

2017 APCC 1st Education Program

“User-oriented Statistical Downscaling of Climate Information in Agriculture and Water Resources”

(21 August 2017, Busan, Republic of Korea)

「Adapting to the Changing Climate」

National Climate Change Adaptation Strategy in Korea



Korea Adaptation Center for Climate Change (KACCC)
Korea Environment Institute (KEI)

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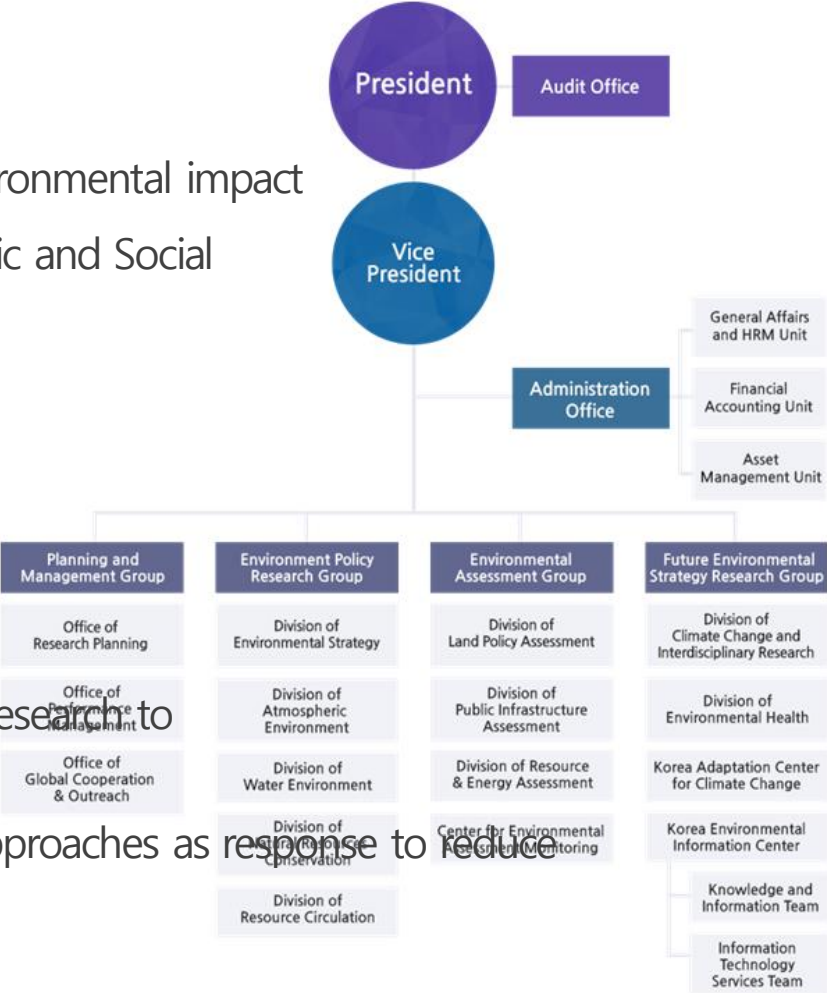
Korea Environment Institute

KEI

Korea’s leading think tank on environmental policy and environmental impact assessment (EIA), as a part of the Korea Council of Economic and Social Research Institutes under the Prime Minister’s Office.

Mission

- Deliver future-oriented environmental policy research
- Provide expert reviews on EIA statements and conduct research to improve EIA procedures and outcomes
- Investigate both the adaptation and emission control approaches as response to reduce global and local climate change risks
- Share sustainability vision with coming generations
- Promote public awareness and global knowledge-sharing on environmental issues



Korea Adaptation Center for Climate Change

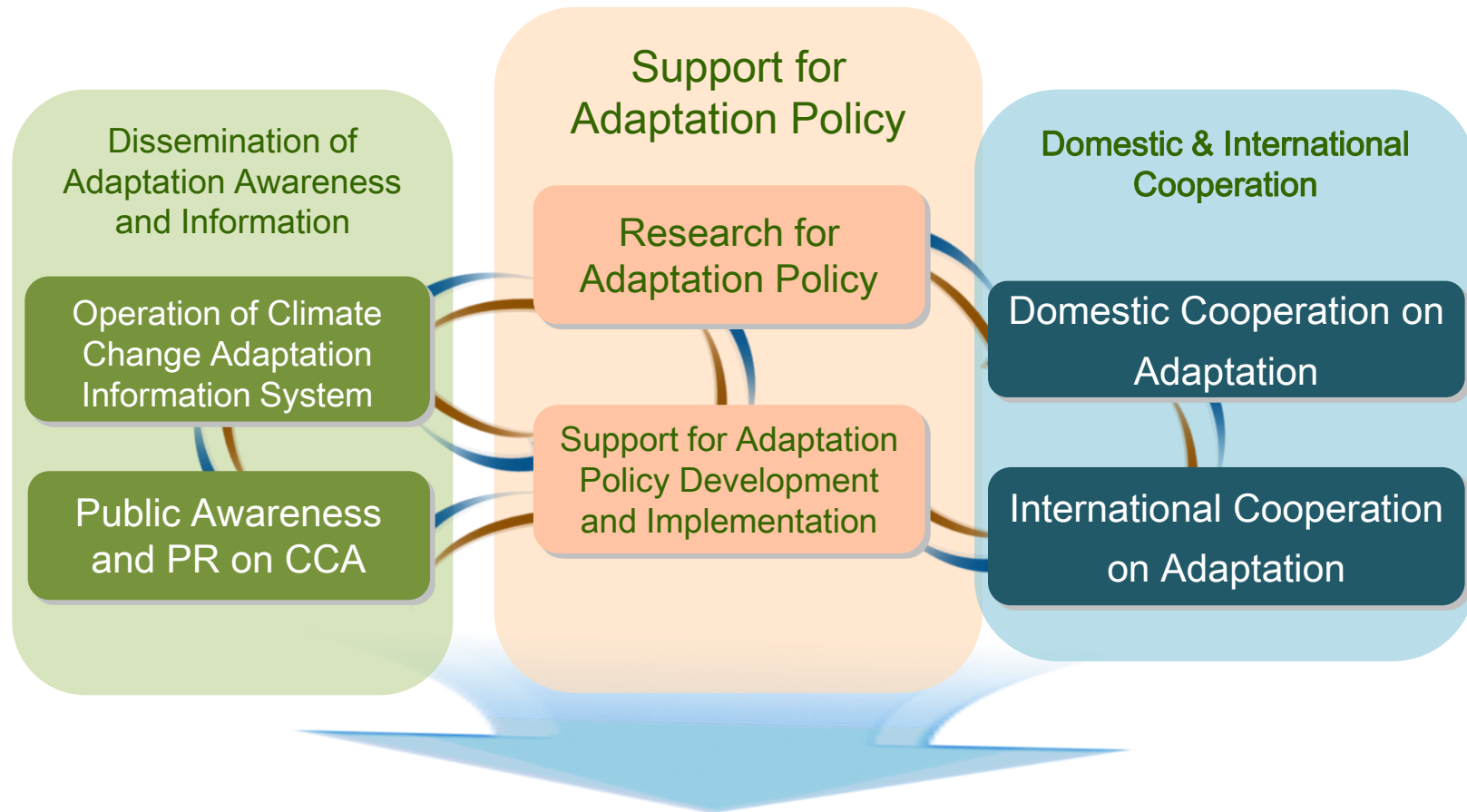
- KACCC was established on July 1, 2009, based on MOE Instruction No. 850
- The items on the operation of KACCC was legalized by "the Clean Air Conservation Act" (revised on May, 2012)
- The center collaborates closely with the Ministry of Environment



Main roles of KACCCC

- Support nationwide climate change adaptation policies development and implementation
- Establish and manage global and regional climate change adaptation networks
- Develop climate change vulnerability and risk assessment frameworks and tools
- Raise public awareness of climate change adaptation





Leading Policy Development and Research
for Enhancement of National Adaptation Capacity



Climate Change Risks in Korea

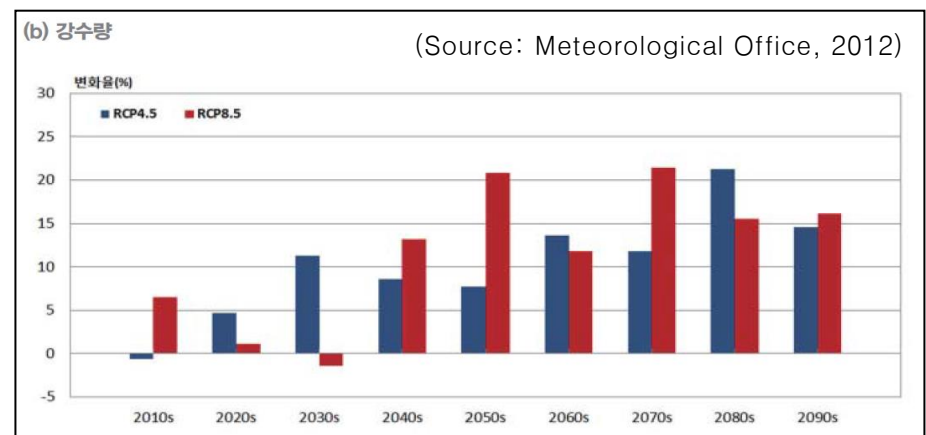
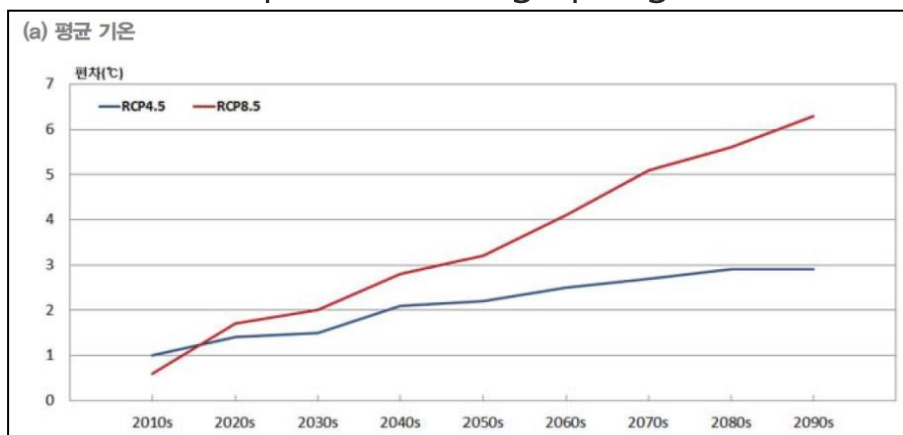
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I . Climate Change Risks in Korea

1. Prospects of Climate Change in Korea (End of the 21th Century, RCP 8.5)

- (Climate) 3.2°C increases by 2050s, Season length changes
 - The subtropical zone is projected to expand from the South Coast to the whole country except inland areas
 - Longer summer season, and winter of Jeju and Ulleung islands will be disappeared
- (Rainfall) Increase in rainfall by 15.6% and precipitation intensity by 13% by 2050s, Increase in localized torrential downpours
 - Increase rainfall in late spring and early summer than summer, damages due to heavy rain are expected during spring and autumn.



<Temporal variation in climate over Korea peninsula in 21st century (left: climate, right: rainfall) >

1. Climate Change Risks in Korea

2. Major Risks

(Source: KEI, 2014)

- (Health) Increase in death, disease and infectious disease due to temperature increase, heat wave and disasters
 - Heat wave death toll : ('30s) 4,820 → ('50s) 11,673
 - Disease burden(KRW) due to heat wave and abnormal temperature : ('10s) 53 billion → ('20s) 103.9 billion → ('50s) 1 trillion 437.7 billion
- (Water) Rainfall changes, water management degeneration due to increase in flood and droughts



(Source: YonhapNews)

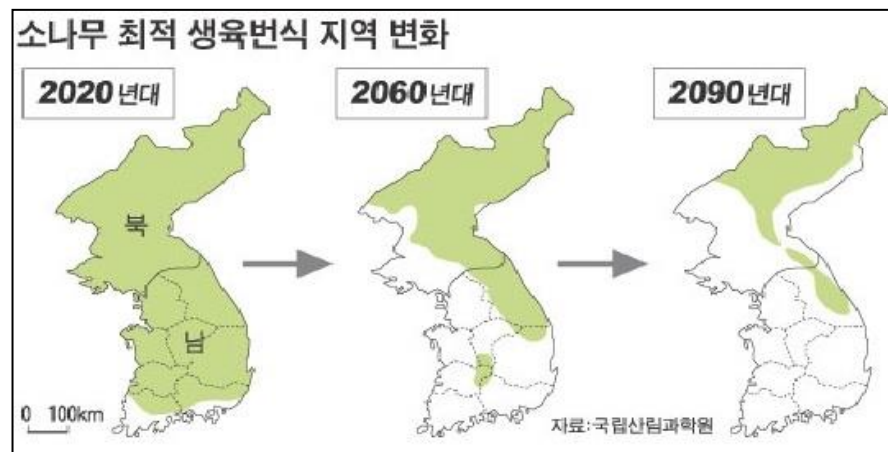
I . Climate Change Risks in Korea

2. Major Risks

(Source: KEI, 2014)

- (Forest/Ecosystem) Biodiversity decline, aggravation of habitat, increase in pests and forest fire
 - Rapid loss of endemic species, increase in survival rate of pest, etc
- (Land/Coast) Urban heat island due to temperature increase and disasters, SOC function degradation, coast erosion, increase in flood vulnerability
 - Due to the concentrated population and infrastructure density, climate change impacts and damages will be greater

<Changes in optimum Pine growth regions>



(Source: KFRI)

1 . Climate Change Risks in Korea

2. Major Risks

(Source: KEI, 2014)

- (Agriculture and Livestock) Increase in vulnerability of agricultural and livestock systems, Adverse effects on livestock growth and cultivation, Increase in agricultural waste
 - Economic damage from food sector(KRW): ('50s) 296.4 billion→ ('00s) 613.5 billion
 - 60% of agricultural infrastructure will be aged
- (Marine) Change in species and habitat, increase in pests and diseases, destruction of the marine system
 - Hazardous marine life and venomous creatures due to rising sea temperatures; Change in ecosystem, food chain and biological diversity due to ocean acidification

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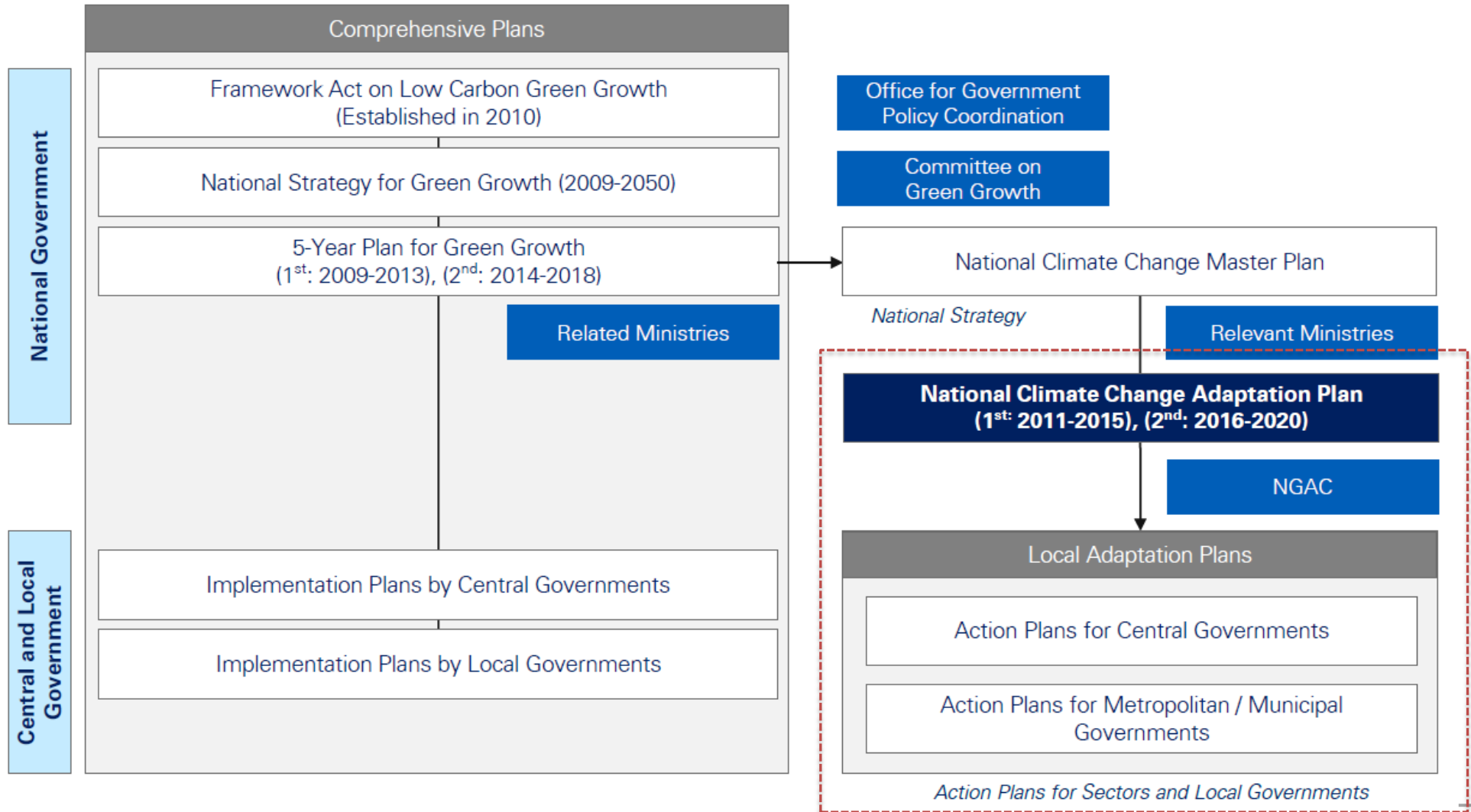
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Legal Framework for Adaptation

II. Legal Framework for Adaptation

- Framework Act on Low Carbon Green Growth (April, 2010)



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National Climate Change Adaptation Plan (NAP)

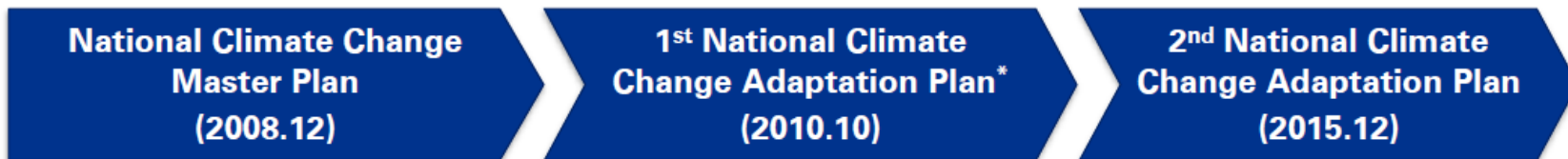
III-1 Progress on the NAP

III-2 1st National Adaptation Plan

III-3 2nd National Adaptation Plan

III-4 Performance Management

III-1. Progress on the NAP



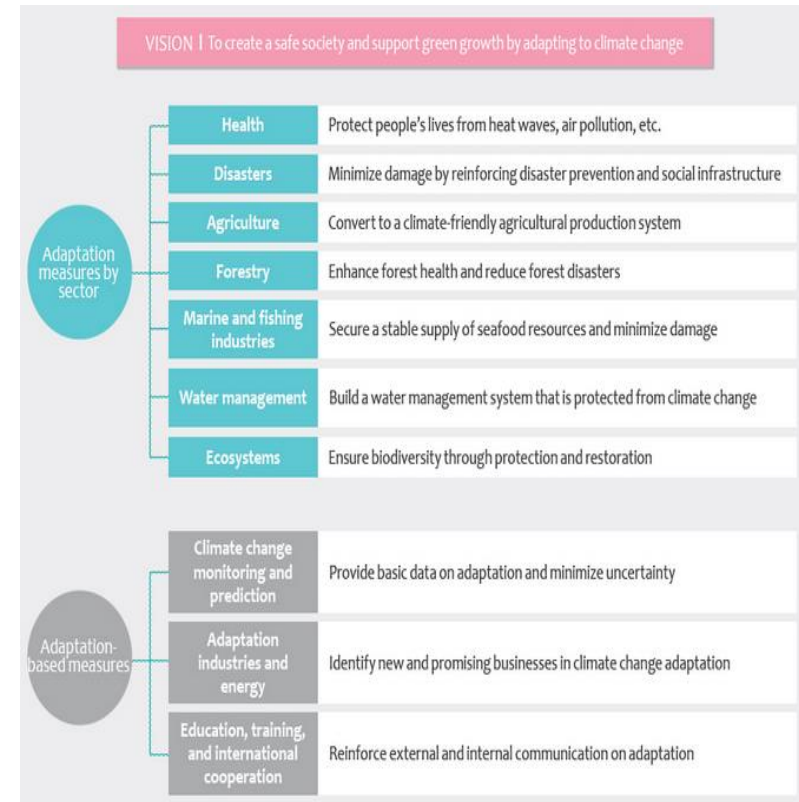
Vision	To build safe society and support green growth through climate change adaptation														
Periods	2009 – 2030 (22 years)	2011 – 2015 (5 years)	2016 – 2020 (5 years)												
Related Ministries	13 ministries		20 ministries												
Features	<p style="text-align: center;">< Key Changes ></p> <ul style="list-style-type: none"> ▪ The first nation-wide official master plan for responding to climate change ▪ Suggest a national vision and directions toward adaptation policy ▪ Key action plan for low-carbon green growth, which is the national long-term vision ▪ Develop key indicators for climate change adaptation <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> ▪ Suggest an adaptation plan to achieve a long-term vision </td> <td style="width: 10%; text-align: center; vertical-align: middle;">→</td> <td style="width: 40%; vertical-align: top;"> <ul style="list-style-type: none"> ▪ Differentiate mid and long-term goals for climate change adaptation at the national level - Detailed action plans set with timelines </td> </tr> <tr> <td style="border-top: 1px dashed black; vertical-align: top;"> <ul style="list-style-type: none"> ▪ Limited to the effects for climate change adaptation </td> <td style="text-align: center; vertical-align: middle;">→</td> <td style="border-top: 1px dashed black; vertical-align: top;"> <ul style="list-style-type: none"> ▪ Aim at creating co-benefits of mitigation and adaptation </td> </tr> <tr> <td style="border-top: 1px dashed black; vertical-align: top;"> <ul style="list-style-type: none"> ▪ Prepare a plan based on existing adaptation issues </td> <td style="text-align: center; vertical-align: middle;">→</td> <td style="border-top: 1px dashed black; vertical-align: top;"> <ul style="list-style-type: none"> ▪ Harness science-based approach with impact and risk assessment of climate change </td> </tr> <tr> <td style="border-top: 1px dashed black; vertical-align: top;"> <ul style="list-style-type: none"> ▪ Regular monitoring of the implementation status </td> <td style="text-align: center; vertical-align: middle;">→</td> <td style="border-top: 1px dashed black; vertical-align: top;"> <ul style="list-style-type: none"> ▪ Enhance monitoring on climate change impact and integrated performance assessment </td> </tr> </table>			<ul style="list-style-type: none"> ▪ Suggest an adaptation plan to achieve a long-term vision 	→	<ul style="list-style-type: none"> ▪ Differentiate mid and long-term goals for climate change adaptation at the national level - Detailed action plans set with timelines 	<ul style="list-style-type: none"> ▪ Limited to the effects for climate change adaptation 	→	<ul style="list-style-type: none"> ▪ Aim at creating co-benefits of mitigation and adaptation 	<ul style="list-style-type: none"> ▪ Prepare a plan based on existing adaptation issues 	→	<ul style="list-style-type: none"> ▪ Harness science-based approach with impact and risk assessment of climate change 	<ul style="list-style-type: none"> ▪ Regular monitoring of the implementation status 	→	<ul style="list-style-type: none"> ▪ Enhance monitoring on climate change impact and integrated performance assessment
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* In December 2012, the 1st National Climate Change Adaptation Plan was revised based on impact analysis with Representative Concentration Pathways (RCP) scenario, which is used in the 5th IPCC Assessment Report.

III-2. 1st National Climate Change Adaptation Plan

1. Overview

- The 1st National Climate Change Adaptation Plan (Dec. 2010)
 - (Period) 2011 ~ 2015
 - (Characteristics) As comprehensive national adaptation plan, vision and direction of the national adaptation policy is suggested.
 - (System) 2 areas, 10 sectors, 87 initiatives
 - (Participated Ministries) 13 Ministries including Ministry of Environment
- Revision of the 1st Plan (Dec. 2012)
 - Outcomes of RCP Scenario applied
 - 9 sectors, 67 initiatives



(Resource: related ministries, 2010)

III-2. 1st National Climate Change Adaptation Plan

2. Achievement of the 1st Adaptation Plan

- National Level Climate Change Adaptation Framework
 - Established the direction for the national, local and local adaptation plans
 - Established local and municipal-level adaptation implementation plans
 - Supported local governments to establish/implement adaptation implementation plans
- Scientific basis of climate change adaptation
 - Provided standard and high resolution climate change scenarios, vulnerability maps, and assessment tools for local and municipal governments
- Rise in climate change adaptation awareness and adaptation partnership
 - Promoted PR, education & international cooperation on adaptation

III-2. 1st National Climate Change Adaptation Plan

2. Achievement of the 1st Adaptation Masterplan (by sector)

Sector	Major Performance
Health	<ul style="list-style-type: none"> • Monitoring system on climate change health impacts <ul style="list-style-type: none"> - Climate change related diseases DB, etc., • Health risk reduction strategies due to abnormal weather <ul style="list-style-type: none"> - Develop and supply a relevant manual, introduce what to do to prevent heat wave, etc.,
Agriculture and Fisheries	<ul style="list-style-type: none"> • Monitoring system, predicted climate change impacts in agricultural and fisheries sectors <ul style="list-style-type: none"> - Produce high resolution scenario for agriculture, build fisheries monitoring system, etc., • Climate change adaptation resource management, production technology development <ul style="list-style-type: none"> - Develop species adapt to climate change, disease diagnosis and prevention for conservation of aquatic resources
Water Management	<ul style="list-style-type: none"> • Enhance prediction and water monitoring system through water resource monitoring network, aquatic ecology investigation • Water resource management for safe water <ul style="list-style-type: none"> - Enhance water management system considering climate change, advance river management, etc • Enhance infrastructure facilities, dimension capability for floods and droughts <ul style="list-style-type: none"> - Flood-risk map for national stream, etc.,
Natural Disasters	<ul style="list-style-type: none"> • Policy targeting high disaster risk areas and facilities vulnerable to natural disasters <ul style="list-style-type: none"> - Relevant standards and establish preventive measures, improve ability to predict landslide damages • Disaster preparedness for urban planning

III-2. 1st National Climate Change Adaptation Plan

2. Achievement of the 1st Adaptation Masterplan (by sector)

Sectors	Performance
Forest/Ecosystem	<ul style="list-style-type: none">• Long-term ecosystem monitoring<ul style="list-style-type: none">- Research on long-term ecological changes, pilot project on national climate change biological indicators monitoring, etc.,• Systemic management of biological resources through habitat and species protection
Land/Coast	<ul style="list-style-type: none">• Climate change vulnerability analysis for land, infrastructure<ul style="list-style-type: none">- Guideline for vulnerability analysis, technical research, research development projects• Improve disaster prevention system• Reduction in climate change impacts and enhance adaptive capacity<ul style="list-style-type: none">-Expand green areas for heat island
Industry	<ul style="list-style-type: none">• Climate change vulnerability assessment and risk management• Enhance adaptive capacity through adaptive technology development<ul style="list-style-type: none">- R&D investment, joint climate change adaptation plans, etc.,• Climate change adaptation targeting private sectors, adaptation industries<ul style="list-style-type: none">- Extend agricultural insurance products

III-2. 1st National Climate Change Adaptation Plan

3. Limitation of the 1st Plan

- Difficulty in making a tangible outcome
 - Absence of sectoral short-term, medium and long-term goals, adaptation priority, and indicators
 - Lack of systematic implementation monitoring and evaluation
 - Limited budget
- Insufficient strategic framework for promoting adaptation
 - Lack of decision supporting tools, experts and scientific foundation
 - Lack of communication among local governments, industries and civil society
 - Lack of alignment among sectoral adaptation measures

III-3. 2nd National Climate Change Adaptation Plan

1. Overview

- Contents

- (Title) The 2nd National Climate Change Adaptation Plan (2016~2020)

- (Vision) Safe society, National happiness

- (Period) Based on long-term vision(2035), Five year rolling plan(2016-2020)

- **(Participation) 20 ministries**

- ※ Ministries: Ministry of Strategy and Finance, Ministry of Education, Ministry of Science, ICT and Future Planning, Ministry of Foreign Affairs, Ministry of Unification, Ministry of National Defense, Ministry of Government Administration and Home Affairs, Ministry of Culture, Sports and Tourism, Ministry of Agriculture, Food and Rural Affairs, Ministry of Trade, Industry and Energy, Ministry of Health and Welfare, Ministry of Environment, Ministry of Employment and Labor, Ministry of Land, Infrastructure and Transport, Ministry of Oceans and Fisheries, Ministry of Public Safety and Security, Korea Meteorological Administration, Rural Development Administration, Korea Forest Service, Cultural Heritage Administration

III-3. 2nd National Climate Change Adaptation Plan

2. Differentiation from the 1st Plan

- Reflected internal and external policy environment changes
 - Continued the initiative & maintained consecutiveness
 - Added newly discovered sectors, and prioritized the existing measures based on risk assessment
 - Explored the co-benefit of climate change mitigation and adaptation
- Established a strategic adaptation framework including short, mid, long-term adaptation visions and goals
 - Established the long-term vision and short/mid term goals
 - Visualized a economic, social and environment virtuous circle through adaptation
- Expanded investment in adaptation technology & international cooperation
 - Promoted adaptation technology and industry
 - Enhanced international partnership on adaptation

III-3. 2nd National Climate Change Adaptation Plan

※ Comparison of the 1st and 2nd National Adaptation Plans

	1 st National Adaptation Plan	2 nd National Adaptation Plan
1	Composed of 9 sectors and 67 sub-goals	Established the integrated adaptation system with adaptation foundation & culture, and economic · social · environmental aspects
2	Introduced only the need of sectoral adaptation goals	Differentiated short and long-term vision and goals for climate change adaptation at the national level
3	Identified and implemented adaptation measures only	Considered the co-benefit effects of mitigation and adaptation of climate change
4	Gave priority to adaptation measures mainstreamed in evolved ministries	Prepared scientific and needs-based measures based on the results of climate change impacts and risk assessments
5	Suggested sectoral adaptation measures without priority	Set the priority of sectoral adaptation measures and key strategies
6	Secured the correlation with the government keynote and higher-level plans	Secured the consistent direction with the value of policies by setting the adaptation principles
7	Regularly checked the implementation of adaptation measures	Strengthened the Monitoring and Evaluation system

III-3. 2nd National Climate Change Adaptation Plan

3. Structure

Vision	Pathways towards Safe and Happy Society for the Public through Climate Change Adaptation				
Goal	Climate Change Risk Reduction and Opportunity Realization				
Principles	Sustainable Development	Climate Resilience for the Public	Science-based Measures	Integrate Approach	Active Public Participation
Sectoral Programmes	Science-Based Risk Assessment	<ul style="list-style-type: none"> ▪ Establishing Climate Change Monitoring & Prediction System ▪ Developing Korean Climate Scenario & Monitoring Climate Impacts ▪ Conducting Vulnerability Assessment & Risk Management ▪ Providing Integrate Information System 			
	Building a Safe Society	<ul style="list-style-type: none"> ▪ Protecting the Vulnerable Group to Climate Change ▪ Managing Vulnerable Facilities and Regions ▪ Responding to Climate Disasters ▪ Preventing and Controlling Public Health Threats 			
	Strengthening Competitiveness of the industrial Sector	<ul style="list-style-type: none"> ▪ Enhancing Adaptation Capacity for the Industrial Sectors ▪ Developing Adaptation Technologies ▪ Supporting the Private Sector to Enter into International Markets ▪ Building a Foundation of Adaptation Infrastructure 			
	Sustainable Natural Resources Management	<ul style="list-style-type: none"> ▪ Securing Biodiversity ▪ Restoring Ecosystem and Managing Habitats ▪ Managing Climate Change Risks for Ecosystem 			
Implementing Basis	Building an Internal/External Implementing Basis	<ul style="list-style-type: none"> ▪ Strengthening Effectiveness of Adaptation Policies and International Cooperation ▪ Promoting Public Relations and Education on Adaptation ▪ Promoting Local-level Adaptation Activities 			
Monitoring & Evaluation	Performance Management (Indicators)				

III-3. 2nd National Climate Change Adaptation Plan

4. Direction and Goals, Focused Initiatives

- Part one : Expanding the knowledge base

Division	Contents
Vision	Science-based climate change risk management system
Specific goal	<ul style="list-style-type: none">• (2020) advance in climate change impacts/risks identification• (2035) reduce the uncertainty of climate change information
Planning indicator	<ul style="list-style-type: none">• Accuracy• Vulnerability map
Focused initiatives	<ul style="list-style-type: none">1-1. Climate change monitoring and forecast system1-2. Climate change scenarios tailored to Korea1-3. Climate change impact monitoring1-4. Integrated vulnerability assessment & risk management1-5. Integrated Information system for adaptation

III-3. 2nd National Climate Change Adaptation Plan

4. Direction and Goals, Focused Initiatives

- Part two : Society

Division	Contents
Vision	Climate-safe society
Specific goal	<ul style="list-style-type: none">• (2020) Welfare for the vulnerable• (2035) Improve social system through mainstreaming adaptation
Planning indicator	<ul style="list-style-type: none">• Reduce health damage due to abnormal temperature• Reduce facility damage due to climate change
Focused initiatives	<ul style="list-style-type: none">2-1. Protecting the vulnerable to climate change2-2. Preventing from and managing risks on health2-3. Managing vulnerable regions and facilities2-4. Enhancing disaster management

III-3. 2nd National Climate Change Adaptation Plan

4. Direction and Goals, Focused Initiatives

- Part three : Economy

Division	Contents
Vision	Sound and Competitive economy
Specific goal	<ul style="list-style-type: none">• (2020) Enhance production-based economy to prevent abnormal weather• (2035) Switch to climate change adaptive production system
Planning indicator	<ul style="list-style-type: none">• Domestic adaptation industry market share
Focused initiatives	<ul style="list-style-type: none">3-1 Strengthening industry-specific adaptive capacity3-2. Expanding adaptive infrastructure3-3. Developing climate change adaptation technology3-4. Making inroads into foreign markets for adaptation industry

III-3. 2nd National Climate Change Adaptation Plan

4. Direction and Goals, Focused Initiatives

- Part four : Environment

Division	Contents
Vision	Sustainable management of natural resources
Specific goal	<ul style="list-style-type: none">• (2020) Ecosystem stabilization under abnormal weather• (2035) Improve ecosystem service through biodiversity management
Planning indicator	<ul style="list-style-type: none">• Number of identified biological genetic resources• Protected areas
Focused initiatives	<ul style="list-style-type: none">4-1. Species conservation and management4-2. Ecosystem restoration / habitat management4-3. Ecosystem climate risk management

III-3. 2nd National Climate Change Adaptation Plan

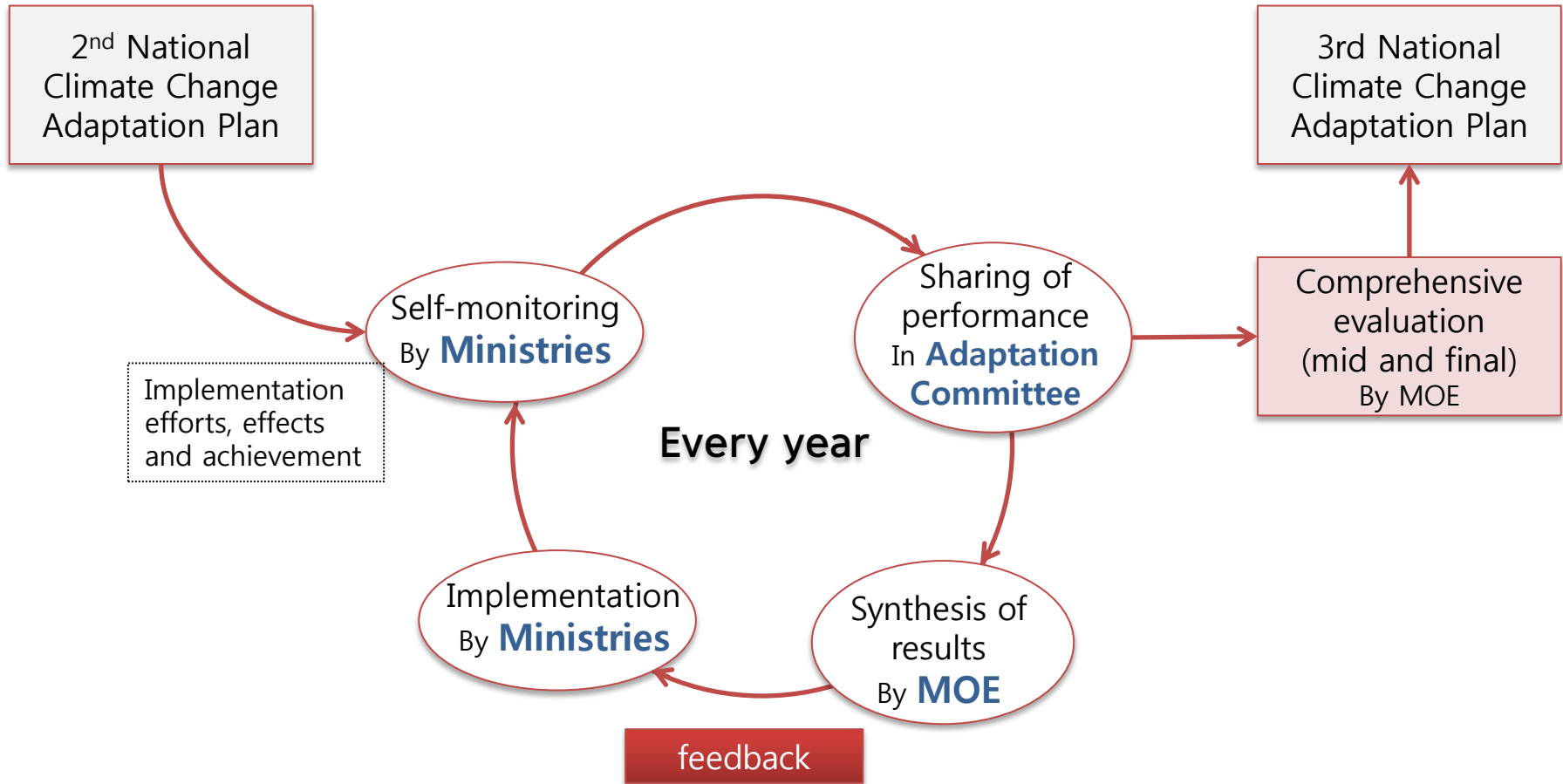
4. Direction and Goals, Focused Initiatives

- Part five : Institutional and cultural basis

Division	Contents
Vision	Cooperative adaptation
Specific goal	<ul style="list-style-type: none">• (2020) Adaptation that people can participate in• (2035) Internationally cooperative climate change adaptation
Planning indicator	<ul style="list-style-type: none">• National adaptation awareness• Climate change education beneficiary countries
Focused initiatives	<ul style="list-style-type: none">5-1. Strengthening the effectiveness of adaptation policies5-2. Promoting regional adaptation activities5-3. Strengthening international cooperation on adaptation5-4. Strengthening PR & education on adaptation

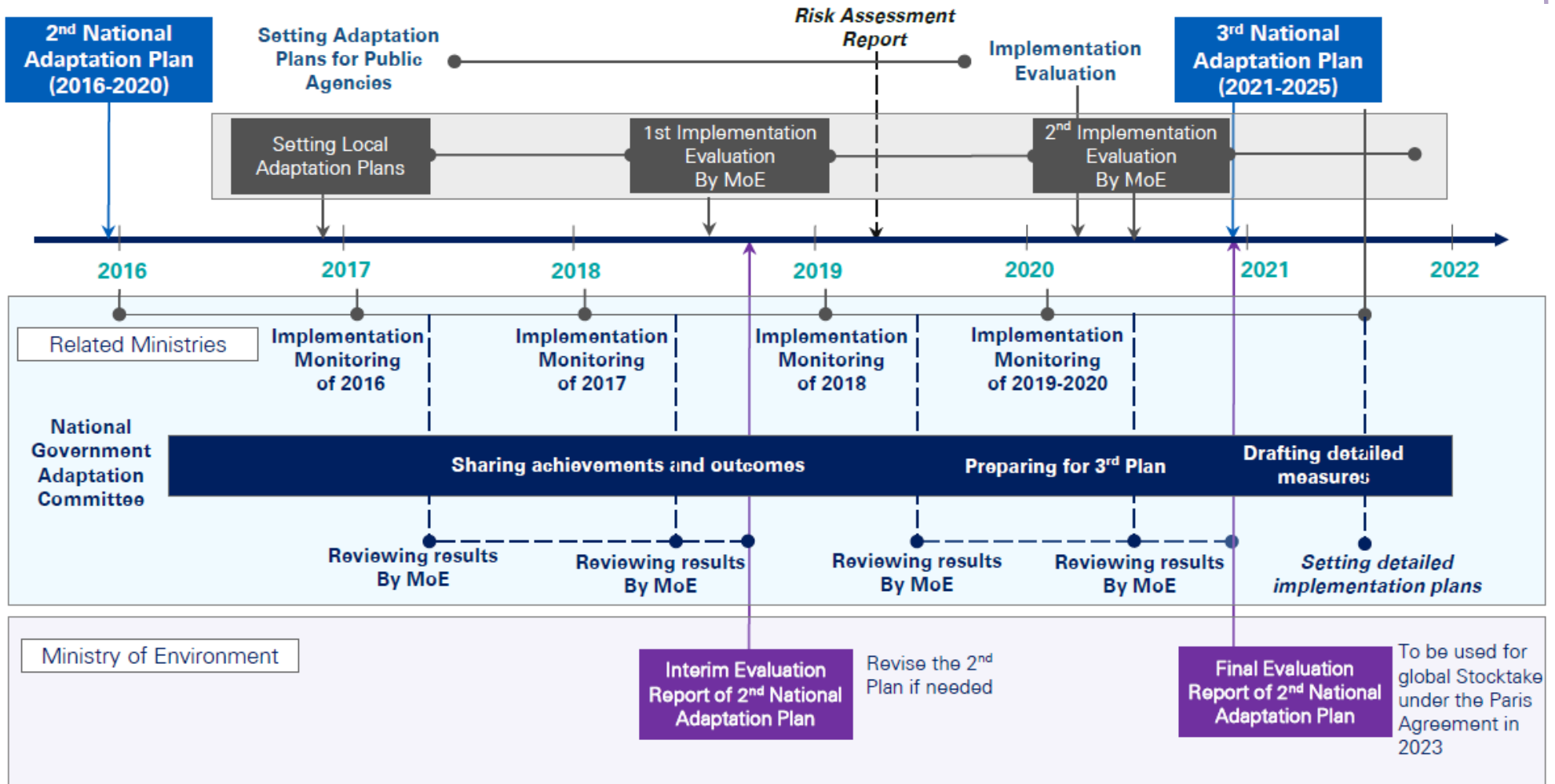
III-4. Performance Management

1. Monitoring & Evaluation Process



II-4. Performance Management

1. Monitoring & Evaluation Process



I

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Local Climate Change Adaptation Plan (LAP)

IV. Local Adaptation Plan

1. Overview

- (Title) Local Adaptation Action Plan
- (Legal Basis) Article 38 Clause 2 of the 'Enforcement Decree of Framework Act on Low Carbon, Green Growth'
- (Establishing Entities) Regional(Metropolitan Cities/Do) and municipal(Si/Gun/Gu) governments
- (Period / Spatial scale) 5-year / Administrative district
- (Sector) 9 NAP adaptation sector etc
- (Description) Comprehensive measures including directions and strategies for the changes by climate change and adaption sector-specific action plans.

- All of 17 locals' 1st LAP ended by 2016 and now they're in 2nd phase
- All of 226 local governments 1st LAP completed in 2016

IV. Local Adaptation Plan

2. Principles of LAP

- Minimize negative impacts of climate change and create new business opportunities
- Prevent from mal-adaptation and increase co-benefit of mitigation and adaptation
- Contribute to sustainable development
- Protect and manage vulnerable groups, sectors, regions and infrastructures
- Protect and manage natural resources and promote local development by adaptation
- Conduct and manage climate change impact, vulnerability and risk assessments using scientific knowledge and technology
- Generate a synergy by linking and integrating relevant policies
- Consider effectiveness, efficiency, urgency, fairness and resiliency of the adaptation plan
- Secure effectiveness and flexibility with a systemic monitoring and evaluation system
- Strengthen a foundation for communication and participation of relevant stakeholders

IV. Local Adaptation Plan

3. Planning Process & Contents of 2nd LAP

- MOE and KACCC provided a "Guideline for Establishing Local Adaptation Plan" which has procedure for establishing LAP which local governments can adopt in common.

- The 2nd LAP is based on the results, outcomes and self-examination of the 1st LAP

- Main contents

- Main results of 1st LAP (good & bad point)

- Status and outlook of climate change & adaptation

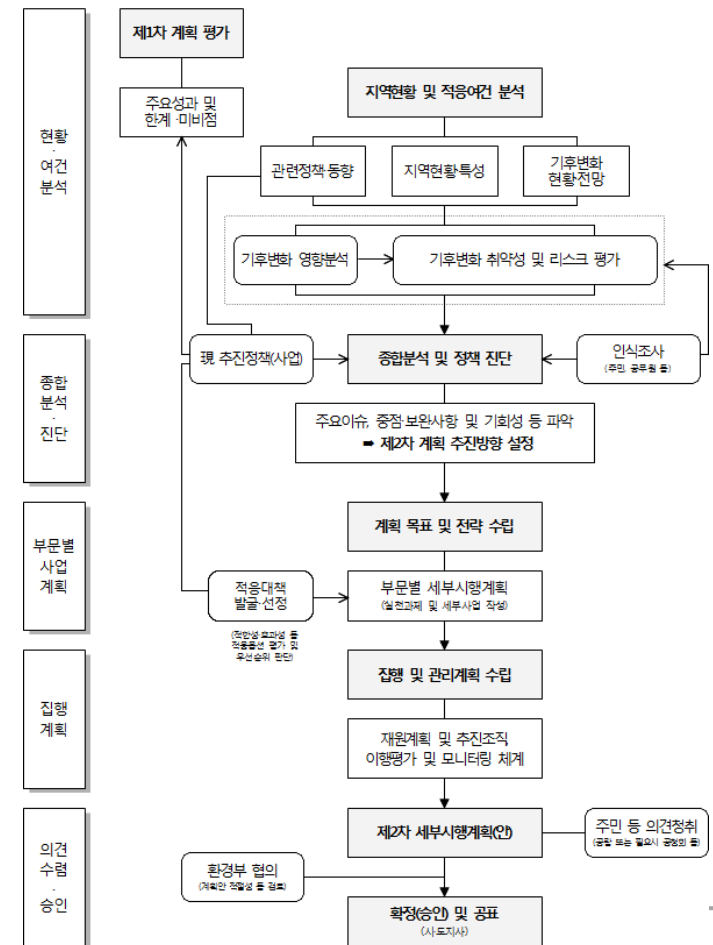
- conditions(impact, vulnerability, risks etc)

- Direction of adaptation policy

- Goals and strategies

- Action plan by sector

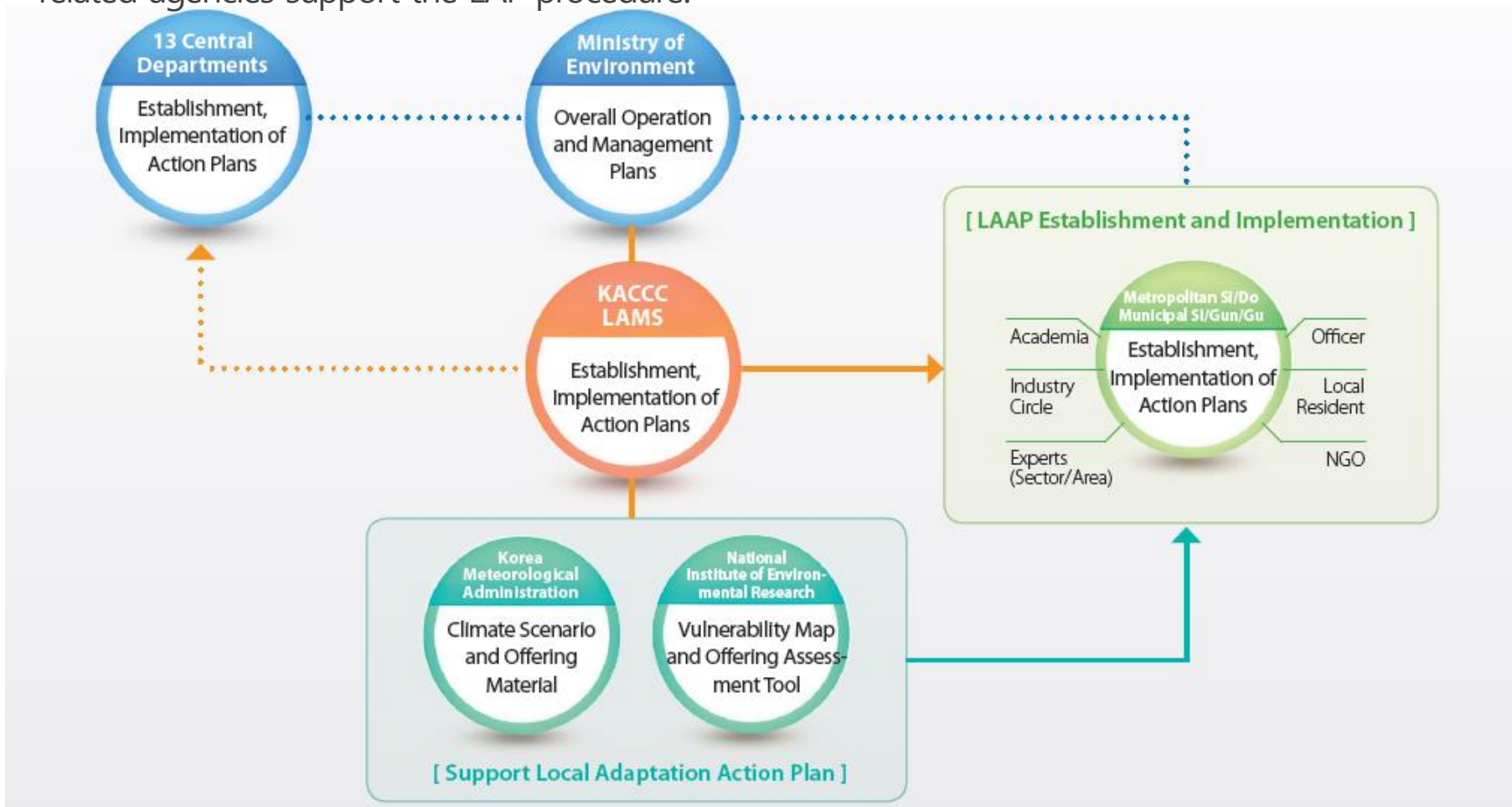
- Implementation and finance



IV. Local Adaptation Plan

4. Partnership

- Local government establish LAP by commissioning a research project and MOE and KACCC with related agencies support the LAP procedure.

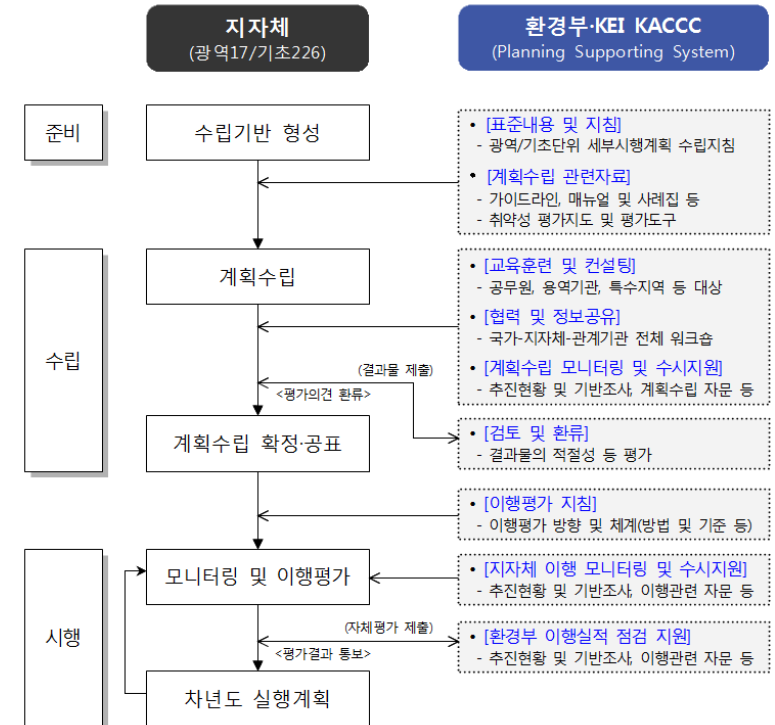


IV. Local Adaptation Plan

5. Support for LAP (1) overview

- Since 2010, KEI KACCC has been endeavoring to provide specialized-practical-comprehensive support and operation.
- For preparing ideas for an effective and specialized establishment of LAP and providing support, we have set the operational goal and characteristics of the consulting team with enforced 6 main actions .

	Application Period	Operation & Support
① Preparing and providing guidelines for LAP	Prior to start of LAP and LAP planning process (if necessary)	<ul style="list-style-type: none"> • Guiding principle, instructions • LAP related guidelines, manuals and casebook
② Central-Local cooperation and information sharing	Planning process (start/midpoint/finish)	<ul style="list-style-type: none"> • Hosting by-period overall workshop among MOE-KACCC-Local gov. and related agencies • Sharing information and knowledge, education program
③ Frequent support and operation of LAP establishment and implementation	All	<ul style="list-style-type: none"> • Providing pool of sectoral and regional specialists • Investigating needs in LAP and providing relevant information • Supporting on-line and off line information
④ Operation of education program	Planning process (start/midpoint/finish)	<ul style="list-style-type: none"> • Education program regarding regional character and target • Specialized consultation with LAP knowledge
⑤ Monitoring	All	<ul style="list-style-type: none"> • 17 regional and 226 local government
⑥ Consulting	Planning process (start/midpoint/finish)	<ul style="list-style-type: none"> • Consulting regional and local LAP establishment • LAP implementation monitoring and evaluation



(KACCC LAP Supporting Framework)

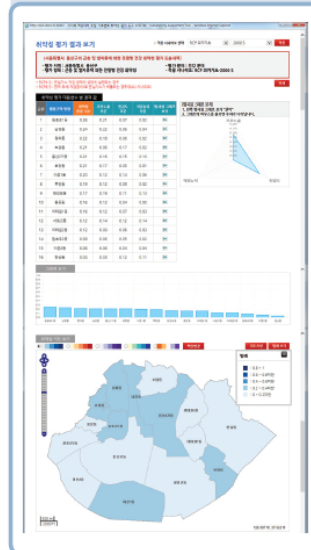
IV. Local Adaptation Plan

5. Support for LAP (2) Vulnerability Assessment

- The Ministry of Environment developed the web-based Vulnerability Assessment Tool to build Climate Change Adaptation Plan (VESTAP) centering on the KACCC to support local governments throughout the nation in order to successfully establish adaptation plan.
- VESTAP provides climate change vulnerability assessment results on the level of each local government down to town, township, and district by applying the climate exposure, sensitivity, and adaptability based assessment method provided by the IPCC.

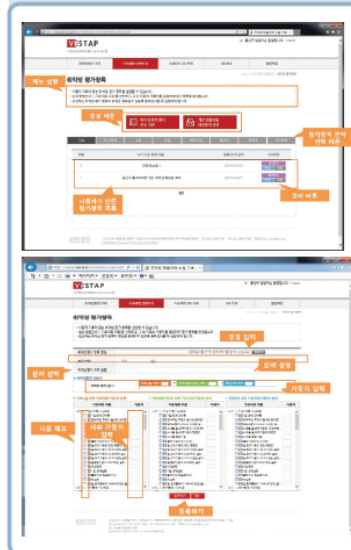
- The VESTAP system is composed of system elements such as web based assessment tool, assessment index DB, climate change scenario DB, meta data DB of developed data, and DB for managing details of each user.

Result of Vulnerability Assessment



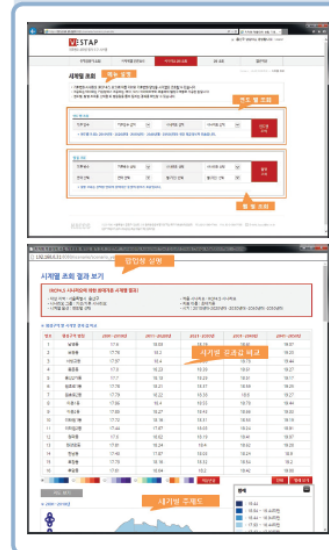
Provide climate change vulnerability assessment information to support the establishment of adaptation plan to adapt to climate change for local governments

Inventory by Local Government



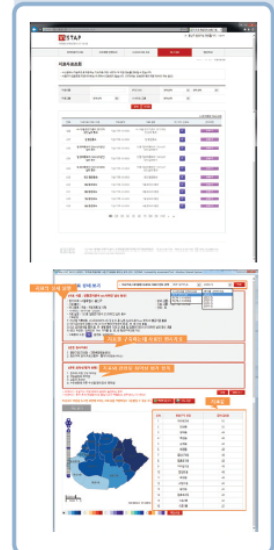
Provide advanced features allowing local government users to create vulnerability assessment items and enter and manage index data

Search of Climate Change Scenario



Provide the highest temperature, the lowest temperature, average temperature, and precipitation data based on RCP 4.5 and 8.5 scenarios provided by the Korea Meteorological Administration

Search of Index Data



Search 455 indices basically provided by VESTAP by search category and provide raw data

IV. Local Adaptation Plan

5. Support for LAP (3) Consulting and etc



IV. Local Adaptation Plan

6. Main Challenges

- Finding the needs and issues(prior sector and actions for climate change adaptation) in each adaptation planning
- Finding and linking specialist in local and local-to-local
- Recognizing the importance and purpose of local adaptation
- Building their adaptation knowledge and enhancing their capacity
 - About 86% says : I and my colleague adaptation knowledge have encouraged by developing LAP
 - About 70% says : adaptation knowledge in our local area have improved
- Extend adaptation planning unit from province to local government

I

II

III

IV

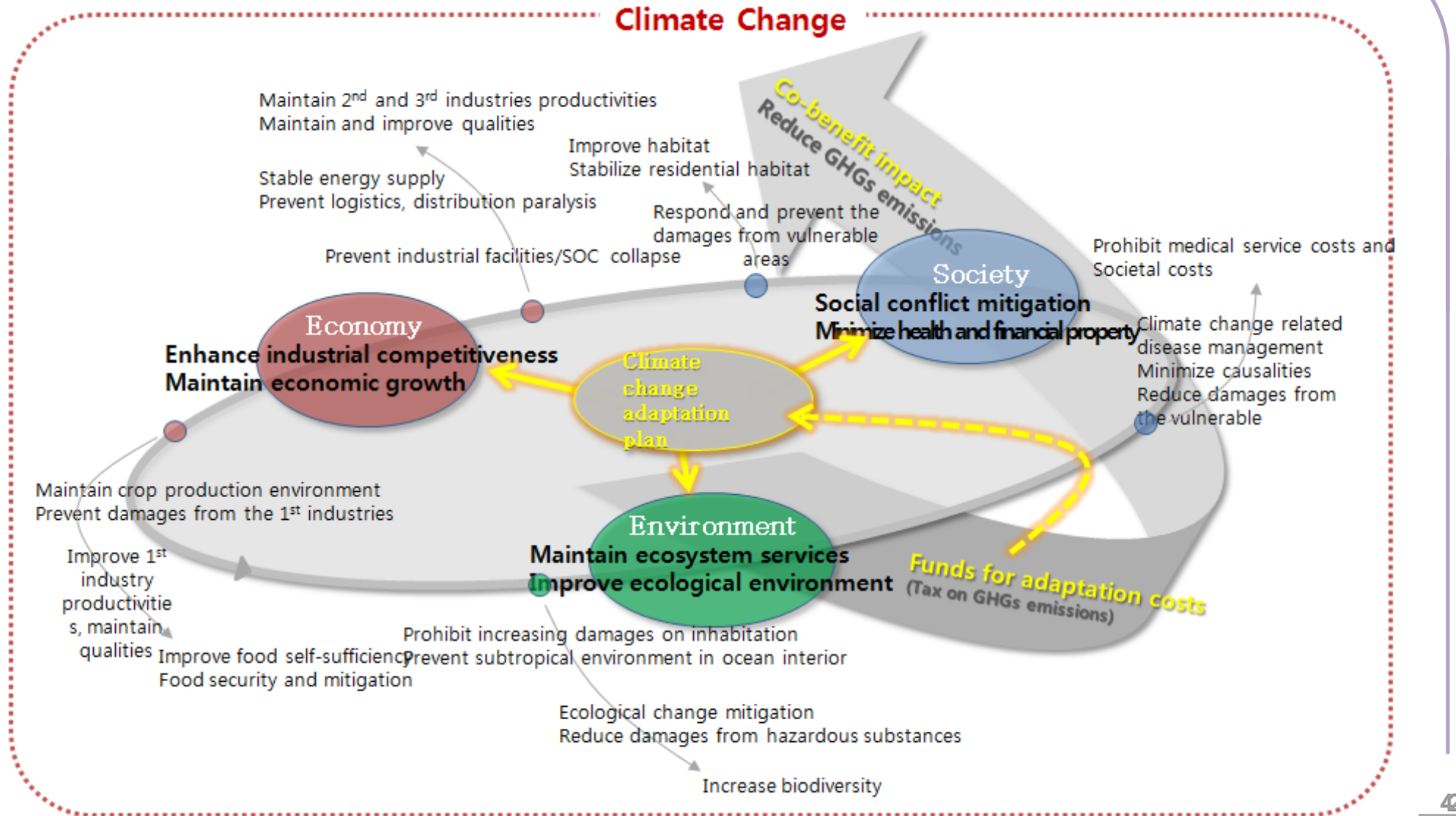
V

Conclusions and Suggestions

V. Conclusions and Suggestions

- Improved the national adaptation capacity through two times of national adaptation planning experiences
- Set up a comprehensive implementation system by establishing sectoral, metropolitan & municipal-level implementation plans
- Structure and implementation of 'Monitoring and evaluation' in Korea are also making and ongoing process
- It's consistently needed to share and learn each other with countries already experienced monitoring and evaluation for successful implementation of NAP
- Scientific research results(ex, climate change scenario, impact assessment, vulnerability assessment) needed
- Finding and securing local & sectoral adaptation specialists are needed
- In adaptation planning and preparing implementation participation of various stakeholders are necessary
- Implementation must be considered in planning procedure previously

V. Conclusions and Suggestions



Thank you for your attention

http://ccas.kei.re.kr/english2014/eng2014_index.do



Climate Change Adaptation

Issues Reports

Research & Publication

Network

About Us



The Korea Adaptation Center for Climate

KACCC was established in July 2009 in response to "Comprehensive Plan on National Climate Change Adaptation (2009~2030)" to engage in strategic research and support climate change adaptation policy. KACCC opened in July 2009 when the center was consigned to the Korea Environment Institute (KEI) by the Ministry of Environment. This website carries all the products from KACCC, including research reports and plans source book from conferences and workshops, Policy Guidance Briefs and factsheets. Please explore

News Letter



Adaptation Network



From 1912 to 2008, the average temperatures of the six major cities in Korea have increased by 1.7a??, which is more than double the global average. In the past century there was a 19% increase in precipitation

Sectoral Research

Sectoral Adaptation Strategy

Establishment of Korea Climate Change Adaptation Plan

Impacts of Climate Change

Support for Climate Change Adaptation Policy

(Domestic & International) Climate Change Adaptation Cooperation

Integrated Information

Relations and Education

KACCC Public Relations, Education

====선택====

About KACCC



Location



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