

Transformation of Paradigm on Safety Management Policy for Sustainable Development

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century**
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Recent major disasters in Korea

Recent Major Disasters in Korea

- **Definition and occurrence tendency of disaster in Korea**

Natural Disaster

**Typhoon, Flood, Storm,
Tidal wave, Heavy Snow,
Drought, Earthquake**



[Natural Disaster Management Act]

Man-made, Technological Disaster

**Fire, Collapse, Explosion,
Traffic accident,
Chemical and Biological accident,
Environmental polluted accident**



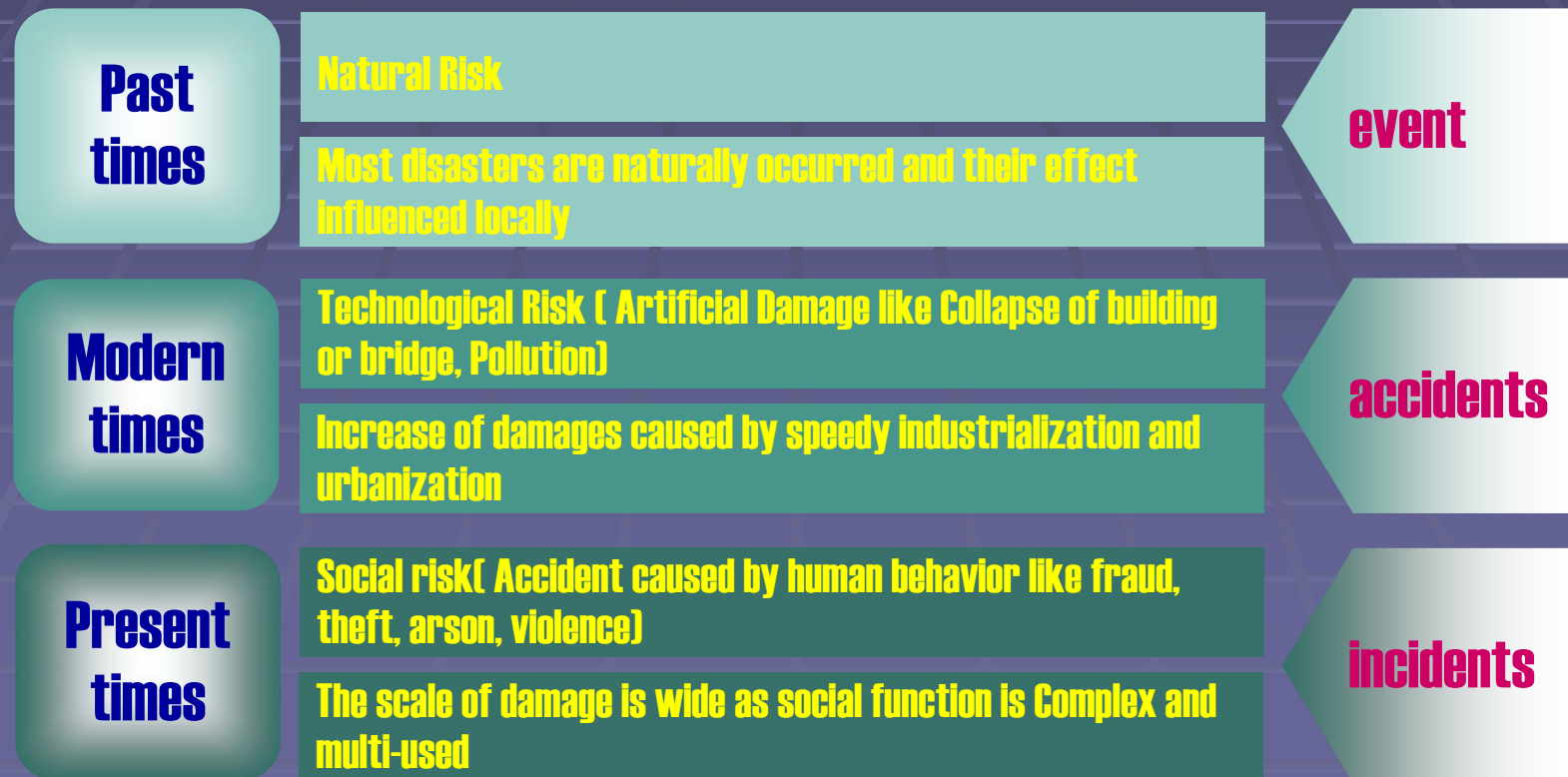
[Technological Disaster Management Act]

Concentrating Public attention to management of social risk factor like arson and terrorism, after fire accident like Daegu Subway disaster

Recent Major Disasters in Korea

(Cont'd)

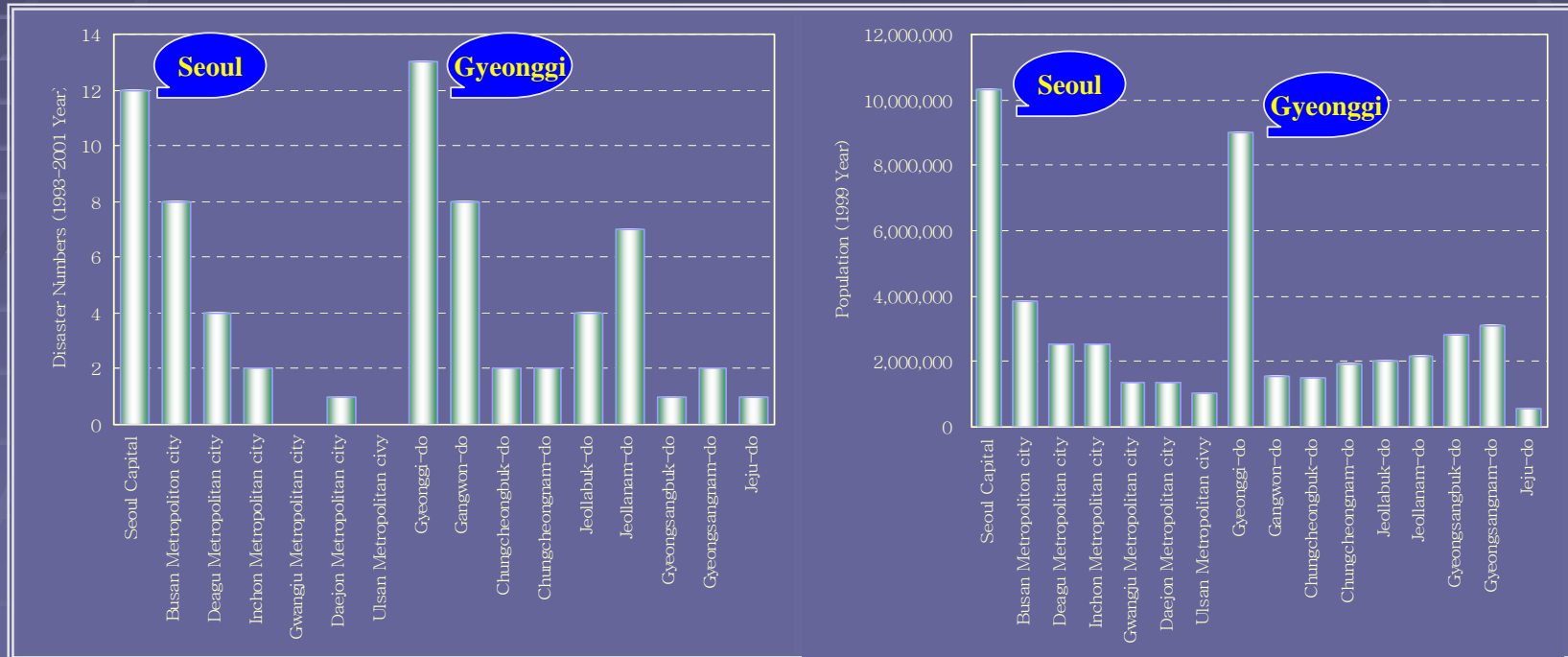
- Trend of Disaster Occurrence



Recent Major Disasters in Korea

(Cont'd)

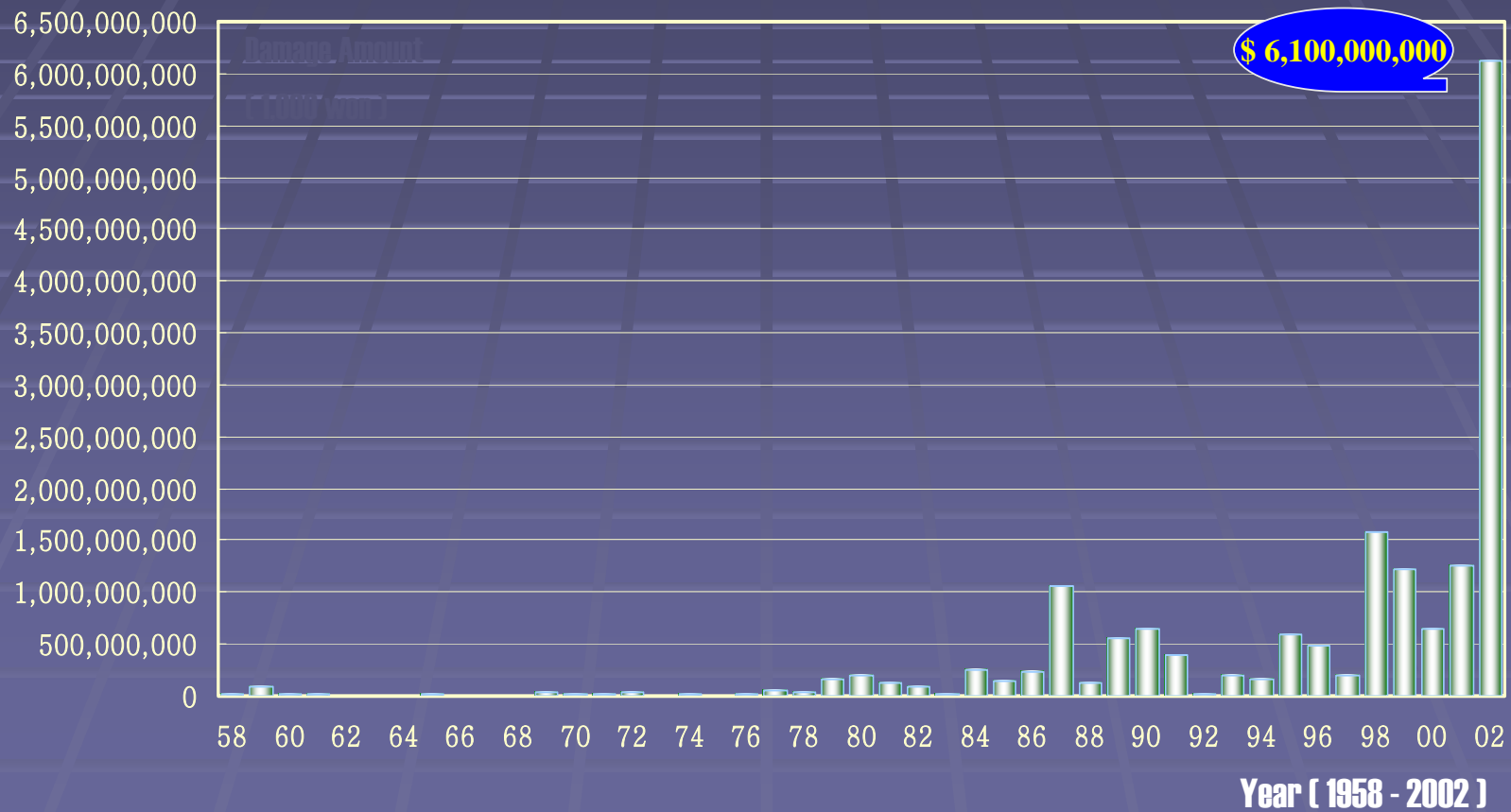
- Comparison between population and disaster cases' number in city and province



Recent Major Disasters in Korea

(Cont'd)

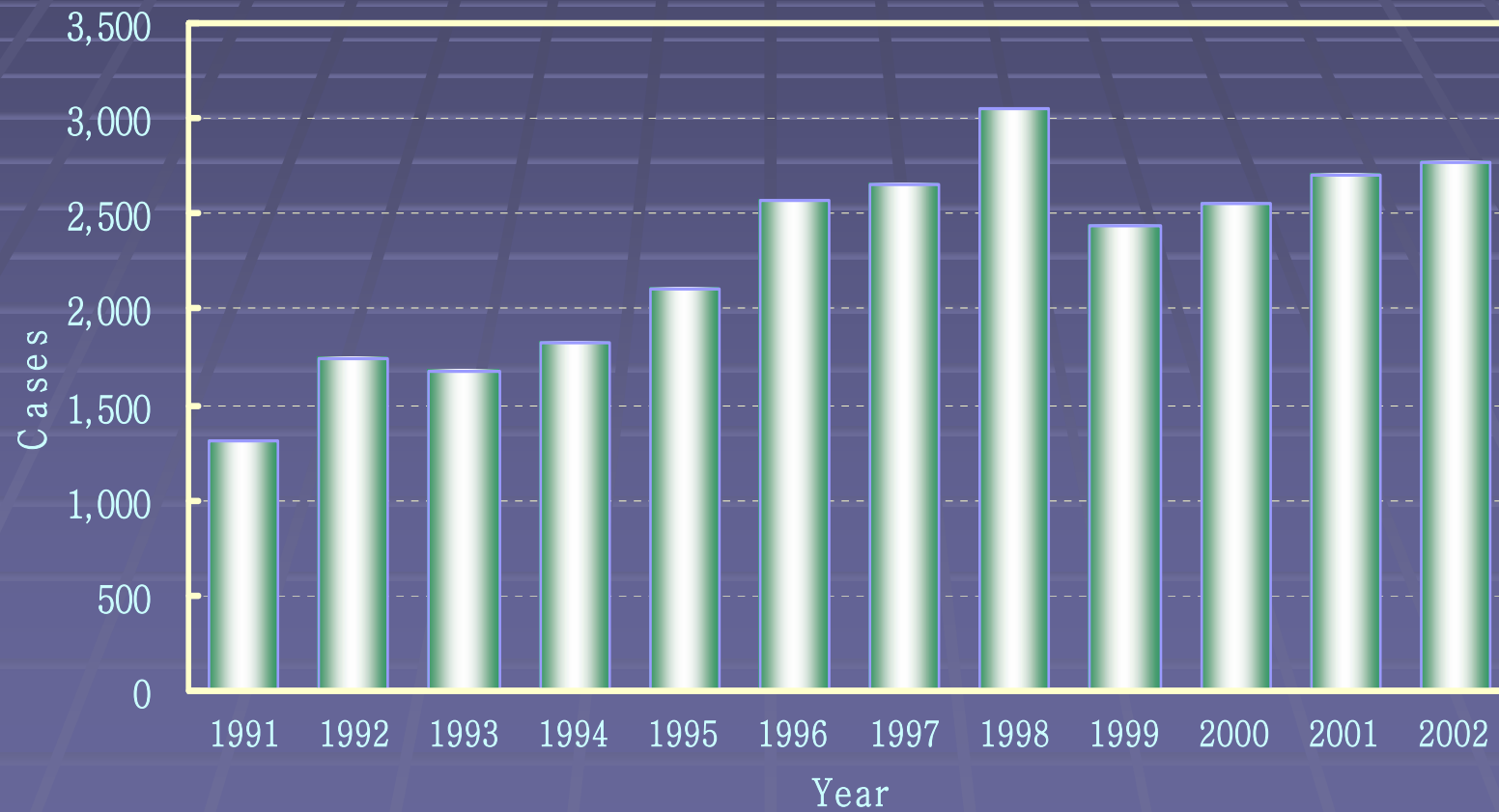
- Annual natural damage amount



Recent Major Disasters in Korea

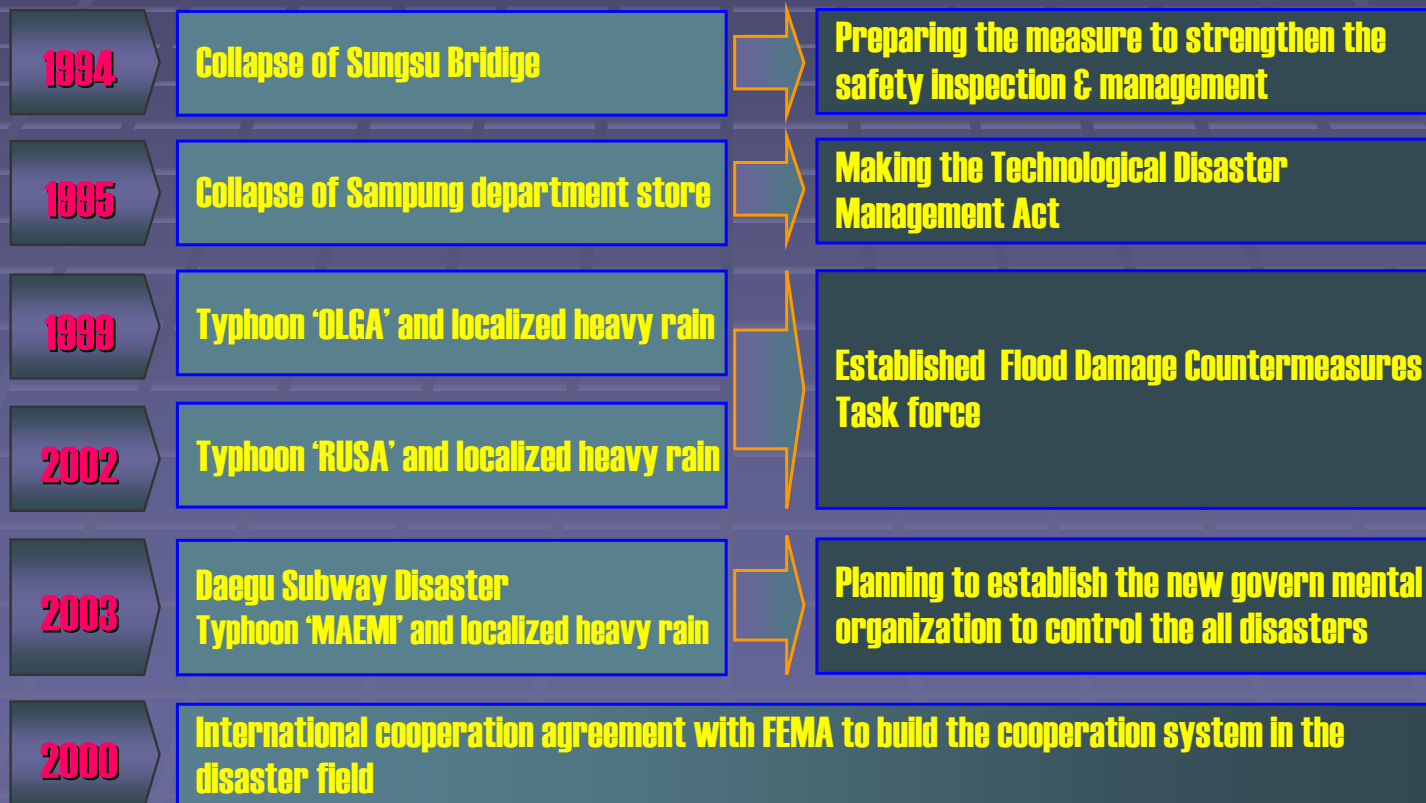
(Cont'd)

- Diagram of arson status (Cases Number)



Recent Major Disasters in Korea (Cont'd)

- Major disaster in S. Korea (1994~2003)



1994's major disaster

Oct. 21 : Collapse of Sungsu Bridge

Death toll : 32persons, Injured 17persons

(Break-down the 48m floor slab caused by faulty construction)



1995's major disaster

June 29 : Collapse of Sampung department store

Death toll : 502 persons, Injured : 938 persons

(Faulty design and construction, Breaking down the slabs to underground one by one)



1999's major disaster

Damage amount :

\$ 1,000,000,000 Casualties : 89
persons

Damage cause :

Typhoon Olga and its localized
heavy rain

Flood Damage scene at the residential area at
Hongchng-myon Buyo-gun Chungnam province



2002's major disaster

Damage amount :

\$ 5,000,000,000 Casualties : 270
persons

Damage cause :

Typhoon Rusa and its localized heavy
rain

Flood Damage scene at the residential area
at Hanrim-myon Gimhae-city Gyeongnam province



2003's major disaster

Feb. 29 : Arson at Daegu
Subway

Death toll :

197 persons, Injured : 146
persons

Damage cause : Arson attack

The wreckage of a burnt car of
the subway train



Damage amount :

\$ 3,700,000,000 Casualties : 131
persons

Damage cause :

Typhoon Maemi and its localized
heavy rain

Shipwreck of a floating hotel
by Typhoon Maemi



New paradigms
for more safe future

What is “sustainable development” ?

- Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs
- Therefore, safe society environment is very important for us to make “sustainable development”
- It is necessary to give the public a better understanding for the safe society

Risk Society as a Basic Problem of Modern Society

- Risks can be happened in anywhere and anytime
- Modern society take risks for granted for economic prosperities
- Modern society can not achieve something of its targets without active response for risks

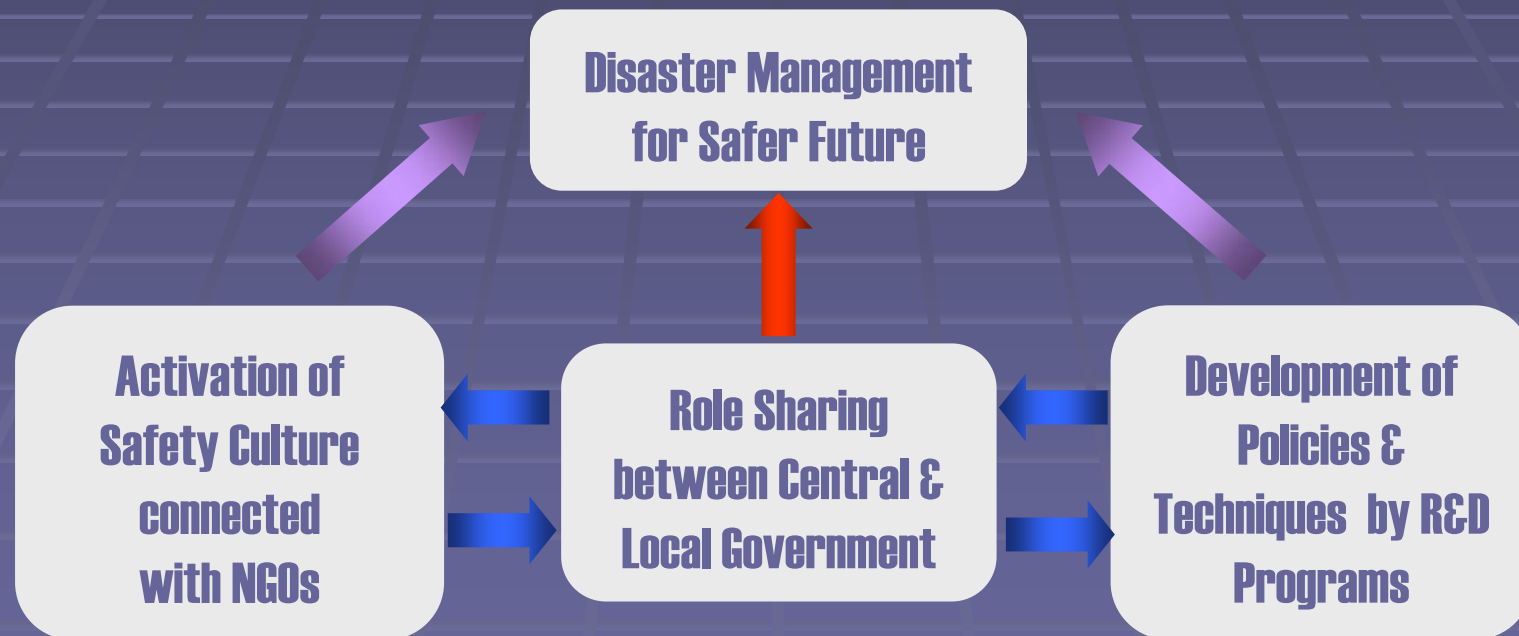
Reflection of Modern Society is necessary !

New Paradigm for More Safe Future

- **Due to the various climate changes and man-made causes of disasters, loss of life & properties has been increased drastically**
- **The needs for more safe society required by citizens and politicians**
- **Fundamental changes are needed for disaster management strategies**
- **The priority in investment & decision making also have to be modified**
- **It is necessary to develop and improve the structural & non-structural measures in disaster management**

New Paradigm for More Safer Future (Cont'd)

- Basic Structures of More Safe Future



New Paradigm for More Safer Future (Cont'd)

➤ Facing the Unexpected

- ↪ Improving what we know about disasters while coping with them more efficiently**
- ↪ Reducing disaster losses through better information**

➤ Paying the Price

- ↪ Expanding budgets for disaster mitigation and preparedness**
- ↪ Develop the coherent strategy and recognize the changing role of natural hazards in our lives**

New Paradigm for More Safer Future (Cont'd)

➤ Disasters by Design

↳ Foster disaster-resilient communities, higher environmental quality, inter- and intra-generational equity, economic sustainability, and an improved quality of life

➤ Cooperating with Nature

↳ Minimize human-induced changes on natural systems for sustainable development

↳ Change the policies and strategies on the disaster management for living with floods

New plans and attempts
in the 21st century

Propelling New National R&D Projects for Disaster Management

< Objectives >

- **Launch the new huge national R & D projects for more safe future**
- **Three major projects**
 - **Development of comprehensive technologies**
 - **Development of policies for disaster prevention**
 - **Development of advanced equipments for intensifying on-site measures**

Propelling New National R&D Projects for Disaster Management (Cont'd)

< Action Plans >

- Proceeding independent R & D projects
- Cooperating with natural disaster prevention R & D projects of MOST
 - MOST (Ministry of Science and Technology) have investigated national R & D in natural disaster prevention, and agreed to launch new project in flood disaster prevention R & D

Development of Cooperation & Training Programs

- **Domestic Cooperation**
 - Conclusion with institutes in University
 - Cooperation with organizations for disaster management
- **International Cooperation**
 - Participating in the world wide cooperations, forums, and committees
 - Launching Inviting Researcher Program for new information & cooperation
 - Conclusion with institutes or organizations in national and state level

Development of Cooperation & Training Programs

(Cont'd)

< **Development of Training & Education Program** >

- **Promotion of International Training Programs for Korean Officers**
- **Promotion of International Training Programs for Experts**
- **Promotion of International Conferences and Committee**

Conclusions

Conclusions

- We have large-scale natural and man-made disaster in every field as other countries is experiencing.
- Therefore government need to separate the disaster management and to give this task new unique organism for the safe society in 21st century.
- We are walking in step with this new organism as we are preparing the reorganization.
- We are continuously planning to proceed the development of national research in the new, promotion of international cooperation for the advanced safety management system in the future.

Thank you !