH), which are:

- Article 10 clause (2); which stating that climate change is one of the factors that need to be considered during the development of RPPLH
- Article 10 clause (4); which stating that climate change adaptation and mitigation plan is among the contents of RPPLH

Considering that city and provincial level is obligated to be developed by city and provincial government, hence the proposed program will assist the development process by providing and advocating climate risk assessment results and the corresponding adaptation plan.

4. Law No. 16 Year 2016 on Ratification of Paris Agreement to The United Nations Framework Convention On Climate Change

The ratification shows GOI commitment to its people as well as international community to address climate change issue as a vulnerable archipelago to climate change impact. This proposed program support the ratification by aiming to address climate change issue at local level while at the same time aiming to foster a better institutional framework for climate change realm.

5. Government Regulation No. 2 Year 2015 on The National Midterm Development Plan (RPJMN) 2015 – 2019

In section 1.2.2-Climate Change and sub-section 1.2.2.1-Problems and strategic issues of the RPJMN, the decrease of Greenhouse Gas (GHG) emission (climate change mitigation) and improvement of communities' resilience (climate change adaptation) were stated. The

development of resilience coastal villages that are aiming to be done by this program is in line with the RPJMN content.

6. Presidential Decree No. 60 Year 2015 on Government Work Plan Year 2016

The general objective for the 2016 Work Plan is to "Accelerate Infrastructure Development to Strengthen the Qualitative Development" by focusing on 6 leading sectors, which are: food sovereignty, energy and electrical sovereignty, maritime, industry, tourism, and also innovation and technology. Hard and soft structures will be amongst the contents of adaptation plan that will be developed during this program. This plan thus will surely contribute in the acceleration of infrastructure development in the area that is aiming to increase the quality of life of the population.

7. Ministry of Environment and Forestry Regulation No. 33 Year 2016 on Guidance for the Development of Climate Change Adaptation Action

This regulation is the reference for national and local government to develop their climate change adaptation action plan and subsequently mainstreaming the plan into the corresponding development plan. The regulation states that identification of area/sector that will be the subject should be followed by climate vulnerability and risk assessment, prior to developing climate change adaptation actions and its implementation priorities. The actions then should be mainstreamed to the corresponding development plan, program and policy. General approach taken by this particular proposed program is referring to the abovementioned steps.

8. Ministry of Marine and Fisheries Regulation No. 23 Year 2016 on Management Plan of Coastal Area and Small Islands

This particular regulation was developed as a means to foster cross-level and cross-sector synergy in managing coastal area and small islands. The regulation states that the relevant strategic plan should consist of cross-sector policy directive for the dedicated development plan area through the development of objectives, targets, and broader strategy, as well as implementation targets that equipped with appropriate indicators to monitor the plan. It further states that the management plan should contain policy framework, procedure and responsibilities in the event of decision-making process among stakeholders regarding agreement on resource use or development activity in the designated zone. The proposed program supports the regulation by also fostering cross-level and cross-sector coordination in its approach; involving not only government actors but also non-government institutions including lay public, driving multi-stakeholder involvement and coordination at any steps possible.

9. Vulnerability Index Data Information System (2015) developed by Adaptation Directorate, Directorate General of Climate Change Control, Ministry of Environment and Forestry

Preliminary assessment by utilizing standardized data in SIDIK shows that there are 15 vulnerable villages located in the coastal area of Central Java Province (including Pekalongan City); where some of them are severely affected by sea level rise. The selection

of Pekalongan City coastal area as the geographical scope is in line with this preliminary assessment.

II. This proposed program is also consistent with the following institutional and policy framework and commitment at Provincial and City Level:

1. **Central Java Province Local Regulation No. 9 Year 2009 on Management of Coastal Area and Small Islands**
2. **Central Java Province Local Regulation No. 4 Year 2014 on 2014-2034 Zoning Plan of Central Java Province Coastal Area and Small Islands (RZWP3K)**
3. **Central Java Province Local Regulation No. 5 Year 2014 on 2013-2018 Mid-term Development Plan (RPJMD) of Central Java Province**
4. **Central Java Governor Regulation No. 1 Year 2011 on Strategic Plan of Central Java Province Coastal Area and Small Islands**

The four abovementioned provincial regulation contains issues related to development plan on coastal and small islands areas of Central Java Province which includes Pekalongan City. The Central Java Province RPJMD further emphasizes significant threat posed by climate change phenomena to the area from increasing sea temperature and sea level. The document further categorized Pekalongan City as an area that is prone to climate-related disaster, including flood, drought, tidal wave and abrasion. Furthermore, the RZWP3K document assigns Pekalongan City as one of the centre of activity at regional scale as well as the minapolitan area (fishery centre). Measures taken within this proposed program is aiming to address the aforementioned climate-related issues in Pekalongan City coastal area by employing hard and soft structure interventions to ensure its effective role as one of the regional centre of activity and minapolitan area.

5. **Pekalongan City Local Regulation No. 4 Year 2010 on Zoning Plan of Pekalongan City Coastal Area (RZWP)**

RZWP document is a long-term planning document that is aiming to create a balance between development needs and conservation efforts by creating a sound planning, management and development of coastal area. Capacity building and community-based planning are amongst fundamental principle for this document. The geographical scope of this RZWP is 6 villages located within Pekalongan Utara sub-district that directly interfacing Java Sea or affected by activities conducted at coastal area and the sea. These 6 villages are among 9 villages that are selected as the geographical scope for this proposed program, and thus the program is consistent with the aforementioned Local Regulation.

6. **Pekalongan City Local Regulation No. 4 Year 2016 on 2016-2021 Mid-Term Development Plan (RPJMD) of Pekalongan City**

Improvement of environmental carrying capacity and infrastructure is among strategic issues stated in the RPJMD document, in which flash flood and coastal flood were acknowledged as issues that driven the need for the improvement. The local government is targeting a reduction of inundated area to 37.57% in 2018 by building and strengthening flood (both flash and coastal flood) prevention and control infrastructure. In the same year, the government is also targeting 37% of the generated solid waste to be managed at 3R

facilities; reducing the volume that being disposed at drainage channel and/or river. The proposed program will support this target by developing flood prevention and control plan, as well as build the chosen and feasible infrastructure that deemed as suitable to reduce inundation area.

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.

1. Presidential Regulation No. 38 Year 2015 on Public Private Partnership (PPP)

Issued on 20 March 2015, the regulation revokes and replaces the Presidential Regulation No. 67 Year 2005. This regulation strengthens the role of GoI in providing Infrastructure Guarantee, and thus increasing the creditworthiness/bankability of PPP infrastructure; developing sound procedures for granting security over project finance; reducing financial risk for both investor and project proponent. GoI is continually driving the PPP scheme as the backbone for infrastructure financing.

Among infrastructure that can use PPP scheme are water resource and irrigation infrastructure and also waste management infrastructure. For the proposed program, construction of water resource and waste management infrastructure are potentially among the adaptation options. Private sector involvement is urged in this proposed program, which will be initiated by exploring the potential contribution of private sector to climate change adaptation actions. This will be followed by a series of multi-stakeholder discussion to assess and reach an agreement on innovative adaptation measures for coastal area. Financing scheme for these measures will take account of the content of the abovementioned Presidential Regulation.

2. Ministry of Environment and Forestry Regulation No. 33 Year 2016 on Guidance for the Development of Climate Change Adaptation Action

Approach for the proposed program is designed by following steps elaborated in the particular regulation; from area and sector identification, developing climate risk assessment up to developing the corresponding adaptation plan and mainstreaming process to the relevant development and spatial plan, program and policy. Adjustment will be done during the development process, by considering local characteristics that has not been included in the regulation.

3. Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands

According to Chapter 2 Article 2 of the regulation, this particular regulation is the norm, standard, and guidance for local governments (provincial and district levels) to develop their areas management plan of coastal area and small islands. Steps taken in this proposed program have considered and been in line with the planning principle elaborated in the regulation, including:

- In accordance with and/or complementing the local development plan system
- Integrate different activities of diverse stakeholders, including private sector and community; as well as activities relevant to both land and sea ecosystem

- Undertaken in accordance with the area's characteristics and potential
- Involvement of local community and other stakeholders

The approach and methodology for this proposed program are also designed by taking into consideration the abovementioned principles. Activities and planning process will be undertaken in line with the applied development planning system at local, provincial and national level; with multi-stakeholders involvement at the core by involving lay public in the planning process and private sector in the future stage to create public-private partnership in implementing adaptation actions.

4. Strategic Environmental Assessment as Compulsory Assessment in Spatial Plan and Development Plan

Climate vulnerability and risk assessment is one of 6 analysis options needed for the development of Strategic Environmental Assessment (SEA); in which the SEA itself is a compulsory assessment in the development and/or evaluation process of Spatial Plan and Development Plan. To date, there is no standardized step in specific manner (only general approach available) to develop the SEA; the proponent could use only the CRA result to develop SEA and subsequently benchmark the contents of the proposed plan with the CRA. In advocating the CRA result to be taken into consideration in SEA, the proposed program will follow the nationally standardized steps of SEA, from issue identification to adjustment recommendation for the benchmarked plan.

Meanwhile for Environmental Impact Assessment (EIA), the particular assessment will be done if the selected adaptation option (in form of hard structure) falls under the category of project that needs EIA; otherwise EIA is not compulsory to be undertaken. Each of the selected adaptation options will be screened utilizing EIA project list. Environmental Rehabilitation will be required if the activities contaminate the area.

The development of climate risk assessment, SEA and EIA within the program will ensure that environmental and social impacts and risks are being considered, assessed and addressed throughout the project. As an initial assessment, this proposal document also contains initial findings on environmental and social risks from the program, which elaborated on Part II - Section K.

5. Ministry of Public Works and Housing Construction and Development Standard, and Indonesia Building Codes

Hard structure that will be constructed as part of the proposed program in future time will be ensure to conform with building codes, especially since conformity to the codes is the primary requirements for granting the building license. For hard structure that serve as public facility, the construction and development will be ensured to follow infrastructure construction and development standard from Ministry of Public Works and Housing.

6. Water Supply Regulatory Framework

Water supply regulatory framework is also the compliance standard to be fulfilled. Urban water supply is a highly regulated business in Indonesia; a multitude of regulations on urban water supply are issued by different governmental institutions at different levels. Any

intervention project under the proposed program will be ensured to meet the regulatory framework, both applied at national and local level.

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

PAKLIM GIZ-ICLEI Oceania

Pekalongan City had collaborated with external parties in climate change issue. In 2010, this city was among 8 pilot cities in Central and East Java Province that implement Integrated Climate Action approach that was developed by PAKLIM GIZ and ICLEI Oceania. Based on this approach, the city was able to develop Climate Risk and Greenhouse Gas Emission Profile; in which the risk profile methodology employs a more qualitative approach, with participants perception became the basis for the profile. Following the profile, the city with assistance from PAKLIM GIZ thus developed Integrated City Climate Strategy which outlining climate mitigation and adaptation strategy that detailed into corresponding actions. Several actions in ICCS had been inserted into RPJMD of Pekalongan City, receiving funding from local government budget. PAKLIM GIZ does not provide further funding assistance for the city after ICCS development. Risk profile and ICCS documents are 2 outputs from PAKLIM GIZ program that will be utilized by the program. This program will utilize city-wide risk profile information as qualitative background information for coastal risk assessment training and development at city level, while ICCS will be further assessed to see which coastal-related adaptation actions that had been identified and which one had been inserted to the city development plan. Furthermore, this program will also evaluate the implementation of adaptation actions from ICCS and its integration process to RPJMD. Identify the strengths and weaknesses from the process and utilize it for the benefit of the program.

ACCCRN-Mercy Corps Indonesia

Other external party that works closely in Pekalongan City is Mercy Corps Indonesia (MCI), where one of the organization's programs is run in the said city, which is Asian Cities Climate Change Resilience Network (ACCCRN). This program is aiming to build climate change resilience knowledge in the city. Pekalongan City was selected as ACCCRN Replication City, and the program was commenced in 2013. ACCCRN in Pekalongan City was focusing on capacity building for community and local government on climate change issue. This capacity building process includes not only series of training and discussion in the city, but also involving Pekalongan City local officials and practitioners in different knowledge sharing event outside Pekalongan. Yet the trainings and discussions conducted were none on the topic of quantitative climate risk assessment. Starting last year, ACCCRN is in its closing phase, hence there is no more funding assistance given to the city. Pekalongan City Team was established as part of ACCCRN program with member comprises of representative from local government officials, academics, practitioners and local NGOs. This team's main role is building climate change awareness in the city and fostering the implementation of adaptation actions under the umbrella ACCCRN program. Seeing different background possessed by the city team member and how they have been exposed to and equipped with climate-related context, this proposed program sees that the said team has the potential to play a major role in the program implementation, particularly at village and city level. Thus this program will reactivate the working group that will work closely with the program's PMU. Aside from the city team, this particular program will also

draw upon lessons from the implementation of adaptation actions under ACCCRN program; where it fails and where it succeed, including reflecting on the sustainability of the implemented actions.

JICA

At a higher government level, Central Java Province had work closely with Japan International Cooperation Agency (JICA), specifically in implementing Project of Capacity Development for Climate Change Strategies in Indonesia (2010-2015). The main activity from the collaboration was mainstreaming adaptation/mitigation of climate change in National Development Planning, with Central Java as part of the scope. JICA had also developed study on Integrating Climate Change Adaptation into Spatial Planning Policies at 2 pilot sites which are 1) Java Island and 2) South Sulawesi (West & South coastal area, Selayar). Among the output of the study is recommendation on integration mechanism of adaptation plan into spatial planning. The program is completed in 2015, hence the proposed will not overlap with JICA funding. Seeing that the mechanism is developed at a higher government level that has to cater to different city/regency characteristics in tis planning proves, but on the other hand considering the fact that Pekalongan City is part of Central Java Province that will somewhat affected by planning conducted at provincial level, hence this program will learn from JICA study on mainstreaming and integration mechanism, and assess whether the proposed mechanism can be applied in Pekalongan City context and how to adjust the mechanism.

The proposed program then will fill the gaps that have not been addressed by external parties that had been working in Pekalongan City and Central Java Province, as well as utilizing and leveraging the existing knowledge built by those parties to build a resilience coastal area. This approach is expected as will create sound plan, program, and policy on climate adaptation and climate resilience issue in coastal area. Further assessment on the gaps will be done early on the program preparation stage

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

Documentation and dissemination of information and knowledge is of essential within this proposed program, not only information on climate change and coastal resilience material, but also approach taken as part of the program. This latter information become important in the event of other area would like to replicate the program in future time. Accordingly, knowledge management became one of the components of this proposed program.

The knowledge management component will contain activities that capture and disseminate both tacit and intrinsic knowledge. For tacit knowledge, climate change training and knowledge exchange activities will serve as information and experience sharing media. These such forums will facilitate learning and co-creation of opportunities for various stakeholders. The intrinsic knowledge will be captured through more traditional methods, by conducting research that can be disseminated to government, practitioners, academic community and also general public. The output of the research could be both in form of knowledge product or advocacy material.

The overall knowledge transfer process is under component 3 and component 4. Component 3 provides the cornerstones for capturing and disseminating lessons learned, other project components / activities directly contributing to knowledge management and dissemination mechanisms from village to city and inter-regional levels, and component 4 focuses more on share learning from the local to the national level.

Activities that falls under knowledge management component within this proposed program are embedded at each governance level. Despite its implementation is scattered at different level of government, yet the series of activities are interconnected since they are structured in a way that foster and allow two-way information sharing amongst different level of government. A total budget of USD xxxxx is allocated to implement knowledge management component in this particular program.

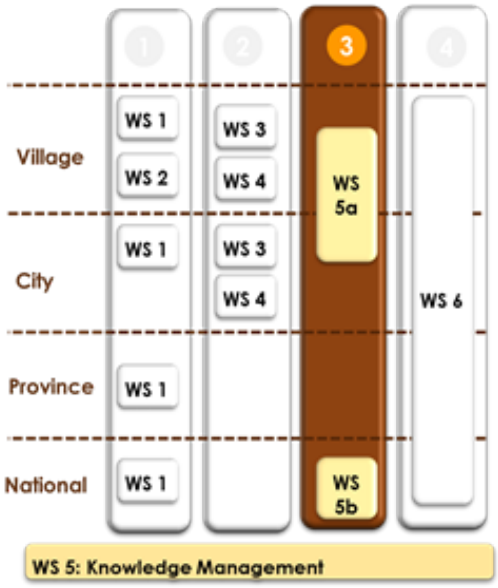


Figure 11. Knowledge Management Component is Embedded at Different Level of Governance

At village level, a participatory approach (involving communities and local authorities in conduct community based risk assessment, planning and implementation activities) will lead to increased local knowledge on climate change adaptation. Project demonstration sites will contribute, from the start and in an ongoing way, to share lessons and training through local disseminators and tools and guidelines. Knowledge dissemination tools that will be utilized in the proposed program encompassing regular newsletter, social media platform and knowledge board (contain information on climate-related issue as well as program progress) in community centre or village office. Lessons learned obtain at this level will also be communicated to stakeholders at city level.

At city level, transfer of results and lessons learned to other communities across village and broader city area will be promoted. The program's knowledge management product will be disseminated not only to Pekalongan City and Central Java Province area, but also broader

community. For Pekalongan City dissemination, the project management team will collaborate with the existing knowledge sharing platform, the Mangrove Information Centre (Pusat Informasi Mangrove/PIM). At the moment, PIM is focusing only on mangrove issue, however preliminary discussion with PIM shows that the organization is highly willing to broaden their scope to incorporate climate change resilience issue.

In this project PIM will play a major role at city level in disseminating knowledge product and program benefit to wider city stakeholders, thus will be facilitated through an online knowledge hub that will include capacity-building webinars, technical documents, multi-media knowledge products thus will be developed as a information and training centre for climate adaptation action. This role will support in building a sense of ownership to the actions and alternative livelihood produced under the program. During the implementation stage, particularly the workshop series, the program will build the sense of need and importance of this platform as a knowledge sharing media by emphasizing the significance of regular multi-stakeholder discussion in addressing climate change impact in their area. To create and maintain an effective information sharing process at city level, a knowledge management platform will be developed.

Lessons learned documented at this level that deemed as significant to be advocated to higher government level will be followed up by developing subsequent research papers and policy brief as advocacy material.

At national level, Will use two approaches, First approach is supporting the Ministry of Environment and Forestry (MoEF) to make improvements SIDIK to suitable for costal risk assessment based on pilot in pekalongan city. One knowledge product that will be the output for the proposed program is Handbook on SIDIK for Coastal Risk Assessment that can be used by local government, NGOs and Civil Society Organizations. The handbook development will be based on climate risk assessment process conducted at city level. Related to advocacy material, the research will be the basis for developing policy briefs that highlight the shortcomings in national policy, fiscal and other institutional framework in developing a resilience coastal city. . A direct linkage will be established, through the partnering MoEF, ICA and Apeksi facilitating countrywide dissemination to other cities/regencies, NGOs and Civil Sociesty organisations

Second approach is the project management team will actively engage with the existing national climate change platform, the Indonesia Climate Alliance (ICA). ICA member consists of different national level organizations that share the same interest in climate change issue. This collaboration will assist the team to share experience from local context and elevate the issue at national level, as well as advocating the developed policy brief. Throughout the course of the program, an active communication and discussion will be conducted with the platform to advocate lessons learned from local experience in Pekalongan City as well as on common interests. During the program period, the program will apply as the platform member.

Additionally, the proposed program also has Monitoring and Evaluation Unit as part of the project management team. This unit responsible for knowledge management and sharing within project team member, organizing knowledge sharing event and outreach, and conducting pre

and post-test survey on given interventions for evaluation purpose. All those activities will be documented, reported and made available.

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 of the Adaptation Fund

Table below shows stakeholders from different level of government that were consulted for the purpose of concept proposal development and results from each of the consultation activity

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
A	**National Level**			
1	**ICCTF** (Indonesia Climate Change Trust Fund); **RAN-API** (National Action Plan –Climate Change Adaptation) **Secretariate**; **Thamrin School**; **WALHI** (Friends of the Earth – Indonesia); **IESR** (Institute for Essential Services Reform); **ICA** (Indonesia Climate Alliance) – 20/04/16 and 02/05/16	•To get input from institutions and CSOs who have been heavily involved in the climate change issues and the development of climate change strategies in Indonesia, what type of climate change adaptation proposal concept that Kemitraan should be building. •To gain more knowledge of the vast working area and referring to the RAN-API framework from the government of Indonesia, which cluster of climate change adaptation should make the priority for work in Indonesia. •To identify the thematic and locations area(s) to focus on for climate change adaptation.	•RAN-API is undergoing second review and its monitoring and evaluation framework is in development. •Suggests that the climate change adaptation activities that should be proposed through AF funding, should be directed towards small islands areas. •Food security is also a crucial issue, especially for certain parts in Indonesia namely the Eastern parts. •Activites should not be only directed towards agriculture but also fishing, especially providing training of correct fishing for fishermen communities.	•Based on the consultations, Kemitraan will build the proposal concept under the Small Islands and Coastal Climate Resilience thematic area . •Will urgently request audience with MoEF and MoF in order to receive statement on who holds the NDA status.

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
2	**Director for Climate Change Adaptation** of the Directorate General of Climate Change Control at the **Ministry of Environment and Forestry** – 27/04/16:	•To gain input from the MoEF on the type of climate change adaptation proposal concept that Kemitraan should be building. •To receive information on who holds the Adaptation Fund NDA status in Indonesia.	•Issues of Health can also be raised in the Coastal areas. •There are 15 areas that are considered as priority for high climate risk (stated in RAN API, if Kemitraan can help in building the climate change adaptation plan in those areas that would be a welcomed initiative. •Use SIDDIK for data collection. •Received info that WFP has been deemed as fail to perform their Adaptation Fund program in Lombok, West Nusa Tenggara, Indonesia.	•Should focus in one of the 15 areas/locations priorities in RAN API •Use Sidik for climate risk assessment
3	**Deputy Director for International Cooperation and Climate Finance** at the **Ministry of Finance** – 31/05/16:	•To inform MoF about the Adaptation Fund NIE accreditated status received by Kemitraan, and the consultation process for proposal concept writing. •To receive information on who holds the Adaptation Fund NDA status in Indonesia.	•MoF seems to think that the NDA should be with them however.	•MoF will later confirm about the NDA status with MoEF.
4	**Director-General** for Directorate General of Climate Change Control at the **Ministry of Environment and Forestry** -	•To receive endorsement letter from the Director-General for Directorate General of Climate Change Control at the Ministry of	•Ms. Masripatin has read the brief of the then proposal concept for the project Kemitraan intends to propose to Adaptation Fund, and she gave her approval.	•Director-General for Directorate General of Climate Change Control at the Ministry of Environment and Forestry gave the endorsement letter to

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
	29/07/16:	Environment and Forestry, as the Adaptation Fund NDA in Indonesia.		Kemitraan to be submitted along with the proposal concept to Adaptation Fund.
5	**Research Associate** for Marine Research Center, Agency for Marine & Fisheries Research & Human Resource at the **Ministry of Marine & Fisheries** – 24/02/17:	•To gain input from MoMF on the climate change adaptation proposal concept that Kemitraan is currently writing, especially on the program currently developed, adaptation strategies, and problem solutions. •To receive information on MoMF related activities in the areas of climate change adaptation.	•MoMF Research Center is currently working together with BAPPENAS to create Indonesian Marine Health Index. •In the coastal areas might be important to focus into skills and other initiatives development for Fishermen; Sea products cultivator; and Salt cultivation as income source and livelihood improvement. •When conducting feasibility study, is important to invite local religious leaders/institutions, because they have strong influence in mobilizing the community. •	•In creating or implementing adaptation programs, it is important to include the geographical condition of the project location, especially when the program conducted has a lot to do with using local natural resources in improving the local livelihood. •The program that is to be implemented should be based on accountable field survey and directed towards generating alternative income and economic improvement for the local community in the coastal areas.
B	**Province Level**			
1	**BAPPEDA** (Local Development Planning Agency) of Central Java Province - 24/03/17:	•Gain information on Provincial plan in resolving the serious condition in Pekalongan, notably with the river infrastructure since the authority regarding river diversion etc., falls under the provincial geovernment. •To get data and	•Confirmation on reclamation plan to be implemented. •The coastal zoning plan has just finished, a result of work by Marine and Fishery Agency and BAPPEDA of Central Java. •Hope for up-scaling the Kemitraan project in Pekalongan in other	•Kemitraan received substantial data from BAPPEDA of Semarang Province and commitmet to support Coastal resilience action in Pekalongan City

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		information about coastal zone management areas in Central Java and Pekalongan. •To have a mutual understanding on what activities that Kemitraan should conduct in order to compliment the activities done by BAPPEDA Semarang province in Pekalongan.	parts surrounding it.	
2	**Head of Environment Agency** of Central Java Province - 24/03/17:	•To inform about Kemitraan's intention in having Pekalongan as the project location for Kemitraan's climate change adaptation project, funded by Adaptation fund.	•Briefing on the consultation process done in Pekalongan with the Mayor of Pekalongan and multi-stakeholders; with the BAPPEDA of Semarang province. •A description on the type of project that is planned to be implemented in Pekalongan, as a result of multi-stakeholders consultation.	•Head of Environment Agency of Semarang province is well informed and support Kemitraan's climate change adaptation proposal concept to Adaptation Fund on focusing coastal city resilience in Pekalongan City
C	**City Level**			
1	**Head of BAPPEDA** (Local Development Planning Agency) **in Pekalongan** – 20/03/17	•To inform the government of Pekalongan about Kemitraan's intention in having the town as the project location for Kemitraan's climate change adaptation project, funded by Adaptation fund. •To gain the government of Pekalongan's	•Government of Pekalongan understands the Kemitraan's climate change adaptation concept proposal and provides official support for submitting the proposal to the Adaptation Fund. •The BAPPEDA Pekalongan aided Kemitraan in contacting and inviting	•Government of Pekalongan's endorsement for Kemitraan's concept proposal and their support for the project development and implementation. •Bappeda suggest kemitraan can focusing on nine climate vulnerables villages in

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		support and approval for Kemitraan contacting as well as visiting multi-stakeholders in Pekalongan for data collection. •To get a formal endorsement from the government of Pekalongan for Kemitraan's concept proposal.	the multi-stakeholders to attend the FGD.	Pekalongan City
2	**Former Mayor of Pekalongan** (period of 2005-2010 and 2010-2015) – 20/03/17:	•To inform about Kemitraan's intention in having the town as the project location for Kemitraan's climate change adaptation project, funded by Adaptation fund. •To gain information on the past initiatives done in mitigating the climate change related in Pekalongan.	•Past initiatives avoided any nature reconstruction activities (reclamation), tend to sort for building geotube, mangrove restoration (with the intention to also develop alternative income from the habitat through crab, Panami shrimp cultivation). •Other activities involved creating rivers to collect the water from the flood; also by channelling the flow of the floods into the selected rivers; relocation of 40 – 60 households who used to live in the riverbanks;	•For mangrove restoration, there are some issues related to land ownership by community as well as the Pekalongan District. •Even though building embankments are needed but not exactly required. Aids should be directed mostly towards geotube construction, ponds revitalization programs. •Mr. Ahmad (former mayor) assisted in notifying Mayor of Pekalongan about Kemitraan's project concept intention, as well as other officials in the different institutions.
3	**Multi-stakeholders Focus Group Discussion** for Adaptation Fund in Pekalongan District – 21/03/17	•To inform the multi-stakeholders in Pekalongan about Kemitraan's intention in having the town as the project location for Kemitraan's climate change	•Gained information on past and current programs undertaken by different institutions: Pekalongan was the first town issued a local regulation on	•The FGD had succeded in giving Kemitraan contacts to gain access to various data of Pekalongan. •The acknowledgement of

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		adaptation project, funded by Adaptation fund. •To get necessary contacts in order to gain access for data collection.	coastal area management but the content was more directed towards natural disaster risk management. •Gained comments and inputs on the current conditions faced by Pekalongan, for instance: the national program of "Cities Without Slums" that was not making so much success; one of the causes of tidal floods and the high floodwaters was also due to poor infrastructure, and lack of initiatives from the ponds farmers to build water tunnels; the whole drainage system of Pekalongan was designed as irrigation system and not as water tunnels. •Towards the end of the FGD, the Mayor of Pekalongan stated the importance of bottom-up approach in his administration in order to get all the neighborhoods in Pekalongan to understand the local government vision and mission through 2021. He mentions the importance for geographical area mapping and finding solution to the tidal flood spectre problem. In 2017 the	Kemitraan's climate change adaptation project concept development in Pekalongan by the Mayor of Pekalongan at the FGD, has given additional boost in gaining support from the multi-stakeholders.

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			government has allocated 30 Million rupiahs to tackle the problem, which 20 Million allocation comes from local government budget, and the remaining 10 Million comes from provincial government budget.	
4	**Mayor of Pekalongan** (period of 2015-2020) – 21/03/17:	•To gain a formal endorsement from the Mayor of Pekalongan for Kemitraan's concept proposal.	•Mayor of Pekalongan understands the Kemitraan's climate change adaptation concept proposal and provides official support for submitting the proposal to the Adaptation Fund.	•Mayor of Pekalongan's endorsement for Kemitraan's concept proposal and his support for the project development and implementation.
5	**Regional Secretary of Pekalongan** – 21/03/17:	•To gain information of the past and current programs related to the climate change adaptation activities in Pekalongan. •To get feedback on priority locations and types of climate change adaptation activities for Kemitraan's concept proposal development.	•Received information about the climate change adaptation and mitigation programs and activities that have been and will be held by, or with support, of the government of Pekalongan. •Received substantial information and geographic priorities for the project;	•Activities to be proposed in Kemitraan's concept proposal should be synergized with programs and activities that are to be implemented by the local government of Pekalongan.
6	**BINTARI** (Bina Karta Lestari) **Foundation** – **CSO** – 20/03/17: **Amalia**	•To gain information on the impact of climate change in Pekalongan; the activities already carried out, both by the government and CSOs; the mitigation activities; the condition of the	•Based on observation, from 2000 – 2016, with the worst being 2008 onwards, the water from the sea has penetrated deep into the living areas of some heavily effected villages. •Using Bandengan	•Many more in the community actually have the desire to learn how to cultivate seawed and fish but request initial fund and continous guidance from any able institutions. •It is imperative to get

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		effected community in Pekalongan; the nature of cooperation with the local and provincial government.	village, as the worst effected village as an example, starting from 2000 the water from the wells were no longer drinkeable. •There are houses which are permanently flooded; houses that had to make additional higher modification to the based of the building which then resulted in the shorter and smaller doors and windows; toilets in the house which could no longer be used; •They did not have many alternatives to move due to the fact that many of the men in the community cannot abandon their livelihood. As a consequence, those who did not move and have the inside of their houses flooded had to adapt by wearing boots while inside the house and even sleep in the flood. •The health effect on the condition is the increase in diarrhea and dermatitis related illnesses. •Those who used to be rice farmers now switched to *wareng* seawed and fish pond. There were those who used to own lands for farming now had to	contacts from the FGD, in order to get access to collect various of required data. •Very important to document the real-life condition in Bandengan and other effected villages. •The community in Bandengan village should have received aid from the government for relocation but no such assistance ever been done.

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			revert on being paid workers for fish ponds and as construction workers, pedicab drivers, factory workers, fishermen.	
7	**Local Disaster Management Agency of Pekalongan** - 22/03/17	•To gain information of the disaster vulnerability of Pekalongan.	•Received information about the condition and history of disaster in Pekalongan based on Disaster Risk Map.	•A clearer wholesome image of existing and potential climate and development related catastrophe in Pekalongan.
8	**Head of Environment Agency of Pekalongan** - 22/03/17	•To gain information on the status of Pekalongan's working group on climate change and adaptation strategies and mitigation implementation in Pekalongan.	•The understanding of importance to enable the working group of climate change in Pekalongan. •Proposed some adaptation activities to be included in the Kemitraan concept proposal.	•The Environment Agency's support for Kemitraan to submit the concept proposal to the Adaptation Fund.
9	**Public Work Agency of Pekalongan** – 23/03/17	•To gain information of the past and current programs carried out related to the climate change adaptation activities, in particular tidal flood problem mitigation, in Pekalongan.	•In attempt to resolve the tidal flood issues, the PWA in Pekalongan mainly focused their activities in bettering infrastructure by building drainage system. •For Bandengan they are planning on building a dam that hopefully can start in 2018. •The Northern areas of Pekalongan are the ones heavily effected by the tidal floods. •They are looking into solving the problem of tidal floods without having to cause other	•Public works Agency ask kemitraan project concept will work at the activity level, concrete actions and the policy level. •Kemitraan received substantial data.

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			environmental damage resulted from taking boulders from the sea banks. •There has been talk about implementing reclamation as a strategy. •PWA of Pekalongan has cooperated with the research unit of LIPI (Indonesia Institute of Science) for trying mitigate the tidal floods problem.	
9	**Focus Group Discussion on** Potential Adaptation Activities at Village and City Level – 09/04/2018	•To draw information from community and city officials on their needs related to adaptation actions and the most suitable actions to be implemented	•Structural adaptation actions under this program should consider the construction of concrete coastal embankment initiated by the national government; how it will complement each other to address coastal flooding issue in Pekalongan City •Degayu area has the potential for ecouturism development •There are potential idle land for fisheries development •Vennamei shrimp has a high potential to increase community's economic productivity, yet its development is hindered by financial constraint and low level of technical skill •The community needs technical assistance in post-production process of fisheries	• The program will provide alternatives for coastal embankment's location •Ecotourism and secondary fisheries product development will be among alternative livelihood proposed under this program •Introduction of alternative livelihood will be complemented with continuous technical assistance

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			products in order to provide added-value to the product	
10	**Agriculture and Marine Agency** – 23/04/2018	•Follow up to the previous Focus Group Discussion on Potential Adaptation Actions •Assessing potential for collaboration during program implementation	•Aquaculture in the form of Venamei shrimp is highly feasible in eastern area of Pekalongan City. At the moment its development is hindered by financial and technical constraint •Western area of Pekalongan City are more suitable for aquaculture in the form fish and seaweed •Construction of coastal embankment should consider its impact to water flow in area behind the embankment. Will it affect community's pond? •At the moment, community still focusing in selling fresh fisheries product. It is expected that they could sell secondary product to increase the selling price. Technical assistance is needed on this matter, including marketing access and campaign (ways to introduce new products to community)	• The proposed program will take account information on potential location for adaptation actions •The proposed alternative livelihood will be complemented with apt technical assistance (work in collaboration with Agriculture and Marine Agency), including those related to marketing context
11	**Focus Group Discussion on** Gender Aspect with Women	•To assess how women's group perceived and deal with the impact of	•Not all women are house-wife, some of them also have permanent jobs.	• Proposed program structure will include gender perspective within, for instance in

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
	Group's Representative – 29/04/2018	coastal flooding on their daily life •To identify adaptation strategies for women affected by climate change	•Community meeting often held in the evening where most women have other responsibilities at home •Coastal flooding have become a burden for them since they have to clean their house from flood water in daily basis on top of their other formal works and household responsibilities •The program should consider not only physical disruption of the area but also mental state of the affected people •Training on alternative livelihood is very much welcome but need to be complemented with capital and marketing support (particularly in the beginning)	the PMU structure, meeting and training design (including timing for the meeting), potential adaptation actions that also considered mental status of the targeted beneficiaries, and also alternative livelihood for women group •The impacts of climate change are felt by women, especially as they are in daily life more dependent on natural resources that are exposed to climate change impacts. •Their limited mobility often constraint and limit their capacity to cope with the effects of climate change. •Women participating in the FGD have played a role and have the potential to become effective actors or agents of change related to climate change adaptation. They have basic knowledge and skills that can be utilized in adaptation strategies.

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
				• When responding to the impacts of climate change, establishing gender-sensitive strategies is critical to ensure the rights of women affected by climate change can be met, including in terms of access to resources and their participation in the decision-making process. Some women have often been included in decision-making regarding responses to climate change impacts. However, this situation needs to be improved in order to be more equitable, as these participants (mostly) are indeed women who are actively organizing or even formal leaders (one of them is the Chief Village) in their respective villages. • Information related to the role of Women Affected by Climate Change can be used to address knowledge and data gaps related to the vulnerability and

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
				impacts of climate change on women and to accelerate learning on effective gender adaptation measures and strategies. •It is necessary to rebuild consultation rooms for the affected women consultation to better explore their knowledge, skills and experience in the process of implementing adaptation action in Pekalongan City
D	**Village Level**			
1	**Leader of Farmers Group "Tani Makmur"** in Bandengan Village - 21/03/17	•To gain information on the condition of social, cultural and community institutions as well as the impact of a tidal flood disaster in the village.	•The clearer picture of the condition of the village areas effected by tidal flood. •Gathered information on village profiles, groups and community conditions, of which the stories told by the farmer pretty much corroborated the earlier information received from BINTARI. •Information on community activities plan in adapting to the tidal flood disaster.	•Direct observation on the areas of Bandengan village effected by tidal flood disaster. •Was shown a business development proposal written by the farmers group for fish and seawed cultivation in Bandengan village. •Bandengan community's support for Kemitraan's planned activities for the village.
2	**Community group of Degayu Village** - 22/03/17	•To gain information on the condition of social, cultural and community institutions as well as	•The clearer picture of the condition of the village areas effected by tidal flood. •Gathered information	•Direct observation on the areas of Degayu village effected by tidal flood disaster. •Degayu community's

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		the impact of a tidal flood disaster in the village.	on village profiles, groups and community conditions. •Information on community activities plan in adapting to the tidal flood disaster.	support for Kemitraan's planned activities for the village.
3	**Head of Tirto Village and the Community group** - 23/03/17:	•To gain information on the condition of social, cultural and community institutions as well as the impact of a tidal flood disaster in the village.	•The community income mainly come from Batik (Batik artists) which are mostly home industry, and factory workers. •Like Bandengan, they lost their rice farming to tidal floods. •Whenever the tidal floods occur they cannot continue with their livelihood, they had to wait until it subsided, which could take up to weeks. •One of the source of tidal floods was the river Bremi that goes through the village, and the shallow structure of the river also cause the puddles however, pumping out the water has not always been effective, especially when water hyacinth populate the river too much. •	•Direct observation on the areas of Tirto Village effected by tidal flood disaster. •Tirto community's support for Kemitraan's planned activities for the village.
4	**Degayu Community** – 21/04/2018	•Follow up to the previous Focus Group Discussion on Potential Adaptation Actions •Assessing potential adaptation actions that can be	•The existing geoutube had been able to protect the area to some extent, but its height considered as not sufficient enough for an effective protection. At the	•Adaptation action in Degayu will be focusing on structural shoreline protection and alternative livelihood with adequate technical and financial support

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		implemented in the village based on their issue and needs	moment, the construction had been destroyed due to the construction and operation of small scale shipyard behind the geoutube line •Vennamei shrimp is highly potential to be cultivated in Degayu, but the community needs capital and technical support for this. Most of the successful shrimp farmer in Degayu are supported by investor •Traditional shrimp pond which operated without investor often experience failed harvesting due to improper water and feedstock management (lack of financial and technical capacity to properly managed the pond) •Groundwater extraction believed as contributing to the severity of coastal flooding impact in Pekalongan City •Community empowerment is important, for instance by implementing community-based eduecotourism in Degayu	
5	**Kandang Panjang Community** – 21/04/2018	•Follow up to the previous Focus Group Discussion on Potential Adaptation Actions •Assessing potential	•Since their productive land is mostly affected by coastal floding, some Kandang Panjang community now have unsteady	•Fisheries sector remains the primary economic activity option for Kandang Panjang community

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
		adaptation actions that can be implemented in the village based on their issue and needs	jobs. They get additional income by catching fish and crab in their free time •Some Kandang Panjang community have joined as Community Supervising Group member that work in collaboration with city government in operating Mangrove Information Center (eduecotourism managed by city government) •Crab fattening activities are the most desired livelihood for the community, however the said activity need large capital	
6	**Fisheries Product Collector in Bandengan Village –** 22/04/2018	•Assess supply chain for fisheries product and potential for collaboration	•Receive product from 4 villages •Crab is the largest commodity, while other product that also collected are shrimp and different species of fish •Most of the commodity are sold to large scale collector in other cities (majority to Pemalang, and then Batang and Jakarta in that order). Most of the large scale collector then sold the product to Jakarta. Locally sold commodity is mostly shrimp •Provide crab seed for crab fattening and willing to buy back the	• Potential for collaboration in crab fattening activities if desired by Kandang Panjang community

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			large products	
7	**Fisheries Product Collector in Degayu Village –** 22/04/2018	•Assess supply chain for fisheries product and potential for collaboration	•Receive product from Degayu and Batang Regency •Vennamei shrimp is the largest commodity, while other product that also collected (at a small scale) are different species of fish •Most of the commodities are sold to large scale collector in other cities (majority to Pemalang, and Batang). The large collector often sold the product to Jakarta. •Did not supply locally	•
8	**Bandengan Community –** 24/04/2018	• Follow up to the previous Focus Group Discussion on Potential Adaptation Actions •Assessing potential adaptation actions that can be implemented in the village based on their issue and needs	•Majority of Bandengan community works as labour, only around 10% works as fishermen since most of their productive land are permanently inundated or cannot cope with the strong current •Historically, Bandengan community works as farmer instead of fishermen, hence they would prefer to be equipped with agricultural land instead of pond •Women groups are highly interested in processing fisheries product, but they impeded by capital issue and low technical information •Despite the need for	• Actions in Bandengan village will be focusing in increasing community's adaptive capacity by providing alternative livelihood and addressing water and sanitation issue

No.	Stakeholder	Consultation Objective	Outcome	Conclusion
			physical intervention to address coastal flooding issue, the community also need emotional assistance •Bandengan community also face water scarcity issue since clean water piping network in the area is either broken or submerged	
9	**Secretary of Bandengan Vilalge –** 24/04/2018	•Follow up to the previous Focus Group Discussion on Potential Adaptation Actions •Assessing potential adaptation actions that can be implemented in the village based on their issue and needs	•Fisheries is not the main economic sector in Bandengan. Most of the fisheries product are Bandeng and seaweed •Despite their housing area are permanently inundated, relocation or resettlement is out of question. City government have provided City-owned Apartment, but only the young family who are willing to move there. Hence the city and village officials are mostly focusing on reconstruction of low quality housing	•Actions in Bandengan village will be focusing in increasing community's adaptive capacity by providing alternative livelihood and addressing water and sanitation issue •Resettlement will not be considered in the program

Consultative meeting with "Tani Makmur" Farmer's group

Consultative meeting with Bappeda Pekalongan City

Consultative meeting with stakeholders (City government, villages government, University, NGO and community groups.

The voice of women and vulnerable groups had been taken into account during initial consultation and full proposal development process. In initial consultation, their input were drawn during village level consultation; where the groups are represented by the Tirto Village and Degayu Village community groups and also Tani Makmur Group (farmers group). The follow-up to their input is reflected on the initial design of the program that placed them amongst the targeted beneficiaries that will be exposed to different activities aiming to reduce their vulnerability and increase their resiliency. During full proposal development process, a specific FGD on gender issue and how it will shape the program design and implementation are conducted at city level; in which the results are shown on table above.

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

Component	Baseline	Additional (with AF)
Village Level	• Local actors have limited capacity to prepare for and respond to climate change and natural hazards • The most vulnerable areas and groups receive limited infrastructure support and no targeted object to receive resilience building support because of limited capacity and resources.	• Local actors and communities are enabled to prepare for and respond to climate change and natural hazards • The vulnerable groups in coastal areas are targeted and appropriate resilience measures
City Level	• Lack of capacity of the	• Local governments and

Component	Baseline	Additional (with AF)
	local governments officer and related stakeholders to lead climate change adaptation and disaster risk reduction plan • The most vulnerable communities are not targeted/reached	related stakeholders can lead climate change adaptation and disaster risk reduction plan • The most vulnerable communities are the main beneficiaries of the project
Province Level	• Lacking capacity of provincial government officer to put forward climate change adaptation issue in development plan as well as incapability to lead by example in mainstreaming the issue	• Provincial government officers have the capacity to promote climate change adaptation action plan and mainstream the said plan into development plan, setting out example and support all cities and regencies within its administrative region to do the same
National Level	• SIDIK unable to appropriately and accurately assess the vulnerability and risk of coastal region • Adaptation programs planned at ministry level (national level) often incompatible with the needs of adaptation actions at city/local level	• SIDIK is improved and able to appropriately assess vulnerability and risk of area that has coastal characteristics • Ministries and local government collaborate and cooperate to implement the appropriate adaptation actions

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

As mentioned in the previous section of this proposal, this program is aiming to address multifaceted issue in coastal area, specifically those related to climate change impact; fostering coastal resilience building in the area. Seeing the considerable benefit trying to be achieved by the program, it is thus important to ensure the sustainability of the program in order to spread out the benefit to wider community. Approach taken for this program rely heavily on stakeholders involvement and collaboration, hence the derived activities for those two aspects are designed to ensure the program's sustainability.

Building Sense of Ownership at Village and City Level

Ownership is one notion that could warrant sustainability. A sense of ownership would drive a person to maintain the continuity of something they own. For the purpose of this program, sense

of ownership on the adaptation actions will be built gradually through high involvement of the stakeholders from the beginning of the program by establishing working group that is legalized, continued with providing series of trainings and workshops, and also actively involving them in risk assessment and action plan development process. Their support and commitment will not be built instantly, but in incremental manner. It is expected that with the increasing knowledge on the issue, their level of support and commitment will simultaneously increasing; especially during the implementation stage of adaptation plan. Once they experience the benefit of the project, their sense of ownership will be increased; driving them to maintain the continuation of the plan.

- Village Level
  At village level, benefit arises from the existence of adaptation actions and the alternative livelihood will directly affect community's life in tangible manner. Their financial capital will be strengthened from the combination of increases of income and decreases of disaster-related expenses. Their income will increase from the alternative livelihood and better management of the fishing practices, while their physical environment will be better protected from coastal hazards such as coastal flooding, and thus reducing their household expenses in dealing with this such hazard. To further ensure the sense of ownership will always be maintained, a local NGO will continue to work closely with village working group to share their knowledge on the issue, including on matters relevant to new alternative livelihood. This local NGO is a member of city team and have been working with the targeted local community for a period of time, and thus they will be committed to maintain the program's outcome in the targeted area.

- City Level
  Meanwhile for the city, these actions and livelihood will increase their GDP from fisheries and tourism sector as well as reduce their expenses in infrastructure repair/rehabilitation due to coastal-related hazard. Seeing how the activities positively affect their GDP, the local government will be driven to maintain the existing activities and further replicate/scale-up the activities in other location within their administration area.

Knowledge Platform Establishment and Engagement

Multi-stakeholder involvement and knowledge platform engagement within the program is also designed to allow program sustainability. It enables knowledge to be disseminated to diverse actors, and not only one single entity. Allowing projects and lessons learned to be disseminated, replicated and even expanded. The existence and operationalization of this platform will support the effort in building a sense of ownership to the program and its benefit. The more people take ownership, the more sustainable the program will be. Concurrently, the sustainability of this platform will be maintained.

- City Level
  The local knowledge platform (PIM) will play a major role at city level in disseminating knowledge product and program benefit to wider city stakeholders. This role will support in building a sense of ownership to the actions and alternative livelihood produced under the program. During the implementation stage, particularly the workshop series, the

program will build the sense of need and importance of this platform as a knowledge sharing media by emphasizing the significance of regular multi-stakeholder discussion in addressing climate change impact in their area. The stakeholders will also be trained to share their relevant achievement and issues in this platform. Having built their sense of need and issue/knowledge sharing habit, it is expected that in future time, they will turn to this platform if they encounter opportunities and/or threat to the adaptation actions and alternative livelihood.

- National Level
  National knowledge sharing platform (ICA) has been established and actively operationalized prior to the program development. Throughout the course of the program, an active communication and discussion will be conducted with the platform to advocate lessons learned from local experience in Pekalongan City as well as on common interests. During the program period, the program will apply as the platform member. This membership will end after the program ended, and the advocacy for Pekalongan City lessons learned and interest will be taken over by APEKSI who is also ICA member. APEKSI is the national association for city government in Indonesia, where Pekalongan City is among the member.

  The program design chooses to apply directly as ICA member during the program period, instead of advocating the relevant issue through APEKSI that will subsequently take it to ICA.. Furthermore, the program active involvement in ICA will nurture a better relation between the city and APEKSI; fostering a better transition to hand-over Pekalongan City interest to APEKSI after the program ended.

Program Mainstreaming at City Level

Other means to ensure program sustainability rely on government involvement. Mainstreaming the adaptation options (including M&E activities and climate risk assessment) to city development and spatial plan is believed as the most effective sustainability strategy at city level. Aside from community, this program place government institutions as the core subject. Facilitating the government officials to properly develop and mainstream climate strategy and adaptation action into local development plan is part of the sustainability design. A successful mainstreaming process will provide the adaptation actions with budget allocation, not only funding for initial construction, but also regular maintenance. This means that the activities in the action will be able to continue even after the AF-funded program period ended. In addition to that, this program will also drive related regular activities, such as relevant M&E and risk assessment updating, to be mainstreamed in the city development and spatial plan. This will further ensure the program sustainability in long term.

Replication of Financial Access Scheme on Alternative Livelihood

The vulnerable groups that will be introduced to alternative livelihood are categorized as low level economic groups. Based upon this fact, a selected adaptation option and alternative livelihood at city level will be complemented with piloting of financial access scheme. For example, micro loan for Vennamei shrimp farming in targeted villages or micro loan for women-headed household that will produce mangrove honey in the targeted villages.

Following the completion of Climate Risk Assessment at village level, a feasibility study (which includes Cost Benefit Analysis within the study) will be done to the list of adaptation options to select 1 adaptation action (non-livelihood) and 2 alternative livelihood options that determined as suitable and feasible to be complemented by the scheme; along with the potential pilot locations. Among aspects to be assessed within the feasibility study are ease of implementation, scale of beneficiaries as well as community's interest. Succeeding the study, selection process will be conducted to determine the proper pilot location. Climate Risk Assessment results will be utilized as the main source of information to select the appropriate pilot locations from the potential locations list obtained during the feasibility study process. It is targeted that there will be 6 pilot locations for alternative livelihood and 9 locations for non-livelihood adaptation action.

The pilot financing scheme itself will be in the forms of micro loan, in which the fund will be managed by local financial institution or city-owned enterprises. Decision on which institution will manage the fund will be depending on financial assessment process conducted by the implementing entity during the program implementation phase.

During the course of the program, this pilot financing scheme will be evaluated and further improved for replication. This livelihood will not be sustainable if only relying on capital access; market access is also a critical point. The program will work closely with two relevant Pekalongan City Agencies, which are the Industry, Trading, Cooperation and Micro-Small-Medium Enterprise Agency and the Agriculture and Marine Agency to open up market access for the alternative livelihood; so that the community could supply their product to the market. Furthermore, the Agriculture and Marine Agency of Pekalongan City have an on-going technical assistance program for community groups on post-production process for fisheries products. However due to limited capacity of the experts, added with low government resources to search for market access for the products, this technical assistance program was deemed as ineffective. The agency believes that the existence of this program will be a significant driver to increase the effectiveness of the program by introducing new approach and new set of skills.

In parallel, the implementer will also advocate the integration of alternative livelihood and its complementing financial scheme into the annual local development plan of Pekalongan City, particularly to the two aforementioned Agencies' program. This such integration will in one way ensure that 'someone' will maintain the continuation of the livelihood. Yet, the main aspect that will ensure the livelihood sustainability is how to attract the interest of the community itself by providing financial (in forms of capital) and technical assistance for them to start their business, which at the moment is considered as lacking.

Exit Strategy Development

All in all, this program believed that maintaining the program sustainability cannot rely solely on funding allocation, but also involving stakeholders to take part in the maintenance and dissemination stage. Pursuing funding allocation is somewhat a futile effort if not complemented by the existence of someone who protects and preserves the results. Combination of the above efforts at different government level will ensure the sustainability of the program output and

outcome in long-term period. These efforts will be combined and translated into an exit strategy plan which will be included in the M&E documents of the program.

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

Environmental and Social Impact Assessment has been conducted for the program to assess potential risks arising from program implementation. The assessment was carried out by considering nationally applicable standard in risk assessment as well as compliance to AF Environmental and Social Principles. The assessment results are as below.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	-	The program is designed in compliance with all applicable national, regional and local law, including: • Law Number 32/2009 on Environmental Protection and Management. • Government Regulation Number 27/2012 on Environmental Permit and Environmental Impact Assessment • Ministry of Environment Regulations Number 5/2012 on Types of Activities that Needs to be Equipped with Environmental Impact Assessment Yet, additional permit and compulsory assessment still need to be obtained and undertaken for specific adaptation actions that will be implemented in future time within the program timeframe; particularly for actions listed in the Ministry of Environment Regulation No. 5/2012 <u>Potential risks:</u> Environmental impacts from specific adaptation actions <u>Requirements and Managements:</u> • If the chosen adaptation options are categorized as activities regulated by the Ministry of Environment Regulations No. 5/2012, the relevant permit and assessment process will be ensured to be done accordingly. Aside being outlined in the said regulation, the needed permit and assessment also stated in Part II, Section E.

		• Mitigation measures for the impacts are stated in the Environmental and Social Management Plan (Annex xx).
Access and Equity	-	The program is designed to ensure fair allocation of access to the community, including in information dissemination. To further disseminate knowledge related to the program, knowledge board will be built in community centre or village office; making it accessible to all community. Participatory approach employed by the program will further ensure access and equity principle being undertaken during program implementation. One issue being raised during FGD on Gender Issue conducted during the proposal development stage is workshops and meetings timing that should be done at night time to ensure women's group participation in the process. This issue will be taken into account when designing the relevant activities to ensure all groups have similar access to program information and implementation process. Despite the effort in ensuring access and equity principle being carried out within the program, there still a minor potential social risks that could arise during program implementation. <u>Potential risks:</u> Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood. <u>Requirements and Managements:</u> • Stakeholder mapping as the basis for assessment on implementer selection, fair role and responsibilities among stakeholders, and also activities site location (including knowledge board location) that could benefit wider community • Mitigation measures for the impacts are stated in the Environmental and Social Management Plan (Annex xx).
Marginalized and Vulnerable Groups	-	Marginalized and vulnerable groups are the targeted beneficiaries of the program. They will not only act as the passive actor within the program, but also actively involved in the program implementation.

		The proposed program will employ participatory approach, particularly at local level, by involving women groups, most vulnerable groups and community representative from different socio-economic level during training, discussion forum and risk assessment process. The planned adaptation actions and alternative livelihood also designed by taking into account their interests. However, there still a minor potential social risks that could arise during program implementation. <u>Potential risks:</u> • Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program <u>Requirements:</u> • Social impact assessment and management plan on potential adaptation actions during prioritization process. Pro-poor actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk) should be among the priority • Adaptation action design (the site location and structural design for hard structure) that take account the needs and suitability for elderly, children groups, and disable groups; to ensure they can experience the benefit • Mitigation measures for the impacts are stated in the Environmental and Social Management Plan (Annex xx).
Human Rights	The proposed program is intended to elevate the quality of life of the beneficiaries (including marginalized and vulnerable groups) by creating a better environment for them (physical, social and economic environment). Furthermore, The Republic of Indonesia has ratified The International Covenant on Economic, Social, and Cultural Rights into Law Number 11/2005 and International Covenant on Civil and Political Rights into Law Number 12/2005. The proposed program will adhere to these laws and ensure that	None

	Human Rights principles are being carried out throughout the course of the program.	
Gender Equity and Women's Empowerment	• The Republic of Indonesia has ratified the Convention on the Elimination of All Forms Against Women/CEDAW into Law Number 7/1984. Hence the proposed program will comply with this law and also other applicable national law on Gender Equity and Justice. • Women groups will be an active participant in the program, where their representative will be selected as Village Working Group member. • The program is designed so that trainings on economic livelihood will involve female participant; to ensure they will receive economic benefits from the actions • There is no risk that the husbands will object their wives new livelihood since it will support their household economy	None
Core Labour Rights	Relevant to labour rights, the nationally applicable regulations are as below: • Law No. 80 of 1957 concerning Ratification of ILO Convention No. 100 on Equal Remuneration for Men and Women Workers for Work of Equal Value • Law No. 7 of 1984 concerning Ratification of the Convention on the Elimination of All Forms of Discrimination Against Women; • Law No. 21 of 1999 concerning Ratification of ILO Convention No. 111 regarding Discrimination in Employment and Occupation. • Law No. 13 of 2003 on Manpower Accordingly, labour works done under this program will adhere to the above laws, including payment issue. Additionally, the program will also ensure that it will comply with ILO Convention No. 138 and 182 on Child Labour, by assuring that there will be no child labour involved in the program. The program will not pose any risk on labour righ since it will equipped the community member with additional skills	None

Indigenous Peoples	Community resides within the geographical scope of the proposed program came from similar ethnicity, and has a well-established social norm. Accordingly, there is no risk related to indigenous people for this proposed program	None
Involuntary Resettlement	Resettlement for community who resides in permanently inundated area is issue that had been raised in the past, but put on hold due to local government budget constraint. During the full proposal development stage it has been agreed with the city stakeholders (including government and community) that resettlement will not be a part of the proposed adaptation actions. Hence there is no risk of involuntary resettlement for the program.	None
Protection of Natural Habitats	-	As a coastal area, protection of natural habitat is essential to be taken throughout the course of the program. Mangrove, the natural habitat for fish and shell fish, has been the green belt for Pekalongan City shoreline for the past decade, protecting the area to a certain extent from sea-related risk. However, mangrove condition in the area has been degraded in the past years. <u>Potential risks:</u> Minor environmental and ecological Disruption from hard and soft structure construction <u>Requirements:</u> • Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012) • Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on

		natural habitat protection
Conservation of Biological Diversity	-	Coastal resilience aimed by this proposed program is not only focusing on human resilience, but also considering the corresponding biodiversity. Potential risks: Minor environmental and ecological disruption from hard and/or soft structure construction and alteration of resource management (introducing new shrimp species and extracting mangrove honey) Requirements: • Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012) • Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA; including for activities that are related to the introduction of foreign and invasive species; how the said species will survive and interact in a new environment (e.g. Vennamei shrimp) • The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other
Climate Change	Activities under the proposed program will not significantly contribute to the increase of greenhouse gas emission or other climate change drivers	None
Pollution Prevention and Resource Efficiency	-	Potential risks: • Water pollution from hard and soft structure construction, existing agriculture and farming practices, alteration of resource management (introducing new shrimp species and extracting mangrove honey), and by product from alternative livelihood • Sedimentation due to accumulation of fish feed in brackish water fishery Requirements:

		• Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012) • Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • Assessment on a more environmentally friendly farming and fishing method/practices
Public Health	There is no risk to public health from the program. The program activities will continually be ensured for not placing community's health and safety in dangerous state by adhering to the relevant applicable laws and regulations	None
Physical and Cultural Heritage	There is no risk to physical and cultural heritage from the program since there is no physical and cultural heritage located within the geographical scope of the proposed program.	None
Lands and Soil Conservation	-	Inundation from coastal flooding in the targeted program area has resulted in adverse impact, transforming productive land into unproductive one. This proposed program aims to reduce the inundated area, preventing them from turning into unproductive land by implementing diverse adaptation measures. <u>Potential risks:</u> • Soil pollution from hard and soft structure construction, existing agriculture (the use of pesticide) and farming practices, and by product from alternative livelihood <u>Requirements:</u> • Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012) • Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • Assessment on a more environmentally friendly farming and fishing method/practices

Based on the assessment above, can be seen that the program implementation has several potential risks that are considered as minor, small scale (limited impacts and not widely spread) and easily mitigated. These risks can be avoided by implementing adequate mitigation measures. With regards to Risk Categorization of AF, the program can be categorized as "**Category B"** where it has potential adverse impacts but in small number, small scale, not widespread and easily mitigated.

In this proposal, the mitigating measures has been incorporated into Environmental and Social and Management Plan (Annex 1) that will be implemented and utilised by the program to mitigate the potential risks and also ensure the compliance of program implementation to AF Environmental and Social Policy.

PART III: IMPLEMENTATION ARRANGEMENTS

A. Adequacy of project/programme management arrangements, in compliance with gender policy

Institutional structure and arrangement for the program is developed by considering that it will be implemented in an interconnected manner at 4 (four) different government levels (village, city, province and national). Accordingly, the institutional structure should allow an effective coordination and communication mechanism, both horizontally (within each level) and vertically (across different level).

To implement the program, a Project Management Unit (PMU) will be established with main responsibility of managing and implementing different component under the proposed program and ensuring the implementation is in line with the program frameworks, including its targeted goal and objectives. Kemitraan as the National Implementing Entity will act as the Executing Entity in this program, and will be responsible in developing the PMU and assisting them in managing and implementing the program as a whole.

The PMU will be led by a Project Team Leader that will be supported by technical and administrative staff. Relevant to this multi-level government approach, staffing under the PMU will be made available to serve activities at 4 government level. Figure 8 will illustrate the Institutional Structure for the Program, including the Project Management Structure of the PMU. Table 5 will outline the roles and responsibilities of each position within the structure.

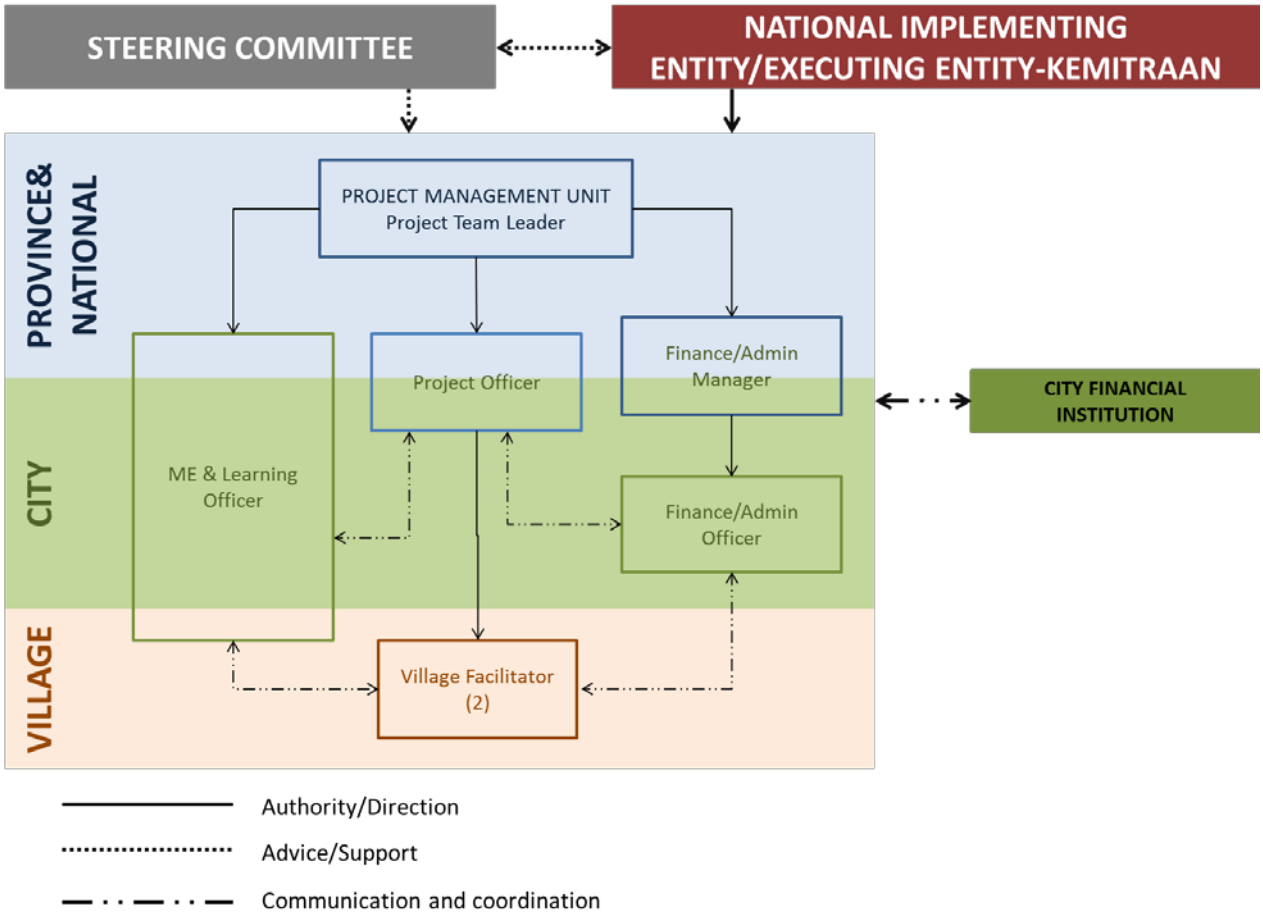


Figure 8. Institutional Structure for the Program

Table 5. Roles and Responsibilities within the Institutional Structure

Position	Roles and Responsibilities	Additional Remarks
Steering Committee	The SC will oversee the whole program implementation to ensure that the means and mechanisms are in place to run the program effectively to be able to achieve the desired outcomes, while also representing the voice of stakeholders that do not directly sit on the committee. They will provide high level technical and management guidance to the NIE and PMU for program implementation, including guidance on policy advocacy process at national level	Steering Committee member will encompass representatives from National government, Province, Government, City Government, Village Government, Academicians and Civil Society Organizations. National Government Agencies that will be involved in the Steering Committee are: 1. Office of the Presidential Staff 2. Directorate of Adaptation, Directorate General of Climate Change Control, Ministry of Environment and Forestry; as the leading ministry for climate change issue 3. Directorate Natural Resources and Maritime, National Development Planning Board; as the coordinating ministry for climate change issue 4. Directorate Maritime and Fisheries Development and Research Agency, Ministry of Maritime and Fisheries; as the leading ministry for coastal and small island issue
National Implementing Entity/Executing Entity – Kemitraan	Kemitraan will be responsible in supervising, supporting and providing guidance to the following activities: • Program preparation, including selecting PMU member and developing Steering Committee • Program implementation, including maintain communication and facilitating coordination with the Steering Committee • Program monitoring and evaluation • Strengthening program sustainability strategy • Input for policy advocacy	As the Executing Agency, Kemitraan will ensure that program implementation will comply with Kemitraan Policies as well as AF's ESP and Gender Policy

	• Monitoring financial disbursement for program implementation • Financial assessment for the potential city financial institutions that will the program's partners • Technical and quality assurance on the program implementation	
Project Team Leader	Will lead the PMU in implementing the program as a whole in day-to-day basis. Among the specific responsibilities are: • Together with NIE selecting the PMU member • Together with selected PMU member will develop Program Implementation Plan as the guidance for program implementation • Ensuring that the program implementation are always in line with the targeted goal and objectives as well as the program implementation plan, and the goals and objective can be achieved effectively and in timely manner • Bridging coordination of program implementation at different government level. Relevant to the multi-government level approach, the PC will be specifically responsible in leading the execution of activities at national level, including coordinating with relevant line ministries, coordinating with national platform and leading the advocacy process at national level • Lead the preparation of program progress report • Ensuring program disbursement is efficient and on schedule • Communicating the program progress and issues to steering committee and NIE	Project Team Leader is responsible to the NIE in delivering the works.
M&E and Learning Officer	Supporting Project Team Leader in daily program implementation, with specific responsibilities: • Developing mechanism for knowledge management (including management for cross-cutting information) • Ensuring that information collected from monitoring activity is reflected upon and utilized to continually improve the on-going program • Implementing internal M&E and ICT capacity building that targeting PMU member to promote a culture of learning and knowledge management internally • Support Team Leader in coordinating and communicating with national platform on climate change adaptation • Assist PO in developing KM platform at	

	city level • Generating lessons learned from village and city level and prepare the relevant documentation, knowledge products and visibility materials based on those lessons learned • Provide input for Project Team Leader and Project Officer based on findings from the lessons learned	
Finance /Admin Manager	Responsible for financial and administration management for the overall program implementation, including leading the financial assessment process for selecting the suitable financial institutions at city level for pilot financial scheme activities	
Project Officer (PO)	The spearhead of program implementation at National, Province and City Level. Among the specific responsibilities are: • Implementing daily activities of the program at city, province and national level, with greater emphasize on city and province level • Assist Project Team Leader in ensuring program disbursement is being done effectively and in accordance with the schedule • Assist Project Team Leader in developing regular progress report • Ensure horizontal and vertical coordination of program stakeholders • Coordinate with M&E and Learning Officer and Finance/Admin Officer in activities implementation • Assist Project Team Leader in developing pilot project criteria	
Finance /Admin Officer	Assist finance/admin manager in dealing with financial and administration related issue at city and village level implementation, including coordinating with the selected financial institutions for the pilot financing scheme and monitoring their performance	
Village Facilitator	The spearhead of program implementation at village level. Among the specific responsibilities are: • Coordinating with Project Officer and Village Officials on program implementation • Lead the implementation of program activities designated at village level • Lead the formation process of village working group • Facilitate training and workshops at	

	village level • Providing input for pilot project selection	
City Financial Institutions	Despite not being formed specifically for the program, but this institution will have a clear coordination line to the PMU due to the fact that they will play as one of the major actor in the pilot financing scheme. Among the responsibilities are: • Ensuring that the finance part of the pilot financing scheme is being carried out in line with Kemitraan and AF Finance Policy • Coordinate with City PO and relevant City Government Officials • Together with PC and Finance/admin manager create selection criteria for potential pilot implementer • Together with PC and PO will create sustainability strategy for the financing scheme	

The proposed program will ensure that gender mainstreaming is effectively implemented since planning/design stage, and continue to implementation stage to ensure the sustainability of gender responsiveness even after the project is completed.

The proposed program highly values the gender competence of the PMU. In the staffing selection process, the program will incorporate an adequate gender understanding as a criterion in the selection of team members. The team will be assessed for its competence related to gender. Furthermore, to elevate their understanding on gender issue, workshops and training sessions will be held for them during the program planning stage. From the workshops, it is expected that the staff will be equipped with adequate knowledge on gender mainstreaming considerations within the program as well as adequate capacity to support the implementation of gender responsive programs.

During the implementation stage, the PMU will encourage implementing partners to designate gender focal points on their respective organizations to facilitate exchange with partners on any gender-specific issues that might arise. As part of monitoring and evaluation process in the implementation stage, this program will also be monitored to identify any challenges, barriers and constraints to gender-responsive implementation or gaps/flaws in the design process and address and mitigate them during implementation.

B. Describe the measures for financial and project / programme risk management.
The initial identification of management and program risks is summarized under below risk matrix. A more detail and comprehensive risk assessment and its mitigation plan will be further elaborated during the full proposal development phase.

Identified Risks	Risk Level	Mitigation Measures
Institutional Risk:	Low	• Decision making mechanism of the

Identified Risks	Risk Level	Mitigation Measures
Potential lack of support from the national and provincial government since climate change issue is not the strategic issue and development priority at both government level at this period		Steering Committee will be designed as will not be dependent to a single entity • Build partnership with national platform to advocate the issue at national level by utilizing policy brief built upon practical experience at the program location • Periodic report and coordination with the provincial government officials, including involving them in issues that related to provincial government responsibilities at city scope
Institutional Risk: Weak horizontal coordination at national and city level, and also continually changing representatives in Steering Committee and Working Group (City and Community) could potentially delay the program time frame	Medium	• NIE to hold regular coordination meetings at national level • Reactivating city working group to foster city level coordination • Schedule a regular coordination meeting of city and community working group • Member of Steering Committee will be appointed by name (representative of the institutions), instead of only appointing the institutions • Member of City and Community Working Group will be appointed by name, and legalized by Mayor's Letter of Decree to strengthen the team's roles and responsibilities
Institutional Risk: 2019 general election momentum potentially shift the focus of key actor at national level, particularly at the beginning of program implementation	Low	Project scheduling will be made so that by the time the national level is at 'general election mode', the project is still at the early implementation stage, where the main activities are developing assessments and conducting trainings to build stakeholders knowledge and awareness. The program will also be designed so as not will be highly influenced by political condition at national level. Project Team Leader along with NIE and the Project Officer will keep track on the changing dynamics due to general election, including changing of actors that needs to be approached for advocacy process.

Identified Risks	Risk Level	Mitigation Measures
Social Risk: Low level of support and acceptance from the community could impede participatory approach that became the core of this program, causing several of the adaptation options become ineffective or not on-target, and threatening the sustainability of the actions at post-program period	Medium	• Build a strong rapport with local community champion and leader by engaging in informal discussion early in the preparation stage • Establish village working group with member encompassing community leader, representative from different line of work, women group, CSO (if any) and youth group; in which the member will be the focal point in disseminating relevant information to other community member • Regular training / discussion forum / coordination meeting to discuss climate change knowledge and program progress, as well as to build their sense of ownership to the program • Training and discussion will be designed to be sensitive to the needs and general character of the participant, to ensure maximum participation • Utilizing knowledge board effectively to inform the wider community
Social Risk : Economic benefits from the program (adaptation actions that could produce larger economic benefits) may garner more attention from the stakeholders in comparison to its social and environmental benefits	Low	• Mainstream environmental and social safeguarding since early in the preparation stage by embedding sustainable development context • During inception training, will put emphasis on benefits on each aspect (environmental, social, economic) that could be gained by building coastal resilience; including how each aspect interlink with each other
Environmental Risk: Natural disaster and extreme weather events could delay or impede program implementation	Medium	• Coordinate with Disaster Management Board and Ministries of Marine and Fisheries regarding early warning system in place • Communicate in advance potential delay on program implementation to relevant stakeholders • Prepare contingency plan for such events
Financial Risk:	Medium	• Close monitoring for project

Identified Risks	Risk Level	Mitigation Measures
Delay in program implementation may result in delay of financial disbursement		implementation and reporting, and provide immediate feed-back on problem faced by the executing institutions • Design problem-solving procedure to ensure issues are dealt in timely and effective manner

C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.

The proposed program is categorized as **"Category B"** with potential risks that are minor, small scale and easily mitigated by implementing mitigation measures. Table below summarizes the potential environmental and social risks that could arise from the program and the corresponding mitigation measures. As part of the risk management process, an Environmental and Social Risk Management Plan has been developed for the program and can be found in Annex xx of the proposal.

AF ESP	Type of Risks	Risks Description	Mitigation Measures
Compliance with the Law	Environment	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	• Conducting EIA for adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012. • The relevant Environmental Monitoring and Management Plan will be developed for the particular activities • PMU will ensure that the monitoring and management plan is being adhered
Access and equity	Social	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood	• Conduct stakeholders mapping during project planning stage as the basis for determining the appropriate project implementer, allocating fair roles and responsibilities among stakeholders, and selecting the appropriate activities site location (including knowledge board location) that could benefit wider community • Involving village working groups (which members are community representative) in the selection process • Select working group member that could really represent the voice and interest of all layers of

			community and city stakeholder
Marginalized and Vulnerable Groups	Social	Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program	• Conduct social impact assessment and develop the corresponding management plan on potential adaptation actions during prioritization process. • Put priority on pro-poor adaptation actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk) • Adaptation action design (the site location and structural design) will take account of the needs and suitability for elderly, children groups, and disable groups • Develop visibility materials that outlines background from the selection and communicate the materials to wider community • Involving village working groups (which members are community representative) in the selection process • Select working group member that could really represent the voice and interest of all layers of community and city stakeholder
Human Rights	No risks identified		
Gender Equity and Women's Empowerment	No risks identified		
Core Labour Rights	No risks identified		
Indigenous People	No risks identified		
Involuntary Resettlement	No risks identified		
Protection of Natural Habitats	Environmental	Minor environmental and ecological disruption from hard and soft structure construction or other adaptation activities, for instance: • the impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem • waste generation and water	• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan • Develop Environmental

		pollution from ecotourism site development and operational activities • aquaculture farming preparation process	Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection • Build temporary sediment trap during structural coastal defence construction process as well as ecotourism site development to control abrasion and sedimentation within mangrove ecosystem • Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan • Ensure that aquaculture farming will only be done in existing aquaculture area or idle aquaculture land so that the activities will not open a new area and disrupt the existing natural habitat
Conservation of Biological Diversity	Environmental	Minor environmental and ecological disruption from hard and soft structure construction, for instance geotube and ecotourism site construction process	• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan • Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry

			of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other • Build temporary sediment trap during structural coastal defence construction process as well as ecotourism site development to control abrasion and sedimentation within mangrove ecosystem • Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan
	Environmental	Minor environmental and ecological disruption from alteration of resource management including: • Introduction of new marine/fisheries species to the body of water • Introduction of new mangrove species to the environment • Negative impact on mangrove ecosystem due to over-extraction of mangrove honey	• The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other • Primary assessment to see how the new marine species will survive and interact in a new environment (e.g. Vennamei shrimp) • Assess the most appropriate location to introduce the new mangrove species • Educate the community on proper extraction method and quantity for mangrove honey
Climate Change	No risks identified		
Pollution Prevention and Resource Efficiency	Environmental	Water pollution from hard and/or soft structure construction process	• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan • Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that

			potentially create adverse impacts, that does not falls under the category that needs EIA • Build temporary sediment and oil trap during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation
	Environmental	Water pollution from aquaculture farming practices, including: • Potential for overpopulation within the aquaculture farm • Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm • Traditional harvesting method that allows aquaculture water flows into drainage system • Non-existent aeration that allows sedimentation accumulation at the bottom of the pond	• Educate the community on environmentally friendly aquaculture farming method/practices, including efficient use of feed and proper harvesting technique • Equipped the farm with small windmill that allow aeration in the pond • Create sediment trap that is suitable for the farm • Develop environmental procedures for aquaculture farming activities, including water and waste management plan • Regular monitoring of surface water quality inside the farm and in drainage system connected to the farm
	Environmental	Water pollution due to waste generation from ecotourism activities	• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan • Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities • As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value (plastic, paper, metal)
	Environmental	Water pollution from the effluent of sanitation facilities	• Rigorous assessment on the most appropriate sanitation facilities for the area's

			characteristics (including geographical and soil characteristics), to minimize potential risks of pollution • Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed • Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them • Educate the community on good sanitation behaviour
Public Health	No risks identified		
Physical and Cultural Heritage	No risks identified		
Land and Soil Conservation	Environmental	Soil pollution from hard and/or soft structure construction, including water facilities construction	• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan • Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • Build temporary sediment and oil trap during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation
	Environmental	Soil pollution from sanitation facilities use and construction	• Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution • Regular water quality monitoring

			on the body of water where the sanitation facilities effluent is being conveyed • Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them • Water tight construction for the sanitation facilities (particularly the waste water management installation) to minimize potential leakage to the soil
		Soil pollution due to waste generation from ecotourism activities	• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan • Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities • As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value (plastic, paper, metal)

From the beginning of the program period, the stakeholders will be informed on the potential risks associated with the program and the corresponding mitigation measures in place. The program's Environmental and Social Management Plan/ESMP (described in a more detailed manner in Annex xxx) will be communicated to them; not only during the program preparation phase, but also throughout the course of the program, to ensure all parties involved are aware of the risks and the appropriate mitigation measures.

As part of the program implementation, the PMU will also set up grievance mechanism for the stakeholders involved. This mechanism is needed to ensure the program always in line with AF's ESP that promote environmental and social safeguard and also ensure that it always in line with community's interest and met their expectations. Steps that will be taken for setting up the mechanism are as follow:

- Initial orientation for the PMU will include materials on ESMP and grievance mechanism so that the staff will understand their roles and responsibilities on this matter
- Assign staff/team of staff that will be responsible for receiving and processing the grievance

- Develop procedures for accepting/logged-in grievance, grievance assessment process, providing feedback for the grievance, and monitoring the feedbacks
- Create internal communication procedures for the mechanism
- Communicating the ESMP and grievance mechanism at the beginning of program implementation to the stakeholders

The grievance mechanism procedure that will be set up will follow these following general guidelines:

- *Logged-in Grievance*
  Stakeholder should formally communicate grievance in a written manner, and sent it to the appointed staff through email,fax or hand-delivered the text to the PMU office. Once it's being logged, the particular stakeholder will receive receipt that acknowledging the complaint is being accepted and will be processed
- *Grievance Assessment*
  Once the complaint is logged-in and recorded, an assessment process will be done by a specific team by considering the complainants, issues, mitigation measures in place, rating the grievance and exploring options to address the grievance. The team leader will continually updated on the process
- *Providing and Communicating Feedback*
  Once the option is selected, the team will prepare a response for the grievance and communicate the response formally in written text to the complainant
- *Monitoring Feedback*
  To ensure the feedback is well received by the complainant or to maintain in case there will be follow up response, the responsible staff will continually monitor the grievance cases logged-in, its feedback and how it being dealt in practise.

A more detailed grievance mechanism and the responsible staff will be developed at the beginning of program implementation.

D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

Type of M&E Activities	Responsible Parties	Budget (US$) (does not include staff time)	Time Frame	Year 1	Year 2	Year 3
Office set-up and project staff recruitment	Team Leader	500	Y1: 1st month	500		
Inception workshop (30 participants, 5 days)	Team Leader	3000	Y1; 2nd month	3.000		
Inception report	Team Leader	0	Y1: 2nd month	-		
Develop the performance management plan and reported quarterly	Team Leader	0	Y1 (quarterly), Y2, Y3			

Develop base line data (2 month, 1 team researcher)	M&E Specialist	4.000,00	2nd-3rd month Y1	4.000		
Regular monitoring to the field • 2x monthly, 3 days, 3 persons	Team Leader	10.000,00	Y1: bimonthly, Y2 and Y3	3.333	3.333	3.333
Spot check monitoring the measure the progress output • 1x/quartile, 4 days, 2 person	PME Unit and Internal Audit	7.500,00	Y1: quarterly Y2, Y3	2.500	2.500	2.500
Quarterly report	Team Leader	0	Y1 (quarterly), Y2, Y3			
Coordination meeting of the project management unit with the steering committee in the national and district level • National level: 10 persons • City level: 10 persons	Team Leader	4.000,00	Y1, 3rd Year	1.333 -	1.333	1.333
PMU coordination meeting including the field staff • 2x/year, 3 days, 10 persons	Team Leader	7.000,00	Y1, Y2, Y3	2.333	2.333	2.333
End line survey • Team research • 3 month • Field visit	Researcher	5.000,00		- -	5.000	
Documentation of achievements from program's indicators and targets		9.000,00		3.000	3.000	3.000

Midterm evaluation	External consultant	5.000,00	Y2 6th month	-	5.000	
Final evaluation	External consultant	10.000,00	Y3, 3rd quartile	-		10.000
Grand Total		**65.000,00**		**20.000**	**22.500**	**22.500**

E. Include a results framework for the project proposal, including milestones, targets and indicators.

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
Outcome 1.1 Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster	Number of Local champions in * viilage aware about climate impact and active to promote adaptation actions	In general, local champions only focus on the issue of economic empowerment and climate change mitigation	8 village Climate working group established Regular meeting every monht is conducted	Regular meeting report Record on attendance in meeting or seminar	
Output 1.1.1 Village climate working group established and functioning in each of the 8 villages	Number of climate working group (CWG) established % representative from local champions, women and local government (village) active in CWG	There are no community grouops that focus on climate change adaptation actions	8 Climate Working group (CWG) 20% of member CWG is women & youth leaders		
Output 1.1.2 Enhancing coastal community capacity in developing the village informtion system and implementing the ensuing climate change adaptation actions	% of member CWG participating in the training of workhsop % members of CWG involved in training and the preparation and implementation of Vilage information system Number of viilage profile Number of village information system Number of village adaptation action plan	the government has an action to deal with tidal flood, flash flood and water issue, but community involvement is still lacking The 8 village don't have village climate adaptation actions plans	8 member of CWG to be active participants on 2 training and 3 workhsop 8 Village adaptation actions plans	Record of attendance on the workshops Village Climat adaptation actions documents	
Outcome 1.2 Enhancing local community adaptive capacity, including developing livelihood strategies to face climate change impacts and natural disasters	Number of village (community) group (fisherman group, farmer group, women group, young group/karang taruna) active in training, workshop, and take climate adaptation actions	Not exist	8 village actice to take climate adaptation actions	Progress reports surveys	

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
	% Increase income of population involved in income generative activities		Increase 20% at least		
Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.)	Number of mangroove plantation Number of sanittion build Number of Fishponds	Poor sanitation Poor mangroove Poor quality of fishpond	8 pilot of vannamei shrimp ponds 9 pilot of fishponds in 8 villages	Survey Field fisit Progredd report	
Outcome 2.1 Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API),	Climate change and adaptation context included in City Development Plan Number of CCA-specific activities with allocated budget are included in City Develpmet Plan Number of staff across sectors trained and build their awareness on the new regulations enforcement	Not Included Current program and activities has not considered CCA context	Climate change and adaptation become strategic issue in Pekalongan At least 10 activities with allocated budget are included	City Development Plan Document Program and Activities Matrix in City Development Plan Document	Assumptions: The RAD API trainings and development process are attended by diverse local government agencies to enable cross-sector collaboration within the document, so that they will buy-in the program Political will and commitment that encourage full participatory participation of key government Stakeholders
Output 2.1.1 City climate working group reactivated	City Climate working group (CWG) established	up to 4 years ago the city of Pekalongan had a CWG that focused on	CWG is active and produces several	Record of attendance on the regular	Assumptions: The regular meetings are

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
		mitigation, but now it is no longer exists	planning documents to local regulations	meeting RAD API document Local regulations draft	attended by diverse local government agencies to enable cross-sector collaboration
-Output 2.1.2 RAD API developed based on City Climate Risk Assessment and Climate Coastal Impact	Number of training and workshops on RAD API development Number of Provincial RAD API document Number of studies on coaslta or climate change	Not exist Not exist No Exist	3 trainings on Central Java Province RAD API development 1 City RAD API document is developed 1 Cimate coastal impact is developed	Record of attendance on the workshops RAD API document	<u>Assumptions</u>: The trainings are attended by diverse local government agencies to enable cross-sector collaboration within the document
Output 2.1.3 Strategy to integrate CCA into local government planning processes (annual work plan or mid-term development plan of city) is developed	Number of strategic document to integrate CCA into City government planning process Number of training on the integration process	The national government has provided general guidance to incorporate RAD API into local government plan, but still needs to be adjusted for local planning process Not exist	1 strategic document outlining the integration process 3 trainings on the integration process	Strategic document Records of attendance on the training activity	<u>Assumptions:</u> The timeline for strategy development is following government planning process timeline so that the integration process feasible to be done

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
Outcome 2.2 Enhanced resilience of coastal community from the Implementing Climate smart initiatives, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience	Number of adopting climate change adaptation measures that improve their livelihoods and the resilience of the ecosystem % of women adopting climate change adaptation measures	Not exist	Fours type of climate adaptation actios can replicate on city scale 40% of women active in climate change adaptation action measure	Survey Annual report	
Output 2.2.1 Innovative and collaboration adaptation actions are implemented	Number of coastal embankment Number of aquaqulture developed Number of innovative laterin Number of community based ecotourism developed Number of mangrove restored	Poor quality of coastal embankment Poor tecnologi 0 cpmmunity plan is available for mangrove management & coastal embankment 2 villages that potential for ecotourism 8 villages affected by tidal inundation and they are have problem with laterine	1 km coastal embankment 40 aquaqulture developed Two community-based ecotourism 190 latrine household Two comunal literine 20 Ha mangrove restored	Progress reports, field visits Anlysis reports Monitoring reports Remote sensing	Technical and investment support
Outcome 2.3 Establishing city-level knowledge management platform	Numnber of meeting in city level Number of knowledge product developed Number of policy advocacy material developed Number of community group active in establising knowlaedge management platform	No exist			

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
Output 2.3.1 Climate change training and knowledge sharing conducted	Number of Trainging & workshop Number of knowledge management Forum at city level % women, men and young active in forum	No exist	1 traininf & workshop 2 knowledge menagement forum 25 % participant is women and young leaders	Record of attendance on the workshops Policy papers document Best practice document Newsletter document	The trainings are attended by diverse local government agencies and local stakeholders to leverage climate adaptation actions
Output 2.3.2 Local knowledge sharing platform established	Number of policy papers developed and shared Number of Best practice documentatiion developede and shares Number of newsletters developed and share	Not exist	Reguler news letter every 3 months 4 Policy papers relatied with coastal adaptation action 5 types of best practices documented and shares in local and national	Policy papers document Best practice document Newsletter document	Local knowledge platform accept the program as part of their platform
Outcome 3. 1 Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	Climate change and adaptation context included in Central Java Province Development Plan	Not Included	Climate change and adaptation become strategic issue in Central Java Province Development	Central Java Province Development Plan Document	Assumptions: The RAD API trainings and development process are attended by diverse local government agencies to

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
	Number of CCA-specific activities with allocated budget are included in Central Java Province Development Plan	Current program and activities has not considered CCA context	Plan At least 10 activities with allocated budget are included	Program and Activities Matrix in Central Java Province Development Plan Document	enable cross-sector collaboration within the document, so that they will buy-in the program
Output 3.1.1 Enhanced provincial capacity to develop RAD API	Number of training and workshops on RAD API development	Not exist	3 trainings on Central Java Province RAD API development	Record of attendance on the workshops	Assumptions: The trainings are attended by diverse local government agencies to enable cross-sector collaboration within the document
	Number of Provincial RAD API document	Not exist	1 Central Java Province RAD API document is developed	RAD API document	
Output 3.1.2 appropriate strategy to integrate CCA into Provinciall government planning processes (annual work plan or mid-term development plan of city) is developed	Number of strategic document to integrate CCA into Central Java Province government planning process	The national government has provided general guidance to incorporate RAD API into local government plan, but still needs to be adjusted for local planning process Not exist	1 strategic document outlining the integration process	Strategic document	Assumptions: The timeline for strategy development is following government planning process timeline so that the integration process feasible to be done
	Number of training on the integration process		3 trainings on the integration process	Records of attendance on the training activity	
Outcome 4.1 Enriching SIDIK as risk assessment tools	Coastal-related criteria/indicator for SIDIK and the relevant handbook	Not exist	1 set of coastal-	Document on coastal-related	Assumption: MoEF buy-in the

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
for coastal area based on local experience	developed and submitted to the Ministry of Environment and Forestry (MoEF)		related criteria/indicator and handbook for SIDIK	criteria/indicator Record on submission process of the criteria to MoEF	idea of enriching SIDIK for coastal area utilization
Output 4.1.1 Knowledge product in the form Handbook on how to use SIDIK for risk assessment at coastal city is published and shared. This handbook is targeted to be used by local government, NGOs and civil society organizations.	Number of handbook on SIDIK for coastal city Number of dissemination for the handbook Number of handbook being shared to local government, NGOs and civil society	Not exist Not exist Not exist	1 handbook on SIDIK for coastal city 1 dissemination activity At least 300 handbooks are shared	SIDIK for coastal city handbook Record of attendance on the dissemination Record on handbook receiver	
Outcome 4.2 Strengthening vertical coordination and collaboration between national and local government in climate adaptation context	Number of knowledge products from local activities communicated at national level	Not exist	1 handbook on SIDIK for coastal city 3 policy papers on policy, regulatory framework and fiscal for coastal resilience 1 lessons learned shared during national dialogue	SIDIK for coastal city handbook Policy paper documents Minutes of meetings on national dialogue event	
Output 4.2.1 Strengthened vertical coordination and collaboration between national and local	Number of national dialogue conducted in collaboration with the program	National dialogue is an annual event APEKSI and MoEF	The program collaborated with APEKSI	Record of attendance and minutes of	<u>Assumptions:</u> MoEF and APEKSI buy-in

Outcome/ Output	Indicator	Baseline	Target	Source of Verification	Risk & Assumption
government in climate adaptation context			and MoEF in conducting 3 national dialogues	meetings on national dialogue event	the collaboration process
		Not exist			Human and financial resources of the program is adequate to support the national dialogue event
	Number of document mapping on coastal resilience policy		1 document that map policies on coastal resilience	Document on coastal resilience policy mapping	
		Policy papers for coastal area is not exist			
	Number of policy papers developed and shared		3 policy papers on policy, regulatory framework and fiscal for coastal resilience are developed and shared	Policy paper documents Record on policy paper communication to stakeholders	National knowledge platform accept the program as part of their platform
		National knowledge platform is established and having a regular meeting			
	Number of meetings with national knowledge platform		Attend at least 9 meetings of the national knowledge platform	Record of attendance and minutes of meetings of the national knowledge platform meetings	

F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund
Will be developed further during the proposal development

Project Objective(s)	Project Objective Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
Enhancing coastal community capacity in developing Climate change adaptation actions and villageinformation system	Number of population active on climate adaptation awareness and actions	**Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	**948.172**
Enhancing local government and other city stakeholders' capacity to develop local climate change adaptation action plan (RAD API), Implementing climate smart initiatives	Number of CCA-specific activities with allocated budget are included in City Develpmet Plan Number of adopting climate change adaptation measures that improve their livelihoods and the resilience of the ecosystem	**Outcome 7:** Improved policies and regulations that promote and enforce resilience measures **Outcome 6:** Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	7. Climate change priorities are integrated into national development strategy In the project focus on city development plan strategy 6.2. Percentage of targeted population with sustained climate-resilient livelihoods	**2.615.545**
Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	Climate change and adaptation context included in Central Java Province Development Plan	**Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses	2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	**31.074**
Strengthening vertical coordination and collaboration between national and local government in climate	Number of knowledge products from local activities communicated and adopted at national level	**Outcome 1:** Reduced exposure at national level to climate-related hazards and threats	1. Relevant threat and hazard information generated and disseminated to	**123.285**

Project Objective(s)	Project Objective Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government			stakeholders on a timely basis	
Project Outcome (s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output indicator**	**Grant Amount (USD)**
Outcome 1.1 Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster; including capacity in integrating the actions to village development plan	Number of Local champions in viilage level aware about climate impact and active to promote adaptation actions	***Output 3***: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level	**304.326**
Outcome 1.2 Enhancing local community adaptive capacity, including developing livelihood strategies to face climate change impacts and natural disasters	Number of village (community) group (fisherman group, farmer group, women group, young group/karang taruna) active in training, workshop, and take climate adaptation actions % Increase income of population involved in income generative activities	***Output 6:*** Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individualor community-livelihood strategies 6.1.2. Type of income sources for households generated under climate change scenario	**643.846**
Outcome 2.1	Climate change and	***Output 7:*** Improved	7.1. No., type, and sector of	**194.930**

Project Objective(s)	Project Objective Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API),	adaptation context included in City Development Plan Number of CCA-specific activities with allocated budget are included in City Develpmet Plan Number of staff across sectors trained and build their awareness on the new regulations enforcement	integration of climate-resilience strategies into country development plans	policies introduced or adjusted to address climate change risks	
Outcome 2.2 Enhanced resilience of coastal community from the Implementing Climate smart initiatives, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience	Number of adopting climate change adaptation measures that improve their livelihoods and the resilience of the ecosystem % of women adopting climate change adaptation measures	***Output 5:*** Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability ***Output 6:*** Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets) 6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individualor community-livelihood strategies	**2.172.539**
Outcome 2.3 Establishing city-level knowledge management platform	Numnber of meeting in city level Number of knowledge product developed Number of policy advocacy material developed	***Output 3***: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.2 No. of news outlets in the local press and media that have covered the topic	**248.076**

Project Objective(s)	Project Objective Indicator(s)	Fund Output	Fund Output indicator	Grant Amount (USD)
	Number of community group active in establising knowlaedge management platform			
Outcome 3. 1 Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan	Climate change and adaptation context included in Central Java Province Development Plan Number of CCA-specific activities with allocated budget are included in Central Java Province Development Plan	***Output 2.1***: Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events 2.1.2. Capacity of staff to respond to, and mitigate impacts of, climate-related events from targeted institutions increased	**31.074**
Outcome 4.1 Enriching SIDIK as risk assessment tools for coastal area based on local experience	Coastal-related criteria/indicator for SIDIK and the relevant handbook developed and submitted to the Ministry of Environment and Forestry (MoEF)	***Output 1:*** Risk and vulnerability assessments conducted and updated at a national level	1.1. No. and type of projects that conduct and update risk and vulnerability assessments	**31.638**
Outcome 4.2 Strengthening vertical coordination and collaboration between national and local government in climate adaptation context	Number of knowledge products from local activities communicated at national level	***Output 7:*** Improved integration of climate-resilience strategies into country development plans	7.1. No., type, and sector of policies introduced or adjusted to address climate change risks	**91.647**

G. Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

Description Item			Year				Remarks
Total Project/Programme Cost			1	2	3	Total	
Component 1. Enhancing coastal community capacity in developing Climate change adaptation actions and villageinformation system							
Outcome	**1.1**	Enhanced capacity of local actors in identifying, initiating, strengthening, and escalating community-based actions to address climate risk and natural disaster;					
Output	**1.1.1**	Village climate working group established and functioning in each of the 8 villages					
Activity	**1.1.1.1**	Preparation to develop climate working group	8.800			**8.800**	
	1.1.1.2	Reguler/ coordinationn meeting	52.800	52.800	52.800	**158.400**	
	1.1.1.3	Seminar/workshop	7.492			**7.492**	
Output	**1.1.2**	Enhancing coastal community capacity in developing the village profile and implementing the ensuing climate change adaptation actions					
Activity	**1.1.2.1**	workshop related to climate adaptation action and coastal resilience	11.031	11.031	11.030	**33.092**	
	1.1.2.2	Training PCRA	43.285			**43.285**	
	1.1.2.3	TA for Village profile and village information system	21.254			**21.254**	
	1.1.2.4	TA for PCRA & Village profile	21.254			**21.254**	
	1.1.2.5	Dissemination RAD API Pekalongan city	10.750			**10.750**	
Outcome	**1.2.**	Enhancing local community adaptive actions capacity, including developing livelihood strategies					
Output	**1.2.1**	Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, rain water harvesting construction etc.)					
Activity	**1.3.1.1**	Scooping and Feasibility study documents on prioritized community-based adaptation actions in 8 villages	110.000			**110.000**	

		Description Item	Year				Remarks
	1.3.1.2	Implement agreed adaptation action in 8 villages implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, rain water harvesting construction etc.)	177.949	355.897		**533.846**	
Component 2: Enhancing local government and other city stakeholders' capacity to develop local climate change adaptation action plan (RAD API), Implementing climate smart initiatives							
Outcome	**2.1**	Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API),					
Output	**2.1.1**	City climate working group reactivated					
	2.1.1.1	Regular/coordination meeting	10.892	10.892	10.892	**32.677**	
	2.1.1.2	Seminar/Workshop/Training	8.469	4.235	4.235	**16.938**	
	2.1.1.3	Preparation of mayor decree on city climate working group	769			**769**	
Output	**2.1.2**	RAD API developed based on City Climate Risk Assessment and Climate Coastal Impact					
Activity	**2.1.2.1**	Leadership training or workshop for local champion include local government agency	4.231			**4.231**	
	2.1.2.2	Vulnerability and Risk Assessment Trainiing	37.754			**37.754**	
	2.1.2.3	Verification meeting of VA and RA	4.238			**4.238**	
	2.1.2.4	Develop Coastal Climate Impact	69.231			**69.231**	
	2.1.2.5	TA for RAD API (city climate adaptation actions)	0				Include on city working group reguler meeting
Output	**2.1.3**	Strategy to integrate CCA into local government planning processes (annual work plan or mid-term development plan of city) is developed					
Activity	**2.1.3.1**	Analyzing previous city development plan	0				Include on city working group reguler meeting
	2.1.3.2	Training of Integrating RA into Development Plan	22.504			**22.504**	
	2.1.3.3	Technical assistant of Integrating City Adaptation Action into City Development Plan	0				Include on city working group reguler meeting
	2.1.3.4	Dissemination	6.588			**6.588**	

Description Item			Year				Remarks
outcome	**2.2**	Implementing innovative and Collaborative Climate Change Adaptation actions measures, including those fostering sustainable utilization of natural resources, with replicable implementation and financing scheme/ Pilot projects/programs for Collaborative Climate Change Adaptation actions (CCA) based on RAD API selected and implemented					
Output	**2.2.1.**	Innovative and collaboration adaptation actions are implemented					
Activity	**2.2.1.1**	Consultation meeting to identify and select coastal resilience actions conducted	7.231			**7.231**	
	2.2.1.2	Scoping study and feasibility study documents on the selected coastal resilience actions	76.923			**76.923**	
	2.2.1.3	Pilot innovative adaptation measures are implemented in collaboration with other stakeholders and evaluated for future reference		1.633.846	408.462	**2.042.308**	
	2.2.1.4	Developed monitoring system for pilot initiative		5.128	2.564	**7.692**	
	2.2.1.5	Evaluated of Pilot Innovative for future refference		4.103	2.051	**6.154**	
	2.2.1.6	workshop Collaborative Adaptation actions across vilages			11.723	**11.723**	
	2.2.1.7	Facilitate Collaborative Adaptation actions across vilages			20.508	**20.508**	
Outcome	**2.3**	Establishing city-level knowledge management platform					
Output	**2.3.1**	Climate change training and knowledge sharing conducted					
Activity	**2.3.1.1**	Climate change training		13.077		**13.077**	
	2.3.1.2	Knowledge management Forum	11.538	11.538	11.538	**34.615**	
Output	**2.3.2**	**Local knowledge sharing platform established**					
Activity	**2.3.2.1**	Knowledge product (i.e. lessons learned, research paper, newsletter) published and shared		**27.692**	**6.923**	**34.615**	
	2.3.2.2	Advocacy materials (i.e. policy brief, policy analysis, gap analysis) developed and communicated		**17.500**	**17.500**	**35.000**	
	2.3.2.3	City knowledge sharing platform established	**43.590**	**87.719**		**130.769**	

Description Item			Year				Remarks
Component 3: Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan							
Outcome	**3.1**	Enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan					
Output	**3.1.1**	Enhanced provincial capacity to develop RAD API					
Activity	**3.1.1.1**	Conduct Training and workshop on risk assessment and adaptation actions conducted	11.000			**11.000**	
	3.1.1.2	Fasilitate Climate risk assessment of Central Java Province with village level as the smallest assessment scale is developed	1.436			**1.436**	
	3.1.1.3	TA for RAD API	2.872			**2.872**	
Output	**3.1.2**	Strategy to integrate CCA into Provinciall government planning processes (annual work plan or mid-term development plan of city) is developed					
Activity	**3.1.2.1**	Analizing previous Provincial development plan	458			**458**	
	3.1.2.2	Training of Integrating RA into Development Plan	10.954			**10.954**	
	3.1.2.3	Technical assistant of Integrating provincial Adaptation Action into City Development Plan	2.177	2.177		**4.354**	
Component 4. Strengthening vertical coordination and collaboration between national and local government in climate adaptation context and Enriching knowledge, toolkits and methodologies coastal resilience for the national government							
Outcome	**4.1**	Enriching SIDIK as risk assessment tools for coastal area based on local experience					
Output	**4.1.1**	Knowledge product in the form Handbook on how to use SIDIK for risk assessment at coastal city is published and shared. This handbook is targeted to be used by local government, NGOs and civil society organizations					
Activity	**4.1.1.1**	Develop handbook on how to use SIDIK for risk assessment at coastal based on Pekalongan experiences		5.962	5.962	**11.923**	
	4.1.1.2	Handbook dissemination			19.715	**19.715**	
Outcome	**4.2**	Strengthening vertical coordination and collaboration between national and local government in climate adaptation context					
Output	**4.2.1**	Strengthened vertical coordination and collaboration between					

		Description Item	Year				Remarks
		national and local government in climate adaptation context					
Activity	4.2.1.1	Coordination and collaboration with materials that also incorporate local experience		10.231		**10.231**	
	4.2.2.2	National dialogue that involved local and national government is conducted in order to support the activity of RAN API Secretariat		14.285	14.285	**28.569**	
	4.2.2.3.	Policy papers regarding gaps in national policy, fiscal, regulatory and legal framework to build a resilient coastal city are developed and communicated	6.654	6.654		**13.308**	
	4.2.2.4.	Communication with national knowledge platform is built and maintained	2.885	11.538	8.654	**23.077**	
	4.2.2.5	Mapping Coastal resilience policy		8.231	8.231	**16.462**	
Total Project/Programme Cost (component 1-4)			**807.008**	**2.326.227**	**584.842**	**3.718.077**	
Total Project Execution Cost (PEC) and M&E Cost						**353.217**	
Project/Programme Cycle Management Fee charged by the Implementing Entity						**55.771**	
Amount of Financing Requested						**4.127.065**	

Project Execution Cost (PEC)

Description	Year 1	Year 2	Year 3	Total	Remark
Staff					
Team Leader	24.600	24.600	24.600	**73.800**	
Admin & Finance Manager	6000	6000	6000	**18.000**	20% by AF 80% by The Partnership
Project Officer	11.000	12.000	12.000	**35.000**	
M&E Officer	11.000	12.000	12.000	**35.000**	
Finance & Admin Officer	12.000	12.000	12.000	**36.000**	
Village Fasilitator 1	7.150	7.800	7.800	**22.750**	
Village Fasilitator 2	7.150	7.800	7.800	**22.750**	
Sub total Staff	78.900	82.200	82.200	**243.300**	
Operation					
Office space & utilities	6.281	6.281	6.281	**18.843**	
Communication	3.157	3.157	3.157	**9.471**	
Stationaries, sundries	2.825	2.825	2.825	**8.474**	
Equipment	8.130			**8.130**	
Sub Total Operation	20.392	12.263	12.262	**44.917**	
M&E	20.000	22.500	22.500	**65.000**	
Total	**119.292**	**116.963**	**116.962**	**353.217**	

H. Include a disbursement schedule with time-bound milestones**.**

Disbursement Schedule

Description	Upon Agreement Signature	One Year After Project Start	Year 2	Total
Project Funds	926.300	1443.190	116.963	**116.962**
Implement Entity Fee	12.827	33.463	9.481	**55.771**
Total	**939.127**	**1.476.653**	**711.286**	**3.127.065**

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

A. Record of endorsement on behalf of the government[26] *Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:*

Dr. Ir. Nur Masripatin M.For. Sc *Director General for Control of Climate Change*	Date*: April, 7, 2017*

Achmad Alf Arslan Djunaid, S.E *Mayor of Pekalongan City*	Date*: March, 22, 2017*

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

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 year 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, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

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.

Monica Tanuhandaru
Executive Director of Partnership for Governance Reform in Indonesia (Kemitraan)
Implementing Entity Coordinator

Date: *August, 6, 2018*	Tel. and email: +62-21-22780580; Monica.Tanuhandaru@kemitraan.or.id
Project Contact Person:	Dewi Rizki
Tel. And Email:	+62-21-22780580; Dewi.Rizki@kemitraan.or.id

PEMERINTAH KOTA PEKALONGAN
BADAN PERENCANAAN PEMBANGUNAN DAERAH
(BAPPEDA)
Jl. Mataram No. 1 Telp. (0285) 423223 Fax. (0285) 424061 Pekalongan

MAYOR OF PEKALONGAN CITY

Letter of Endorsement by Municipal Government of Pekalongan

No.: 660/0985 March 22, 2017

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

Subject: ***Endorsement for "Building Coastal City Resilience to Climate Change Impacts" Proposal***

In my capacity as designated Mayor of Pekalongan City, Central Java, Indonesia, I confirm that the above national program proposal is in accordance with the municipal city government's area priorities in implementing adaptation program and activities to reduce adverse impacts of, and risks, posed by climate change in the vulnerable and effected areas in Pekalongan. The proposal has been developed through an intensive consultation with the city government of Pekalongan and other related stakeholders.

Accordingly, I am pleased to endorse the above program proposal with support from the Adaptation Fund. If approved, the program will be implemented by Partnership for Governance Reform in Indonesia (Kemitraan).

Sincerely,

Mayor,

H. M. ALI ARSLAN DJUNAID, SE

ANNEX 1

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Prepared for the Implementation of the Program "*Building Coastal City Resilience to Climate Change Impacts and Natural Disasters"*

Contents

I. INTRODUCTION

I.1. Rationale

This document of Environmental and Social Management Plan is developed to ensure that the proposed program implementation will align with the environmental and social safeguard of Adaptation Fund as well as the applicable national, regional and local regulations in area where the program is implemented. This document contains assessment of the required management, mitigation and monitoring activities to manage the relevant environmental and social impacts as identified during the risk identification and assessment process. It expresses how the program will try it utmost to conform to the provisions of Adaptation Fund Environmental and Social Policies by developing a structure that will ensure the program's potential risks will be managed in an effective manner.

I.2. Applicability of Plan

The management measures set out within the plan is applicable throughout the program period; from planning until the implementation stage.

I.3. Summary of Project Description

Climate change has led to the rise of sea level and changes in rainfall patterns in Pekalongan City. The rainfall pattern in recent years has become more intense and occurs in a shorter period, which then leads to flooding. Flooding in northern part of Pekalongan City, either those caused by increased rainfall or sea level rise, have contributed to many interconnected problems. Extreme climate events like heavy rains, combined with sea-level rise have resulted in more frequent and more unpredictable floods that threaten populations' security and goods. Climate change is thus impeding Pekalongan City development. One example of this impediment is the decrease of agricultural land area in nine villages of Pekalongan city that reaches 73% between the period 2007-2016 due to the land being submerged in sea water and also high salinity level of the irrigation water. This condition has threatened Pekalongan City food security by reducing rice and other agricultural production.

This program is specifically designed to reach a goal of *Building Coastal City Resilience to Climate Change Impacts and Natural Disasters*, with a particular focus economic/livelihood and food livelihood while simultaneously preserving the environment; touching not only practical aspect but also promoting policy. It will foster pro-poor adaptation actions that involve and benefit the most vulnerable communities in the city. Sustainable development principle will be held at core here to ensure efforts being done at one sector will not create negative impact and incremental losses in the other.

In view of this multifaceted issue, the proposed program framework will be instilled by multidisciplinary and iterative process, with a series of assessment, study and activities to be derived from. Accordingly, the program will not only emphasizing on building hard structure, but also strengthen soft structure (institutional realms, including capacity building) in addressing the issue; creating a paradigm shift from the conventional approach that mostly revolving around building infrastructure that could only serve short-term purposes to newer perspective that allow for continual development and evaluation. This approach will try to simultaneously address the issue of physical structure for coastal protection and adaptation, preserving and developing

community livelihood in addition to developing and promoting local tourism in coastal area; balancing the objectives in the above sectors without jeopardizing the sustainability of the others.

The proposed and selected adaptation activities being implemented under the umbrella of the program will be based on scientific basis to corroborate and better understand the pattern of current and future of climate risk. This science-based information is essential to create and develop an effective adaptation. Effective adaptation action should also be built on existing actions; adjusting and leveraging practices that are socially- and environmentally-friendly, while leaving practices that potentially cause adverse impact.

At the core of this framework is collaborative approach by fostering multi-stakeholder involvement, to bring about different interest on the issue and resolve it amicably to achieve common goals. To achieve the goal, tThe program will be conducted at 4 governance level, with main objectives at each level are as follows:

1. **Village Level**
   (i). Enhancing coastal community capacity in developing the village profile by implementing participatory climate risk assessment and implementing the ensuing climate change adaptation actions and initiatives
   (ii). Enhancing local community adaptive capacity, including developing livelihood strategies, by also taking into account relevant local wisdom

2. **City Level:**
   (i). Enhancing local government and other city stakeholders' capacity in developing climate risk assessment and utilizing the results to develop local climate change adaptation action plan (RAD API), as well as mainstreaming the plan into local development plan
   (ii). Implementing innovative adaptation measures, including those fostering sustainable utilization of natural resources, with implementation and financing scheme that can be replicated and disseminated to broader audience
   (iii). Establishing city-level knowledge management platform

3. **Provincial Level:**
   (i). Strengthening vertical coordination by enhancing provincial government's capacity in mainstreaming climate change adaptation and resilience into Central Java Province development plan, which in turn could foster better climate-related policy on climate financing and bottom-up planning.

4. **National Level**
   (i). Enriching SIDIK as risk assessment tools for coastal area
   (ii). Strengthening vertical coordination and collaboration between national and local government in climate adaptation context

Combination of bottom-up and top-down approach will be implemented within the proposed program to ensure a cohesive climate adaptation plan/program/policy and its implementation at

all governance level. In general, the program will focus on 4 aspects, which are capacity development, adaptation action, knowledge management and policy advocacy. Figure 1 below illustrates the interconnection between actions at different governance level within the program, with brief information on each aspect.

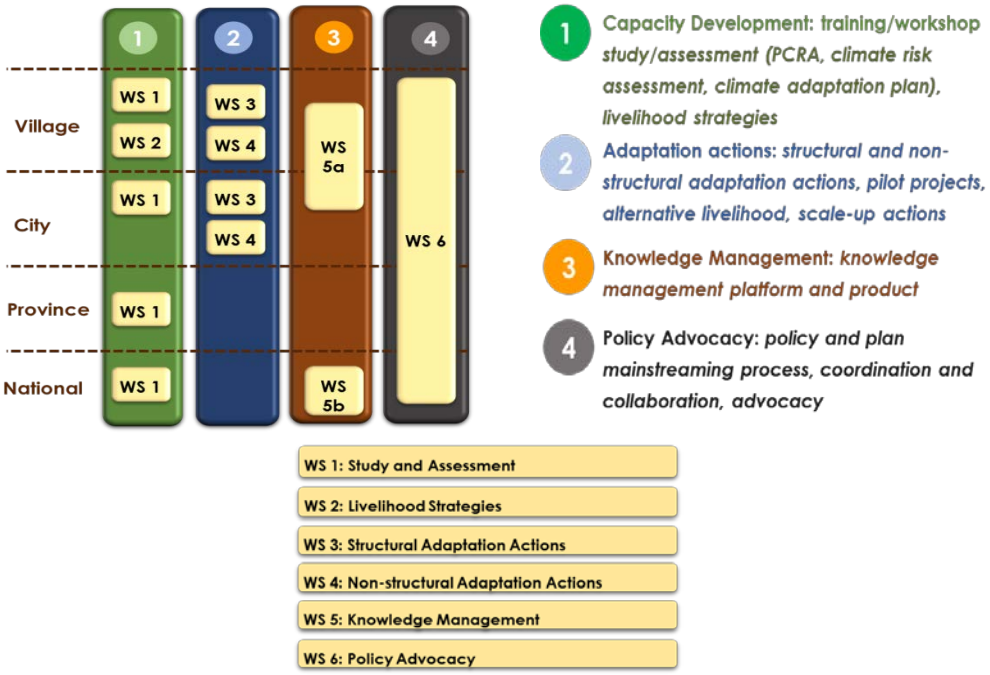


Figure 1. Interconnection of 4 Aspects at 4 Governance Level

I.4. Compliance

The program and plan is complies with the national relevant regulation, standards and principles, as well as Adaptation Fund Environmental and Social Principle.

I.4.1. National Regulation

The applicable National Regulations to the plan are as follow:

a. Law No. 32 Year 2009 on Environmental Protection and Management
b. Government Regulation Number 27/2012 on Environmental Permit and Environmental Impact Assessment
c. Ministry of Environment and Forestry Regulation No. 33 Year 2016 on Guidance for the Development of Climate Change Adaptation Action
d. Ministry of Environment Regulations Number 5/2012 on Types of Activities that Needs to be Equipped with Environmental Impact Assessment
e. Ministry of Public Works and Housing Construction and Development Standard, and Indonesia Building Codes

I.4.2. Adaptation Fund Environmental and Social Principles

The applicable Adaptation Fund Environmental and Social Principles are as follow:

a. Compliance with the Law
b. Access and equity

c. Marginalized and vulnerable groups
d. Human rights
e. Gender equity and women´s empowerment
f. Core labour rights
g. Indigenous people
h. Involuntary resettlement
i. Protection of natural habitats
j. Conservation of biological diversity
k. Climate change
l. Pollution prevention and resource efficiency
m. Public health
n. Physical and cultural heritage
o. Land and soil conservation

Compliance to the abovementioned principles will be outlined in further detail on section I.6 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

I.5. SCOPE

The management plan presented within the document considers risks being identified and assessed that outlined in section I.6 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT.

I.6. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

Environmental and social impact assessment for this proposed program is being done by following the chart below.

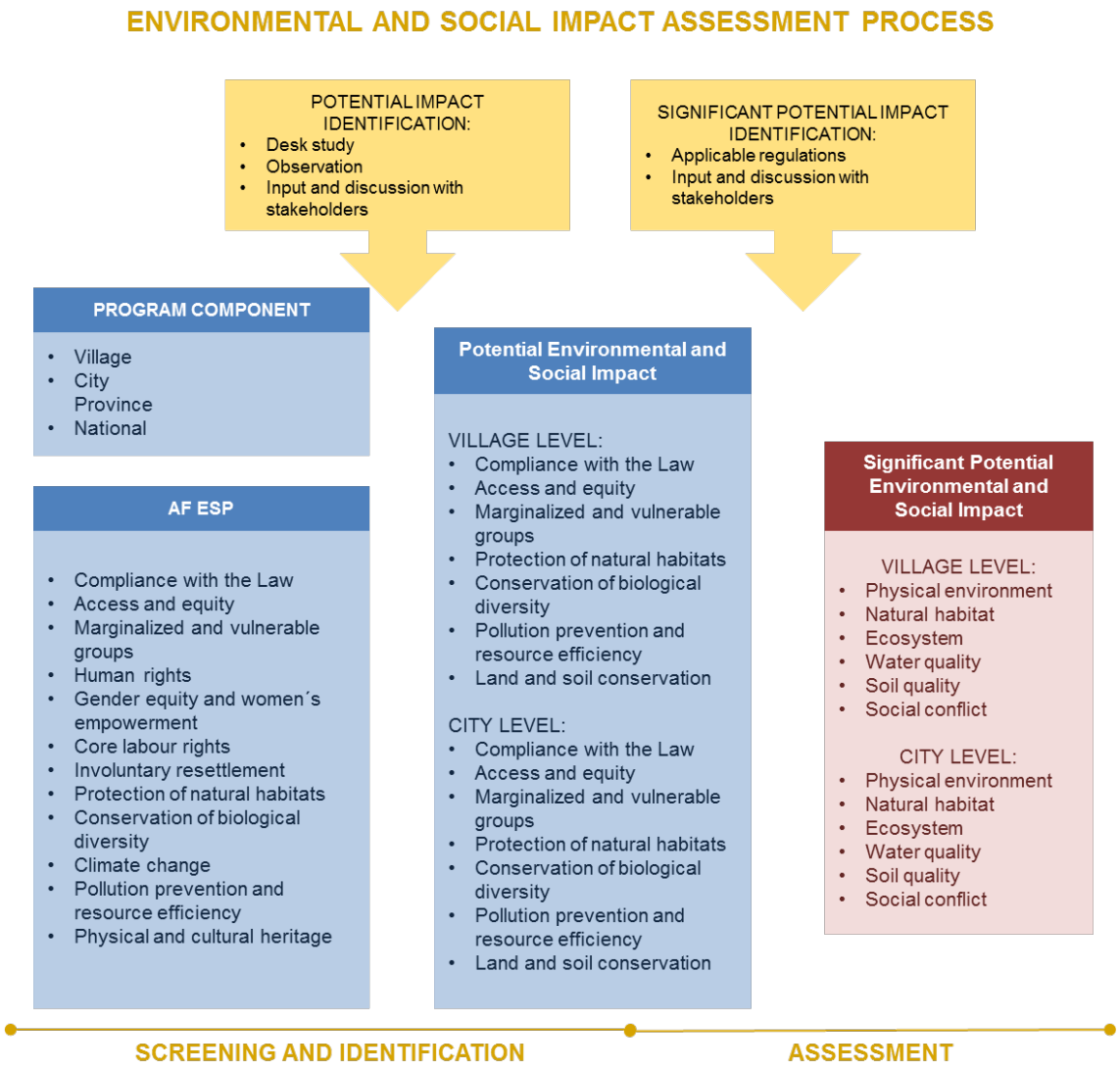


Figure 2. Environmental and Social Impact Assessment Process

1.6.1. Environmental and Social Impact Screening and Identification

The screening and identification process is being undertaken at the initial stage of assessment to identify at which program component that potential environmental and social impacts associated with AF ESP could arise. The screening and identification result is presented at table 1 below. The process shows that no potential impacts can be identified for program implementation at province and national level. Potential impacts only identified at village and city level; and the program has no environmental and social impacts associated with 8 out of 15 AF ESP Principles.

Table 1. Screening Result against AF ESP Principles

No	ESP	Program Component (Level)			
		Village	City	Province	National
1	Compliance with the Law	√	√	-	-
2	Access and equity	√	√	-	-
3	Marginalized and Vulnerable Groups	√	√	-	-
4	Human Rights	-	-	-	-
5	Gender Equity and Women's Empowerment	-	-	-	-
6	Core Labour Rights	-	-	-	-
7	Indigenous People	-	-	-	-
8	Involuntary Resettlement	-	-	-	-
9	Protection of Natural Habitats	√	√	-	-
10	Conservation of Biological Diversity	√	√	-	-
11	Climate Change	-	-	-	-
12	Pollution Prevention and Resource Efficiency	√	√	-	-
13	Public Health	-	-	-	-
14	Physical and Cultural Heritage	-	-	-	-
15	Land and Soil Conservation	√	√	-	-

1.6.2. Environmental and Social Impact Assessment

From the screening and identification process, it was identified that potential environmental and social impacts only associated with 7 ESP principles, which are:

- Compliance with law
- Access and equity
- Marginalized and vulnerable groups
- Protection of natural habitats
- Conservation of biological diversity
- Pollution prevention and resource efficiency
- Land and soil conservation

Based on the preceding screening and identification process, the next step is to assess significant potential environmental and social impact at each component that associated with the abovementioned AF ESP Principle, and what output that could potentially resulting in the impacts. The impacts themselves are divided into two categories (environmental and social), which then further divided into a total of 6 (six) sub-categories depending on the receptor of the impacts. The sub categories are:

a. Physical environment
b. Natural habitat
c. Ecosystem
d. Water quality
e. Soil quality
f. Social conflict

The environmental and social impact assessment results are shown in Table 2 below.

Table 2. Significant Potential Environmental and Social Impact from Program Implementation

No	ESP	Program Component	Program Output	Environmental Component					
				Environmental					Social
				Physical Environment	Natural Habitat	Ecosystem	Water Quality	Soil Quality	Social Conflict
1	Compliance with the Law	Village Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	-	-	-	-	-
2		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	-	-	-	-	-

3	Access and equity	Village Level	Output 1.1.2 Enhancing coastal community capacity in developing the village informtion system and implementing the ensuing climate change adaptation actions Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.	-	-	-	-	-	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood
4		City Level	Output 2.2.1 Innovative and collaboration adaptation	-	-	-	-	-	Social conflict arising from selection of community

			actions are implemented						member that will be the implementer of adaptation actions and alternative livelihood
5	Marginalized and Vulnerable Groups	Village Level	Output 1.1.2 Enhancing coastal community capacity in developing the village informtion system and implementing the ensuing climate change adaptation actions Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation,	-	-	-	-	-	Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program

			rain water harvesting construction etc.						
6		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	-	-	-	-	-	Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program
7	Protection of Natural Habitats	Village Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting	-	The impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem	-	-	-	-

			farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.		Waste generation and water pollution from ecotourism site development and operational activities could disrupt natural habitat Aquaculture farming preparation process				
8		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	-	The impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem Waste generation and water pollution from ecotourism site development and operational activities could disrupt natural habitat	-	-	-	-

					Aquaculture farming preparation process				
9	Conservation of Biological Diversity	Village Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.	-	-	Minor environmental and ecological disruption from hard and soft structure construction, for instance geotube construction process Minor environmental and ecological disruption from alteration of resource management including: • Introduction of new marine/fisheries species to the body of water • Introduction of new mangrove species to the environment • Negative impact on mangrove ecosystem due	-	-	-

						to over-extraction of mangrove honey			
10		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	-	-	Minor environmental and ecological disruption from hard and soft structure construction, for instance geotube and ecotourism site construction process Minor environmental and ecological disruption from alteration of resource management including: • Introduction of new marine/fisheries species to the body of water • Introduction of new mangrove species to the environment • Negative impact on mangrove ecosystem due to over-extraction of mangrove honey	-	-	-

11	Pollution Prevention and Resource Efficiency	Village Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.	-	-	-	Water pollution from hard and/or soft structure construction process Water pollution from aquaculture farming practices, including: • Potential for overpopulation within the aquaculture farm • Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm • Traditional harvesting method that allows aquaculture water flows into drainage system • Non-existent aeration that allows sedimentation accumulation at the bottom of the pond Water pollution	-	-

							from the effluent of sanitation facilities		
12		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	-	-	-	Water pollution from hard and/or soft structure construction process Water pollution from aquaculture farming practices, including: • Potential for overpopulation within the aquaculture farm • Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm • Traditional harvesting method that allows aquaculture water flows into drainage system • Non-existent aeration that allows sedimentation	-	-

							accumulation at the bottom of the pond Water pollution due to waste generation from ecotourism activities Water pollution from the effluent of sanitation facilities		
13	Land and Soil Conservation	Village Level	Output 1.2.1 Agreed adaptation action in each village implemented (i.e. mangrove restoration and ecotourism, supporting farmers group in cultivating rice and fish varieties that tolerant to high salinity, sanitation, rain water harvesting construction etc.	-	-	-	-	Soil pollution from hard and/or soft structure construction, including water facilities construction Soil pollution from sanitation facilities use and construction Soil pollution from the effluent of sanitation facilities	-

14		City Level	Output 2.2.1 Innovative and collaboration adaptation actions are implemented	-	-	-	-	Soil pollution from hard and/or soft structure construction, including water facilities construction Soil pollution from sanitation facilities use and construction Soil pollution from the effluent of sanitation facilities Soil pollution due to waste generation from ecotourism activities	-

Significant potential environmental and social impacts based on the assessment above will be managed accordingly throughout the program by referring to the environmental and social management plan that will be presented in section I.7 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN.

1.6.3. Compliance to AF ESP

The following section presents the program compliance to AF ESP Principles.

a. Compliance with the Law

The program is designed in compliance with all applicable national, regional and local law, including:

- Law Number 32/2009 on Environmental Protection and Management.
- Government Regulation Number 27/2012 on Environmental Permit and Environmental Impact Assessment
- Ministry of Environment Regulations Number 5/2012 on Types of Activities that Needs to be Equipped with Environmental Impact Assessment

Yet, additional permit and compulsory assessment still need to be obtained and undertaken for specific adaptation actions that will be implemented in future time within the program timeframe; particularly for actions listed in the Ministry of Environment Regulation No. 5/2012

Potential risks:
Environmental impacts from specific adaptation actions

Requirements and Managements:
If the chosen adaptation options are categorized as activities regulated by the Ministry of Environment Regulations No. 5/2012, the relevant permit and assessment process will be ensured to be done accordingly. Aside being outlined in the said regulation, the needed permit and assessment also stated in Part II, Section E.

b. Access and Equity

The program is designed to ensure fair allocation of access to the community, including in information dissemination. To further disseminate knowledge related to the program, knowledge board will be built in community centre or village office; making it accessible to all community.

Participatory approach employed by the program will further ensure access and equity principle being undertaken during program implementation.

One issue being raised during FGD on Gender Issue conducted during the proposal development stage is workshops and meetings timing that should be done at night time to ensure women's group participation in the process. This issue will be taken into account when designing the relevant activities to ensure all groups have similar access to program information and implementation process.

Despite the effort in ensuring access and equity principle being carried out within the program, there still a minor potential social risks that could arise during program implementation.

Potential risks:
Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood.

Requirements and Managements:
Stakeholder mapping as the basis for assessment on implementer selection, fair role and responsibilities among stakeholders, and also activities site location (including knowledge board location) that could benefit wider community

c. *Marginalized and Vulnerable Groups*

Marginalized and vulnerable groups are the targeted beneficiaries of the program. They will not only act as the passive actor within the program, but also actively involved in the program implementation.

The proposed program will employ participatory approach, particularly at local level, by involving women groups, most vulnerable groups and community representative from different socio-economic level during training, discussion forum and risk assessment process. The planned adaptation actions and alternative livelihood also designed by taking into account their interests.

However, there still a minor potential social risks that could arise during program implementation.

Potential risks:
Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program

Requirements and Managements:

- Social impact assessment and management plan on potential adaptation actions during prioritization process. Pro-poor actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk) should be among the priority
- Adaptation action design (the site location and structural design for hard structure) that take account the needs and suitability for elderly, children groups, and disable groups; to ensure they can experience the benefit

d. *Human Rights*

The proposed program is intended to elevate the quality of life of the beneficiaries (including marginalized and vulnerable groups) by creating a better environment for them (physical, social and economic environment).

Furthermore, The Republic of Indonesia has ratified the following International Covenant:

- The International Covenant on Economic, Social, and Cultural Rights into Law Number 11/2005
- International Covenant on Civil and Political Rights into Law Number 12/2005.

The proposed program will adhere to these laws and ensure that Human Rights principles are being carried out throughout the course of the program.

e. *Gender Equity and Women´s Empowerment*

The Republic of Indonesia has ratified the Convention on the Elimination of All Forms Against Women/CEDAW into Law Number 7/1984. Hence the proposed program will comply with this law and also other applicable national law on Gender Equity and Justice.

Women groups will be an active participant in the program, where their representative will be selected as Village Working Group member. Furthermore, the program is designed so

that trainings on economic livelihood will involve female participant; to ensure they will receive economic benefits from the actions. There is no risk that the husbands will object their wives new livelihood since it will support their household economy.

f. Core Labour Rights

Relevant to labour rights, the nationally applicable regulations are as below:

- Law No. 80 of 1957 concerning Ratification of ILO Convention No. 100 on Equal Remuneration for Men and Women Workers for Work of Equal Value
- Law No. 7 of 1984 concerning Ratification of the Convention on the Elimination of All Forms of
- Discrimination Against Women;
- Law No. 21 of 1999 concerning Ratification of ILO Convention No. 111 regarding Discrimination in Employment and Occupation.
- Law No. 13 of 2003 on Manpower

Accordingly, labour works done under this program will adhere to the above laws, including payment issue. Additionally, the program will also ensure that it will comply with ILO Convention No. 138 and 182 on Child Labour, by assuring that there will be no child labour involved in the program. The program will not pose any risk on labour rights since it will equipped the community member with additional skills

g. Indigenous People

Community resides within the geographical scope of the proposed program came from similar ethnicity, and has a well-established social norm. Accordingly, there is no risk related to indigenous people for this proposed program

h. Involuntary Resettlement

Resettlement for community who resides in permanently inundated area is issue that had been raised in the past, but put on hold due to local government budget constraint.

During the full proposal development stage it has been agreed with the city stakeholders (including government and community) that resettlement will not be a part of the proposed adaptation actions. Hence there is no risk of involuntary resettlement for the program.

i. Protection of Natural Habitats

As a coastal area, protection of natural habitat is essential to be taken throughout the course of the program. Mangrove, the natural habitat for fish and shell fish, has been the green belt for Pekalongan City shoreline for the past decade, protecting the area to a certain extent from sea-related risk. However, mangrove condition in the area has been degraded in the past years.

<u>Potential risks:</u>

Minor environmental and ecological Disruption from hard and soft structure construction

<u>Requirements and Managements</u>:

- Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012)

- Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA
- Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection

j. Conservation of Biological Diversity

Coastal resilience aimed by this proposed program is not only focusing on human resilience, but also considering the corresponding biodiversity.

Potential risks:

Minor environmental and ecological disruption from hard and/or soft structure construction and alteration of resource management (introducing new shrimp species and extracting mangrove honey)

Requirements and Managements:

- Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012)
- Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA; including for activities that are related to the introduction of foreign and invasive species; how the said species will survive and interact in a new environment (e.g. Vennamei shrimp)
- The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other

k. Climate Change

Activities under the proposed program will not significantly contribute to the increase of greenhouse gas emission or other climate change drivers.

l. Pollution Prevention and Resource Efficiency

Activities conducted within the program have the potential to cause pollution if not being managed carefully.

Potential risks:

- Water pollution from hard and soft structure construction, existing agriculture and farming practices, alteration of resource management (introducing new shrimp species and extracting mangrove honey), and by product from alternative livelihood
- Sedimentation due to accumulation of fish feed in brackish water fishery

Requirements and Managements:

- Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012)
- Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA
- Assessment on a more environmentally friendly farming and fishing method/practices

m. Public Health

There is no risk to public health from the program. The program activities will continually be ensured for not placing community's health and safety in dangerous state by adhering to the relevant applicable laws and regulations.

n. Physical and Cultural Heritage

There is no risk to physical and cultural heritage from the program since there is no physical and cultural heritage located within the geographical scope of the proposed program.

o. Land and Soil Conservation

Inundation from coastal flooding in the targeted program area has resulted in adverse impact, transforming productive land into unproductive one. This proposed program aims to reduce the inundated area, preventing them from turning into unproductive land by implementing diverse adaptation measures.

Potential risks:

Soil pollution from hard and soft structure construction, existing agriculture (the use of pesticide) and farming practices, and by product from alternative livelihood

Requirements and Managements:

- Environmental Impact Assessment for activities that falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012)
- Environmental Management and Monitoring Plan for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA
- Assessment on a more environmentally friendly farming and fishing method/practices

1.6.4. Categorization

In view of the above environmental and social impact assessment process, can be seen that the program implementation has several potential risks that are considered as minor, small scale (limited impacts and not widely spread) and easily mitigated. These risks can be avoided by implementing adequate mitigation measures. With regards to Risk Categorization of AF, the program can be categorized as **"Category B"** where it has potential adverse impacts but in small number, small scale, not widespread and easily mitigated.

I.7. ENVIRONMENTAL AND SOCIAL MITIGATION PLAN

1.7.1. Environmental and Social Impact Mitigation Plan

Mitigating measures for the assessed significant potential environmental and social impacts is presented in table 3 below. The measures will be implemented and utilised by the program to mitigate the potential risks and also ensure the compliance of program implementation to AF Environmental and Social Policy. From the beginning of the program period, the stakeholders will be informed on the potential risks associated with the program and the corresponding mitigation measures in place. This Environmental and Social Management Plan document will be communicated to them; not only during the program preparation phase, but also throughout the course of the program, to ensure all parties involved are aware of the risks and the appropriate mitigation measures.

Table 3. Environmental and Social Impact Mitigation Plan

No	ESP	Type of Impacts	Impacts Description	Mitigation Measures	PIC	Relevant Stakeholders
1	Compliance with the Law	Environmental	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	• Conducting EIA for adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012. • The relevant Environmental Monitoring and Management Plan will be developed for the particular activities • PMU will ensure that the monitoring and management plan is being adhered	Construction company and PMU	NIE, Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City
2	Access and equity	Social	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood	• Conduct stakeholders mapping during project planning stage as the basis for determining the appropriate project implementer, allocating fair roles and responsibilities among stakeholders, and selecting the appropriate activities site location (including	PMU	Village and City Working Group

				knowledge board location) that could benefit wider community • Involving village working groups (which members are community representative) in the selection process • Select working group member that could really represent the voice and interest of all layers of community and city stakeholder		
3	Marginalized and Vulnerable Groups	Social	Social conflict arising from selection of priority activities site and design which could raise envy from other community member that will not directly exposed to the program	• Conduct social impact assessment and develop the corresponding management plan on potential adaptation actions during prioritization process. • Put priority on pro-poor adaptation actions (action that could benefit those who have the least economic adaptive capacity but has a high exposure to climate risk) • Adaptation action design (the site location and structural design)	PMU	Village and City Working Group

				will take account of the needs and suitability for elderly, children groups, and disable groups • Develop visibility materials that outlines background from the selection and communicate the materials to wider community • Involving village working groups (which members are community representative) in the selection process • Select working group member that could really represent the voice and interest of all layers of community and city stakeholder		

4	Protection of Natural Habitats	Environmental	Minor environmental and ecological disruption from hard and soft structure construction or other adaptation activities, for instance: • the impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem • waste generation and water pollution from ecotourism site development and operational activities • aquaculture farming preparation process	• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan • Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • Activities conducted in the natural habitat area will follow Law 32 Year 2009 on Environmental Protection and Management and its derivative regulations, particularly section on natural habitat protection	Construction company and PMU	Cleanliness Agency, Environmental Agency, Public Works Agency, Mairne and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community

				• Build temporary sediment trap during structural coastal defense construction process as well as ecotourism site development to control abrasion and sedimentation within mangrove ecosystem • Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan • Ensure that aquaculture farming will only be done in existing aquaculture area or idle aquaculture land so that the activities will not open a new area and disrupt the existing natural habitat		

5	Conservation of Biological Diversity	Environmental	Minor environmental and ecological disruption from hard and soft structure construction, for instance geotube and ecotourism site construction process	• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan • Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of	Construction company and PMU	Environmental Agency, Tourism Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community

				Coastal Area and Small Islands and other • Build temporary sediment trap during structural coastal defense construction process as well as ecotourism site development to control abrasion and sedimentation within mangrove ecosystem • Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan		
6			Minor environmental and ecological disruption from alteration of resource management including: • Introduction of new marine/fisheries species to the body of water • Introduction of new mangrove species to the environment • Negative impact on	• The program will be ensured as will adhere to applicable laws and regulations on biodiversity conservation, including Ministry of Marine and Fisheries Regulation No. 16 Year 2008 on Management Plan of Coastal Area and Small Islands and other • Primary assessment to see how the new	PMU	Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community

			mangrove ecosystem due to over-extraction of mangrove honey	marine species will survive and interact in a new environment (e.g. Vennamei shrimp) • Assess the most appropriate location to introduce the new mangrove species • Educate the community on proper extraction method and quantity for mangrove honey		
7	Pollution Prevention and Resource Efficiency	Environmental	Water pollution from hard and/or soft structure construction process	• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan • Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City

				adverse impacts, that does not falls under the category that needs EIA • Build temporary sediment and oil trap during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation		
8			Water pollution from aquaculture farming practices, including: • Potential for overpopulation within the aquaculture farm • Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm • Traditional harvesting method that allows aquaculture water flows into drainage	• Educate the community on environmentally friendly aquaculture farming method/practices, including efficient use of feed and proper harvesting technique • Equipped the farm with small windmill that allow aeration in the pond • Create sediment trap that is suitable for the farm • Develop environmental procedures for	PMU	Marine and Fisheries Agency, Environmental Agency and Local Development Planning Board of Pekalongan City, Local community

			system • Non-existent aeration that allows sedimentation accumulation at the bottom of the pond	aquaculture farming activities, including water and waste management plan • Regular monitoring of surface water quality inside the farm and in drainage system connected to the farm		
9			Water pollution due to waste generation from ecotourism activities	• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan • Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities • As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste	PMU and Ecoutourism Implementer	Environmental Agency, Cleanliness Agency, and Local Development Planning Board of Pekalongan City, Local community

				that has monetary value (plastic, paper, metal)		
10			Water pollution from the effluent of sanitation facilities	• Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution • Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed • Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them • Educate the community on good sanitation behaviour	PMU	Environmental Agency and Local Development Planning Board of Pekalongan City, Local community
11	Land and Soil Conservation	Environmental	Soil pollution from hard and/or soft structure construction, including water facilities construction	• If the activities falls under the category that needs EIA (Law No 27 Year 2012 on Environmental Permit and Ministry of Environment Regulation	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City

				No 5/2012), then an EIA will be conducted and followed with the corresponding Environmental Management and Monitoring Plan • Develop Environmental Management and Monitoring Plan directly for hard structure construction or activity that potentially create adverse impacts, that does not falls under the category that needs EIA • Build temporary sediment and oil trap during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation		

12			Soil pollution from sanitation facilities use and construction	• Rigorous assessment on the most appropriate sanitation facilities for the area's characteristics (including geographical and soil characteristics), to minimize potential risks of pollution • Regular water quality monitoring on the body of water where the sanitation facilities effluent is being conveyed • Together with the community develop utilization and maintenance procedure for the facilities, where the said procedures will be undertaken by them • Water tight construction for the sanitation facilities (particularly the waste water management installation) to minimize potential leakage to the soil	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community

13			Soil pollution due to waste generation from ecotourism activities	• Develop sound and applicable environmental procedures that comply with local regulation for ecotourism site, including waste management plan • Coordinate with Cleanliness Agency of Pekalongan City in the waste management activities • As a community-based ecotourism, involve the community in the waste management process, including train them to be able to utilize the waste as additional income; either by creating added value to the waste (compost, recycling) from the waste or collect waste that has monetary value (plastic, paper, metal)	PMU and Ecoutourism Implementer	Environmental Agency, Tourism Agency, and Local Development Planning Board of Pekalongan City, Local community

1.7.2. Grievance Mechanism Guidance

As part of the program implementation, the PMU will also set up grievance mechanism for the stakeholders involved. This mechanism is needed to ensure the program always in line with AF's ESP that promote environmental and social safeguard and also ensure that it always in line with community's interest and met their expectations. Steps that will be taken for setting up the mechanism are as follow:

- Initial orientation for the PMU will include materials on ESMP and grievance mechanism so that the staff will understand their roles and responsibilities on this matter
- Assign staff/team of staff that will be responsible for receiving and processing the grievance
- Develop procedures for accepting/logged-in grievance, grievance assessment process, providing feedback for the grievance, and monitoring the feedbacks
- Create internal communication procedures for the mechanism
- Communicating the ESMP and grievance mechanism at the beginning of program implementation to the stakeholders

The grievance mechanism procedure that will be set up will follow these following general guidelines:

- *Logged-in Grievance*
  Stakeholder should formally communicate grievance in a written manner, and sent it to the appointed staff through email,fax or hand-delivered the text to the PMU office. Once it's being logged, the particular stakeholder will receive receipt that acknowledging the complaint is being accepted and will be processed
- *Grievance Assessment*
  Once the complaint is logged-in and recorded, an assessment process will be done by a specific team by considering the complainants, issues, mitigation measures in place, rating the grievance and exploring options to address the grievance. The team leader will continually updated on the process
- *Providing and Communicating Feedback*
  Once the option is selected, the team will prepare a response for the grievance and communicate the response formally in written text to the complainant
- *Monitoring Feedback*
  To ensure the feedback is well received by the complainant or to maintain in case there will be follow up response, the responsible staff will continually monitor the grievance cases logged-in, its feedback and how it being dealt in practise.

A more detailed grievance mechanism and the responsible staff will be developed at the beginning of program implementation.

I.8. MONITORING AND EVALUATION ARRANGEMENT

1.8.1. Monitoring and Evaluation Plan

Monitoring and evaluation process for the environmental and social impact will be an integral part of program's monitoring and evaluation process. For activities that categorized as need to undergone EIA process in future time, an individual monitoring and evaluation plan will be made accordingly.

Specific aspects to be monitored in relation to the environmental and social impacts are presented in table 4. This table does not provide a specific monitoring and evaluation, but only the general guidance. A more detailed monitoring and evaluation plan for the whole program will be developed during the development process of project implementation plan, in which the content of Table 4 and its detailed derivation will be an inseparable part of the said monitoring and evaluation plan.

Table 4. Monitoring and Evaluation Plan

No	ESP	Type of Impacts	Impacts Description	Aspects to be Monitored	Means of Verification	PIC	Relevant Stakeholders
1	Compliance with the Law	Environmental	Environmental impacts from specific adaptation actions, particularly those related to structural interventions	For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process	Document that stated whether the activities categorized as need or does not need EIA	Construction company and PMU	NIE, Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City
2	Access and equity	Social	Social conflict arising from selection of community member that will be the implementer of adaptation actions and alternative livelihood	• Ensure the selection of appropriate project implementer and site location, fair allocation of roles and responsibilities • Ensure that working group member represent the voice and interest of all layers of community and city stakeholder	• Record of representation of working group member • Minutes of meetings for working groups meetings • Documentation of stakeholders mapping process and results	PMU	Village and City Working Group
3	Marginalized and Vulnerable Groups	Social	Social conflict arising from selection of priority activities site and design	• The development of social impact assessment and management plan • Communication of project selection process through visibiity	• Social impact assessment and management plan document • Visibility materials and its dissemination	PMU	Village and City Working Group

			which could raise envy from other community member that will not directly exposed to the program	materials • Ensure that working group member represent the voice and interest of all layers of community and city stakeholder	records • Minutes of meetings for working groups meetings		
4	Protection of Natural Habitats	Environmental	Minor environmental and ecological disruption from hard and soft structure construction or other adaptation activities, for instance: • the impact of construction process of structural barrier (as coastal defence) to the existing surrounding ecosystem • waste generation and water pollution from ecotourism site development	• For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process • Sediment trap construction to control abrasion and sedimentation within mangrove ecosystem • Availability of environmental procedures that comply with local regulation for ecotourism site, including waste management plan • Aquaculture farm location	• Document that stated whether the activities categorized as need or does not need EIA • Environmental procedures (including waste management plan) for ecoutourism site • Map of aquaculture farm under the program management • Documentation of sediment trap construction	Construction company and PMU	Cleanliness Agency, Environmental Agency, Public Works Agency, Mairne and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community

			and operational activities • aquaculture farming preparation process				
5	Conservation of Biological Diversity	Environmental	Minor environmental and ecological disruption from hard and soft structure construction, for instance geotube and ecotourism site construction process	• For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process • Sediment trap construction to control abrasion and sedimentation within mangrove ecosystem • Availability of environmental procedures that comply with local regulation for ecotourism site, including waste management plan • Aquaculture farm location	• Document that stated whether the activities categorized as need or does not need EIA • Environmental procedures (including waste management plan) for ecoutourism site • Map of aquaculture farm under the program management • Documentation of sediment trap construction	Construction company and PMU	Environmental Agency, Tourism Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community

6			Minor environmental and ecological disruption from alteration of resource management including: • Introduction of new marine/fisheries species to the body of water • Introduction of new mangrove species to the environment • Negative impact on mangrove ecosystem due to over-extraction of mangrove honey	• Ensure that the new marine and fisheries species will fit in the new environment • Ensure that the community understand on how to properly implement mangrove honey extraction as the alternative livelihood	• Assessment on potential interaction of new marine species in the new prepared environment • Record of workshops on mangrove honey extraction process and the workshop materials	PMU	Marine and Fisheries Agency and Local Development Planning Board of Pekalongan City, Local community

7	Pollution Prevention and Resource Efficiency	Environmental	Water pollution from hard and/or soft structure construction process	• For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process • Sediment and oilt trap construction during structural coastal defence construction process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation	• Document that stated whether the activities categorized as need or does not need EIA • Documentation of sediment and oil trap construction in the needed location	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City
8			Water pollution from aquaculture farming practices, including: • Potential for overpopulation within the aquaculture farm	• Application of environmentally friendy aquaculture farming activities • Maintain surface water quality in the surrounding area of the farm	• Record of workshops on environmentally friendly aquaculture farming practices • Water and waste management plan for aquaculture farming • Record on regular surfacewater quality monitoring	PMU	Marine and Fisheries Agency, Environmental Agency and Local Development Planning Board of Pekalongan City, Local community

			• Sedimentation (increased concentration of organic matter) due to accumulation of fish feed in aquaculture farm • Traditional harvesting method that allows aquaculture water flows into drainage system • Non-existent aeration that allows sedimentation accumulation at the bottom of the pond				
9			Water pollution due to waste generation from ecotourism activities	Waste management activity in ecotourism site that involves local agency and local community	• Environmental procedures (including waste management plan) for ecoutourism site that also include communication procedure with the Environmental Agency of Pekalongan City • Documentation of	PMU and Ecoutourism Implementer	Environmental Agency, Cleanliness Agency, and Local Development Planning Board of Pekalongan City, Local community

					workshops on waste management		
10			Water pollution from the effluent of sanitation facilities	• Construction and utilization of sanitation facilities that are environmentally friendly • Maintain the functionality of the facilities even after the program period is ended	• Assessment document on the most appropriate sanitation facilities to be constructed • Utilization and maintenance procedures for the sanitation facilities, including the roles and responsibilities • Record on regular surfacewater quality monitoring • Documentation of workshops on good sanitation behaviour	PMU	Environmental Agency and Local Development Planning Board of Pekalongan City, Local community
11	Land and Soil Conservation	Environmental	Soil pollution from hard and/or soft structure construction, including water facilities construction	• For adaptation options that are categorized as activities that need to be equipped by EIA according to the Ministry of Environment Regulations No. 5/2012, a separate monitoring and evaluation plan will be made accordingly after the EIA process • Sediment and oilt trap construction during structural coastal defence construction	• Document that stated whether the activities categorized as need or does not need EIA • Documentation of sediment and oil trap construction in the needed location	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City

				process, water and sanitation facilities construction process, as well as ecotourism site development to control influent of oil, and also abrasion and sedimentation			
12			Soil pollution from sanitation facilities use and construction	• Construction and utilization of sanitation facilities that are environmentally friendly • Maintain the functionality of the facilities even after the program period is ended	• Assessment document on the most appropriate sanitation facilities to be constructed • Utilization and maintenance procedures for the sanitation facilities, including the roles and responsibilities • Record on regular surfacewater quality monitoring • Record on regular soil quality monitoring	Construction company and PMU	Environmental Agency, Public Works Agency and Local Development Planning Board of Pekalongan City, Local community
13			Soil pollution due to waste generation from ecotourism activities	Waste management activity in ecotourism site that involves local agency and local community	• Environmental procedures (including waste management plan) for ecoutourism site that also include communication procedure with the Environmental Agency of Pekalongan City	PMU and Ecoutourism Implementer	Environmental Agency, Tourism Agency, and Local Development Planning Board of Pekalongan City, Local community

					• Documentation of workshops on waste management		

kemitraan partnership

Nama Event : FGD - Penyusunan Proposa. AF

Tempat/Lokasi : Pesona Hotel pekalongan.

Tanggal, Jam : 20 JUl 2018

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1.	Hikmah Fitriana	Kec. Pkl. Utara	081563591655	[illegible]@[illegible].com	
2.	Endar Vanto	[illegible]	085865275421	[illegible]@gmail.com	
3	Prawito	DPU SDA TARU PROV.	0819 017 20514	mr.pra.1980.@gmail.com	
4.	Abdul Hamid	IAIN Pekalongan	085225968588	hamidkerandong@yahoo.co.id	
5.	MARSOTO	Kel. Bandengan	085701321007	-	
6.	TAUFIQ	Di [illegible]	0858[illegible]1376 5409		
7.	Adetya. Rahmi	Kemitraan	085722978688	adetya.rahmi@kemitraan.or.id	
8	Yanuar	As 2	08180 366016	yanuar480@gmail.com	
9.	agus	Panjang BARU			
10	CAHYEKTI W	BAPPEDA	085869028729		

kemitraan partnership

Nama Event : FGD - penyusunan proposal AF

Tempat/Lokasi : Pesona Hotel pekalongan

Tanggal, Jam : 20/7/2012

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
11.	Trisuwarto	Ud-P.cwk	085 742 880929		[signature]
12	Sukosrono Hadi	MP. Pangg Bmn	081542 236999		[signature]
13	Tarsono	PIM	085826123306		[signature]
14	Amet Fauzan	16 Pakuluhu Kodu	085 84887968		[signature]
15.	Dian Ariestyowati	Dit. Adaptasi Perub. Iklim	081210227574	dianhidayat@gmail.com	[signature]
16	Trisno Sugito	Sm Wedh	085647644546	hitohattz@gmail.com	[signature]
17.	Ristiawati	Universitas Pekalongan	08773353 6070	ristiawati_1985@yahoo.co.id	[signature]
18.	Prasetio	BBWS PJ	085 742 407 504		[signature]
19.	Hendra S	PT. VIRAMA KARSA FSO	0858 9220 5072		[signature]
20.	A. Baidowi	PP HK.	081353957500		[signature]

kemitraan partnership

Nama Event : Penyusunan proposal AF.

Tempat/Lokasi : Pesona Hotel

Tanggal, Jam : 20/7/2018

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
21	WISNU GROHO	BAPPEDA	085 726322951	muhwisnugroho@yahoo.com	[signature]
22	Sunardi	Lurah	085741033350		[signature]
23	Arry Hanan		0858 42229800		[signature]
24	TUBAGUS MS	Bag. Humas	0856 40137033		[signature]
25	Kusnandar [illegible]	Karangtarung	085 741887275		[signature]
26	Sri Purwaningrum	Selulo	081156563418		[signature]
27	D. Wahyu Jatmiko	PUSDA TARU JATENG	08190 111 2795	jatmikopbp@gmail.com	[signature]
28	Tri Puji Astuti	Bappeda	085743266218	astutiazzahra@gmail.com	[signature]
29	SUTOTO	Bappeda	085229168045	sutoto255@yahoo.co.id	[signature]
30	Agusta M	plt, AS, III	081665054 7		[signature]

kemitraan partnership

Nama Event : Penyusunan Proposal AF

Tempat/Lokasi : Pesona Hotel

Tanggal, Jam : 20/7/18

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1.	Endah S.S.	Parbudpora	085641927178	endah.ss15@yahoo.co.id	[signature]
2.	Juliana Rachmawati	BINTARI - SMG	085740925601	julianarachmawati@gmail.com.	[signature]
3.	Anita Heru K.	Bappeda	08156932403	anitaheru@hotmail.com.	[signature]
4.	B. EDUARD	Bappeda	08154813206	[illegible]@yahoo.co.id	[signature]
5.	Abimanyu S. Aji	Kemitraan			[signature]
6	M Arifin	Kec. PKK	08[illegible]		[signature]
7	Nur Imani [illegible]	Kel. TWU	085641724263		[signature]
8	Andreas P. S	Bappeda.	08528934[illegible]		[signature]
9	Catur Agung	BBWS Pemali Juana	082242329075		[signature]
10	Murdiyanto	Kel Krapyak	0815[illegible]		[signature]

kemitraan partnership

Nama Event : FGD -

Tempat/Lokasi : Pesona Hotel

Tanggal, Jam : 20/7/18

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1.	HADI PRANGGONO	UNIKAL	085869586861	hadipranggono17@ Gmail.com	
2	Zaenal Arifin	BBWSPJ	(0285) 67222-90		
3	Eddy Setiawan	Kel. Kand. Pany.	085156677142		
4	Darwanto	Polsek	08039129097416		
5	Nur Slamet	Bappeda	085853239111	ns.nurslamet@gmail.co	
6	Rodjanwali	Kemitraan	0813817140337		
7	Abe Wisdalulu	BBWS PJ	081 326 792 022		
8	Khoirne	PPN Pekalongan	085 6000 30001	ppnpekalongan@gmail.com	
9	Budi Ch		081212420908	budi.choirudi.@gmail.c	
10	Deni Wahyu Hashdi	DKP	081 391791731	deni.hashdirahono66@gmail	

kemiTraan partnership

Nama Event : FGD.

Tempat/Lokasi : Pesona Hotel

Tanggal, Jam : 20/ JUL / 2013

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
	Miftah	DPUPR	085423222		[signature]
	Ani Ic	Kec Pokl Bard	081575798256		[signature]
	Khair Panggi		0817179666		[signature]

kemitraan partnership

Nama Event : FGD - Penyusuna Proposal Adaptation Fund.
Tempat/Lokasi : Ruang Kalijaga, Setda, Pekalongan
Tanggal, Jam : 08.30 - Selesai

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1	Abimanyu S. Aji	Kemitraan			
2	Budi Ch.	-"-			
3	Khair Ranggi	-"-			
4.	Dewi Rizki	~			
5.	M. Ichwan H	-"-			
6	Nur Slamet	Bapped kot pekal	085853239 111	ns.nurslamet@gmail.com	
7.	Indrato.	ALM.	0815691 2035	indrato12@gmail.com	
8	Sigit M	Parbudpar	08154806 0488	nursitsigit6759@gmail.com	
9	Susanto	BPBD	081215445999	susanto0461@gmail.com	
10.	Erwan. F.	DLH	08157920235	erwan_st61@yahoo.com	

kemitraan partnership

Nama Event : FGD - Penyusunan proposal AF
Tempat/Lokasi : Ruang Kalijaga, Setda, Pekalongan
Tanggal, Jam : 08.30 - Selesai

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
11.	Eko Budi P	Unikal	085641863143	hosan143173@gmail.com	[signature]
12	Yustiana.D	Pusmana	081329467378	dwiratnaningsih@gmail.com	[signature]
13	ISSANTOSO	Dinperkim	085742849383	[illegible]@yahoo.com	[signature]
14	Sri Setyaningsih	Kel Banyurip	085642707774	naning90.@yahoo.co.id	[signature]
15.	Zuita Dwi A	DKP	085869456886	dwiarmayanti@gmail.com	[signature]
16	Sukirno	Dindukcapil	081282440100	sukirnomangyulu@gmail.com	[signature]
17	Tri Sulf	Kec Pekalongan Utara	085647644546	hitohatta@gmail.com	[signature]
18	Tyismawai	Kel Panjang	085712680529		[signature]
19	SAROWONO BDI	KANDANG PANJANG			[signature]
20.	Cayekti W	Bappeda	085866028729	cayektiwidigdo@yahoo.com	[signature]

kemiTraan partnership

Nama Event : 460

Tempat/Lokasi : Ruang Kalijaga, Setda, Pekalongan

Tanggal, Jam : 08-30 - selesai

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
21	Abdul Cholik	kel. Dadirejo kota	(0285) 423019	[illegible]@gmail.com	[signature]
22	Any Hasan	MAPANSAYA	085 64 22 29800		[signature]
23	Anu Jamil	Edu Ekonomi Wisata			[signature]
24	Hadi Saroyo	Kel. [illegible]	085[illegible]		[signature]
25	Putri Murossa'ah	Plck. Kec. Utara			[signature]
26	Drah	Bappeda	0857 4158 1952		[signature]
27	Ahmad Riyanto	[illegible]			[signature]
28	Herlina [illegible]	[illegible]	085 [illegible]		[signature]
29	M. Rizqul P	Bappeda.			[signature]
30	Yasir	Bappeda			[signature]

kemitraan partnership

Nama Event : FGD - Penyusunan Proposal Adaptation Fund
Tempat/Lokasi : Ruang Kalijaga, Setda, Pekalongan
Tanggal, Jam : 08.30 - Selesai

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
31.	Sulistiyanto	RTP			[signature]
32.	Anggara	DPMPPA	08164250288		[signature]
33.	Anita Manjari	BAPPEDA			[signature]
34.	Imam Kurniawan	HNSI	081542363779		[signature]
35.	DEDY S. ANGGORO	BAPPEDA	085875888884		[signature]
36	Edy Purwanto	STIE Muh PKL	085727767527		[signature]
37	Suwardi	Degayu			[signature]
38	Kholid Sriyono	Kel. PKL	085870225859		[signature]
39	SUGIARNO	Kel. Pkl Utara			[signature]
40.	panji	Bapeda			[signature]

kemitraan
partnership

Nama Event : FGD
Tempat/Lokasi : Ruang kalijaga, Setda, pekalongan
Tanggal, Jam : 08.30 - Selesai

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
	FACHRUL RUSDI	RT			

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Nama Event : Focus Group Discussion dalam rangka Penyusunan Proposal AT

Tempat/Lokasi : Aula Bappeda Pekalongan

Tanggal, Jam : 21 Maret 2017

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
1.	D Resti Artanti	Dinperpa	08157618729	deera_2802@yahoo.co.id	[signature]
2	Mustofa Kamal	PKK	082170121005		[signature]
3	DOTO	Kec. Pkl. Timur	085869 195545		[signature]
4	Sunaryo	LP2NU/M2K	085642871736		[signature]
5	Sukosrono Hadi	Kel. Panjang Baru	081542 236 999		[signature]
6	Eddy Setiawan	Kantor Panj.	081566771142	setiawan.eddy765@gmail.com	[signature]
7.	Juriyah	Kel PKK	08156936834		[signature]
8.	Ketno Purnomo	Bappeda	0816654567		[signature]
9	Endang Hadi	Kec. Sb.	081327060660		[signature]
10	Any Hanan	MAPAN	085842229800		[signature]

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Nama Event :
Tempat/Lokasi :
Tanggal, Jam :

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
11.	M. Nasri	Kec Bansa	085642716157	muchamadnatsir@gmail.com	[signature]
12.	Eko Kesiyanto	Kec Utara			[signature]
13.	Sujimin	Korkot Kotaku	08122794383	sujiminwoestan@yahoo.co.id	[signature]
14	M. CHOLIQ	Kec. TMB	085640850585		[signature]
15.	Subiyanto	BPBD	085869269234	kulodianaragoro2610@gmail.com	[signature]
16.	Dian Aragoro	"	0856 4073 4984		[signature]
17.	AGUS DARMAN	Komunitas hijau	0857 69 868211		[signature]
18.	Teguh Winarno	BPH IV	0815 4815 4529	teguhwinarno@yahoo	[signature]
19.	PIPIN Ariyani	"	0858 4211081		[signature]
20.	KAMAL HADI	TANI MAKMUR	085 738137862		[signature]

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partnership

Nama Event :
Tempat/Lokasi :
Tanggal, Jam :

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
21.	Maman. S.	PAR Bud. Para.	081642554245		
22.	B-EDUARD	Bappeda	081540132060		
23.	Subandi	P. Kroton	088869217017		
24.	Erwan K.	DLH	081579282355		
25.	Wahyudi S	Bappeda	085865783182		
26.	Budi Ch	Kemitraan	081212420988		
27.	THAS	PKH	085641123595		
28.	SUTOTO	Bappeda	085229168045	sutoto255@yahoo.co.id	
29.	EDYM	Kec. Selo			
30	Tri Puji Astuti	Bappeda	085743266218.	astuti.azzahra@gmail.com	

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partnership

Nama Event : _____

Tempat/Lokasi : _____

Tanggal, Jam : _____

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
31.	Yunidar	Kemitraan	085240546939	yunidar@kemitraan.or.id	
32.	[illegible]	[illegible]	[illegible]		
33.	[illegible]	[illegible]	081563871044		
34.	SLAMET SAMUJI	DPMPPA	085878615945	slametsamuji@gmail.com	
35.	MARYOTO	Kec. Bandenga	085701321007		
36.	Anita Heru K	Bappeda	08156932403	anita_heru@hotmail.com	
37	Muhamad Rizal	Bappeda	085701222257		
38	Abinanya S. Aji	Kemitraan			
39	[illegible]	—			
40	[illegible]	[illegible]	085726322951		

kemitraan
partnership

Nama Event : _____

Tempat/Lokasi : _____

Tanggal, Jam : _____

No	Nama	Organisasi	Telp/Hp	E-mail	Tanda Tangan
41	Amalia Prameswari	Kemitraan	081258571155	amalia.prameswari@kemitraan.or.id	
42	Demi Rizki	Kemitraan	08111417775	demi.rizki@kemitraan.or.id	