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ASSESSING THE NATIONAL ACTION PLAN FOR INCLUSIVE POLICY DESIGN OF CLIMATE CHANGE ADAPTATION IN INDONESIA'S COASTAL AREAS

A COLLABORATIVE REPORT

Prepared by



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Komisi Nasional
Indonesia
untuk UNESCO



About the Report

This assessment is a product of a collaboration of LIPI, UNESCO, UI and UGM under MOST (Management of Social Transformation Program) which brings together representatives from government, academia, industry and professional organizations, to collaborate on Assessing National Action Plans for Inclusive Design of Climate Change Adaptation in Indonesia.

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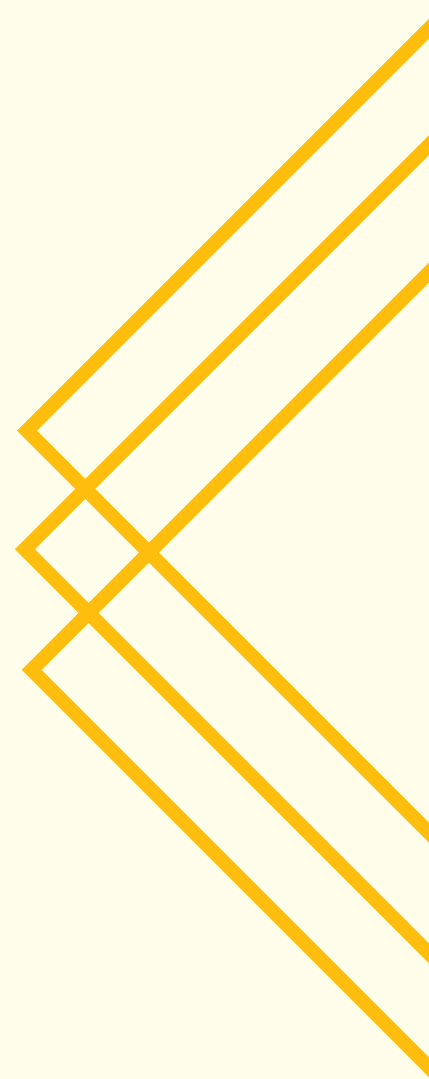
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Foreword

In the long run- if DRR does not include social protection as a tool derived from the social inclusion the initiative to reduce vulnerability will likely fail.

Climate change is already undermining many of the fundamental human rights to food and water, to shelter and health. While people all over the world are vulnerable to the impacts of climate change, the poor and marginalised are the most vulnerable. Therefore inclusive design is an urgent call to reduce vulnerability and to achieve climate justice.

The assessment of national action plans for the inclusive design of climate change adaptation integrates the findings and current action applied by the Indonesian government. The objective of this report is to assess the national action plans for climate change adaptation in Indonesia (RAN-API) using the UNESCO Analytical Framework for inclusive policy design. The report highlights the need to share benefits and burdens associated with climate change adaptation moreover, its determination equitably and fairly. By the end of this report, it is suggested RAN -API to consider social inclusion within its report.

This report was made possible thanks to the voluntary work, dedication and commitment of numbers of experts and scientist across Indonesia, representing a range of views and discipline. We would also wish to acknowledge UNESCO, UI, and UGM whom enthusiastically took on the huge challenge of producing the report on top of the other tasks they had already committed.

Jakarta, December 2017

Authors

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ASSESSING NATIONAL ACTION PLANS FOR INCLUSIVE DESIGN OF CLIMATE CHANGE ADAPTATION IN INDONESIA

1. Introduction

As an archipelago composed of more than 17,000 islands and a population of over 250 million Indonesia is particularly vulnerable to coastal hazards with millions of people living near the coastlines. This, combined with the fact that Indonesia has a large population relying on fisheries, resulted in Indonesia being characterized at high risk in the Coast at Risk Index (Beck 2014). Disaster statistics from the Centre for Research on the Epidemiology of Disasters (CRED) confirm these risk evaluations. Regarding casualties, the highest impacts are from tsunamis (as in the event in 2004) with close to 17,000 deaths recorded since 1900. Many of the hydro climatic hazards in coastal areas, when linked to inappropriate development activities, will be exacerbated by the effects of climate change, in particular, sea-level rise (Ward et al. 2012). Existing trends and projections suggest that the sea level will rise 40 cm \pm 20 cm and 56 cm \pm 32 cm by 2050 and 2080, respectively. If these trends are confirmed, one can expect the sea level will rise by 80 cm \pm 40 cm by the end of the century (ICCSR 2010).

The World Risk Report of 2014 informs that Indonesia ranks 34th in a list comprising 171 countries in terms of risks to various hazards with “very high” risk and exposure, and “high” vulnerability, susceptibility, lack of coping capacities, and lack of adaptive capacities (UNU-EHS and Alliance Development Works 2014). This condition is indicated by the increased number of disasters, according to BNPB (2014) about 10 per cent during the last 10 years, causing a huge number of victims, especially in vulnerable groups, such as infants, women, and seniors. BNPB in 2015 also notes that about 155 people died per year, 10,518 people were injured, and 300,630 people were evacuated during this period. The disaster does not only threaten the peoples’ lives but also disturbs their sustainable livelihoods, especially those of poor people under low socio-economic conditions.

A sea-level rise will have a disproportionate effect on the large populations living in low-lying areas (Brown 2007), and economic factors play a decisive role in response to natural disasters, where developing countries are most vulnerable due to lack of resources to prevent, respond to and cope with their effects (IOM 2009; Drabo and Mbaye 2011). On Java’s north coast, for example, in 2014, abrasion or coastline erosion occurred along 745.41 kilometres or 44% of the entire coastline, eroding an area of 12,878.53 hectares (BNPB 2015).

The impact of climate change is expected to have significant negative impacts on human society over the next decades, in some areas potentially reversing years of progress in human development (IPCC 2014). It can push people into poverty and force them to adopt negative coping strategies like selling their assets, taking children out of school, reducing food intake to unhealthy levels, etc. The risk that poor people will lose their lives and livelihoods during disasters or due to slow-onset changes related to climate change, such as land degradation or reductions in water availability, is also increasing. There is a relationship between climate change and environmental changes in migration (Brown 2007; Adger et al. 2002; Massey et al. 2010; Oliver-smith et al. 2009). Due to the limited job opportunities, many people in Indramayu – a district on the north coast of Java - have left temporarily, changed their jobs or found jobs

somewhere else. This is an increasing trend seen as a response to the uncertainty induced by climate and environmental changes. There is urgent need to develop new approaches for pro-poor policies that will help the most vulnerable groups adapt and thrive in the years to come (Heltberg et al. 2010).

The Indonesian government agrees about this phenomenon and seeks to address the issue, among others, by developing national action plans for climate change adaptation, integrated management of forest fires, and signing the Paris Agreement. The seriousness of the government in managing climate change is also indicated by incorporating the national action plans for climate change adaptation within the Medium Term of the National Development Plan (RPJMN) 2015-2019 that promotes provincial and district/city governments to set up action plans for climate change resilience within their development plans. National Action Plans for Climate Change Adaptation (*Rencana Aksi Nasional Adaptasi Perubahan Iklim – RAN API*) were launched by the Ministry of National Development Planning (Bappenas) in February 2014.

The National Action Plans for Climate Change Adaptation – RAN-API are focused on physical, environmental and technical aspects, but still lack attention to socio-economic and cultural aspects, particularly for vulnerable people and those excluded in coastal areas and on small islands. Design considerations for inclusive action plans of climate change adaptation (CCA) are therefore crucially needed to achieve social inclusion in these national action plans.

The need for social inclusion in disaster risk reduction (DRR) is not new; it has been highlighted in the Yokohama Strategy, the HFA and now in the Sendai Framework for Action, and the post-2015 framework for DRR. Poor living conditions, inadequate infrastructure, a lack of income diversification and limited services, especially education and information, ensure that the poorest and most marginalized people are disproportionately affected by the disaster. Committing to address the cause and increase their capabilities as well as facilitating empowerment should be a strong point in regards to social inclusion in the context of DRR. However, the approach to reduce vulnerability is likely not sufficient in the long run- if DRR does not include social protection as a tool derived from social inclusion.

Objectives

The objective of this task is to assess the national action plans for climate change adaptation in Indonesia (RAN-API) using the UNESCO Analytical Framework for inclusive policy design. The assessment results in design considerations of social inclusion in inclusive RAN-API. The specific objectives include development of:

1. Design considerations for Dimension 1 of inclusion, focusing on multidimensional aspects;
2. Design considerations for Dimension 2 of inclusion, focusing on relational aspects;
3. Design considerations for Dimension 3 of inclusion, focusing on intersecting risks and drivers;
4. Design considerations for Dimension 4 of inclusion, focusing on dynamic aspects;
5. Design considerations for Dimension 5 of inclusion, focusing on contextual and multi-layered aspects; and

6. Design considerations for Dimension 6 of inclusion, focusing on participatory aspects.

Methodology

This assessment relies on desk reviews of the national action plans for climate change adaptation (RAN-API), focusing on special area resilience, that is, of coastal areas and small islands. The RAN-API consists of 5 clusters and each cluster has 3-6 action plans (see explanation no. 3). The review is based on the UNESCO Analytical Framework for inclusive policy design that consists of 6 dimensions i.e. multidimensional, relational, intersecting risks and drivers, dynamic, contextual and multi-layered, and participatory (see explanation no. 2).

The assessment is carried out through a process that includes 6 stages. The first stage was to select main topic and assessment area. The selection based on the crucial and urgent social inclusive issue closely related to Most concerns, decided to choose integrated social protection and disaster risk reduction in the coastal areas. The second stage was to select specific policy or national action plans to be reviewed using the UNESCO Analytical Framework for inclusive policy design. A review of relevant policies, programs and national action plans was conducted and the result was presented in the Most-UNESCO Workshop on 28th August 2017. After the workshop, the National Working Group of Most had a discussion about this review result and decided to select the National Action Plans for Climate Change Adaptation (*Rencana Aksi Nasional Adaptasi Perubahan Iklim – RAN-API*) to be reviewed. In this discussion, the working group that was attended by representatives from LIPI, the Ministry of Social Affairs (Kemensos), Meteorological, Climatological and Geophysical Agency (BMKG), University of Indonesia (UI) and University of Gajah Mada (UGM) also agreed that the review would be carried out by all working group members. This group then was divided into six sub groups suited with the dimension number of the framework. It was also agreed on 6 sub-groups consisting of 6 institutions of Most working group members. Each institution (2 persons) would review one dimension, as follows: LIPI for Dimension 1, Kemensos for Dimension 2, BMKG for Dimension 3, Atmajaya University for Dimension 4, UI for Dimension 5 and UGM for Dimension 6.

The third stage was working group discussion about how to assess RAN-API in special area resilience using the UNESCO Framework for inclusive policy design. In this, all working group members, except for Atmajaya for Dimension 4, actively participated. The group agreed to develop a matrix format, containing the national action plans for climate change adaptation (RAN-API) and their indicators, policy markers (PMs) and design considerations (DCs).

The fourth stage was to review and develop design considerations for each action plan of each cluster of RAN-API. The development of design considerations are based on markers of inclusive policies for a specific dimension. Each institution has responsibility to conduct this task based on the dimension that had been agreed to before. However, in the implementation, only LIPI, UI and UGM carried out their tasks. LIPI therefore had to take over other tasks from representatives of Kemensos (Dimension 2), BMKG (Dimension 3), and University Atmajaya (Dimension 4).

The fifth stage was to summarize design considerations of all markers of inclusive RAN-API for all clusters in each dimension. The last stage was to briefly analyze design considerations for each dimension of inclusive RAN-API in coastal areas and on small islands.

2. UNESCO Analytical Framework for Inclusive Policy Design

The UNESCO Analytical Framework for Inclusive Policy Design is aimed at supporting inclusive social development and its related policy agenda, so that it is more inclusive, equity-weighted and contains SDG-oriented policies. This framework consists of 6 dimensions of exclusion and inclusion i.e. multi-dimensional, relational, group and individual approaches, dynamic, level and contextual, and participatory.

Dimension 1: Multi-dimensional focuses on processes that influence social inclusion, including civic processes and cultural, economic, political and social ones. This dimension has 4 markers of inclusive policies: 1) transversal and overarching objective, this marker points out inclusion is explicit as well as cross cutting sector policies; 2) continuum of interventions, through integrated and coordinated interventions; 3) public sector innovation to support the social achievement; and 4) integrated and policy sensitive evidence, availability of integrated and policy sensitive data and equity-weighted data. Each policy marker has different design considerations (DCs) that need to be taken into account in each dimension.

Dimension 2: Relational character addresses 4 inclusive policy markers. The first is about equality of opportunities and outcomes, dealing with causes of social inclusion, equitable not only equal opportunities, and concentrates on the long term goal. The second is delivery of services and adequate access or uptake, provision and acceptance of public services and their access, causes of low uptake and terms of inclusion. The third is distribution of public expenditure with design considerations in redirection of resources, group distribution of benefits, public awareness and value to society at large. The fourth is relations between the mainstream and the excluded populations, targeting all parties with meaningful dialogue.

Dimension 3: Intersecting risks and drivers concentrates on group based and individual approaches. This dimension consists of 5 inclusive policy markers. The first is exclusion risks with design considerations including group conditions and individual characteristics and social exclusion, a common risk that does not exclusively threaten traditionally excluded groups. The second is removal of drivers of exclusion, considering structural, behavioural and policy related drivers of exclusion; and bottlenecks and loopholes with exclusionary potential. The third is tailored policy design and service delivery with design considerations of needs and preferences of intended beneficiaries and fitted interventions. The fourth is analysis of differentiated and distributional policy effects, considering inter-sectoral spillovers of risks and group-and category-specific corollaries. The fifth is weighted breadth and depth of intervention with design considerations of intensity, structure and persistence of exclusion, types of risks and drivers, and depth of coverage.

Dimension 4: Dynamic dimension focuses on the process from the current state of societies, social inclusion interventions to battle social exclusion and ultimate goal. This dimension consists of three inclusive policy markers. The first marker is built-in duration with design

considerations including persistence of exclusion, panel or longitudinal data, and historical and contextual analysis. The second marker is the long-term and anticipatory character with design considerations of non-linearity, nascent and emerging areas of need, and anticipatory policy making. The last marker is proactive and reactive functions, considering early-stage interventions and reactive measures.

Dimension 5: Contextual and multi-layered, addresses level and context from micro (individual and household) to meso (neighbourhoods and communities) and macro (nation states and global regions). This dimension contains 2 inclusive policy markers. The first marker is in-country coherence and coordination with design considerations focused on horizontal coordination, policy coherence, vertical coordination and capacity and institutional fit at all levels. The last marker is regional and sub-regional coordination with consideration of soft law mechanisms and non-standardized instruments.

Dimension 6: Participatory, concentrates on participation of those who are socially excluded in development, planning, budgeting, implementation, and monitoring. This dimension consists of 2 inclusive policy markers, procedural improvements and transformative participation. Design considerations for procedural improvements include participation as a normative goal, throughout the policy circles, and guaranteed and institutionalized avenues. While for transformative participations these are susceptibility to marginalization in participatory processes, leveling the field, and capacity to engage.

3. The National Action Plans for Climate Change Adaptation (RAN-API)

The National Action Plans for Climate Change Adaptation or *Rencana Aksi Nasional Adaptasi Perubahan Iklim* (RAN-API) is set up to support the implementation of a sustainable development system and high resilience to the impacts of climate change. This main objective can be achieved by developing economic resilience, the life system, both physic and socio-economic, and maintaining resilience of the ecosystem and special areas.

The specific objectives of RAN-API include:

- To give direction for mainstreaming of climate change adaptation issues into the national development plan process;
- To provide sector direction for climate change adaptation actions, and integrated actions for climate change adaptation (cross sectors) in short-term (2013-2014), medium-term (2015-2019), and long-term plans (2020-2025);
- To provide direction for priority actions of climate change adaptation in the short-term, so that it could be implemented, and in order to provide special attention and budget support from an international agency;
- To provide direction for sectors and regional areas to enhance their action plans for climate change adaptation that synergise with communication development systems and more effective coordination.

RAN-API is a part of the National Development Framework in Indonesia. In terms of the national development, RAN-API is a more specific cross-sector thematic plan in preparing a

climate change-proof or a resilient development plan. Climate change adaptation in Indonesia is directed to:

1. Adjustment efforts in the form of strategies, policies, management, technology and attitude for negative impacts to be reduced to a minimum level, and even if possible to take maximal advantage of its positive impacts;
2. Efforts to reduce negative impacts of climate change, both direct and indirect, continued or discontinued, and permanently based on the degree of the impact.

Strategy and action plans for climate change adaptation focus on five areas. The first area is economic resilience, consisting of two action plans, sub areas of food and energy independence. The second area is resilience of life systems, consisting of three action plans, sub areas of health and settlement and infrastructure. The third area is ecosystem resilience. The fourth is resilience of special areas, consisting of two action plans, sub areas of urban and coastal areas and of small islands. The last area is a supporting system.

This assessment focuses only on resilience of special areas, particularly, coastal areas and small islands. For this special area, the RAN-API consists of 5 clusters. Cluster 1 is the improvement of capacity for coastal and small island communities related to climate change issues. This cluster contains 4 action plans i.e. socialization and awareness of communities to climate change phenomena and impact, the development of resource utilization for coastal and small island communities, maintenance and rehabilitation of water resources in coastal areas and on small islands, and development of infrastructure (transportation network, electricity, clean water, and communications) in coastal areas and on remote small islands using appropriate technology.

Cluster 2 concentrates on management and utilization of the environment and ecosystems for climate change adaptation. This cluster consists of 3 action plans i.e. rehabilitation and adaptation of the environment need to accommodate, maintenance and rehabilitation of non-structural protected areas and the surrounding areas, and management of ecosystems in coastal areas/small islands of mangroves, wetlands, sea-grass beds, estuaries, and coral reefs.

Cluster 3 focuses on the application of structural and non structural adaptation measures to anticipate the threat of climate change. This cluster contains 5 action plans i.e. build up of coastal resilience villages (CRV), support facilities and infrastructure for small island development, identification and adjustment of building structures and elevation of vital facilities in coastal areas and on small islands, resilience of farming resources and coastal ponds to climate change, and identification, build up and maintenance of coastal protective structures.

Cluster 4 is about the integration of adaptation into coastal and small island management. This cluster consists of 6 action plans i.e. identification and mapping of small island potential, preparation of norms, standards, guidelines and criteria (NSGC) rehabilitation and adaptation to climate change in coastal areas and on small islands, assessment of climate change risk and adaptation in coastal areas and on small islands, conducting research and mapping of climate change risk and sector/sub sector adaptation at district/city levels, preparation of documents of spatial planning and management of coastal areas and small islands based on risk assessment results and climate change adaptation, and supervision and control for structuring and zoning coastal areas and waters against climate change.

Cluster 5 focuses on improvement of climate change adaptation support systems in coastal areas and on small islands. This cluster contains 4 action plans i.e. the improvement of research and assessment of coastal resources, the improvement of research capacity related to the phenomena and climate change impact in coastal areas and on small islands, the development of early warning systems related to climate and oceanography disasters, and strengthening of organization and coordination across sectors of mitigation and adaptation in coastal areas and on small islands.

4. Design Considerations for Inclusive RAN API in Coastal Areas and Small Islands

4.1. Dimension 1

One of the sixth dimensions to support the inclusive policy is multidimensional aspect. Multidimensional is a representative of a general consensus amongst both academic and public policy actors about the important of integrated-dimension for the inclusive policies (UNESCO, 2015). The multidimensional perspective consists of social, civic, political, cultural and economic dimensions. (UNESCO, 2015). Furthermore, the markers of the multidimensional aspect can be explored through four markers namely 1) transversal and overarching objective, 2) continuum of intervention, 3) public sector innovation, and 4) integrated and policy sensitive evidence. Those can be implemented in the social services, economic life, and social networks and participation. The neglecting one of them will raise and increase marginalization.

The inclusive policy delivers message to leave no one behind which also becomes the main objectives of the Sustainable Development Goals (SDGs). It emphasizes the need to involve all different group of population including the vulnerable and disable groups to get benefit of the development program. The need to consider vulnerable and disable groups is becoming more urgent regarding new challenges of the negative impact of climate change. Extended studies show that climate change has triggered devastated disaster with significant loss and damage. The vulnerable groups are the most affected due to lack of capacity to respond risk.

This section focuses on the analysis of the national plan for adaptation to climate change (NAPA) particularly for the coastal and small islands areas. The NAPA has been developed in Indonesia in 2014 and started to be implemented in some pilot areas across Indonesia over the last year. The coastal and small islands is chosen as a main focus to follow the national priority putting attention to the marine issues. After the first pilot project, currently, NAPA is still under review in order to strengthen the objectives of successful adaptation. Moreover, the revision of NAPA is in line with the current national commitment to implement and achieve all target of Sustainable Development Goals (SDGs) and the commitment to implement Sendai Framework for the disaster risk reduction. The new version of NAPA ideally should consider both main frameworks of SDGs and Sendai. Therefore, this analysis is important to support the revision process particularly in the inclusiveness process.

The content analysis is served as the method for analysis. All programs of NAPAs is diagnosed in detail using the indicators from the UNESCO's framework. There are five clusters of adaptation programs in coastal and small islands which mainly aims to increase capacity of the local community and its infrastructure to respond risk to climate change. Interestingly, the adaptation strategy has considered the integration between environmental management,

disaster risk management and climate change adaptation. However, the integration is still in the level of spatial level and still need to consider people as the central programs.

In general, the program of NAPA has consider people centered which means giving more focus on the people as one of the vulnerable group. The overall programs are ranging from capacity building to increase the capacity of each individual to respond impact of climate change until the increasing infrastructure to build resilience. In addition, the program to provide database and risk mapping is rather important for the policy makers to develop inclusive policy. However, based on the first dimension perspective, there are some challenging particularly in terms of the sustainability of the program which link to the budgeting and technology innovation to support the inclusive database system in remote areas in the area of small islands.

The capacity building particularly spreading information and knowledge about climate change is important to prepare the action for the long term. The first research on knowledge and awareness mapping among the vulnerable group that conducted by LIPI and BMKG supported by ICCTF shows that the increasing knowledge about the changing climate will reduce loss during the farming and fishing activities (Hidayati et al, 2010). However, the mechanism to deliver information and knowledge needs to be very specific and local specific. The integration between local knowledge and scientific evidence provides robust information to the vulnerable communities. The detail review on NAPA for the more inclusive programs will be presented as follows.

Design Considerations that need to be Accommodate in the Action Plans of CCA

1) Transversal and overarching objective

The first design consideration in the multidimensional aspect is transversal and overarching objective. It represent the system or portfolio of interventions, supra-goal at the priority setting level, and allocation of resources of resources based on needs.

The cluster 1 of NAPA putting out the important of capacity building which consists of human, environment, and physical infrastructure components. For the human aspect, the knowledge, dissemination, and training have been planned. However, it is still not obviously mentions whether all groups of population will get that access. Therefore, the capacity building for local community needs to emphasize the most vulnerable groups such as the fishers and farmers, the disables, elderly and children. Women headed households also important to be specifically mention in the programs.

The building capacity of human also need support system from its environment. Therefore, the program to manage the environment is also developed such as through the integrated water management and optimize the local community to manage their resources. It aims to ensure the sustainability of the environment services to human. To succeed the environmental management, assessment of the natural resources potential and its vulnerability to climate change is needed. The improvement capacity also can be conducted through participatory approach for the assessment coastal resilience to climate change impact. The objective of participatory approach is to seek a deeper capacity and information at the individual, household and community level. Therefore, the vulnerable groups will be counted in proper way and they can get access to the capacity building programs.

To succeed the adaptation strategy and considering innovative ecosystem based approach, the support from structure and non-structure component is important. For instance, the budget allocation, facilitators, and robust infrastructures. Both of them have to be integrated and well recognized by the policy makers. The good coordination and collaboration among the related stakeholders will optimize the contribution and to avoid overlapping programs and budget.

Box 1. Inclusion as a supra and a portfolio

In 2010, the government of Indonesia through ICCTF has started to conduct an intervene system for adaptation. The program has been acknowledged as the first project on climate change adaptation (supported by ICCTF) particularly focus on the vulnerable group such as fishers and farmers. In order to reduce risk and losses caused by the adverse impact of climate change, it is argued that increase local capacity is the top priority programs. The project led by BMKG collaborated with LIPI to conduct knowledge and risk awareness mapping among vulnerable group of fishers and farmers in five selected vulnerable areas cross Indonesia.

The first assessment is placed as a baseline for further capacity building programs. The study shows that farmers and fishers have directly affected by climate change impact which shown through the decreasing of harvest and failure in harvest. However they unaware about the climate change phenomena. Therefore, the practical program is provide sufficient and local context information through developing collaboration among related agencies at local level such as BMKG, Dinas Pertanian, Dinas Perikanan, and other local NGOs to provide the information. The information furthermore is disseminate through community radio. The community radio provides wide opportunities for all listeners to actively involve in the discussion.

Shared-learning process among the community members using an innovative approach (using community radio) as a media to increase knowledge and capacity to enhance their capacity to adapt is a supra goal in the context of inclusive for climate change adaptation.

Source: Published Book of LIPI and BMKG

2) Continuum of interventions

Design considerations for continuum intervention represents inclusiveness through the integrated and multidimensional continuums, and coordinating mechanism. In the cluster 1 of NAPA, in order to provide a continuum intervention in the program of capacity improvement, it is important to establish a platform. It serves as media for the interaction among all related stakeholders such as government, non-government, and private. Moreover, the civil society and local community also has access to interact with them. The appropriate platform will give a lot of benefit, for instance to support the resilience assessment which need more comprehensive data and information. In addition, the good collaboration with various stakeholders.

The cluster 2 highlight the implementation of adaptation based on disaster mitigation. This means integration between adaptation to climate change and disaster risk management particularly in the part of disaster mitigation. This is obviously important since the impact of climate change currently lead to disaster. To achieve the inclusiveness, the government needs to provide local facilitators to assist local community implement and select the appropriate adaptation programs. In many cases, the gap between adaptation to climate change and disaster risk management is at the regional and city scale. At the local level, they have no differences. Therefore, local facilitators plays key role in terms of link the gap of information at the planning level and at the local or community level.

The cluster 3 serves programs to implement robust institutional and physical infrastructure that important to anticipate climate change impact. This program also needs a better collaboration among related stakeholders in order to involve all vulnerable and disable groups in adaptation programs. As mention in the first analysis, the successful adaptation is needed sufficient local information which can be achieved through local risk assessment. The new guideline for risk assessment has to consider indicator for the un-counted population such as those who live in informal housing, disable and the poorest groups. Through this specific guideline, decision makers will be able to implement inclusive programs.

The other program in is early warning system that specific for coastal and small islands. However, it is still need to consider the most vulnerable and disable groups. For instance to provide special route and facilities for the disable in respond the warning system.

Box 2: Multidimensional continuum and coordination

In the case of mainstreaming adaptation in in the coastal city, Semarang can be selected as one of a best practice. Semarang city planning shows a good lesson learn on how learning process was established and how multi stakeholders collaborate to implement adaptation to climate change for the building of resilience city.

To foster the successful of adaptation planning, the local government establish an independent committee which consists of different agencies at the local government. The objectives of the independent committee is to focus on the specific and integrated programs. The adaptation normally is not a new program but rather an innovation for the current and existing activities. To make it more adaptive is in the context on its sustainability and well organized and well managed.

For instance for the early warning system to flood. The early warning system is installed in the observed points along the river and the local community created a small group for the coordination. The early warning system is not only about the system to warn the community but also need to coordinate with the other agencies that responsible for the decreasing quality of land use in upstream areas.

3) Encouraging and allowing for public sector innovation

Public sector innovation is one of the markers of inclusive policies from the multidimensional perspective. The design consideration consists of 1) trying, testing, improving approach, 2) inclusion of user communities, and 3) new technologies in design and delivery.

It is an urgent need to develop innovations in public sectors in order to respond to the complexity of climate change impact. The innovation can be a new approach or modify the existing ones. Since we deal with long term and uncertainty conditions, the trying and testing stages are needed. Moreover, the collaboration with private and non-government stakeholders will be helpful to provide new innovation for the applied technology for adaptation particularly for the inclusive programs.

The use of new technology has been considered in NAPA as mentioned in cluster 1. The new technology should be able to support the capacity building programs. Several social media that are very user friendly can fully support the dissemination of the programs and related information. Not only for the dissemination, new technology is also useful to strengthen the existing local natural resources management such as existing water management among the local communities. The new technology is needed to support the system learning process among the local communities. Currently, the media for social learning is conducted through direct interaction or meeting or focus group discussion or by observing others' activities but using the appropriate innovative technology, social learning can be improved. For instance, to learn from other experiences through short movies or speed talks.

The cluster 5 about the early warning system asks clearly for new innovative support. In some cases, the early warning system is difficult to implement due to conflicting with the local beliefs and local culture. Thus, the innovation in the early warning system will be able to increase awareness of the local communities to follow the instructions from the system.

4) Boosting the availability and usage of the integrated and policy sensitive evidence

The fourth aspect of the inclusive policy emphasizes the data to support good adaptation. The good data has to cover all information, be eligible, and be integrated, which means it should consist of various data and be filed in a system database. In many cases, data is available in different stakeholders and different types of filing systems. Thus, it is difficult to be used for decision makers. Studies found that the ego sectoral is mainly causing the challenge to put all data together in one server system. The scale of data also still becomes a big concern in Indonesia. For instance, the data of floods and inundation is provided only for the administrative level but not detail for individuals directly affected by floods. Instead of using data from statistics, data that is real time and gives detailed information about the landscape is using spatial data or imaginary data. That is very useful and better for risk assessment and potential database mapping but it is high cost. To have an inclusive data, the inventory has to be very specific and involve local people to support the assessment.

4.2. Dimension 2

This section assesses design considerations for the action plans of Indonesian CCA using the UNESCO Analytical Framework for inclusive policy design, focusing on Dimension 2 of the framework, relational dimension of social inclusion. This dimension consists of 4 policy markers i.e. Equality of opportunities and outcomes, Delivery of services and adequate access or uptake, Distribution of public expenditure, and Relations between the mainstream population and the excluded. While the action plans of CCA consist of 5 clusters i.e. Cluster 1: the Improvement of Capacity of Coastal and Small Island Communities Related to Climate Change with 4 action plans, Cluster 2: Management and Utilization of the Environment and Ecosystems for Climate Change Adaptation with 3 action plans, Cluster 3: the Application of Structural and Non Structural Adaptation Measures to Anticipate the Threat of Climate Change with 5 action plans, Cluster 4: the integration of Adaptation into Coastal and Small Island Management with 4 action plans and, Cluster 5: Improvement of Climate Change Adaptation Support Systems in Coastal Areas and on Small Islands with 4 action plans.

Important Points that have been included in the National Action Plans of CCA

This assessment identifies some important points in the action plans of CCA related to social aspects and their support for community adaptation to climate change and sustainable resources and environment in coastal areas and on small islands. These include the need to increase community awareness and preparedness, provide information about climate change, early warning systems, documents on standards and guidelines for implementation of climate change adaptation, and relevant infrastructure conditions in these areas. The action plans have considered the need to provide technology and facilities to monitor climate related hazard potency, appropriate technology in maintenance and rehabilitation of coastal and water resources and in development of basic delivery services for communities.

The action plans also point out the need to conduct research in order to provide data and map climate related hazards and vulnerability indices, resource potential and utilization in coastal areas. The plans contain the need to improve environmental quality in adaptation and mitigation programs for sustainability of community healthy lives and livelihoods. They also include maintenance and rehabilitation of non-structural coastal protection, development and implementation of coastal resilience programs at village levels, including resilience of coastal communities and environments.

Design Considerations need to be Accommodate in the National Action Plans of CCA

1) Equality of Opportunities and Outcomes

Design considerations for equality of opportunities and outcomes in markers of inclusive climate change adaptation action plans include symptoms and structural causes, efficient use of opportunities, comparable outcomes and quick wins and long term inclusive goals. This assessment informs important points for achieving equality of opportunities and outcomes, as follows:

The national action plans of CCA have already accommodated communities related to climate change adaptation in coastal areas and on small islands. These plans, however, have not included coastal vulnerable groups, such as the disabled, vulnerable based on age groups (infants, children/toddlers and elderly people), based on gender (women) and based on poor coastal people (poor fishermen and farmers). The coastal communities and their vulnerable groups therefore should be incorporated in design considerations for adaptation, preparedness and mitigation programs.

Coastal communities and their vulnerable groups need to be incorporated in conducting dissemination and training related to adaptation, preparedness and mitigation programs and their implementation to reduce disaster risks in coastal areas and on small islands. Provision of support facilities and infrastructure (seaports, clean water, electricity and communications) should be fitted in with the needs of these coastal people. The facilities and infrastructures should be identified and adjusted based on climate change conditions. Therefore, there is a crucial need to set up more specific standards of coastal infrastructure, especially to reduce risk of sea level rise for these coastal people.

There is a need to specify early warning systems based on specific types of hazard (such as flooding, landslides and droughts) and vulnerable groups in coastal areas and on small islands. Increasing public awareness related to early warning systems based on specific climate hazards is crucial for coastal communities and their vulnerable groups. These groups should be accommodated in establishing early warning systems, organization and management, and their implementation in these areas.

In addition, the plans also need to provide adaptation actions for sustaining livelihoods of coastal communities and their vulnerable groups. The plans should provide appropriate technology and facilities to monitor socio economic potential and risk. For this, they need to develop data inventories, information systems and carry out socio economic research related to climate change adaptation strategies based on effective and efficient technology and specific for local context of coastal areas and small islands. Coastal and poor people, such as fishermen, aquaculture & seaweed farmers, and food/tree crop farmers have different needs in their economic activities. Fishermen as the main occupation group in coastal areas and on small islands, for example, need alternatives to fishing activities.

When the CCA action plans identify and map small island potential, they should incorporate profiles of the coastal communities and their vulnerable groups. The profiles should be more specific, covering the demographic, socio-cultural, and economic aspects. These groups should also be included in preparing the norms, standards, guidelines and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and on small islands.

The coastal communities and their vulnerable groups should also be accommodated when the CCA plans to conduct assessments on climate change risks and adaptation in coastal areas and on small islands. Therefore, these groups must be taken into account in risk mapping and zonation of climate change adaptation in these areas. They also need to be inserted in research on vulnerability and risk, and zonation strategic CC adaptations in relevant sectors until 2050 at district or city levels.

2) Delivery of Services and Adequate Access or Uptake

Design considerations for delivery of services and adequate access or uptake in markers of inclusive climate change adaptation action plans include public service networks, causes of low uptake and terms of inclusion. This assessment informs important points for achieving this relational dimension, as follows:

Delivery of services in Cluster 1 focuses on improving community adaptation and preparedness. For improving community adaptation, the action plans need to provide basic services for specific community groups, such as the disabled and vulnerable people (such as poor fishermen and farmers) in coastal areas and on small islands. These groups also need access, such as technology, markets and capital, for sustaining their economic activities.

For improving community preparedness, delivery of services needed is provision of appropriate technology and tools for specific community groups, such as the disabled, children, elderly, women and poor coastal people, and specific access to resources (such as information, technology, capital) based on the need of specific community groups (vulnerable and not vulnerable). The action plans also require to increase access of information for a coastal community and its vulnerable groups in order to improve their knowledge and skills, and special access for vulnerable people (disabled, women and poor) to gain and use infrastructure (seaports, clean water, electricity and communications). In addition, the action plan should be of low cost for the coastal poor to use infrastructure (such as low installation costs, cheap monthly price).

Delivery of services that need to be incorporated in the Cluster 2 action plans are to provide relevant information available to the coastal public (coastal people and their vulnerable groups), improve community awareness and strengthen their participation in maintaining non-structural protection and managing the ecosystems in coastal areas and on small islands. The action plans should provide and use appropriate technology for economic access to coastal people and their vulnerable groups based on their occupation types and needs. In addition, the plans should also strengthen law enforcement for those conducting illegal practices causing degradation of coastal and small island ecosystems.

The 5 action plans in Cluster 3 rely heavily on infrastructure, building structure and resources, but lack consideration of coastal and small islands peoples' conditions and needs. Delivery of services that need to be accommodated are increase of knowledge and awareness of coastal communities (including fishermen, poor coastal people and vulnerable groups/disabled) about coastal hazards, climate change and its impacts, improvement of skills of fishermen and poor coastal people to adapt to climate change, and provide access (information, technology, markets and capital) for fishermen and poor coastal people. The action plans should provide access (information, technology and appropriate tools) for and incorporate participation of coastal communities and their vulnerable groups in the building up of their coastal resilience villages and maintaining coastal protective structures and navigation facilities. The plans also need to provide information about support facilities and infrastructure and coastal protective structures and navigation facilities, and access for public (coastal community and its vulnerable groups) to gain and use support facilities and infrastructure.

Delivery of services in Clusters 4 and 5 focuses on the need to conduct assessments of coastal communities and their vulnerable groups. The assessments cover their profiles, norms, local knowledge and wisdom. The assessment results are used in developing norms, standards, guidelines and criteria (NSGC) for implementation of climate change adaptation options in coastal areas and on small islands. Another important assessment is to carry out assessments on coastal socio-economic conditions and vulnerability, risk and strategic adaptation of a coastal community and its vulnerable groups to climate change in relevant sectors until 2050 at district/city levels.

Another important delivery of services is to provide the coastal communities and their vulnerable groups information about early warning systems and mechanisms and implementation, appropriate early warning technology, and drills or simulations of early warning for specific climate related hazards. They need to have access to participate in establishing and implementing of early warning systems and revitalize the use of local knowledge and wisdom related to early warning systems.

3) Distribution of Public Expenditure

Design considerations for distribution of public expenditure in markers of inclusive climate change adaptation action plans include redirection of resources, group distribution of benefits, public awareness and value to society at-large, and role of international actors. This assessment informs important points for achieving this relational dimension, as follows:

The action plans in Cluster 1 need to include distribution of public expenditure in policy planning and budgeting for both improving community adaptation and preparedness. The expenditure needs to increase awareness of coastal communities and their vulnerable groups and their adaptation based on specific occupation types (such as fishermen, aquaculture and seaweed farmers). It also requires to provide them with appropriate technology and access (information, technology, capital) to the coastal resources. The expenditure is also needed to conduct assessment on coastal communities (and their vulnerable groups) resilience to climate change impact, local knowledge and wisdom related to environment rehabilitation and adaptation and water resource management. Another important plan is to revitalize sustainable water resource management based on local wisdom and increase community roles in managing ecosystems and in maintaining non-structural protection of coastal areas and small islands.

Public expenditure in Clusters 2 and 3 should be distributed for increasing capacity of coastal communities and their vulnerable groups. This includes increasing awareness and skills of farmers, fishermen and other poor coastal people on climate change, providing them with access (information, technology and appropriate tools), and sustaining their livelihoods. The expenditure is also intended to conduct assessment on provision of support facilities and infrastructure needed by coastal communities and their vulnerable groups, and socialization about infrastructure conditions related to climate change and study on specific standards of infrastructure to reduce sea level rise risk. In addition, it is provided for coastal communities and their vulnerable groups to participate in the build up and maintenance of coastal protective structures and navigation facilities for monitoring marine and coastal community activities.

Like in other clusters, policy planning and budgeting of Cluster 4 includes the expenditure for research on coastal communities (and their vulnerable groups) profiles, socio economic vulnerability and risk, norms, standards, guidelines and criteria (NSGC) rehabilitation and guideline documents for implementation of climate change adaptation options in coastal areas and on small islands. The expenditure is also used for accommodating coastal community assessment and mapping results into risk maps and zonation of climate change adaptation, and their strategic adaptation based on specific economic activities and sectors.

Meanwhile public expenditure in policy planning and budgeting of Cluster 5 is distributed into two activities. The first activity contains research on socio-cultural of coastal communities, socio economic conditions of vulnerable coastal people, and local knowledge and wisdom in managing the sustainability of coastal areas and small islands. The expenditure also includes research on socio-economic vulnerability indices in coastal areas and on small islands, provision of appropriate technology and facilities to monitor socio economic potential and risk, and socio economic data inventories and information systems related to climate change adaptation strategies based on effective and efficient technology and specific to local context of coastal areas and small islands.

The expenditure on the second activity focuses on early warning systems, including socialization, mechanisms and their implementation in coastal communities and their vulnerable groups, provision of appropriate technology, conducting early warning drills or simulation for specific climate related hazards. It is also intended to provide the coastal communities (and their vulnerable groups) access to participation in establishing and implementing early warning systems, and revitalization of local knowledge and wisdom related to early warning system related hazards.

4) Relation between Mainstream Population and the Excluded

Design considerations for relations between the mainstream population and the excluded in markers of inclusive action plans of climate change adaptation are based on targeting all parties and on meaningful dialogue. The action plans focus on the ability and willingness to gain access, use opportunities and enhance the sense of belonging.

The action plans in Cluster 1 need to build up the willingness of coastal people and their vulnerable groups to gain access and to use opportunities in socialization and awareness of climate change phenomena and impacts. The plans required to provide appropriate technology for these people in order to sustain water resource management and revitalize and implement this management are based on local wisdom. In addition, the action plans are geared to provide infrastructure friendly to coastal people and their vulnerable groups and easy access for them to gain and use this infrastructure (seaports, electricity, clean water and information).

In Cluster 2, relations between the mainstream population and the excluded should be harmonized in the management and utilization of the environment and ecosystems for climate change adaptation. The action plans need to build up the willingness to improve capacity of the coastal people and their vulnerable groups in order to actively participate in coastal resilience villages and to sustain their livelihoods in facing climate change and disaster risk in coastal

areas and on small islands. Another action plan needs to provide support facilities and infrastructure for coastal people and vulnerable groups. In addition, the plans also need to increase awareness and participation of coastal people and their vulnerable groups and to revitalize and implement their local wisdom in conducting and maintaining non-structural protection in coastal areas and on small islands.

In design considerations for Cluster 3, the action plans should increase the capacity of the coastal people and their vulnerable groups in order to actively participate in building up coastal resilience villages and sustain their livelihoods in facing climate change and disaster risks in coastal areas and on small islands. The plans also require to provide these people with support facilities and infrastructure, and information about infrastructure conditions related to climate change and specific standards of infrastructure to reduce the risk of sea level rise. Another plan should incorporate coastal people and their vulnerable groups in increasing their awareness and adaptation to climate change in coastal areas and on small islands.

Regarding Cluster 4, the action plans indicate their ability and willingness to incorporate coastal communities and their vulnerable groups in the assessment on hazards, vulnerability and risk, and map them in the total number of coastal areas and small islands where there is a risk map and zonation of climate change adaptation. The plan contains research on coastal communities' and their vulnerable groups' vulnerability, risk and strategic adaptation as a part of research on hazards, vulnerability and risk, and zonation of strategic adaptation to climate change in relevant sectors until 2050 at district/city levels.

Design considerations for Cluster 5, action plans are geared to conduct research on socio-economics, culture and vulnerability indices of coastal communities and their vulnerable groups. They also provide appropriate technology and facilities to monitor their socio economic potentials and risks in coastal areas and on small islands. Another plan accommodates these coastal people to participate in the development and implementation of early warning systems related to climate and oceanography disasters.

4.3. Dimension 3

Coastal and marine resources are especially important for people in developing countries of the tropics. In Indonesia, the use of coastal and marine resources often is the only means to meet subsistence and economic needs. Varied coastal habitats such as deltas and estuaries, lagoons, mangroves, coastal marshes, seagrass beds, coral reefs, beaches, freshwater marshes and swamps, rivers and streams, coastal strand, and coastal upland forests, provide valued services and products to local and external communities. In the threat of changing climate and coastal risk, the coastal provide functions range from buffering coasts, to storms and sea-level rise; to supporting flora and fauna of importance for both subsistence and market-based economies; to maintaining high biodiversity.

Departing from Indonesia preparation towards Climate Change Adaptation (CCA) as framed in RAN API, dimension three highlighted intersection of risks and drivers and related policy makers. Dimension three concerned primarily with identification and support of excluded groups. There is growing awareness amongst academics, public policy and development

practitioner became aware that policy approach has to consider individual approach to social inclusion. There are five clusters in dimension three : Cluster 1: The improvement of capacity of coastal and small islands communities related to climate change; Cluster 2: Management of environment and ecosystem for climate change adaptation; Cluster 3 : The Implementation of Structural and non-structural Adaptation for anticipation of the threat of climate change; Cluster 4: The integration of adaptation into coastal and small islands management and Cluster 5: The improvement of supporting system related to climate change adaptation in coastal and small islands. Within five cluster, dimension three will discuss four issues of intersection of risk and drivers and related policy maker into four main themes: 1. Exclusion risks and their intersections, 2. Removal of drivers of exclusion, 3. Policy interventions should be tailored to the needs of the excluded, 4. Differentiated effects of policies, and 5. Weighted breadth and depth of intervention.

Design considerations that need to be accommodate in the plan actions of CCA

In Indonesia both urban and rural coastal communities are facing heightening risk due to climate related risk. The complexity of the urban milieu (high urbanization and concentration of valuable assets near water courses) puts urban coastal citizens in a most vulnerable position with regards to both flood risk and vulnerability. Amongst concern of losing assets the most vulnerable group are often left behind from the risk reduction initiative. The vulnerable group are consisting of the elderly, disable person and children. To accommodate the urge of inclusion, an action plan is needed. An action plan is a document that explains how the country will manage climate change risks. These will help in pursuing win-win solutions or no-regrets actions that make sense regardless of what the future brings.

1) Exclusion risks and their intersections

In this design consideration, being mindful of the group-specific conditions, inclusive policies capture the fact that everyone has a number of individual characteristic, or social inclusion risk that can put the individual at risk of inclusion. By understanding the situation, it gives implications that a shift of policy thinking is needed. The shift of thinking is about change perception of exclusion as a problem towards the analysis of exclusion as a concern for individual. To shift the way of thinking, one of the most pressing issue is the availability of education, dissemination, and training related to climate change adaptation and Improvement of community preparedness. Conducting community campaign and household census to collect detail and comprehensive data related number of exclusive communities in coastal and small islands. To remove the drivers of exclusion , the design consideration shall exploring different scenario to coastal communities that may lead to a better adapting community. they also need to focus to certain community and address the specific context that will provide accurate information. Meanwhile to support policy interventions the design consideration that need to be included is Customizing the policy to the need of coastal community based on their own demographic, cultural and social characteristic.

However, issue that need to be address within this point is more knowledgeable, informed and assertive citizens are now demand a more meaningful say in decisions which affect their lives, and this can best be achieved through a participatory model of governance. To reach higher level of community involvement in safeguarding the coastal environment, Planning for local resource utilization is effected through a participatory process in which the partners forge a collective vision for local development, agree on common goals, and on strategies/ plans for achieving the goals and realizing the vision. Further step is Introducing devolution approach that enables each community/region to take initiatives for their own development, as they see fit in this case is water resource management . They will know of the opportunities, indigenous resources and comparative advantages on which development can be based. To enable policy interventions in this situation, create framework that enables the use of different geographical and temporal scales to account for maintenance and rehabilitation of water resources in coastal and small islands. It also can account for environmental services that are provided to distant areas or future generations or the excluded group and allows cross comparison of its policy impacts.

In exclusion of risk, scientific based required. An incomplete scientific basis is the weakness. Our current understanding of the links between, biodiversity, ecosystem functioning and ecosystem services provision in particular to coastal community is poor. Therefore, policy action and participation is limited to consultation while decision-making power remains in the hands of the implementing agency. Many people might not necessarily acknowledge benefits of the sustainable coastal resources management identified by researchers/science sector. Also, another critics that arise the anthropocentric view of the applied framework and its application in decision making might cause an imbalance between biodiversity conservation targets and social and economic objectives, with dominance of the latter two.

2) Removal of drivers of exclusion

In many cases the occurrence of exclusion depends on the interaction between risks and a set of structural behavioral policy - related drivers. Institution that lay as structural drivers should allocate and assign value, norm and regulatory frameworks existing in given jurisdiction. Amongst other design consideration are customizing the policy to the need of coastal community based on their own demographic, cultural and social characteristic. In addition to that, no regrets strategies / proactive policy making. In that they are strategies taken aimed at maximizing positive and minimizing negative outcomes for communities and societies in climate-sensitive areas such as agriculture, food security, water resources and health. Another structural approach is to create strategies which support mechanisms for adaptation that are flexible, that operate on a range of levels from the individual homeowner to entire communities, and that provide protection in vulnerable areas. The strategies need to produce by held meeting to disclose the purpose of the planned project, identify the local communities' desired activities and outputs, identify alternative planning and management approaches, encourage local community participation to implement the project, and raise the public's awareness of the value of coastal and marine resource. Scoping meetings should help identify

existing coastal and marine activities and assess conflicts between interest groups, including between user groups and between government agencies

Providing strategy on coastal planning also part of the action plan. It is including preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and small islands. The design consideration to this action plan is identifying, developing, and employing these tools to help managers facilitate adaptation of individual species, increase habitat resilience, and help identify where changes to the built environment may conflict with ecosystem needs. Furthermore, knowledge of climate projections and future climate change impacts is a needed input to create the NSGC tool.

On the downturn, an exclusive focus on no regrets strategies can lead to the false idea that there are no trade-offs and that attention does not need to be paid to the incremental challenges of climate change. Also, unless these programs and funding opportunities are designed to reach socially vulnerable communities, the targeted communities will lack the knowledge, financial resources, and legal, technical, and social support necessary to seek and apply for funding to reduce their overall risk.

3) Weighted breadth and depth of intervention

Inclusive policies must be considered in terms of both breadth and depth. The depth is about the degree which the risk and drivers of booth are addressed. The breadth of an intervention refers to the type of exclusion risks and drivers it covers. For example, it is important to alter practices of adaptation in coastal spatial planning towards a higher prominence of avoidance measures, a strong focus on the effects of climate change during the development of strategic spatial plans and the development of avoidance strategies, before shifting to minimization.

Another design consideration that may include is assessing natural and anthropogenic threats to a region's coastal and marine habitats, and identifying how managers might be able to abate each threat, helps managers prioritize short and long-term objectives and actions and develop a strategic action plan. An understanding of the structure and dynamics of local coastal communities and stakeholders, as well as the role of traditional knowledge and management, is necessary. At the same time, increasing public participation in surveillance role could be another strategy. To achieve public role as surveillance, it is important to develop common priorities (e.g. sustained fundamental and applied research that will lead to improved assessment, modelling, monitoring and prediction of potential risks of coastal and marine resources).

4) Differentiated effects of policies

Any policy intervention has the potential of having a differentiated impact both positive and negative- on various categories and groups in any given society. In this case, improvement of community preparedness of coastal community priority is to avoid marginalization of women and youth, from the social, economic and political mainstream. It means that the potential contribution of these persons towards national development, or towards solving their own problems will be gained. Growing participation of women/youth of the coastal community into

political system indicate the need to devise new approaches to governance which can rekindle the zeal of citizens towards national purposes/cause. While on identification, maintenance and rehabilitation of ecosystem, it is important to create a responsive, proactive and robust policies. A robust policy includes the step of identifying areas of risk, pre-disaster planning and risk mitigation, developing post-disaster recovery strategies, implementing floodplain regulations and obtaining flood insurance, implementing land use regulations or zoning ordinances, and educating the public about the risk from natural hazards. On the downside, Certain parts of the target groups less likely having received support and protection and others having been excluded.

Sustainability of the policy is also part of design consideration. In community level, a place based organization that understand the locality will be the part of the plan. Their role is to implement guidelines and policy —by itself—will have essentially no effective way to prevent climate change, and some effects will be inescapable. In addition to that, when thinking about long term planning that need local government support; enhance the capacity of local governments in providing support in the forms of resources and technical assistance for disaster risk reduction should be a priority.

5) Policy interventions should be tailored to the needs of the excluded

Tailored interventions are designed to increase access and uptake, but unlike targeted services they are not exclusive to certain groups and beneficiaries. They are concerned with better fitting the existing mainstream services to their needs. For example Develop a coherent framework for coastal regional planning to understand the causes and consequences of risk related coastal ecosystem and their readiness to take actions to address it, on the downside implementing the framework in practice requires considerable resources (e.g. data, finance, expertise). To review the status and trends of coastal and marine resource uses, human presence within and around the site, demographics, dependence of the local community and adjacent communities on the sites' is the initial stage. In a critical ecosystem, different approach such as to relocate inhabitant and prevent development might be an option. Although This could involve land acquisition (by public authorities), use of set-back zones, prohibition of reconstruction after damage or economic incentives to abandonment. However, many coastal managers these days find strategies that can address more than one risk and increase efficiency; find risks that might have overlooked and avoid surprises. Talking about tailor needs, the policy to remove exclusion policy must be part of planning document rather than a stand-alone document.

Contributions from a variety of disciplines, institution and local decision makers particularly on local level capacities. Tailored policy in ground level need a community adaptive capacity to support it. It means, income, and its distribution across a population is an important indicator for preparedness. So does access to technology and risk perception. Individual and institution must perceive and understand climate risk and their capacity to cope with hazards and their stocks of social capital or relationships among people based on their values and goals. Different approach to hinder the burden of tailoring a policy is building a science communication and facilitate the flow of information and skills. Knowledge about adaptation at individual and

household level, ability to implement the most appropriate ones are all dependent on the availability and credibility of information. This will address in avoiding fatalism that appear to influence climate change risk perceptions, include locality and cultural appropriation to the policy is crucial. It will reduce maladaptation by individuals due to fatalism believe.

4.4. Dimension 4

Dimension 4 of the framework related to the dynamic of social inclusion which includes 3 policy markers, namely built in duration, long term and participatory character and, proactive and reactive functions. Whereas the national action plan of the climate change adaption consists of 5 clusters While the action plans of CCA consist of 5 clusters i.e. Cluster 1: the Improvement of Capacity of Coastal and Small Islands Communities Related to Climate Change with 4 action plans, Cluster 2: Management and Utilization of the Environment and Ecosystems for Climate Change Adaptation with 3 action plans, Cluster 3: the Application of Structural and Non Structural Adaptation Measures to Anticipate the Threat of Climate Change with 5 action plans, Cluster 4: the integration of Adaptation into Coastal and Small Islands Management with 4 action plans and, Cluster 5: Improvement of Climate Change Adaptation Support System in Coastal Areas and Small Islands with 4 action plans.

Important Points that have been included in the Action Plans of CCA

This assessment identifies some important points from the action plans of CCA related to social aspect and their support for community adaptation to climate change and sustainable resources and environment in coastal areas and small islands. These include the need to increase community awareness and preparedness, provide information about climate change, early warning system, document on standard and guideline for implementation of climate change adaptation, and relevant infrastructure condition in these areas. The action plans have considered the need to provide technology and facility to monitor climate related hazard potency, appropriate technology in maintenance and rehabilitation of coastal and water resources and in development of basic delivery services for communities.

The action plans also point out the need to conduct research in order to provide data and map climate related hazards and vulnerability index, and resources potential and utilization in coastal areas. The plans contain the need to improve environment quality in adaptation and mitigation program for sustainability of community healthy life and livelihood. They also include maintenance and rehabilitation of non-structural coastal protection, development and implement coastal resilience program at village level, including resilience of coastal community and environment.

The important points that included in the National Action Plans of Climate Change Adaptation according to the inclusive policy design assessment tool include three policy markers, namely Built-in duration, Long-term and anticipatory character, and Pro-active and reactive functions.

1) Built-in duration

Design considerations on these policy markers include persistence of deprivation, adequate data collection, and historical context social exclusion. In this context, achieving ultimate goal

should look at the emergence of deprivation, its historical context, and adequate time to collect the data. According to the National Action Plan for Climate Change Adaptation (NACPCCA), there are 5 clusters that will be implemented in which in each cluster would be assessed accordingly depending upon the design consideration of each policy marker.

The first cluster of the NAPACC especially for small islands and coastal communities, prioritizing the capacity improvement for coastal and small islands communities related to climate change issues. This cluster has clearly shows that awareness of communities to climate change phenomena should be socialized so that the community can adapt as well as prepare the impact of climate change. In this case, considering people with historical disadvantages is needed. This is intended to minimize exclusion especially for the vulnerable group in the areas. The experience of exclusion of community should be clearly mapped so that it can be understood why and how long the deprivation we experienced by the vulnerable people. Therefore, the action plan should reach all people in the coastal and small islands and leaving no one behind. Improving the coastal and small island communities should also provide adequate infrastructures with the use of appropriate technology. For example, the provision of adequate supply water resources can be accessed by all people in the community and the local government should make sure that there is no community member that deprive of being excluded. It is therefore historical and contextual analysis about water resources utilization is needed to know how many communities have been and have not been served by water. By doing so, the entire of region (remote and small island) will be reached. However, the development of infrastructure plan has to be very specific, and based on the community needs analysis. Moreover, it needs to use longitudinal/historical data to make sure that not only the entire territory covered but also all people. Policy has been trying to reach all regions and long term (2015-2024).

The second Cluster paying particular attention to Management of environment and ecosystem for climate change adaption. The action plan for the second cluster include the improvement of quality environment, maintenance of ecosystem as well as maintenance of non-structural protected areas and surrounding areas based on assessment and identification of coastal and small islands. Design consideration for the action plan includes the need for specific action plan for environment improvement. Improving the environment should be specific therefore it needs deep historical and contextual analysis of the conditions to make the program more specific. The historical and contextual analysis of the program can be started from the beginning as the identification stage. One important point of the design is the need to engage with the vulnerable people in improving environment quality. Specific activities such as maintenance and rehabilitation should include physical action and no need to mention specifically the involvement of community in the program. The program has to be clearly stated the time frame related to the maintenance so that the community know the frequency of maintenance in any single year. Consideration of program' sustainability should remain conducted starting from the development to maintenance stage.

The third cluster 3 focuses on the implementation of structural and non-structural adaptation for anticipation of the treat of climate change in which covering build up coastal resilience village, support facilities, as well as identification and adjustment building structure, resilience of farming resources and coastal pond to climate change.

Design consideration of this cluster based on the policy marker should include the adoption of the existence local concept. Again, this should make sure that all people including disable, poor or vulnerable people can access the infrastructures. The setting priority for facilities and infrastructures need to consider historical and context analysis, from the identification stage

and then proceed with adjustment. Moreover, this should take into account that there are people with special need. In this context, building structure and elevation must be accessible for people with disabilities and the other vulnerable people. Mapping out the presence of people with disabilities and vulnerable people associated with their livelihoods has to be done and it is also important to give them special support or incentives. Therefore, it is important to do historical and context analysis of the action plan that start from identification stage, build up and maintenance of the infrastructures.

The fourth cluster is the integration of adaptation into coastal and small islands management covering preparation of norm, standard, guideline, assessment on climate change risk and adaptation, research and mapping the risk and its adaptation made by sectors, preparation of spatial planning documents on coastal and small islands, and supervision and control for coastal and sea waters spatial planning and zoning to climate change.

The design consideration for this cluster covers the availability of accurate database for the preparation management. The database should also cover the past and present condition that can be identified and mapped earlier added with available accurate information. It can be conducted through collecting information gathered from the NSGC data base and also the use of previous community condition that determined the assessment. In this regards, utilization of historical data and suggestion in previous action plan is very important.

The fifth Cluster 5 focuses on the improvement of supporting system related to climate change adaptation in coastal and small islands that include the improvement of research and assessment, its research capacity, development of early warning system, and strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands.

The design consideration should focus on the identification of resources potentials takes into considerations to the historical data of the ever growing economic resources in the region. This data will give the detailed description what resources that ever grow. Moreover, to develop early warning system related to climate and oceanography disaster, it is important to improve research that include the vulnerable group who might not been entered before. The availability of historical information on vulnerable community including disable groups can be used as an indicator for vulnerability. Meanwhile, the existence of early warning system developed by the community can be utilized. Therefore, it is important to keep the work of considering vulnerable groups, namely women's group in mitigation and adaptation, as well as the existing cooperation and coordination among the agencies, and identifying the involvement or potential of community engagement.

2) Long-term and anticipatory character

Long term and anticipatory characters include the unplanned results of long term policies, newly emerging drivers of exclusion, and awareness of capacity and limitation. The first cluster that pay attention to the improvement for coastal and small island communities related to climate change issue should consider continuously and clearly the stage of socialization and awareness in order to get appropriate results. Community involvement should be increased in

the socialization activities that could be conducted every year. Moreover, it is important to have long term policy in order to ensure that infrastructure development is accordance with the plan and needs of the community of the entire region. Therefore, socialization has to be done continuously in every year and involving community will ensure the sustainability of the program.

The second Cluster 2, should also take into account the design consideration that include long term improvement of environment so that the environmental changes can occur significantly. This is because improving the environment quality cannot be conducted only in a short term period as the sustainability of the program cannot be guaranteed.

In term of maintenance and rehabilitation of non structural protected areas and the surroundings based on assessment and identification, the policy should anticipate the possibility of exclusion either for a region or community group from the improvement of environments program that will be done. As the policy inclusive designed to include all people in the entire region, the action should not leave people who are not exposed earlier such as those who were not directly on the coastal line. Therefore, stages of the program should be clear and continuously conducted as programs will be implemented for a relatively long period of time. Further, information should be updated annually to ensure the entire area is covered.

The third Cluster should consider the existence of villages and communities with potential exposure that require special attention. Meanwhile, to build up coastal resilience it is necessary to make sure that program sustainability after the end of program period is really needed. In the long term facilities and infrastructure can be used by everyone. This needs an adjustment to expand the range of facilities services. Identification and adjustment of infrastructure standards should take into account the needs of disabilities and vulnerable people, both current and potentials in the future. Further, an anticipation policy is important if in any case there are environment changes related to structural protection.

In Cluster 4, it relies heavily on the prediction of future exclusive possibility is required or which groups are potentially subject to exclusion. In this context, the NSGC should be able to accommodate their targeted need in the next few decades. It is also important to conduct research and mapping on climate change risk periodically and continuously. This assessment is important to see the progress. The assessment should consider a special chapter for vulnerable people related to spatial need. This activity needs supervision and control that are carried out periodically and continuously.

Cluster 5 focuses not only on the improvement of research and assessment of coastal resources but also strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands. In this activity, the entire community should be included especially vulnerable people. The vulnerable people should also have access to participate in utilizing coastal economic resources. Research capacity improvements are conducted periodically and continuously to identify the emergence on new phenomena.

3) Pro active and reactive functions

Cluster 1 relies heavily on the opening access to resources utilization for inactive populations to improve the capacity for coastal and small islands communities. This also includes an identification of communities who are not served by clean water especially to less active communities. Further, the policy taken should not make the emergence of another new exclusion.

Cluster 2 includes the transfer of knowledge to communities about adaptation and mitigation so that the facilities provided are utilized. The communities should be informed what benefit that vulnerable people can get from the coastal protection.

Cluster 3 focuses on the capture all vulnerable people whether they have been recorded or not. Therefore, it is important to have the detailed needs of facilities and infrastructures for disabilities and vulnerable people. In this regards, the involvement of community need to be mentioned specifically in the program.

Cluster 4, focus on the integration of small island resources identification with vulnerable people identification to prevent the exclusion of resources utilization. This also needs to involve the local institutions in small island resources identification. The NSGC should not only pay attention to present vulnerable people but also consider the opportunity emergence of new exclusion in the future. Detail mapping of communities to detect adaptation is needed in accordance with their limitations. It is also important to provide opportunities to add adaptation strategies later on if new phenomenon are discovered. The characteristics of settlement infrastructures and other vital facilities conform to all characteristics of the population based on identification and mapping that have been done in the previous action plan. A supervision and control to identify potential exclusion that was not previously detected are also important in this action plan for this cluster

Cluster 5 relies heavily on the classification of coastal resources that relates to the utilization of improved research and assessment of coastal resources.

4.5. Dimension 5

Once a climate change adaptation and mitigation agreement on national frameworks is reached, the decisions often come from above. The stakeholders in high-level will lead negotiations to decisions, which have to be implemented nationally, despite different situation in each regional context. The focus then is on legislative bodies, legislation and policies, which push the decision through. In dimension 5 level and context will be discussed. The discussion will involve about in-country coherence and coordination as well as regional and sub regional coordination in three different levels: micro, meso and macro. In general, factors that involve discussion about level and context include that the regional policy frameworks have to be in line with the national legislation, the country's norms and values must be taken into consideration, and the regional's ability to coordinate the implementation at the institutional level. For example, in macro level; strengthening coordination across different ministries is essential to implement climate policy successfully. In democratic country with different

political interest; national politics is very dynamic; it can affect how climate change related issue addressed in national politics.

1) In-country coherence and coordination

The first action plan involves socialization and awareness of communities to climate change phenomena and impact. The design consideration to in-country coherence and coordination is set up a standard program to present climate change adaptation information for small until mezo unit scale (example : resilient village). However, it is important to describe in detail how the adaptation strategy mechanism phasing down from national to village level has to clearly involved all stakeholder vulnerable from individual, household, regional until states level.

Looking at macro level, ministerial coherence and coordination as well as the hierarchy and in particular the political leadership of the ministries was hardly involved when the action plan was prepared. The main bulk of coordination was carried out at working level, the fully hierarchy was only involved at the end when the formal process to send the action plan to cabinet was initiated. This focus on the working level is based on the one hand on the veto-awareness of the single ministries, and on the other hand moreover on the anticipatory notion of the political leadership's position as referred to above.

In country coherence and coordination also involve managing funds for climate mitigation and adaptation. Data by UNFCCC shows that in recent international climate negotiations there are US\$100 billion per year by 2020 was pledged by developed countries for mitigation and adaptation. The majority of funding needs for adaptation identified by developing countries through their NAPAs can be considered investments in development. Thus, there are some potentially strong benefits in coordinating development funding and climate change adaptation funding. To facilitate improved coordination, efforts have been initiated to encourage the formulation of low carbon development strategies or plans in the context of sustainable development. A number of developing countries have established national funding entities to coordinate domestic and international funding for adaptation with development funding, on a national basis. In case of Indonesia ICTTF is one of example. The value of a mechanism for improving coherence and coordination in the delivery of climate change financing has also been recognized in the UNFCCC. These days, this initiatives are a start towards coordinating adaptation and development funding for developing countries.

2) Regional and sub-regional coordination

In addition to in-country mechanisms, coordination at the regional and/or sub-regional levels may boost the inclusive policy agenda and its outcomes. Two design considerations elaborate on how and how it can be done. It already has adaptation plan at national level for 2015-2020, socialization of disaster management through society/communities' empowerment. Integration program between maritime sector and climate change mitigation. Furthermore, the review shown how social learning may play an important role in design consideration.

Social learning mechanism across scale and across sectors adjusting the characteristic of the communities. It also need to collaborate other government institution, not only Fisheries Ministry. In addition, it is urgent to establish a clear and detail mechanism for coordination other government agencies and other stakeholders. The potential for social learning to address complex, interconnected social and environmental challenges, such as climate change adaptation, is receiving increasing attention in research and practice. Social learning approaches, commonly include cycles of knowledge sharing and joint action to co-create knowledge, relationships, and practices among diverse stakeholders. This results in learning and change that goes beyond the individual into communities, networks, or systems. To increase inclusive action, look for diverse participation but with due attention to power and standing of individuals. However, the social learnings needs facilitators, trust building and open processes needed but participation may co-opt less powerful actors.

To have a success social learning implementation, techniques, and approaches that can help facilitate a social learning process is available. These can range from facilitation and workshop approaches, to the use of specific information and communication technologies (ICTs) to support interaction. For adaptation practitioners for example, it is significant that there is evidence of a broad pool of tools for social learning on which to draw. However, we also recognize that in practice tools are engaged within ‘systemic modalities;’ that is, in a dynamic and emergent process that involves the practitioner, the tool or method, and the situation.

4.6. Dimension 6

The formulation of targets in RAN-API document on coastal and small island sub-sectors aims to set up priority areas objectives, i.e. management of coastal areas and small islands which vulnerable to climate change. Achievement of these conditions can be done with the contribution and integrity of all parties, government, private sector, and local communities. Involvement and contribution of all parties will have an impact on the success of a program because it will impact on the trust, effectiveness, and fairness of a program.

The participation of various parties in the planning, implementation and evaluation process of a program can be assessed through an analytical framework for inclusive policy. analytical framework for inclusive policy in dimension 6 related to participation to evaluate how far the various parties involved in the process of planning, budgeting, implementation, monitoring, and development. Dimension 6 participation is divided into two parts (policy markers), among others, are procedural improvements and transformative participation. Procedural improvements include participatory as a normative goal, participation throughout the policy circles, guaranteed and institutionalized avenues. Transformative participation includes susceptibility to marginalization in participatory processes, leveling the field, and capacity to engage. The adaptive capacity of coastal area and small islands have the following objectives:

1. Capacity building for coastal communities and small islands related to climate change issues.
2. Management and utilization of the environment and ecosystems for climate change adaptation

3. Implementation of structural and non-structural adaptation measures in coastal areas and small islands
4. Integration of climate change adaptation efforts into coastal and small island management plans
5. The improved climate change adaptation support system in coastal areas and small islands.

The first target or cluster, capacity building for coastal communities and small islands related to climate change issues is directed at four action plans and each action plan has several indicators in it. The action plan is the socialization and awareness of the community on the phenomenon and impacts of climate change, the development of coastal resources and small island exploitation for the community, the maintenance and rehabilitation of coastal water resources and small islands and the improvement of infrastructure (electricity, clean, and communications) in coastal areas and small outer islands using appropriate technology.

Important Points that have been included in the Action Plans of CCA

Overall, the participation of various parties in the action plan in the first cluster still need a lot of improvement. In the first action plan as a whole is quite prominent, the government and local communities have incorporated into the program policy circle, the participation of the local community is more emphasized on the object of the program objectives while the role of the private sector has not been clearly state, and the community has been stressed in policy programs. In the second action plan as a whole, it is quite good, in which the participation in policy circle is done by the central government and local government as the person in charge of the organizer of program activities with the community as the object of program objectives. However, community participation should also be included in the level of program evaluation. The third and fourth action plans are classified as having very little participation. Activities are carried out mostly by the government (central and local government) based on their authority.

Design Considerations that need to be Accommodate in the Action Plans of CCA

1) Procedural improvements

Cluster 1 In general this cluster intended to improve community awareness, set up the resources development plan, maintained water resources as well as infrastructure development. Improving community awareness could be done with local expert participation who have the experience and best practice lesson for certain knowledge including climate change. The need to identifying and mapping coastal and small island resources by using participatory method . Community participation should be included in the program evaluation (until the final stage of each program).

Cluster 2 Improving environmental quality, ecosystem maintenance and non-structural or natural coastal protection areas maintenance are among the key objectives within Cluster 2

(management and utilization of the environment and ecosystems for climate change adaptation).

Cluster 3 Development of Coastal Resilience Village (CRV) or *Desa Pesisir Tangguh* essentially need further support in term of basic facilities and infrastructure as well as strengthening the structure of building and other vital infrastructure's such as harbors, docks and community settlements. Key persons need to be in charge with full participation in all stage while formulating the Concept of Resilience Coastal Village Development together with government. Paddy fields and coastal ponds in small islands which affected by sea level rise can be identified directly by villagers. Another method will be to increase participation from students who reside within the area as indirect educational form. Community should be introduce how to take advantage of any navigation facilities to monitor sea related activity (such as waves, tides, storms) to support their work for example in fisheries and tourism purpose

Cluster 4 People who reside in the small islands are the one who best understand the condition themselves. Thus they're the righteous party to compile small islands profile. Furthermore, local key persons need to be in charge with full participation in all stage while prepare Norm, Standard, Guideline and Criteria (NSGC) document which contain standard and guideline for implementing climate change adaptation options for coastal areas and small islands. The number of coastal areas and small islands which already owned risk and zoning maps of climate change adaptation can be identified directly by villagers as well. Another method will be to increase participation from university students who reside within the area as indirect educational form, however they need to follow specific guidance for example the NSGC document.

Cluster 5 Community should be introduces how the Early Warning System (EWS) tools and equipment for climatology and oceanography related hazards are utilized and being trained how to manage the tools as well. In order for women (from certain coastal area and small island) to be actively participate in the adaptation process, the source need to be identified first including age, education level, basic skills such as reading and writing. This is basic necessity in order to prepare woman to became agent of change in mitigation and adaptation strategy.

2) Transformative participation

Cluster 1 Private sector can be a part of assisting in capacity building of the organization and approaches in local communities. The public is empowered to be involved in the success of the program activities. Local government need to provide data related to education level and skills owned by the community in order to assign them with suitable way to participate in all stages. Infrastructure development needs to consider physical aspect of each region as well as local community necessity. The need to engage key person of certain community in order to properly develop the technology.

Cluster 2 In order to obtain sufficient data and information, local institution partner and university expert need to be engage continuously for specific topics based on their expertise

Cluster 3 Infrastructure developments needs to consider physical aspect of each region as well as local community necessity. Community members or local villagers in all age, gender, and provision of works need to be notified of continuous information and important updates in terms of new technology, recent successful implementation in another area, or might be lesson learn from recent major climate change occurrence

Cluster 4 Village administration office's staff should be involved and well informed while prepares the spatial plan documents and regulations which consist of climate change susceptibility, risk, and adaptation. Government need to formulate uncomplicated routine how to actively assist and supervised local community to manage the coastal and small island natural resources which potentially affected by climate change. Integration of climate change vulnerability and risk with spatial planning must be clearly indicate and easily evaluate even by the community themselves

Cluster 5 Government need to identify first if there's already EWS tools being used by local community before introduce or install new EWS. Decision making process and coordination related to certain climatology and oceanography related disaster status/level not only between central/local institution in the coastal area and small island, but need to take account of education aspect such as teacher and student.

Appendix 1 Summary On Design Consideration of All Markers by Dimension

Dimension 1 Multidimensional

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)			
	Transversal and overarching objective	Continuum of interventions	Public sector innovation	Integrated and policy-sensitive evidence
Cluster 1				
The Improvement Capacity for Coastal and Small Island Communities related to Climate Change Issue				
<p>1. Socialization and awareness of communities to climate change phenomena and impact.</p> <p>2. The development of resources utilization for coastal and small island communities</p> <p>3. Maintenance and rehabilitation of water resources in coastal and small islands</p>	<p>Providing education, dissemination, training related to climate change adaptation.</p> <ul style="list-style-type: none"> Involving vulnerable groups such as low income fishers and farmers, disable, women headed household, children and elderly. 	<p>Providing education, dissemination, training related to climate change adaptation.</p> <ul style="list-style-type: none"> Building a platform for the collaboration and interaction among the vulnerable groups, stakeholders from government and non-government organization, and private sectors. 	<p>Providing new technology of application for the capacity building and public awareness.</p> <ul style="list-style-type: none"> Providing better access and devices to support the capacity building to all vulnerable groups by providing them access 	<p>Developing an integrated and open sources data and information platform to support CCA.</p> <ul style="list-style-type: none"> Considering data and information of the un-counting population (informal inhabitants, urban poor, poor coastal communities and disable).
<p>4. Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote</p>	<p>Conducting assessment coastal resilience to climate change impact.</p> <ul style="list-style-type: none"> Participatory approach for the assessment by including vulnerable and 	<p>Conducting assessment coastal resilience to climate change impact.</p> <ul style="list-style-type: none"> The assessment is based on collaboration among related stakeholders which led by Ministry of Marine and 	<p>Implementing integrated water management system.</p> <ul style="list-style-type: none"> Applying an appropriate technology, user friendly and local based capacity. (Note: 	<p>Providing up to date data and information based on local and participative survey.</p> <p>Involving the vulnerable population (the poor and disable groups) in the</p>

<p>small islands using appropriate technology</p>	<p>disable groups in the process</p> <ul style="list-style-type: none"> • Sustainability of access to resources among coastal communities • Implementing regular assessment to monitor the progress of coastal and community resilience 	<p>Affairs and to involve vulnerable groups in the participatory assessment.</p>	<p>the technology should be able to be maintained by local community and to ensure the sustainability of the system)</p>	<p>process of data and information collection.</p>
	<p>Increasing capacity of local people through infrastructure provision.</p> <ul style="list-style-type: none"> • Providing infrastructure that inclusive for the local communities such as fisher communities, the poor, and disables and elderly groups. 	<p>Increasing capacity of local people through infrastructure provision.</p> <ul style="list-style-type: none"> • Involving related stakeholders including private to extend the budget for inclusive infrastructure for the poor and disable groups. 	<p>Increasing capacity of local people through infrastructure provision.</p> <ul style="list-style-type: none"> • All facilities have to be affordable for the vulnerable groups. 	<p>Increasing capacity of local people through infrastructure provision.</p> <ul style="list-style-type: none"> • Inclusive infrastructure is based on detail household census in order to covers all inclusive groups such as the poor, disables, and elderly groups.

Cluster 2
Management of environment and ecosystem for climate change adaptation

<p>1. The improvement of environment quality in coastal and small islands.</p> <p>2. Identification, maintenance and rehabilitation of ecosystem in coastal and small islands</p> <p>3. Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based on assessment and identification of coastal and small islands ecosystem.</p>	<p>Implementing adaptation based on disaster mitigation.</p> <ul style="list-style-type: none"> • Addressing environment approach for adaptation and mitigation strategies. • Establishing and strengthening community based adaptation including all the vulnerable and disable groups. • Providing detail information about ecosystem to all related stakeholders including the vulnerable groups. • Enacting related regulation to protect ecosystem services in coastal and small islands. 	<p>Implementing adaptation based on disaster mitigation.</p> <ul style="list-style-type: none"> • Establishing multi stakeholders' engagement both from government and non-government organization. • Availability of local facilitators who intensively empower local community including vulnerable group of population. • Involving vulnerable groups to manage coastal areas. 	<p>Implementing adaptation based on disaster mitigation.</p> <ul style="list-style-type: none"> • Building local platform for the local community which has to be independent and focus on resilience and long term program. • Applying user friendly technology to keep update the coastal ecosystem condition and accessible to public. 	<p>Implementing adaptation based on disaster mitigation.</p> <ul style="list-style-type: none"> • Collecting local data regularly for both physic and socio-economic data. • Inputting the local data into the local server and make it accessible for local leaders.
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Cluster 3
The implementation of structural and non-structural adaptation to anticipate climate change impact

<p>1. Build up Coastal Resilience Village (CRV)</p> <p>2. Support facilities and infrastructure for small islands development</p> <p>3. Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands</p> <p>4. Resilience of farming resources and coastal ponds to climate change</p> <p>5. Identification, build up and maintenance coastal protective structures</p>	<p>Implementing robust institutional and physical structures to build coastal and small island resilience:</p> <ul style="list-style-type: none"> • Allocating special budget for resilience building and additional budget to integrate vulnerable population needs. • Providing local facilitator to ensure the sustainability of local resilience village programs. • Providing robust infrastructure (considering building code and early warning system) for disable group and facilities that accessible for poor communities and disable groups. • Top priority on sustainable livelihood providing access to sufficient resources for income generation among the vulnerable and disables groups. 	<p>Implementing robust institutional and physical structures to build coastal and small island resilience:</p> <ul style="list-style-type: none"> • Institutionalize community resilience building at the village level. • To implement specific programs at the local community particularly inclusive for vulnerable and disable groups. • Robust infrastructure of all the public facilities including transportation system that inclusive for disable groups and accessible for vulnerable groups. • Optimizing collaboration with all related stakeholders to support inclusive resilience building programs. 	<p>Implementing robust institutional and physical structures to build coastal and small island resilience:</p> <ul style="list-style-type: none"> • Apply user friendly application for the resilience programs implementation • One stop services for all the resilience programs and integrate with the routine local programs. • Specific design for disability groups such as wheelchair space on the public facilities. 	<p>Implementing robust institutional and physical structures to build coastal and small island resilience:</p> <ul style="list-style-type: none"> • Collecting local data regularly for both physic and socio-economic data. • Inputting the local data in the local server and accessible for local leaders. • Conducting pre survey for the disability demands during the planning of infrastructure and facilities in coastal and small islands.
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Cluster 4 The integration of adaptation strategies into coastal and small islands management				
1. Identification and mapping the resources in small islands.	Developing successful adaptations through conducting risk assessment at the local level.	Developing successful adaptations through conducting risk assessment at the local level.	Developing successful adaptations through conducting risk assessment at the local level.	Developing successful adaptations through conducting risk assessment at the local level.
2. Preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation to climate change in coastal areas and small islands.	<ul style="list-style-type: none"> Integrating inclusive adaptation for the disabled and poor communities. Developing guideline for risk assessment for the inclusive adaptation. 	<ul style="list-style-type: none"> Developing guideline for risk assessment which consists of multidimensional aspects of environment management and adaptation to climate change. Determining indicators to identify vulnerable groups in the guideline based on information from related agencies and local aspiration. 	<ul style="list-style-type: none"> Indicators for risk assessment is based on the new approach of the integration between environmental management and adaptation to climate change. 	<ul style="list-style-type: none"> Collecting the comprehensive data on environment, climate, and social economic at present and for the medium and long term. Risk assessment has to be regularly updated and accessible for public instead of policy makers.
3. Risk assessment on climate change and adaptation in coastal areas and small islands.				
4. Conducting research and risk mapping on climate change and sector/sub sector adaptation in district/city level.				

Cluster 5 The improvement of supporting system related to climate change adaptation in coastal and small islands				
1. The improvement of research capacity related to climate change impact in coastal and small islands.	<p>Providing sufficient and comprehensive database for the inclusive adaptation plans.</p> <ul style="list-style-type: none"> Establishing database of coastal resources and exclusive communities (the vulnerable and disable groups). 	<p>Providing sufficient and comprehensive database for the inclusive adaptation plans.</p> <ul style="list-style-type: none"> Consider social benefit instead of economic benefit only such as risk perception, knowledge sharing, and social learning. 	<p>Providing sufficient and comprehensive database for the inclusive adaptation plans.</p> <ul style="list-style-type: none"> Specific social learning platform for the vulnerable groups in order to involve in the indicator development of the assessment. 	<p>Providing sufficient and comprehensive database for the inclusive adaptation plans.</p> <ul style="list-style-type: none"> Providing an integrated empirical data collection and applied participatory approach to mapping local resources both social and environment aspects.
2. The development of early warning system related to climate and oceanography disaster.				
3. Strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands	<p>Providing early warning system which consists of relevant devices, organization structure, and data-information management including the appropriate dissemination about the early warning system to the communities in coastal and small islands.</p> <ul style="list-style-type: none"> Allocation an additional and long term budget for the early warning system development and its implementation. 	<p>Providing early warning system which consists of relevant devices, organization structure, and data-information management including the appropriate dissemination about the early warning system to the communities in coastal and small islands.</p> <ul style="list-style-type: none"> Detail involved-agencies and NGOs in the early warning system development and implementation. 	<p>Providing early warning system which consists of relevant devices, organization structure, and data-information management including the appropriate dissemination about the early warning system to the communities in coastal and small islands.</p> <ul style="list-style-type: none"> Early warning system focuses on vulnerable and disable groups. 	<p>Providing early warning system which consists of relevant devices, organization structure, and data-information management including the appropriate dissemination about the early warning system to the communities in coastal and small islands.</p> <ul style="list-style-type: none"> Data on vulnerable group particularly for the disable is needed to be integrated into early warning system approach

	<ul style="list-style-type: none"> • Involving community members and local leader to support the implementation of early warning system. • Specific hazard needs a specific early warning for instance, early warning for flood, drought and typhoon 	<ul style="list-style-type: none"> • Establishing a platform to take a lead for the early warning system in coastal and small islands. 	<ul style="list-style-type: none"> • Additional devices for disable such as receiver warning for the disable group. • Additional equipment for the evacuation and facilities in shelters. 	
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Dimension 2 Relational

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)			
	Equality of opportunities and outcomes	Delivery of services and Adequate Access or uptake	Distribution of Public Expenditure	Relation between the Mainstream and the excluded populations
Cluster 1				
The Improvement of Capacity for Coastal and Small Island Communities related to Climate Change Issue				
<p>1. Socialization and awareness of communities to climate change phenomena and impact.</p> <p>2. The development of resources utilization for coastal and small island communities</p> <p>3. Maintenance and rehabilitation of water resources in coastal and small islands</p> <p>4. Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote small islands using</p>	<p>Improving community Adaptation</p> <ul style="list-style-type: none"> The inclusion of coastal and small island communities and their vulnerable groups, such as disable people, vulnerable based on age groups (infant and toddlers & elderly), gender (women) and economic condition (poor fishermen/ farmers) 	<p>Improving community adaptation:</p> <ul style="list-style-type: none"> Provision of basic services for specific community's groups, such as disable, vulnerable (poor fishermen) 	<p>Improving community adaptation:</p> <ul style="list-style-type: none"> The inclusion of increasing awareness for coastal community and its vulnerable groups into action planning and budgeting 	<p>The ability and willingness to</p> <ul style="list-style-type: none"> Provide access (information, technology, skill) for coastal community and its vulnerable groups to adapt to climate change in coastal areas and small islands
	<ul style="list-style-type: none"> Specification of CCA dissemination based on specific community groups, such as fishermen, aquaculture & seaweed farmers, farmers Provision of specific training based on specific community needs such as based occupation types of 	<ul style="list-style-type: none"> The provision of economic access (such as information, technology, skill, market and capital) to specific community groups (fishermen, aquaculture & seaweed farmers, food crop farmers) 	<ul style="list-style-type: none"> The inclusion of specific occupation types of coastal community and its poor people (such as fishermen, aquaculture and seaweed farmers) in CCA action planning and budgeting 	

appropriate technology	coastal community and its vulnerable groups			
	<p>Improving community preparedness</p> <ul style="list-style-type: none"> • The inclusion of coastal and small island community and their vulnerable groups, such as infants/children and elderly, women and disable people 	<p>Improving community preparedness:</p> <ul style="list-style-type: none"> • The provision of appropriate tools for the coastal community and its vulnerable groups • The increased information access to specific community groups (such as fishermen, vulnerable people) • The provision of early warning system for coastal community and its vulnerable groups based on specific types of hazard (such as flooding, landslides and drought) 	<p>Improving community preparedness</p> <ul style="list-style-type: none"> • Provision of appropriate tools for coastal community and its vulnerable groups need to be included in action planning and budgeting • Increasing awareness of coastal community and its vulnerable groups need to be accommodate in action planning and budgeting 	<ul style="list-style-type: none"> • Provide coastal community and its vulnerable groups appropriate tools and early warning system based on specific types of hazard in coastal areas and small islands.
	<p>Improving mitigation (structure and non-structure)</p> <p>The incorporation of coastal community (and its</p>	<ul style="list-style-type: none"> • The provision of support facilities and infrastructure (seaport, clean water, electricity and communication) suitable with these coastal people's need 	<ul style="list-style-type: none"> • Provision of support facilities and infrastructure for coastal community and its vulnerable groups 	<ul style="list-style-type: none"> • Recognize norm of coastal community in standard, guideline and criteria (NSGC) rehabilitation and

	<p>vulnerable groups) profile (demographic, socio-cultural, and economic aspect) into CCA action plans</p>	<ul style="list-style-type: none"> • The preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change • The incorporation of coastal community (and its vulnerable groups) profile into risk map and zonation of CCA 	<p>should be incorporated in action planning and budgeting</p>	<p>adaptation of climate change</p>
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**Cluster 2
Management and Utilization of the Environment and Ecosystems for Climate Change Adaptation**

Action Plans	Equality of opportunities and outcomes	Delivery of services and Adequate Access or uptake	Distribution of Public Expenditure	Relation between the Mainstream and the excluded populations
<p>1. Rehabilitation and adaptation of the environment need to accommodate:</p> <p>2. Maintenance and rehabilitation of non-structural protected areas and the surrounding areas</p> <p>3. Management of ecosystem in coastal areas/small islands mangrove, wetland, sea-grass beds, estuary, and coral reef</p>	<ul style="list-style-type: none"> • The need of coastal community and its vulnerable groups (disable, child & elderly and women/gender) • Participation of coastal community (and its vulnerable groups) • Economic activities of coastal community and its poor people (based on occupation types) • The role of coastal/small island community and its vulnerable groups in action plan 3. 	<ul style="list-style-type: none"> • Information available to coastal community and its vulnerable groups about action plan (1 & 2) • Improvement of coastal community (and its vulnerable groups) awareness and strengthen their participation (action plan 2&3) • Provision of economic access (skill, market, capital) suitable with occupation types of coastal community and its poor people • Provision and use of appropriate technology for coastal people and its vulnerable groups • Local knowledge and wisdom related to rehabilitation and adaptation of environment • Strengthen law enforcement for those who conducting illegal practices that causing degradation of coastal and small island ecosystems. 	<p>In action planning and budgeting need to accommodate:</p> <ul style="list-style-type: none"> • Information (about action plan 1 & 2) for coastal community and its vulnerable groups • Improved awareness of coastal community (and its vulnerable groups) • Economic access based on occupation types of coastal community and its poor people • Appropriate technology for coastal people and its vulnerable groups • Assessment on coastal communities <ul style="list-style-type: none"> - local knowledge and wisdom related to action plan1 & 2 - Profile (action plan 3) • The role of communities in action plan 2 & 3. 	<ul style="list-style-type: none"> • The ability to provide Information, appropriate technology and economic access available to coastal community and its vulnerable groups • The ability and willingness to improve coastal community (and its vulnerable groups) awareness and participation in managing ecosystems in coastal and small island • The willingness to revitalize and implement local wisdom in rehabilitation and adaptation of environment.

Cluster 3
The Application of Structural and Non Structural Adaptation Measures to Anticipate the Threat of Climate Change

Action Plans	Equality of opportunities and outcomes	Delivery of services and Adequate Access or uptake	Distribution of Public Expenditure	Relation between the Mainstream and the excluded populations
1. Build up Coastal Resilience Village (CRV) 2. Support facilities and infrastructure for small islands development 3. Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands 4. Resilience of farming resources and coastal ponds to climate change 5. Identification, build up and maintenance coastal protective structures	<p>The inclusion of coastal community and its vulnerable groups (disable, child-elderly, gender/women and poor) in CRV program and implementation</p> <ul style="list-style-type: none"> • Preparedness and mitigation to reduce disaster risk • Adaptation to climate change and degradation of costal and small islands • Provision of appropriate support facilities and infrastructure based on the need of coastal community and its vulnerable groups to: <ul style="list-style-type: none"> - Reduce risk of sea level rise and other climate change impacts - The build-up and maintenance coastal protective structures 	<p>Coastal community and its vulnerable group (disable, child-elderly, gender/women and poor)</p> <ul style="list-style-type: none"> • Improve knowledge and awareness about coastal hazards and climate change • Provision of information about coastal areas and small islands infrastructure condition in relation with climate change • Provision of access (information, technology and appropriate tool) to gain and use in action plan 1 &2 • Provision of support facilities and appropriate infrastructure with more specific standard to reduce sea level rise risk for coastal community and its vulnerable groups • Provision of information related to coastal protective structures and navigation facilities available to public 	<p>In action planning and budgeting need to accommodate:</p> <ul style="list-style-type: none"> • Increase capacity of coastal community and its vulnerable groups in CRV • Socialization about coastal areas and small islands infrastructure condition in relation with climate change • Increasing awareness and skill • Assessment on the need of coastal community and its vulnerable groups • Access (information, technology) • Support facilities relevant to climate change • Specific standard of infrastructure to reduce risk of sea level rise 	<p>The ability and willingness</p> <ul style="list-style-type: none"> • Strengthen capacity of coastal community and vulnerable group in order to actively participate in CRV • Provision of information for coastal community and its vulnerable groups about infrastructure condition related to climate change and specific standard of infrastructure to reduce risk of sea level rise • Provision of appropriate support facilities and infrastructure for coastal community and its vulnerable groups

	<ul style="list-style-type: none"> - Navigation facilities for monitoring marine activities including coastal community activities • Provision of adaptation actions for farming and fishing activities • Provision of adaptation actions for poor coastal people based on their types of occupation 	<p>(coastal community and vulnerable group)</p> <ul style="list-style-type: none"> • Provision of access for coastal communities to participate in building up and maintenance of coastal protective structures and navigation facilities 	<ul style="list-style-type: none"> • Provision of their access (information, technology and appropriate tools) to gain and use in action plan 1 & 2 • Provision of appropriate support facilities and infrastructure • Provision of coastal community and its vulnerable groups need in action plan 3 & 5 	<ul style="list-style-type: none"> • Provision of coastal protective structures and navigation facilities to improve disaster mitigation for coastal community and its vulnerable groups
		<ul style="list-style-type: none"> • Improve skill of farmers, fishermen and poor coastal people to adapt to climate change • Provision of access (information, technology, 	<ul style="list-style-type: none"> • Improve skill of farmers, fishermen and poor coastal people to adapt to climate change • Provision of access for farmers, fishermen and other poor coastal people to adapt to climate change 	<ul style="list-style-type: none"> • Provision of farming and fishing activities in climate change adaptation actions in coastal areas and small islands

Cluster 4 The integration of Adaptation into Coastal and Small Islands Management				
Action Plans	Equality of opportunities and outcomes	Delivery of services and Adequate Access or uptake	Distribution of Public Expenditure	Relation between the Mainstream and the excluded populations
1. Identification and mapping of small island potential 2. Preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and small islands 3. Assessment on climate change risk and adaptation in coastal areas and small islands 4. Conducting research and mapping on climate change risk and sector/sub sector adaptation in district/city level 5. Preparation documents of spatial planning	The inclusion of coastal community and its vulnerable groups (disable, child-elderly, women/gender and poor) <ul style="list-style-type: none"> • The profile (demography, social and economic aspects) in mapping coastal and small islands potential • The norm, standard and guideline document for implementation of climate change adaptation options • The vulnerability and risk of climate change, and this condition included in risk map and zonation of climate change adaptation in coastal areas and small islands • The occupation/economic activities based on specific sector into climate change vulnerability, risk and adaptation 	Coastal community and its vulnerable groups (disable, child-elderly, gender/women and poor) <ul style="list-style-type: none"> • Provision of information about <ul style="list-style-type: none"> - Profile - Norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change - Local knowledge and wisdom in compilation of document containing standard and guideline for implementation of climate change adaptation options - Vulnerability and risk of climate change - Occupation/economic activities based on specific sector into climate change vulnerability, risk and adaptation • Inclusion of coastal community vulnerability and risk into risk map and zonation 	In action planning and budgeting need to accommodate: <ul style="list-style-type: none"> • Assessment on coastal community and its vulnerable groups: <ul style="list-style-type: none"> - Profile (demography, social and economic aspects) - The norm, standard, guideline and criteria (NSGC) - Local knowledge related to climate change adaptation - Vulnerability and risk of climate change - Occupation/economic activities based on specific sector included in research on vulnerability and risk, and zonation strategic adaptation on climate change until 2050 in district/city level 	The ability and willingness to <ul style="list-style-type: none"> • Include social community profile as a part of small island profile • Include norm, standard and guideline document for coastal community and vulnerable groups in the implementation of climate change adaptation options • Include coastal community and its vulnerable groups vulnerability and risk into risk map and zonation strategic adaptation on climate change in relevant sectors until 2050 in district/city level

<p>and management of coastal areas and small islands based on risk assessment results and climate change adaptation</p> <p>6. Supervision and control for structuring and zoning coastal and waters against climate change</p>		<p>of climate change adaptation in coastal areas and small islands</p> <p>-</p>	<ul style="list-style-type: none"> • Inclusion of coastal community vulnerability and risk into 	
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Cluster 5
Improvement of Climate Change Adaptation Support System in Coastal Areas and Small Islands

Action Plans	Equality of opportunities and outcomes	Delivery of services and Adequate Access or uptake	Distribution of Public Expenditure	Relation between the Mainstream and the excluded populations
<p>1. The improvement of research and assessment of coastal resources</p> <p>2. The improvement of research capacity related to phenomena and climate change impact in coastal and small islands</p>	<p>The inclusion of coastal community and its vulnerable groups (disable, child-elderly, women/gender and poor)</p> <ul style="list-style-type: none"> • Socio-cultural aspects • Socio economic condition and vulnerability index • Data inventory, information system and socio economic research related to climate change adaptation strategy based on effective and efficient technology and specific for local context • Provision of appropriate technology and facility to monitor socio-economic potential and risk 	<p>Coastal community and its vulnerable groups (disable, child-elderly, gender/women and poor)</p> <ul style="list-style-type: none"> • Provision of information about: <ul style="list-style-type: none"> - Socio-cultural aspect - Socio-economic condition and vulnerability index in coastal areas and small islands - Local knowledge and wisdom in managing sustainability of coastal and small island resources - data inventory, information system and socio economic research related to climate change adaptation strategy based on effective and efficient technology and specific for local context • Provision of appropriate technology and facilities to 	<p>In action planning and budgeting need to accommodate:</p> <ul style="list-style-type: none"> • Research on coastal community and its vulnerable groups, covering: <ul style="list-style-type: none"> - Socio-cultural aspect - Socio economic condition - Local knowledge and wisdom in managing sustainability of coastal and small island resources • data inventory, information system and socio economic research related to climate change adaptation strategy based on effective and efficient technology and specific for local context 	<p>The ability and willingness to</p> <ul style="list-style-type: none"> • Conduct research on socio-economic, culture, local knowledge and wisdom of coastal community and its vulnerable groups • Provide appropriate technology and facilities to monitor socio economic potential and risk of coastal community and vulnerable groups in coastal areas and small islands • Develop early warning system related to climate and oceanography disaster for coastal community and its vulnerable groups and their participation in the

		monitor socio economic potential and risk	<ul style="list-style-type: none"> • Provision of appropriate technology and facilities to monitor socio economic potential and risk 	implementation of early warning system
<p>3. The development of early warning system related to climate and oceanography disaster</p> <p>4. Strengthening of organization and coordination across sectors of mitigation and adaptation in coastal and small islands</p>	<p>The inclusion of coastal community and its vulnerable groups (disable, child-elderly, women/gender and poor)</p> <ul style="list-style-type: none"> • Provision of specific early warning system based on specific types of hazard (such as flooding, landslides and drought) • Increase public awareness (coastal community and its vulnerable groups) about the importance of early warning system based on specific climate hazard • Participation in establishing early warning system, organization and management, and its implementation in coastal and small islands 	<p>Coastal community and its vulnerable groups (disable, child-elderly, gender/women and poor)</p> <ul style="list-style-type: none"> • Provision of information about early warning system, mechanism and its implementation • Provision of appropriate technology of early warning system • Drill or simulation of early warning for specific climate related hazard • Provision of access to participate in establishing and implementation of early warning system • Revitalization of the use of local knowledge and wisdom related to early warning system 	<p>In action planning and budgeting need to accommodate:</p> <ul style="list-style-type: none"> • Socialization of early warning system, mechanism and implementation • Provision of appropriate technology of early warning system • Early warning drill or simulation for specific climate related hazard • Provision of access for coastal community and vulnerable groups to participate in establishing and implementation of early warning system • Revitalization of local knowledge and wisdom related to early warning system related hazard. 	

Dimension 3 Intersecting risks and drivers

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)				
	Exclusion risks	Removal of drivers of exclusion	Policy interventions should be tailored to the needs of the excluded	Differentiated effects of policies	Weighted breadth and depth of intervention
Cluster 1					
The Improvement Capacity for Coastal and Small Island Communities related to Climate Change Issue					
<p>1. Socialization and awareness of communities to climate change phenomena and impact.</p> <p>2. The development of resources utilization for coastal and small island communities</p> <p>3. Maintenance and rehabilitation of water resources in coastal and small islands</p> <p>4. Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote small islands using</p>	<ul style="list-style-type: none"> Each group able to differentiate risks related to their community and individual characteristic 	<ul style="list-style-type: none"> Exploring different scenario to coastal communities that may lead to a better adapting community 	<p>Customizing the policy to the need of coastal community based on their own demographic, cultural and social characteristic</p>	<ul style="list-style-type: none"> Avoiding marginalization of women and youth, from the social, economic and political mainstream, means that the potential contribution of these persons towards national development, or towards solving their own problems will be gained. 	<p>Introducing T approach of inclusive policy that enable policy makers in understanding the situation up to micro/household level</p>
	<ul style="list-style-type: none"> Focusing to certain community and address the specific context that will 	<p>Planning for local resource utilization is effected through a participatory process in</p>	<p>Introducing devolution approach that enables each community/region to</p>	<p>To identify how local stakeholders have ample opportunities to</p>	<p>Intervention and development shall being driven locally, rather</p>

appropriate technology	provide accurate information	which the partners forge a collective vision for local development, agree on common goals, and on strategies/ plans for achieving the goals and realizing the vision	take initiatives for their own development, as they see fit in this case is water resource management . They will know of the opportunities, indigenous resources and comparative advantages on which development can be based.	provide feedback and shape water management projects if necessary WMO establishment is needed	than by external agents who are pre-occupied with many other priorities, and know little about local potential for development.
	<ul style="list-style-type: none"> Involving community in controlling water resource allocation planning combined with utilization of Eco DRR. 	Establishing a collaborative platform between policy and science which led by Ministry of Marine and Affairs	<ul style="list-style-type: none"> Create framework that enables the use of different geographical and temporal scales to account for maintenance and rehabilitation of water resources in coastal and small islands. It can account for ES that are provided to distant areas or future generations or the excluded group and allows cross comparison of its policy impacts 	<ul style="list-style-type: none"> The participation in maintenance could lead to more equity in natural resource allocation and more equitable distribution of natural resources amongst stakeholders. 	The sustainable water resource framework offers a holistic perspective that brings social, ecological and economic values together and highlights trade-offs between and within the three dimensions.

	<ul style="list-style-type: none"> • Policy and practice has to be mindful of group-specific conditions particularly the elderly and disable group 	<p>Working with transportation provider to avoid group inclusion in public transport</p>	<p>Develop a coherent framework for coastal regional planning to understand the causes and consequences of risk related coastal ecosystem and their readiness to take actions to address it</p>	<p>To increase the sense of ownership to infrastructure project , such as involving them from planning to implementation phase</p>	<p>Regional coverage, coastal area province wide</p>
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Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)				
	Exclusion risks	Removal of drivers of exclusion	Policy interventions should be tailored to the needs of the excluded	Differentiated effects of policies	Weighted breadth and depth of intervention
Cluster 2: Management of environment and ecosystem for climate change adaptation					
1. The improvement of environment quality in coastal and small islands	Differentiated yet shared risk among coastal community and upper watershed community.	Regional law that enable to create a distribution that reduce barriers amongst governance level	The rehabilitation policy must be part of planning document rather than a stand-alone document	Involvement of multi ministry and private sector in rehabilitation process	Who has really received support on a local level (village, slum, community and?). Data should be analyzed and interpreted in a sex-disaggregated manner, socioeconomic categories and ethnicity
2. Identification, maintenance and rehabilitation of ecosystem in coastal and small islands					
3. Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based on assessment and identification of coastal and small islands ecosystem	Proactive policymaking and planning means taking action now to prevent and/or reduce future anticipated impacts, and can disseminate no regrets strategies such as technologies and practices for improved efficiency.	No regrets strategies / proactive policy making, in that they are strategies taken aimed at maximizing positive and minimizing negative outcomes for communities and societies in climate-sensitive areas such as agriculture, food security, water resources and health.	Create a responsive, proactive and robust policies	Economic planners factor into national plans assumptions about demographic changes such as population growth and urbanization, despite high levels of uncertainty.	Policy makers should also be aware of secondary hazards resulting from a hazard event, hazards outside the area of concern that could affect it and how hazard events occur
	Creating a policy to determines the	To create strategies which support mechanisms for	Non-structural adaptation strategies	identifying areas of risk, pre-disaster	Coverage of intervention cover

	likelihood of environmental effects and their respective ecosystem and environmental impacts, based on an analysis of existing control, mitigation, and compensation measures.	adaptation that are flexible, that operate on a range of levels from the individual homeowner to entire communities, and that provide protection in vulnerable areas	inclusive flood-proofing homes through elevation and relocating homeowners to less vulnerable locations by compensating them for their property.	planning and risk mitigation, developing post-disaster recovery strategies, implementing floodplain regulations and obtaining flood insurance	all in need based on proper assessment
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Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)				
	Exclusion risks	Removal of drivers of exclusion	Policy interventions should be tailored to the needs of the excluded	Differentiated effects of policies	Weighted breadth and depth of intervention
Cluster 3 : The Implementation of Structural and non-structural Adaptation for anticipation of the threat of climate change					
1. Build up Coastal Resilience Village (CRV).	protect communities living in hazard prone areas from the adverse effects of disaster	strengthen communities' participation, particularly vulnerable groups, in natural resource management as part of the efforts to reduce disaster risks	build the institutional capacity of communities in managing natural resources and nurturing local wisdom for disaster risk reduction	enhance the capacity of local governments in providing support in the forms of resources and technical assistance for disaster risk reduction	increase cooperation among stakeholders in DRR, among the local governments, private sector, universities, NGOs, community based organizations and other
2. Support facilities and infrastructure for small islands development					
3. Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands	maximizing local resources for development. Local resources availability may lead to losing dependency to center of regency where transportation cost and distance are limiting access the villagers	Zoning Regulation Plan of Coastal and Small Island should be prepared to accommodate transportation system	Zoning Regulation Plan of Coastal and Small Island should be prepared to accommodate transportation system, center of local trades and services, and also health and education services. Moreover to build transportation	To built infrastructures related with fisheries activity, like fish landing port, availability of road systems, and the availability of electricity system, water, and drainage system.	increase the institutional connectivity, and develop people-to-people connectivity
4. Identification , build up and maintenance coastal protective structure					

			system which will connected local port in each island.		
	Appraisal of potential coastal impacts of sea-level rise is critically dependent upon identification of the key parameters affected and on estimations of their likely rates of change	Accurate allowances for sea-level rise that relate to local building structure conditions	One option is to relocate and prevent development	elevate building, building code, modify drainage, storm and flood warning	prohibit private protection structure, long term conditional lases
	Extensive feasibility studies	Coordination in shoreline management plans	Soft options , beach nourishment, breakwaters, wetland creation	Land acquisition, prohibit reconstruction	Set-aside to ensure space for set back

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)				
	Exclusion risks	Removal of drivers of exclusion	Policy interventions should be tailored to the needs of the excluded	Differentiated effects of policies	Weighted breadth and depth of intervention
Cluster 4 : The integration of adaptation into coastal and small islands management					
1. Preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and small islands	Develop tools such as vulnerability and risk assessments and scenario planning that can inform and enable management planning and decision-making under uncertainty	Identifying, developing, and employing these tools to help managers facilitate adaptation of individual species, increase habitat resilience, and help identify where changes to the built environment may conflict with ecosystem needs	find strategies that can address more than one risk and increase efficiency;	A place based organization that understand the locality	See if all of the risks associated with tidal wetlands or with residential areas and vulnerable inhabitants has been accommodate by guideline
2. Assessment on climate change risk and adaptation in coastal areas and small islands	Inventory study area characteristics, Identify relevant development factors	Formulate response strategies identifying potential costs and benefits for the low income	Include locality and cultural appropriation to the policy	Addressing strategic approach to climate change adaptation that integrates policy and industry action, and incorporates local knowledge	To review of case studies on coastal erosion, sea level rise adaptation strategies at regional and international levels as well as providing analysis on the different strategies
3. Conducting research and mapping on climate change risk and sector/sub sector adaptation in district/city level	Increasing evidence based policy based on research	Increasing research on mitigation with local participation	Knowledge of climate projections and future climate change impacts is a needed input	Advance the discussion by presenting a systematic framework to systematically	intentional, planned adaptation research without presuming a particular set of actors, level of planning, or

<p>4. Preparation of spatial planning documents and coastal and small island islands management planning based on the results of climate change risk assessment and adaptation</p> <p>5. Supervision and control for coastal and sea waters spatial planning and zoning to climate change</p>				identifying barriers to adaptation.	involvement of government, rather we attempt to account for the complexity of a deliberate and more involved research
	Using avoidance strategy : the location choice for different kinds of land use	‘adaptation hierarchy’, following the principle of the mitigation ; With the adaptation hierarchy the method involve a normative planning principle that deliberately considers avoidance before minimisation of vulnerabilities to the effects of climate change	it is important to alter practices of adaptation in spatial planning towards a higher prominence of avoidance measures, a strong focus on the effects of climate change during the development of strategic spatial plans and the development of avoidance strategies, before shifting to minimisation	avoidance strategy be implemented on different administrative levels, i.e for instance to avoid soil sealing in areas where rain water accumulates as a way to deal with heavy rainfall or to use green space to prevent urban heat islands	location choices for new developments are made according to other criteria than climate change, for instance economic development, connectivity or attractiveness
	Coastal risk and vulnerability information should be dissimilated within wider community flood programmes and policies, which seek to target the most vulnerable group of the community by educating them on these issues	Increasing public participation in surveillance role	Social capital improves participants monitoring, reduces free-riders, thus mutual bonds of trust	Communicating risk to the affected areas using mass media based on demographic/SES category	Arranging public meetings in coastal planning process
Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)					

Action Plans	Exclusion risks	Removal of drivers of exclusion	Policy interventions should be tailored to the needs of the excluded	Differentiated effects of policies	Weighted breadth and depth of intervention
Cluster 5 : The improvement of supporting system related to climate change adaptation in coastal and small islands					
<p>1. The improvement of research and assessment of coastal resources</p> <p>2. The improvement of research capacity related to phenomena and climate change impact in coastal and small islands</p>	<p>Research towards sustainable exploitation of natural resources in mangrove forests.</p>	<p>Jointly producing derived products from research, data and information (i.e. joint scientific publications, communication and outreach products like websites, books, posters, multimedia etc.</p>	<p>Address the issue of science to governance, knowledge transfer to government structure, and societal benefits of research results</p>	<p>Research to support activity to map out strategies for enhancing societal and economic benefits from coastal and marine resources</p>	<p>to develop a framework for long-term development cooperation between Indonesia and its regional partners with respect to sustainable management of its coastal and marine resources.</p>
<p>3. The development of early warning system related to climate and oceanography disaster</p> <p>4. Strengthening the organization and coordination across sectors of mitigation and adaptation in</p>	<p>There is a need for (more) social science studies on the management of marine and coastal resources.</p>	<p>Develop common priorities (e.g. sustained fundamental and applied research that will lead to improved assessment, modelling, monitoring and prediction of potential risks of coastal and marine resources)</p>	<p>organise a pilot event on basis of the network initiating the establishment of an international intensive training program (on research capacity, new scientific developments, risk governance)</p>	<p>Established training institutions, networks of specialized qualified personnel</p>	<p>advance capacity building for marine resource database, research and observations (including health status, fluxes, connectivity, drivers, pressures and responses, case study scenarios)</p>

coastal and small islands					
	Improving hydromet services , it would also produce economic benefits, in the form of useful services for industries and businesses and for households and individuals, even in normal conditions (i.e. during non-dangerous times).	The local observation system, based on ground, in-situ observations	Forecasting capacity, i.e. the translation of low-resolution model forecast into high-resolution forecast	hydro-meteorological information goes beyond weather forecasts: observations and long data series are useful to design infrastructure, building, or even coastal area plans	Communication tools, to make sure the alert reaches the individuals in charge to implementing prevention measures (including the public who is supposed to evacuate), and evacuation and emergency plans
	Ensuring direct involvement of all interest groups at the earliest stage of the project will help identify project activities and outcomes	Held meeting to disclose the purpose of the planned project, identify the local communities' desired activities and outputs, identify alternative planning and management approaches, encourage local community participation to implement the project, and raise the public's awareness of the value of coastal and marine resource	Assessing natural and anthropogenic threats to a region's coastal and marine habitats, and identifying how managers might be able to abate each threat, helps managers prioritize short and long-term objectives and actions and develop a strategic action plan	To critique the existing coastal and marine management framework and the capacity of managers to sustainably manage natural resources	Review the status and trends of coastal and marine resource uses, human presence within and around the site, demographics, dependence of the local community and adjacent communities on the sites'

Dimension 4 Dynamic

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)		
	Built-in Duration	Long-term and anticipatory character	Proactive and reactive functions
Cluster 1			
The Improvement Capacity for Coastal and Small Island Communities related to Climate Change Issue			
1.Socialization and awareness of communities to climate change phenomena and impact.	<ul style="list-style-type: none"> • Special consideration for people with historical disadvantage (historical vulnerability) in capacity improvement 	<ul style="list-style-type: none"> • Continuously and clear staging of socialization and awareness to get the appropriate results 	<ul style="list-style-type: none"> • Opening access to resource utilization for inactive populations
2.The development of resources utilization for coastal and small island communities	<ul style="list-style-type: none"> • Clearly community mapping about exclusion experience 	<ul style="list-style-type: none"> • Increasing community involvement in socialization and awareness every year 	<ul style="list-style-type: none"> • Identifies communities that are not served by clean water especially to less-active communities
3.Maintenance and rehabilitation of water resources in coastal and small islands	<ul style="list-style-type: none"> • Action plan reach the entire of region (remote and small island) 	<ul style="list-style-type: none"> • Long term policy to ensure infrastructure development is accordance with the plan and needs 	<ul style="list-style-type: none"> • The policy taken does not make emergence another new exclusion
4.Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote small islands using appropriate technology	<ul style="list-style-type: none"> • The infrastructure development plan is specific, based on community needs analysis 		

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)		
	Built-in Duration	Long-term and anticipatory character	Proactive and reactive functions
Cluster 2			
Management of environment and ecosystem for climate change adaptation			
<ul style="list-style-type: none"> • The improvement of environment quality in coastal and small islands • Identification, maintenance and rehabilitation of ecosystem in coastal and small islands • Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based on assessment and identification of coastal and small islands ecosystem 	<ul style="list-style-type: none"> • Specific action plan for environment improvement. It needs deep historical and contextual analysis of the conditions to make the program more specific. 	<ul style="list-style-type: none"> • Long term improvement of environment so that the environmental changes that occur significant 	<ul style="list-style-type: none"> • Transfer knowledge to communities about adaptation and mitigation so that the facilities provided are utilized • What benefit can vulnerable people get from the coastal protection
	<ul style="list-style-type: none"> • Vulnerable people engagement in environment quality improvement • Very physical action program, no specific mention of community involvement in the program. 	<ul style="list-style-type: none"> • The policy should anticipate the possibility of exclusion either for a region or community group from the improvement of environments program that will be done • Action programs should not create new exclusion for unexposed people such as people who not directly on the coastal line 	
	<ul style="list-style-type: none"> • Time framing programs related to sustainability maintenance (i.e. how many times maintenance in a year) 	<ul style="list-style-type: none"> • Continuity or stages of the program should be clear, information should be updated annually to ensure the entire area is covered 	

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)		
	Built-in Duration	Long-term and anticipatory character	Proactive and reactive functions
Cluster 3			
The Implementation of Structural and non-structural Adaptation for anticipation of the threat of climate change			
<ul style="list-style-type: none"> • Build up Coastal Resilience Village (CRV). • Support facilities and infrastructure for small islands development • Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands • Resilience of farming resources and coastal ponds to climate change • Identification , build up and maintenance coastal protective structure 	<ul style="list-style-type: none"> • Adopt local concept which has been developed before (historical and context analysis) • Priority setting for facilities and infrastructures development based on historical and context analysis • Accessible building structure and elevation for the disabilities and the other vulnerable people 	<ul style="list-style-type: none"> • Villages and communities with potential exposure so that special attention is required • Ensure program sustainability after the end of program period. • In the long term facilities and infrastructure can be used by everyone • Adjustments made to expand the range of facilities services 	<ul style="list-style-type: none"> • Capture all vulnerable people that have been recorded or not • Detail needs of facilities and infrastructure for disabilities and vulnerable people • Specific mention of community involvement in the program

	<ul style="list-style-type: none"> • Map out the presence of disabilities and vulnerable people associated with their livelihoods, give them special support or incentive. 	<ul style="list-style-type: none"> • Identification and adjustment of infrastructure standards should take into account the needs of disabilities and vulnerable people, both current and potential in the future 	
	<ul style="list-style-type: none"> • Considering historical dan context analysis where the action plan starting from indentification stage and then build up as well as maintenance 	<ul style="list-style-type: none"> • Anticipation policy if there are environmental changes related to structural protection 	

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)		
	Built-in Duration	Long-term and anticipatory character	Proactive and reactive functions
Cluster 4			
The integration of adaptation into coastal and small islands management			
1. Preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and small islands	<ul style="list-style-type: none"> • Accurate database for the preparation of document management • Identification and mapping not only for the present condition but also from the past several decades to obtain accurate information 	<ul style="list-style-type: none"> • Prediction of future exclusive possibilities is required or which groups are potentially subject to exclusion 	<ul style="list-style-type: none"> • Integration of small island resources identification with vulnerable people identification to prevent the exclusion of resource utilization • Local institutions involvement in small island resources identification
2. Assessment on climate change risk and adaptation in coastal areas and small islands	<ul style="list-style-type: none"> • Historical condition of the object not only the current conditions as one of NSGC data base 	<ul style="list-style-type: none"> • The NSGC is able to accommodate the need for NSGC in the next few decades (as targeted) 	<ul style="list-style-type: none"> • NSGC not only pay attention to present vulnerable people but also consider the opportunity emergence of new exclusion in the future.
3. Conducting research and mapping on climate change risk and sector/sub sector adaptation in district/city level	<ul style="list-style-type: none"> • Previous community condition (last decade) in determining the assessment 	<ul style="list-style-type: none"> • Periodically and continuously assessment to see the progress 	<ul style="list-style-type: none"> • Detail mapping of communities to detect adaptation needs in accordance with their limitations • Provide opportunities to add adaptation strategies later on if new phenomena are discovered
4. Preparation of spatial planning documents and coastal and small island			

<p>islands management planning based on the results of climate change risk assessment and adaptation</p> <p>5. Supervision and control for coastal and sea waters spatial planning and zoning to climate change</p>	<ul style="list-style-type: none"> Utilizing historical data such as well as suggestion in previous action plan 	<ul style="list-style-type: none"> Special chapter for vulnerable people related to spatial need 	<ul style="list-style-type: none"> The characteristics of settlement, infrastructure and other vital facilities conform to all characteristics of the population based on identification and mapping that have been done in the previous action plan.
		<ul style="list-style-type: none"> Supervision and control are carried out periodically and continuously 	<ul style="list-style-type: none"> Supervision and control to identify potential exclusions that were not previously detected

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)			
	Built-in Duration	Long-term and anticipatory character	Proactive and reactive functions	
Cluster 5				
The improvement of supporting system related to climate change adaptation in coastal and small islands				
<ul style="list-style-type: none"> • The improvement of research and assessment of coastal resources • The improvement of research capacity related to phenomena and climate change impact in coastal and small islands • The development of early warning system related to climate and oceanography disaster • Strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands 	<ul style="list-style-type: none"> • The identification of resource potentials takes into consideration to the historical data of the ever growing economic resources in the region. 	<ul style="list-style-type: none"> • The entire community, especially vulnerable people, also have access to participate in utilizing coastal economic resources 	<ul style="list-style-type: none"> • Classify coastal resources related to the utilization that will be done. 	
	<ul style="list-style-type: none"> • The improvement research is a chance to include the vulnerable group if it has not been entered before • Providing historical information about vulnerable community including disable groups as an indicator for vulnerability 	<ul style="list-style-type: none"> • Research capacity improvements are conducted periodically and continuously to identify the emerges of new phenomena 	<ul style="list-style-type: none"> • 	
	<ul style="list-style-type: none"> • Utilizing early warning system that has been developed in the community 	<ul style="list-style-type: none"> • Periodically and continuously preparation of EWS and dissemination in accordance with the dynamics of the society 	<ul style="list-style-type: none"> • Conducting socialization to all levels of society in several ways and approaches in accordance with their needs 	

	<ul style="list-style-type: none"> • Have considered vulnerable groups (women's groups) in mitigation and adaptation • Cooperation and coordination among agencies that have been done before • Identification the involvement or potential of community engagement that has been implemented 	<ul style="list-style-type: none"> • Periodically and continuously coordination 	<ul style="list-style-type: none"> • Community participation expanded, not only women's groups but also other vulnerable groups including people with disabilities
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Dimension 5 Contextual and multi-layered

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	In-country coherence and coordination	Regional and sub-regional coordination
Cluster 1 The Improvement Capacity for Coastal and Small Island Communities related to Climate Change Issue		
5. Socialization and awareness of communities to climate change phenomena and impact.	<ul style="list-style-type: none"> Disaster management mechanism provide at national and states level Describe in detail how the adaptation strategy mechanism phasing down from national to village level Have to clearly involved all stakeholder vulnerable from individual, household, regional until states level 	<ul style="list-style-type: none"> Socialization of Disaster management through society/ communities empowerment Integration program between maritime sector and climate change mitigation Provide a social learning mechanism across scale and across sectors adjusting the characteristic of the communities Need to establish a clear and detail mechanism for coordination other government agencies and other stakeholders.
6. The development of resources utilization for coastal and small island communities		
7. Maintenance and rehabilitation of water resources in coastal and small islands		
8. Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote small islands using appropriate technology	<ul style="list-style-type: none"> Includes non-governmental institution as supporting institution to Maritime and Fisheries Ministry It needs to define clearly about the list program and the mechanism coordination with multi-stakeholder Defining in detail about the division of institution roles in resources utilization It needs to describe not only at national but also at regional until communities level 	<ul style="list-style-type: none"> Already national standard with non-governmental institution contribution It needs document as standard to clarify the ownership of resources at coastal area at communities level Integration documents and regulation in terms of coastal resources that existing in National and regional level

	<ul style="list-style-type: none"> • Already determined what institution will take lead and will be a supporter • Need to define in detail cross- sector mechanism between agencies at national level • Need to including non-governmental parties as part of maintenance and rehabilitation coastal area • Sectoral thematic must be include the social aspect, not only physical aspect in terms of maintenance and rehabilitation 	<ul style="list-style-type: none"> • Integration beetwen Strategic plan at Fisheries Ministry and National Plan • Program has specific design just for area with high risk, so it already consider about the characteristic of the area • Need to improve mutual agreement between parties/agencies in order to maintenance and rehabilitations • Incentive and disincentive as soft law mechanism in conducting sustainable water resources
	<ul style="list-style-type: none"> • Already defining the roles between technical ministry to develop coastal and island infrastructure • Budgeting define in each program, not only in action plan • Addressing the infrastructure to support increasing capacity among the coastal and small islands communities. • Established linking with not only technical Ministry but also social or economic ministry in terms to facilitate soft approach for society and communities • Involving Communication Ministry and also tellecommunication private sector 	<ul style="list-style-type: none"> • Already have list of program form the ministry that related with infrastructure development at coastal and small island • Need to define policies for sustainable infrastructure and continuum services small island • The infrastructure policies must be flexible consider the type of area

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	In-country coherence and coordination	Regional and sub-regional coordination
Cluster 2 Management of environment and ecosystem for climate change adaptation		
1. The improvement of environment quality in coastal and small islands	<ul style="list-style-type: none"> Mitigation implemented more than 100 pilot project, it can make the program inclusive throughout the nation 	<ul style="list-style-type: none"> Different assessment at 2 types region : coastal and small islands, flexible at regional differences
2. Identification, maintenance and rehabilitation of ecosystem in coastal and small islands	<ul style="list-style-type: none"> The priority program still limited only at empowerment coastal and maritime Establishing the more detail program at institutional, national, regional, local and communities level 	<ul style="list-style-type: none"> Needs to develop sharing and mutual roles and mechanism between government and non-government actors Providing a variety program in order to leverage the environment quality
3. Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based on assessment and identification of coastal and small islands ecosystem	<ul style="list-style-type: none"> Already involving non-government research centre as supporting the fisheries Ministry Detail program as indicator for identification, maintenance, rehabilitation Not only the physical research centre but also involving the social aspect research centre Needs to define systemic and coordinated pulls in the direction of inclusion 	<ul style="list-style-type: none"> Each government institution has policies and plan to environment identify and rehabilitation Clear coordination mechanism across sectors and across government levels. Need to have mutual policies and agreement conducting the management with the law enforcement

	<ul style="list-style-type: none"> • Horizontal coordination between technical ministries at national level • Vertical coordination from central ministries to local government • Integration not only technical ministries but also social and economic ministry to empower society/communities • Institutional approach at the local level to enhance the systemic and systematic. 	<ul style="list-style-type: none"> • As a leader institution, Kemenhut provide the Action Plan for Non Structural Protected Areas • Already divided the program in specific area according the risk characteristics • Providing the policies or action plan form supporting institution • Integrate the plan become mutual plan related with non-structural protected areas
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Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	In-country coherence and coordination	Regional and sub-regional coordination
Cluster 3		
The Implementation of Structural and non-structural Adaptation for anticipation of the threat of climate change		
1. Build up Coastal Resilience Village (CRV).	<ul style="list-style-type: none"> Implementing the vertical program from the national level until village level 	<ul style="list-style-type: none"> Already has soft law mechanisms from the central government (strategic plan)
2. Support facilities and infrastructure for small islands development	<ul style="list-style-type: none"> Needs to combine the roles not only Fisheries Ministry but also the province and local government 	<ul style="list-style-type: none"> Needs to improve the non-standardized document for all kind of village
3. Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands	<ul style="list-style-type: none"> Coherency also identified by the vertical mechanism that phasing down from ministry level to local government level 	
4. Resilience of farming resources and coastal ponds to climate change	<ul style="list-style-type: none"> Fisheries ministry already had the sub program in terms of resource management that include provide facilities in small island 	<ul style="list-style-type: none"> Need to develop the detail mechanism in running the program
5. Identification, build up and maintenance coastal protective structure	<ul style="list-style-type: none"> The program has tried to integrate with other program (from the resilient village) Has significant role divided between central ministries and supporting institution Describe in detail how identification and adjustment phasing down from national to village level Clearly involvement of all stakeholder vulnerable from individual, household, regional until states level 	<ul style="list-style-type: none"> Program has specific design just for area with high risk, so it already consider about the characteristic of the area Identify the background of socioeconomic characteristic of the area that suitable of certain kind of infrastructure Provide a mutual agreement to do the project list of the program

	<ul style="list-style-type: none"> • Central government will coordinated through Fisheries Ministry and Public Works as leaders for other institution • Integrated data and policies from social and economic dimension to complete the physical and infrastructure studies • Establishment of a clear and detail mechanism for coordination other government agencies and other stakeholders 	<ul style="list-style-type: none"> • Already have lists of Plan Strategies form the Ministries and agencies • Flexible coordination and information between institution to result the specific studies in accordance with environmental factors of the area • Mutual learning sharing between on to another area
	<ul style="list-style-type: none"> • Elaborate of the roles Fisheries Ministries and Public Works Ministries • Detail indicator capture the roles of each ministry • Coordination with other related agencies across level. • Not only the ministry level to be detail but also provincial and local government roles at identification and maintenance coastal protective 	<ul style="list-style-type: none"> • Providing maintenance system and mechanism particularly for protecting the coastal and small islands protection • Integrate policies among the Fisheries and Public Works Ministry result the fussion studies and policies related maintenance structures at coastal and small island

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	In-country coherence and coordination	Regional and sub-regional coordination
Cluster 4 The integration of adaptation into coastal and small islands management		
1. Preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and small islands	<ul style="list-style-type: none"> • Providing baseline data to enhance the the division of roles in government institution • Needs to have data mapping on socio-economic characteristics as baseline that can be done by the local agencies like universities, local NGO etc • Appoint focal point agency for the mapping process • Needs to collaborate with local government that more know about field situation 	<ul style="list-style-type: none"> • Need to have a basic information among the parties to do the profiling • The profile instrument could be standardize but must provide the possibility of specific case at each region • Collaboration mapping among related agencies and non-government stakeholders that intensively assist local community
2. Assessment on climate change risk and adaptation in coastal areas and small islands		
3. Conducting research and mapping on climate change risk and sector/sub sector adaptation in district/city level	<ul style="list-style-type: none"> • Integrating rehabilitation program with adaptation strategy for coastal and small islands • Needs to collaborate not only horizontal institution like among the central ministries but also the vertical institution like provincial government and research centre to prepare the norm and guidelines. • Integrating the existing norm that been elaborate form other institution like NGO etc 	<ul style="list-style-type: none"> • Already had mutual standard for rehabilitation and adaptation • Collecting comprehensive data both for the medium and long term data on environment, climate, and social economic. • Standardize Instrument could also capture nad differentiate the uniqueness case at each area • More detail at the mechanism of the norm development and implementation
4. Preparation of spatial planning documents and coastal and small island islands management planning based on the		

<p>results of climate change risk assessment and adaptation</p> <p>5. Supervision and control for coastal and sea waters spatial planning and zoning to climate change</p>	<ul style="list-style-type: none"> • Appropriate ministry in deal with risk mapping • Already involving non-government research centre as supporting the lead ministry • It needs to define clearly about the list program and the mechanism coordination with multi-stakeholder • It needs to describe not only at national but also at regional until communities level 	<ul style="list-style-type: none"> • Identifying climate change impact in each region through Adaptation action Plan • Already divided for three level provincial, cities and municipalities • As baseline mapping it must include the existing document that already result the risk studies • Synchronize the local government program related with risk mapping in detail
	<ul style="list-style-type: none"> • Mezo level mapping that integrate central government and local government • Risk mapping consider the time series changing form several institution include local and central government • Adequate indicators to determine the risk mapping method among the agencies • Involving multi stakeholder at provincial and local level 	<ul style="list-style-type: none"> • Mutual studies among the central government at national level • Policy harmonization that developed among the stakeholders

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	In-country coherence and coordination	Regional and sub-regional coordination
Cluster 5		
The improvement of supporting system related to climate change adaptation in coastal and small islands		
1. The improvement of research and assessment of coastal resources	<ul style="list-style-type: none"> The mainstreaming research development of coastal research in governmental institution 	<ul style="list-style-type: none"> Multi-sector approach enriches the studies of coastal resources development
2. The improvement of research capacity related to phenomena and climate change impact in coastal and small islands	<ul style="list-style-type: none"> Linking the research development with the other central government institution like economic coordination ministry Involving the research centre and academician from universities 	<ul style="list-style-type: none"> Need detail mechanism divide the roles among the government institution and non-government actors Engage the private sector and international network to develop joint research
3. The development of early warning system related to climate and oceanography disaster	<ul style="list-style-type: none"> Vertical coordination also needed a good cooperation with local government and other institution at provincial level 	
4. Strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands	<ul style="list-style-type: none"> Appropriate lead ministry to conduct the climate change research Already involving the vertical and horizontal government institution Integrate the existing studies or previous studies related with climate change effect at coastal and small islands Involving academician and universities representative in nation wide 	<ul style="list-style-type: none"> Wider range influencing from the studies. Its not only national but also internationally Detail explanation for each program Includes the socio economic aspect to the theme of research in terms of climate change Elaborate and integrate detail mechanism intra government institution in doing climate change research
	<ul style="list-style-type: none"> Providing early warning system to climate related hazards through BNPB as the lead for Disaster Management 	<ul style="list-style-type: none"> Already has adaptation plan as part of the early warning system Already has coordination the utilization and implementation of early warning system

	<ul style="list-style-type: none"> • Coordinate with fisheries Ministry as the governmental institution that deals with coastal and small island issues • Detail mechanism need to explore more in relation with the task of local government • Needs to do social mapping as baseline for early warning dissemination by involve government and non government stakeholder • Information dissemination by involving the journalistic media 	<ul style="list-style-type: none"> • An established platform to take a lead for the early warning system in coastal and small islands by the government consortium • Integrate the existing early warning studies as the baseline data and information
	<ul style="list-style-type: none"> • Coordination among the horizontal government institution • Detail program in cross sector at government institution • Involving not only the physical and technique ministries but also social and economic ministries for support the mitigation in coastal and small islands • Needs to develop in detail the roles of local government 	<ul style="list-style-type: none"> • Providing modules until micro level • Systemic information mitigation that built in accordance to regional needs • Needs to develop mutual agreement and document across sectors of mitigation and adaptation in coastal and small islands

Dimension 6 Participatory

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	Procedural Improvements	Transformative participation
Cluster 1		
The improvement of capacity of coastal and small islands communities		
<ol style="list-style-type: none"> 1. Improve community awareness regarding climate change and its impact 2. Small island and coastal area resources development plan for the community 3. Maintenance and rehabilitation of coastal area and small island's water resources 4. Further infrastructure development (electricity, clean water, and communication network) in the coastal and small islands with proper technology 	<ul style="list-style-type: none"> • The role of the private sector need to be clearly stated and breakdown in more detailed task or responsibility • Improving community awareness could be done with local expert participation who have the experience and best practice lesson for certain knowledge including climate change • The need to identifying and mapping coastal and small island resources by using participatory method • Community participation should be included in the program evaluation (until the final stage of each program) • Resources development plan could be initiate by Focus Group Discussion with related actors, between local government, academic expert, and community representative • Basic information related disaster risk reduction and indicators lead to public awareness to need to be inform earlier at the community first socialization activity 	<ul style="list-style-type: none"> • Private sector can be a part of assisting in capacity building of the organization and approaches in local communities • The public is empowered to be involved in the success of the program activities • Local government need to provide data related to education level and skills owned by the community in order to assign them with suitable way to participate in all stages • Infrastructure development needs to consider physical aspect of each region as well as local community necessity • The need to engage key person of certain community in order to properly develop the technology • Provision of water resources potencies map, can be conducted through community participatory mapping with simple tools • Sustainable water resources practice should be introduce thus community could implement at the household level without any difficulty
Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	Procedural Improvements	Transformative participation

Cluster 2

Management and utilization of the environment and ecosystems for climate change adaptation

<p>1. Improving environmental quality in coastal areas and small island</p> <p>2. Identification, maintenance, and rehabilitation of coastal and small islands ecosystem</p> <p>3. Maintenance and rehabilitation of non-structural or natural coastal protection areas and the area behind it based on study result and identification of coastal ecosystems and small islands</p>	<ul style="list-style-type: none"> • Need to be specify what kind of hazard/disaster which already or potentially occurs in specific area • In order to improve environmental quality and protect the ecosystem, status identification need to be carried out for each existing ecosystem in coastal area and small islands • The need to conduct socialization related to existing law or regulation about environmental/ecosystem • Smaller community can be assigned with specific tasks to co-manage the coastal protection area. For example students, fishermen, housewife, organization for the youth, boy scouts, etc. • Data acquire task related to coastal and small island ecosystem damage could be base not only in the regency level but to the smallest one which is village. • Person in charge (facilitator) need to be selected thus he/she could lead the coordination in the community level and report regularly to the local government 	<ul style="list-style-type: none"> • In order to obtain sufficient data and information, local institution partner and university expert need to be engage continuously for specific topics based on their expertise • The willingness of local community to actively managed natural ecosystems of coastal and small islands, such as mangrove, wetland, sea grass, estuary, and coral reefs are very important • Continuous supervision from local expert and exchange information regarding the environmental status need to be conducted • Informal meeting such as monthly gathering, religious activity, supervise for family welfare (PKK) can be an alternative to incorporate exchange of knowledge to their daily activities. • The extensive of conservation area need to be updated regularly, both in numerical and spatial (map) format
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Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	Procedural Improvements	Transformative participation
Cluster 3		
Implementation of structural and non-structural adaptation measures to anticipate the threat of climate change		
<ol style="list-style-type: none"> 1. Development of Coastal Resilience Village (CRV) or <i>Desa Pesisir Tangguh</i> 2. Supporting facilities and infrastructure in the development of small islands 3. Identification and adjustment of elevation, strengthening the structure of building and other vital infrastructure's such as harbors, docks and community settlements in coastal areas and small islands 4. Increased resilience of agricultural resources and coastal ponds to climate change threat 5. Identification, development and maintenance of beach protection structures (sea wall, groin, beach nourishment, tidal gate, etc.) 	<ul style="list-style-type: none"> • Government need to define clearly about all indicator which want to be achieve as Coastal Resilience Village • Key persons need to be in charge with full participation in all stage while formulating the Concept of Resilience Coastal Village Development together with government • Community should be introduce how to take advantage of any navigation facilities to monitor sea related activity (such as waves, tides, storms) to support their work for example in fisheries and tourism purpose • Data inventory of fishpond/embankment owner in detail (how large, since when, productivity) • Adaptation procedures need to be compile in detailed including how everyone could contribute as part of the program 	<ul style="list-style-type: none"> • Infrastructure development needs to consider physical aspect of each region as well as local community necessity • Community members or local villagers in all age, gender, and provision of works need to be notified of continuous information and important updates in terms of new technology, recent successful implementation in another area, or might be lesson learn from recent major climate change occurrence • Infrastructure support should be able to reach or utilize by all community involved, not only part of it • Paddy fields and coastal ponds in small islands which affected by sea level rise can be identified directly by villagers. Another method will be to increase participation from students who reside within the area as indirect educational form.

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	Procedural Improvements	Transformative participation
Cluster 4		
Integration of adaptation efforts into coastal and small island management plans		
<ol style="list-style-type: none"> 1. Identification and mapping of small islands potencies 2. Preparation of climate change rehabilitation and adaptation's Norm, Standard, Guideline and Criteria (NSPK) document in coastal areas and small islands 3. Climate change risk assessment and adaptation in coastal areas and small islands 4. Climate change risk and adaptation study and mapping in regency/city level 5. Compile coastal area and small islands spatial planning and management document based on climate change risk assessment and adaptation result 6. Supervision and control for coastal and ocean spatial planning and zoning related to climate change 	<ul style="list-style-type: none"> • People who reside in the small islands are the one who best understand the condition themselves. Thus they're the righteous party to compile small islands profile • Local key persons need to be in charge with full participation in all stage while prepare document which contain standard and guideline for implementing climate change adaptation options for coastal areas and small islands • The number of coastal areas and small islands which already owned risk and zoning maps of climate change adaptation can be identified directly by villagers. Another method will be to increase participation from university students who reside within the area as indirect educational form. 	<ul style="list-style-type: none"> • Village administration office's staff should be involved and well informed while prepare the spatial plan documents and regulations which consist of climate change susceptibility, risk, and adaptation • Government need to formulate uncomplicated routine how to actively assist and supervised local community to manage the coastal and small island natural resources which potentially affected by climate change • The integration of climate change vulnerability and risk with spatial planning must be clearly indicate and easily evaluate even by the community themselves

Action Plans	Markers of Inclusive National Action Plans for Climate Change Adaptation (CCA)	
	Procedural Improvements	Transformative participation
Cluster 5		
Improved climate change adaptation support system in coastal areas and small islands		
<ol style="list-style-type: none"> 1. Enhancement of research and studies on coastal resources potencies 2. Enhancement of research capacity about climate change phenomena and its impact on coastal area and small islands 3. Development of Early Warning System (EWS) for climatology and oceanography related hazard 4. Strengthening the institutional and cross sectors coordination on mitigation and adaptation in coastal area and small islands 	<ul style="list-style-type: none"> • Community should be introduces how the Early Warning System (EWS) tools and equipment for climatology and oceanography related hazard are utilized and being trained how to manage the tools as well • In order for women (from certain coastal area and small island) to be actively participate in the adaptation process, the source need to be identified first including age, education level, basic skills such as reading and writing 	<ul style="list-style-type: none"> • Government need to identify first if there's already EWS tools being used by local community before introduce or install new EWS • Decision making process and coordination related to certain climatology and oceanography related disaster status/level not only between central/local institution in the coastal area and small island, but need to take account of education aspect such as teacher and student

Appendix 2 Design Consideration per Action Plan, Cluster, by Marker of Dimension

Dimension 1 Multidimensional

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
Cluster 1: The improvement of capacity of coastal and small islands communities related to climate change					
1	Socialization and awareness of communities to climate change phenomena and impact.	<ul style="list-style-type: none"> • Availability of education, dissemination, and training related to climate change adaptation • Improvement of community preparedness 	Transversal and overarching objective	+	Appropriate type of capacity building through education and awareness.
				-	<ul style="list-style-type: none"> • Allocation budget have to be clear for the sustainability particularly for training that need more budget • Have to clearly involved vulnerable people such as poor households, disable person, women headed household • Need to collaborate with non-government stakeholders or practitioners in related fields
			Continuum of interventions	+	<ul style="list-style-type: none"> • Focus on intensity of dissemination and increasing awareness programs • Building a platform for increasing awareness such as through resilience village.
				-	<ul style="list-style-type: none"> • Need to establish a clear and detail mechanism for coordination among other government agencies and other stakeholders. • Provide a social learning mechanism across scale and across sectors for instance, one community can learn from other communities about climate change impact and its preparedness particularly for urban population and disable.

			Public sector innovation	-	<ul style="list-style-type: none"> • Need a consideration to use new technology such as social media and user friendly application for increasing awareness among the vulnerable population. • Providing ‘pick up the ball’ approach to provide information and increase awareness particularly for the disable people and other vulnerable groups.
			Integrated and policy-sensitive evidence	-	Need a comprehensive and accessible up to date data and information particularly for the un-counting population (urban population and disable).
2	The development of resources utilization for coastal and small island communities	<ul style="list-style-type: none"> • Conducting assessment of coastal resilience to climate change impact • Sustainability of access to resources among coastal communities 	Transversal and overarching objective.	+	<ul style="list-style-type: none"> • Assessment of coastal resilience with local specific context. • Providing accurate information about coastal resilience • Ensuring the sustainability of resources access that important to face disaster.
				-	<ul style="list-style-type: none"> • Assessment has to be comprehensive and using baseline hazard and social economic data including the data collection among the poor and disable population. • Assessment has to be longitudinal to observe the changing overtime and closely engage vulnerable and disable population within the process. • It needs special budget allocation for regular assessment as monitor and evaluation process. • Implementing participatory approach in the assessment to involve all vulnerable group of population.

			Continuum of interventions	+	Collaboration among related stakeholders which led by Ministry of Marine and Affairs
				-	Establishment of local institutional (or utilization of existing local organization and local institutional) to support the access and maintain sustainability of resources among poor and disable population.
			Public sector innovation	+	<ul style="list-style-type: none"> • Availability of detail condition of maritime area including the ecosystem condition caused by natural and man-made activities. • Mainstreaming of maritime issue in the strategic plan and mid-term development.
				-	<ul style="list-style-type: none"> • Providing detail action plan as an implementation of national plan at the sub national until district level. • Providing standard operational procedure related to access provision for poor communities and disable groups.
			Integrated and policy-sensitive evidence	+	Sustainable and long term program related to water resources and controlling the water utilization in coastal and small islands.
				-	Allocating long term budget to support long term programs for the vulnerable population (poor and disable).

3	Maintenance and rehabilitation of water resources in coastal and small islands	Conducting sustainable water resources such as using dyke, reservoir and drinking water management based on appropriate technology	Transversal and overarching objective	+	<ul style="list-style-type: none"> • Focusing on the sustainable water resources using new technology. • Establishing an integrated water management system by combining coastal protection and providing drinking water to coastal and small island communities.
				-	Need to consider ecosystem based solution such as planting mangrove instead of coastal dyke and protect vulnerable coastal communities.
			Continuum of interventions	+	Collaboration among related stakeholders which led by Ministry of Marine and Affairs
				-	Establishing a platform based on individual commitment instead of institution's representative.
			Public sector innovation	+	<ul style="list-style-type: none"> • Trying a new approach for integrated water management by implementing new appropriate technology. • Focusing on the water security
				-	Appropriate technology should be user friendly and local based capacity. (Note: the technology should be able to be maintained by local community and using accessible material to ensure the sustainability of the system)
			Integrated and policy-sensitive evidence	+	Integrated all related data on coastal and small islands to support water security.
				-	Providing in time local specific data and counting the vulnerable population (poor and disable groups)

4	Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote small islands using appropriate technology.	<ul style="list-style-type: none"> • Availability of sea port for coastal and small islands • Availability of infrastructure (electricity, clean water, and communication) for coastal and small islands 	Transversal and overarching objective	+	<ul style="list-style-type: none"> • Addressing the infrastructure to support increasing capacity among the coastal and small islands communities. • Applying new technology for the development of local infrastructures
				-	<ul style="list-style-type: none"> • Constructing infrastructure for the disable populations. • Involving the vulnerable group in the process of planning and implementation to ensure the infrastructure also accessible for the vulnerable groups. • Providing extra budget for the inclusive infrastructure.
			Continuum of interventions	+	Applying new technology to support the development of infrastructure in coastal and small islands.
				-	Involving stakeholders who focus on disable in order to fulfill the sufficient infrastructure for them.
			Public sector innovation	+	Applying new technology for infrastructure development in coastal and small islands.
				-	<ul style="list-style-type: none"> • Inclusive infrastructure consist of infrastructure for disable and poor communities. • All facilities have to be affordable for the vulnerable groups.

			Integrated and policy-sensitive evidence	-	Conducting household census to collect detail and comprehensive data related number of exclusive communities in coastal and small islands.
Cluster 2: Management of environment and ecosystem for climate change adaptation					
1	The improvement of environment quality in coastal and small islands	Facilitating environment rehabilitation and adaptation based on disaster mitigation in coastal and small islands.	Transversal and overarching objective	+	Addressing environment approach in the mitigation and adaptation strategies.
				-	<ul style="list-style-type: none"> • Instead of rehabilitation, protection of environment mechanism have to be implemented. • Establishing and strengthening community based adaptation and mitigation.
			Continuum of interventions	-	<ul style="list-style-type: none"> • Establishing multi stakeholders' engagement both from government and non-government organization. • Availability of local facilitators who intensively empower local community including vulnerable group of population.
			Public sector innovation	-	<ul style="list-style-type: none"> • Community based adaptation and mitigation strategies based on inclusive approach. • Introducing new user friendly technology to support adaptation and mitigation strategies particularly for the vulnerable groups.

			Integrated and policy-sensitive evidence	-	<ul style="list-style-type: none"> • Developing a baseline data with detail data of exclusive communities. • Storing the baseline data in the user friendly application that can be updated regularly. • Collaborating with private sector to support inclusive community based adaptation and mitigation.
2	Identification, maintenance and rehabilitation of ecosystem in coastal and small islands	<ul style="list-style-type: none"> • Collecting the information on coastal and small islands ecosystem related to climate change • Conducting management ecosystem of coastal and small islands such as mangrove, wetland, seagrass beds, estuary, and coral reef 	Transversal and overarching objective	+	Availability of detail information including ecosystem condition in coastal and small islands. Integrated areas approach by considering mangrove, wetland, and seagrass, estuary, and coral reefs areas to manage coastal and small islands.
				-	Instead of physical environment data collection, social economic data has to be gathered in the same time.
			Continuum of interventions	+	Considering all physical environment aspect in coastal and small islands such as mangrove, wetland, seagrass beds, estuary, and coral reef.
				-	Clear coordination mechanism across sectors and across government levels. (Some areas might be an authority of national government and some others authorize by local government).
			Public sector innovation	-	Need a user friendly technology support to integrate all data and information both physical environment and social economic data.

			Integrated and policy-sensitive evidence	+	Detail data availability on all physical environment in coastal and small islands.
				-	Creating a mutual collaboration among all related agencies both in local and national government to collect all data in detail on physical and socio-economic data in coastal and small islands.
3	Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based on assessment and identification of coastal and small islands ecosystem	<ul style="list-style-type: none"> • Conducting non-structural coastal protection such as coastal vegetation, coral reef and sand dunes. • Maintaining non-structural in coastal and small islands 	Transversal and overarching objective	+	<ul style="list-style-type: none"> • Developing ecosystem based services for coastal and small islands management • Local specific context
				-	Sufficient budget for in-time and long term assessment.
			Continuum of interventions	-	Consider socio-economic and culture dimension in the effort to manage coastal and small islands.
			Public sector innovation	-	<p>Implementing new user friendly technology to support ecosystem based services in the coastal and small islands management.</p> <p>Independent budget allocation to ensure the sustainability of the programs and involving vulnerable groups.</p>
			Integrated and policy-sensitive evidence	+	Providing local context data for the maintenance and rehabilitation programs.
				-	Involving vulnerable group in the maintenance and rehabilitation programs so that they can take economic benefit from that.

Cluster 3 : The Implementation of Structural and non-structural Adaptation for anticipation of the threat of climate change

1	Build up Coastal Resilience Village (CRV)	Program and implementation CRV	Transversal and overarching objective	+	Institutionalizing local resilience building through local organization establishment.
				-	<ul style="list-style-type: none"> Allocating special budget for resilience building and additional budget to integrate vulnerable population needs. Providing local facilitator to ensure the sustainability of local resilience village programs.
			Continuum of interventions	+	<ul style="list-style-type: none"> Institutionalize community resilience building at the village level. To implement specific programs at the local community
				-	Involving vulnerable population including disable group in the process to ensure all the program is deliberating vulnerable population.
			Public sector innovation	+	Local platform for the local community which has to be independent and focus on resilience and long term program.
				-	<ul style="list-style-type: none"> Apply user friendly application for the resilience programs implementation One stop services for all the resilience programs and integrate with the routine local programs.
			Integrated and policy-sensitive evidence	-	<ul style="list-style-type: none"> Collecting local data regularly for both physic and socio-economic data. Inputting the local data in the local server and accessible for local leaders.

2	Support facilities and infrastructure for small islands development	Infrastructure provision for small islands is facilitated	Transversal and overarching objective	+	Providing new infrastructure to foster the local development.
				-	<ul style="list-style-type: none"> Specifically mention infrastructure for disable group. Infrastructures and facilities have to be accessible for poor communities.
			Continuum of interventions	-	<ul style="list-style-type: none"> Collaboration and engagement among all local agencies and collaboration with district and city government. Infrastructure for disable in all the public facilities including transportation system.
			Public sector innovation	-	Specific design for disability groups such as wheelchair space on the public facilities.
			Integrated and policy-sensitive evidence	-	Pre survey for the disability demands during the planning of infrastructure and facilities in coastal and small islands.
3	Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands	<ul style="list-style-type: none"> Information of coastal areas and small islands infrastructure condition in relation with climate change 	Transversal and overarching objective	+	<ul style="list-style-type: none"> Implementing building code related to climate-related hazards such as coastal floods, inundation and sea level rise. A scientific based evidence for infrastructure development in coastal and small islands.
				-	Specific building code for the disabilities and accessible for the poor such as providing free access to get the new facilities.

		<ul style="list-style-type: none"> Study and implementation of standard infrastructures in coastal areas and small islands which vulnerable to sea level rise 	Continuum of interventions	-	<ul style="list-style-type: none"> Coordination with other related agencies. Fully engagement with disabilities group and the poor communities in the process of development and implementation.
			Public sector innovation	+	New innovation to provide infrastructure and facilities by deliberating climate change impact in coastal and small islands.
				-	<ul style="list-style-type: none"> Specifically mention disabilities in the vital infrastructure of vital facilities. Providing a standard references particularly to consider disability groups and poor communities.
			Integrated and policy-sensitive evidence	-	<ul style="list-style-type: none"> Timely data and regular monitoring assessment to keep data update. Integrated data collection from social and economic dimension.
4	Resilience of farming resources and coastal ponds to climate change	Identification and adaptation action for rice field and ponds in coastal areas and small islands that vulnerable to sea level rise	Transversal and overarching objective	+	<ul style="list-style-type: none"> Placing priority on the farming and fisheries sectors since both are the main sectors of livelihood among the coastal and small islands inhabitants. Mainstreaming adaptation to climate change focusing on the sustainable livelihood
				-	Special access to resources of livelihood for the disable such as more incentive and finance support for them to increase their productivity.
			Continuum of interventions	+	Structural mechanism to develop adaptation strategy to reduce impact of climate change in farming and fisheries system.
				-	<ul style="list-style-type: none"> Coordination with other related stakeholders including NGOs that actively engage in the adaptation strategies project and activities.

					<ul style="list-style-type: none"> • Integrated budget allocation for the effectiveness and efficiency of the programs.
			Public sector innovation	-	<ul style="list-style-type: none"> • Implementing new variety and new technology for adaptation to climate change among farmers. • Specifically provide access and special support for the disable farmers.
			Integrated and policy-sensitive evidence	-	<ul style="list-style-type: none"> • Collecting in-time and projection data regarding farming system and pond systems for the adaptation strategies development. • Involving disable and poor community in the assessment process to consider their needs.
5	Identification, build up and maintenance coastal protective structures	<ul style="list-style-type: none"> • The implementation of identification, Build up and maintenance coastal protective structures • Provision of navigation facilities for monitoring marine activities 	Transversal and overarching objective	+	Providing maintenance system and mechanism particularly for protecting the coastal and small islands protection.
				-	<ul style="list-style-type: none"> • Special budget allocation to ensure the sustainability of the maintenance including monitoring and evaluation. • Appoint a proper an actor or agency to lead the process.
			Continuum of interventions	-	<ul style="list-style-type: none"> • Coordination with other related agencies across level. • One stop services for the monitoring marine activities • Involving disable group and poor communities in the programs.
			Public sector innovation	+	New navigation facilities for monitoring marine activities
				-	Develop a system (applications program) for the monitoring in order to update the data regularly.

			Integrated and policy-sensitive evidence	-	Assessing social economic condition including vulnerable groups in order to control marine activities. For instance, to give economic support (alternative livelihood) for the poor fishers to avoid illegal fishing activities.
Cluster 4: The integration of adaptation into coastal and small islands management					
1	Identification and mapping of small island resources	Availability of small island profile	Transversal and overarching objective	+	Providing small islands resources database
				-	Integrating the data on socio-economic and vulnerable groups in the small islands profile.
			Continuum of interventions	-	<ul style="list-style-type: none"> • Collaboration mapping among related agencies and non-government stakeholders that intensively assist local community. • Appoint focal point agency for the mapping process
			Public sector innovation	+	Mapping local resources and publish the profile of coastal and small islands resources.
				-	Apply inclusive approach for mapping small islands resources through putting a disability group as one of social indicators.
Integrated and policy-sensitive evidence	-	<ul style="list-style-type: none"> • Conducting regular mapping to monitor the resources. • Allocating sufficient budget for the continuity and sustainability of the program. • Collaborating with other stakeholder including NGOs who has experiences in inclusive assessment. 			

2	Preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and small islands	The compilation of document containing standard and guideline for implementation of climate change adaptation options in coastal areas and small islands	Transversal and overarching objective	+	<ul style="list-style-type: none"> • Providing guideline for the adaptation implementation at the local level. • Integrating rehabilitation program with adaptation strategy for coastal and small islands.
				-	<ul style="list-style-type: none"> • Integrating inclusive adaptation for the disable and poor communities. • Integrating the needs of adaptation program for the vulnerable groups in the guideline.
			Continuum of interventions	+	The guideline consists of multidimensional aspect by integrating environment management and adaptation to climate change.
				-	Coordinating with social agency and social welfare agency in order to determine indicators of vulnerable groups in the guideline development.
			Public sector innovation	+	New approach in the integration between environment management (rehabilitation of the environment) with adaptation to climate change.
				-	Combining people centered perspective in order to included vulnerable group.
Integrated and policy-sensitive evidence	-	Collecting comprehensive data both for the medium and long term data on environment, climate, and social economic.			
3	Assessment on climate change risk and adaptation in	<ul style="list-style-type: none"> • Value of hazard, vulnerability and risk of climate change and in 	Transversal and overarching objective	+	<ul style="list-style-type: none"> • Specific climate risk assessment for coastal and small islands. • Providing the detail information on risk mapping

	coastal areas and small islands	coastal areas and small island identified			<ul style="list-style-type: none"> • Providing information about the adaptation strategies implementation (zonation).
		<ul style="list-style-type: none"> • Total number of coastal areas and small islands where risk map and zonation of climate change adaptation have. 		-	<ul style="list-style-type: none"> • Adding social indicator to capture disable and poor communities in the risk assessment. • Vulnerability assessment with focus on individual scale.
			Continuum of interventions	+	Risk and vulnerability assessment particularly for coastal and small islands
				-	Mapping disable and poor people without access to resources to cope to climate change impact.
			Public sector innovation	-	Applying new approach of social ecological system for the risk and vulnerability assessment to capture both social and environment system.
			Integrated and policy-sensitive evidence	-	Regular assessment as a dynamic database to develop low regret adaptation in coastal and small islands.
4	Conducting research and mapping on climate change risk and sector/sub sector adaptation in district/city level	Total number of research on level of hazard, vulnerability and risk, and zonation strategic adaptation on climate change in relevant sectors until 2050 in district/city level.	Transversal and overarching objective	+	<ul style="list-style-type: none"> • Risk mapping related to climate change impact at the local level. • Risk assessment based on sectors and region scale.
				-	Risk assessment at the individual household (see action program 3).
			Continuum of interventions		Collaborating with related agencies and NGOs' stakeholders.
				-	Implementing new technology to present risk integrated mapping (related to action program 3)
			Public sector innovation		See DC of the action program 3.

			Integrated and policy-sensitive evidence		See DC of the action program 3.
Cluster 5: The improvement of supporting system related to climate change adaptation in coastal and small islands					
1	The improvement of research and assessment of coastal resources	Conducting of research and assessment related to utilization of economic coastal resources	Transversal and overarching objective	+	Database of coastal resources focusing on economic benefit
				-	<ul style="list-style-type: none"> • Linking economic benefit with the social and physical environment dimension. • Utilization is applied based on limited demand policy and deliberating vulnerable people including disable group.
			Continuum of interventions	-	<ul style="list-style-type: none"> • Collaborating with related stakeholders and providing tools and indicators to involve disable group and poor communities in the assessment. • Consider social benefit instead of economic benefit only. Social benefit such as risk perception, knowledge sharing, and social learning.
			Public sector innovation	-	<ul style="list-style-type: none"> • Applying an apps (application) that user friendly to update the assessment result of coastal resources. • Specific social learning platform for the vulnerable groups in order to involve in the indicator development of the assessment.
			Integrated and policy-sensitive evidence	-	An integrated empirical data collection and applied participatory approach to mapping local resources both social and environment system.

2	The improvement of research capacity related to phenomena and climate change impact in coastal and small islands	<ul style="list-style-type: none"> • Conducting research on climate related hazards, adaptation and developing vulnerability index related to coastal and small islands based on effective and efficient technology • Availability of technology and facility to monitor climate related hazards potency 	Transversal and overarching objective	+	<ul style="list-style-type: none"> • Developing vulnerability index specifically for coastal and small islands. • Providing integrated inventory data and information related to climate change in coastal and small islands.
				-	Providing information related to vulnerable community including disable groups as an indicator for vulnerability index development.
			Continuum of interventions	-	<ul style="list-style-type: none"> • Collaboration and coordination with other stakeholders across scale such as with city and regional level for the utility and validation of the indicators. • Highlighting social dimension in order to capture vulnerable community including disable group in vulnerability assessment and adaptation priority.
			Public sector innovation	+	Applying new technology for monitoring the progress of climate change related hazards as a warning system for coastal and small islands communities.
				-	<ul style="list-style-type: none"> • Focusing on adaptive capacity improvement among the local community particularly the vulnerable community. • Providing an application technology for the vulnerable community to increase their awareness and knowledge to respond impact of climate change.
Integrated and policy-sensitive evidence	-	Combining secondary and primary data to validate local vulnerability index to climate change.			
3			+	<ul style="list-style-type: none"> • Providing early warning system to climate related hazards. 	

The development of early warning system related to climate and oceanography disaster	<ul style="list-style-type: none"> • Providing early warning system which consists of relevant devices, organization structure, and data-information management including the appropriate dissemination about the early warning system to the communities in coastal and small islands. 	Transversal and overarching objective		<ul style="list-style-type: none"> • Providing data management system to support early warning system.
			-	<ul style="list-style-type: none"> • Allocation additional and sustain budget for the early warning system development and implementation. • Involving community members and local leader to support the implementation of early warning system. • Specific hazard needs a specific early warning for instance, early warning for flood, drought and typhoon.
		Continuum of interventions	-	<ul style="list-style-type: none"> • Detail involved-agencies and NGOs in the early warning system development and implementation. • An established platform to take a lead for the early warning system in coastal and small islands.
		Public sector innovation	+	New design of early warning for slow onset disaster (climate related hazards).
			-	<ul style="list-style-type: none"> • Early warning system focuses on vulnerable and disable groups. • Additional devices for disable such as receiver warning for the disable group. • Additional equipment for the evacuation and facilities in shelters.
	Integrated and policy-sensitive evidence	-	Data on vulnerable group particularly for the disable is needed to be integrated into early warning system approach.	

4	Strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands	<ul style="list-style-type: none"> The implementation of good governance (including better coordination across sectors) on mitigation and adaptation in coastal and small islands Implementing community participation particularly women in the adaptation in coastal and small islands 	Transversal and overarching objective	+	<ul style="list-style-type: none"> Implementing good governance as a prerequisite for an adaptive governance for adaptation and mitigation. Good coordination among related stakeholders.
				-	Implementing community participation of the disable groups in adaptation process.
			Continuum of interventions	+	Establishing coordination mechanism across sectors and actors.
				-	Involving all vulnerable groups which consist of women headed household, women, disable and poor households) in the community participation consistently.
		Public sector innovation	+	<ul style="list-style-type: none"> New approach to integrate adaptation and mitigation programs in coastal and small islands. Promoting gender and disable sensitive for the participation in the adaptation process. 	
		Integrated and policy-sensitive evidence	-	Integrated data at the local level regarding detail social and economic characteristic of the households including their participation level in the adaptation process.	

Dimension 2 Relational

No.	Action plans	Indicators	Policy Markers (PMs)		Design Considerations (DCs)
Cluster 1: The Improvement of Capacity of Coastal and Small Island Communities Related to Climate Change					
1	Socialization and awareness of communities of climate change phenomena and impacts.	<ul style="list-style-type: none"> • Availability of education, dissemination, and training related to climate change adaptation • Improvement of community preparedness 	Equality of opportunities and outcomes	+	Including community awareness and preparedness
				-	Improving community adaptation: <ul style="list-style-type: none"> • The need to include vulnerable community groups, such as disabled people, infants and toddlers, the elderly, women and poor fishermen/farmers • The need to specify dissemination based on community groups, such as fishermen, aquaculture & seaweed farmers, farmers • Training should be based on specific community needs such as occupation types and vulnerable groups
					Improving community preparedness: <ul style="list-style-type: none"> • The need to include vulnerable communities, such as infants and children, the elderly, women and disabled people

			Delivery of services and adequate access or uptake	+	<ul style="list-style-type: none"> To provide access to information and education for community awareness and preparedness
		-		Improving community adaptation:	<ul style="list-style-type: none"> The need to deliver basic services for specific community groups, such as the disabled and vulnerable (poor fishermen) The need to provide economic access to specific community groups (such as technology, markets and capital)
				Improving community preparedness:	<ul style="list-style-type: none"> The need to provide appropriate tools for the disabled and other vulnerable people The need to increase information access to specific community groups (such as fishermen, vulnerable people)
			Distribution of public expenditure	-	Improving community adaptation:

					<ul style="list-style-type: none"> • The need to include specific occupation types of the community (such as fishermen, aquaculture and seaweed farmers) responsive policy planning and budgeting • Increasing awareness of vulnerable and not vulnerable communities
					<p>Improving community preparedness</p> <ul style="list-style-type: none"> • The need to include vulnerable groups (gender- children – disabled) responsive policy planning and budgeting. • Increasing awareness of coastal communities and their vulnerable groups
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The willingness to provide access and opportunities for coastal communities and their vulnerable groups to adapt to climate change in coastal areas and on small islands
2	The development of resource utilization for coastal and small island communities	<ul style="list-style-type: none"> • Conducting assessments of coastal resilience to climate change impacts 		+	<ul style="list-style-type: none"> • To include communities in the development of resource utilization in coastal areas and on small islands

		<ul style="list-style-type: none"> • Sustainability of access to resources among coastal communities 	Equality of opportunities and outcomes	-	<ul style="list-style-type: none"> • The assessments to include vulnerable coastal communities (disabled, gender and poor fishermen/people) • The need to specify resource utilization by specific community groups
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> • The need to specify access to resources (such as information, technology, capital) based on specific community groups (coastal communities and their vulnerable groups)
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • The assessment of coastal resilience to climate change impacts for vulnerable groups should be included in policy planning and budgeting • The need to include access (information, technology, capital) to resources among coastal communities and their vulnerable groups in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The willingness to include assessment of coastal communities and the vulnerable groups of those communities

					<ul style="list-style-type: none"> The willingness to gain access and to use opportunities for excluded and included communities (coastal communities and their vulnerable groups)
3	Maintenance and rehabilitation of water resources in coastal areas and on small islands	Conducting sustainable water resources such as using dykes, reservoirs and drinking water management based on appropriate technology	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To include appropriate technology in maintenance and rehabilitation of water resources in coastal areas and on small islands
				-	<ul style="list-style-type: none"> The need to include sustainable water resource management for vulnerable groups (disabled, women and poor people)
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> The need to improve knowledge and skills of the coastal communities and their vulnerable groups The need to provide appropriate technology for vulnerable groups (disabled, women, poor) The need to provide access for vulnerable people to gain the appropriate technology
			Distribution of public expenditure	-	<ul style="list-style-type: none"> Appropriate technology of sustainable water resource management should be included in policy planning and budgeting for coastal communities and their vulnerable groups Assessment of local knowledge and wisdom related to water resource

					<p>management included in policy planning and budgeting</p> <ul style="list-style-type: none"> • The need to revitalize sustainable water resource management based on local wisdom
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability to provide appropriate technology for sustainable water resource management for coastal communities and their vulnerable groups • The willingness to revitalize and implement sustainable water resource management based on local wisdom
4	Development of infrastructure (transportation networks, electricity, clean water and communications) in coastal areas and on remote small islands using appropriate technology.	<ul style="list-style-type: none"> • Availability of seaports for coastal areas and small islands • Availability of infrastructure (electricity, clean water and communications) for coastal areas and small islands 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> • To include appropriate technology for development of basic delivery services for communities in coastal areas and on small islands
				-	<ul style="list-style-type: none"> • The need to provide infrastructure (seaports, clean water, electricity and communications) friendly to vulnerable people (disabled, children/elderly and women)

			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> • The need to provide access (information and technology) to vulnerable people (disabled, women and poor) to gain and use infrastructure (seaports, clean water, electricity and communications) • The need to provide low cost infrastructure for coastal area poor to use (such as low installation costs, cheap monthly price)
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • The need to include specific infrastructure for vulnerable people included in policy planning and budgeting • The need to include access for vulnerable people to gain and use infrastructure included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability to include infrastructure friendly to coastal communities and their vulnerable groups • The willingness to provide easy access for coastal communities and their vulnerable groups to gain and use infrastructure (seaports, electricity, clean water and information)
Cluster 2: Management and Utilization of the Environment and Ecosystems for Climate Change Adaptation					
Number	Action Plans	Indicators	Policy Markers (PMs)	Design Considerations (DCs)	

1	The improvement of environmental quality in coastal areas and on small islands	Facilitating environmental rehabilitation and adaptation based on disaster mitigations in coastal areas and on small islands.	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To include improvement of environmental quality in adaptation and mitigation programs in coastal areas and on small islands that are essentially needed for sustainability of a community healthy life and livelihoods
				-	<ul style="list-style-type: none"> Rehabilitation and adaptation of the environment should also consider the needs of vulnerable people (disabled, children, the elderly and women/gender) Rehabilitation and adaptation of the environment should also consider economic activities of communities (based on occupation types) Environmental rehabilitation and adaptation should also include participation of coastal and small island communities
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> The need to provide information available to the coastal public (coastal communities and their vulnerable groups) The need to provide and use appropriate technology friendly to coastal people and their vulnerable groups

			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Appropriate technology for environmental rehabilitation and adaptation friendly to coastal communities and their vulnerable groups should be included in policy planning and budgeting • Assessment of local knowledge and wisdom related to environmental rehabilitation and adaptation included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability to provide appropriate technology for environmental rehabilitation and adaptation friendly to coastal communities and their vulnerable groups • The willingness to revitalize and implement local wisdom of environmental rehabilitation and adaptation
2	Identification, maintenance and rehabilitation of ecosystems in coastal areas and on small islands	<ul style="list-style-type: none"> • Collecting information on coastal area and small island ecosystems related to climate change • Conducting management of ecosystems of coastal areas and small islands such as mangroves, wetlands sea- 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> • To provide climate change information in coastal and small island ecosystems • To include management of ecosystems in coastal areas and on small islands
				-	<p>Collecting the information</p> <ul style="list-style-type: none"> • The collection of information should include human systems in coastal areas

		grass beds, estuaries and coral reefs			and on small islands (communities: vulnerable and not vulnerable groups)
				-	<p>Conducting management</p> <ul style="list-style-type: none"> The need to include the role of coastal/small island people in managing ecosystems in coastal areas/small islands mangroves, wetlands, sea-grass beds, estuaries, and coral reefs
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> The need to provide relevant information to the coastal public The need to provide economic access to coastal communities (vulnerable and not vulnerable suitable to their types of occupations and needs) The need to improve community awareness and strengthen its participation in managing ecosystems in coastal areas and on small islands The need to strengthen law enforcement for those conducting illegal practices that cause degradation of coastal and small island ecosystems.

			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Assessments of coastal communities (their profiles, needs and participation in coastal and small island ecosystems) should be included in policy planning and budgeting • The role of communities in managing ecosystems of coastal areas and small islands should be included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability to improve community awareness and participation (vulnerable and not vulnerable groups) in managing ecosystems in coastal areas and on small islands (such as mangroves, wetlands, sea-grass beds, estuaries and coral reefs) • The willingness to revitalize and implement local wisdom of communities in managing coastal and small island ecosystems
3	Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based	<ul style="list-style-type: none"> • Conducting non-structural coastal protection such as coastal vegetation, coral reefs and sand dunes. 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> • To conduct assessments on coastal ecosystems • To include maintenance and rehabilitation of non-structural coastal protection

on assessment and identification of coastal and small island ecosystems	<ul style="list-style-type: none"> Maintaining non-structural protection in coastal areas and on small islands 		-	<ul style="list-style-type: none"> Non-structural coastal protection should consider the needs of vulnerable communities The need to include participation of coastal communities in conducting non-structural protection
		Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> The need to provide relevant information available to the coastal public The need to improve community awareness and strengthen its participation in maintaining non-structural protection of coastal areas and small islands
		Distribution of public expenditure	-	<ul style="list-style-type: none"> The role of communities in maintaining non-structural protection of coastal areas and small islands should be included in policy planning and budgeting
		Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> The ability to improve community awareness and participation (vulnerable and not vulnerable groups) in conducting and maintaining non-structural protection The willingness to revitalize and implement local wisdom of communities in maintaining non-structural protection in coastal areas and on small islands

Cluster 3: The Application of Structural and Non Structural Adaptation Measures to Anticipate the Threat of Climate Change					
Number	Action Plans	Indicators	Policy Markers (PMs)		Design Considerations(DCs)
1	Build up Coastal Resilience Villages (CRV)	Program and implementation of CRV	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To develop and implement coastal resilience programs at village levels Coastal resilience includes resilience of communities and environments in coastal areas
				-	<ul style="list-style-type: none"> To include coastal communities and their vulnerable groups (disabled, children-elderly, gender/women and poor) in the programs and implementations To include preparedness of coastal communities and their vulnerable groups in mitigations to reduce disaster risks To include coastal communities and their vulnerable groups in adaptation to climate change and avoiding degradation of coastal areas and small islands To include sustainable livelihoods of coastal communities and their vulnerable groups
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> To increase knowledge and awareness about coastal hazards and climate change To include coastal communities and their vulnerable groups in participation in the

					<p>building up of their coastal resilience villages</p> <ul style="list-style-type: none"> • To provide access (information, technology and appropriate tools) for coastal communities and their vulnerable groups in building up coastal resilience villages
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Increasing coastal community and their vulnerable group capacity to be included in policy planning and budgeting of building up coastal resilience village programs and implementations • Provision of access for coastal communities and their vulnerable groups (information, technology and appropriate tools) to be included in policy planning and budgeting • Sustainable livelihoods of coastal communities and their vulnerable groups should be included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability and willingness to improve capacity of coastal communities and their vulnerable groups in order to actively participate in building up coastal resilience villages • The ability to sustain coastal communities' and their vulnerable groups' livelihoods in

					facing climate change and disaster risks in coastal areas and on small islands
2	Support facilities and infrastructure for small island development	Infrastructure provision for small islands is facilitated	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To provide infrastructure for small island development
				-	<ul style="list-style-type: none"> Provision of infrastructure should also be included and/or friendly to vulnerable groups (disabled, children-elderly, gender/women and poor) in coastal areas and on small islands Provision of support facilities and infrastructure should be suited to coastal communities' and their vulnerable groups' needs
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> To provide information about support facilities and infrastructure for the public (coastal communities and their vulnerable groups) To provide access for coastal communities and their vulnerable groups to gain and use support facilities and infrastructure
			Distribution of public expenditure	-	<ul style="list-style-type: none"> Assessments on provision of support facilities and infrastructure needed by coastal communities and their vulnerable groups should be included in policy planning and budgeting Provision of appropriate support facilities and infrastructure should be included in policy planning and budgeting

			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> The willingness to provide support facilities and infrastructure for coastal communities and their vulnerable groups
3	Identification and adjustment of building structure and elevation of vital facilities in coastal areas and on small islands	<ul style="list-style-type: none"> Information on coastal area and small island infrastructure conditions in relation with climate change Study and implementation of standard infrastructures in coastal areas and on small islands vulnerable to sea level rise 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To provide information of infrastructure conditions related to climate change in coastal areas and on small islands To provide standards and implement the standards for vital infrastructure facilities in coastal areas and on small islands
				-	<ul style="list-style-type: none"> To include the needs of vulnerable groups (disabled, children-elderly, women) in identified and adjusted conditions of infrastructure relevant to climate change in coastal areas and on small islands To set up more specific standards of infrastructure to reduce risk of sea level rise for coastal people
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> To provide information of coastal area and small island infrastructure conditions in relation with climate change available to coastal communities and their vulnerable groups To provide more specific standards of infrastructures to reduce sea level rise risk in coastal areas and on small islands
			Distribution of public expenditure	-	<ul style="list-style-type: none"> Socialization of coastal area and small island infrastructure conditions in relation with climate change available to coastal

					<p>communities and their vulnerable groups should be included in policy planning and budgeting</p> <ul style="list-style-type: none"> • Study on specific standards of infrastructures to reduce sea level rise risk for coastal communities should be included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability and willingness to provide information for coastal communities and their vulnerable groups about infrastructure conditions related to climate change and specific standards of infrastructure to reduce risk of sea level rise
4	Resilience of farming resources and coastal ponds to climate change	Identification and adaptation action for rice fields and ponds in coastal areas and on small islands vulnerable to sea level rise	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> • To include some major economic activities in climate change adaptation action
				-	<ul style="list-style-type: none"> • To include adaptation action for fishing activities by fishermen as a main occupation in coastal areas and on small islands • To include adaptation action for poor coastal people based on their types of occupations
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> • To increase knowledge and awareness of fishermen and poor coastal people of climate change impacts

					<ul style="list-style-type: none"> • To improve skills of fishermen and poor coastal people to adapt to climate change • To provide access (information, technology, markets and capital) for fishermen and poor coastal people
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Increasing awareness and skills of farmers, fishermen and other poor coastal people of climate change should be included in policy planning and budgeting • Providing access for farmers, fishermen and other poor coastal people to adapt to climate change should be included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability and willingness to include all coastal communities and their vulnerable groups in increasing their awareness and adaptation in facing climate change in coastal areas and on small islands • The willingness to include fishing activities as another climate change adaptation action in coastal areas and on small islands
5	Identification, build up and maintenance of coastal protective structures	<ul style="list-style-type: none"> • the implementation of identification, build up and maintenance of coastal protective structures 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> • To build-up and maintain coastal protective structures • To provide navigation facilities for monitoring marine activities

		<ul style="list-style-type: none"> • Provision of navigation facilities for monitoring marine activities 		-	<ul style="list-style-type: none"> • The build-up and maintenance of coastal protective structures should consider the needs of coastal communities and their vulnerable groups (disabled, children-elderly, women & poor people) • Provision of navigation facilities for monitoring marine activities including facilities for coastal communities and their vulnerable groups
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> • To include information related to coastal protective structures and navigation facilities available to the public (coastal communities and their vulnerable groups) • To provide access for coastal communities to participate in building up and maintaining coastal protective structures and navigation facilities
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Consideration of the needs of coastal communities and vulnerable groups in the build up and maintenance of coastal protective structures should be included in policy planning and budgeting • Provision of navigation facilities for monitoring marine and coastal community activities should be included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability of coastal protective structures and navigation facilities to improve disaster mitigation for coastal communities and their vulnerable groups

Cluster 4: The integration of Adaptation into Coastal and Small Island Management					
Number	Action Plans	Indicators	Policy Markers (PMs)		Design Considerations (DC)
1	Identification and mapping of small island potentials	Availability of small island profiles	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To provide maps of small island potentials
				-	<ul style="list-style-type: none"> To include profiles of coastal communities and vulnerable groups (disabled, children-elderly, women/gender and poor) To provide more specific aspects of small island and coastal community profiles (for community: demography, social and economic aspects)
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> To conduct research on coastal community profiles
			Distribution of public expenditure	-	<ul style="list-style-type: none"> Research on coastal community and vulnerable group profiles should be included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> The willingness to include social community profiles as a part of small island profiles

2	Preparation of norms, standards, guidelines and criteria (NSGC) rehabilitation and adaptation to climate change in coastal areas and on small islands	The compilation of documents containing standards and guidelines for implementation of climate change adaptation options in coastal areas and on small islands	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To provide documents on standards and guidelines for implementation of climate change adaptation in coastal areas and on small islands
				-	<ul style="list-style-type: none"> To include vulnerable groups (disabled, children-elderly, women and poor) in the norms, standards and guidelines documents for implementation of climate change adaptation options
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> To include assessments on norms, standards, guidelines and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and on small islands To include local knowledge and wisdom in compilation of documents containing standards and guidelines for implementation of climate change adaptation options
			Distribution of public expenditure	-	<ul style="list-style-type: none"> Assessment on norms, standards, guidelines and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and on small islands should be included in policy planning and budgeting Assessments of vulnerable groups (disabled, children-elderly, women and poor) in the norms, standards and guideline documents for implementation of climate change adaptation options

					should be included in policy planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> The willingness to recognize and use norms, standards and guideline documents for coastal communities and vulnerable groups in the implementation of climate change adaptation options
3	Assessment of climate change risks and adaptation in coastal areas and on small islands	<ul style="list-style-type: none"> Values of hazards, vulnerability and risks of climate change in coastal areas and on small islands identified Total number of coastal areas and small islands which have risk maps and zonation of climate change adaptation 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To provide information and maps of climate change including hazards, vulnerability and risks and zonation of climate change adaptation in coastal areas and on small islands
				-	<ul style="list-style-type: none"> To include coastal communities and their vulnerable groups in vulnerability and risk of climate change in coastal areas and on small islands To include coastal communities and their vulnerable groups in risk maps and zonation of climate change adaptation in coastal areas and on small islands
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> To conduct assessments of coastal communities and their vulnerable groups to vulnerability and risk of climate change in coastal areas and on small islands To conduct assessments of coastal communities and their vulnerable groups on risk maps and zonation of climate

					change adaptation in coastal areas and on small islands
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Assessments of coastal communities and their vulnerable groups should be included in planning and budgeting of assessments of hazards, vulnerability and risks of climate change in coastal areas and on small islands • Coastal communities' and their vulnerable groups' mapping should be included in the total number of coastal areas and small islands which have risk maps and zonation of climate change adaptation
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability and willingness to include coastal communities and their vulnerable groups in the assessment on hazard, vulnerability and risk of climate change in coastal areas and small islands • The ability and willingness to include coastal communities' and their vulnerable groups' mapping in the total number of coastal areas and small islands which have risk maps and zonation of climate change adaptation

4	Conducting research and mapping on climate change risk and sector/sub sector adaptation at district/city levels	Total amount of research on levels of hazard, vulnerability and risk, and zonation of strategic adaptation to climate change in relevant sectors until 2050 at district/city levels	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To provide information and maps of climate change risk at district/city levels in coastal areas and on small islands To provide information on sector/sub sector adaptation at coastal district/city levels
				-	<ul style="list-style-type: none"> To include coastal communities and their vulnerable groups in research on vulnerability and risk, and zonation of strategic adaptation to climate change in relevant sectors until 2050 at district/city levels To include coastal community occupations/economic activities based on specific sectors related to climate change vulnerability, risk and adaptation
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> To conduct research on vulnerability and risk strategic adaptation of coastal communities and their vulnerable groups to climate change in relevant sectors until 2050 at district/city levels To conduct research on coastal community occupations/economic activities based on specific sectors related to climate change vulnerability, risk and adaptation
			Distribution of public expenditure	-	<ul style="list-style-type: none"> Research on vulnerability, risk and strategic adaptation of coastal communities and their vulnerable groups should be included in planning and

					<p>budgeting of research on levels of hazard, vulnerability and risk, and zonation of strategic adaptation to climate change in relevant sectors until 2050 at district/city levels</p> <ul style="list-style-type: none"> • Research on coastal community occupations/economic activities based on specific sectors related to climate change vulnerability, risk and adaptation should be included in planning and budgeting of research on vulnerability and risk, and zonation of strategic adaptation to climate change until 2050 at district/city levels
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The willingness to include research on vulnerability, risk and strategic adaptation of coastal communities and their vulnerable groups a part of research on hazard, vulnerability and risk, and zonation of strategic adaptation on climate change in relevant sectors until 2050 at district/city levels
5.	Preparation of documents of spatial planning and management of coastal areas and small islands based on risk assessment results and climate change adaptation	<ul style="list-style-type: none"> • Zoning plans and coastal zones for national/provincial/district/city levels containing climate change map risks • The integrated arrangement of settlement plan, infrastructure, and basic 	Equality of opportunities and outcomes	+	To include risk assessment before preparing documents on spatial planning and management of coastal areas and small islands
				-	<ul style="list-style-type: none"> • To include coastal communities and their vulnerable groups in risk assessment to climate change adaptation

		<p>services that are affected by climate change</p> <ul style="list-style-type: none"> • Preparation of document plans and regulations that includes vulnerability factors, risk and adaptation to climate change 	<p>Delivery of services and adequate access or uptake</p>	-	<ul style="list-style-type: none"> • To include vulnerability of coastal communities and their vulnerable groups (demography, socio-economic aspects) in risk assessment to climate change adaptation • To include the needs of coastal communities and their vulnerable groups in arranging settlement plans, infrastructure and basic services
			<p>Distribution of public expenditure</p>	-	<ul style="list-style-type: none"> • To include assessments of coastal communities and their vulnerable groups to vulnerability and risk in risk assessment of climate change adaptation planning and budgeting • To include needs of coastal communities and their vulnerable groups in arranging settlement plans, infrastructure and basic services in planning and budgeting
			<p>Relations between the mainstream populations and the excluded</p>	-	<ul style="list-style-type: none"> • The ability and willingness to include coastal communities and their vulnerable groups in risk assessment in climate change adaptation
6.	<p>Supervision and control for structuring and zoning of coastal areas and waters against climate change</p>	<ul style="list-style-type: none"> • The implementation of controlling activities and managing of coastal area and small island resources that are potentially impacted by climate change 	<p>Equality of opportunities and outcomes</p>	+	<ul style="list-style-type: none"> • To include supervision and control in managing coastal area and small island resources, especially for structuring and zoning these areas and waters against climate change
				-	<ul style="list-style-type: none"> • To include the needs of coastal communities and their vulnerable groups

		<ul style="list-style-type: none"> The integration of vulnerability and disaster risk elements due to climate change in the control and implementation of spatial planning 			in managing coastal resources related to climate change
			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> To include vulnerability and disaster risk of coastal communities and their vulnerable groups due to climate change in the control and implementation of spatial planning
			Distribution of public expenditure	-	<ul style="list-style-type: none"> To include vulnerability and disaster risk of coastal communities and their vulnerable groups due to climate change in the control and implementation of spatial planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> The ability and willingness to include vulnerability, disaster risk, and the basic needs of coastal communities and their vulnerable groups in managing coastal resources related to climate change
Cluster 5: Improvement of Climate Change Adaptation Support Systems in Coastal Areas and on Small Islands					
Number	Action Plans	Indicators	Policy Markers (PMs)		Design Considerations (DC)
1	The improvement of research and assessment of coastal resources	Conducting of research and assessment related to utilization of economic coastal resources	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> To provide data on utilization of coastal resources
				-	<ul style="list-style-type: none"> To include socio-cultural aspects of coastal communities To include socio-economic conditions of vulnerable groups in coastal areas and on small islands

			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> • To conduct research on socio-cultural resources of coastal communities • To conduct research on socio-economic conditions of vulnerable groups in coastal areas and on small islands • To conduct research on local knowledge and wisdom in managing sustainability of coastal area and small island resources
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Research on socio-cultural resources of coastal communities should be included in research planning and budgeting • Research on socio-economic conditions of vulnerable groups in coastal areas and on small islands should be included in research planning and budgeting • Research on local knowledge and wisdom in managing sustainability of coastal area and small island resources should be included in research planning and budgeting
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability and willingness to conduct research on socio-economic conditions and culture of coastal communities and their vulnerable groups to improve research on coastal areas

2	The improvement of research capacity related to phenomena and climate change impact in coastal areas and on small islands	<ul style="list-style-type: none"> • Conducting research on climate related hazards and developing vulnerability indices related to coastal areas and small islands • Availability of technology and facilities to monitor climate related hazard potency • Conducting data inventories, information systems, and research related to climate change and adaptation strategies based on effective and efficient technology specific for local context of coastal areas and small islands 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> • To provide data on climate related hazards and vulnerability indices in coastal areas and on small islands • To provide technology and facilities to monitor climate related hazard potency
				-	<ul style="list-style-type: none"> • To include socio-economic vulnerability indices in coastal areas and on small islands • To provide appropriate technology and facilities to monitor socio- economic potential and risk • To include data inventories, information systems and socio- economic research related to climate change adaptation strategies based on effective and efficient technology specific for local context of coastal areas and small islands

			Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> • To conduct research on socio-economic vulnerability indices in coastal areas and on small islands • To conduct research on appropriate technology and facilities to monitor socio-economic potential and risk • To conduct data inventories, information systems and socio-economic research related to climate change adaptation strategies based on effective and efficient technology and specific for local context of coastal areas and small islands
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Research on socio-economic vulnerability indices in coastal areas and on small islands should be included in planning and budgeting of research on climate related hazards and developing vulnerability indices related to coastal areas and small islands • Provision of appropriate technology and facilities to monitor socio-economic potential and risk areas should be included in planning and budgeting of availability of technology and facilities to monitor climate related hazard potency • Research on socio-economic data inventories and information systems should be included in research planning and budgeting related to climate change adaptation strategies based on effective

					and efficient technology specific for local context of coastal areas and small islands
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The ability and willingness to conduct socio-economic vulnerability indices of coastal communities and vulnerable groups • The willingness to provide appropriate technology and facilities to monitor socio-economic potential and risk of coastal communities and their vulnerable groups in coastal areas and on small islands
3	The development of early warning systems related to climate and oceanography disasters	<ul style="list-style-type: none"> • Providing early warning systems to climate related hazard equipment in coastal areas and on small islands including information about the early warning systems 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> • To provide early warning systems on climate related hazards to coastal communities • To establish management and coordination mechanisms to implement early warning systems

		<p>among the communities in coastal areas and on small islands</p> <ul style="list-style-type: none"> • Establishing organization and management for implementation of early warning systems in climate related hazards in coastal areas and on small islands. • Establishment of coordination mechanisms and implementation of activities for decision making processes for warning status of disaster related to climate and oceanography in coastal areas and on small islands • Managing all data and information and updating 		-	<ul style="list-style-type: none"> • The need to specify early warning systems based on specific types of hazards (such as flooding, landslides and droughts) • The need to include vulnerable groups (disabled, children-elderly, women, poor) in the early warning systems • The need to increase public awareness (of coastal communities and their vulnerable groups) about the importance of early warning systems based on specific climate hazards • The need to include coastal communities (and their vulnerable groups) in establishing early warning systems, organization and management, and their implementation in coastal areas and on small islands • The need for more specific data and information in coastal areas and on small islands
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		procedures related to disaster response in coastal areas and on small islands	Delivery of services and adequate access or uptake	-	<ul style="list-style-type: none"> • To include information of early warning system and mechanism and implementation available to public (coastal community and vulnerable groups) • To include appropriate technology of early warning system for coastal community and vulnerable groups • To include drill or simulation of early warning for specific climate related hazard • To provide access for coastal community and vulnerable groups to participate in establishing and implementation of early warning system • To include and revitalize the use of local knowledge and wisdom related to early warning system
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Socialization of early warning systems, mechanisms and implementation in coastal communities and among vulnerable groups should be included in policy planning and budgeting • Provision of appropriate technology of early warning systems for coastal communities and vulnerable groups should be included in policy planning and budgeting

					<ul style="list-style-type: none"> • Early warning drills or simulation for specific climate related hazards should be included in planning and budgeting • Provision of access for coastal communities and vulnerable groups to participate in establishing and implementing early warning systems should be included in policy planning • Revitalization of local knowledge and wisdom related to early warning system related hazards should be included in policy planning
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • The development of early warning systems related to climate and oceanography disasters should include coastal communities and vulnerable groups and their participation in the implementation
4	Strengthening of organization and coordination across sectors of mitigation and adaptation in coastal areas and on small islands	<ul style="list-style-type: none"> • The implementation of good governance (including better coordination across sectors) on mitigation and adaptation in coastal areas and on small islands 	Equality of opportunities and outcomes	+	<ul style="list-style-type: none"> • Good governance coordination across sectors needs to be strengthened for both mitigation and adaptation • Participation of communities, particularly women should be included in the adaptation

		<ul style="list-style-type: none"> Implementing community participation particularly of women in the adaptation in coastal areas and on small islands 		-	<ul style="list-style-type: none"> Indicator point 2 should be excluded in this action plan because it is not suitable or does not support the action plans focused on strengthening organization and coordination across sectors The need to better specify sectors involved in mitigation and adaptation The need to better specify policies and programs for strengthening of organization and coordination across sectors The need to include other vulnerable community groups in the adaptation in coastal areas and on small islands (disabled and poor fishermen)
			Delivery of services and adequate access or uptake	+	<ul style="list-style-type: none"> To avoid overlap among sectors involved in mitigation and adaptation To achieve more effectiveness and efficiency of mitigation and adaptation
				-	<ul style="list-style-type: none"> The need to develop strengthening systems and/or mechanisms of organization and coordination across sectors in mitigation and adaptation The need to provide clear tasks and responsibilities of relevant sectors in mitigation and adaptation The need to increase awareness of sectors involved about the importance of

					coordination in planning and implementing mitigation and adaptation
			Distribution of public expenditure	-	<ul style="list-style-type: none"> • Systems and/or mechanisms to strengthen organization and coordination across sectors should be included in planning and budgeting of mitigation and adaptation • The need to provide frameworks of mitigation and adaptation understood by all sectors involved as an umbrella or guidance in each sector planning and implementation
			Relations between the mainstream populations and the excluded	-	<ul style="list-style-type: none"> • Development and implementation of systems and/or mechanisms to strengthen organization and coordination should be included in mitigation and adaptation • The need to include participation of all sectors in the system and/or mechanism development and implementation of mitigation and adaptation

Dimension 3 Intersecting Risks and Drivers

No.	Action plan	Indicator	Policy Markers (PMs)	Design Consideration (DCs)	
Cluster 1: The improvement of capacity of coastal and small islands communities related to climate change					
1	Socialization and awareness of communities to climate change phenomena and impact.	<ul style="list-style-type: none"> Availability of education, dissemination, and training related to climate change adaptation Improvement of community preparedness 	Exclusion risks	+	<ul style="list-style-type: none"> Each group able to differentiate risks related to their community and individual characteristic
				-	<ul style="list-style-type: none"> Conducting community campaign and household census to collect detail and comprehensive data related number of exclusive communities in coastal and small islands.
			Removal of drivers of exclusion	+	<ul style="list-style-type: none"> Exploring different scenario to coastal communities that may lead to a better adapting community
				-	<ul style="list-style-type: none"> Different social economy contestation within the community may hinder the scenario development
			Policy interventions should be tailored to the needs of the excluded	+	<ul style="list-style-type: none"> Customizing the policy to the need of coastal community based on their own demographic, cultural and social characteristic
				-	<ul style="list-style-type: none"> More knowledgeable, informed and assertive citizens are now demand a more meaningful say in decisions which affect their lives, and this can best be achieved through a participatory model of governance.
			Differentiated effects of policies	+	<ul style="list-style-type: none"> Avoiding marginalization of women and youth, from the social, economic and political mainstream, means that the potential contribution of these persons towards national development, or towards solving their own problems will be gained.
				-	<ul style="list-style-type: none"> Growing participation of women/youth of the coastal community into political system indicate the need to devise new approaches to governance which can rekindle the zeal of citizens towards national purposes/cause.

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> Introducing T approach of inclusive policy that enable policy makers in understanding the situation up to micro/household level
				-	<ul style="list-style-type: none"> Need to work collaboratively with in country big data manager such as statistical agency
2	The development of resources utilization for coastal and small island communities	<ul style="list-style-type: none"> Conducting assessment of coastal resilience to climate change impact Sustainability of access to resources among coastal communities 	Exclusion risks	+	Focusing to certain community and address the specific context that will provide accurate information
				-	<ul style="list-style-type: none"> To put community as a certain priority the most difficult part is defining community boundaries. It remains an issue of debate. A conflict within risk community may arise due to different perceptions of boundaries (i.e catchment area of services, psychological measures such as residents' perceptions and political measures such as administrative boundaries).
			Removal of drivers of exclusion	+	Planning for local resource utilization is effected through a participatory process in which the partners forge a collective vision for local development, agree on common goals, and on strategies/ plans for achieving the goals and realizing the vision
				-	<ul style="list-style-type: none"> Although devolution is essential to participatory approach, cultural barriers may disable full support/ commitment of the local community.
			Policy interventions should be tailored to the needs of the excluded	+	Introducing devolution approach that enables each community/region to take initiatives for their own development, as they see fit in this case is water resource management . They will know of the opportunities, indigenous resources and comparative advantages on which development can be based.
				-	<ul style="list-style-type: none"> A sustainable planning and continuous facilitation has to be given to the community.

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Differentiated effects of policies	+	<ul style="list-style-type: none"> To identify how local stakeholders have ample opportunities to provide feedback and shape water management projects if necessary WMO establishment is needed,
				-	<ul style="list-style-type: none"> Without a project budget to create and support WMOs in the local communities field engineers would use external contractors rather than hiring local people, a practice seen as removing rural employment opportunities
			Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> Intervention and development shall being driven locally, rather than by external agents who are pre-occupied with many other priorities, and know little about local potential for development.
				-	<ul style="list-style-type: none"> Due to low participation, there is a chance this intervention is unable to address underlying conflicts tied to socio-economic inequalities.
3	Maintenance and rehabilitation of water resources in coastal and small islands	Conducting sustainable water resources such as using dyke, reservoir and drinking water management based on appropriate technology	Exclusion risks	+	Involving community in controlling water resource allocation planning combined with utilization of Eco DRR.
				-	<ul style="list-style-type: none"> Participation is limited to consultation while decision-making power remains in the hands of the implementing agency
			Removal of drivers of exclusion	+	<ul style="list-style-type: none"> Establishing a collaborative platform between policy and science which led by Ministry of Marine and Affairs
				-	<ul style="list-style-type: none"> Scientific basis incomplete: Our current understanding of the links between, biodiversity, ecosystem functioning and ecosystem services provision in particular to coastal community is poor
			Policy interventions should be tailored to the needs of the excluded	+	<ul style="list-style-type: none"> Create framework that enables the use of different geographical and temporal scales to account for maintenance and rehabilitation of water resources in coastal and small islands. It can account for ES that are provided to distant areas or future generations or the excluded group and allows cross comparison of its policy impacts
				-	<ul style="list-style-type: none"> The framework is applied in different ways across different scales (local, regional, national), with a range of possible

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
					outcomes at each scale; in the implementation it will create a scale-dependence of outcomes.
			Differentiated effects of policies	+	<ul style="list-style-type: none"> The participation in maintenance could lead to more equity in natural resource allocation and more equitable distribution of natural resources amongst stakeholders.
				-	<ul style="list-style-type: none"> Many people might not necessarily acknowledge benefits of the sustainable water resources management identified by researchers/science sector
			Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> The sustainable water resource framework offers a holistic perspective that brings social, ecological and economic values together and highlights trade-offs between and within the three dimensions.
4	Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote small islands using appropriate technology.	<ul style="list-style-type: none"> Availability of sea port for coastal and small islands Availability of infrastructure (electricity, clean water, and communication) for coastal and small islands 	Exclusion risks	+	<ul style="list-style-type: none"> Policy and practice has to be mindful of group-specific conditions particularly the elderly and disable group
				-	<ul style="list-style-type: none"> Create an enabling environment in the context of cultural level to avoid conflict in public services usage
			Removal of drivers of exclusion	+	Working with transportation provider to avoid group inclusion in public transport
				-	<ul style="list-style-type: none"> Buses and trains will usually have priority seating for older people and people with disabilities, but other transportation network didn't. However, many still require assistance or ramps to be manually fitted by station staff or the driver
			Policy interventions should	+	Develop a coherent framework for coastal regional planning to understand the causes and consequences of risk related coastal ecosystem and their readiness to take actions to address it

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			be tailored to the needs of the excluded	-	implementing the framework in practice requires considerable resources (e.g. data, finance, expertise)
			Differentiated effects of policies	+	To increase the sense of ownership to infrastructure project , such as involving them from planning to implementation phase
				-	Takes longer time and long discussion in decision making process
			Weighted breadth and depth of intervention	+	Regional coverage, coastal area province wide
				-	Need a large amount of resource for implementation
Cluster 2: Management of environment and ecosystem for climate change adaptation					
1	The improvement of environment quality in coastal and small islands	Facilitating environment rehabilitation and adaptation based on disaster mitigation in coastal and small islands.	Exclusion risks	+	Differentiated yet shared risk among coastal community and upper watershed community.
				-	<ul style="list-style-type: none"> Linking upper and downstream may need mechanism such as IWRM and ICZM organization
			Removal of drivers of exclusion	+	Regional law that enable to create a distribution that reduce barriers amongst governance level
				-	<ul style="list-style-type: none"> Support from the parliament/ house of representative should be available
			Policy interventions should be tailored to the needs of the excluded	+	The rehabilitation policy must be part of planning document rather than a stand-alone document
				-	<ul style="list-style-type: none"> Involvement of related stakeholder has to be encourage
			Differentiated effects of policies	+	<ul style="list-style-type: none"> Involvement of multi ministry and private sector in rehabilitation process
				-	<ul style="list-style-type: none"> Conflict of interest in policy implementation may increase due to different approach of each governance sector

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> Who has really received support on a local level (village, slum, community and?). Data should be analyzed and interpreted in a sex-disaggregated manner, socioeconomic categories and ethnicity
				-	<ul style="list-style-type: none"> Low impact of local capacities being developed or strengthened through the interventions
2	Identification, maintenance and rehabilitation of ecosystem in coastal and small islands	<ul style="list-style-type: none"> Collecting the information on coastal and small islands ecosystem related to climate change Conducting management ecosystem of coastal and small islands such as mangrove, wetland, seagrass beds, estuary, and coral reef 	Exclusion risks	+	Proactive policymaking and planning means taking action now to prevent and/or reduce future anticipated impacts, and can disseminate no regrets strategies such as technologies and practices for improved efficiency.
				-	<ul style="list-style-type: none"> An exclusive focus on ‘no regrets’ strategies can lead to the false idea that there are no trade-offs
			Removal of drivers of exclusion	+	<ul style="list-style-type: none"> No regrets strategies / proactive policy making, in that they are strategies taken aimed at maximizing positive and minimizing negative outcomes for communities and societies in climate-sensitive areas such as agriculture, food security, water resources and health.
				-	An exclusive focus on no regrets strategies can lead to the false idea that there are no trade-offs and that attention does not need to be paid to the incremental challenges of climate change
			Policy interventions should be tailored to the needs of the excluded	+	<ul style="list-style-type: none"> Create a responsive, proactive and robust policies
				-	<ul style="list-style-type: none"> policymaking and planning are overlapping, particularly as all three rely on the identification of vulnerabilities, hazards and risk as foundations for identifying strategic decisions and alternatives.

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Differentiated effects of policies	+	<ul style="list-style-type: none"> Economic planners factor into national plans assumptions about demographic changes such as population growth and urbanization, despite high levels of uncertainty.
				-	<ul style="list-style-type: none"> Climate uncertainty presents an additional challenge
			Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> Policy makers should also be aware of secondary hazards resulting from a hazard event, hazards outside the area of concern that could affect it and how hazard events occur
				-	<ul style="list-style-type: none"> Intervention likely to dismiss the impact of human activities that create or exacerbate hazards
3	Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based on assessment and identification of coastal and small islands ecosystem	<ul style="list-style-type: none"> Conducting non-structural coastal protection such as coastal vegetation, coral reef and sand dunes. Maintaining non-structural in coastal and small islands 	Exclusion risks	+	<ul style="list-style-type: none"> Creating a policy to determines the likelihood of environmental effects and their respective ecosystem and environmental impacts, based on an analysis of existing control, mitigation, and compensation measures.
				-	<ul style="list-style-type: none"> Failure on creating the policy will unable to determine if and where management actions are required
			Removal of drivers of exclusion	+	<ul style="list-style-type: none"> To create strategies which support mechanisms for adaptation that are flexible, that operate on a range of levels from the individual homeowner to entire communities, and that provide protection in vulnerable areas
				-	<ul style="list-style-type: none"> Unless these programs and funding opportunities are designed to reach socially vulnerable communities, these communities will lack the knowledge, financial resources, and legal, technical, and social support necessary to seek and apply for funding to reduce their overall risk.
			Policy interventions should be tailored to the needs of the excluded	+	<ul style="list-style-type: none"> nonstructural adaptation strategies inclusive flood-proofing homes through elevation and relocating homeowners to less vulnerable locations by compensating them for their property.
				-	<ul style="list-style-type: none"> Need to consult on budgeting aspect that will support the mechanism,

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Differentiated effects of policies	+	identifying areas of risk, pre-disaster planning and risk mitigation, developing post-disaster recovery strategies, implementing floodplain regulations and obtaining flood insurance, implementing land use regulations or zoning ordinances, and educating the public about the risk from natural hazards.
				-	Certain parts of the target groups less likely having received support and protection and others having been excluded
			Weighted breadth and depth of intervention	+	Coverage of intervention cover all in need based on proper assessment
				-	Make sure all in need of protection received protection during the interventions
Cluster 3 : The Implementation of Structural and non-structural Adaptation for anticipation of the threat of climate change					
1	Build up Coastal Resilience Village (CRV)	Program and implementation CRV	Exclusion risks	+	protect communities living in hazard prone areas from the adverse effects of disaster
				-	<ul style="list-style-type: none"> consider all type of hazard that may hit the area
			Removal of drivers of exclusion	+	<ul style="list-style-type: none"> strengthen communities' participation, particularly vulnerable groups, in natural resource management as part of the efforts to reduce disaster risks
				-	<ul style="list-style-type: none"> Consider socio-economic and culture dimension in the effort to manage coastal
			Policy interventions should be tailored to the needs of the excluded	+	build the institutional capacity of communities in managing natural resources and nurturing local wisdom for disaster risk reduction
				-	<ul style="list-style-type: none"> Sustainable facilitation is needed
			Differentiated effects of policies	+	<ul style="list-style-type: none"> enhance the capacity of local governments in providing support in the forms of resources and technical assistance for disaster risk reduction
				-	<ul style="list-style-type: none"> thinking about long term planning that need local government support

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> increase cooperation among stakeholders in DRR, among the local governments, private sector, universities, NGOs, community based organizations and other concerned groups
				-	<ul style="list-style-type: none"> Consider inter governmental working group and culture dimension difference in the effort to manage coastal and small islands.
2	Support facilities and infrastructure for small islands development	Infrastructure provision for small islands is facilitated	Exclusion risks	+	<ul style="list-style-type: none"> maximizing local resources for development. Local resources availability may lead to losing dependency to center of reGENCY where transportation cost and distance are limiting access the villagers
				-	<ul style="list-style-type: none"> Huge budget for development
			Removal of drivers of exclusion	+	Zoning Regulation Plan of Coastal and Small Island should be prepared to accommodate transportation system
			Policy interventions should be tailored to the needs of the excluded	+	<ul style="list-style-type: none"> Zoning Regulation Plan of Coastal and Small Island should be prepared to accommodate transportation system, center of local trades and services, and also health and education services. Moreover to build transportation system which will connected local port in each island.
				-	<ul style="list-style-type: none"> To build other supporting facilities without threatening green belt
			Differentiated effects of policies	+	<ul style="list-style-type: none"> To built infrastructures related with fisheries activity, like fish landing port, availability of road systems, and the availability of electricity system, water, and drainage system.
				-	<ul style="list-style-type: none"> biggest challenge is overcoming dependence; material for settlement and infrastructure are derived from other regions

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> increase the institutional connectivity, and develop people-to-people connectivity
3	Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands	<ul style="list-style-type: none"> Information of coastal areas and small islands infrastructure condition in relation with climate change Study and implementation of standard infrastructures in coastal areas and small islands which vulnerable to sea level rise 	Exclusion risks	+	<ul style="list-style-type: none"> Appraisal of potential coastal impacts of sea-level rise is critically dependent upon identification of the key parameters affected and on estimations of their likely rates of change
			Removal of drivers of exclusion	-	Sufficient budget for in-time and long term assessment.
			Policy interventions should be tailored to the needs of the excluded	+	<ul style="list-style-type: none"> It is critical that recent and ongoing trends in sea level are understood sufficiently to facilitate extrapolation over the next 50 to 100 years.
			Differentiated effects of policies	+	Accurate allowances for sea-level rise that relate to local building structure conditions
			Weighted breadth and depth	-	Both the design of specific protection schemes and the formulation of policies to manage coastal cells require accurate allowances for sea-level rise that relate to local conditions
					<ul style="list-style-type: none"> One option is to relocate and prevent development. This could involve land acquisition(by public authorities), use of set-back zones, prohibition of reconstruction after damage or economic incentives to abandonment
					<ul style="list-style-type: none"> elevate building, building code, modify drainage, storm and flood warning communities already accustomed to risk prohibit private protection structure, long term conditional leases

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			of intervention	-	Much of this would require new legislation, government policy and local authority planning regulations, as would the conditional development options
4	Resilience of farming resources and coastal ponds to climate change	Identification and adaptation action for rice field and ponds in coastal areas and small islands that vulnerable to sea level rise		+	<ul style="list-style-type: none"> environmental benefits, natural process unhindered, Environmental losses, property compensated
					<ul style="list-style-type: none"> social impacts of changed, communities unaltered
5	Identification, build up and maintenance coastal protective structures	<ul style="list-style-type: none"> The implementation of identification, Build up and maintenance coastal protective structures Provision of navigation facilities for monitoring marine activities 	Exclusion risks	+	<ul style="list-style-type: none"> Extensive feasibility studies
				-	<ul style="list-style-type: none"> Key environments under development pressure
			Removal of drivers of exclusion	+	Coordination in shoreline management plans
				-	Social impacts of changed occupations
			Policy interventions should be tailored to the needs of the excluded	+	Soft options , beach nourishment, breakwaters, wetland creation
				-	<ul style="list-style-type: none"> High maintenance cost
			Differentiated effects of policies	+	<ul style="list-style-type: none"> Land acquisition, prohibit reconstruction
				-	<ul style="list-style-type: none"> Need strong governmental role
Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> Set-aside to ensure space for set back 			
	-	<ul style="list-style-type: none"> Nourishment is onlyway to maintain shoreline 			

No.	Action plan	Indicator	Policy Markers (PMs)	Design Consideration (DCs)	
Cluster 4: The integration of adaptation into coastal and small islands management					
2	Preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and small islands	The compilation of document containing standard and guideline for implementation of climate change adaptation options in coastal areas and small islands	Exclusion risks	+	Develop tools such as vulnerability and risk assessments and scenario planning that can inform and enable management planning and decision-making under uncertainty.
				-	Ensure all stakeholders fully understand the tools
			Removal of drivers of exclusion	+	Identifying, developing, and employing these tools to help managers facilitate adaptation of individual species, increase habitat resilience, and help identify where changes to the built environment may conflict with ecosystem needs
				-	When it is time to decide on adaptation actions, would stakeholders be able to help implement actions to reduce risks
			Policy interventions should be tailored to the needs of the excluded	+	<ul style="list-style-type: none"> find strategies that can address more than one risk and increase efficiency;
				-	find risks that might have overlooked and avoid surprises
			Differentiated effects of policies	+	A place based organization that understand the locality
				-	A place-based organization to implement guidelines and policy — by itself—will have essentially no effective way to prevent climate change, and some effects will be inescapable
			Weighted breadth and depth of intervention	+	See if all of the risks associated with tidal wetlands or with residential areas and vulnerable inhabitants has been accommodate by guideline
				-	It is important to be transparent about the magnitude of the policy/guidelines, the range of possible outcomes, and the resulting justification for making a specific decision.

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
3	Assessment on climate change risk and adaptation in coastal areas and small islands	<ul style="list-style-type: none"> Value of hazard, vulnerability and risk of climate change and in coastal areas and small island identified Total number of coastal areas and small islands where risk map and zonation of climate change adaptation have. 	Exclusion risks	+	Inventory study area characteristics, Identify relevant development factors
				-	
			Removal of drivers of exclusion	+	Formulate response strategies identifying potential costs and benefits for the low income
				-	Require to promote investments in appropriate infrastructure, all of which require political will as well as financial and human capital.
			Policy interventions should be tailored to the needs of the excluded	+	Include locality and cultural appropriation to the policy
				-	<ul style="list-style-type: none"> Fatalism also appear to influence climate change risk perceptions, this leads to maladaptation by individuals.
			Differentiated effects of policies	+	<ul style="list-style-type: none"> Addressing strategic approach to climate change adaptation that integrates policy and industry action, and incorporates local knowledge
				-	<ul style="list-style-type: none"> The role of culture and religion as factors influencing climate change perceptions deserves further attention
			Weighted breadth and depth of intervention	+	<ul style="list-style-type: none"> To review of case studies on coastal erosion, sea level rise adaptation strategies at regional and international levels as well as providing analysis on the different strategies
				-	<ul style="list-style-type: none"> a need for continued awareness rising amongst the population
4	Conducting research and mapping on climate change risk and sector/sub sector	Total number of research on level of hazard, vulnerability and risk, and zonation strategic	Exclusion risks	+	Increasing evidence based policy based on research
				-	Since we do not know how intense the change will be in coming decades, and we are not sure how our systems based on research

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
	adaptation in district/city level	adaptation on climate change in relevant sectors until 2050 in district/city level.			will respond, it is not going to be possible to quantify either costs or benefits in any accurate way.
			Removal of drivers of exclusion	+	Increasing research on mitigation with local participation
				-	Some risks will be very expensive to mitigate; others will be impossible to mitigate. It could take decades to mitigate some risks
			Policy interventions should be tailored to the needs of the excluded	+	Knowledge of climate projections and future climate change impacts is a needed input
				-	Identifying opportunities and constraints that will affect adaptation decisions.
			Differentiated effects of policies	+	Advance the discussion by presenting a systematic framework to systematically identifying barriers to adaptation.
				-	Science to policy communication is needed
			Weighted breadth and depth of intervention	+	intentional, planned adaptation research without presuming a particular set of actors, level of planning, or involvement of government, rather we attempt to account for the complexity of a deliberate and more involved research
				-	Without setting clear target it may left particular issues uncovered
5	Preparation of spatial planning documents and coastal and small island islands management planning based on the results of climate change risk assessment and adaptation	<ul style="list-style-type: none"> Establishment of zoning plans for the region coastal national / provincial / district / city which contains a map of climate change risks Preparation of settlement, infrastructures and other vital 	Exclusion risks	+	Using avoidance strategy : the location choice for different kinds of land use
				-	avoidance can also mean to deliberately not develop certain areas, for instance not to build in flood prone areas, to avoid (future) vulnerabilities
			Removal of drivers of exclusion	+	'adaptation hierarchy', following the principle of the mitigation ; With the adaptation hierarchy the method involve a normative planning principle that deliberately considers avoidance before minimisation of vulnerabilities to the effects of climate change
				-	If these method are transferred to the detailed planning stage, it is even more difficult to implement avoidance measures
			Policy interventions should	+	it is important to alter practices of adaptation in spatial planning towards a higher prominence of avoidance measures, a strong

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
		facilities planning which affected by climate change. <ul style="list-style-type: none"> Preparation of planning document and regulations which include vulnerability, risk and climate change adaptation 	be tailored to the needs of the excluded		focus on the effects of climate change during the development of strategic spatial plans and the development of avoidance strategies, before shifting to minimisation
			Differentiated effects of policies	-	avoidance measures are usually more robust than minimisation measures
				+	avoidance strategy be implemented on different administrative levels, i.e for instance to avoid soil sealing in areas where rain water accumulates as a way to deal with heavy rainfall or to use green space to prevent urban heat islands
				-	rely on the capacity of the biotic and abiotic conditions to absorb the negative impacts of climate change and to avoid that anthropogenic developments negatively influence this capacity
			Weighted breadth and depth of intervention	+	location choices for new developments are made according to other criteria than climate change, for instance economic development, connectivity or attractiveness
				-	current and future land use and relations and processes within society should be considered as the cause of sensitivities to the effects of climate change and not as the structures that need to be protected by minimisation measures
6	Supervision and control for coastal and sea waters spatial planning and zoning to climate change	<ul style="list-style-type: none"> The implementation of activities that control management of coastal areas and small islands natural resources that have potential impact to climate change The integration of vulnerability and 	Exclusion risks	+	Coastal risk and vulnerability information should be disseminated within wider community flood programmes and policies, which seek to target the most vulnerable group of the community by educating them on these issues
				-	lack of basic knowledge on the flood issues might even contribute in increasing risk in the coastal area, as it might trigger maladaptation, that is failure to properly adapt
			Removal of drivers of exclusion	+	Increasing public participation in surveillance role
				-	public participation has been defined in terms of relative figures which does not say anything on how the public actually contributed in the implementation and development of adaptation measures
				+	

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
		disaster risk elements due to climate change in the control and implementation of spatial planning	Policy interventions should be tailored to the needs of the excluded		Social capital improves participants monitoring, reduces free-riders, thus mutual bonds of trust
				-	Communities with low levels of social capital are less effective at exercising social control over deviant and uncivil behaviors
			Differentiated effects of policies	+	Communicating risk to the affected areas using mass media based on demographic/SES category
				-	plans has reflect the needs of all stakeholders
			Weighted breadth and depth of intervention	+	Arranging public meetings in coastal planning process
				-	arranging public meetings is rather time and money-consuming for areas already short of such resources
Cluster 5: The improvement of supporting system related to climate change adaptation in coastal and small islands					
1	The improvement of research and assessment of coastal resources	Conducting of research and assessment related to utilization of economic coastal resources	Exclusion risks	+	Research towards sustainable exploitation of natural resources in mangrove forests.
				-	Over the years continuous scholarships need to be provided to provide capacity building for researchers
			Removal of drivers of exclusion	+	Jointly producing derived products from research, data and information (i.e. joint scientific publications, communication and outreach products like websites, books, posters, multimedia etc.
				-	inadequate scientific and technical capacity in the areas of physical oceanography and coastal hydrology
			Policy interventions should be tailored to the needs of the excluded	+	Address the issue of science to governance, knowledge transfer to government structure, and societal benefits of research results
				-	Not enough attention was given to data analysis for use in coastal resources management

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Differentiated effects of policies	+	Research to support activity to map out strategies for enhancing societal and economic benefits from coastal and marine resources
				-	high cost of marine observation platform and equipment
			Weighted breadth and depth of intervention	+	to develop a framework for long-term development cooperation between Indonesia and its regional partners with respect to sustainable management of its coastal and marine resources.
				-	Understanding the value of natural resources to influence policy & resource allocation decisions
2	The improvement of research capacity related to phenomena and climate change impact in coastal and small islands	<ul style="list-style-type: none"> Conducting research on climate related hazards, adaptation and developing vulnerability index related to coastal and small islands based on effective and efficient technology Availability of technology and facility to monitor climate related hazards potency 	Exclusion risks	+	There is a need for (more) social science studies on the management of marine and coastal resources.
				-	develop common priorities (e.g. sustained fundamental and applied research that will lead to improved assessment, modelling, monitoring and prediction of potential risks of coastal and marine resources)
			Removal of drivers of exclusion	+	Develop common priorities (e.g. sustained fundamental and applied research that will lead to improved assessment, modelling, monitoring and prediction of potential risks of coastal and marine resources)
				-	inadequate capacity building and educational framework
			Policy interventions should be tailored to the needs of the excluded	+	organise a pilot event on basis of the network initiating the establishment of an international intensive training program (on research capacity, new scientific developments, risk governance)
				-	In need to raise the institutional profile of participating institutions to attract recognition and scientific impact.

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Differentiated effects of policies	+	Established training institutions, networks of specialized qualified personnel
				-	Scientific research capacity mainly for physical and biological oceanography, marine geology, natural resource valuation
			Weighted breadth and depth of intervention	+	advance capacity building for marine resource database, research and observations (including health status, fluxes, connectivity, drivers, pressures and responses, case study scenarios)
				-	Need to get the research that support environmental regulations on the right track
3	The development of early warning system related to climate and oceanography disaster	<ul style="list-style-type: none"> Providing early warning system which consists of relevant devices, organization structure, and data-information management including the appropriate dissemination about the early warning system to the communities in coastal and small islands. 	Exclusion risks	+	Improving hydromet services , it would also produce economic benefits, in the form of useful services for industries and businesses and for households and individuals, even in normal conditions (i.e. during non-dangerous times).
				-	<ul style="list-style-type: none"> Producing hydromet information and making decisions on when to evacuate and invest in preparation measures requires specific skills that are not always available in developing countries
			Removal of drivers of exclusion	+	The local observation system, based on ground, in-situ observations
				-	the ability to implement prevention measures will depend on local infrastructure and capacity
			Policy interventions should be tailored to the needs of the excluded	+	Forecasting capacity, i.e. the translation of low-resolution model forecast into high-resolution forecast
				-	Need an interpretation capacity, to translate model output into actual forecast and warnings

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Differentiated effects of policies	+	hydro-meteorological information goes beyond weather forecasts: observations and long data series are useful to design infrastructure, building, or even coastal area plans
				-	has to measure the willingness of users to pay for the service they get from meteorological information
			Weighted breadth and depth of intervention	+	Communication tools, to make sure the alert reaches the individuals in charge to implementing prevention measures (including the public who is supposed to evacuate), and evacuation and emergency plans
				-	Need to increase users' decision-making capacities, to make sure warnings are actually used (including for evacuation)
4	Strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands	<ul style="list-style-type: none"> The implementation of good governance (including better coordination across sectors) on mitigation and adaptation in coastal and small islands Implementing community participation particularly women in the adaptation in coastal and small islands 	Exclusion risks	+	Ensuring direct involvement of all interest groups at the earliest stage of the project will help identify project activities and outcomes
				-	Project coordinators need to identify all interest groups, including groups that affect or are affected by management initiatives
			Removal of drivers of exclusion	+	Held meeting to disclose the purpose of the planned project, identify the local communities' desired activities and outputs, identify alternative planning and management approaches, encourage local community participation to implement the project, and raise the public's awareness of the value of coastal and marine resource
				-	scoping meetings should help identify existing coastal and marine activities and assess conflicts between interest groups, including between user groups and between government agencies
			Policy interventions should be tailored to the needs of	+	Assessing natural and anthropogenic threats to a region's coastal and marine habitats, and identifying how managers might be able to abate each threat, helps managers prioritize short and long-term objectives and actions and develop a strategic action plan

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			the excluded	-	An understanding of the structure and dynamics of local coastal communities and stakeholders, as well as the role of traditional knowledge and management, is necessary
			Differentiated effects of policies	+	To critique the existing coastal and marine management framework and the capacity of managers to sustainably manage natural resources
				-	Identifying deficiencies with the existing governance structure will enable effective development and implementation of a strategic plan
			Weighted breadth and depth of intervention	+	Review the status and trends of coastal and marine resource uses, human presence within and around the site, demographics, dependence of the local community and adjacent communities on the sites'
				-	Consider the appropriateness of some of the presented management intervention tools that can be used to address priority coastal threats and mitigation problems

Dimension 4 Dynamic

No.	Action plan	Indicator	Policy Markers (PMs)	Design Consideration (DCs)	
Cluster 1: The improvement of capacity of coastal and small islands communities related to climate change					
1	Socialization and awareness of communities to climate change phenomena and impact.	<ul style="list-style-type: none"> • Availability of education, dissemination, and training related to climate change adaptation • Improvement of community preparedness 	Built-in duration	+	Education, dissemination, and training activities are good steps to avoid or minimize exclusion
				-	<ul style="list-style-type: none"> • Special consideration for people with historical disadvantage (historical vulnerability) • Clearly community mapping about exclusion experience • Education, dissemination, and training must be adjusted with community/people needs.
			Long-term and anticipatory character	+	-
				-	<ul style="list-style-type: none"> • Continuously and clear staging of socialization and awareness to get the appropriate results • Increasing community involvement every year
			Proactive and reactive functions	+	<ul style="list-style-type: none"> • Education, dissemination, and training activities are good tools to prevent exclusion
				-	<ul style="list-style-type: none"> • Proactive seeks out potential communities not exposed to information
2	The development of resources utilization for coastal and small island communities	<ul style="list-style-type: none"> • Conducting assessment of coastal resilience to climate change impact • Sustainability of access to resources among coastal communities 	Built-in duration	+	Encourage sustainability resources accessibility for communities
				-	<ul style="list-style-type: none"> • The program involve all people • Existing resources utilization conditions
			Long-term and anticipatory character	+	It has been mentioned sustainability in the utilization of SDA in its action plan → long duration

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
				-	•
			Proactive and reactive functions	+	
				-	• Opening access to resource utilization for inactive populations
3	Maintenance and rehabilitation of water resources in coastal and small islands	Conducting sustainable water resources such as using dyke, reservoir and drinking water management based on appropriate technology	Built-in duration	+	• Providing sustainable water resources management for communities
				-	• Supply of water resources can access by all people • Historical and contextual analysis about water resources utilization to know how many communities have been and have not been served by water
			Long-term and anticipatory character	+	• Sustainability aspect of maintenance and rehabilitation
				-	• Continuously maintenance and rehabilitation to ensure water resources remain available • Long term policy to ensure sustainable water availability
			Proactive and reactive functions	+	• Preventive efforts by building a detailed water demand infrastructure that is expected to reach all communities
				-	• Identifies communities that are not served by clean water especially to less-active communities
4	Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote small	<ul style="list-style-type: none"> • Availability of sea port for coastal and small islands • Availability of infrastructure (electricity, clean 	Built-in duration	+	<ul style="list-style-type: none"> • Action plan has been trying to reach the entire of region (remote and small island) • The infrastructure development plan is very specific, probably based on community needs analysis
				-	<ul style="list-style-type: none"> • Longitudinal/historical data to make sure not only the entire territory covered but also all people

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
	islands using appropriate technology.	water, and communication) for coastal and small islands	Long-term and anticipatory character	+	Policy has been trying to reach all regions and long term (2015-2024)
				-	<ul style="list-style-type: none"> • Ensure no areas are left behind • Long term policy to ensure infrastructure development is accordance with the plan and needs • The policy taken does not make emergence another new exclusion
			Proactive and reactive functions	+	Prevention of exclusion through the construction of infrastructure in the remote area
				-	
Cluster 2: Management of environment and ecosystem for climate change adaptation					
1	The improvement of environment quality in coastal and small islands	Facilitating environment rehabilitation and adaptation based on disaster mitigation in coastal and small islands.	Built-in duration	+	
				-	<ul style="list-style-type: none"> • Specific action plan for environment improvement. It needs deep historical and contextual analysis of the conditions to make the program more specific. • Vulnerable people engagement in environment quality improvement
			Long-term and anticipatory character	+	
				-	<ul style="list-style-type: none"> • Long term improvement of environment so that the environmental changes that occur significant • The policy should anticipate the possibility of exclusion either for a region or community group from the improvement of environments program that will be done
+	<ul style="list-style-type: none"> • 				

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Proactive and reactive functions	-	<ul style="list-style-type: none"> Transfer knowledge to communities about adaptation and mitigation so that the facilities provided are utilized
2	Identification, maintenance and rehabilitation of ecosystem in coastal and small islands	<ul style="list-style-type: none"> Collecting the information on coastal and small islands ecosystem related to climate change 	Built-in duration	+	<ul style="list-style-type: none"> Have considered historical and contextual analysis where the program starts from the identification stage
				-	<ul style="list-style-type: none"> Very physical action program, no specific mention of community involvement in the program.
		<ul style="list-style-type: none"> Conducting management ecosystem of coastal and small islands such as mangrove, wetland, seagrass beds, estuary, and coral reef 	Long-term and anticipatory character	+	<ul style="list-style-type: none"> The program will be implemented for a relatively long period of time (10 year)
				-	<ul style="list-style-type: none"> Continuity or stages of the program should be clear, information should be updated annually to ensure the entire area is covered
				+	<ul style="list-style-type: none">
				-	<ul style="list-style-type: none"> Very physical action program, no specific mention of community involvement in the program.
3	Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based on assessment and identification of coastal	<ul style="list-style-type: none"> Conducting non-structural coastal protection such as coastal vegetation, coral reef and sand dunes. 	Built-in duration	+	<ul style="list-style-type: none"> Already considering sustainability of program, starting from development and maintenance The program has started specific, already considering local conditions
				-	<ul style="list-style-type: none"> Time framing programs related to sustainability maintenance (i.e. how many times maintenance in a year)

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
	and small islands ecosystem	<ul style="list-style-type: none"> Maintaining non-structural in coastal and small islands 	Long-term and anticipatory character	+	<ul style="list-style-type: none"> The program will be implemented for a relatively long period of time (10 year)
				-	Action programs should not create new exclusion for unexposed people such as people who not directly on the coastal line
			Proactive and reactive functions	+	
				-	What benefit can vulnerable people get from the coastal protection
Cluster 3 : The Implementation of Structural and non-structural Adaptation for anticipation of the threat of climate change					
1	Build up Coastal Resilience Village (CRV)	Program and implementation CRV	Built-in duration	+	
				-	<ul style="list-style-type: none"> Adopt local concept which has been developed before (historical and context analysis)
			Long-term and anticipatory character		<ul style="list-style-type: none"> The program is long time
				-	<ul style="list-style-type: none"> Villages covered by the program Identification of villages and communities with potential exposure so that special attention is required Ensure program sustainability after the end of program period.
			Proactive and reactive functions	+	
				-	<ul style="list-style-type: none"> CRV for vulnerable people to anticipate exclusion Capture all vulnerable people that have been recorded or not

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
2	Support facilities and infrastructure for small islands development	Infrastructure provision for small islands is facilitated	Built-in duration	+	<ul style="list-style-type: none"> All people (include disable, poor or vulnerable people) can access the infrastructures Historical and context analysis to make priority facilities and infrastructures development
				-	
			Long-term and anticipatory character	+	<ul style="list-style-type: none"> In the long term facilities and infrastructure can be used by everyone
				-	
			Proactive and reactive functions	-	Detail needs of facilities and infrastructure for disabilities and vulnerable people
3	Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands	<ul style="list-style-type: none"> Information of coastal areas and small islands infrastructure condition in relation with climate change Study and implementation of standard infrastructures in coastal areas and small islands which vulnerable to sea level rise 	Built-in duration	+	<ul style="list-style-type: none"> Already considered historical and contextual analysis where the program starts from the identification stage and then proceed with adjustment Accessible building structure and elevation for the disabilities and the other vulnerable people
				-	
			Long-term and anticipatory character	+	Adjustments made to expand the range of facilities services
				-	Adjustments do not lead to new exclusion groups
			Proactive and reactive functions	+	

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
4	Resilience of farming resources and coastal ponds to climate change	Identification and adaptation action for rice field and ponds in coastal areas and small islands that vulnerable to sea level rise	Built-in duration	-	<ul style="list-style-type: none"> • Identification and adjustment of infrastructure standards should take into account the needs of the disabilities and vulnerable people, both current and potential, in the future
			Built-in duration	+	<ul style="list-style-type: none"> • Consider historical and context analysis by prioritizing farming and fisheries for climate change adaption. Both sectors are main livelihood in coastal and small islands
				-	<ul style="list-style-type: none"> • Map out the presence of disabilities and vulnerable people associated with their livelihoods, give them special support or incentive.
			Long-term and anticipatory character	+	This program has been planned for a long period of time (10 year)
				-	Identification and adjustment of infrastructure standards should take into account the needs of disabilities and vulnerable people, both current and potential in the future
			Proactive and reactive functions	-	<ul style="list-style-type: none"> • Adaptation action not only for disabilities and vulnerable people who already emerge but also for those vulnerable group who still uncover
5	Identification, build up and maintenance coastal protective structures	<ul style="list-style-type: none"> • The implementation of identification, Build up and maintenance coastal protective structures • Provision of navigation facilities for monitoring marine activities 	Built-in duration	+	<ul style="list-style-type: none"> • Considering historical dan context analysis where the action plan starting from indentification stage and then build up as well as maintenance
				-	<ul style="list-style-type: none"> • No specific mention of community involvement in the program.
				+	This program has been planned for a long period of time (10 year)

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
			Long-term and anticipatory character	-	Anticipation policy if there are environmental changes related to structural protection
			Proactive and reactive functions	+	
				-	<ul style="list-style-type: none"> • Specific mention of community involvement in the program.
Cluster 4: The integration of adaptation into coastal and small islands management					
1	Identification and mapping of small island resources	Availability of small island profile	Built-in duration	+	Acurate database for the preparation of document management
				-	Identification and mapping not only for the present condition but also from the past several decades to obtain accurate information
			Long-term and anticipatory character	+	With an accurate data base (historical data), future predictions will be easier and measurable
				-	Prediction of future exclusive possibilities is required or which groups are potentially subject to exclusion
			Proactive and reactive functions	+	
				-	<ul style="list-style-type: none"> • Integration of small island resources identification with vulnerable people identification to prevent the exclusion of resource utilization • Local institutions involvement in small island resources identification
2	Preparation of norm, standard, guideline and criteria (NSGC)	The compilation of document containing standard and guideline for	Built-in duration	+	Provide guidelines for rehabilitation and adaptation specifically for coastal areas and small islands

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
	rehabilitation and adaptation of climate change in coastal areas and small islands	implementation of climate change adaptation options in coastal areas and small islands		-	Historical condition of the object not only the current conditions as one of NSGC data base
			Long-term and anticipatory character	+	
				-	The NSGC is able to accommodate the need for NSGC in the next few decades (as targeted)
			Proactive and reactive functions	+	The preparation of the NSGC is an opportunity to include special needs for vulnerable people
				-	NSGC not only pay attention to present vulnerable people but also consider the opportunity emergence of new exclusion in the future.
3	Assessment on climate change risk and adaptation in coastal areas and small islands	<ul style="list-style-type: none"> Value of hazard, vulnerability and risk of climate change and in coastal areas and small island identified Total number of coastal areas and small islands where risk map and zonation of climate change adaptation have. 	Built-in duration	+	
				-	It is important to consider the condition of the previous community (last decade) in determining the assessment
			Long-term and anticipatory character	+	
				-	Periodically and continuously assessment to see the progress
			Proactive and reactive functions	+	
				-	Adaptation assessment should be able to reduce the risk of climate change for vulnerable people
4	Conducting research and mapping on climate change risk and sector/sub sector adaptation in district/city level	Total number of research on level of hazard, vulnerability and risk, and zonation strategic adaptation on climate change in relevant sectors	Built-in duration	+	Provide a good database for the preparation of required management and planning documents
				-	Incorporate elements of historical data in research and mapping

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
		until 2050 in district/city level.	Long-term and anticipatory character	-	Research and mapping predicts climate change risk in the future based on the data base
			Proactive and reactive functions	-	<ul style="list-style-type: none"> • Detail mapping of communities to detect adaptation needs in accordance with their limitations • Provide opportunities to add adaptation strategies later on if new phenomena are discovered
5	Preparation of spatial planning documents and coastal and small islands management planning based on the results of climate change risk assessment and adaptation	<ul style="list-style-type: none"> • Establishment of zoning plans for the region coastal national / provincial / district / city which contains a map of climate change risks • Preparation of settlement, infrastructures and other vital facilities planning which affected by climate change. • Preparation of planning document and regulations which include vulnerability, risk and climate change adaptation 	Built-in duration	+	
				-	Utilizing historical data such as well as suggestion in previous action plan
			Long-term and anticipatory character	+	Spatial planning documents generally have projected / predicted future needs
				-	Special chapter for vulnerable people related to spatial need
			Proactive and reactive functions	+	
				-	The characteristics of settlement, infrastructure and other vital facilities conform to all characteristics of the population based on identification and mapping that have been done in the previous action plan.
6	Supervision and control for coastal and sea waters spatial planning and zoning to climate change	<ul style="list-style-type: none"> • The implementation of activities that control management of coastal areas and small islands natural resources that 	Built-in duration	+	There is supervision and control of the implementation of spatial planning documents
				-	Utilizing historical data such as well as suggestion in previous action plan
				+	

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
		<p>have potential impact to climate change</p> <ul style="list-style-type: none"> The integration of vulnerability and disaster risk elements due to climate change in the control and implementation of spatial planning 	Long-term and anticipatory character	-	Supervision and control are carried out periodically and continuously
			Proactive and reactive functions	+	
				-	<ul style="list-style-type: none"> If the implementation of the plan is not in accordance with the target should be immediately revised Supervision and control to identify potential exclusions that were not previously detected
Cluster 5: The improvement of supporting system related to climate change adaptation in coastal and small islands					
1	The improvement of research and assessment of coastal resources	Conducting of research and assessment related to utilization of economic coastal resources	Built-in duration	+	Research and study of coastal resource potentials as a basis for improving livelihoods of coastal communities
				-	The identification of resource potentials takes into consideration to the historical data of the ever growing economic resources in the region.
			Long-term and anticipatory character	-	The entire community, especially vulnerable people, also have access to participate in utilizing coastal economic resources
			Proactive and reactive functions	-	Classify coastal resources related to the utilization that will be done.
2	The improvement of research capacity related to phenomena and	<ul style="list-style-type: none"> Conducting research on climate related hazards, adaptation and developing vulnerability 	Built-in duration	+	The improvement research is a chance to include the vulnerable group if it has not been entered before
				-	Providing historical information about vulnerable community including disable groups as an indicator for vulnerability

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
	climate change impact in coastal and small islands	index related to coastal and small islands based on effective and efficient technology • Availability of technology and facility to monitor climate related hazards potency	Long-term and anticipatory character	-	Research capacity improvements are conducted periodically and continuously to identify the emerges of new phenomena
			Proactive and reactive functions	-	
3	The development of early warning system related to climate and oceanography disaster	• Providing early warning system which consists of relevant devices, organization structure, and data-information management including the appropriate dissemination about the early warning system to the communities in coastal and small islands.	Built-in duration	+	
				-	Utilizing early warning system that has been developed in the community
			Long-term and anticipatory character	-	Periodically and continuously preparation of EWS and dissemination in accordance with the dynamics of the society
			Proactive and reactive functions	+	
				-	Conducting socialization to all levels of society in several ways and approaches in accordance with their needs
4	Strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands	• The implementation of good governance (including better coordination across sectors) on mitigation and adaptation in coastal and small islands	Built-in duration	+	<ul style="list-style-type: none"> • Have considered vulnerable groups (women's groups) in mitigation and adaptation • Coordination among stakeholders is one of the capital in facing the dynamics of the development of society and its problems
				-	<ul style="list-style-type: none"> • Cooperation and coordination among agencies that have been done before

No.	Action plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
		<ul style="list-style-type: none"> Implementing community participation particularly women in the adaptation in coastal and small islands 			<ul style="list-style-type: none"> Identification the involvement or potential of community engagement that has been implemented
			Long-term and anticipatory character	+	
				-	Periodically and continuously coordination
			Proactive and reactive functions	+	Community participation expanded, not only women's groups but also other vulnerable groups including people with disabilities

Dimension 5 Contextual and multi-layered

No.	Action plan	Indicator	Policy Markers (PMs)	Design Consideration (DCs)	
Cluster 1: The improvement of capacity of coastal and small islands communities related to climate change					
1	Socialization and awareness of communities to climate change phenomena and impact.	<ul style="list-style-type: none"> • Availability of education, dissemination, and training related to climate change adaptation • Improvement of community preparedness 	In-country coherence and coordination	+	<ul style="list-style-type: none"> • The standard program to present climate change adaptation information for small until mezo unit scale (example : resilient village). • Disaster management mechanism provide at national and states level
				-	<ul style="list-style-type: none"> • Describe in detail how the adaptation strategy mechanism phasing down from national to village level • Have to clearly involved all stakeholder vulnerable from individual, household, regional until states level
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • It already has Adaptation Plan at national level for 2015-2020 • Socialization of Disaster management through society/ communities empowerment • Integration program between maritime sector and climate change mitigation
				-	<ul style="list-style-type: none"> • Provide a social learning mechanism across scale and across sectors adjusting the characteristic of the communities • Need to collaborate other government institution, not only Fisheries Ministry • Need to establish a clear and detail mechanism for coordination other government agencies and other stakeholders.
2	The development of resources utilization for coastal and small island communities	<ul style="list-style-type: none"> • Conducting assessment of coastal resilience to climate change impact 	In-country coherence and coordination	+	<ul style="list-style-type: none"> • Includes non-governmental institution as supporting institution to Maritime and Fisheries Ministry

		<ul style="list-style-type: none"> Sustainability of access to resources among coastal communities 		-	<ul style="list-style-type: none"> It needs to define clearly about the list program and the mechanism coordination with multi-stakeholder Defining in detail about the division of institution roles in resources utilization It needs to describe not only at national but also at regional until communities level
			Regional and sub-regional coordination	+	Already national standard with non-governmental institution contribution
				-	<ul style="list-style-type: none"> It needs document as standard to clarify the ownership of resources at coastal area at communities level Integration documents and regulation in terms of coastal resources that existing in National and regional level
3	Maintenance and rehabilitation of water resources in coastal and small islands	Conducting sustainable water resources such as using dyke, reservoir and drinking water management based on appropriate technology	In-country coherence and coordination	+	<ul style="list-style-type: none"> Already determined what institution will take lead and will be a supporter
				-	<ul style="list-style-type: none"> Need to define in detail cross- sector mechanism between agencies at national level Need to including non-governmental parties as part of maintenance and rehabilitation coastal area Sectoral thematic must be include the social aspect, not only physical aspect in terms of maintenance and rehabilitation
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> Integration between Strategic plan at Fisheries Ministry and National Plan Program has specific design just for area with high risk, so it already consider about the characteristic of the area
				-	<ul style="list-style-type: none"> Need to improve mutual agreement between parties/agencies in order to maintenance and rehabilitations Incentive and disincentive as soft law mechanism in conducting sustainable water resources

4	Development of infrastructure (transportation network, electricity, clean water, and communication) in coastal and remote small islands using appropriate technology.	<ul style="list-style-type: none"> • Availability of sea port for coastal and small islands • Availability of infrastructure (electricity, clean water, and communication) for coastal and small islands 	In-country coherence and coordination	+	<ul style="list-style-type: none"> • Already defining the roles between technical ministry to develop coastal and island infrastructure • Budgeting define in each program, not only in action plan • Addressing the infrastructure to support increasing capacity among the coastal and small islands communities.
				-	<ul style="list-style-type: none"> • Established linking with not only technical Ministry but also social or economic ministry in terms to facilitate soft approach for society and communities • Involving Communication Ministry and also telecommunication private sector
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Already have list of program form the ministry that related with infrastructure development at coastal and small island
				-	<ul style="list-style-type: none"> • Need to define policies for sustainable infrastructure and continuum services small island • The infrastructure policies must be flexible consider the type of area

Cluster 2: Management of environment and ecosystem for climate change adaptation

1	The improvement of environment quality in coastal and small islands	Facilitating environment rehabilitation and adaptation based on disaster mitigation in coastal and small islands.	In-country coherence and coordination	+	Mitigation implemented more than 100 pilot project, it can make the program inclusive throughout the nation
				-	<ul style="list-style-type: none"> • The priority program still limited only at empowerment coastal and maritime • Establishing the more detail program at institutional, national, regional, local and communities level • Needs to involving other government institution at national and local level and the mutual mechanism
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Different assessment at 2 types region : coastal and small islands, flexible at regional differences

				-	<ul style="list-style-type: none"> Needs to develop sharing and mutual roles and mechanism between government and non government actors Providing a variety program in order to leverage the environment quality
2	Identification, maintenance and rehabilitation of ecosystem in coastal and small islands	<ul style="list-style-type: none"> Collecting the information on coastal and small islands ecosystem related to climate change Conducting management ecosystem of coastal and small islands such as mangrove, wetland, seagrass beds, estuary, and coral reef 	In-country coherence and coordination	+	<ul style="list-style-type: none"> Already involving non-government research centre as supporting the fisheries Ministry Local government as supporting institution at local level Detail program as indicator for identification, maintenance, rehabilitation
				-	<ul style="list-style-type: none"> Not only the physical research centre but also involving the social aspect research centre Needs to define systemic and coordinated pulls in the direction of inclusion
3	Maintenance and rehabilitation of non-structural protected areas and the surrounding areas based on assessment and identification of coastal and small islands ecosystem	<ul style="list-style-type: none"> Conducting non-structural coastal protection such as coastal vegetation, coral reef and sand dunes. Maintaining non-structural in coastal and small islands 	Regional and sub-regional coordination	+	<ul style="list-style-type: none"> Each government institution has policies and plan to environment identify and rehabilitation
				-	<ul style="list-style-type: none"> Clear coordination mechanism across sectors and across government levels. Need to have mutual policies and agreement conducting the management with the law enforcement
			In-country coherence and coordination	+	<ul style="list-style-type: none"> Horizontal coordination between technical ministries at national level Vertical coordination from central ministries to local government
				-	<ul style="list-style-type: none"> Integration not only technical ministries but also social and economic ministry to empower society/communities Institutional approach at the local level to enhance the systemic and
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> As a leader institution, Kemenhut provide the Action Plan for Non Structural Protected Areas Already divided the program in specific area according the risk characteristics

				-	<ul style="list-style-type: none"> • Providing the policies or action plan form supporting institution • Integrate the plan become mutual plan related with non structural protected areas
Cluster 3 : The Implementation of Structural and non-structural Adaptation for anticipation of the threat of climate change					
1	Build up Coastal Resilience Village (CRV)	Program and implementation CRV	In-country coherence and coordination	+	Implementing the vertical program form the national level until village level
				-	<ul style="list-style-type: none"> • Needs to combine the roles not only Fisheries Ministry but also the province and local government • Coherency also identified by the vertical mechanism that phasing down form ministry level to local government level
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Already has soft law mechanisms from the central government (strategic plan)
				-	<ul style="list-style-type: none"> • Needs to improve the non –standardized document for all kind of village
2	Support facilities and infrastructure for small islands development	Infrastructure provision for small islands is facilitated	In-country coherence and coordination	+	<ul style="list-style-type: none"> • Fisheries ministry already had the sub program in terms of resource management that include provide facilities in small island
				Regional and sub-regional coordination	+
				-	<ul style="list-style-type: none"> • Need to develop the detail mechanism in running the program
3	Identification and adjustment building structure and elevation of vital facilities in coastal areas and small islands	<ul style="list-style-type: none"> • Information of coastal areas and small islands infrastructure condition in relation with climate change 	In-country coherence and coordination	+	<ul style="list-style-type: none"> • The program has tried to integrate with othe program (from the resilient village) • Has significant role divided between central ministries and supporting institution
				-	<ul style="list-style-type: none"> • Describe in detail how identification and adjustment phasing down from national to village level

		<ul style="list-style-type: none"> • Study and implementation of standard infrastructures in coastal areas and small islands which vulnerable to sea level rise 			<ul style="list-style-type: none"> • Have to clearly involved all stakeholder vulnerable from individual, household, regional until states level
			Regional and sub-regional coordination	+	Program has specific design just for area with high risk, so it already consider about the characteristic of the area
				-	Identify the background of socioeconomic characteristic of the area that suitable of certain kind of infrastructure Provide a mutual agreement to do the project list of the program
4	Resilience of farming resources and coastal ponds to climate change	Identification and adaptation action for rice field and ponds in coastal areas and small islands that vulnerable to sea level rise	In-country coherence and coordination	+	<ul style="list-style-type: none"> • Central government will coordinated through Fisheries Ministry and Public Works as leaders for other institution
				-	<ul style="list-style-type: none"> • Integrated data and policies from social and economic dimension to complete the physical and infrastructure studies • Need to establish a clear and detail mechanism for coordination other government agencies and other stakeholders
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Already have lists of Plan Strategies form the Ministries and agencies
				-	<ul style="list-style-type: none"> • Flexible coordination and information between institution to result the specific studies in accordance with environmental factors of the area • Mutual learning sharing between on to another area
5	Identification, build up and maintenance coastal protective structures	<ul style="list-style-type: none"> • The implementation of identification, Build up and maintenance coastal protective structures • Provision of navigation facilities for monitoring marine activities 	In-country coherence and coordination	+	<ul style="list-style-type: none"> • Elaborate of the roles Fisheries Ministries and Public Works Ministries • Detail indicator capture the roles of each ministry
				-	<ul style="list-style-type: none"> • Coordination with other related agencies across level. • Not only the ministry level to be detail but also provincial and local government roles at identification and maintenance coastal protective
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Providing maintenance system and mechanism particularly for protecting the coastal and small islands protection.

				-	<ul style="list-style-type: none"> Integrate policies among the Fisheries and Public Works Ministry result the fusion studies and policies related maintenance structures at coastal and small island
Cluster 4: The integration of adaptation into coastal and small islands management					
1	Identification and mapping of small island resources	Availability of small island profile	In-country coherence and coordination	+	<ul style="list-style-type: none"> Providing baseline data to enhance the the division of roles in government institution
				-	<ul style="list-style-type: none"> Needs to have data mapping on socio-economic characteristics as baseline that can be done by the local agencies like universities, local NGO etc Appoint focal point agency for the mapping process Needs to collaborate with local government that more know about field situation
			Regional and sub-regional coordination	-	<ul style="list-style-type: none"> Need to have a basic information among the parties to do the profiling The profile instrument could be standardize but must provide the possibility of specific case at each region Collaboration mapping among related agencies and non-government stakeholders that intensively assist local community.
2	Preparation of norm, standard, guideline and criteria (NSGC) rehabilitation and adaptation of climate change in coastal areas and small islands	The compilation of document containing standard and guideline for implementation of climate change adaptation options in coastal areas and small islands	In-country coherence and coordination	+	<ul style="list-style-type: none"> Integrating rehabilitation program with adaptation strategy for coastal and small islands.
				-	<ul style="list-style-type: none"> Needs to collaborate not only horizontal institution like among the central ministries but also the vertical institution like provincial government and research centre to prepare the norm and guidelines. Integrating the existing norm that been elaborate form other institution like NGO etc
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> Already had mutual standard for rehabilitation and adaptation
				-	<ul style="list-style-type: none"> Collecting comprehensive data both for the medium and long term data on environment, climate, and social economic. Standardize Instrument could also capture and differentiate the uniqueness case at each area

					<ul style="list-style-type: none"> • More detail at the mechanism of the norm development and implementation
3	Assessment on climate change risk and adaptation in coastal areas and small islands	<ul style="list-style-type: none"> • Value of hazard, vulnerability and risk of climate change and in coastal areas and small island identified • Total number of coastal areas and small islands where risk map and zonation of climate change adaptation have. 	In-country coherence and coordination	+	<ul style="list-style-type: none"> • Appropriate ministry in deal with risk mapping • Already involving non-government research centre as supporting the lead ministry
				-	<ul style="list-style-type: none"> • It needs to define clearly about the list program and the mechanism coordination with multi-stakeholder • It needs to describe not only at national but also at regional until communities level
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Identifying climate change impact in each region through Adaptation action Plan • Already divided for three level . provincial, cities and municipalities
				-	<ul style="list-style-type: none"> • As baseline mapping it must include the existing document that already result the risk studies • Synchronize the local government program related with risk mapping in detail
4	Conducting research and mapping on climate change risk and sector/sub sector adaptation in district/city level	Total number of research on level of hazard, vulnerability and risk, and zonation strategic adaptation on climate change in relevant sectors until 2050 in district/city level.	In-country coherence and coordination	+	<ul style="list-style-type: none"> • Mezo level mapping that integrate central government and local government
				-	<ul style="list-style-type: none"> • Risk mapping consider the time series changing form several institution include local and central government • Adequate indicators to determine the risk mapping method among the agencies • Involving multi stakeholder at provincial and local level
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Mutual studies among the central government at national level
				-	<ul style="list-style-type: none"> • Policy harmonization that developed among the stakeholders

Cluster 5: The improvement of supporting system related to climate change adaptation in coastal and small islands

1	The improvement of research and assessment of coastal resources	Conducting of research and assessment related to utilization of economic coastal resources	In-country coherence and coordination	+	<ul style="list-style-type: none"> The mainstreaming research development of coastal research in governmental institution
			Regional and sub-regional coordination	-	<ul style="list-style-type: none"> Linking the research development with the other central government institution like economic coordination ministry Involving the research centre and academician from universities Vertical coordination also needed a good cooperation with local government and other institution at provincial level
				+	<ul style="list-style-type: none"> Multi-sector approach enriches the studies of coastal resources development
				-	<ul style="list-style-type: none"> Need detail mechanism divide the roles among the government institution and non government actors Engage the private sector and international network to develop joint research
2	The improvement of research capacity related to phenomena and climate change impact in coastal and small islands	<ul style="list-style-type: none"> Conducting research on climate related hazards, adaptation and developing vulnerability index related to coastal and small islands based on effective and efficient technology Availability of technology and facility to monitor climate related hazards potency 	In-country coherence and coordination	+	<ul style="list-style-type: none"> Appropriate lead ministry to conduct the climate change research Already involving the vertical and horizontal government institution
			Regional and sub-regional coordination	-	<ul style="list-style-type: none"> Integrate the existing studies or previous studies related with climate change effect at coastal and small islands Involving academician and universities representative in nation wide
				+	<ul style="list-style-type: none"> Wider range influencing from the studies. Its not only national but also internationally Detail explanation for each program
				-	<ul style="list-style-type: none"> Includes the socio economic aspect to the theme of research in terms of climate change Elaborate and integrate detail mechanism intra government institution in doing climate change research
3	The development of early warning system	<ul style="list-style-type: none"> Providing early warning system which 	In-country coherence	+	<ul style="list-style-type: none"> Providing early warning system to climate related hazards through BNPB as the lead for Disaster Management

	related to climate and oceanography disaster	consists of relevant devices, organization structure, and data-information management including the appropriate dissemination about the early warning system to the communities in coastal and small islands.	and coordination		<ul style="list-style-type: none"> • Coordinate with fisheries Ministry as the governmental institution that deals with coastal and small island issues
				-	<ul style="list-style-type: none"> • Detail mechanism need to explore more in relation with the task of local government • Needs to do social mapping as baseline for early warning dissemination by involve government and non government stakeholder • Information dissemination by involving the journalistic media
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Already has adaptation plan as part of the early warning system • Already has coordination the utilization and implementation of early warning system
				-	<ul style="list-style-type: none"> • An established platform to take a lead for the early warning system in coastal and small islands by the government consortium • Integrate the existing early warning studies as the baseline data and information
4	Strengthening the organization and coordination across sectors of mitigation and adaptation in coastal and small islands	<ul style="list-style-type: none"> • The implementation of good governance (including better coordination across sectors) on mitigation and adaptation in coastal and small islands • Implementing community participation particularly women in the adaptation in coastal and small islands 	In-country coherence and coordination	+	<ul style="list-style-type: none"> • Coordination among the horizontal government institution • Detail program in cross sector at government institution
				-	<ul style="list-style-type: none"> • Involving not only the physical and technique ministries but also social and economic ministries for support the mitigation in coastal and small islands • Needs to develop in detail the roles of local government
			Regional and sub-regional coordination	+	<ul style="list-style-type: none"> • Providing modules until micro level • Systemic information mitigation that built in accordance to regional needs
				-	<ul style="list-style-type: none"> • Needs to develop mutual agreement and document across sectors of mitigation and adaptation in coastal and small islands

Dimensional 6 Participatory

Cluster 1: The improvement of capacity of coastal and small islands communities

No	Action Plan	Indicator	Policy Markers (PMs)		Design Consideration (Dcs)
1	Improve community awareness regarding climate change and its impact	1. Training on climate change adaptation to strengthen community preparedness is available	Procedural Improvements	++	1. Governments and local communities have entered into the program policy circle 2. The participation of the local community is more emphasized on the object of program objectives while the role of the private sector has not been clearly visible
		2. Climate change information is accessible by the local community	Transformative participation	++	1. The capacity of participation provided to the government and the community has been clearly stated in the program policies 2. Private sector can be a part of assisting in capacity building of the organization and approaches in local communities
		3. Training procedures on community preparedness for climatic and oceanographic related disaster are being prepared			
2	Small island and coastal area resources development plan for the community	1. Study on coastal area resources security to climate change thread is conducted	Procedural Improvements	++	1. Participation in policy circle is done by the central government and local government as the person in charge of the organizer of program activities with the community as the object of program objectives 2. The role of the private sector is still implied in the program

		2. Access for the community to utilize existing resources in sustainable approach is available	Transformative participation	+++	1. The public is empowered to be involved in the success of the program activities as the object of program objectives. 2. Community participation should also be included in the level of evaluation program success.
3.	Maintenance and rehabilitation of coastal area and small island's water resources	1. Implementation of sustainable water resources management activities, such as by using absorption wells, dams, dikes, and drinking water management using appropriate technology	Procedural Improvements	-	1. Activities are carried out in full by the government (central and local government) based on their authority because they are technical. 2. Local communities within the policy circle can act as informants in terms of social studies and as an object of program objectives to be on target.
		2. Implementation of controlling activities of water resources utilization in coastal areas and small islands.	Transformative participation	-	1. The capacity of participation given to the private sector and the community has not been clearly stated.
4.	Further infrastructure development (electricity, clean water, and communication network) in the coastal and small islands with proper technology	<ul style="list-style-type: none"> • Availability and dock for coastal areas and small remote islands • To facilitate the provision of electricity, clean water and communications infrastructure in the outer islands 	Procedural Improvements	-	1. Activities are carried out in full by the government (central and local government) based on their authority because they are technical.
		<ul style="list-style-type: none"> • Implementation of surveillance action to the outermost small islands 	Transformative participation	-	1. The capacity of participation given to the private sector and the community has not been clearly stated.

Cluster 2: Management and utilization of the environment and ecosystems for climate change adaptation

No	Action Plan	Indicator	Policy Markers (PMs)		Design Consideration (Dcs)
1	Improving environmental quality in coastal areas and island islands small.	1. To facilitate the improvement of the environment and adaptation based on disaster mitigation in coastal areas.	Procedural Improvements	-	1. Full responsibility within the policy circle is held by the central government on the basis of the prescribed authority.
		2. Facilitated improvement of the environment and adaptation based on disaster mitigation in small islands.	Transformative participation	-	1. The capacity of local government, local government, private sector, and community involvement has not been explicitly stated in the design of activities due to technical nature.
2	Identification, Maintenance, and rehabilitation of coastal ecosystems and small islands.	1. Accumulation of condition information coastal ecosystems and small islands currently related to the issue of climate change	Procedural Improvements	-	1. Responsibility in the policy circle is carried out by the central and regional governments.
		2. Implementation of management activities natural ecosystems of coastal and islands small, such as mangrove, wetland, padang seagrass, estuary, and coral reefs	Transformative participation	-	1. The capacity of the involvement of the private sector and the community has not been listed, where the implementation of the activity can use the community approach as the subject and the object of the activity.

3	Maintenance and rehabilitation of non-structural or natural coastal protection areas and the area behind it based on the results of the study and identification of coastal ecosystems and small islands.	1. Implementation of development activities such non structural shore protectors beach vegetation, sand dunes, and reefs corals and on small islands.	Procedural Improvements	-	1. Responsibility in the policy circle is carried out by the central and regional governments.
			Transformative participation	+	1 The capacity of engagement has taken into consideration groups of people exposed to climate change issues.

Cluster 3: Implementation of structural and non-structural adaptation measures to anticipate the threat of climate change

No	Action Plan	Indicator	Policy Markers (PMs)		Design Consideration (Dcs)
1	Coastal Resilience Development Village (CRV) or Development of Resilience Coastal Village	1. The drafting of the concept and implementation of Resilience Coastal Village Development program	Procedural Improvements	-	1. Responsibility is carried out fully by the central government on the basis of its authority.
			Transformative participation	-	1. The capacity of the involvement of private parties as well as local community groups / communities has not been contained because of the technical nature or program objectives are focused on the physical condition of the respected areas of climate change issues.
2	Assistance facilities and infrastructure in the development of small islands.	1. To facilitate the provision of infrastructure at small outer islands including small islands.	Procedural Improvements	-	1. Responsibility is carried out fully by the central government on the basis of its authority.
			Transformative participation	-	1. The capacity of the involvement of private parties as well as local community groups / communities has not been contained because of the technical nature or program objectives are focused on the physical condition of the respected areas of climate change issues.

3.	Identification and adjustment of elevation and strengthening of vital building structures and facilities, such as harbors, docks and community settlements in coastal areas and small islands.	1. The collected information on the condition of coastal infrastructure and small islands currently related to the issue of climate change, among others, docks, community settlements, and economic facilities.	Procedural Improvements	-	1. The person in charge of the policy circle covers the central and regional governments.
		2. The identification of the total area in damaged coastal areas rehabilitated.			
		3. Implementation of studies on structural standards and high vital infrastructure in coastal areas and small islands susceptible to sea level rise.	Transformative participation	+	1. The capacity of the community is included in the object of the program objectives, in which the community plays a role in the socialization process of various infrastructure that has been built.
		4. Implementation of strengthening and elevation activities of vital infrastructure in coastal areas and small islands susceptible to sea level rise. Implementation of the arrangement in the development and adaptation of buildings adaptive to climate change.			
4.	Increased resilience of agricultural resources and coastal ponds to the threat of climate change	1. Implementation of identification to use paddy fields and coastal ponds and small islands that are endangered sea level rise	Procedural Improvements	-	1. Penanggung jawab dalam lingkaran kebijakan meliputi pemerintah pusat dan daerah.
		2. Implementation of adaptation measures against catastrophic sea level rise for rice fields and ponds in the coastal areas and islands small	Transformative participation	-	1. Kapasitas keterlibatan pihak swasta maupun masyarakat belum tertera dalam rangkaian dan tujuan program karena bersifat teknis tanpa pendekatan kelompok masyarakat.
5.	Identification, development and maintenance of protective structures beach (sea wall, groin,	1. The identification of the condition of the protective structure beach (sea wall, groin, breakwater) waves, beach nourishment, the floodgates tides, etc. in coastal areas and small islands.	Procedural Improvements	-	1. The person in charge of the policy circle covers the central and regional governments.

	breakwater, beach nourishment, tidal water, etc.)	2. Establishment and implementation of structural coastal protection of local government such as seawall, groynes, breakers waves, tidal gates, and beach nourishment.			
		3. Provision of navigation facilities for monitor sea activity, such as waves, tides, storms, etc	Transformative participation	-	1. The capacity of private and community involvement has not been listed in the program set and objectives because it is technical without a community group approach.

Cluster 4: Integration of adaptation efforts into coastal and small island management plans

No	Action Plan	Indicator	Policy Markers (PMs)		Design Consideration (DCs)
1.	Identification and potential mapping small islands	The compilation of profiles of small islands	Procedural Improvements	-	1. Responsibility is carried out fully by the central government on the basis of its authority.
			Transformative participation	-	1. The capacity of private and community involvement has not been listed in the program's series and objectives because it is physical.
2.	Preparation of Norms, Standards, Guidelines and Criteria (NSPK) rehabilitation and adaptation climate change in coastal areas and small islands	1.The compilation of documents containing standards and guidelines for implementing adaptation options climate change for coastal areas and small islands	Procedural Improvements	-	1. Responsibility is carried out fully by the central government on the basis of its authority.
			Transformative participation	-	1. The capacity of private and community involvement has not been listed in the program's series and objectives because it is physical.
3.	Risk assessment and adaptation climate change in	1. The identification of hazard, vulnerability, and climate change risks in the region coastal and small islands	Procedural Improvements	-	1. The person in charge of the policy circle covers the central and regional governments.

	coastal areas and small islands	2. The number of coastal areas and islands small ones that have risk and zoning maps adaptation to climate change	Transformative participation	-	1. The capacity of the involvement of private parties and the community has not been listed in the program's series and objectives.
4.	Review and mapping of sectoral / sub-district level risk and adaptation to climate change / sub-sector	1. Number of assessments of hazard, vulnerability, and level risks as well as zoning adaptation strategies for change climate in related sectors up to the year 2050 in the district / city	Procedural Improvements	-	1. The person in charge of the policy circle covers the central and regional governments.
		2. Integration (mainstreaming) strategy climate change adaptation to the sector linked to the year 2050 in the region district / city	Transformative participation	-	1. The capacity of the involvement of private parties and the community has not been listed in the program's series and objective
5.	Preparation of the Setup document space and planning coastal area management and small islands based on results of risk assessment and adaptation climate change	1. Establishment of zoning plans for the region coastal national / provincial / district / city which contains a map of climate change risks	Procedural Improvements	-	1. The person in charge of the policy circle covers the central and regional governments.
		2. Arrangement of arrangement plan settlements, infrastructure and facilities other vital impacts climate change in an integrated manner	Transformative participation	-	1. The capacity of the involvement of private parties and the community has not been listed in the program's series and objectives.
		3. Tersusunnya dokumen perencanaan dan Peraturan perundangan yang memasukkan faktor kerentanan, risiko, dan adaptasiperubahan iklim			
6.	Supervision and control for spatial arrangement and zoning of coastal	1. The implementation of that activity controlling mastery and management coastal resources and natural resources small islands with potential for impact and impact climate change	Procedural Improvements		1. The person in charge of the policy circle covers the central and regional governments.

	and waters on climate change	2. Integration of vulnerability elements and disaster risk due to climate change in control and implementation spatial planning	Transformative participation		1. The involvement capacity of the private sector and the community has not been listed in the program's series and objectives because the program activities include technical matters. 2. The role of local communities can be participatory in providing detailed information on assessing vulnerability and climate change risks.
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Cluster 5: Improved climate change adaptation support system in coastal areas and small islands

No	Action Plan	Indicator	Policy Markers (PMs)		Design Consideration (Dcs)
1.	Improved research and studies potential of coastal resources	The implementation of research on the utilization study economical coastal resources	Procedural Improvements	-	1. The person in charge of the policy circle covers the central and regional governments.
			Transformative participation	-	1. The capacity of the involvement of private parties and the community has not been listed in the program's series and objectives.
2.	Improved research capacity about phenomena and impacts climate change in coastal areas and small islands	1. Implementation of research on threats hazards and vulnerability index of climate change in marine areas, coastal and small islands 2. Availability of facilities and technology can monitor potential disaster sources due to climate change 3. Implementation of active contribution in the net an international database for monitoring phenomena and the impacts of climate change	Procedural Improvements		1. The person in charge of the policy circle includes the central government as the primary and regional responsibility holder as the person in charge of the supporters.

		4. Implementation of inventory data, system, information, and research related to climate change. The implementation of research on strategy and climate change adaptation technology appropriate, effective, and efficient accordingly characteristics of coastal areas and small islands	Transformative participation	-	1. The capacity of the involvement of private parties and the community has not been listed in the program's series and objectives. 2. The capacity of private parties and local communities can be a consideration in the subjects and subjects of science and technology development related to the reduction of climate change issues with social approach.
3.	System development disaster early warning climatology and oceanography	1. Implementation of system tool procurement early warning in coastal areas and small islands that are vulnerable to climatological disasters and oceanography	Procedural Improvements	-	1. The person in charge of the policy circle includes the central government as the primary and regional responsibility holder as the person in charge of the supporters.
		2. Organizational implementation, installation, and system testing early warning of climatological disasters and oceanography in coastal areas and small islands			
		3. The creation of coordination mechanisms and implementation of activities for taking a decision on the status of a disaster threat climatology and inter-institutional oceanography at the central and regional levels in the region coastal and small islands	Transformative participation	-	
		4. Achieving information on warnings climatological disasters and oceanography to local communities and institutions coastal areas and small islands 5. Preparation of accurate data, information, and updating of the procedure remains responsive emergency and climatological disasters oceanography in coastal areas and small islands			
4.	Institutional strengthening and coordination across	1. Implementation of institutional strengthening mitigation of adaptation in coastal areas and small islands	Procedural Improvements	-	1. The person in charge of the policy circle covers the central and regional governments.

	sectors mitigation of adaptation in the region coastal and small islands	2. Implementation of the realization of participation society, especially women, in adaptation efforts in coastal areas and small islands	Transformative participation	++	1. Capacity of community involvement has been included in the program series by considering gender equality.
		3. Achieving effective coordination across sectors field of adaptation mitigation in coastal areas and small islands			



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