

## The Role of Government to Support Private Sector's Pre-Disaster Activities in Korea: Natural Disaster Mitigation and Preparedness

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### Abstract

This paper is a summary of National Emergency Management Agency (NEMA) funded project “A study on the survey of the mitigation and prepare activities for the private sectors and the suggestion to make a regulation” in 2005. NEMA is the central agency that deals with disaster mitigation, preparation, response and recovery activities in Korea. This paper discusses about the role of government to support emergency preparedness and business continuity against natural disasters for Korea’s private sector. The survey was conducted to investigate the types of disasters that private sector have been facing in Korea. The 77 companies participated in this survey. The survey results indicate that private sector encounters natural disaster incidents in day-to-day business activities more frequently than any type of disasters. According to the survey, there are many supporting tools such as insurance programs and tax reduction premium for private sector’s mitigation and preparedness activities in the area of man-made disasters. However, the results show that the current supporting tools for private sector’s activities to ensure or minimize the private sector’s loss during the natural disaster is very limited. This paper also covers the recent government’s law and regulations to support the private sector’s emergency preparedness and business continuity in Korea. In the light of government role to support the private sector’s emergency preparedness, similar laws and regulations in the United States are investigated and summarized. The policies on disaster management steps: disaster preparedness, mitigation, were investigated and compared between the United States and Korea. The figure shows the difference focus on disaster management between Korean and US. Disaster management policies in Korea concentrated in post disaster activities. Unlike Korea, Disaster and emergency management policies in US focus on pre disaster activities including mitigation and preparedness. NFIP or other polices conducted by FEMA are good examples. Finally, recommendations and suggestions have been made to the Korea Government. The research results have been applied to the process to legislate an act; the tentative title of the act is “Pre-disaster Mitigation Supporting Act for Business”.

### Introduction

Over the past years, natural disaster has especially been a great challenge to business. Whether the business is large or small, the consequences of natural disasters were severe enough to devastate daily business activities. Natural disasters such as flood, Typhoon, blizzard and drought often occur in Korea. The status of preparedness of natural disaster inadequate despite the fact natural disasters happens frequently in Korea. In addition, this paper also examines how to encourage private sector to prepare for natural disaster proactively so as to minimize loss.



In 2005, National Emergency Management Agency (NEMA) funded a project titled “A study on the survey of the mitigation and prepare activities for the private sectors and the suggestion to make regulation”. NEMA is the central agency that deals with disaster mitigation, preparation, response and recovery activities in Korea. The objectives of this project are 1) to investigate the current natural disaster status and its damage 2) to understand current insurance law so as to compensate natural disaster damage and loss to business. 3) Compare the law and its supporting disaster stage 4) to make recommendation(s) on the formulation of policies, regulations that supports proactive preparedness and mitigation activities for private sector.

## Research Method

The survey was conducted to investigate the types of disasters that private sector have been facing frequently in Korea. Two surveys were conducted with different focus group. First survey was targeted to large companies, which ranked within 100 companies in Korea. The second was targeted at small businesses, which were registered with small business bureau in Korea.

The questionnaire is designed to assess the current disaster management preparedness situation in private sector.

The first survey was conducted in July 2005. The target group was the companies that revenue-ranked within 100 large companies in Korea. Table 1 shows the number of target companies return ratio. The first survey included the multiplex commercial buildings and companies doing business in the field of emergency management. There are lots of multiplex commercial buildings in Korea and these are known to be vulnerable to disasters and hazards due to lack of preparedness. Therefore, it is essential that this research includes a broad range of multiplex commercial building so as to determine the current status of preparedness for natural disaster.

**Table 1 Distribution and return from large companies**

Target group	Initial distribution	Return ratio
100 ranked large business	97	54(55.7%)
Multiplex commercial buildings	37	16(43.2%)
Emergency management companies	47	8 (17%)

Table 2 shows the initial distribution and return ratio that distribute to small business in October, 2005. A large number being returned due to the wrong mailing address causes the low return ratio. In addition to that, small business are not familiar with the disaster preparedness and mitigation concept, hence, there is no replicable person to participate answering the questionnaire.

**Table 2 Distribution and return from small business**

Target group	Initial distribution	Return ratio
100 small business	200	23(11.5%)

## Research Results

### Disaster type that private sector frequently experienced in Korea

The most frequently faced disaster in daily business activities was asked in the questionnaire. Figure 1 and 2 shows the disaster type that first and second target group answered.



Figure 1 shows the result of the most frequently faced disaster in the first focus group which contained large companies and multiplex commercial buildings in private sector. As indicated, natural disaster such as hurricane and flood, were ranked as the first disaster type.

Natural disaster is also ranked at the first disaster type in second target group as shown in the figure 2.

The survey results indicate that private sector encounters natural disaster incidents in day-to-day business activities more frequently than any type of disasters. Although large corporations replied that they are recognized the importance of the readiness of disaster however, they do not have enough resources to prepare natural disaster sufficiently.

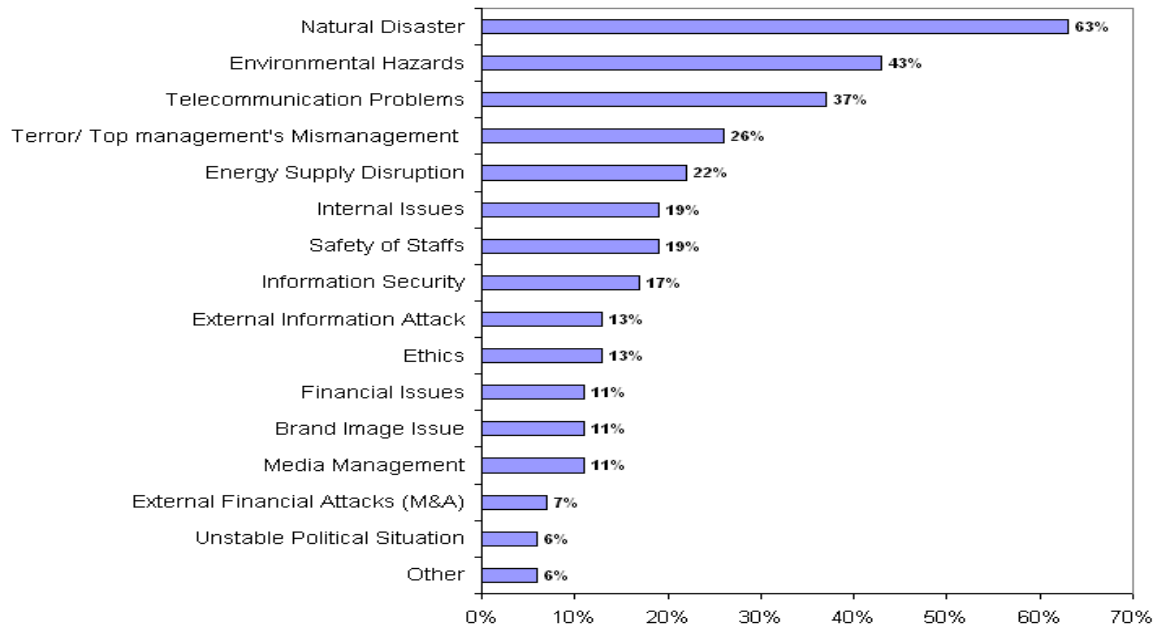


Figure 1 Type of Disaster for Large Business

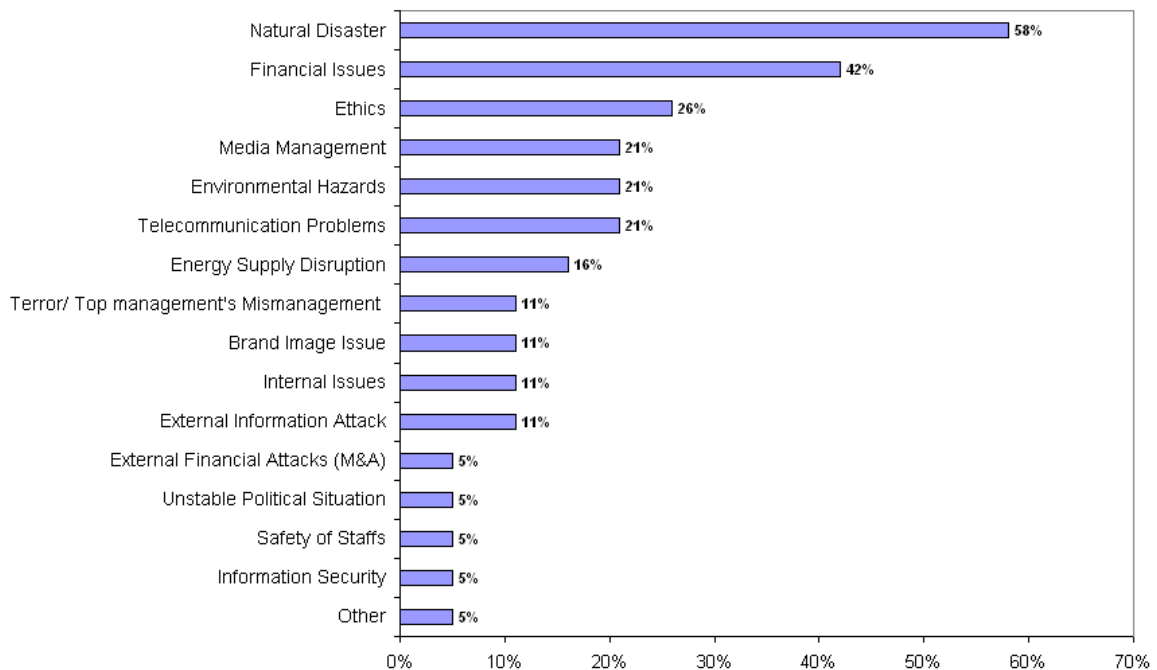


Figure 2 Type of Disasters for Small Business



Private sector's requests to government to prepare disaster readiness

One of the questions in questionnaire was “What type of policies and laws should be in place from government to ensure and encourage for private sector's disaster readiness?”

The survey result shows that private sector wants to have a policy and regulation that provides monetary support. For example, the expenses that are invested to the disaster preparedness and mitigation should be recognized as a tax deduction. Table 3 shows the summary of the request from private sector.

The Private sector also demands a lower premium rate if the company has a disaster mitigation plan or policies on disaster preparedness.

Last but not least, the private sector also wants to have low interest rate loans that are readily available to pay for the cost for disaster preparedness plan or consulting.

**Table 3 Private sector's request to government regarding disaster preparedness**

<b>Request from private sector</b>	<b>Large business</b>	<b>Small business</b>
Corporation tax deduction and Accepting pecuniary loss in balance sheet	45%	45%
Decrease insurance premium	21%	23%
Low interest loan to pay for disaster preparedness cost	14%	18%

Issues were summarized for private sector to cooperate with local/central government to solve the issue and problem in disaster mitigation and preparedness. Table 4 shows the summary of the issues. Communication and coordination was ranked at first.

87% of Small business answered that the importance of disaster management are recognized in the company and 79% of them has started to prepare disaster management and business continuity plan within the last two years.

**Table 4 Issues of corporation between private sector and government**

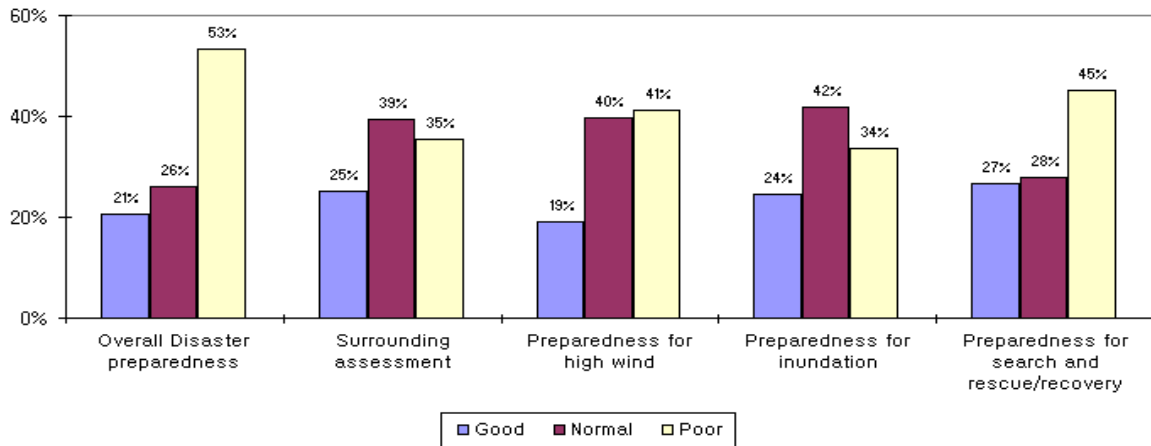
<b>Issues with government</b>	<b>Large business</b>	<b>Small business</b>
Communication and coordination	38%	26%
Unified/systematic approach	20%	31%
Lack of understanding of each sector	18%	17%
No feed backs systems from lessons and learned	3%	4%

Current status of disaster preparedness condition in private sector

There are only few studies that show the disaster preparedness status in private sector. One of the researches conducted by Korean Fire Protection Association (KFPA) in 2004 showed that factory and plantation in private sector was not well prepared for flood and inundation hazard (KFPA, 2004). Interestingly, the hardware and equipment preparedness status for natural disaster is relatively well prepared in contrast to the software aspects of the disaster preparedness. For example, in the case of inundation, training for employee, documentation for previous natural disaster statistics or building response plan and recovery plan are not well documented or missing. However, hardware or physical preparedness such as sandbags and wrapping of the exposed pipeline to prevent loss in wintertime are adequately prepared.

Figure 3 shows the summary of disaster readiness status of plant and factories in private sector.



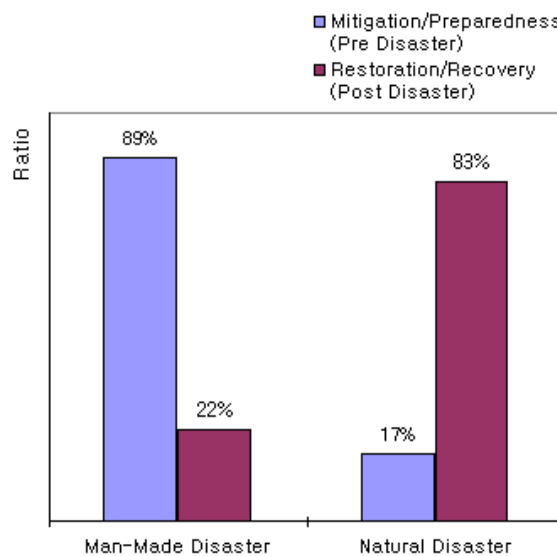


**Figure 3 Disaster preparedness status of plant and factories in private sector**

Current disaster preparedness support policy for private sector in Korea

The research also examined current laws and policies that contain any supporting or compensation of natural and man-made disaster loss in Korea. There are only 6 laws, acts and policies to support loss from natural disaster support. In the mean time, 23 laws, acts and policies are found to support the loss from man made disaster in Korea.

This research defined disaster management staged as mitigation, preparedness, response and recovery. We categorized all supporting laws, acts and policies to disaster management 4 stages as previously discussed. Figure 4 shows the pre/post disaster support ratio.



**Figure 4 Pre/post disaster support ratio in law and regulation in Korea**

Although supporting disaster laws and regulations try to address how to help and assist all disaster management stages such as mitigation, preparedness and recovery; however none of them specifically mentioned about private sector’s disaster preparedness.

In the United States, most disaster support laws and regulations are heavily concentrated on supporting mitigation and preparedness stage. Figure 5 shows that law, acts and polices heavily support post disaster activities while law, acts and regulations in US are support mostly pre disaster activities. For example, disaster mitigation act, flood disaster protection act, Stafford act, hazard mitigation and election assistance act, and natural flood insurance



reform act in the United States and mostly operated by FEMA are mostly supporting mitigation and preparedness activities (Robrt P.Hartwig, 2004, David Simpson, 2004).

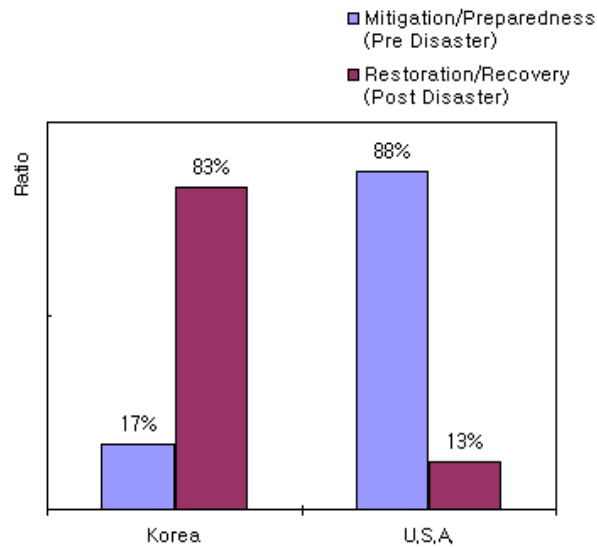


Figure 5 Pre/post disaster support ration in laws and regulations between Korea and USA

## Discussion

Based on the survey results, suggestions and recommendations were made to Korean Government through NEMA. The emphases are;

- Central/local government should be the driving force to set the standard and provide guidelines to private sector for preparing the emergency disaster management
- Central/local government should encourage private sector to participate the disaster preparedness certification program and give tax incentive to the companies that possess the certifications.
- Central/local government should set law to support and encourage private sector by providing the cost of investment in disaster preparedness, building business continuity plan, exercise, drills as company's intangible assets. This is the same concept as environmental accounting (environmental accounting report, 2001) in environmental hazards which is been a common practices in western countries.
- Central/local government should fund more on research activities for disaster mitigation technology and cost effective analysis that is associated with it.
- It is hard to expect for private sector to prepare proactively to prepare disaster preparedness and mitigation due to the cost and uncertainty of the visible results. Hence, government should place supporting framework such as tax incentive or insurance premium incentives.
- Currently natural flood insurance is in place however, private sector is not eligible to buy this insurance. Government should adjust the eligibility of the current flood insurance, so that private sector can buy this insurance.
- Investigate the best practice for cost saving by investing money to disaster preparedness and mitigation for disaster recovery

The research results have been applied to the process to legislate an act; The tentative title of the act is "Pre-Disaster Mitigation Supporting Act for Business".

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