

Resilience of Special Area: Urban Area				
No	Action Plan	Scope	Priority Location	Institution Involved
1	Cluster 1: Integration of spatial plan and adaptation efforts	<ul style="list-style-type: none"> <li>• Compilation of the map on vulnerability due to climate change for urban areas</li> <li>• Compilation of spatial document and urban area planning and management and supervision and management for spatial planning and zoning of urban areas in context of climate change</li> </ul>	National Pilot studies in high risk areas	Ministry of Public Works Non-Ministrial Research Institution (Meteorological Climatological and Geophysics Agency, PPGL, Research Institution (LAPAN), Indonesia Science Institution (LIPI)), Agency for Technology Assessment and Application), Geospatial Information Agency, Ministry of Planning (Bappenas), Agency of Disaster Management, Regional Government
2	Cluster 2: Increasing the quality of the environment	<ul style="list-style-type: none"> <li>• Application of Green Cities</li> </ul>	High risk cities	Ministry of Public Works, Ministry of Environment, Non-Ministrial Research Institut, Agency of Family Planning, Regional Government
3	Cluster 3: Increasing the quality of urban infrastructure	<ul style="list-style-type: none"> <li>• Compilation of strategy for development of community housing and infrastructure of urban areas that is integrated and in line with a comprehensive development orientation (including adaptation to climate change)</li> <li>• Increasing the quality of housing infrastructure in urban areas; providing urban drainage system that is environment friendly;</li> <li>• Provision of community housing that is strong, of reasonable standard and is affordable</li> <li>• Reduction of risks of the disruption of functions of roads due to floods, increase of sea surface level, and other natural disasters</li> </ul>	National Pilot studies in high risk areas	Ministry of Public Works, Ministry of Community Housing, Regional Government
4	Cluster 4: Stability of social life of urban communities	<ul style="list-style-type: none"> <li>• Socialization and increasing public awareness to the phenomenon and impact of climate change</li> <li>• Increasing resilience of agricultural resources and fish cultivation ponds in coastal areas of cities against threats of climate change</li> <li>• Increasing the quality of the environment in urban areas</li> <li>• Increasing the availability of infrastructure in urban areas.</li> </ul>	National	Non-Ministrial Research Institution, Ministry of Agriculture, Agency of Disaster Management, Regional Government, DPSDA, Ministry of Public Works, Regional Government
5	Cluster 5: Increasing research and quality of information	<ul style="list-style-type: none"> <li>• Development of institutional capacity and networks related to adaptation to climate change</li> <li>• Increasing public awareness on adaptation to climate change in urban areas</li> <li>• Increasing the capacity for doing research on the phenomenon and impact of climate change in urban areas.</li> </ul>	National	Ministry of Marine and Fishery, Non-Ministrial Research Institution, Agency of Disaster Management, Ministry of Research and Technology, Regional Government

Resilience of Special Area: Coastal Areas and Small Islands				
No	Action Plan	Scope	Priority Location	Institution Involved
1	Cluster 1: Community live capacity development	<ul style="list-style-type: none"> <li>Increasing resilience of agricultural and fish pond resources in coastal areas against the threat of climate change</li> <li>Socialization and increasing public awareness on the phenomenon and impact of climate change; increasing the quality of the environment in coastal areas and on small islands</li> <li>Development of Coastal Resilience Village (CRV)</li> <li>Development of the utilization of coastal and small islands resources for the community</li> <li>Increasing the networks of transportation and communications in coastal areas and isolated small islands</li> </ul>	National, high risk coastal area	Ministry of Marine and Fishery, Ministry of Agriculture, Agency of Disaster Management, Indonesia Science Institution (LIPI), Non-Ministrial Research Institution, Ministry of Public Works, Regional Government
2	Cluster 2: Management of the quality of the environment	<ul style="list-style-type: none"> <li>Identification of the condition of ecosystems of coastal areas and of small islands</li> <li>Maintenance and rehabilitation of ecosystem of coastal areas and small islands</li> <li>Maintenance and rehabilitation of non-structural/natural buffer areas on coastlines and in their hinterlands</li> <li>Maintenance and rehabilitation of water resources in coastal areas and on small islands</li> </ul>	National High risk coastal cities Pilot study in high risk areas	Ministry of Marine and Fishery, Ministry of Environment, Agency of Disaster Management, Indonesia Science Institution (LIPI), Regional Government
3	Cluster 3: Application of structural and non structural adaptation actions	<ul style="list-style-type: none"> <li>Compilation of standards, guidelines and criteria on adaptation to climate change in coastal areas and small islands</li> <li>Identification of the condition of infrastructure and vital facilities in coastal areas and small islands</li> <li>Adjustment of the elevation and strengthening of structure of buildings and vital facilities, such as roads, port wharves, and community housing</li> <li>Selection of technology for adaptation to climate change that is appropriate, effective, and efficient (backward adaptation, accommodation, protection)</li> <li>Development and maintenance coastal buffer structures (sea walls, groins, wave breakers, beach nourishment, ebb-tide water gate, etc)</li> <li>Socialization and application of multistory housing in coastal areas and development of the early warning system to climatologic and oceanographic disasters</li> </ul>	National, pilot study in high risk areas	Ministry of Marine and Fishery, Non-Ministrial Research Institution, Agency of Disaster Management, Ministry of Public Works, Laws and Regulations, Regional Government
4	Cluster 4: Integration of adaptation measures into the spatial plan	<ul style="list-style-type: none"> <li>Analysis of threats and compilation of map on areas that are vulnerable to climate change in marine areas, coastal areas, and islands</li> <li>Compilation of document on spatial plan and plan on the management of coastal areas and small islands</li> <li>Supervision and control for spatial planning and zoning of coastal areas and waters against climate change.</li> </ul>	National	Ministry of Marine and Fishery, Geospatial Information Agency, Ministry of Environment, Non-Ministrial Research Institution, Agency of Disaster Management, Regional Government
5	Cluster 5: Increasing research and quality of information	<ul style="list-style-type: none"> <li>Increasing the capacity for conducting research on the phenomenon and impact of climate change in coastal areas and small islands</li> </ul>	National	Ministry of Marine and Fishery, Non-Ministrial Research Institution, Agency of Family Planning, Agency of Disaster Management,

Support System				
No	Action Plan	Scope	Priority Location	Institution Involved
1	Cluster 1: Enhancing the capacity of stakeholders in adaptation to climate change	<ul style="list-style-type: none"> <li>Education, socialization, and training on adaptation to climate change</li> <li>Establishment of forum/network/alliance/work group on adaptation to climate change</li> </ul>	National	Agency of Disaster Management, Ministry of Health, Ministry of Marine and Fishery, Ministry of Public Works, Ministry of Environment, Ministry of Agriculture, Ministry of Forestry, Ministry of Social, Ministry of Education, Ministry of Communication and Information, Meteorological Climatological and Geophysics Agency, Agency for Technology Assessment and Application, Indonesia Science Institution (LIPI), National Council on Climate Change (DNPI)
2	Cluster 2: Development of climate information that is reliable and uptodate	<ul style="list-style-type: none"> <li>Development of a reliable and uptodate an information system that is responsive to climate change</li> </ul>	National	Agency of Disaster Management, Meteorological Climatological and Geophysics Agency, Ministry of Environment, Ministry of Communication and Information, Research Institution (LAPAN), Ministry of Energy and Mineral Resources, Ministry of Public Works, Ministry of Marine and Fishery, Ministry of Health, Geospatial Information Agency, National Council on Climate Change (DNPI)
3	Cluster 3: Increasing research and developing science and technology that are related to adaptation to climate change	<ul style="list-style-type: none"> <li>Collection of data and information through research on climate change, vulnerability and risks of the environment, social, economic, and geographic risk and vulnerability</li> <li>Development of innovation and technology that are related to climate change and adaptation to it, and knowledge management</li> </ul>	National	Indonesia Science Institution (LIPI), Ministry of Health, Ministry of Marine and Fishery, Ministry of Public Works, Ministry of Environment, Ministry of Agriculture, Ministry of Forestry, Meteorological Climatological and Geophysics Agency, Agency of Disaster Management, Agency for Technology Assessment and Application, Research Institution (LAPAN), Geospatial Information Agency, National Council on Climate Change (DNPI)
4	Cluster 4: Planning and budgeting that are responsive to climate change	<ul style="list-style-type: none"> <li>Compilation of planning documents and laws that have accommodated matters on vulnerability, risks, and adaptation to climate change.</li> </ul>	National	Agency of Disaster Management, Ministry of Planning (Bappenas), Ministry of Home Affairs, Ministry of Finance
5	Cluster 5: Monitoring and evaluation of activities on adaptation to climate change	<ul style="list-style-type: none"> <li>Designing a system for monitoring and evaluation that will yield information on progress in attaining targets of programs on adaptation to climate change</li> <li>Implementation monitoring and evaluation of activities on adaptation to climate change.</li> </ul>	National	Ministry of Planning (BAPPENAS), Agency of Disaster Management, Ministry of Health, Ministry of Marine and Fishery, Ministry of Public Works, Ministry of Environment, Ministry of Agriculture, Ministry of Forestry, Ministry of Social, Ministry of Environment, National Council on Climate Change (DNPI), Regional Government

# Chapter 5: Mechanism for Implementation

## 5.1 System of Governance

Adaptation to climate change in Indonesia requires a specific approach. In line with the change in the political system and democratization that have occurred since the end of the 1990s, Indonesia has started to apply a decentralized policy with issuance of Law Number 22 of 1999 that subsequently was revised by Law Number 32 of 2004 on Regional Governance. One of the main issues of a decentralized system concerns the division of authority among central/provincial/district/city government levels. With a decentralized government system it is necessary to have adaptation measures at various levels of government.

The issue of coordination is one of the main challenges in the planning and implementation of adaptation in Indonesia, the more so if linked to the political structure and system of governance that are decentralized. Coordination is crucial not only among ministries/government agencies at the central level, but also covers the relations among all government levels (central/provincial/district and city levels). The implementation of adaptation does not depend on one ministry/government agency but involve all sectors. Government levels, the private sector and the public at large. To ascertain that a selected adaptation measure is the effective one and has taken into account the vulnerability condition of regions, the planning of adaptation that is carried out by ministries/government agencies at the central government level is not made in isolation, but must be made on a cross-sectoral and inter-regional basis. This is important for attaining cross-sectoral development targets, to avert malfunction of adaptation and avert conflicts between adaptation and mitigation and can open up broader room for intervention in the social life system, that emerge in the planning of adaptation.

The coordination problems occurring at the central level is also witnessed at the local/regional level. Potential conflicts among sectors are still frequently occurring so that it is necessary to have an integrated strategy for overcoming them. One example is the conflict of interest among activities in agriculture, conservation, tourism, and other economic sectors. The RAN-API document has an important role in providing direction to regional government in resolving conflicts that may arise among sectors and how to manage cross sectoral issues. It is also expected that the RAN-API can become an instrument for enhancing coordination among sectors and among regions with the support of resources towards a national adaptation mechanism that is integrated. Such adaptation mechanism involves all stakeholders encompassing the government, private sector, civil society, and research institutions.

The regional government has an important role in implementing the adaptation in accordance with the condition of the relevant region and its level of vulnerability. Basically, the direct impact of climate change occurs at the local scale, so that adaptation measures are implemented at the local level and under local conditions. In order to produce an effective adaptation measure it is necessary to have a comprehensive endeavor at various government levels, guided and supported by the strategy and policy on adaptation at the central government level.

Climate change has divergent impacts to all regions in Indonesia. Therefore, adaptation measures for the respective provinces, districts, and cities are adjusted to the specific characteristics of each region by taking into account the vulnerabilities of each community and by increasing their respective adaptive capacity. Adaptation measures are taken by increasing the role of all stakeholders and by increasing the role of coordination among regional government institutions for encouraging the involvement of public and private elements in the adaptation to climate change.

The formulation and implementation of the RAN-API need to take into account the division of authorities and government affairs to areas that are related to adaptation to climate change. Stipulations on the authority of national, provincial, district/city governments are based on UU (Law) Number 32 of 2004 and PP (Government Regulation) Number 38 of 2007. The compilation of the program and action plan on adaptation in several sectors needs to be made congruent with the stipulations on power/authority division as contained in PP (Government Regulation) Number 38 of 2007. Regional Governments (Provinces, Districts/Cities) need to formulate their strategy on adaptation to climate change on the basis of characteristics and needs of their respective regions by taking into account their respective capacities. In the process of formulating the strategy and action plan on adaptation in the regions, provincial governments need to coordinate with the Ministry of National Development Planning/Bappenas and with the related ministries/government agencies. The document on the strategy and action plan that has been produced by the Provincial Government must be integrated with the document on the Regional development plan, namely the RPJMD. Moreover, the document on the strategy of action plan contains priority programs and activities by sectors and is closely linked to the Renstras (Strategic Plans) of the related SKPDs (Regional Government Units).

## 5.2 Mechanism of Coordination

In the context of facilitating coordination in the handling of climate change, encompassing mitigation as well as adaptation, and for enhancing efficiency and effectiveness in realizing the action plans on mitigation and adaptation to climate change. The Minister of National Development Planning/Head of Bappenas issues the SK (Minister Decree) Number Kep.38/M.PPN/HK/03/2012 regarding formation of the Climate Change Coordination Team. The Climate Change Coordination Team comprises the Steering Committee and six (6) Working Groups, as shown in Figure 5.1.

The Steering Committee consists of echelon I officials at the Ministries/Government Agencies who have the tasks of providing general direction to the implementation of tasks of the working groups, determining recommendations on policies/strategies in handling climate change (mitigation and adaptation) based on the RAN-GRK and RAN-API (and submitting progress reports on the implementation of mitigation and adaptation programs and activities).

Working Group VI (Pokja VI) on Adaptation is one of the working groups that in this case has been established with the following tasks:

- a. To coordinate implementation of programs and activities on adaptation to climate change.
- b. To synchronize the work plans of the respective K/Ls (Ministries and Government Agencies).
- c. To formulate the National Action Plan for Adaptation to Climate Change;
- d. To formulate the biannual and annual reports of the Working Group and to submit the progress report on the implementation of programs and activities to the Chairman of the Steering Committee for Climate Change;
- e. To carry out other related tasks in accordance with the directions of the Steering Committee on Handling of Climate Change.

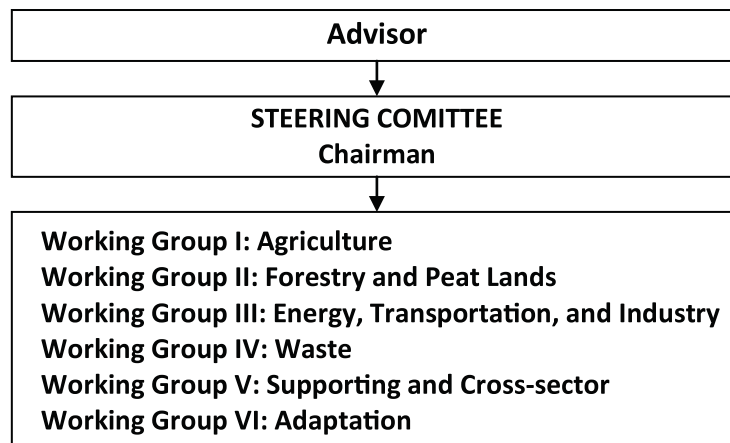


Figure 5.1 Climate Change Coordination Team

The formulation and implementation of this RAN-API will be coordinated through the Working Group (Pokja) for Adaptation under the oversight of the Steering Committee for Climate Change that is coordinated by the Ministry of National Development Planning/Bappenas.

### 5.3 International Cooperation

The implementation of national programs and action plan on adaptation to climate change requires funding support from the central as well as regional governments, in addition to support from international institutions and cooperation. Climate change is a global issue that has the attention of all nations and international institutions. That requires a comprehensive understanding on international support and cooperation in the implementation of the action plan on climate change. The available funding at the central and regional governments to support adaptation to climate change is very limited.

Therefore, the local funding sources need to be supported by funding that originate from cooperation with international institutions and private sector and funding for research and development.

The RAN-API is a document that becomes the direction for regional and central governments in seeking out international cooperation and in obtaining international funding.

In order to maximize the potential benefits from international cooperation and funding of climate change, the RAN-API documents explicitly places the emphasis on the following aspects:

- **Relating the outputs of adaptation to climate change to the program for reducing poverty and with other development projects.** The reduction of level of risks and vulnerability to climate change (including other threats), are development endeavors that mutually benefit each other. Various development projects should provide their respective contributions to the reduction of vulnerability and take into account communities that are most vulnerable.
- **Enhancing better communications in relation to the priority and target of adaptation in the chances of obtaining international funding.** The priority of funding from international cooperation institutions is not always the same as the priority of the action plan of the government of Indonesia. Therefore, it is necessary that the government and stakeholders determine the priority action plan that is needed compared adjusting the priority in accordance with existing funding potentials.

- **The importance of the mainstreaming of climate change.** In the context of regional development, the issue of climate change has not yet become the main priority compared to the sectors of health, education, and social welfare. The efforts for the mainstreaming of climate change encourages the capacity building of adaptation of the general public without changing the uses of the existing limited resources in the priorities of the regions.

The RAN-API document is expected to be able to identify the available sources of funding, from domestic as well as from international sources for the implementation of the action plan for adaptation to climate change. The mechanism of funding from domestic sources follows the existing procedure for managing finances. In relation to support of international funding sources, the RAN-API provided direction in linking KLs and other stakeholders to international funding sources. The RAN-API document explicitly provided direction on how Ministries and Central Government Agencies, non governmental institutions, and the general public can coordinate with each other in preparing the proportion of funding from international cooperation institutions.

## 5.4 Mechanism of Adaptation Funding

Up to now there is yet no policies on funding of adaptation to climate change that have specifically been developed for supporting the implementation of the action plan on adaptation in Indonesia. Policies on funding of adaptation to climate change are part of the policies on development funding as a whole that are based on the annual development plans of the central, provincial, and district/city governments.

In the medium-term development plan, the issue of climate change already has a priority funding through the mechanism of the APBN (National Government Budget). In addition, funding of climate change is not only obtained from domestic sources but also from various other sources, including from international and private sources. Many of the programs on adaptation to climate change has thus far been funded through international cooperation, in the form of funding for capacity building as well as funding for pilot projects.

### 5.4.1 Sources of Domestic Funding

Domestic funding, which is the priority source of funding the RAN-API originates from the APBN (National Government Budget) in accordance with the RPJMN 2010-2014 and the RKP of the current year. Other domestic sources of funding, are among others the APBD (Regional Government Budget), government loan, private investment (bank and non-bank), and CSR (Corporate Social Responsibility).

### 5.4.2 International Funding Sources

Sources of funding from international institutions can broadly be used by the government as well as by the private sector. Use of such source very much depends on the mechanism that currently applies in the respective funding provider institutions. In relation to climate change, the mechanism of the UNFCCC has provided access to developing nations to obtain funds from developed nations. The *Global Environment Facility* (GEF) has been designated as the institution that manages such funds and for allocating it through multilateral agencies (World Bank, UNDP, etc) that acts as *trustee*. The mechanism of funding through the UNFCCC has not yet been determined. Even though the Copenhagen Accord stated that there will immediately be a Copenhagen Green Climate Fund, new agreement has yet been reached on the form, mechanism of allocation, criteria of disbursement, etc.

## **5.5 Mechanism of Monitoring, Evaluating, Reviewing, and Reporting**

In the implementation of the RAN-API a mechanism for monitoring, evaluation, reporting, and reviewing is made, that is part of the cycle of formulating and updating of the RAN-API in accordance with the latest developments of climate change at the national and global levels.

### **5.5.1 Monitoring, Evaluation, and Reporting**

The process of the monitoring and evaluation of the RAN-API is needed for ascertaining that targets for reducing emissions have been attained. The process of monitoring the implementation of activities of the RAN-API is implemented by the related Ministries/Government Agencies and is periodically reported to the Minister of National Development Planning/ Head of Bappenas.

### **5.5.2 Mechanism of Review of the RAN-API**

Adaptation to climate change requires comprehensive basic studies with considerations on the dynamic developments that occur globally and nationally. In addition, with the science and technology progress it is possible to make new breakthroughs in the future. For that purpose, the RAN-API document is enabled to be revised on the basis of developments that occur and on the basis of findings of monitoring and evaluation that are conducted periodically. The Ministry of National Development Planning/ Bappenas will periodically carry out an integrated process of evaluation and review of the RAN-API in accordance with the national needs and latest global developments.





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