



Application of Flood Marks Management System to establish rehabilitation plan of reducing natural disaster

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Question

Chapter 1

Introduction

Background



Past



KCSC



Introduction: Background

1 Background

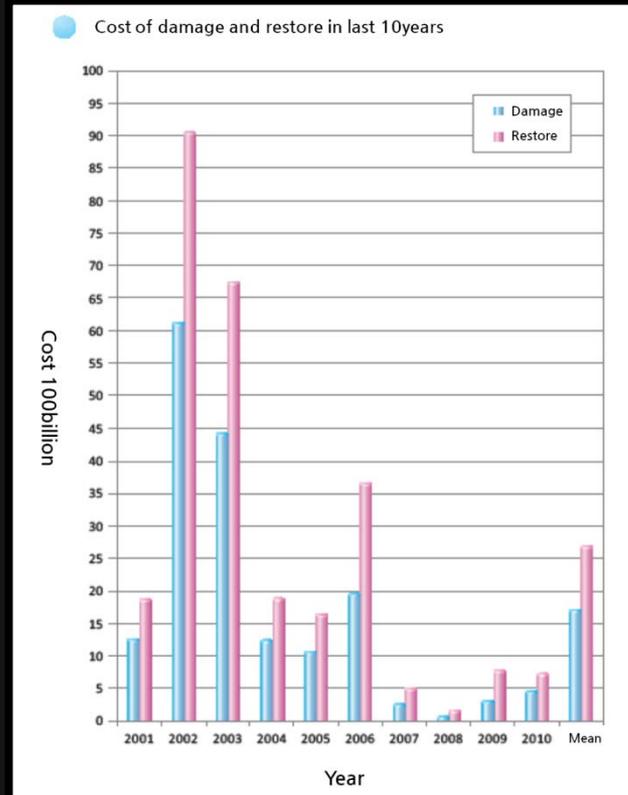
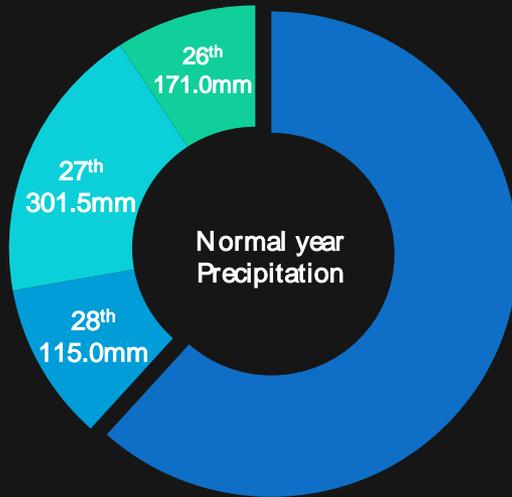
Precipitation of summer in Korea

- Increasing abnormal climate
- Enormous compensation for the losses

Cost of damage and restore in last 10 years

Abnormal Climate

Precipitation of Seoul
on July, 2011
(40%)



Introduction: Former Problem

2 Former Problems of Making Flood Marks Map

Different ways and various kind of maps

- Flood Marks Map was lack of unity in the past
- Those were various kind of disaster maps
- Different makers, different name

Managed separately in several stacks

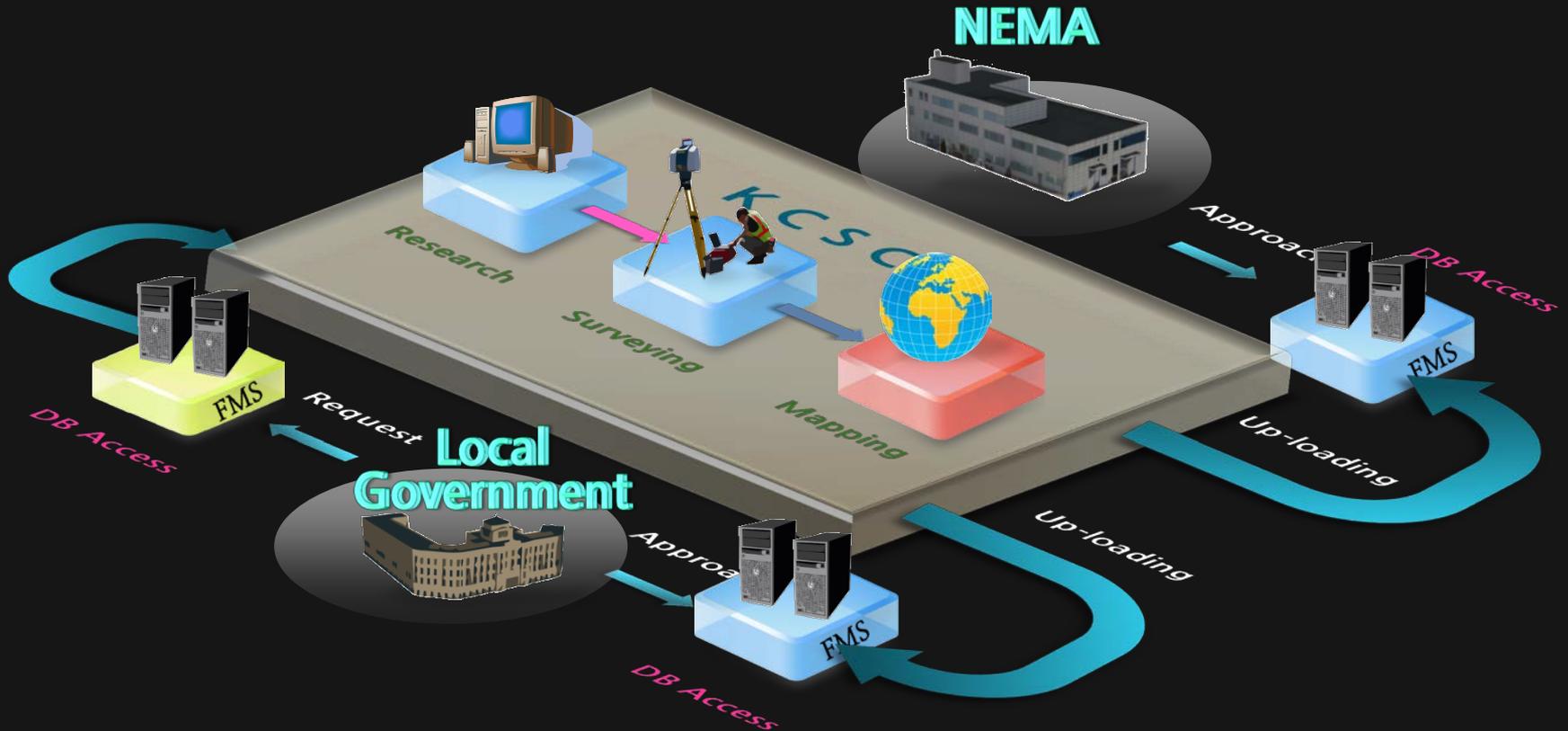
- It is hard to approach to the maps because of managed separately by each other
- The central government is difficult to grasp present condition of damaged area
- The paper maps would be transformed by climatic factors

<History of Disaster Hazard Map>

	Project	System	Institute	Year
1	Research of flood marks and causes	Computer mapping System	the Department of the Interior	1997 - 1998
2	Report of flood management operating system	Flood Estimation System	Ministry of Construction & Transportation	1998
3	Developing designing flood disaster map and analyzing the causes	Flood Information Management System	Ministry of Government Administration and Home Affairs	1999 - 2000
4	Basic research of flood map	Flood Marks Map & District of Flood Hazard	Ministry of Construction & Transportation	2001
5	Making flood map	District of Flood Hazard System		2002

Introduction: KCSC

3 Institute responsible for Flood Marks Map



Chapter 2

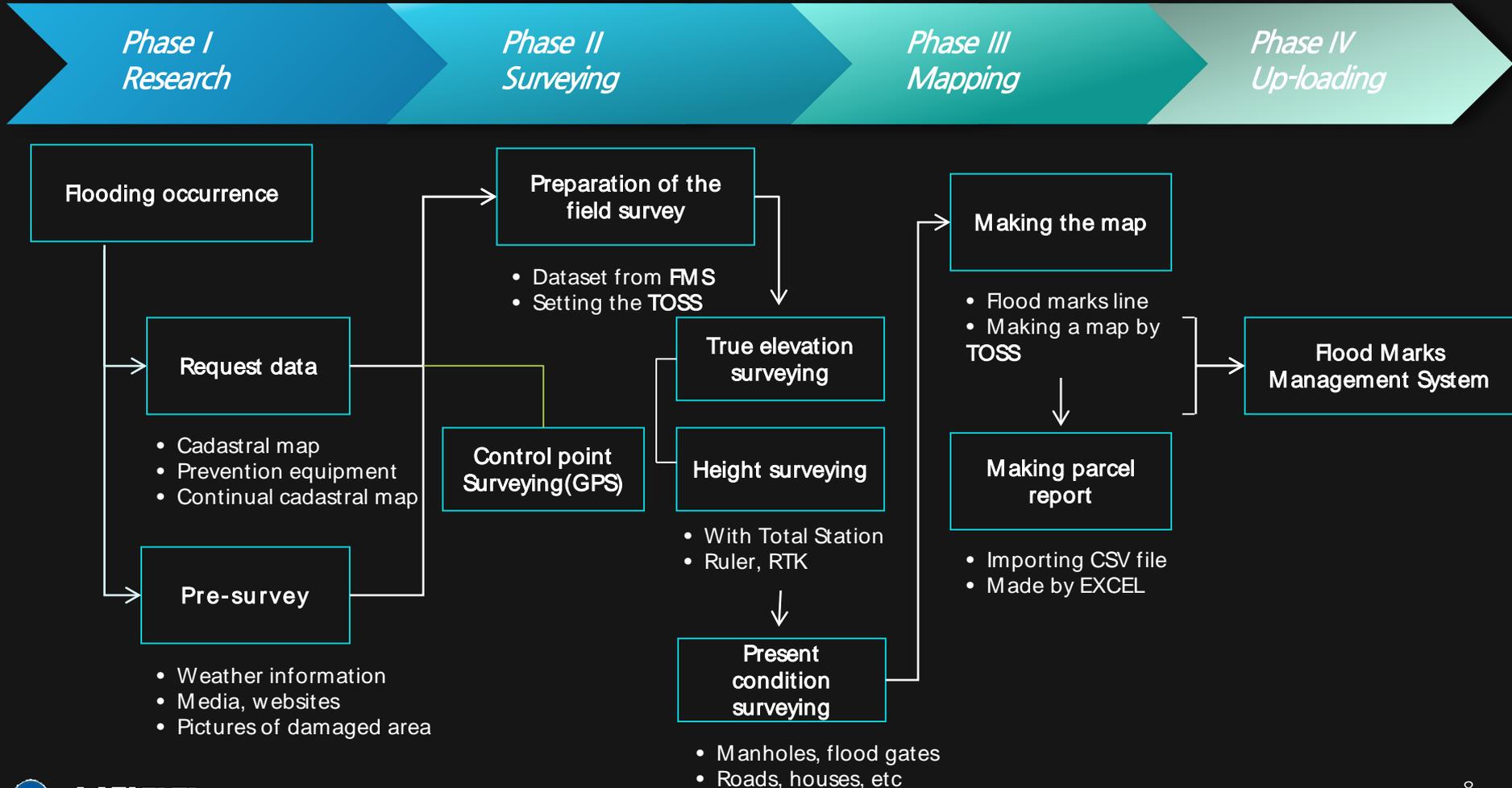
Making Flood Marks Map



Making Flood Marks Map: Process

1 Making Flood Marks Map

Whole process of making Flood Marks Map



Making Flood Marks Map: Process

1 Making Flood Marks Map

Phase I Research

- Request data
- pre-survey

Request basic data

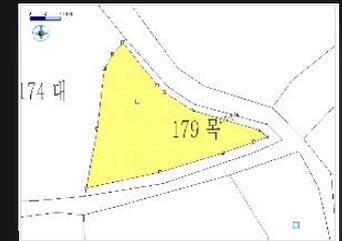
- ✓ Some can be downloaded through Flood Marks Management system
 - Cadastral map: It contains map and attribute data
 - Continual cadastral map: Flood marks map is made on this map, but it doesn't contain attribute data
- ✓ Other can be requested to directly other institute
 - Zonal line, prevention equipment, TIN, etc

Pre-survey

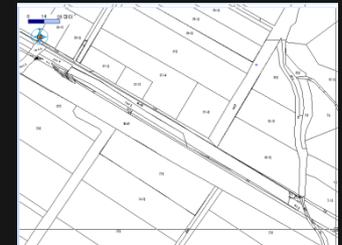
- ✓ Direct research: field survey
 - When surveyor goes out to survey the area, it can be conducted with direct research
 - Take a picture of damaged area
 - Interview
- ✓ Indirect research
 - Weather information
 - Media
 - NIDP: prevention equipment

- ✓ Preparation of the mapping
 - Arrange the continual map

Split



Annexation



Making Flood Marks Map: Process

1 Making Flood Marks Map

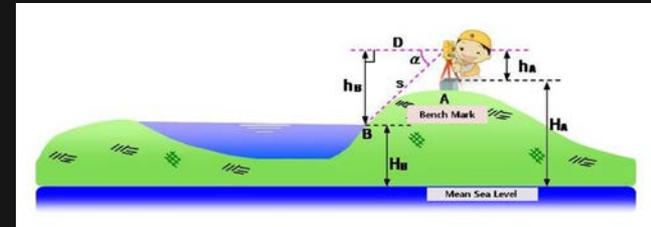
Phase II Surveying

Control point surveying(GPS)



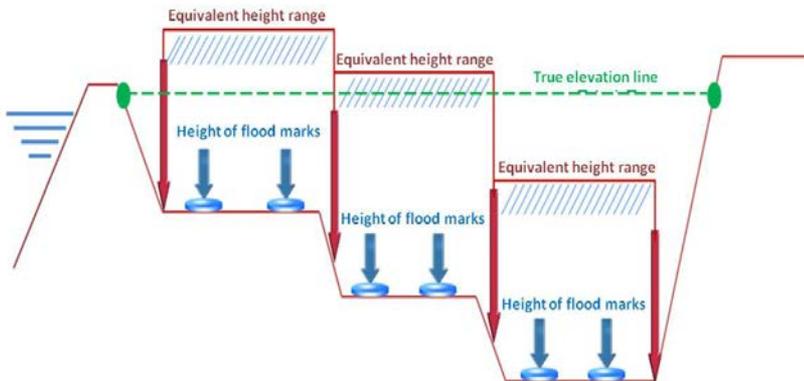
- GPS surveying should be preceded
- True elevation of control point should be obtained before conducting flood marks surveying

True elevation surveying



- It is the height from mean sea level to flood
- True elevation of flood: $H_B = H_A + h_A - h_B$
 $h_B = S \times \sin \alpha$

Height surveying



Present condition surveying

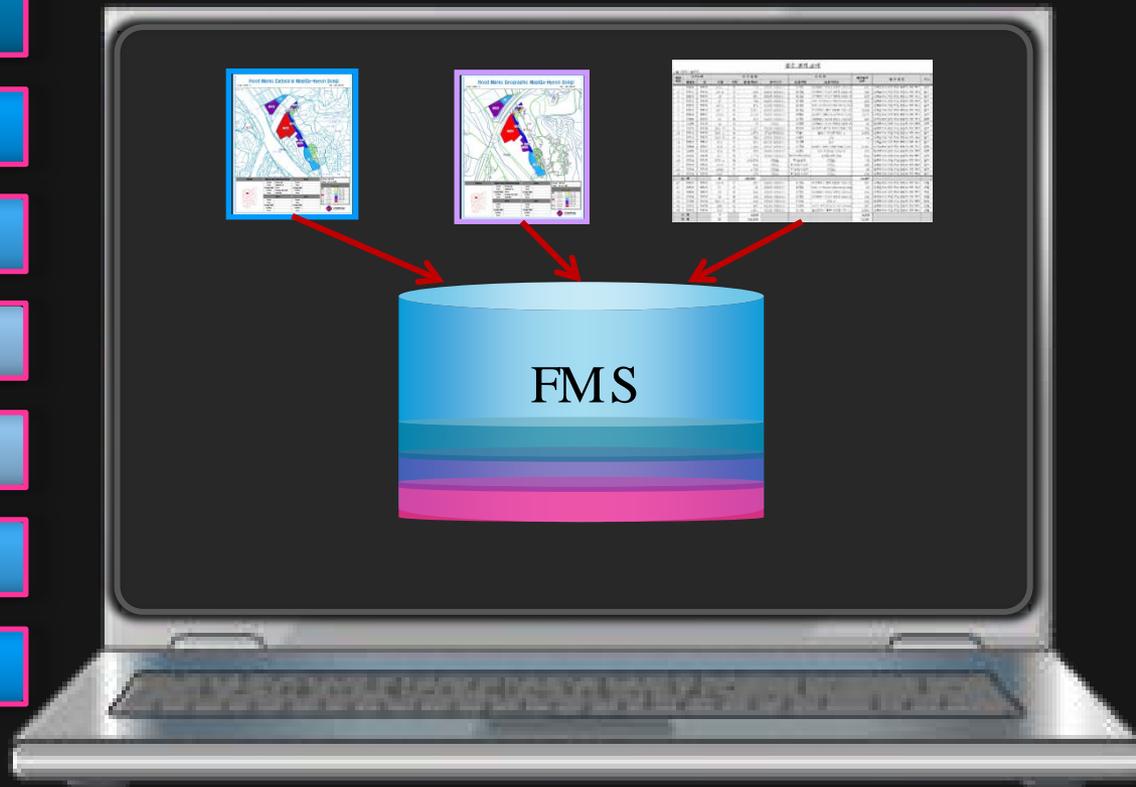
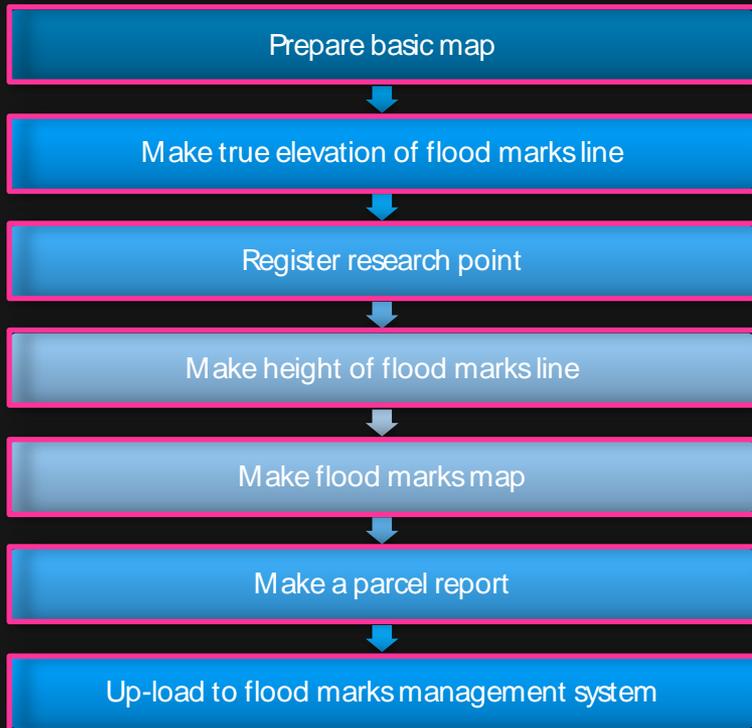
- it's not essential
- Inundated buildings, roads and field
- Manholes, flood gates and rainspouts to prevent flood
- Present condition would be shown on the map with flood marks line

Making Flood Marks Map: Process

1 Making Flood Marks Map

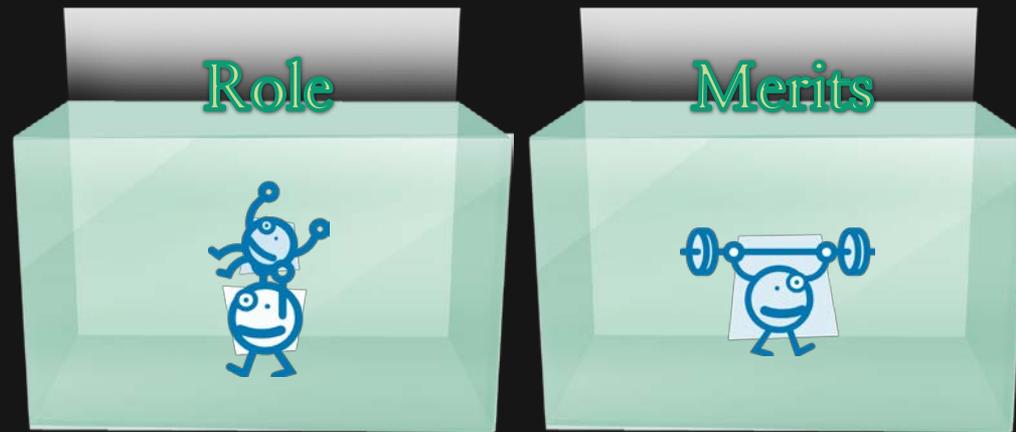
Phase III Mapping

Phase IV Up-loading



Chapter 3

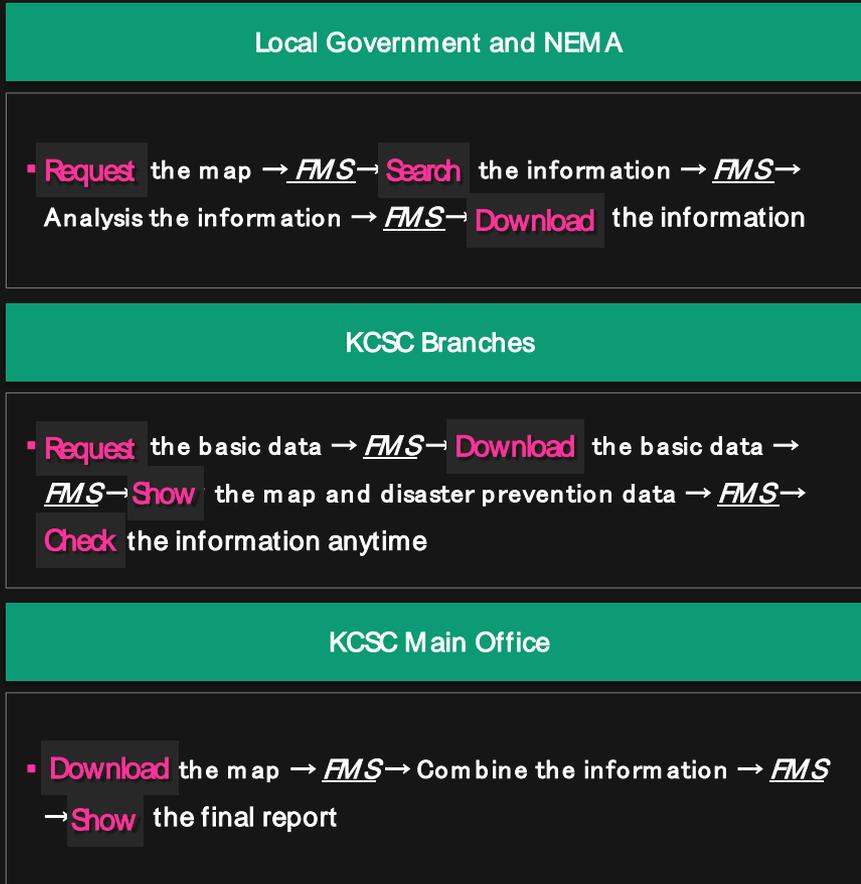
Flood Marks Management System



Flood Marks Management System: Role

1 Role of Flood Marks Management System

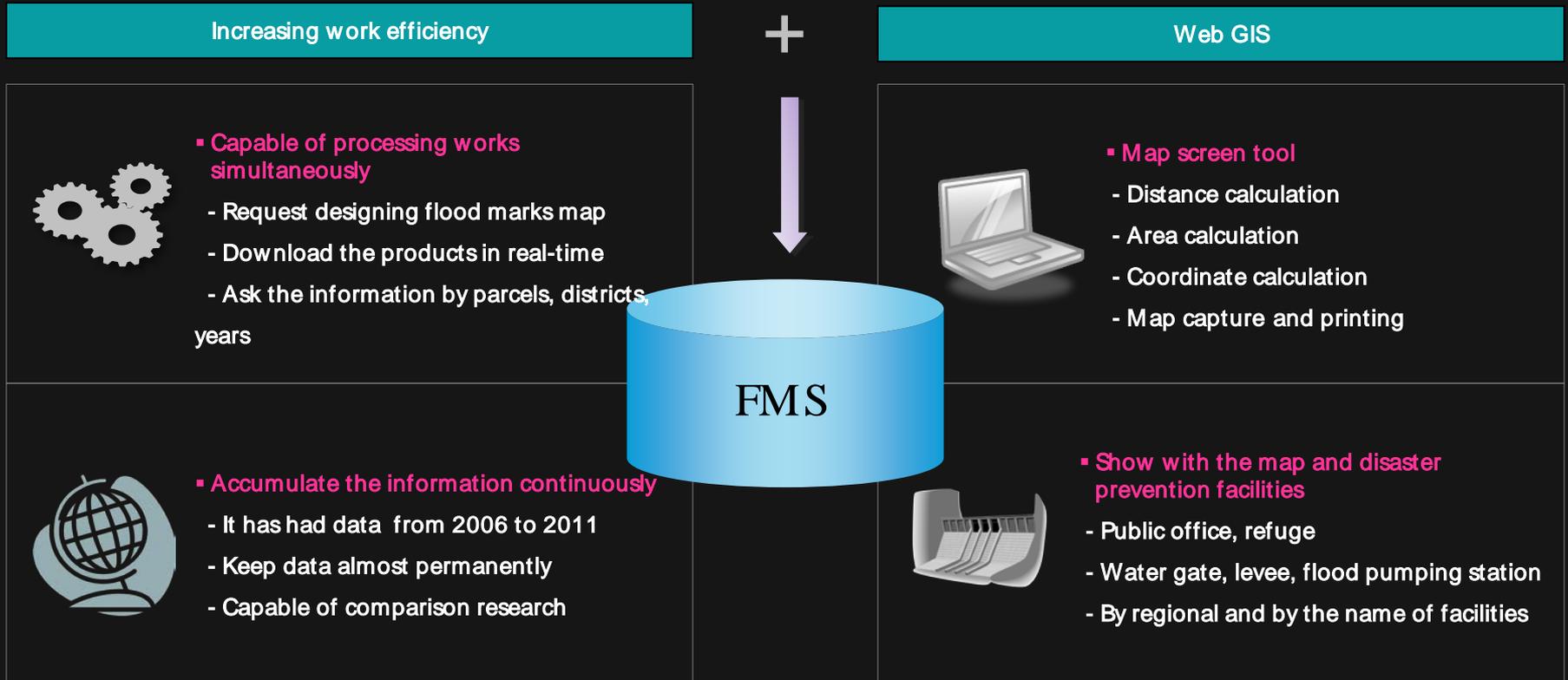
Flood Marks Management System is middle of all step for the flood marks work



Flood Marks Management System: Merits

2 Strong points of FMS

The feature of Flood Marks Management system is work efficiency and web GIS function



Chapter 4

Expected Effect



Expected Effects : Application

1 Expected application by KCSC

Upcoming application of Flood Marks Project

- Previously the charge was cheaper than other surveys
- But this is almost same as others' charge in 2012

- Making app for smart phone related with hazard map
- It will be offered to every people without cost

Obligation

Charge

Hazard
map

phone
App

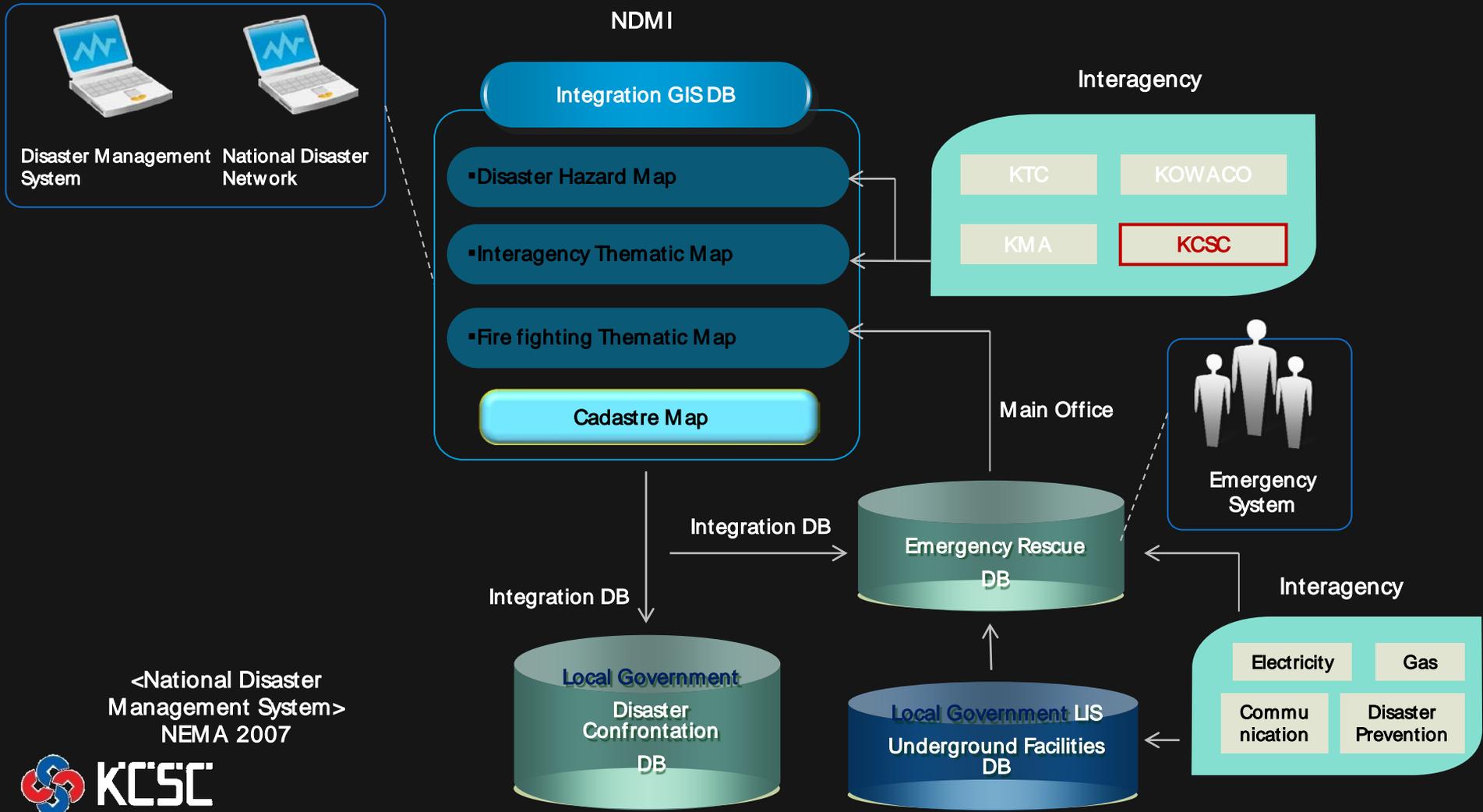
- Obligate local governments to make flood marks map
- NEMA is ready to make a rule to do it

- KCSC is responsible for making flood marks map
- KCSC is discussing duty of managing all kinds of hazard map

Expected Effects: Role

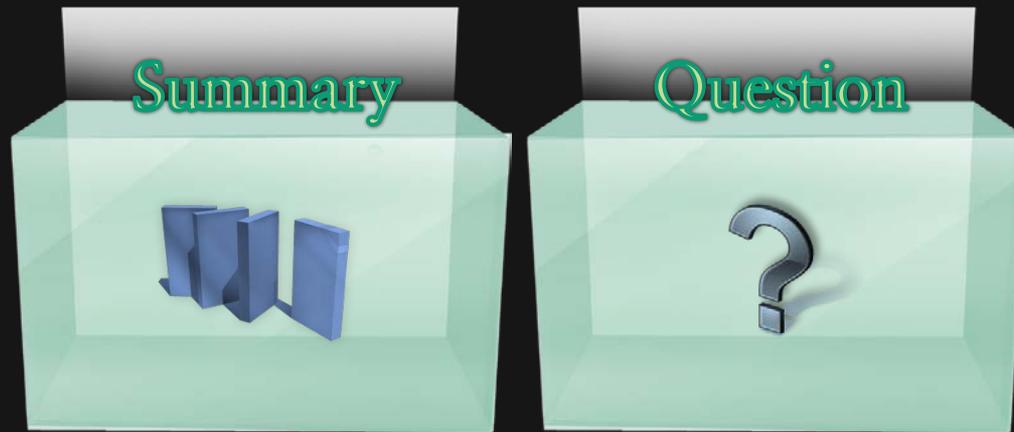
2 Role in National Disaster Management System and Integrated GIS

KCSC will be the main hub of managing Integrated GIS with experience of making FMS



Chapter 5

Conclusion



Conclusion

1 Summary



Conclusion

2 References

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Flood Marks Management System (<http://fms.kcsc.or.kr>)

National Disaster Management Institute (<http://www.nidp.go.kr>)

Thank you.

Q&A