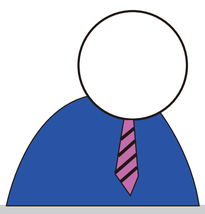
Session 5

Prioritizing adaptation measures to support local government climate change planning

Chaeyeon Park*, Dong Kun Lee, Jiyeon Kim, Jung Hee Hyun and Seockhwan Yoon
Department of Landscape Architecture and Rural System Engineering, Seoul National University, Rep. of Korea.

Chaeyeon Park
Doctoral Post-Graduate Student
Interdisplinary Program in Landscape Architecture
E-mail: chaeyeon528@snu.ac.kr

We need to prevent the risks owing to climate change. It requires proper adaptation plans. Every local government should develop climate change adaptation plan every 5 years. Some government develop plan well with lots of experts and information. However, the others have problem to make the plan because of lack of knoweldge, information, and fund. For these reason, govenrments need a decision supporting tool for developing adaptation plan. The main purpose of the tool is providing information & reducing fund. We divide the process of developing adaptation plan. First part is making the vision. It means which part/sector are important for the governments. We want to link this part with the existing vulnerability assessment system "VESTAP". Second part is prioritizing the adpatation measures. We studied how to make the priority and developed the default result which is for the national scale. If local government apply this result, they can choose some weight and score of the criteria. Final step is showing the priorities/ranks and adaptation measure inventory. To summary, the aims of the our tool are that let the governments know which measures are needed and the information about those measures.



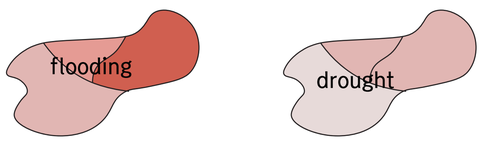
**How can we develop adaptation plan?
What are the best adaptation measures in this local area ?**

Planning Process

1st step — Make the vision of adaptation

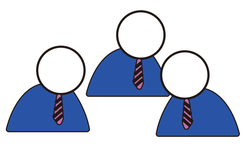
Link with vulnerability assessment tool

VESTAP
(Vulnerability Assessment Tool)
: Climate Impace Exposure + Sensitivity + Adaptation Capacity



: Define which policies and which sectors are the bigger problem
For example, flooding is bigger probelm than drought.

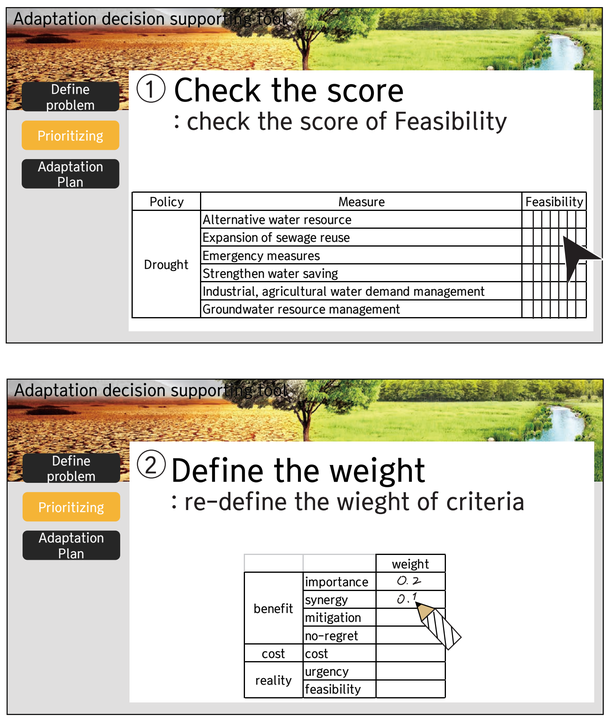
Decide the 'vision of adaptation'



: Discuss the priorities of policies in the local area
Stakeholders + Experts + NGOs

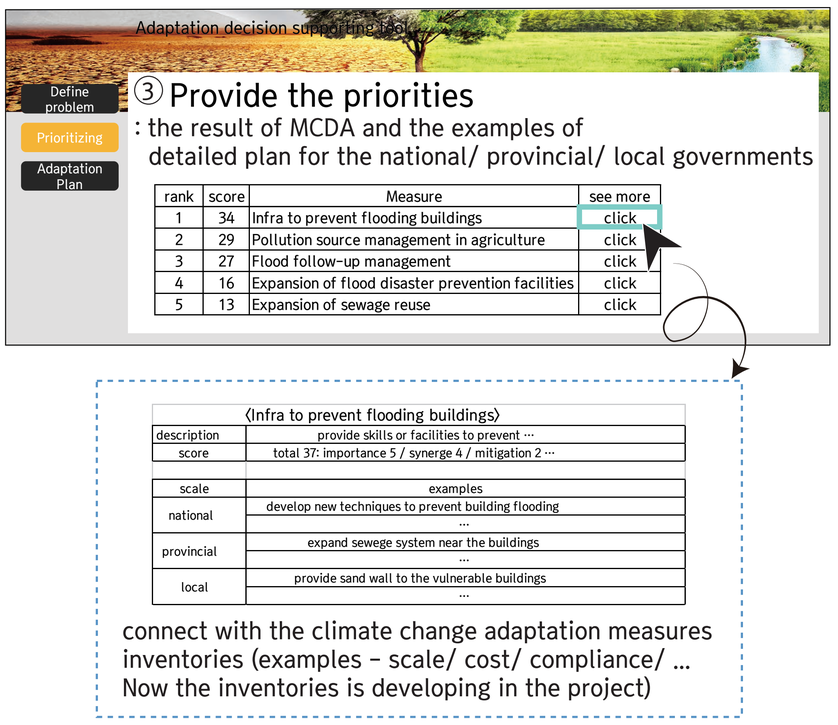
2nd step — Priotize the adaptation measures

Provide priotizing tool / default result



3rd step — Selecting specific plans

Provide sufficient information using inventory



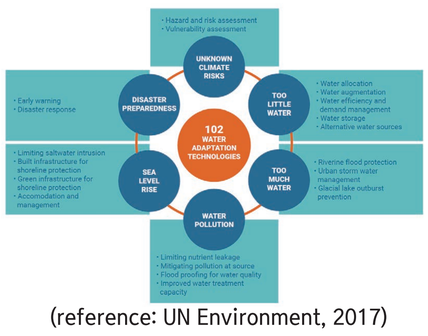
connect with the climate change adaptation measures inventories (examples – scale/ cost/ compliance/ ...
Now the inventories is developing in the project)

Result 1: Criteria

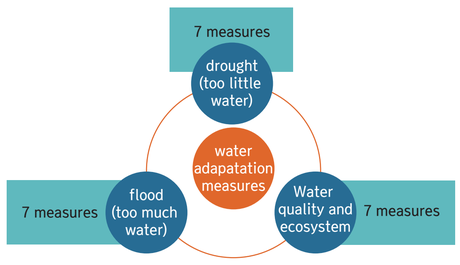
1. **Importance:** effect on adaptation. how much this measure can reduce negative impact of climate change
2. **Synergy:** effect on other adaptation sector. how much this measure can reduce negative impact of other sector
3. **Mitigation:** effect on climate change mitigation. how much this measure can reduce greenhouse gas emission
4. **No-regret:** effect on non-climate change. how much this measure have benefit regardless of climate change
5. **Urgency:** degree not to be delayed / must be done right now
6. **Cost:** degree of total cost. It includes the cost of installation, operating, and maintanance
7. **Feasibility:** how much this measure is easy to implement institutionally without difficulty

The criteria are selected by referring the previous cases (UK climate impacts program, 2007; De Bruin et al., 2009; Hallegatte, 2009). They contain the effect on the variety section (=benefit), cost and possibility.
The Feasibility (possibility) in the default result reflect the general situation. It can varies by local governmnet.

Result 2: Adaptation measures list (water management)



(reference: UN Environment, 2017)



modified adaptation measures category

Policy	Measure
Drought	Seawater desalination technology
	Expansion of sewage reuse
	Rainwater management, leak prevention
	Emergency measures
	Strengthen water saving
	Industrial, agricultural water demand management
	Groundwater resource management

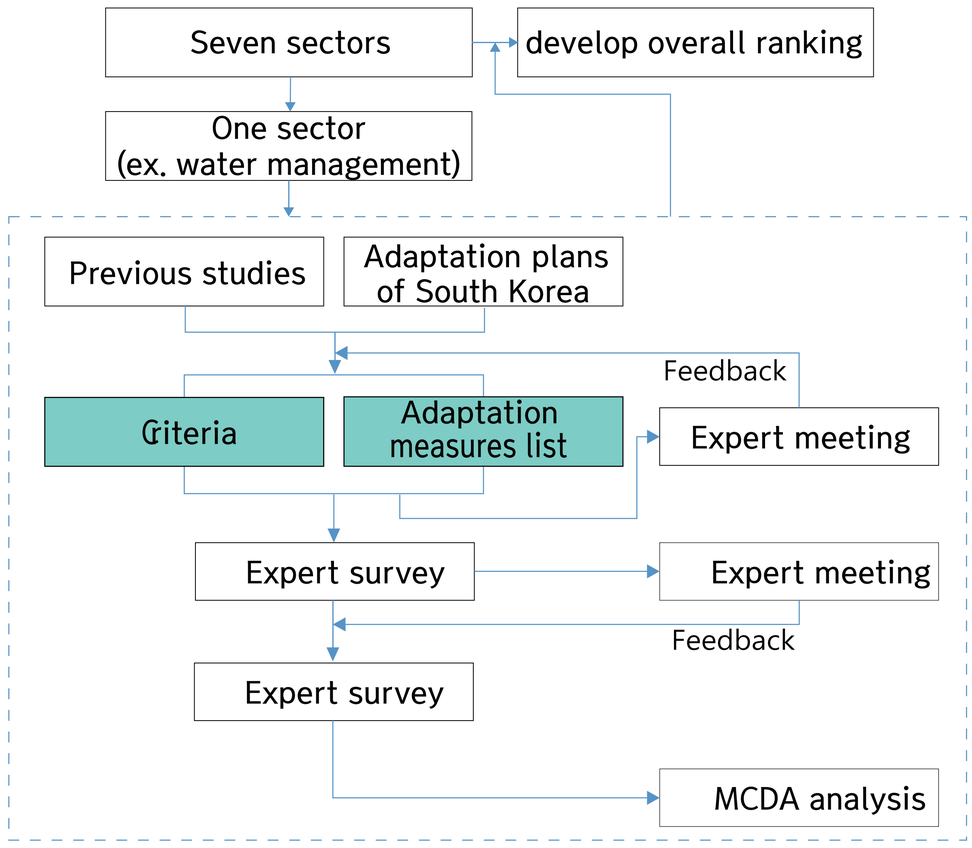
Policy	Measure
Flood	Flood follow-up management
	Expansion of flood disaster prevention facilities
	Flood safety system at land development
	Water management infra of flood response system
	Expansion of urban flood prevention facilities
	Infra to prevent flooding buildings
	Expansion of runoff reduction facilities

Expert meeting and Survey are being held at the National Assembly Forum on Climate Change

The photo is taken at the meeting (22 October 2018) expert from the provincial government, university, and research institute

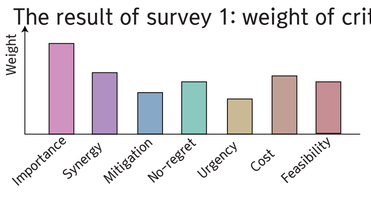
Policy	Measure
Water quality and ecosystem	Ecological river and wetland composition
	Pollution source management in agriculture
	Prevent on saltwater intrusion
	Urban nonpoint pollution source management
	Water conservation zone management
	Expansion of samll scale sewage treatment facilities
	Water safety plan

⟨Method for developing rank of the adaptation measures⟩

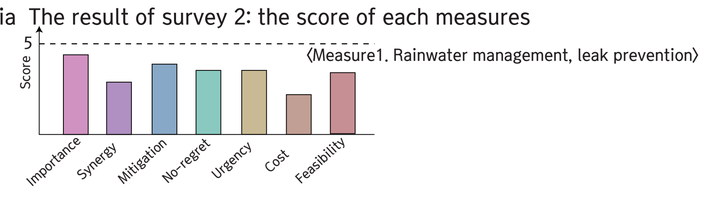


Result 3: Default result of ranking

The result of survey 1: weight of criteria



The result of survey 2: the score of each measures



Multi-criteria decision analysis

rank	score	Measure
1	34	Infra to prevent flooding buildings
2	29	Pollution source management in agriculture
3	27	Flood follow-up management
4	16	Expansion of flood disaster prevention facilities
5	13	Expansion of sewage reuse

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