

Climate Change Adaptation Policy and Korea Adaptation Center for Climate Change

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

Contents

Part I. Climate Change Adaptation Policy

- Climate Change in Korea
- National Climate Change Adaptation Master Plan

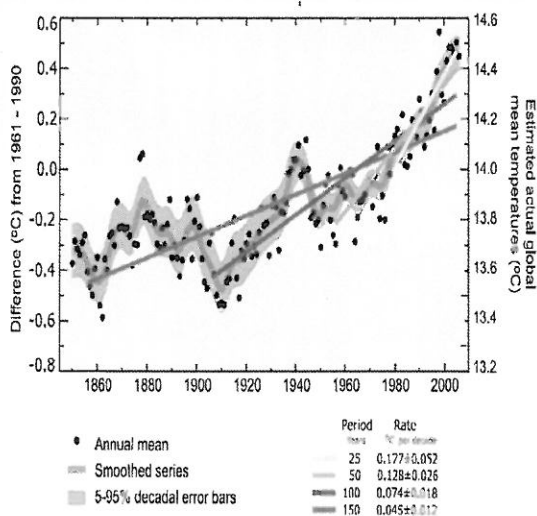
Part II. Korea Adaptation Center for Climate Change

I. Climate Change Impacts in Korea

I. Global Mean Temperature Rise

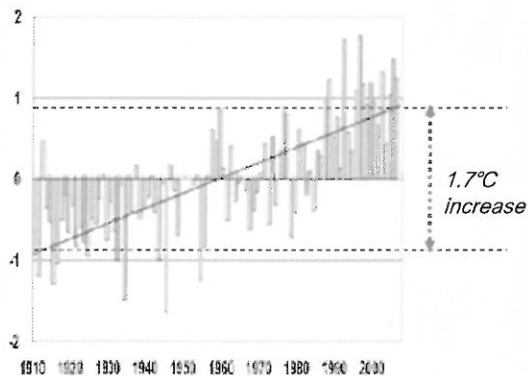
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❖ 0.74°C up in the past 100 years(land: 0.9°C)

I. Observed Climate Change in the Korean Peninsula



❖ Temperature Increase of Korean 6 major cities: +1.7°C/100yr



❖ Sea level rise at Yong-Mu-Ri, Jeju: 22cm in the past 43 years (Global mean=8cm)

I. Current and Expected Sectoral Impacts

Ecosystem



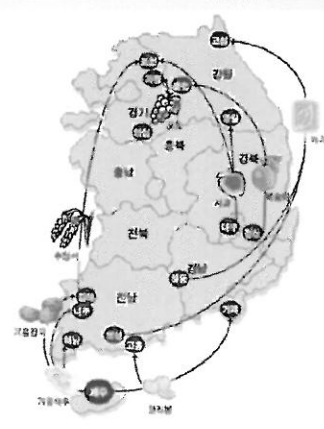
❖ More vulnerable over subtropical zone and mountain area

Forest



❖ Frequent land sliding due to heavy rainfall

Agriculture



❖ Cultivation area shifting

I. Current and Expected Sectoral Impacts

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Health



❖ Increase of infectious diseases and heat wave

Social Infrastructure



❖ Highway and bridge damage by heavy rainfall

Disaster



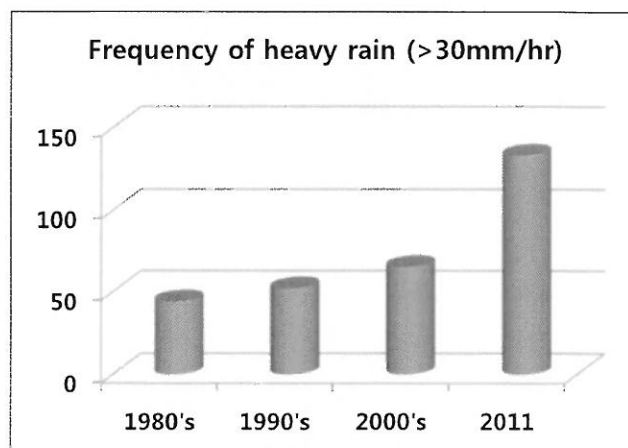
❖ Increase of the cost of extreme weather event

I. Current Extreme Events

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Extreme events (heat waves, heavy rain, heavy snow, drought, etc.) were increased in both frequency and intensity : the amount of damage increased more than 3 times compared to 1980's (e.g., the frequency and the amount of damage of global disaster increased 50%).



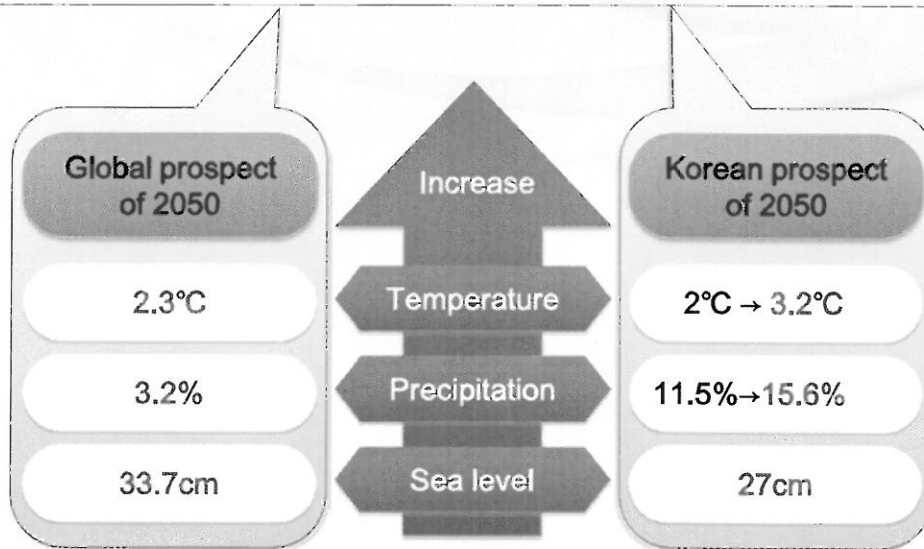
I. Prospect of Climate Change by RCP Scenarios

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"Reflected in IPCC AR5 (2013)"

The temperature in Korea is expected to increase 1.1 °C ~1.5°C until 2020. In the worst case, the 1.8°C increase of temperature that occurred during the past 100 years may happen within 2020.



I. Mitigation vs Adaptation

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Definition of Climate Change Adaptation

- ❖ Climate Change Adaptation : Actions for moderating the adverse impacts of Climate Change and exploiting the opportunities by the planed actions at the vulnerable system

Mitigation & Adaptation

< Mitigation >

Reduced Air Travel
Energy Conservation
Active Transportation
Captured Landfill Gas
Expand Transit Use

Green Roofs
Better Insulation
Permeable Pavement
Reduced Peak Demand
Expand Tree Canopy
Etc.

< Adaptation >

Sewer Upgrade
Heat Alert System
Business Continuity
Planning
Vector Eradication
Control of Invasive
Species

- Source : Penney, J., 2008, "Emerging Climate Change Adaptation Strategies"

I. Needs for Climate Change Adaptation

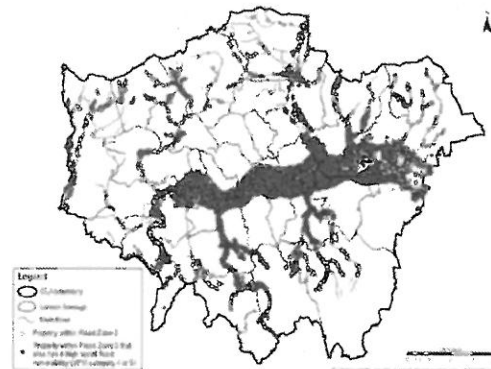
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Ministry of Environment
Korea Environment Institute

- ❖ Preparing the new climate system in future with adaptive manner
- ❖ Proactive action for the vulnerable from the adverse Climate Change impacts
- ❖ Risk management and plan for vulnerable regions



▲ Vaccination Shot



▲ vulnerability Map

II. National Climate Change Adaptation Master Plan

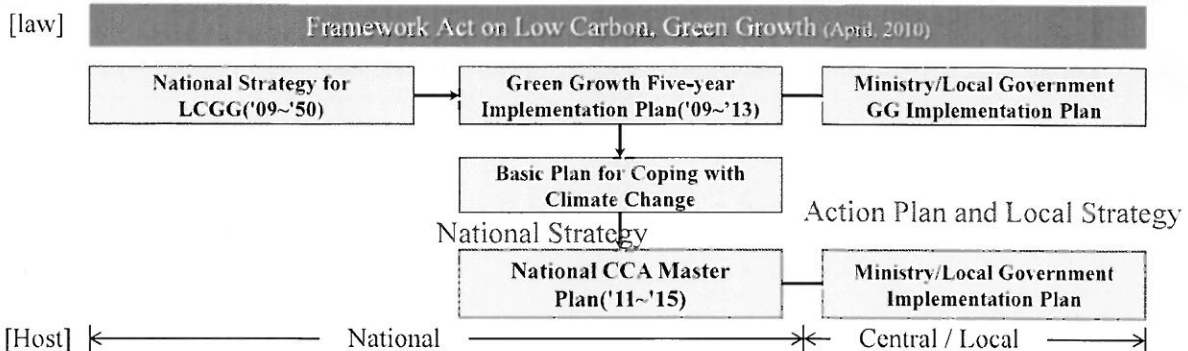
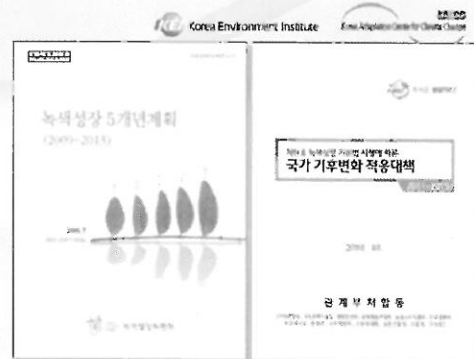


II. Backgrounds

- There are definite evidences of climate change and its impacts in every related sector in Korea
 - Temperature increase of 6 major cities is 1.7°C in 100yr
 - Annual precipitation of 6 major cities is 19% increase in 100yr
 - Rainfall intensity is doubled than 1970s
 - Sea level rise about 8cm in the past 43yr
- Estimates on the impact costs of climate change is **about 2.7 trillions KRW** in 2100yr (MOE, 2011) (1US dollar=1,150 KRW)
- **In 2010**, Korea established the “**National Adaptation Strategy and Framework Act on Low Carbon, Green Growth**” and started to cooperate and communicate with local governments in adaption
- **In 2012**, **16 regional governments** established their **adaptation plans** and those of 16 local governments are **in progress to establish**.

II. Adaptation Policy

- “Framework Act on Low Carbon, Green Growth” and enforcement ordinance enters into effect on April 14, 2010
- Plans that directly related to CCA are Green Growth Five-year Action Plan, Basic Plan for Coping with Climate Change, National Climate CCA Master Plan



Climate Change Adaptation Policy Framework in Korea (KEI, 2010)

II. Facilitating factors for Local Adaptation Policy

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- **Introduce Top-down Approach** to cope with Climate Change
 - Korea composed a **National government adaptation committee(NAS)** with 13 ministries to implement the National Adaptation Strategy
 - **The Ministry of Environment(MOE)** is in charge of the NAS and supporting local governments
- **Build up Ground for Adaptation : Policy and Budget**
 - In August, 2010, Korea has established the “**National Climate Change Adaptation Master Plan(NCCAMP)**” by “**Framework Act on Low Carbon, Green Growth**” and set up the committee to implement the NCCAMP successfully
 - In 2011, MOE allocated about 4billion(US\$) in supporting local government adaptation plan
- **Establish a National Task Force Center** for Adaptation
 - MOE launched a national task force for climate change adaptation , **Korea Adaptation Center for Climate Change(KACCC)** in 1st July 2009 at KEI
 - MOE and KACCC are working closely to support successful local adaptation plan

II. National Climate Change Adaptation Master Plan ('11-15)

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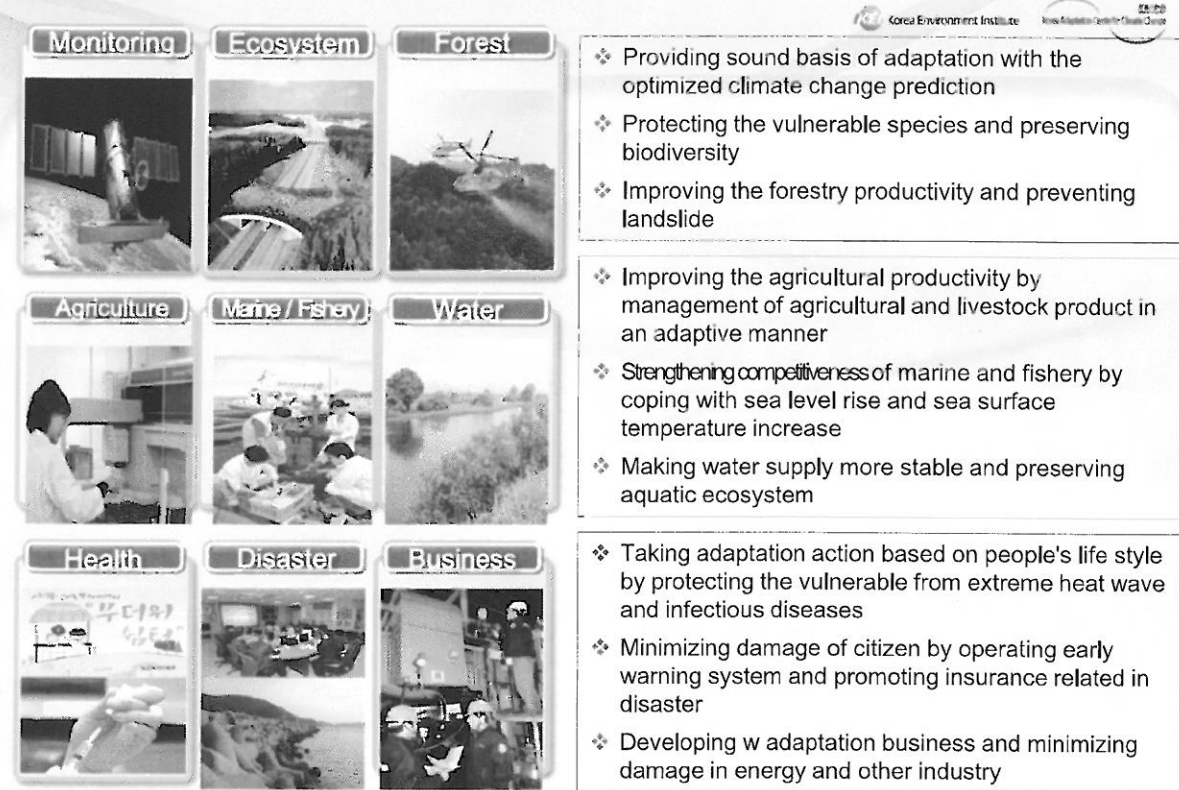
Characteristics of the Plan

- ❖ The 1st legal plan by the Basic Act on Low Carbon, Green Growth('10.4)
- ❖ 13 related ministries were participated
- ❖ Subsequent departmental and local action plans have been prepared
- ❖ Revision based on the new climate change scenario is planed this year

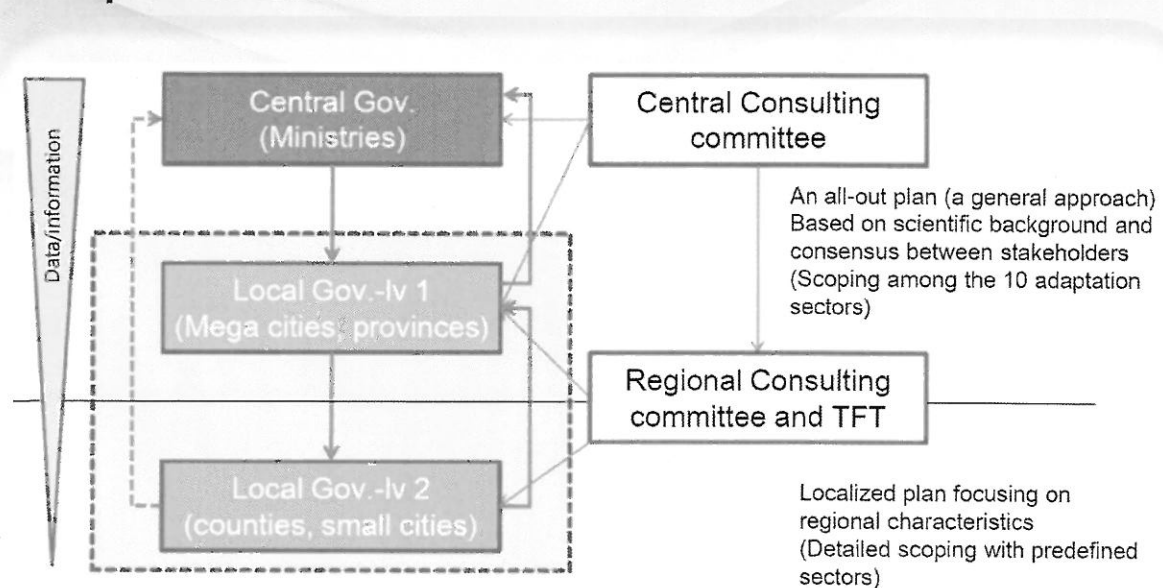
Ministerial Level Committee



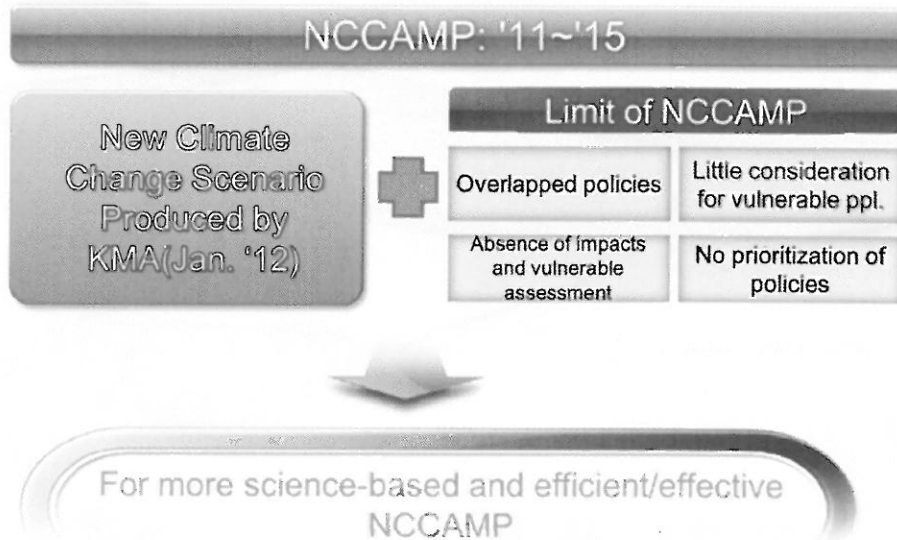
II. Sectoral Goal and Details



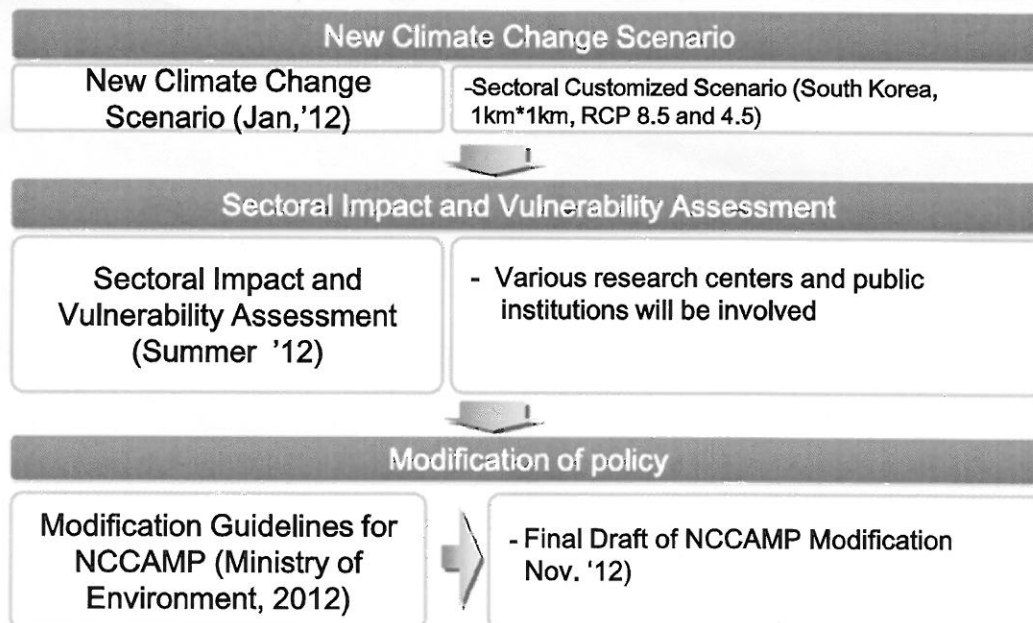
II. Flow of planning process and challenges in implementation

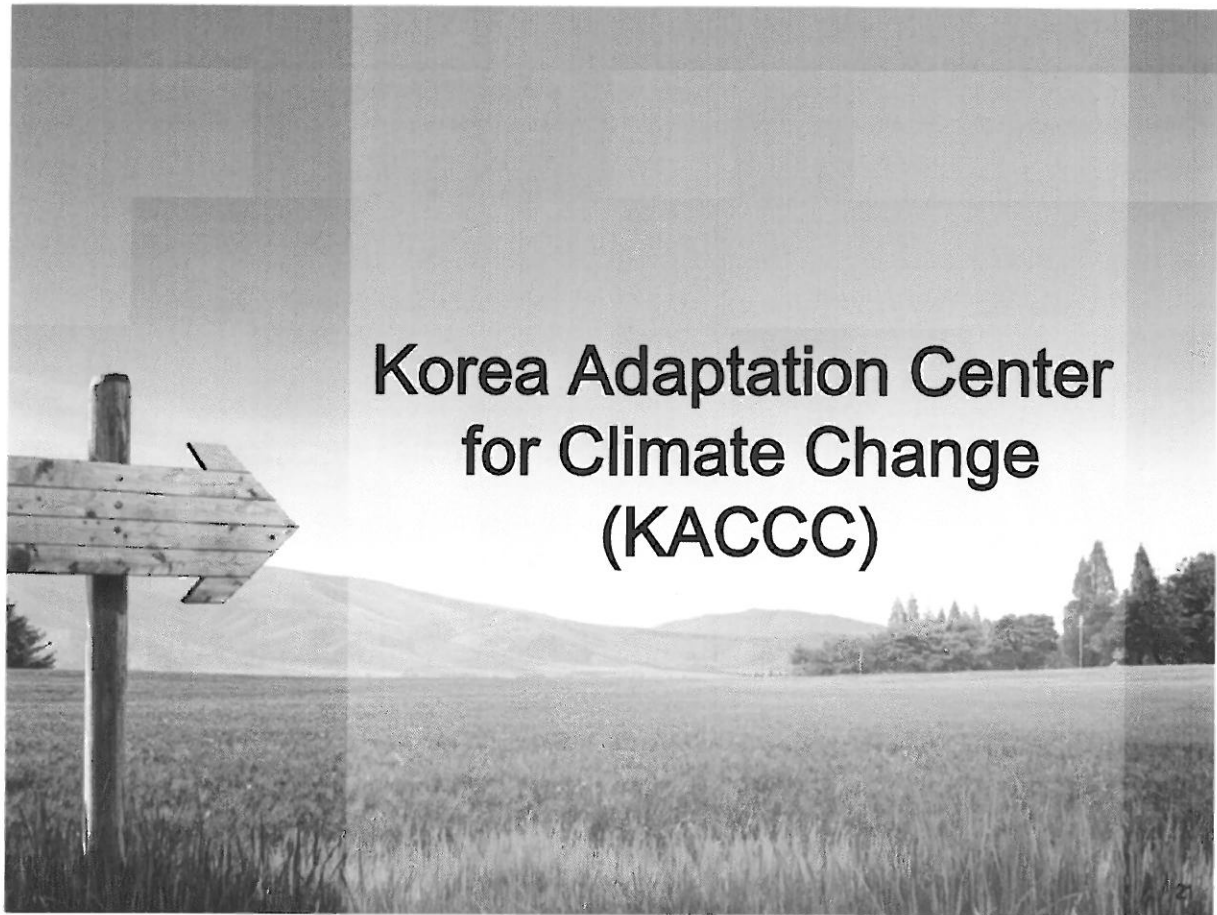


II. Revision of NCCAMP



II. Revision of NCCAMP





KACCC as a Legal and National Center for Climate Change Adaptation (CCA)

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Establishment of KACCC

- KACCC was established on July 1, 2009, based on “the Ministry of Environment 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.

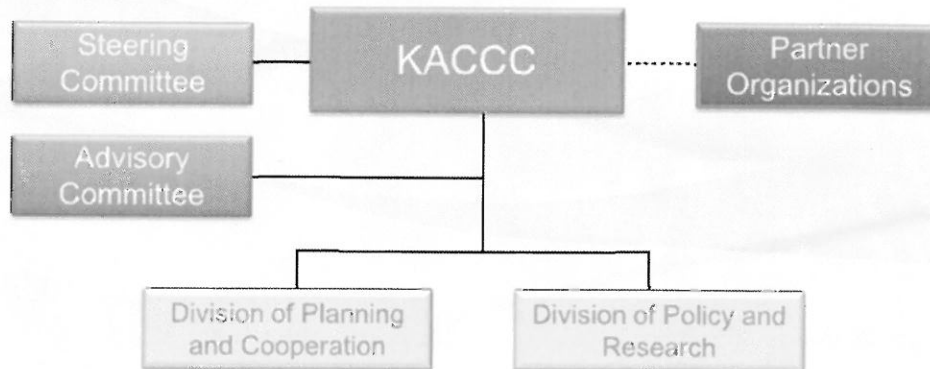
Main Roles of KACCC

- Support development and implementation of CCA policy and plans
- Provide information & enhance awareness on CCA
- Establish national and international networks
- Carry out researches regarding CCA

Organization of KACCC

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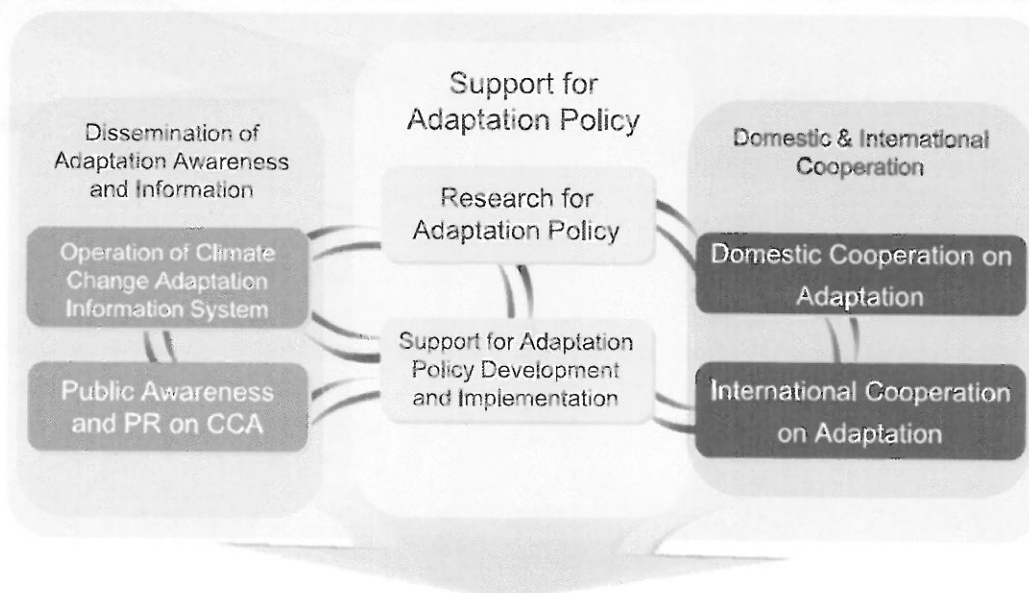


Director	Administration	PhD-level Researchers	Master-level Researchers	Bachelor-level Researchers	TOTAL
1	2	11	38	2	54

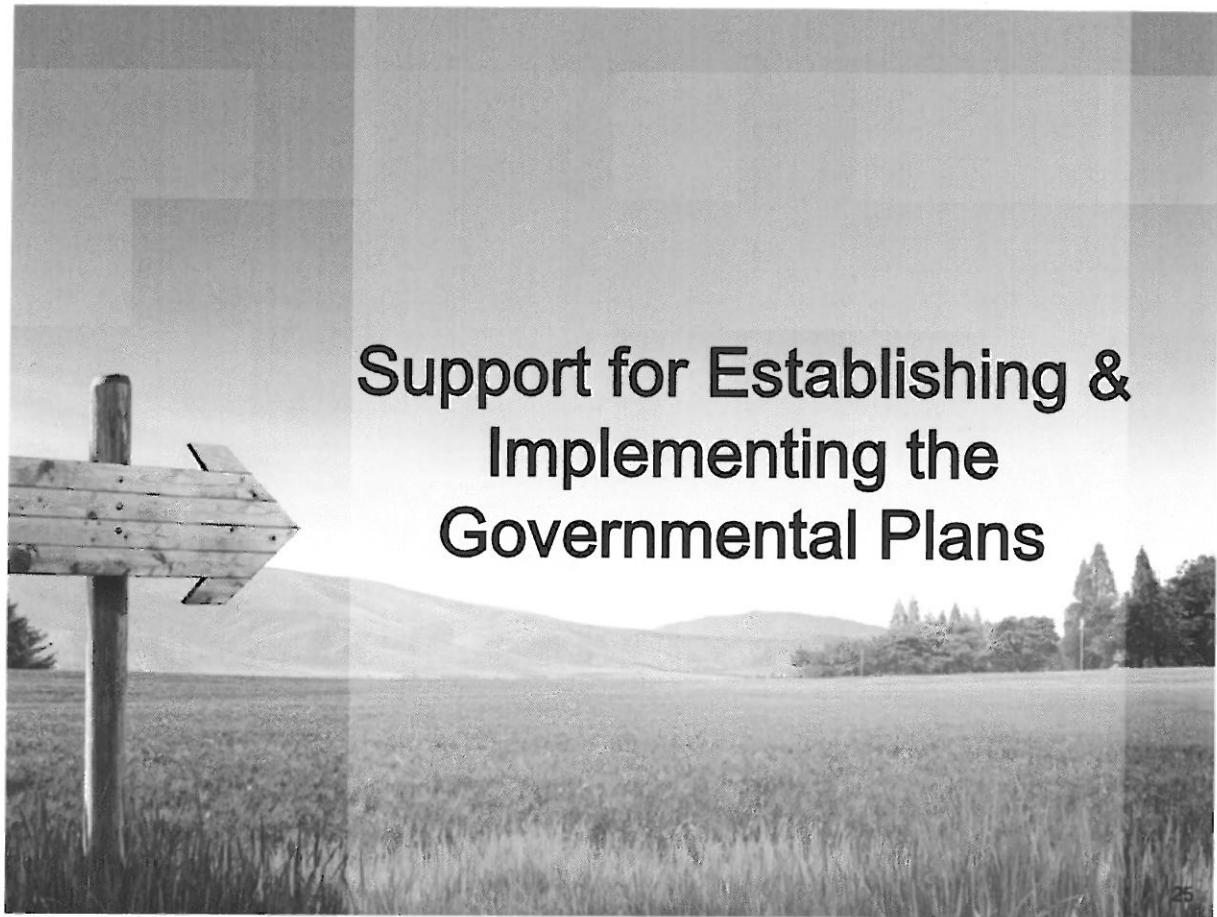
Supporting Task of KACCC

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**Leading Policy Development and Research
for Enhancement of National Adaptation Capacity**



Support for Establishing the NCCAMP

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1. Organize and operate an expert forum, a working level execution team, and a supervisory meeting to prepare a draft
2. Play a role of mediation, exchanging information and collaborating among central departments
3. Publish and distribute the NCCAMP (in 5 year term)



A printed copy of the NCCAMP and contents of the brochure

* NCCAMP : National Climate Change Adaptation Master Plan

Support for Implementing the NCCAMP

1. Organize the committee of an expert group for each area.
2. Support to set implementing and monitoring systems.
3. Provide a guideline to assessment results of the plan.
4. Review the NCCAMP and the annual action plan of each department.
5. Help to organize the departmental collaboration committee.

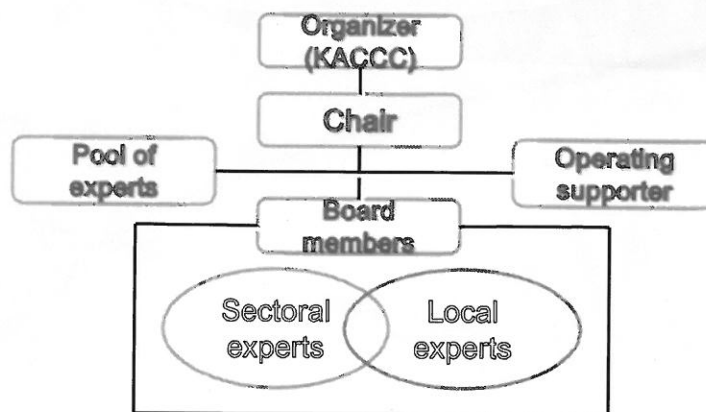
Support for metropolitan and provincial level CCA

- Support to establish and to operate CCA action plans in the metropolitan city(7) and provincial(9) level
 - Help to organize and run the efficient support system for establishment and operation of the action plan
 - Provide training and host workshops to strengthen adaptation capacity of municipal governments
 - Conduct VA and provide the results to prepare action plans



Support for Local (community) Level CCA

1. Help to conduct vulnerability assessments and support the establishment and operation of CCA action plans at local level
2. Provide the results of VA to prepare the action plan in the trial regions
3. Help to organize the advisory board

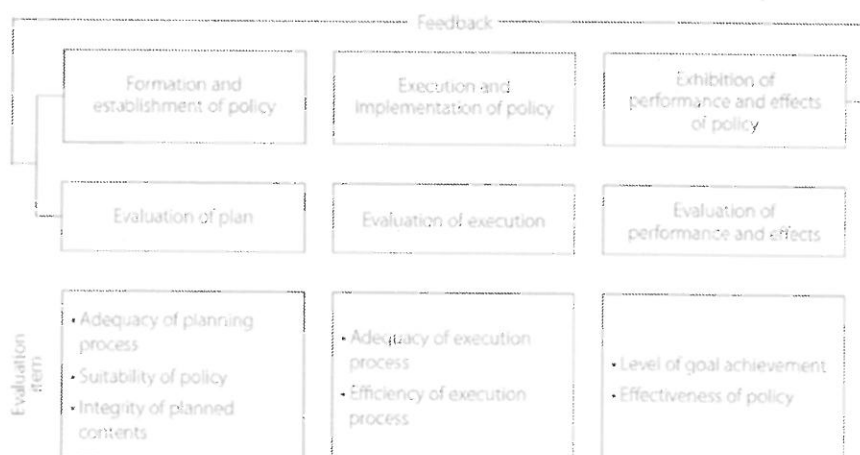


[Organization of the advisory board to support local governments]

Support for Local (community) Level CCA

- Systematize policy management and mainstream adaptation policies
- Monitoring and evaluation of adaptation policies
 - Build inventories of policies for monitoring
 - Suggest evaluation items for each stage of policy

> Evaluation items for each stage of policy





Supporting system



❖ Develop a supporting system for providing information

- Provide a supporting system for web-based adaptation policies and inventory search service
- Open wizard pages for adaptation to support the establishment of the adaptation policies



Supporting System for
Climate Change Adaptation Policy
(<http://adapt.kei.re.kr>)

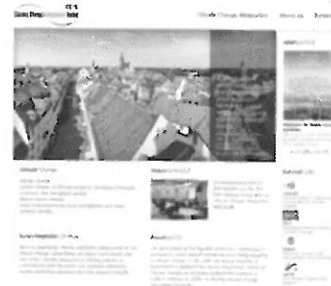
Homepage

❖ Construct PR homepage and renew Climate Change Adaptation Portal (Korean/English)

- Construct KACCC homepage in 2009
- Renew it in 2010
- Construct a portal of climate change adaptation in Korean/English in 2011

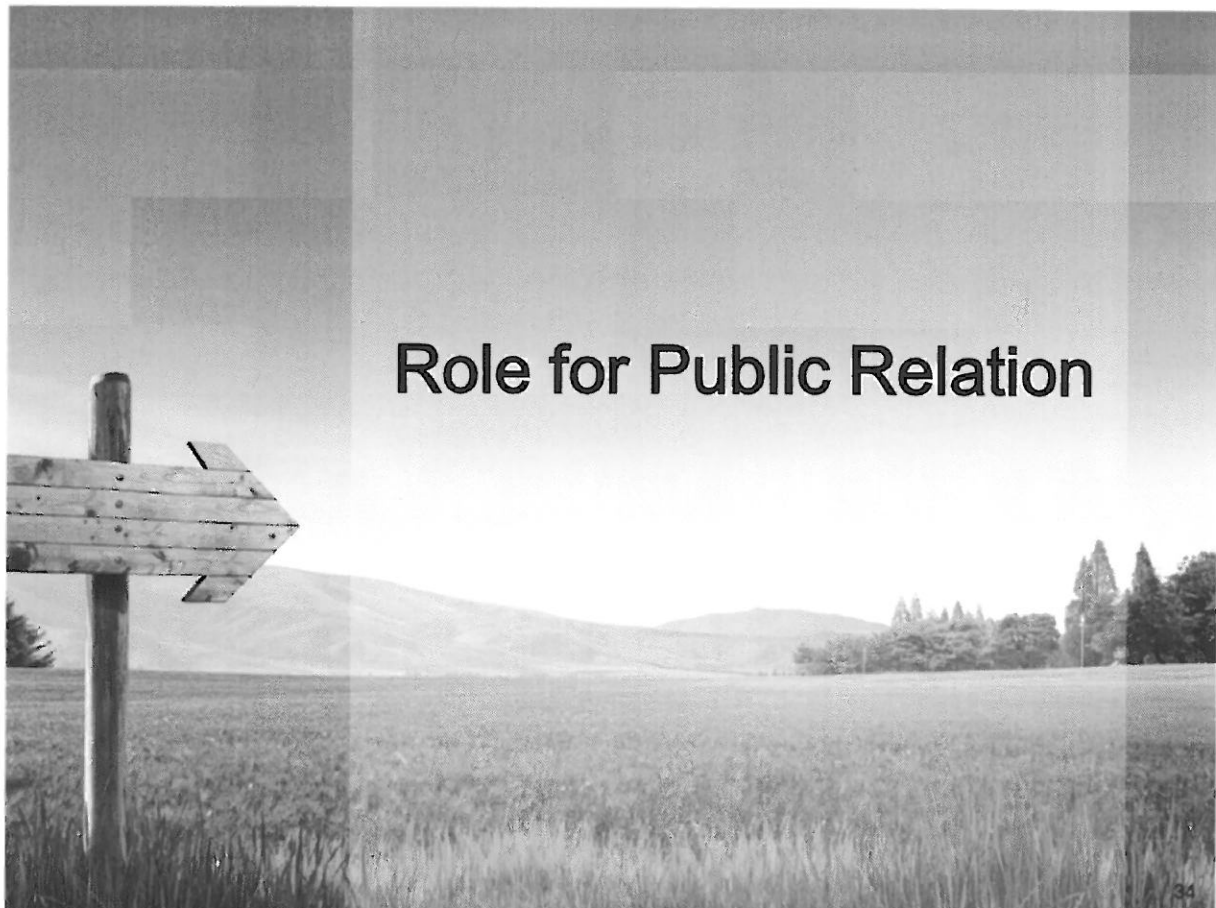
❖ Build Climate Change Adaptation System

- Build a pilot site for the information delivery system in 2010
- Build "Climate Change Adaptation Intelligence System" in 2011



Climate Change Adaptation System in 2011
(<http://ccas.kei.re.kr>)

Role for Public Relation



Newsletter

❖ Publicize and distribute of newsletter (Korean/English)

- Spread the achievement on domestic adaptation policies and reinforce global status by publishing English version of newsletter each quarter
- Contribute to the improvement of awareness and understanding of climate change adaptation through the publication of newsletter



PR publication

❖ Produce and distribute of adaptation PR materials

- Select core adaptation information, compress the information, and enhance the attention through differentiated edit style and design
- Expand PR contacts for the information on climate change adaptation using various distribution channels such as academic events, international meetings, and field PR with the produced PR materials



Media PR

- ❖ Develop various media and publicize information
 - Plan media coverage considering the joint reporting about overseas adaptation examples and timeliness together with influential major media
 - Find various contact media and execute global scale PR considering the changing media environment, and try to make the issues related to climate change adaptation as the common agenda of the society



A video on cases of climate change adaptation in Australia

A video clip on the need of climate change adaption, published on the public space in 2011

Supporters

- ❖ Operate Climate Change Adaptation Supporters
 - Develop training materials that are specifically customized to climate change adaptation using various ideas and teaching methods
 - Improve the response on education and concentration level through customized classrooms with help of supporters
 - Contribute to the improvement of necessity and understanding of climate change adaptation through the education as suggested by the results of satisfaction level survey

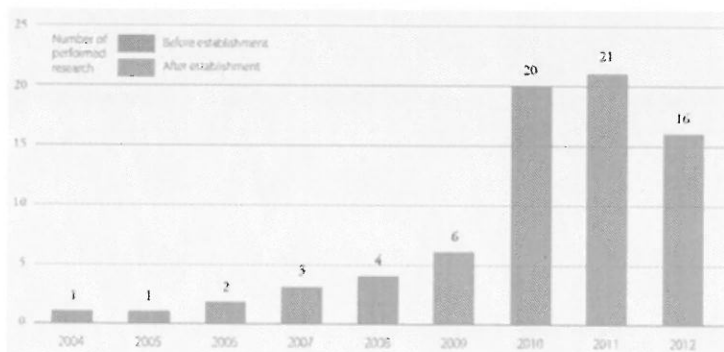




Expand researches on climate change adaptation

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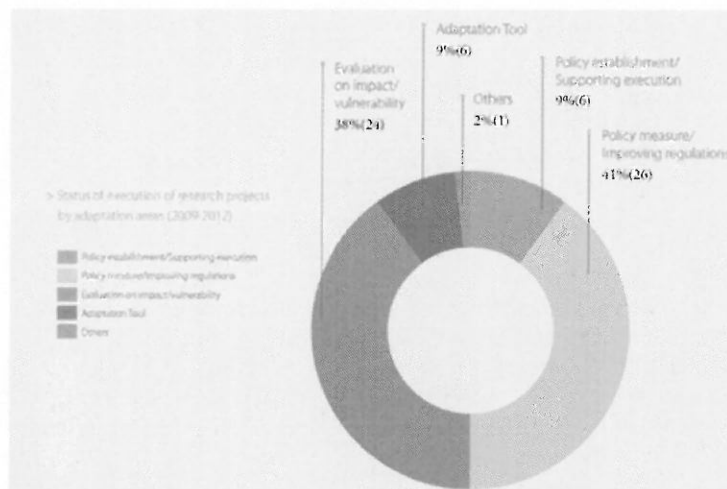
- ❖ Increased execution of research related to adaptation since the establishment of the center
- Total number of research projects for five years before the establishment of the center (2004-2008): total of 11 → 63 research projects are either completed or ongoing three years after the establishment of the center



Change in the research execution performance before and after the establishment of the center

Expand researches on climate change adaptation

- ❖ Increased execution of research related to adaptation since the establishment of the center



Status of execution of research projects by adaptation areas (2009-2012)

Expand researches on climate change adaptation

- ❖ Develop and conduct basic research projects related to climate change adaptation
 - Develop and conduct basic researches that meet the needs of national & local government
 - Develop and conduct projects that reflect the internal and external environmental and social requirements
- ❖ Contribute establishment and implementation of national policies and policy alternatives
- ❖ Contribute to the development of adaptation policy tool



Domestic Networking

1. Expand network and reinforce collaboration with organizations in Korea

❖ Reinforce the collaboration with related organizations in Korea

- Sign MOU with related organizations and prepare foundation to reinforce partnerships



❖ Share research results on climate change adaptation

- Hosted workshop for sharing achievements on adaptation researches
- Publish research source book about climate change adaptation by area jointly with collaboration organizations (2011)

International Networking

2. Built international network of adaptation and support Korean government for international negotiation

❖ Establish international adaptation network and support Korean government for international negotiation

- Support international government level negotiation related to adaptation
- Sign MOUs with overseas organizations related to adaptation
- Visit, invite, interview and execute collaboration with overseas organizations related to adaptation
- Participated major international meetings related to adaptation

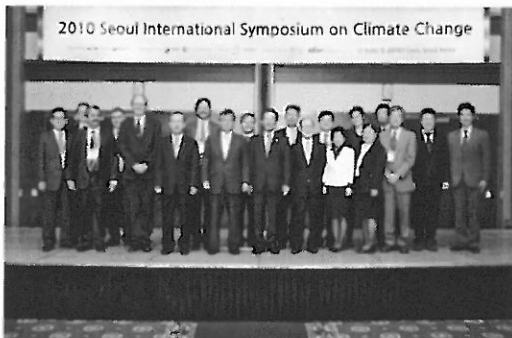
> Concept diagram of international network of KACCC



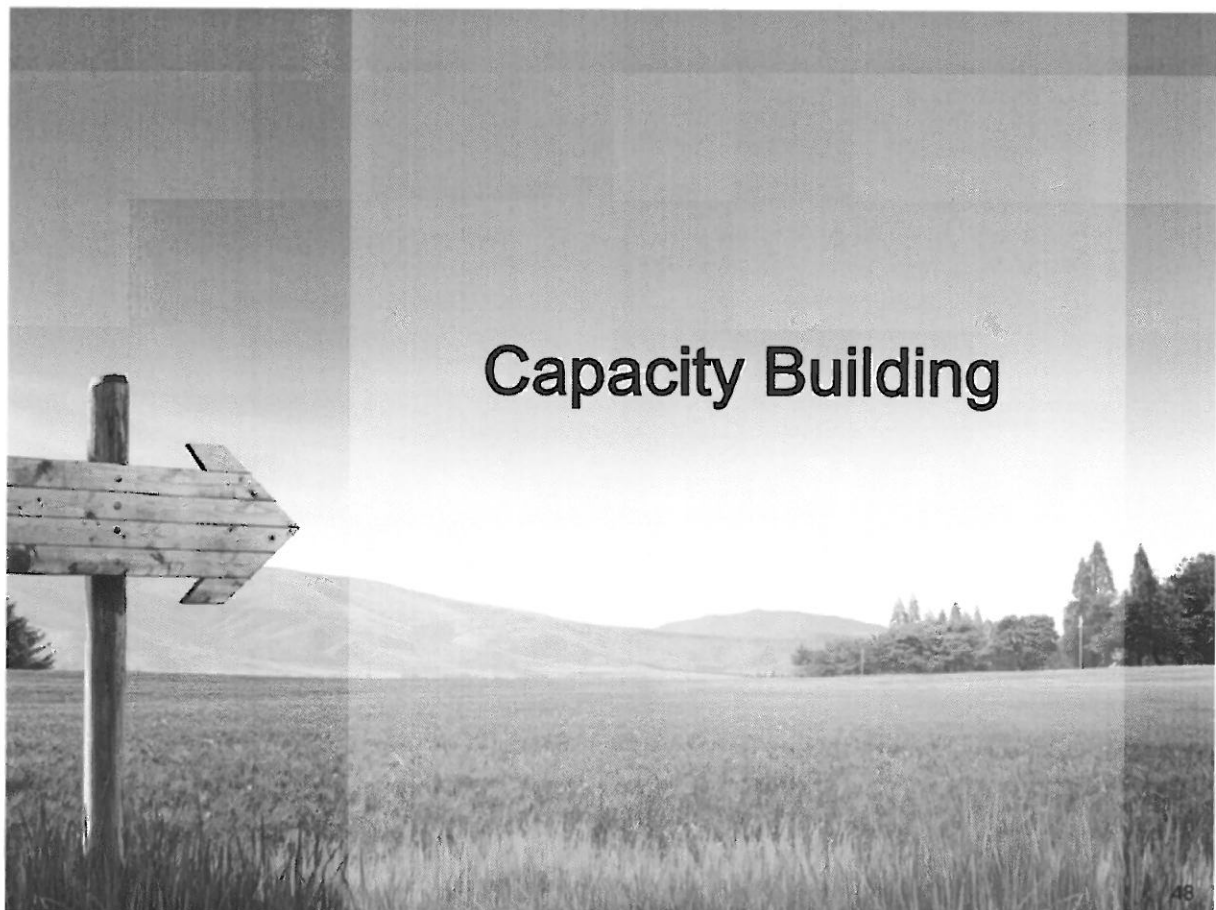
International Collaboration

3. Facilitate international collaboration for capacity building

- ❖ Review the current international adaptation discussions and host international symposium
 - Examine latest trends of adaptation(document survey)
 - Hosted international symposium about climate change adaptation (2009~2012)



Capacity Building



1. Support adaptation policy and capacity building for adaptation in Korea

❖ Train local government officials and run expert forums

- Support adaptation policies and reinforce capacities through experts' forum on climate change adaptation
- Reinforce capacities of people in charge of adaptation in municipal governments adaptation through the training related to the establishment of Master Plan



Expert forum



the training related to the establishment of Master Plan



2. Reinforce capacity for industries on climate change adaptation

- ❖ Improved the awareness of climate change adaptation in the private sector and revitalized the execution of adaptation plan for industries
- Hosted forums for finding new industries and promising industries regarding the adaptation to the climate change (2011)
- Hosted workshop to improve the capacities of climate change adaptation for the industries (2012).



forum



workshop

3. Support reinforcement of adaptation capacities of underdeveloped countries

- ❖ Train government officials in ASEAN on climate change adaptation
 - Establish adaptation network with ASEAN region and secure global leadership by training government officials in ASEAN on climate change adaptation(2010~2011)



Events for International Collaboration



International Symposium

(1) International Symposium on Climate Change Adaptation



2009 The 1st International Symposium on Climate Change Adaptation Strategies for Asia and the Pacific Region



2010 The 2nd International Symposium on Climate Change Adaptation



2011 The 3rd International Symposium on Climate Change Adaptation



2012 The 4th International Symposium on Climate Change Adaptation

2013 APAN Forum

(1) International Symposium on Climate Change Adaptation

Asia-Pacific Climate Change Adaptation Forum 18-20 March 2013, Incheon, Republic of Korea

- Participants: 500
- Host Organization: Korea Environment Institute (KEI)
- Co-organizers:
 - United Nations Environment Programme (UNEP)
 - Institute for Global Environment Strategies (IGES)
 - Regional Resource Centre for Asia and the Pacific (RRC.AP)
 - Stockholm Environment Institute (SEI)
- Sponsors:
 - Ministry of Environment, Korea
 - Ministry of the Environment, Japan
 - Asian Development Bank
 - Incheon Metropolitan City
 - Korean International Cooperation Agency (KOICA)



Capacity Building

(2) Capacity Building Program



2010. International Workshop on Climate Change, Phuket, Thailand



2011. Regional Training on Cross-Sectoral Climate Change Adaptation Planning, Bangkok, Thailand



2012. Course on Climate Change Adaptation for Asia, Seoul, Republic of Korea



2012. Training on Capacity Building to develop Climate Change Response towards Green Growth, Ho Chi Minh, Vietnam

2013 Capacity Building

(2) Capacity Building Program

Climate Change Adaptation Considering Loss and Damage Issues (Special Training Program)

- › Dates : 29-31 August 2013
- › Venue : Bangkok, Thailand
- › Co-organizers:
 - Climate Change Cooperation Division, Ministry of Environment(MOE), Korea
 - Korea Adaptation Center for Climate Change (KACCC)
 - Korea Environment Institute (KEI)
 - United Nations Environment Programme (UNEP)
 - Asia Pacific Adaptation Network(APAN)
- › Target Participants
 - Researchers, specialists and public officials working on climate change adaptation and loss and damages issues



International Adaptation Network

(3) International Adaptation Network

Support for Government Delegations at International Discussions (2009-2013)

- Send delegations to international discussions such as IPCC, UNFCCC



Building Partnership with IGOs and Other Adaptation Institutions (2009-2012)

- Participate major adaptation-related international events
- Promote cooperation with IGOs and other adaptation institutions



Asia Pacific Adaptation Network (APAN) Participation (2009-2013)

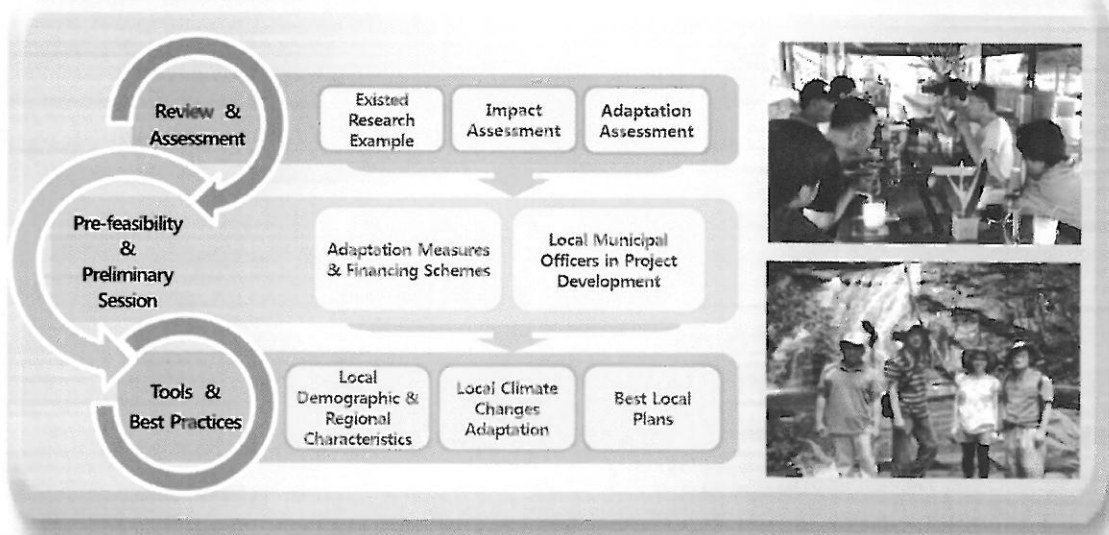
- Attendance of Adaptation related committee and meetings
- Co-host Forums and training Program



International Project

(4) International Cooperation Project : Philippine eco-town project

- ❖ Demonstration of Eco-town Framework in the Municipality of San Vicente Palawan, Philippines
 - Provide the local strategy on the climate change adaptation plan with respect to local and regional needs



Thank You for your attention!

