Chapter 5
Disaster Response Policy Change in the Wake of Major Disasters, Labeled Focusing Events

Abstract Responding to the will of the people or the will of the government after a focusing event is complex and fraught with perils; this is none more so than after a major disaster that has brought on the sudden death of many people or the initial incalculable destruction of property or the environment. Korea has experienced several of these types of focusing events that have had major social and policy implications between the years 1948 and 2015. We analyzed them to glean their impact on disaster response policy, organizational and law reform, and first response and national countermeasures – and presented them in a clear and logical array so that the information could lead to a new type of disaster management model. Additionally, we look at how these focusing events altered the political, policy alternative and problem streams, as well as media coverage and policy change in the wake of the focusing event. And finally, we analyze disaster-triggered policy change in Korea to find out if the relation between the focusing event and institutional reforms for disaster response is path-dependent.

Keywords Disaster response policy change • Major disasters • Focusing events • Disaster-triggered policy change model

5.1 Disaster Response Policy Change Since 1948

This section will review the change in disaster response organizations and laws from 1948 to 2015. In this book, disaster response organization means either the ministry or agency operating the Central Disaster and Safety Countermeasure Headquarters (hereinafter referred to as the “Central Countermeasure Headquarters”, CDSCHQ) or the ministry or agency implementing search and rescue measures. The change in disaster response law means the enactment, revision, or abolishment of the laws directly related to disaster response.

Regarding the disaster-triggered policy change model in Sect. 5.2, we will apply the model only up to the 2005 disasters. The reason is that the analysis of policy change requires at least a ten-year maturation period; therefore, the analysis for the key parameters of changes in disaster response policies and laws from 2006 to 2015 will remain for future research.
5.1.1 Change of Organizations Operating Central Countermeasure Headquarters and Related Laws

After the government of the Republic of Korea was formed in 1948, the Government Organization Act (Act No. 1) was enacted and 11 departments including the Ministry of Interior (MoI) were established. The MoI took charge of the supervision of local governments, security, fire service, and civil affairs. The decree on the organization of the MoI was established, proclaimed, and enforced on November 4 in the same year by Presidential Decree No. 18. To conserve the country and protect the lives and properties of the public from various disasters, the government established the Construction Bureau (reshuffled as the Engineering Bureau on February 17, 1995) belonging to the Minister of MoHA, set up the General Affairs Division, the Materials Division, the City-Planning Division, the Construction Division, the Road Division, the Irrigation Division, and the Port Division and made the Irrigation Division responsible for disaster measures.

As the government organization turned into a parliamentary cabinet system after the April 19 revolution in 1960, the military took over, and officially in 1961, during a state of confusion during cabinet changes. The military regime came to power, and the regime established, proclaimed, and enforced the National Government Organization Act as Act No. 660 where the government organization centered around the Prime Minister by the Decree of Supreme Council for National Reconstruction on July 22, 1961. The military regime put emphasis on strengthening the national economy; so it eliminated the Ministry of Construction (MoC), which had the responsibility on disaster management and established the Economic Planning Board and the Land and Construction Agency under it.

As to assign the work of flood recovery and reconstruction, the government established the Yeongju Flood Recovery Temporary Office and the Namwon Flood Recovery Temporary Office under the Land and Construction Agency by Cabinet Decree No. 104 on August 21, 1961. This was the beginning of modern disaster management.

On October 2, 1961, the government amended the Land and Construction Agency Organizations (Cabinet Decree No. 159, 1961.10.2., proclamation and enforcement) according to the amendment of the New Government Organization Act (Act No. 734). By doing so, the local construction bureaus in Seoul, Busan, and Iri, the Land and Construction Institute, the Facilities Bureau of Oceans in the Ministry of Commerce and Industry (MoCI) were merged into the Land and Construction Agency. Also, it reshuffled two organizational structures, which included the Planning Bureau and the Management Bureau, into the Land Planning Bureau, the Water Resources Bureau, and the Management Bureau, and established the Taebaek Mountain Local Construction Bureau to assign the whole work on land construction from conservation of land and natural resources, development and reconstruction, and port, river, and water service to housing.
On December 30 of the same year, the River Act was established and proclaimed. In terms of prevention work, planning, research, and construction of large-scale water control projects including construction of multipurpose dams, development projects based on agriculture, and river improvement projects began within the setup of a five-year Economic Development Plan.

On March 20, 1962, the legal basis for disaster relief assistance was established by enforcement of the Disaster Relief Act (Act No. 1034). The act includes permitting the use of land or buildings belonging to others in the case of relief work needs, and requesting cooperation in relief from medical, civil, architectural, or operational personnel.

On the June 29 of the same year, the Land and Construction Agency was removed with the expansion and reorganization of the MoC as the Government Organization Act was amended. Since then, regular disaster work has been carried out by the MoC.

The Korean word “Bangjae,” meaning disaster management, first appeared when the MoC was reorganized, and the Disaster Management Division under the Water Resource Bureau by Presidential Decree No. 1610 on October 23, 1963, was established. The division remained until April 1991, when the task of disaster management was transferred from the MoC to the MoI in the wake of the collapse of the Ilsan levee in 1990.

“Month of Disaster Relief” was designated in 1966, and the Countermeasures against Typhoons and Floods Act was established and proclaimed in February 1967. The act is the first institutional law providing measures to establish plans on prevention of disaster, disaster emergency measures, and disaster recovery with the purpose as follows: “As to protect land and the lives and properties from disasters, it has the purpose to establish disaster prevention plan and to provide requirements for other disaster measures such as disaster prevention emergency measures and disaster recovery.” This act was abolished when the Countermeasures against the Natural Disasters Act was established on December 6, 1995.

According to the regulation of the Countermeasures against Natural Disasters Act, the first Disaster Prevention Basic Plan became the basic framework of disaster measures in 1968.

The flood that occurred in 1972 served as a momentum to establish the Han River Flood Control Office.

The Framework Act on Civil Defense, enacted on July 25, 1975, is meaningful in that it regulates the government’s engagement with disasters. According to this act, the state and the local governments made efforts to save lives and prevent the spread of damage, establishing and implementing plans to protect lives and properties of the public, if there was a disaster. This was to provide against disasters and emergencies that endangered national welfare.

On December 30, 1977, Presidential Decree No.8793 was enacted to protect lives and property of the people. By the enactment of the decree, the Disaster Prevention Plan Office was established under the Director of the Water Resources Bureau and took charge of research, investigation, and development of the basic plan for disaster prevention.
The Water Resources Bureau was reorganized as the Disaster Prevention Planning division and established the Disaster Prevention Facilities division by the Presidential Decree No. 12313, on December 15, 1987, which strengthened the functioning of the disaster prevention administration. However, since there were no disasters for two years—from 1988 to 1989—the Disaster Prevention Planning division and the Disaster Prevention Facilities division were integrated and downsized to the Disaster Prevention division by the Presidential Decree No. 12989 on March 26, 1990.

On December 27, 1990, the Government Organization Act (Act No. 4268) and the Countermeasures against Typhoons and Floods Act (Act No. 4268) were amended. On April 23, 1991, the Decree on the organizations of the MoI was amended to abolish the Department of Disaster Prevention in accordance with the revised the Government Organization Act. As a result of the amended decree, the disaster management office was abolished, and the river management division and the underwater resource bureau were established. Also, the Deputy Director-General’s office for disaster management planning and the Disaster Management Division were established under the Civil Defense Bureau to transfer disaster management tasks from the MoC to the MoI.

The collapse of the levee in the Ilsan region, downstream of the Han River due to a downpour in the central region (September 9 ~ 12, 1990) served as a momentum to amend the Government Organization Act by Act No. 4268 on December 27, 1990, which revised the Countermeasures against Typhoons and Floods Act as an additional clause. This transferred the work of disaster response measures from the MoC to the Ministry of Home Affairs (MoHA) on April 23, 1991.

Due to the Gupo Station train overturn accident, the instructions of the Prime Minister, “Instructions on the settlements of the disasters due to accidents” (Instructions of the Prime Minister No. 275, April 20, 1993) was issued. This instruction was the result of political responsibility on the aspect of overcoming the risks of severe accidents. It came about after the inauguration of the civilian government and rise in public opinion on the necessity for institutionalization of disaster response measures.

After the Seohae Ferry sinking accident, the coast guard founded a coherent command system on maritime rescue. In 1994, the Rescue and Aid at Sea and River Act was amended unifying the rescue system by replacing the position from the Chief of the Korean Coast Guard to the Chief of the National Rescue Coordination Center. For prompt accident registration and broadcasting, a Salvage Radio Station and a Satellite Early Warning Receiving System were constructed and operated. Also, to prevent casualties, safety management work of passenger liners and excursion ships and ferries was taken over from the MoHA in 1996.

The Special Act on the Safety Control of Public Structures was established after the Seongsu Bridge collapse in 1994.
Due to the Sampoong Department Store collapse on June 29, 1995, the Disaster Control Act was established on July 18, 1995. The act includes response, recovery, and relief centered around human-caused disasters. Also, a National 119 Rescue Service was established on October 19, 1995, which started to perform rescue work by sending rescue resources directly to the fields of major accidents both inside and outside the country. In November of the same year, the Disaster Control Department (the Disaster Coordination Division, Disaster Management Division, and Safety Instruction Division) and the Equipment and Communication Division from the Fire Department were merged as the Office of Civil Defense. It expanded and reorganized as the Headquarters of Civil Defense and Disaster Management in the MoHA. Disaster Risk Management (DRM) agencies were established in local areas thereby starting a standard to systematically manage human-caused disasters. Also, in the Office of the Prime Minister (the Safety Management Office), the Ministry of Trade and Industry (the Gas Safety Division), and the Ministry of Construction and Transportation (MoCT, the Facilities Safety Division, the Construction Safety Division), departments and divisions dealing with human-caused disasters were established.

To improve disaster management capability of local governments, the Civil Defense Bureau was reorganized into the Civil Defense and the Disaster Management Bureau in the metropolitan and provincial governments, and the Civil Defense division was reorganized into the Civil Defense and the Disaster Management division in local governments in December of the same year. According to the reorganization, a safety inspection team was established in all metropolitan and provincial governments.

On December 6, 1995, the Countermeasures against Typhoons and Floods Act (Act No. 4268) was amended to the Countermeasures Against Natural Disasters Act (Act No. 4993). As the act was revised, earthquake and drought were added to the category of natural disasters, the Disaster Countermeasure committee was established under the MoI, and the Central and local Disaster Countermeasure headquarters were installed and became operational.

In 1998, the Roh, Tae-woo administration amended the Government Organization Act, which merged the Ministry of Government Administration and the MoHA and made the Ministry of the Interior. From this event, disaster management was managed through individual laws integrated into a unified system. That is, systematic disaster management was systematically initiated. This was a shift of disaster management from what was mainly controlled by the central government to what works along with local governments. Also, a subordinate organization of the Ministry of the Interior was established (Presidential Decree No. 15715) on February 28, 1998; organization enforcement rules were also established by Decree of the Ministry of the Interior No. 1 on March 3, 1998 as a follow-up (Lee 2015). As the Ministry of the Interior initiated, the Disaster Management Department merged into the Civil Defense Department and this integrated into the Civil Defense and the Disaster Management Department on May 24, 1999. Thereafter, as the restructuring of the public sector accelerated, the Disaster Prevention Department shrank to the
Deputy Direct-General’s Office for Disaster Management under the Fire Department before being abolished.

President Kim, Dae-Jung instructed to establish Korean-styled countermeasures against flood damage, which can be trusted by the public at a Cabinet meeting on August 10, 1999. Also, he expressed his strong determination by saying, “We will not repeat the problems which lead to damage of lives and economy through strengthening fundamental measures to prevent flood damage and disasters,” at the congratulatory speech on National Liberation Day on August 15, 1999. Accordingly, he launched a Task Force for the Countermeasure of Flood Damage headed by Cho Won-cheol, professor of Yonsei University, as a subordinate body of the presidential secretary on September 3, 1999.

After the Hwaseong Sealand Youth Training Center fire, a Task Force for the Enhancement of Safety Management under the Prime Minister’s Office was established.

In 2000, a Task Force for the Countermeasure of Flood Damage analyzed and evaluated the past measures on flood damage and collected extensive opinions from all citizens, thereby developing a comprehensive plan that would be implemented in the following ten years. For the follow-up to the specialization and research reinforcement of disaster prevention organizations in planning and for reforms in the implementation system of the natural disaster relief work, the Deputy Direct-General’s Office for Disaster Management was redirected from under the Bureau of Civil Defense and Disaster Management to under the Head of Headquarter of Civil Defense and Disaster Management, so that natural disaster work was separated from the work of the director of the Civil-Defense Disaster Prevention Bureau. Also, the “Structure of the Ministry of the Interior” was amended (Presidential Decree No. 16832, June 7, 2000) to change the name from the Civil Defense Disaster Prevention Bureau to the Civil Defense Disaster Management Bureau. For the follow-up, the departments under the director of the Civil Defense Disaster Management Bureau and the Director-General of the Natural Disaster Management of Headquarter of Civil Defense and Disaster Management and the enforcement rules that facilitate the installation of agencies and work of the Director-General were amended (Decree of the Ministry of the Interior No. 98).

As Typhoon Rusa in 2002 caused unprecedented massive damages in the whole country, the Countermeasures Against Natural Disasters Act (Act No. 6735) was amended and a special disaster area was established in article 62.2 for urgent recovery and support.

The Roh, Moo-hyun administration adopted the improvement of the national disaster management system as one of the major government projects. So exclusive organizations for disaster management to effectively manage disasters were created at the first Cabinet meeting after the inauguration. On February 25, 2003, at the inauguration, President Roh, Moo-hyun stated: “I will improve the national disaster management system innovatively to realize a safe society.” It could be realized from the announcement that the government had a large interest in disaster
management. Therefore, the National Disaster Management System Planning Group was installed and the Disasters and Safety Act was announced. Also, the National Emergency Management Agency (NEMA), the first independent disaster management agency, was established by expanding and reorganizing the Headquarter of the Civil Defense and Disaster Management. In addition to the establishment of the NEMA, the Disasters and Safety Act integrated legal systems were dualized by the Natural Disaster Countermeasures Act and the Disaster Management Act, and social disaster such as the lack of a national critical infrastructure was added to the concept of disaster.

In 2005, prevention-centered systems like the Preliminary Disaster Inspection and Consultation System, and the Comprehensive Plans for the Reduction of Damage from Storm and Flood were introduced, which amended the Countermeasures against Natural Disasters Act.

On March 24, 2006, the Special Act on the Safety Control of Publicly used Establishments was enacted to demand compulsory fire safety training for employers and employees of publicly used establishments and evacuation guidance and screening of videos on evacuation. On September 22 of the same year, coordination of civil defense and support of the Prime Minister were transferred from the MoI to the NEMA in accordance with the amendment of the Framework Act on Civil Defense (Act No. 7980).

On July 19, 2007, the Act on Assistance to the Autonomous Activities of Enterprises for Disaster Mitigation (Act No. 8530) was enacted. The act contained contents for the adaptation of the certification system for enterprises with outstanding performance in disaster mitigation and the establishment of standards for disaster mitigation activities of enterprises. On July 27 of the same year, the Prevention of the Steep Slope Disasters Act (Act No. 8551) was enacted. A safety inspection had become mandatory for steep slopes, collapsing hazardous areas were designated, and it was decided to remedy collapsing hazardous areas after consultation. On September 14, the Disaster Prevention Standards team was established in the NEMA by the revision of the NEMA and affiliated organizations (Enforcement rule of MoI No. 392).

In 2008, the Lee, Myung-bak Administration took over, and the MoI was reorganized into the Ministry of Public Administration and Security (MoPAS) through the general revision of the Government Organization Act (Act No. 8852) to oversee the integrated management of the central personnel management and the disaster and safety management at the national level. In accordance with the amendment of the Government Organization Act, the Framework Act on Civil Defense (Act No. 8855), the NEMA and its affiliated agency (Presidential Decree No. 20693) were amended. The MoI is responsible for ensuring that the government’s safety management policy and emergency preparedness, civil defense, and disaster management system are continuously carried out by the MoPAS. The function of generalizing and coordinating civil defense and acting as the Prime Minister’s assistant was also transferred from the NEMA to the MoPAS.
On March 28 of the same year, Act on the Preparation for Earthquake and Volcanic Eruption (Act No. 9001) was enacted. With this enactment, the NEMA’s responsibility as a National Disaster Management Authority for earthquake mitigation was established. Also, an earthquake and tsunami observation facility was installed and a basic plan for seismic reinforcement for existing facilities was established. On December 31, 2008, Countermeasures against Natural Disaster Act (Act No. 9298) and Framework Act on the Management of Disasters and Safety (Act No. 9299) were amended to include lightning strikes as a natural disaster.

On February 4, 2010, the safety culture-related functions were transferred from the NEMA to the MoPAS to unify the safety function.

On March 8, 2011, the Special Act on Management of Disasters in Super High-rise Buildings and Complex Buildings with Underground Connections was enacted to conduct the predisaster impact assessment on high-rise buildings to be carried out. As a result, the establishment and implementation of disaster prevention and damage reduction plan for high-rise buildings and the integrated safety inspection for high-rise buildings became mandatory.

On February 2, 2012, Pedestrian Safety and Convenience Enhancement Act (Act No. 11339) was enacted, in which ensuring the right to walk and establishing basic plan for pedestrian safety and convenience are included. After the Gumi City Hydrofluoric Acid Leak accident in September of the same year, the government installed an integrated chemical disaster prevention center on November 25, 2013.

In 2013, Park Guen-hye Administration reformed the MoPAS to the Ministry of Security and Public Administration (MoSPA) in order to strengthen the comprehensive safety management by the revision of Government Organization Act (Act No. 11690). The Disaster and Safety Act was partly revised on August 6, 2014 in order to integrate human-caused disaster with social disaster. The human-caused disaster management responsibility was moved from the NEMA to the MoSPA on April 2, 2014. The Act on the Prevention of Coastal Disaster was enacted on May 21, 2014, which regulates the development of the regulations for safety management in coastal disasters and the establishment of a basic plan for the prevention of coastal disasters.

After the Sewol Ferry sinking accident on April 16, 2014, the need for a reshuffle of the government’s disaster response system intensified. Therefore, the Government Organization Act (Act No. 12844) was enacted and the MoSPA was reorganized and divided into the MoI and the Ministry of Public Safety and Security (MPSS). Additionally, disaster management tasks were transferred from the NEMA to the MPSS.

The Act on Safety Management of Small Scale Public Facilities (Act No. 13437) was enacted on July 24, 2015, which regulates the mandatory regular inspection of small-scale public facilities and designation of at-risk facilities in order to prevent disaster in those facilities. The background of the enactment is that those small-scale public facilities suffer repeated damage every year because the management responsibility of the facilities is not clear.
The center for disease control and prevention was upgraded to vice-ministerial level through the revision of the Government Organization Act (Act No. 13593), due to the MERS-CoV pandemic in 2015.

5.1.2 Change of Organizations Implementing Search and Rescue and Related Laws

After the formation of the government of the Republic of Korea in 1948, the MoHA, which took over the Central Firefighting Committee, restructured fire departments under the Police Bureau on November 4 on enactment of the organization of the MoI (Presidential decree No. 18); the Firefighting Division under the Police Bureau would take charge of fire service at national and local levels. Through this reorganization, the Firefighting Agency and autonomous firefighting bodies during the period of the US military government were transferred to the police organization, which absorbed the fire administration into the police administration. On March 31, 1950, the Firefighting division was reduced into a firefighting section under the security division through the revision of the organization of the MoI (Presidential decree No. 304), and the firefighting section under the security division merged with the fire service section under the security division according to the revision of organization of the MoI (Presidential decree No. 840) on July 6, 1953. The maritime police team was established in the security division under the Police Bureau in December 14, 1953, and the Maritime police team which was under the MoI transferred under the maritime affairs agency in February 7, 1955.

In March 11, 1958, the Fire Services Act was established to protect life and assets by preventing, bordering, and suppressing fires in buildings, ships, etc. used for work or residence and in October 2, 1961, the Firefighting Division was established in the Police Bureau according to the enactment of the organization of the new MoI (Cabinet order No. 166). In March 20, 1962, the Disaster Relief Act (Act No. 1034) was enacted to protect the victims and recover from disasters by providing emergency relief during emergency situations, and the firefighting task was transferred from the MoI to the autonomous community in August 30, 1970.

In June 1972, Fire Departments were installed in Seoul and Busan to take charge of fire services. With the establishment of Fire Departments in Seoul and Busan, systematic fire service started. Also in February 1973, the Local Officials Act was passed, which dualized the position of firefighting officers. National public officials became police officers and local public officials became local fire officers. There was a big change in the firefighting administration system because of the local public official institution.

On February 6, 1973, the Law No.2482 Act on the Indemnification for Fire-caused Loss and the Purchase of Insurance Policies was enacted to prevent damage
caused by fire and to provide prompt recovery and appropriate compensation. The Police Bureau was reorganized as the Police Headquarter, and the Firefighting Division in the second division of the Police Headquarter was responsible for firefighting tasks through the revision of the organization of the MoI (Presidential decree No.7505) on December 31, 1974. In 1975, the civil defense headquarter was established and the Firefighting Division in the Police Bureau was expanded to the Firefighting Bureau in the civil defense headquarter through the revision of the Government Organization Act (Act No. 2772) on July 23, the enactment of the Framework Act on Civil Defense (Act No. 2776) on July 25, and the revision of the Organization of the MoI on August 26.

In July 1978, fire service education began at a fire service academy, which was established for systematic disaster management. A firefighting division, a fire service division, and a fire prevention division were established under the Firefighting Bureau according to the revision of the Decree on the Organization of the MoI in April 23, 1991.

The government merged the City and County Fire Service, and the Regulations on Installation of Firefighting Systems, and established the Regulations on Installation of Firefighting Institutions and Quota by Presidential Decree no. 13561 in December 1991. The next year, in January 1992, dualized firefighting systems of national firefighting and autonomous firefighting were converted into local autonomous firefighting systems. Special local administrative agencies under article 3 of the “Government Organization Act,” were formed as the disaster management systems, which unified the responsibility to 16 city mayors and provincial governors. By installing the special local administrative agencies as subordinate organizations of the local government and by installing fire departments in nine provinces on the basis of article 104 of the Local Autonomy Act, the government formed disaster management systems, which unified the responsibility to the city mayors and provincial governors because it had converted to local and autonomous firefighting units from January 1, 1992. This was possible by converting firefighting joint facilities tax, which was originally city and municipality tax, to provincial tax and by permitting provincial governors to rent all the firefighting properties from city mayors and municipal governors without compensation, and to manage them by amending the Local Subsidy Act and the enforcement decree.

On April 26, 1993, civilian and military labor and equipment could be mobilized in the event of a major accident through the enactment for disaster relief in accidents (Instructions of the Prime Minister No. 275). The head of the Korean Coast Guard was appointed as the head of the central rescue coordination center to unify the rescue system through the revision of the Rescue and Aid at Sea and in the River Act (Act No. 4793) on December 22, 1994. On May 24, 1995, the Government Organization Act was amended to restore the firefighting work to the Ministry of the Interior, which gave the state certain responsibilities in the firefighting administration. Therefore, disaster management had become a dual system of the state and the local autonomous firefighting administrations. In the 1990s, the type of
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major disasters moved discernibly from natural disasters to social disasters and there was a big change in state disaster management.

In the wake of the Seohae Ferry sinking accident in 1993, the Coast Guard founded a coherent command system on maritime rescue. In 1994, the Rescue and Aid at Sea and River Act was amended, unifying the rescue system by making the Chief of the National Rescue Coordination Center as its head. For prompt accident registration and broadcasting, a Salvage Radio Station and a Satellite Early Warning Receiving System were constructed and became operational. Also, to prevent casualties, safety management work of passenger liners and excursion ships and ferries were taken over from the MoHA in 1996.

Due to the Sampoong Department Store collapse on June 29, 1995, the Disaster Control Act was established on July 18, 1995. The Act includes provisions by which firefighting organizations play a leading role in emergency rescue and salvage function of the government as it gives the command and control of emergency rescue and salvage function to the head of the fire department. Also, the National 119 Rescue Service was established on October 19, 1995, and it started to perform rescue work by sending rescue personnel directly to the field of major accidents both within and outside the country.

In November of the same year, the Equipment and Communication Division within the Fire Department was established, as the Office of Civil Defense expanded and reorganized as the Headquarter of Civil Defense and Disaster Management within the MoHA.

Also, in the same year, on December 6, 1995, the position Fire Commander (current position: Fire Chief) was established, which provided a new position to disaster management. On December 21, 1996, the structure of the MoHA and the subordinate organizations were reorganized, and the position of the Head of Fire Department was promoted as the Fire Commander (current position: Fire Chief) or Fire Chief (current position: Fire Deputy Chief).

On May 27, 1997, the central 119 rescue team was reorganized as an affiliated organization in the MoI through the amendment of the Decree on the Organization of the MoI. The Framework Act on Fire Services was enacted to provide the basis for the organization and operation of international rescue teams by law Act No. 6893 on May 29, 2003. On May 24, 2004, Decree of NEMA and affiliated organizations, President decree No.18390, was enacted and NEMA and its affiliated organization requirements were defined.

The Special Act on the Safety Control of Publicly used Establishments was enacted to establish and maintain firefighting and safety facilities for multiuse facilities and to provide the necessary information on safety management and risk assessment by Act No.7906 on March 24, 2006. On September 14, 2007, the second center was established in the central firefighting school by the revision of NEMA and affiliated organizations (Enforcement rule of MoI No. 392) and National 119 rescue team was promoted to National 119 center on January 28, 2011. On March 8, 2011, 119 Rescue and Emergency Medical Services was established by
Act No. 10442, and regulations and emergency services were specified for efficient operation in the emergency situation. On February 22, 2012, the Framework Act on Health, Safety and Welfare of Fire Officers was enacted by Act No. 11341 to improve the health and safety of fire officers and their working conditions. On July 23, 2012, the 119 rescue and first-aid bureau was established. On January 28, 2014, the firefighting manpower was supplemented to suppress a fire at the scene of the disaster, and to support emergency and rescue activities and fire prevention activities through the enactment of the Volunteer Fire Services (Act No. 12344).

5.1.3 Disasters and Direct Change in Disaster Response Organizations and Laws (1948–2015)

Scrutinizing the major disasters and the change of disaster response organizations and laws shows that there is a high correlation of before-after relations. For the analysis, historical records and related documents, such as a 60-Year History of Disaster Management (NEMA 2009) and related documents (Lee et al. 2015; Kwon 2014; Ryu 2015), will be analyzed in order to identify major disasters and disaster response policy change. In this research, policy change means the change in disaster response organizations and enactments or major revisions of response-related acts. The index to analyze the change in disaster response organization is the change in organization operating with natural and social disaster, and safety management headquarters and the change of organization dealing with rescue. The reason the index only targets disaster and safety management headquarters and rescue organization is that it is almost impossible to deal with all related disaster response organizations and laws because, according to 31 types of crisis management standard manuals, most government agencies are related to disaster response in Korea.

The organizational changes will be divided into direct and indirect changes. Direct changes will include large-scale change and middle-scale change: large-scale change is the establishment of a new agency or the transfer to another ministry, and middle-scale change means the establishment of a bureau or a division to deal with disaster response. Indirect change means the change of an organization that supports disaster response: e.g. the establishment of a fire academy, a flood recovery office, or a river management division, etc. This book will focus on direct change. However, indirect change will be reviewed and included as useful information for future research. Table 5.1 shows the change in disaster response organizations and laws from 1948 to 2015.

1Typical examples are the transfer of responsibility in responding to natural disasters from the MoC to the MoI in 1990 and the establishment of the NEMA in 2004.
| Date         | Disaster response Institution | Disaster Response Related Laws                                      |
|-------------|-------------------------------|---------------------------------------------------------------------|
| 07/17/1948  | CDSCHQ and disaster management coordination | Search and Rescue Organization related laws                          |
|             |                               | Enactment of Government Organization Act (Act No. 1)                |
|             |                               | The MoI established 11 departments including the MoI; the MoI supervises the local governments, security, fire service and civil affairs |
| 11/04/1948  | [MoI] Establishment of a Water Utilization Division under the Construction Bureau | [MoI] Establishment of a Firefighting Division under the Police Bureau |
|             |                               | Enactment of the decree on the organization of the MoI (Presidential decree No.18) |
| 03/31/1950  | [MoI] Reducing the Firefighting Division into the firefighting section | Revision of the decree on the organization of the MoI (Presidential decree No.304) |
| 07/06/1953  | [MoI] Merging the firefighting section under security division into a fire service section under the security division | Revision of the decree on the organization of the MoI (Presidential decree No.840) |
| 12/14/1953  | [MoI] Establishment of a maritime police team in the security division under the Police Bureau |                                                                   |
| 02/07/1955  | [MoI/MoCI] Transfer to maritime police team under the maritime affairs agency |                                                                   |
| 03/11/1958  |                               | Enactment of the Fire Service Act                                   |

(continued)
## Table 5.1 (continued)

| Date               | Disaster response Institution                                                                 | Disaster Response Related Laws                                                                 |
|--------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 08/21/1961         | CDSCHQ and disaster management coordination                                                     | Search and Rescue, Organization related laws, Policy-related laws                                 |
|                    | [Economy Planning Board] Establishment of a division for flood restoration under the National Territory Construction Agency | Cabinet order No. 104. Enactment of the temporary Yeongju and Namwon flood recovery office establishment |
| 10/02/1961         | [MoI/National Territory Construction Agency] Transfer of disaster management tasks              | [MoI] Establishment of a Firefighting Division under the Police Bureau Enactment of the New Government Organization Act (Act No. 734) |
|                    |                                                                                                 | Enactment of the decree on the organization of new MoI (Cabinet order No. 166)                   |
| 12/30/1961         |                                                                                                 | Enactment of the River Act (Act No. 892)                                                        |
| 03/20/1962         |                                                                                                 | Enactment of the Disaster Relief Act                                                            |
| 06/18/1962         | [MoC] Expansion of the National Territory Construction Agency to the MoC                         | Revision of the Government Organization Act (Act No. 1092)                                      |
| 06/29/1962         | [MoC], Water Utilization Division under the bureau for flood restoration takes charge of national disaster management tasks | Abolition of the organization of the National Territory Construction Agency, Enactment of the decree on the organization of the MoC (Cabinet order No. 854) |
| 09/30/1962         | [MoC] Establishment of the Flood Recovery Office                                                 |                                                                                                 |
| 10/23/1963         | [MoC] Establishment of a Disaster Management Division                                            | Enactment of the decree on the organization of the MoC                                           |
| 06/01/1967         |                                                                                                 | Enactment of Countermeasures against Typhoons and Floods Act (Act No. 1894)                      |

(continued)
| Date       | Disaster response Institution | Search and Rescue | Disaster Response Related Laws |
|------------|--------------------------------|-------------------|-------------------------------|
| 08/30/1970 | CDSCHQ and disaster management coordination | [MoI/Local Authorities] Transfer of firefighting tasks from the national government to local authorities | Revision of the Government Organization Act (Act No. 2210, 8/3/1970) |
| 12/30/1972 |                                |                   | Revision of the Marine Transport Act (Act No. 2412) |
| 02/06/1973 |                                |                   | Enactment of Act on the Indemnification for Fire-caused Loss and the Purchase of Insurance Policies (Act No. 2482) |
| 12/31/1974 |                                | [MoI] Police Bureau reorganized as the police headquarters, and the firefighting division in the second division; the police headquarters is responsible for firefighting tasks | Revision of the decree on the organization of the MoI (Presidential decree No.7505) |
| 07/23/1975 |                                | [MoI] Civil defense headquarters was established, and a Firefighting Division in the Police Bureau was expanded to the Firefighting Bureau in the Civil Defense Headquarters | Revision of the Government Organization Act (Act No. 2772) |
| 07/25/1975 |                                |                   | Enactment of the Framework Act on Civil Defense (Act No. 2776) |
| 08/26/1975 |                                |                   | Revision of the decree on the organization of the MoI |
| 12/30/1977 | [MoC] Establishment of a Disaster Prevention Plan Office under the Director of the Water Resources Bureau |                   | Presidential decree No.8793 |
Table 5.1 (continued)

| Date       | Disaster response Institution                                                                 | Disaster Response Related Laws                                                                 |
|------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 12/15/1987| CDSCHQ and disaster management coordination                                                   | Search and Rescue related laws                                                                    |
|            | [MoC] Disaster Management Division was expanded to the Disaster Management Planning Division and the Disaster Management Facility Division | Presidential decree No.12313                                                                       |
| 03/26/1990| [MoC] Disaster Management Planning Division and Disaster Management Facility Division were integrated into the Disaster Management Department | Presidential decree No.12959                                                                       |
| 12/27/1990| [MoC/MoI] Transfer of disaster management tasks                                                | Revision of the Government Organization Act and the Countermeasures against Typhoons and Floods Act (Act No. 4268) |
| 04/23/1991| [MoC] Establishment of the River Management Division and the abolition of the Disaster Management Office under the Water Resources Bureau | [MoI] The Firefighting Division, the Fire Service Division, and the Fire Prevention Division were established under the Firefighting Bureau |
|            | [MoI] Establishment of the Deputy Direct-General’s office for disaster management planning and the Disaster Management Division under the Civil Defense Bureau | Revision of the decree on the organization of the MoI                                             |

(continued)
| Date   | Disaster response Institution | Disaster Response Related Laws                                      |
|--------|-------------------------------|---------------------------------------------------------------------|
| 04/26/1993 | CDSCHQ and disaster management coordination | Enactment for disaster relief in accidents (Instructions of the Prime Minister, No. 275) |
| 12/22/1994 | [MoCI]—the head of the Korean Coast Guard was appointed as the head of the Central Rescue Coordination Center, and the rescue system was unified | Revision of the Rescue and Aid at Sea and in the River Act (Act No. 4793) |
| 01/05/1995 | [Lead agency/Autonomy]—in case of human-caused disasters, the Central/Local Accident Countermeasure Headquarters will be established in a lead agency and a local government respectively | Enactment of Special Act on the Safety Control of Public Structures (Act No. 4922) |
| 07/18/1995 | [MoI/Local government] in case of human-caused disasters, the Emergency Rescue Headquarters will be established in the MoI and local governments | Enactment of the Disaster Management Act |
| 08/04/1995 | [MoI] Establishment of a Man-made Disaster Management Bureau following the reorganization of the Civil Defense Headquarters to the Civil Defense and Disaster Control Headquarters | Revision of the Urban Gas Business Act (Act No. 4965) |
| 10/19/1995 | [MoI] Establishment of the central 119 rescue team under the National Fire Academy | Revision of the decree on the organization of the MoI |

(continued)
Table 5.1 (continued)

| Date          | Disaster response Institution | Disaster Response Related Laws |
|---------------|------------------------------|--------------------------------|
| 10/19/1995   | CDSCHQ and disaster management coordination | Search and Rescue related laws | Policy-related laws |
|              | Establishment of a Deputy Director-General’s office for safety management in the Prime Minister’s office, the Deputy Director-General’s office for gas safety in the MoCI, the Deputy Director-General’s office for construction safety in the MoCT to manage human-caused disasters | | |
| 12/31/1995   | [Autonomy] The end of the establishment of a Disaster Management Division following the reorganization of the Civil Defense Bureau to the Civil Defense and Disaster Management Bureau in all the metropolitan and provincial governments | | |
|              | Reorganization of the Civil Defense Division to the Civil Defense and Disaster Management Division in local governments | | |
|              | Creation of a safety inspection team in all metropolitan and provincial governments | | |

(continued)
Table 5.1 (continued)

| Date       | Disaster response Institution                                                                 | Disaster Response Related Laws                                                                 |
|------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 12/06/1995| CDSCHQ and disaster management coordination                                                    | Organization related laws Enactment of the Countermeasures Against Natural Disasters Act (Act No. 4993) |
| 05/27/1997| [MoI] Reorganization of the central 119 rescue team as an affiliated organization in the MoI   | Revision of decree on the organization of the MoI                                                |
| 02/28/1998|                                                                                               | General revision of the Government Organization Act (Act No. 5529)                              |
|            |                                                                                               | Enactment of the decree on the organization of the MoI                                          |
| 05/24/1999| [MoI] The Civil Defense and Disaster Management Bureau and the Disaster Prevention Bureau were integrated into the Civil Defense and Disaster Prevention Bureau | Revision of the decree on the organization of the MoI                                           |
|            | The Safety Guidance Division in the Civil Defense and Disaster Prevention Bureau was abolished and passed to the Disaster Management Division |
| 06/07/2000| [MoI] The Deputy Director-General’s office for disaster prevention under the Director of the Civil Defense and Disaster Prevention Bureau was set up | Revision of the decree on the organization of the MoI                                           |
|            | [MoI] The Civil Defense and                                                                     |                                                                                                 |

(continued)
Table 5.1 (continued)

| Date       | Disaster response Institution                                                                 | Disaster Response Related Laws                                                                 |
|------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 09/05/2002 | CDSCHQ and disaster management coordination                                                    | Revision of the Countermeasures Against Natural Disasters Act (Act No. 6735) Establishment of special disaster area under article 62.2 |
|            | Disaster Prevention Bureau was renamed the Civil Defense and Disaster Management Bureau          | Enactment of the Firefighting System Installation Business Act (Act No. 6894)                     |
|            |                                                                                                 | Enactment of the Installation, Maintenance, and Safety Control of Firefighting Systems Act (Act No. 6895) |
| 05/29/2003 | Establishment of the legal basis for the operation of international rescue units                  |                                                                                                 |
|            |                                                                                                 |                                                                                                 |
| 03/11/2004 | [MoPAS] Establishment of the NEMA as the first independent disaster management agency            | Revision of the Government Organization Act (Act No. 7186)                                       |
|            | Establishment of the central and local Safety Management Committee                               | Enactment of the Disasters and Safety Act (Act No. 7188)                                         |
|            |                                                                                                 | Integration of legal system dualized by the Countermeasures Against Natural Disasters Act and Disaster Control Act |
|            |                                                                                                 | The concept of disaster includes social disasters such as paralysis of the national critical infrastructure |
|            |                                                                                                 | (continued)                                                                                      |
### Table 5.1 (continued)

| Date        | Disaster response Institution                                                                 | Disaster Response Related Laws                                                                                                                                 |
|-------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 05/24/2004 | CDSCHQ and disaster management coordination                                                    | Enactment of the decree of the NEMA and affiliated organizations (Presidential decree No.18390)                                                                |
| 06/01/2004 | [NEMA] Establishment of the NEMA as a vice-ministerial-level agency                             | Proclaim and enforcement of the enactment of the NEMA and affiliated organizations                                                                         |
|             | [MoI] Safety Planning Bureau                                                                  |                                                                                                                                                               |
|             | [NEMA] The Civil Defense Institute and the National Institute for Disaster Prevention were integrated into the National Institute For Disaster Prevention And Education | Revision of the NEMA and affiliated organizations (Presidential decree No.19372)                                                                               |
| 03/06/2006 | [NEMA] The Civil Defense Institute and the National Institute for Disaster Prevention were integrated into the National Institute For Disaster Prevention And Education | Enactment of Special Act on the Safety Control of Publicly used Establishments (Act No. 7906)                                                                |
| 03/24/2006 |                                                                                                                                                        |                                                                                                                                                               |
| 09/22/2006 | [MoI/NEMA] Transfer of coordination of civil defense and security of the Prime Minister from the MoI to the NEMA | Revision of the Framework Act on Civil Defense (Act No. 7980)                                                                                                 |

(continued)
| Date        | CDSCHQ and disaster management coordination | Search and Rescue | Organization related laws                                         | Policy-related laws                                                                 |
|-------------|--------------------------------------------|-------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 01/26/2007  | CDSCHQ and disaster management coordination |                   |                                                                   | Revision of the Disasters and Safety Act (Act No. 8274)                                 |
|             |                                            |                   |                                                                   | General revision of the Disaster Relief Act (Act No. 8275)                            |
| 05/11/2007  |                                            |                   |                                                                   | General revision of the Framework Act on Civil Defense (Act No. 8420)                |
| 07/19/2007  |                                            |                   |                                                                   | Enactment of the Act on Assistance to the Autonomous Activities of Enterprises for Disaster Mitigation (Act No. 8530) |
| 07/27/2007  |                                            |                   |                                                                   | Enactment of the Prevention of Steep Slope Disasters Act (Act No. 8551)              |
| 08/03/2007  |                                            |                   |                                                                   | Special Act on Services to Prevent Dangers Resulting from Natural Disasters and Measures for Migration (Act No. 8585) |
| 09/14/2007  | [NEMA] Disaster Prevention Standards team was established | [NEMA] Second center was established in the Central Firefighting School | Revision of the NEMA and affiliated organizations (Enforcement rule of MoI No. 392) | Revision of the Framework Act on Fire Services (Act No. 8844)                      |
| 01/17/2008  |                                            |                   |                                                                   | (continued)                                                                         |
| Date       | Institute and Disaster Management Coordination | Search and Rescue Policy-related Laws | Disaster Response Related Laws |
|-----------|-----------------------------------------------|--------------------------------------|--------------------------------|
| 02/29/2008 | CDSCHQ and disaster management coordination   | Search and Rescue related laws       | General revision of the Government Organization Act (Act No. 8852) |
|           | [MoI/MoPAS] The MoPAS carrying on safety control policy, emergency preparedness, civil protection, and disaster management system conducted by the MoI |                                | Revision of the Disasters and Safety Act (Act No. 8856) |
|           | Coordination of civil protection and supporting the Prime Minister were transferred from the NEMA to the Ministry of Administration and Safety |                                | Revision of the Framework Act on Civil Defense (Act No. 8855) |
|           | Revision of the NEMA and affiliated organizations (Presidential decree No.20693) |                                |                                |
| 03/28/2008 |                                                | Act on the Preparation for Earthquakes and Volcanic Eruptions (Act No. 9001) |
| 12/31/2008 |                                                | Revision of the Countermeasures Against Natural Disasters Act (Act No. 9298) |
|           |                                                | -Including lightning as a target of natural disaster |
|           |                                                | Revision of the Disasters and Safety Act (Act No. 9299) |
|           |                                                | -Including lightning as a target of natural disaster |
| 02/04/2010 | [MoPAS/NEMA] Transfer of safety culture tasks from the NEMA to the MoPAS |                                |                                |
Table 5.1 (continued)

| Date       | Disaster response Institution                                                                 | Disaster Response Related Laws                                                                 |
|------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 01/28/2011 | CDSCHQ and disaster management coordination                                                    | [NEMA] National 119 rescue team was promoted to National 119 center                                |
| 03/08/2011 | [NEMA] National 119 rescue team was promoted to National 119 center                             | Act on 119 Rescue and Emergency Medical Services (Act No. 10442)                                 |
|            |                                                                                               | Special Act on the Management of Disasters in Super High-Rise Buildings and Complex buildings with Underground Connections (Act No. 10444) |
| 10/25/2011 | [MoPAS/NEMA] The national institute for disaster prevention transferred to the MoPAS          | Revision of the NEMA and affiliated organizations (Presidential decree No.23239)                   |
| 02/22/2012 |                                                                                               | Enactment of the Pedestrian Safety and Convenience Enhancement Act (Act No. 11339)                |
|            |                                                                                               | Enactment of the Framework Act on Health, Safety and Welfare of Fire Officers (Act No. 11341)     |
|            |                                                                                               | Enactment of Coastal Guard (Act No. 11372)                                                      |
| 07/23/2012 | [NEMA] 119 rescue and first-aid bureau was established                                         |                                                                                                  |
| 03/23/2013 | [MoPAS/MoSPA] The MoPAS was reorganized into the MoSPA                                         | General revision of the Government Organization Act (Act No. 11690)                              |
| Date       | Disaster response Institution                                                                 | Disaster Response Related Laws                                                                                                                                 |
|------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 08/06/2013 | CDSCHQ and disaster management coordination                                                   | Revision of the Disasters and Safety Act (Act No. 11994)                                                                                                   |
|            |                                                                                             | —Human-caused disaster and social disaster were integrated into social disaster                                                                              |
| 11/25/2013 | The integrated chemical disaster prevention center was established                           |                                                                                                                                                            |
| 01/28/2014 |                                                                                             | Enactment of the Volunteer Fire Service (Act No. 12344)                                                                                                  |
| 04/02/2014 | [MoSPA/NEMA] Transfer of human-caused disaster management tasks from NEMA to the MoSPA      | Enactment of the Prevention of Coast Accident (Act No. 12657)                                                                                              |
| 05/21/2014 |                                                                                             | Revision of the Government Organization Act (Act No. 12844)                                                                                               |
| 11/19/2014 | MPSS was established                                                                         | Revision of the Disasters and Safety Act (Act No. 12943)                                                                                                 |
| 12/30/2014 | The installation of the CDSCHQ was coordinated from prevention, preparation, response, and recovery phase to response and recovery phase. | Enactment of the Safety Management of Small Scale Public Facilities (Act No. 13437)                                                                      |
| 07/24/2015 |                                                                                             | (continued)                                                                                                                                                    |
5.2 Disaster-Triggered Policy Change Model

This section will analyze how disaster response organizations and laws were changed in the wake of major disasters, called focusing events. The Disaster-Triggered Policy Change model, developed on the basis of Kingdon’s Policy Stream Framework (PSF) and Birkland’s Event-Related Policy Learning (ERPL) model, will be used for the analysis.

5.2.1 Policy Change Model

Policy has been defined diversely according to scholars. Dye (1981) defined a policy as “everything which the government has decided to do or not to do” and considered it as the government’s selection. On the other hand, Jenkins (1978) defined a policy as “a series of mutual-related decision-making of a doer who has authority to achieve a purpose under specific situations to select purposes and measures to realize such purposes” and considered a policy as a series of decision-making processes.

Yang (2006) defined policy change as “the modification and conclusion of a policy alternative generated from the previous policy decision by recognizing changes regarding the policy issue after drawing up a policy alternative in the policy decision process and returning to the policy agenda establishment process again (Yang 2006).” Factors promoting a policy change include changes in the environment of policy, changes in public demand, and unexpected incidents. On the contrary, factors hindering a policy change include psychological resistance, political allies that oppose changes, political burden, and high costs.

Among various types of policy change, the strongest form is the amendment of the constitution or formulation and full-text amendment of major laws while a slightly weaker form of policy change include changes in the behavior of street-level bureaucrats or modification of regulations (Lipsky 1978).
Representative policy-change models include Hofferbert’s Policy Output Change Framework (POCF), Sabatier’s Advocacy Coalition Framework (ACF), Hall’s Paradigm Change Framework, and Kingdon’s PSF. In addition, Birkland proposed an ERPL model and applied the model to analyze the policy change in the United States (USA) after the September 11 terror attack and Hurricane Katrina.

The POCF is generally used to explain policy output process, but can be used for the policy change model. In POCF, Hofferbert noted that five elements—historic-geographic conditions, socioeconomic composition, mass political behavior, governmental institutions, and elite behavior—affect the policy output directly and indirectly (Hofferbert 1974). His view is that these five factors undergo the process of “passing through the tunnel” in consecutive order, thereby directly and indirectly affecting policy output. He considered historic-geographic conditions and socioeconomic composition as different elements because two states having similar environment and natural resources often have a different socioeconomic composition, and put historic-geographic conditions before socioeconomic composition because the former tends to change less than the latter. The third element of mass political behavior affects the decision of government institutions and the behavior of elites independent of socioeconomic composition. The last step to formal policy change is elite behavior, which is a part of a residual category to explain undiscovered reasons of policy change (Hofferbert 1974).

Sabatier’s ACF is a policy decision model developed to deal with public policy issues. The key elements of the ACF include external parameters, belief system, advocacy coalition, policy mediator, policy learning, policy output, and policy change (Weible and Sabatier 2007). According to the ACF view, a policy process is not a linear process in which critical decision is made at each phase consecutively, but as a dynamic process in which struggles for policy formation, execution, and reformation are continuously repeated (Jeong and Jeong 2012).

There are two types of external parameters affecting the policy subsystem in the ACF model: relatively stable parameters and dynamic ones. Relatively stable parameters include the basic attributes of the problem area, basic distribution of natural resources, fundamental sociocultural values and social structure, and basic legal structures; in general, the parameters do not change often. On the other hand, socioeconomic conditions, changes in public opinion, changes in governing coalition, and impacts from other subsystems are dynamic external parameters, which affect policy subsystem dynamically. Mediator and policy learning are other important elements for policy change (Weible and Sabatier 2007). Policy advocacy coalition always appear in the process of policy-making and implementation, and their activities always affect policy change (Jeong et al. 2017).

The ACF can be best used in understanding and explaining belief system and policy change where there are goal disagreements and technical controversies among complex agents including various levels of government, interest groups, research institutes, and mass media (Weible and Sabatier 2007).

Hall emphasizes the importance of policy learning in the process of policy change, and regards policy formation as the process that includes three variables: policy goal, policy output, and technology/policy environment. Moreover, the PCF
model conceptualized policy change, which brings rapid change to policy goal and means as paradigm change (Lee 2015).

The PCF classified the process of policy change into three steps according to the concept of policy paradigm and scale of change. The first change is gradual, and it is a decision-making method commonly encountered in a general policy process. The second change indicates development of a new policy tool. The third change refers to rapid changes that bring a paradigm shift. The first and second changes do not necessarily lead to the third change (Hall 1993). Kingdon’s PSF, also referred to as a “multi-stream framework” or “window of policy model,” was originally developed as a policy agenda setting model, but now has extended to the model for explaining policy change, policy formation, policy implementation, and policy evaluation (Oh 2015). PSF’s three streams, the problem stream, the politics stream and the policy alternative stream, independently flow according to their roles and are suddenly combined when a dramatic event or a political event occurs, resulting in policy change driven by the triggering device (Jeong et al. 2017). The scheme of PSF is shown in Fig. 5.1. In other words, when three streams progress independently and are combined at critical junctures, this combination creates an opportunity for agenda change. The problem stream means that policy decision-makers become interested in a specific policy problem among various problems. The stream of politics consists of the national mood, public opinion, election results, replacement of administration, lopsided or ideological distribution in a council, and pressure of interest groups. The political stream has a strong influence on setting a new agenda. The policy stream is the procedure to set various policy alternatives through the policy community including researchers, council workers, workers in planning, evaluating, and budgeting, and interest group analysts. Kingdon emphasized the importance of the political stream and policy entrepreneurs (Kingdon 2010).

The policy window opens for a short period of time when the requirements for presenting given topics to the policy agenda are fulfilled. Major changes in public policy occur following the opening of this policy window (Kingdon 2010).

Kingdon’s PSF was developed from Cohen et al. (1972)’s Garbage Can model that appeared as an alternative to the old rational model, and it is useful for explaining the role according to the interest of various participants based on the

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**Fig. 5.1** The scheme of Kingdon’s Policy Stream Framework (PSF)
5.2 Disaster-Triggered Policy Change Model

5.2.2 Relationship Between Major Disasters and the Change of Disaster Response Organizations and Laws: Disaster-Triggered Policy Change Model

This section will analyze the process of changes in disaster response organizations and laws after large natural and social disasters occurred in Korea from 1994 to 2005. Kingdon modified the Garbage Can model in a study targeting the transportation and health policy fields and presented the policy stream model while Birkland specialized in the natural disaster and terrorism fields and emphasized the focusing event (Kwon 2014).

A modified model combining Kingdon’s PSF and Birkland’s ERPL model will be presented and the process of change in disaster response organizations and laws after a large-scale disaster in Korea will be analyzed. The reasons to use the modified model combining two models are as follows:

First, Kingdon’s PSF, among various policy change models, is the most appropriate model, which explains changes in the disaster response organizations and laws that occurred due to the simultaneous reaction of various factors after a large-scale disaster. However, the Kingdon’s model regards an unexpected large accident just as one element in the problem stream. Therefore, the PSF cannot fully explain the national interest and requirements that start to increase rapidly from the occurrence of large-scale disasters and increasing demand on consequent agenda. Owing to this, there are few research studies on the change of disaster response organizations and laws after a large-scale disaster by using Kingdon’s PSF.

Second, Birkland’s ERPL model can supplement Kingdon’s model. Birkland explained how large-scale disasters brought changes in the disaster response organizations through the studies on the establishment of Department of Homeland Security (DHS) and the improvement of aviation security policy after
September 11 Terror Attack in 2001 and changes in disaster management organizations in the USA after Hurricane Katrina. However, Birkland’s model considers increase in social interests on policy agenda, unification of interest groups, discussion on ideas, adoption of new policy, and social learning process as the processes carried out linearly so that this model has a limit to explain various situations occurring simultaneously after a large-scale disaster.

Therefore, a Disaster-Triggered Policy Change model that modifies Kingdon’s PSF by taking the occurrence of a focusing event and increase in social interests on policy agenda and Birkland’s ERPL model by inputting political, policy, and problem streams simultaneously, will be proposed in this book. The Disaster-Triggered Policy Change model is shown in Fig. 5.2.

In other words, the focusing event is considered as the beginning point of policy change and the relation between the three streams that occurred due to an increased interest on the agenda will be analyzed. And, it will be analyzed to see which of the three streams gives the most significant influence on changes in disaster response organizations and laws.

As the form of policy change for this research, the establishment and revision of disaster response-related laws, which is the most certain form of policy change suggested by Lipsky (1978) and the consequent changes in the disaster response organization, are selected.

For the disaster response organizations, the organization operating the central disaster and safety countermeasures headquarters, which was the final decision-making organization among natural and social disaster-related government agencies and the organization handling emergency relief that had the core function of
field response were examined. This is because most central government agencies and all cities and towns take charge of unique disaster response functions for each function including situation report and distribution, emergency facility restoration, communication of disaster information, and emergency relief, and it is almost impossible to secure relevant material for all these organizations. Also, core change factors in organizations, such as an establishment of a charging department and the transfer of function to another department, were only defined as changes in organization in this book.

After major disasters, there are four dynamic activities: media, political stream, policy alternative stream, and problem stream. The time period for this analysis is from 1948 to 2005. The Disaster-Triggered Policy Change model is composed of the following elements:

Media: Media represents the increased attention after a disaster.
Political Stream: The President’s political will would be reflected in the statement after disaster, official order to the administration, and statement in the National Assembly. National Assembly’s political will would be reflected in the special committee regarding the disaster and agenda in the Assembly Plenary Session.
Policy Alternative Stream: Policy Alternative Stream will be reflected in the activities of the Prime Minister or the line minister and the announcement of countermeasures by the government.
Problem Stream: Problem Stream will be reflected in the cause analysis report by National Audit Office, academia, or research institutes.

5.2.2.1 Media: Increased Attention After Major Disasters

Torrential Downpour in the Nakdong River Basin in 1957

There were various articles reporting the large calamities and displaced people due to the torrential downpour of 1957. In addition, newspapers reported the announcement by President Rhee Syng-man to console the people affected by the calamities and displaced people and to insist a public-private partnership to overcome the damage due to the disaster.

Typhoon Sarah in 1959

Typhoon Sarah landed and affected the Korean peninsula on September 17, 1959, and the press release on the eighteenth was mostly on the path of Typhoon Sarah.

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2For media, news and press information was obtained by searching through news library provided by web portals, such as NAVER. Presidents’ activities were found in the government official website, provided by Presidential Archive. National Assembly’s activities were found in the National Assembly’s website.
the power of the typhoon and the report of damage. From November 19 to 24, the press release was mostly on recovery after the disaster. According to the general news page of the *Dong-A Daily News* on September 18, the title of the article is “Serious nationwide damage of 20,000 displaced from the typhoon at beginning of Chuseok.” It was implicated that because the typhoon led to one of the longest holidays in Korea, it resulted in greater damage. Also, it was stated that the government requested for the displaced emergency assistance by the Red Cross of various countries such as the USA, Australia, United Kingdom, France, West Germany, and Italy for the relief of the unprecedented damage by Typhoon Sarah (September 19, *Dong-A Daily News*). Also, during the Cabinet meeting, there was an effort made to recover from the disaster with various methods like collecting contributions for the relief (September 26, *Dong-A Daily News*).

Flood in Jeollabuk-do Namwon-eup, Gyeongsangbuk-do Yeongju-gun in 1961

Articles related to a countrywide continuous heavy rain in July 1961 were reported as the banks in the Yeongju-gun and the Namwon-eup collapsed, and articles related to the damage situation and recovery of the flooded area were reported on July 11.

Suncheon Flood in 1962

Starting on August 28, 1962, when the flooding began in the area, to September 27, there were about 120 news articles in the *Dong-A Daily News* and the *Kyunghyang Daily News*. From September 27 until April 1963, there were 30 articles reported. The articles were mostly about the damage situation, situation of the displaced, and the recovery.

Torrential Downpour in Central Region in 1965

On July 16, 1965, there were 12 articles reported in the *Dong-A Daily News*, the *Kyunghyang Daily News*, and the *Maeil Business News*. They were mostly focusing on the weather-related reports and damage situation. The articles compared the water level of the First Bridge on the Han River on the sixteenth at 2:00 p.m., which was 10 m 69 cm, with that on July 18, 1925, which was 11 m 25 cm.

Wow Apartment Collapse in 1970

In all there were 23 articles on the Wow Apartment collapse. Five of the articles were reported on the day of the accident, and 15 articles, more than half of the
articles, were reported four days after the accident. The contents were mainly on the cause of the accident, the analysis of the causes, the relief, and the punishment of the persons in charge.

Namyoung Ferry Sinking Accident in 1970

The number of articles related to the Namyoung ferry sinking accident in the Dong-A Daily News, the Kyunghyang Daily News, and the Maeil Business News was 169. Among these, the number of articles reported in five days from December 15 to 19 was 85, and those reported until the end of December was 128. On the day of the accident, the articles were focusing on the accident process, damage situation, and the cause analysis. By the nineteenth, the articles were mostly on rescue operations and the situations of the bereaved, while after the rescue operations, they were mostly on the punishment of the persons in charge.

Seoul Daeyeonggak Hotel Fire in 1971

The Seoul Daeyeonggak Hotel fire on December 25, 1971, was broadcast live, and the number of articles reported in the Dong-A Daily News, the Kyunghyang Daily News, and the Maeil Business News was 343. On December 25, a Christmas holiday, 21 articles of the accident that happened at 10 p.m. were published. Considering that it happened on a holiday and the time of the accident was late, it is not an insignificant number of articles. Also, the cause analysis of the accident was published through 160 articles for five days after the accident (December 30). This led to an inspection of the fire-extinguishing facilities in Seoul.

Gunpowder Freight Train Explosion at Iri Station in 1977

The number of articles published in the Dong-A Daily News, the Kyunghyang Daily News, and the Maeil Business News on the explosion at Iri station where there were 59 casualties was 280. The day after the accident, which happened at 9:15 p.m. on a Friday, 13 articles were released about the report of the accident, the control of the accident, the relief, and the government’s measures. The next week, from the fourteenth to the nineteenth, 156 articles were published. The contents of the articles were mostly on cause analysis of the accident by inspectors, punishment of the persons in charge, and compensation for the accident.

Typhoon Agnes in 1981

The number of articles on Typhoon Agnes, which caused 139 casualties and 14,346 displaced was 184 in the Dong-A Daily News, the Kyunghyang Daily News and the
Maeil Business News. Among these, 104 articles provided full coverage from September 1 when the typhoon led to the biggest damage to the fourth when the typhoon went extinct. The articles were mostly on the path of the typhoon, scale of damage, method to minimize the damage, and the report of the situation in the affected areas. After the extinction, they were mostly about the extent of damage and recovery.

Great Flood in 1984

Twelve articles were published from September 1 to 5 related to the Great Flood in 1984 in the Dong-A Daily News, the Kyunghyang Daily News, and the Maeil Business News, and they were mostly on the weather situation and the degree of damage. Also, there were an additional seven articles until October 16, and among them three were on the damage situation, which were published every time after the Great Flood in 1925 when there was a torrential downpour.

Typhoon Judy in 1989

The number of articles related to Typhoon Judy, which damaged the Republic of Korea at the end of July 1989, was 86 in the Dong-A Daily News, the Kyunghyang Daily News and the Maeil Business News. On July 27 and 28, before the typhoon was downgraded to a tropical depression, the articles reported on the expected path and power of Typhoon Judy, and the damage situation. From the twenty-ninth, the articles focused on the damage situation and the cause analysis. According to the article on August 2 in the Kyunghyang Daily News (page 13, general news), the Busan local government insisted it was a natural disaster, while citizens argued it was a human-caused disaster due to the lack of countermeasures like water supply supplementation in areas prone to floods, insisting the government’s proactive actions against natural disasters.

Collapse of Levee in Ilsan Region in 1990

Fifty-four articles related to the collapse of Levee in Ilsan region were reported in the Dong-A Daily News. Four of the articles were reported on the day of the accident about the cause of the collapse and the damage situation, and 31 related articles were reported for a week after the accident.

Train Overturn Accident at Gupo Station in 1993

News regarding the Gupo Station train overturn, which was caused by the sinking of a train track, began to be published on the twenty-ninth (Monday); the accident had occurred the previous day. There were 140 news articles from the Dong-A
Daily News, the Kyunghyang Daily News, the Maeil Business News, and the Hankyoreh. Among them, half of the articles were announced within one week from the accident. The news in the early period focused on reporting and analyzed the causes, and the latter articles were about recovery status, compensation and bereaved families, and punishment to those who were in charge.

Asiana Airlines Boeing 737 Crash in 1993

There were a total of 143 news articles from the Dong-A Daily News, the Kyunghyang Daily News, the Maeil Business News, and the Hankyoreh regarding the Asiana Airlines Boeing 737 Crash near Ungeo Mountain of Masan-ri, Hwawon-myeon, Mokpo-si, Jeollanam-do. Among them, 95 were reported from the day of accident to five days afterward, and they mostly discussed accident process and cause, damage followed by the accident, and compensation.

Seohae Ferry Sinking Accident in 1993

There were 41 news articles regarding the sinking of the Seohae ferry sinking accident from the Dong-A Daily News, the Kyunghyang Daily News, the Maeil Business News, and the Hankyoreh. The news continued until December as the boat was salvaged and sunk again. News regarding compensation given to victims and bereaved families and the salvage continued for three years until June, 1998.

Seongsu Bridge Collapse in 1994

The collapse of Seongsu bridge happened during the morning rush hours. This case showed that a social disaster is one that can happen not only on someone’s way to work but also without any warning. Accordingly, the media reports mainly focused on individuals in the accident and their families. At that time, the press contributed to people’s right to know by live reporting the shocking moment to the people, but did not focus on the fundamental problems as it focused on punishing related officers found responsible; such as Seoul City officers, builders, and managers. For example, the Dong-A and the Kyunghyang Daily News newspapers gave the collapse of the Seongsu Bridge front-page prominence on October 21. The Kyunghyang, the next day on the twenty-second, such as “a bridge that even taxi drivers refused to go,” “mom crying over the dead body of her son on his birthday” were published, and “the head office of Korean Japanese Community called and said it was embarrassing.” Additionally, the Korean media focused on the bereaved families emotionally attacking anyone they perceived to be responsible or sobbing over the bodies of loved ones, while pushing for the punishment of the involved construction companies or “people in charge” rather than demanding more intense rescue attempts or enhanced disaster policy improvements. In contrast, American or
Japanese media focused on rescue images while advocating for improved disaster policies (Korea Press and Foundation/Reporter Association of Korea 24th Reporter Forum 2003). Recently, there is much progress in the way of media approach to disaster events by emphasizing the root cause of the problem and improvement of policies, which still needs to be further enhanced for resilience building in Korea.

Gas Explosion in Daegu City in 1995

There were 762 reports regarding the gas explosion in Daegu City in 1995 from the Dong-A Daily News, the Kyunghyang Daily News, the Maeil Business News, and the Hankyoreh. This accident took place when people were on their way to work in the morning just like the Seongsu bridge collapse, which happened a year earlier in 1994. The accident caused 101 casualties. For the three days since the occurrence, there were a total of 217 articles issued and 454 articles issued until May 4, which was the seventh day after the accident.

Sampoong Department Store Collapse in 1995

The Sampoong Department Store collapse occurred in Gangnam, a rich municipality of Korea. When talking about “wealth,” people not only think of being well-off but also safe from disaster. Thus, the collapse in the wealthiest district in Korea, worked as a factor for creating an air of anxiety that any kind of building in any region could fall, and affected people’s safety awareness. To that extent, the accident was in the center of the media from the accident occurrence to the investigation periods for the cause of the accident. For two months after the accident, the Chosun Ilbo and the Hankyoreh published 442 and 376 news articles respectively. Also, taking a look at the articles by subject area, Chosun Ilbo published 170 articles in the social section, which was the highest. This made up 39% of the total news articles, and the accident was reported 145 times in the politics, commentary, and opinion sections; 87 times in the general section; 19 times in the economy section; and 19 times in others. The Hankyoreh on the other hand, published 195 articles in the society section, which was the highest. This made up 52% of the total news articles, and the accident was reported 65 times in the politics, commentary, and opinion sections; 59 times in the general section; 32 times in the economy section; and 23 times in others. Through the number of reporting by subject area in the newspapers, it can be confirmed that a social disaster does not simply end as a disaster. A disaster that had an impact on the society also influences politics and policy; in case of the collapse of the Sampoong Department Store, it can be inferred that it had a huge impact on the economy of a country.
Typhoon Janis in 1995

There were 127 news articles regarding Typhoon Janis from the *Dong-A Daily News*, the *Kyunghyang Daily News*, the *Maeil Business News*, and the *Hankyoreh*. Typhoon Janis began to be broadcasted as it came up north on August 28, and there were in all 115 reports regarding its track, weather forecasting, and damage condition until the twenty-eighth when the power of the typhoon subsided, and it left the Korean peninsula. Later, flood victims, damage from flood, and recovery were reported.

Korean Air Boeing 747 Crash in 1997

There were 131 news articles regarding the Korean Air Boeing 747 crash near Guam Hagântâna Airport from the *Dong-A Daily News*, the *Kyunghyang Daily News*, the *Maeil Business News*, and the *Hankyoreh*. Since the accident took place outside of Korea, the media covered the accident starting the next day, on August 7, and there were 25 newscasts within one day.

Torrential Downpour in 1998

There were in all 593 news articles from the *Dong-A*, the *Kyunghyang*, the *Mail Business*, and the *Hankyoreh* regarding the torrential downpour in August, 1998, which caused 324 casualties as a natural disaster. The rainfall came during summer holiday season so the damage was massive. Not only that, it flooded homes and roads by sweeping the central region area without any notice, and it cut parts of a train track and the Gyeongbu line road. In case of Seoul, subway line 1 flooded and was out of service as also major sections of subway lines 2 and 4 causing great inconvenience to commuters. This natural disaster called localized heavy rainfall had an impact on people’s daily lives and economic activities, and there were 463 news articles issued in the society section and 69 in the economy section.

Typhoon Rusa in 2002

The media coverage on Typhoon Rusa from August 29, 2001 to October 31, 2002 consisted of 197 TV reports and 135 newspaper articles. Breaking these reports and articles into various phases revealed 7 prior to the disaster, 26 during the incident, and 299 post disaster, which means 90% of media coverage about Typhoon Rusa was released after the catastrophic event. Of those 332, damage reports accounted for 148; donation 59; restoration 47; policy measures 24; information sharing 11; and weather 10.

The following highlights how the media covered the disaster: The *Munhwa Ilbo* article on September 13, 2002 (page 30, Social Section, 938 words) titled, “Fishermen Anxiety over Hurricane Waste,” described how only 470 tons of waste had
been collected out of a total of 120,916 tons along Youngdong’s (Gangwon Province) sandy beaches, which damaged various fishing gear and nets. The *Dong-A Daily News* on September 11 (page 30, 41 edition, Social section, 1302 words) also dealt with the damage by the typhoon and criticized the delayed restoration by the government: it described how emergency provisions like rice and water had been delivered through military helicopters; yet 65 victims struggled to get sleep from the cold without heaters. On September 3, the *Segye Daily News* featured an article titled “Impact of Typhoon Rusa’s—vegetable prices surge.” The news conveyed how heavy rain along with the damage from Typhoon Rusa caused the price of agricultural goods like cabbage, lettuce, and other vegetables to surge. This could be considered as an economic crisis caused by the linkage between the Chuseok holiday (Korean Thanksgiving) and damage of agricultural goods from the typhoon. In addition, the *Seoul* newspaper (page 4, 15 edition, Political section, 2238 words) criticized the poor response and recovery performance by the government. It highlighted that the national government failed to decide a timely disaster recovery plan for the damaged areas due to a poor damage investigation and assessment, which was caused by the inaccessibility to the damaged areas because of the delayed recovery of damaged roads. It also pointed out the inappropriate disaster relief to vulnerable groups, such as senior citizens, many of whom had to subsist on instant meals during the crisis.

**Daegu Subway Fire in 2003**

When the Daegu Subway fire incident occurred at 9:53 a.m. on February 18, 2003, the Korean Broadcasting System (KBS), Munhwa Broadcasting Corporation (MBC), Seoul Broadcasting System (SBS), and other public broadcasting services delivered the breaking news and provided live coverage of the site. From the date of the incident to February 24, 2003, there were 378 media features encompassing 54.65% of the total news. Among the news on the day of the incident, 60% featured the Daegu accident. On the second day, an average of 78.9% of the news covered the incident: 212 segments (56.1%) focused on updates on the situation, 58 (15.3%) on prevention, and 39 (10.3%) on causes where many other aspects of the situation were covered (Jin 2004). From February 18 to March 4, 2003, there were 457 features of the incident including night-time news by the three national channels. One hundred and four (20.4%) covered the incident investigation, 97 (20.4%) on safety measures, 85 (17.9%) on human episodes, and 40 (8.4%) on comprehensive accidents and other various topics (Song and Lee 2003).

Apart from the three national broadcasting channels, the press featured articles on the event for two months after the incident. The *Chosun Ilbo* published 207 articles, Hankyoreh Newspaper published 197 articles, and the *Maeil Business News* published 486 articles. The incident was featured as headline news by various newspapers as follows: five days in the *Chosun Ilbo*, six days in the *Hankyoreh*, and over two months in the *Maeil Business News* as the main local media in Daegu and the North Gyeongsang provinces. In addition, the news was covered 66 times in
the general section of the Chosun Ilbo, 73 times in the Social section of the Hankyoreh, and 179 times in the Social section of the Maeil Business News. From February 19 to 25, 2003, the Maeil Business News reported the incident 20 times and the Chosun Ilbo and Maeil Business News released over 15 articles respectively on a daily basis (Lee 2003).

In the television and press coverage of the Daegu Subway fire incident, there had been timely analysis and reporting of incidents covering dramatic situations, responses, causes, and countermeasures. There was a continuous coverage of the incident on topics including the absence of a train-operation management system; details of materials that the passengers had carried, which were vulnerable to fire; poor safety measures at the train station; the weak disaster management capacity of the government (Lee and Sohn 2012); and the importance of assessing overall safety measures in all the areas served by trains. The mayor of Daegu and the director of the Fire Department held six press conferences and interviews concerning the family members of the deceased and made three formal statements including one official statement of apology.

Typhoon Maemi in 2003

Media coverage of Typhoon Maemi from its occurrence near Guam island to its movement out the Uljin East Sea and restoration activities afterward were 221 times in all.

In the Dong-A Daily News on September 13, 2003, the power of Typhoon Maemi was reported to have a maximum wind speed of 60 m/s, which was the highest since weather observation began in 1904. It retained its destructive power until it arrived on the Korean peninsula, and the size and danger of the typhoon was also reported to be unusual for early autumn.

On September 13, the Chosun Ilbo reported the extent of the physical and financial losses caused by the typhoon. The Masan Fish Market area, containing approximately 100 sushi restaurants, lost tens of billions of won and 10 to 20 people were missing due to 300 pieces of wood debris flooding in from an open storage at 9:00 p.m. on March 12 in the Masan City Shipping Plaza.

On September 14, the Dong-A Daily News featured articles on how approximately 100 members of a community service group were voluntarily conducting rescue activities with equipment provided by provincial governments. It also reported that about 65% of roads and bridges and 70% of electrical and telecommunication resources were recovered for use and described how the CDSCHQ provided necessary equipment to the Southern Gyeongsang province by requesting all local government entities to support its recovery. Furthermore, there was news on restoration involving plans to reduce telecommunication service charges, make low-interest loans available, and extend deadlines from banks.

On September 14, 2003, the Chosun Ilbo featured an article on the “Hazard Map,” which is widely used in Japan to prevent damages from floods and contains evacuation guidelines. It emphasized how the Korean government can adopt
Japanese measures by setting up an emergency management center in the central government and implementing rapid responses to multiple disasters.

On September 21, 2003, the *Dong-A Daily News* reported that areas affected by Typhoon Maemi had been marked as a “Special Disaster Area.” On September 26, 2003, the construction of debris barriers around dams in the northern Gyeongsang province had prevented erosion of hundreds of tons of soil being held against potential landslides.

### 5.2.2.2 Political Stream

**Torrential Downpour in the Nakdong River Basin in 1957**

On September 13, 1957, President Syngman Rhee spoke about the severe torrential downpour in the Nakdong River Basin, one of the worst disasters in recent years. Twenty-nine people were instantly killed when all the homes in Yangsan-si in Gyeongsangnam-do were suddenly washed away (Presidential Archives *n.d.*). He mentioned that in total, there were about 200 deaths and 880 injuries. Also, it was announced that all the public should help and support the displaced wholeheartedly.

**Typhoon Sarah in 1959**

On September 21, 1959, President Syngman Rhee announced that the government would do its best to return citizens back to their normal routines after Typhoon Sarah had wreaked havoc with their lives while consoling those who had been physically harmed by the typhoon (National Assembly *1959*). Also, the vice-president inspected the damage situation of the Miryang area in Gyeongsangnam-do on September 27, and expressed sympathy for the 650 displaced who were accommodated in the sericulture school in Miryang-si and given a gift of money. The National Assembly called a Disaster Relief Control Committee meeting on October 6 and 7, 1959 with a question and answer session, reported on the typhoon disaster, and made a recommendation to the government at the Assembly plenary session on the seventh. The next day, on the eighth, there was a preliminary discussion among members of the committee on the recovery of the affected region by Typhoon Sarah and the compensation at Disaster Relief Control Committee meeting.

**Flood in Jeollabuk-do Namwon-eup, Gyeongsangbuk-do Yeongju-gun in 1961**

President Yun Bo-seon visited the flood-damaged area due to the collapse of the embankment in Yeongju-gun of Gyeongsangbuk-do and Namwon-eup of Jeollabuk-do and consoled the displaced in July 1961.
Suncheon Flood in 1962

As a flood in Suncheon occurred on August 27, 1962, Park Chung-hee, the Chair of the Supreme Council, announced a special statement and instructed the related departments to fully strengthen the relief measures for the flood displaced on August 28 (Kyunghyang Daily News 1962a). On the thirtieth, he received reports on the situation of the Suncheon Flood damage and instructed the related authorities to do their best to recover and take preventive measures for the displaced people’s health (Dong-A Daily News 1962). In the morning of September 1, he visited Suncheon and instructed the persons in charge to supply rescue, preventive measures, preparations for the winter, emergency relief works, and systematic restoration (Kyunghyang Daily News 1962b). At noon, he announced a special statement that the government would do its best to rescue the displaced and recover the flooded area. After two months, on October 31, he inspected the recovery situation of the flooded area in Suncheon City with Kim Yong-soon, Head of the Culture and Society Committee, Park Lim-hang, Minister of MoC, and Lee Hu-rak, Head of the Public Relation Agency and instructed Kim Dong-bin, Head of the Flood Counter-measure Committee, to prepare for winter for the displaced. After a day of the accident, on August 29, Hong Jong-cheol, a member of the Culture and Society Committee, visited the flooded area and asked for the recovery cost, the change on the budget, recovery projects, and the countermeasures for avoiding future damage by floods. On September 5, the Committee approved the flood damage recovery plan in Suncheon, Jeollanam-do, Gyeongsangnam-do and other areas, which was suggested during a Cabinet meeting.

Torrential downpour in Central Region in 1965

As there were a lot of loss of lives and property from the torrential downpour on July 21, 1965 in the central region, President Park Chung-hee made an administrative-policy speech on the revised supplementary budget at National Assembly. Park said, “The government appropriated a budget of 600 million Korean Won (KRW) (11.7 billion KRW of 2015) for the countermeasures against disasters in 1965, but due to the unprecedented extreme drought, the reserved fund ran out. Even though the government implemented a beforehand evacuation and emergency relief action against the torrential downpour from July 16 to 20, there were 220,000 displaced, 2.2 billion KRW (42.89 billion KRW of 2015) in property damage and hundreds of casualties. Therefore, the government used the established budget to supply temporary accommodations and grain relief for the displaced, while compiling and submitting a revised supplementary budget to the National Assembly.” Further, at the National Assembly plenary session on August 9, 1965, parliamentarians requested the government to implement the countermeasures for the flood disaster and relief of the displaced.
Wow Apartment Collapse in 1970

The day after the Wow Citizens Apartments collapse (April 9), President Park Chung-hee demanded the dead to be promptly found and brought to their families; recovery work to begin immediately afterwards; a field survey of other Wow Citizens apartment complexes around the country; a look into future safety technologies; and finally he demanded that the rest of the apartments of the Wow Citizens Apartments complex be demolished before they too collapsed (Maeil Business News 1970).

The government and the ruling party opened a joint meeting at the Republican’s Meeting Room to discuss the countermeasures of the Wow Apartment collapse. The New Democratic Party opened an extended emergency meeting at their Central Party Headquarters at 10:00 a.m.; they discussed the Wow Apartment collapse, inquired into the truth of the accident, and set a measure to reprimand the persons in charge in the National Assembly at 2:00 p.m. The Committee of Interior and Construction made the related officials on the Wow Apartment collapse like Jeong Il-kwon, Prime Minister, and Lee Han-lim, Minister of MoC, to be present at an emergency meeting on April 13, listen to the truth of the accident, and answer questions about countermeasures and responsibilities. Also, the Committee of Interior and Construction had a respective meeting and organized a lieutenant for an inquiry into the truth of the Wow Apartment collapse on the fourteenth. On May 13, a month after the accident, there was an interrogation on the Wow Apartment collapse at the Assembly Plenary Session, and on the fifteenth and the sixteenth, there were questions about the disorder and the problems associated with the construction administration, the Building Act and the construction of the Wow Apartment Complex at the Assembly Plenary Session.

Namyoung Ferry Sinking Accident in 1970

President Park Chung-hee announced at a press conference on January 11, 1971 that the cause of the Namyoung ferry sinking accident, which happened on December 15, 1970, was due to an overload of passengers and loading (Presidential Archives n.d.-a). Also, he announced that the belated response of the SOS on the sinking led to a great disaster.

Seoul Daeyeonggak Hotel Fire in 1971

President Park Chung-hee immediately ordered the fire to be brought under control at the scene of the Seoul Daeyeonggak Hotel fire in Chungmu Street on December 25, 1971. At the New Year press conference on January 11, 1972, he mentioned the Seoul Daeyeonggak Hotel fire and pointed out that careless fire management of the buildings and the building materials were the reasons. He also pointed out the
problem that the staff members of the hotel were not trained in handling fires, and instructed the related organizations to check and prepare for precautionary measures.

Gunpowder Freight Train Explosion at Iri Station in 1977

President Park Chung-hee ordered the reconstruction of the Iksan Iri station, which was destroyed by the explosion accident on the November 15, four days after the accident. After he was debriefed on the recovery situation from Second-chief Secretary Jung Sang-cheon of the Blue House, who was sent out to the scene to find out the situation on recovery. The President instructed the government to pay for the public officials who were doing the relief and recovery activities at fixed daily wages. Also, he expressed gratitude to the Iri citizens for their hard work and the public for its fraternity and warm support (Maeil Buisness News 1977). On November 25, ten days after the accident in 1977, he instructed the related authorities to amend the legislation following complaints on the frequent occurrences of accidents at the Trade Promotion and Expansion meeting (Dong-A Daily News 1977). Also during the December speech in 1977 and New Year press conference on January 18, 1978, the president mentioned the Gunpowder freight train explosion at Iri station and insisted the importance of preventing large-scale accidents and the responsibilities of particular organizations and positions.

Typhoon Agnes in 1981

President Chun Doo-hwan inspected the measures against the flooding of Seoul and ordered the related organizations to make full preparation on flood control for the whole Han River area in case of a heavy rainfall, which could be brought on by Typhoon Agnes on August 31. On September 2, two days after the accident, he checked the readiness for flooding of the Han River; where water levels had reached alarming rates (Kyunghyang Daily News 1981). As the whole country, including Jeollanam-do and Gyeongsangnam-do provinces, was seriously damaged by the typhoon, President Chun Doo-hwan facilitated a disaster recovery meeting in the Blue House on September 4, 1981, and insisted the necessity of government support and the increase of the budget for the recovery during the administrative policy speech around the submission of the revised supplementary budget on October 2. Therefore, the expenditure of the disaster response reserve fund of the 1981 General Account was decided at the Cabinet meeting on November 8, 1981.

Great Flood in 1984

As the Great Flood in 1984 caused severe damage, President Chun Doo-hwan prayed for the repose of the deceased and expressed consolation to the bereaved before the speech for the formal visit to Japan on September 6, 1984 (Presidential
Archives n.d.-b). Also, he expressed gratitude to the public for the hard work to recover from the damage. He mentioned the necessity of government support for the recovery of the flood damage at the administrative policy speech around the first submission of the revised supplementary budget of October 4, 1984.

Typhoon Judy in 1989

President Roh Tae-woo visited the Central Disaster Relief Center in the Central Government Complex in Gwacheon-si on July 29, 1989. He received reports of the situation of Typhoon Judy and the flood damage in Yeongnam and Honam area by Director Kim Young-hwan of the Department of Water Resources of the Central Disaster Relief Center. He voiced his appreciation of the hard work of the public officials working on disaster relief, and ordered to do their best for relief to the displaced and emergency recovery (Dong-A Daily News 1989). On July 31, President Roh Tae-woo mentioned the situation on relief and emergency recovery and the plan on strengthening flood-control facilities through a radio address for disaster recovery and insisted that it was important to stand as one to overcome the difficulty. The next day, on August 1, 1989, he visited the flooded areas including Gwangju City, Naju-si, Gimhae-si, and Busan city and consoled the displaced (Maeil Buisness News Korea 1989).

Collapse of Levee in Iksan region in 1990

At 12:00 p.m., President Roh Tae-woo called for the embankment to be immediately fixed and the finishing of the Yeongsangang flood-control project to be finished by 1994 instead of by 1996 (Kyunghyang Daily News 1990). The Home Affairs Committee of the National Assembly opened an administrative commission to identify the analysis of the cause and the responsibility on September 17, and opened the Committee of Construction and Welfare to discuss the measures on the countermeasures on the recovery of the flooded area and the medical services for displaced on the eighteenth.

Train Overturn Accident at Gupo station in 1993

The Korean National Assembly opened two standing committees with public affairs and replacement (Interior, Education, and Sport) on March 31, three days after the accident, and discussed the circumstances surrounding the accident and compensation for the victims’ families. At the standing committees, members of the ruling and Opposition parties pressed hard upon the Minister of MoI Lee Hae-gu,

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3The Honam area means Jeollanam-do, Jeollabuk-do, and Gwangju city.
the Minister of MoT Lee Gye-si, and Korea Electric Power Corporation (KEPCO) officials about the need for ex-ante safety plans, ex-post plans and recurrence prevention measures, which were lacking (Maeil Buisness News Korea 1993a).

Asiana Airlines Boeing 737 Crash in 1993

A day after the Asiana Airlines Boeing 737 Crash, on July 27, 14 people, including the Vice-Minister of Ministry of Health and Social Affairs, Director of the Parliamentary Government, and members of the assembly, visited the site.

Seohae Ferry Sinking Accident in 1993

President Kim Young-Sam received reports of the Seohae ferry sinking accident from Prime Minister Hwang In-Sung right after the accident, directed life-saving works with urgency, and asked for everyone involved to do their best (Hankyoreh 1993). Also, the president himself visited Wido-myeon on the twelfth and publicly announced that the government would offer compensation, as per the law, to the victims and their families.

Seongsu Bridge Collapse in 1994

At 7:00 p.m., 12 hours after the collapse of Seongsu bridge, the mayor of Seoul city, Lee Won-Jong, was replaced by Choi Byung-ryeol. Also, while the investigation of the cause of the accident was proceeding, President Kim Young-Sam held a chief secretary meeting on October 23, and directed poor construction companies to be eliminated from the construction industry and called for construction-related laws to be revised so that maintenance and safety management periods of buildings could be extended. Also, he emphasized a continual check-up by establishing a thorough check-up system regarding roads, tunnels, and bridges as he noted that the risk of accident was everywhere (Dong-A Daily News 1994). The next day, on October 24, the president made a special public statement through a national telecast. The statement contained several important issues. First, for the last 30 years of economic development, since 1960, there had been a positive outcome; but at the same time, there were negative outcomes such as the collapse of the Seongsu bridge. There was risk everywhere of similar types of accidents and incidents. Second, the government would like to promise to take all kinds of measures to minimize all risks existing in Korea. Third, the president gave an apology to the people with a mark that he would try hard to improve the maintenance and the innovation of the country as he recognized problems in the management system through the accident.

The national assembly investigated the cause of the collapse of the Seongsu bridge and sought measures to prevent reoccurrence. Also, the Prime Minister, Lee
Young-duk, was invited to the plenary meeting on November 25 to discuss the cause of the accident and crisis management of the government.

Gas Explosion in Daegu City in 1995

President Kim Young-Sam received a report from the director of administration Park Sung-Dal on the morning of the accident, and in the afternoon he promised he would try his best for dealing with the aftermath, and directed an investigation of the cause of the accident, preparation plans, and a basic plan for the construction and management of underground facilities. The Prime Minister Lee Hong-gu who visited the accident site submitted his report (Maeil Business News 1995a).

Sampoong Department Store Collapse in 1995

In spite of efforts to prevent large-scale accidents through activities at the National Assembly and the government, after the collapse of Seongsu bridge, another large-scale disaster occurred when the Sampoong Department Store collapsed on June 29, 1995. After the accident, Prime Minister Lee Hong-gu visited the site and directed the Seoul city mayor to do his best for the rescue, to lead the site, and to hold a press conference to inform the people. On the same day, the Prime Minister’s Office opened the first Central Disaster Measure Headquarters committee to prepare government-level response support measures and to seek for each ministry and administration’s support plans (Seoul Metropolitan Government 1996). Five days after the accident on July 4, 1995, the government focused on discussions on the prevention plans surrounding Sampoong Department Store through a Cabinet meeting. In the meeting, the Ministry of Public Affairs reported that it would introduce a special disaster area announcement system to disaster management laws, establish a safety measures committee between the central and local government agencies, and authorize the local director to be the fire defense authority. The Ministry of Law reported it would strengthen punishment for those in charge of large-scale disasters, and the amendment in the law was passed in the provisional session of the National Assembly. The government turned in the following bill to the provisional session of the National Assembly after deciding it in the provisional Cabinet meeting. Also, President Kim, Young-sam announced a statement related to a special disaster area announcement (Presidential Archives n.d.-c). The statement read as follows: First, the government has organized a disaster management law to enable the prevention and response activities for large-scale disasters. Second, the accident site area will become a special disaster area. Also, according to the announcement of the special disaster area, the government would seek special support in terms of administration, finance, and tax when it is necessary for rescue, relief activities, and disaster recovery. Third, in order to eradicate poor construction and stabilize the safety culture in the Korean society, the government promises to
revise construction-related laws and get rid of corruption so that public officers would not commit corruption which leads to poor construction.

The National Assembly held a special committee on the investigation of the Sampoong Department Store collapse two weeks after the accident on July 12, and adopted an investigation plan on the Sampoong Department Store collapse as it related to the government. The investigation lasted for 31 days from July 12 to August 11. The investigation methods required reports related to the investigation, requiring documents, witness testifier appraiser, and evidence. If necessary, a sub-committee or a group would be organized to provide additional investigation. Also, on September 18, the National Assembly adopted a report on the Sampoong Department Store collapse in relation to the government, by holding a special investigation committee and open plenary sessions regarding the accident. The Chairman Park Woo-byung of the “Sampoong Department Store collapse Special Committee,” summarized the report thus, “the accident was the result of poor management caused by a lack of construction, building, inspection, maintenance, and management, and a lack of supervision from the administrative office.” The collapse began on the fifth floor, and the shock of the collapse caused a consecutive collapse to the whole building due to its weak superstructure. Also, through the investigation of the state administration, several problems were identified. First, there were problems in the progress of the construction such as lack of construction consistency, frequent construction changes, poor construction, and perfunctory inspections. Second, a lack of public officer’s professionalism ignoring manuals, corruption, a lack of management and supervision of an administrative office, were the problems. The third problem was related to the control of the accident such as a lack of a command and control system, a failure of accident-site control, a lack of rescue equipment, a delay in rescue, poor first-aid treatment, confusion in counting missing people, and a weak management of dead bodies and debris. Fourth was about safety frigidity and a trend to make light of human life, which had spread in the society.

Regarding the problems, several suggestions were made, such as an effective and smooth control of accidents, which would be including an increase in disaster response in ordinary days, improving disaster management capacity, such as the establishment and operation of a disaster control body under the Prime Minister’s office, and the establishment of an emergency rescue system, improvement in construction administration, such as improving construction administration’s professionalism, securing safety of multiuse facilities, strengthening punishment against poor construction companies, and the legislation of construction laws, and preparing damage compensation after disasters, expanding national budget support, appropriate response to the missing people and unidentified bodies, the establishment of a massive safety accident exclusive research group, thorough investigation on public officers’ corruption, and improving management capacity for missing people.

On February 23, 1996, President Kim, Young-sam emphasized disaster prevention again by mentioning efforts regarding strengthening legislation, manpower and equipment expansion, efforts to prevent accidents and incident by continual
checking up and the supplementation of risk factors, and accident prevention safety checks such as embankment security, road health, and plumb blocks.

Typhoon Janis in 1995

President Kim Young-sam received reports of the flood damage due to Typhoon Janis and localized heavy rainfall in the situation room at the Central Disaster Control Headquarters in the First Government Buildings for 30 minutes from 8:05 a.m. on August 26. He directed that trains, planes, and ships would not be allowed to move unless a preliminary safety checkup result was carried out by mentioning the need for prevention efforts.

Korean Air Boeing 747 Crash in 1997

President Kim Young-sam received a call from Ban Ki-moon, Senior Secretary to the President for Foreign Affairs and National Security and a Chief Secretary, who gave the details of the accident and the thorough accident control plans. An hour and a half later at 5:00 a.m., he received the second report from his Chief Secretary, Kim Young-tae, and directed everyone to do their best for the rescue and for accident control to collaborate with the US government (Dong-A Daily News 1997). Also at 10:30 a.m., the President promised to do his best for accident control and directed a government-wide plan for the victims’ families. Two days later, he directed the vice-president to monitor the need for medical treatment at the accident site, investigation of the cause of the accident, and preparation of recovery plans at a council meeting.

Torrential Downpour in 1998

President Kim Dae-joong directed each minister to have all public officers actively participate in relief and to have flood damage measures be quickly implemented at a Cabinet meeting on August 11, as the localized heavy rainfall continued. On the fourteenth, he directed the budget for the August 15 Celebration Street March to be used for flood damage and an extra budget to be reflected in the Second Revised Supplementary Budget. Additionally, on the seventeenth, he called for each institution to focus on flood damage recovery, a cooperation between federal and local governments to reduce the chance of a similar disaster from occurring, and a fundamental effort to reduce great floods from happening (Office for Government Policy Coordination 2003).
Typhoon Rusa in 2002

President Kim Dae-joong directed flood damage measures at a ministerial level meeting for emergent flood damage control on the morning of September 1, 2002, before Typhoon Rusa disappeared near 130 km away from the Sokcho-si seacoast at 3:00 p.m. And, he announced plans to expand and initiate government support by designating special disaster areas on severely damaged regions through a speech on “disaster revised supplementary budget” on the eleventh. Also, the government turned in a revised supplementary budget plan to calculate local grant and to support damage recovery from the biggest natural disaster of all time. He promised to implement rehabilitation projects with fast damage recovery by establishing an effective damage recovery scheduling as soon as the revised supplementary budget plan was confirmed. Also, on March 4, 2003, President Roh, in his first Cabinet meeting, directed the establishment of a governmental institution at an administrative level that would fully take charge of disaster management tasks to efficiently manage all kinds of disaster.

At the Construction and Transportation Committee of the national assembly on September 6, 2002, President Kim received reports about the damage from Typhoon Rusa and about recovery measures including extra support to special disaster areas and support to flood damage recovery. He also heard reports on measures and supporting status on Typhoon Rusa from each ministry and administration at a disaster measure special committee. The next day, on October 5, a list of questions and answer on disaster recovery plans in Youngdong, Chungbuk where received at the National Assembly Regular Meeting. Also, in the next year on August 29, 2003, the National Assembly Agricultural and Fisheries Committee received a petition on compensation to indirect damage from Typhoon Rusa.

Daegu Subway Fire in 2003

On February 18, 2003 at 10:00 p.m., there was a director- and chief-level meeting under the chairmanship of the Daegu city mayor in the situation room to discuss subway fire control measures. Two hours later, Daegu’s mayor asked the MoCT to announce Jungang Street station as a special disaster area. The next day at 3:30 p.m., the Central Government with Central Disaster Control Headquarter located in the MoCT held a support measure committee meeting to discuss supporting measures. It accepted the request of the mayor and announced areas of Jungang Street of the Daegu subway line 1 as a special disaster area. The Prime Minister and related Ministers were immediately dispatched to the accident site by President Kim Dae-Joong, who also directed the mobilization of all the national available assets, offered condolences to victims and their families, and announced the area as a special disaster area (Presidential Announcement No. 177 2003). At that time, a newly elected President Roh directed a recurrence of similar measures and actively participated in the response by establishing a specialized organization for disasters.
after visiting the accident site with Lim Chae-jung, the Chief of Committee, on February 20. Also, President Roh in his inaugural speech, comforted victims of the Daegu subway fire accident and promised to make a safer society by checking and improving disaster management systems innovatively.

The National Assembly pointed out and discussed the existing problems and measures that had caused the accident, as the accident was mentioned in the Construction and Transportation Committee and the Home Affairs Committee meeting on February 19, which was the day after the accident. Also, a comprehensive plan demanding establishment of safety measures for national disaster and hazard prevention was received at the Disaster Measure Special Committee; the bill was passed at the eighth Regular Meeting of the 236th National Assembly on February 26. Besides that, several plans were recommended, such as having the Daegu region as a special disaster area, strengthening the standard of safety on city subway trains, strengthening safety education, and the establishment of an accident management coordination organization (Lee 2012). The committee defined the accident as a human disaster, pressed the government for an investigation and hearing, suggested various policy tools for problem-solving, urgently asked for an establishment of a disaster management organization and a special audit of the Board of Audit and Inspection, and formed an investigation group.

Typhoon Maemi in 2003

On September 16 or four days before Typhoon Maemi was scheduled to hit Korea, a special disaster area announcement was revised through a Cabinet meeting chaired by the President. On the twenty-second, the revision included 156 cities, counties and districts, excluding Seoul and Incheon, and 1657 eup, myeon, and dong were announced as special disaster areas (Presidential Announcement No. 177 2003). Through the temporary Cabinet meeting on October 2, it was decided to draw up a second supplementary budget with 3 trillion KRW (3.81 trillion KRW of 2015) in order to recover public facilities damaged by Typhoon Maemi in the early stages. About 500 billion KRW (635.1 billion KRW of 2015) of reserve fund was secured for relief of victims and damage recovery of private facilities.

Also at a Special Committee on Budget and Accounts at the National Assembly, reports were heard on damage and recovery measures from Typhoon Maemi on October 15, 16, and 20, 2003.

5.2.2.3 Policy Alternative Stream

Typhoon Sarah in 1959

At the Cabinet meeting on September 25, 1959, “The agenda on collection of contributions for relief of damage from Typhoon Sarah” was decided. “The
agenda on collection of contributions for relief of damage from Typhoon Sarah” was suggested because there were 3712 casualties, 128,616 damaged houses, and 782,126 displaced throughout Jeollanam-do, Gyeongsangnam-do, Gyeongsangbuk-do, Gangwon-do, and Jeju Island due to Typhoon Sarah which struck in the country on September 17; so it was necessary to cope with the typhoon and devise a recovery measure as soon as possible, but it was hard to cover and afford with the government budget. Therefore, to make a full preparation for the relief and recovery measure against natural disasters, the government requested contributions from the public. The contribution period was one month, from October 1 to 31, 1959, and the goal of the contribution was 1 billion KRW (47.78 billion KRW of 2015) from fund raising in theaters, student donation, street fund raising, public official donation, and others (financial syndicates, corporate employees). On December 18, 1959, the MoHA submitted “A Statement on the Relief of Displaced from the Typhoon (Proposal)” as an agenda to the Cabinet meeting (Secretariat of state council 1959). The content included a gratitude to the public for accomplishing more than the goal of “The collection of contributions for relief of damage from Typhoon Sarah,” which was implemented in October and the suggestion to use the collection for the recovery of the damage and the relief for the displaced.

Flood in Jeollabuk-do Namwon-eup, Gyeongsangbuk-do Yeongju-gun in 1961

As the embankment collapsed on July 11, after continuous heavy rain in July 1961, seven Cabinet members including Prime Minister Song Yo-chan inspected the flooded area to identify the damage and assess the situation, and the government opened an emergency Cabinet meeting to set up emergency relief countermeasures for the flooded area on the thirteenth. On the fifteenth, two days after the accident, the government installed Emergency Headquarters for Flood Countermeasures and its local centers and decided to provide relief and recovery in the Yeongju-gun of Gyeongsangbuk-do and Namwon-eup of Jeollabuk-do from flood damage as soon as possible. On the sixteenth, the government opened a meeting that was composed of representatives from the MoHA and Ministry of Agriculture and Forestry and related officials to decide the operation policy on the installation of Emergency Headquarters for Flood Countermeasures and its local centers. On August 11 or a month after the accident, the MoHA took over the recovery efforts in Namwon-eup from the Emergency Headquarters for Flood Countermeasures, designating a construction agency to lead the work. The Yeongju Flood Damage Recovery Office opened in the construction agency, which was an affiliated organization of the Economic Planning Board (Kyunghyang Daily News 1961).
Suncheon Flood in 1962

During the Suncheon deluge and subsequent embankment collapse, the MoHA, on August 28, 1962, opened the “Relief Headquarters for Flood Damage” in the assembly hall of the Ministry. The headquarters immediately started relief measures with the Army Chief of Staff urgently mobilizing personnel and equipment from the troops near the accident to control the flood damage (Dong-A Daily News 1962). The day after, on twenty-ninth, the government called an emergency temporary Cabinet meeting to consider a countermeasure on the flood damage of the Suncheon-si and established emergency and recovery countermeasures, including emergency relief. The Ministry of Transportation (MoT) and the Ministry of Communication (MoC) identified the damage and recovery situation of Suncheon-si respectively, and Kim, Hyun-cheol visited Suncheon-si. Also, the government decided to use emergency expenses at the emergency Cabinet meeting, and to install a Flood Damage Recovery Office to help in recovery of the Suncheon district from the flood damage. On September 1, the National Countermeasures Committee announced the countrywide damage situation, including Suncheon-si Seungju-eup where there were damages due to heavy rain after August 27, and on September 3, the government established the flood damage recovery plan for the Suncheon-si and Jeollanam-do and Gyeongsangnam-do, and decided on the cost for the recovery at the Third Revised Supplementary Budget at the temporary Cabinet meeting. On the sixth, the Ministry of Education obtained the Supreme council’s approval to appropriate recovery cost for the education facilities of the flooded areas and the Ministry of Agriculture and Forestry released the reserved rice to the flooded areas including Suncheon district. Also, on December 20, the Suncheon Flood Damage Recovery Headquarters was disbanded on the decision of the Cabinet meeting.

Torrential Downpour in Central Region in 1965

Prime Minister Chung Il-kwon instructed related departments at a Cabinet meeting to inspect the situations of flood disasters of each region and make a contingency plan on July 16, 1965, and discharge the rice in government stock to Gangwon-do where the traffic was cut off as to relieve the displaced. Also, he made the Ministry of National Defense (MoND) provide 20 army vehicles to Seoul City on July 18.

Wow Apartment Collapse in 1970

The MoC decided to investigate the condition on the entire Wow Apartments around the country and to sort out the poor constructions on April 9, 1970, the day after the Wow Apartment collapse. The Countermeasure Committee of the Wow Apartment collapse of Seoul city, headed by Director-General Kim Eung-jun, decided to provide condolence money of 100 thousand KRW (1.336 million KRW
of 2015) per death and provide the compensation after obtaining government approval.

Namyoung Ferry Sinking Accident in 1970

From December 15 to 29, 1970, the special committee for inspection on the Namyoung ferry sinking accident was held six times. At the second committee, there were reports of response situations from four related ministries (MoT, MoHA, MoC, and MoND) and at the third committee, the Minister of Ministry of Justice reported the status of the investigation and the progress. At the fourth committee, the Commander of Jeju, Director of Maritime of Jeju, the Commissioner of Jeju, the Chief of Police of Seogwipo, Chief of Police Substation Seongsanpo, the Governor of Jeju, and the Director of the Prosecutors’ Office of Jeju, reported on the situation. At the fifth committee, there was a question and answer session on coordination systems of response with witnesses. The Minister of MoHA, Park Kyung-won, and the Minister of MoT, Baek Seon-Yup, expressed their intention to resign to the Prime Minister on December 18, the Counter Namyoung Ferry Distress Operation Headquarter decided and paid the amount of compensation per death of 690 thousand KRW (9.22 million KRW of 2015) on the twenty-eighth. The next year, in March 1971, the Memorial Tower for the Namyoung Ferry was installed.

Seoul Daeyeonggak Hotel Fire in 1971

Prime Minister Kim Jong-Pil went to the scene of the accident right after he received news of the Seoul Daeyeonggak Hotel fire, and was debriefed on the rescue work and the situation on the accident from a related official (Kyunghyang Daily News 1971a). On the scene of the accident, the Minister of MoHA, Kim Hyun-Ok, and Seoul City Mayor, Yang Tak-sik, took command of the operations. Also at the scene of the fire, Yang Tak-sik ordered the establishing of a temporary rescue headquarters for the injured in Seoul City Hall and to place the corpses in morgues. He also made general hospitals promptly give the injured emergency treatment (Maeil Buisness News Korea 1971a). The Ministry of Foreign Affairs consulted with the related embassies and authorities for the compensation of the foreigners who were injured in the accident and took actions to provide the highest compensation according to international practice (Kyunghyang Daily News 1971b; Maeil Buisness News Korea 1971b). Four days after the accident, on the twenty-ninth, the MoHA provided and made the cities and provinces implement comprehensive countermeasures. This made the related authorities have special fire prevention diagnosis and fire prevention facilities for corporations that had more than 50 employees and for high-rise buildings that had more than 4 stories; both had to implement individual fire drills more than once a month (Kyunghyang Daily News 1971c).
Gunpowder Freight Train Explosion at Iri Station in 1977

Prime Minister Choi Kyu-hah instructed each ministry to make and implement a countermeasure to prevent severe accidents, including fire accident, to revise and supplement related regulations on safety control, and to legislate new regulations if needed after the Iri station gunpowder freight train explosion as some lessons were learnt from the explosion and the Jangsung-gun coal mining accident. At the same time, in accordance with measures to prevent negligent accidents, he ordered to punish persons who caused an accident due to neglect of duties and to strictly make the persons accountable, and made each ministry announce to the state enterprises and major companies that it is necessary to follow the safety regulations as to prevent negligent accidents and confirm the result of the measures (Dong-A Daily News 1977). Also, on December 6, 1977, Ministers and vice-ministers from 13 Ministries excluding the Ministry of Post Office, the Ministry of National Unification, the Ministry of Finance, and the Ministry of Foreign Affairs, the Director of Administrative Structure Reform and the Seoul Deputy Mayor discussed measures together to prevent severe accidents at the Precautionary Measure meeting, which was facilitated by the Prime Minister.

Typhoon Agnes in 1981

From September 6 to 13, 1981, seven Ministries organized a joint investigation party and confirmed the amount of the damage after Typhoon Agnes. At the same time, the MoHA instructed the whole country to implement the “Synthesis Measures to Support Recovery of Typhoon Damage” on September 7, and announced that the government would support the farming families whose agricultural land was swept away by the typhoon with tax privileges, including farmland tax and property tax exemption for a maximum of five years and other measures for damage recovery (Maeil Buisness News 1981a). Also, the Central Disaster Relief Center confirmed a plan for the recovery on September 22, and announced a recovery project plan costing 93.3 billion KRW (193.1 billion KRW of 2015) for “Recovery of Damage from torrential downpour in the central region in August,” and the “Recovery of Damage from Typhoon Agnes in September” on October 1 (Maeil Buisness News 1981b). In addition, the joint technology force including personnel from the MoC, the Industrial Base Development Public Corporation, the Korea Expressway Corporation, and the Agriculture Development Public Corporation was established and operated for one month from October 1 to 31, 1981, and the members of the force were dispatched to Jeollanam-do and Gyeongsangnam-do provinces.

Typhoon Judy in 1989

The Central joint investigation party, which consisted of 106 agents, investigated the damage by Typhoon Judy in 9 cities and provinces including Busan from August 1 to
10, 1989. On September 12, the Central Disaster Relief Center meeting was held and a 436.8 billion KRW (822.6 billion KRW of 2015) recovery plan was determined.

Collapse of Levee in Ilsan Region in 1990

On September 14 or two days after the collapse of the Ilsan region levee, the MoC released a plan to fundamentally reinforce and strengthen the Han River embankment (Dong-A Daily News 1990).

Train Overturn Accident at Gupo Station in 1993

After the accident, which took place in Buk-gu, Busan on March 28, 1993, all the officers in the Busan station, Busan City, the Busan National Railroad, and the police were mobilized, and an emergency headquarters was established. Also about 1700 people, including public officers, soldiers, police officers, fire-fighters, and civil defense members, gathered to begin recovery works. The next day, on the twenty-ninth, a related ministerial committee, headed by the Prime Minister, and a working-level committee with the Vice-Minister of MoT as the chairman were formed. Also, the Prime Minister, the Minister of MoT, and the Minister of Ministry of Health and Social Affairs visited the accident site and consoled the victims. Also, on the thirtieth, the Prime Minister, Hwang In-sung, announced a statement to the nation.

Asiana Airlines Boeing 737 Crash in 1993

The Minister of MoI, Lee Hae-gu, established an emergency headquarters at the accident site regarding the Asiana plane crash in the afternoon on the day of the accident occurrence, and directed the governors of Jeollanam-do and of Haenam-gun to take steps to search for survivors and medical plans for the injured. Also, the Minister of Ministry of National Defense, Young-hae, sent 6 UH1H helicopters for troops carrying of the Second Army Command at the accident site. The Prime Minister, Hwang In-sung, visited the emergency headquarters located at the Tongbu Situation Room that night to direct officers to make a correct investigation into the cause of the accident and relief for the injured (Maeil Buisness News 1993b). The next morning, the Prime Minister himself visited the local emergency headquarters to comfort the victims. The Ministers of Public Affairs and of Transportation too visited the site and directed control of the accident themselves and comforted the injured. Two days later, Prime Minister Hwang called an emergency meeting at the central disaster measure headquarters to discuss control of the Asiana Airlines Boeing 737 Crash and prevention measures of recurrence of large-scale accidents such as a plane crash (Maeil Buisness News 1993c).
Seohae Ferry Sinking Accident in 1993

Prime Minister Hwang In-sung, after giving a report to President Kim Young-sam about the Seohae Ferry sinking accident, deployed the Minister of MoI, Lee Hae-gu, the Minister of MoT, Lee Gye-ik, the Administrator of Korea Maritime and Port Administration, Yeom Tae-sup, and of the National Maritime Policy agency, Park Il-yong, to the accident site according to a presidential order. Also, he directed related ministries and administrations to do the best for rescue and an investigation of the cause of the accident. At the same time, he directed to quickly seek response measures to victims by establishing an emergency headquarters at the central and local maritime and port administrations. Also, regarding compensation, at first he announced that there was no government-level compensation at the central disaster measure headquarters meeting of which the Prime Minister was in charge, but on the fifteenth, he directed to the ministers of public affairs and of transportation to take legal and administrative measures to offer compensation to their best abilities (*Dong-A Daily News* 1993).

Seongsu Bridge Collapse in 1994

After the collapse of Seongsu bridge, the government took various efforts to rectify legal and institutional causes of poor construction by construction companies. As a result, the government initiated “the prevention measure on poor construction and the ensurement of building safety” (Ministry of Construction 1995). This was a measure to strengthen safety on private buildings by recognizing the limit of the past poor construction prevention measures after the collapse, and was connected to “the prevention measure on poor construction and strengthening competitiveness of construction industry” announced the following year by the MoC on February 13, 1996, as a measure to strengthen safety on private buildings. This measure earned a positive evaluation as it promoted an institutional advancement for private buildings safety and security by strengthening multiuse buildings related systems. However, the basis of the institutional measures was focused on strengthening the construction industry such as internationalization of the construction system, building a basis for competition, nurturing construction manpower, employment stabilization, specialization and improving responsibility of construction institutions, building quality management systems at construction sites, and strengthening support for construction companies. However, these were felt insufficient for solving the fundamental problem of structural safety improvements, and many of the detailed contents were irrelevant for prevention of poor construction. As a result, the MoCT in 2001 started to view the problem of poor construction from a construction company’s stages of planning, design, construction, and maintenance management by announcing the “comprehensive measure on prevention on poor construction of construction company.”
Gas Explosion in Daegu City in 1995

On the day of accident, April 29, 1995, the Prime Minister, Lee Hong-gu, canceled an executive council meeting, directed a local emergency rescue team headquarters with the Mayor of Daegu city in charge, and directed prosecutors and the police to conduct a thorough investigation of the cause of the accident by establishing a central disaster measure headquarters with the Minister of MoCI, Park Jae-yoon, as the chairman. Also the Head of Ministers called an emergency measurement committee with executive members of the Prime Minister’s Office, to address the circumstances surrounding the accident and damage and to implement measures such as building a central safety checkup control group, and the Minister of Ministry of Finance and Economy, Hong Jae-hyung, directed a necessary budget review (Maeil Business News 1995b). Three days later, on May 2, Prime Minister Lee opened the Fifth Central Safety Checkup Control Committee and prepared measures for improving gas safety management systems.

Sampoong Department Store Collapse in 1995

After President Kim Young-sam’s statement on special disaster area announcement and the National Assembly’s report on the resulting investigation with the Sampoong Department Store collapse investigation committee, the government held a Cabinet meeting on September 26, submitted a bill on governmental recommendations made after the Sampoong Department Store collapse investigation and passed a resolution without changes (National Assembly 1995). Accordingly, Prime Minister Lee Hong-gu asked related ministries and administrations to analyze recommendations by the National Assembly and actively reflect them into policy. Also, he made sure to proceed a safety culture movement so that each individual would promote a sense of safety and to stabilize an administrative feature that prioritized safety.

Typhoon Janis in 1995

The central disaster control headquarters announced a temporary total of casualties, property loss, and flooded farming area caused by Typhoon Janis (Dong-A Daily News 1995). Also, the government decided to direct 100 to 200 billion KRW (154.8 to 309.6 billion KRW of 2015) of flood damage recovery to the 1995 revised supplementary budget as there was more severe damage from Typhoon Janis and the localized torrential rain in the latter part of the previous month than what was expected (Maeil Buisness News 1995b).
Korean Air Boeing 747 Crash in 1997

On the day of the accident, Prime Minister Ko Gun called an emergency ministerial level meeting at his office at 5:00 a.m. to discuss the number of survivors, cause of the accident, whether or not the black box was found, and response of the local control tower at the moment of the accident. At 7:30 a.m., the second ministerial level meeting was held at the Welfare Officer at the government buildings. In the second meeting, what had been discussed during the first meeting was inspected by each ministry and administration, and the Prime Minister directed the Minister of Ministry of Foreign Affairs, Yoo Jong-ha, about the deployment of doctors (Kyunghyang Daily News 1997). The third meeting for accident control checkup and future-plan discussion was held at 9:00 a.m. on the seventh, and meetings under the chairmanship of the Prime Minister continued for an additional 13 times for an effective response to the disaster.

The Minister of Ministry of Foreign Affairs, Yoo Jong-ha, took an emergency call in the early morning, arrived at an information situation room, directed an emergency order on response measures such as a local public investigation on the accident and survivors, as well as medical treatment to the injured. The Ministry of National Defense activated a hotline between the ROK–US Combined Forces Command and the military base in Guam for smooth rescue at the site. Also the MoCT formed a central disaster control headquarters of which Minister Lee Hwang-kyun became the head and the head of Aviation Department, Son Soon-yong, became Lee’s aide to assess the situation and proceed with the response measures for the accident. Also the MoCT established the aviation safety comprehensive plan and traffic accident reduction comprehensive plan in December 1997 and opened a meeting of ROK–US combined investigation team into the Korean Air accident site supplementary investigation team (January 4–11, 1998) on December 30 (Ministry of Construction and Transportation 2001). Also the MoCT wrapped up the ROK–UK combined investigation and held a combined meeting from January 12 to 13.

Torrential Downpour in 1998

The acting Premier, Kim Jong-pil, held a press conference on flood damage on August 11, 1988 and announced a comprehensive flood-damage recovery plan. Also, the Minister of MoI, Kim Jung-gil, and the Minister of Ministry of Finance and Economy, Lee Kyu-sung, announced the necessary budget for recovery. The government confirmed an individual support fund for those who died and were lost during the localized heavy rainfall in 1988, and 10 billion KRW (12.9 billion KRW of 2015) was given to a householder and 5 billion KRW (6.4 billion KRW of 2015) was given to a member of a household of the bereaved family (Dong-A Daily News 1998).
Daegu Subway Fire in 2003

After the new prime minister’s inauguration, on February 27, he went to Daegu to pay his respect at a memorial altar at the Daegu Citizen’s Hall for the people who perished during the Daegu subway fire. The Prime Minister heard from the people during the service that they didn’t trust the Daegu City officials to conduct an impartial and thorough investigation into the accident. They asked the Prime Minister to help them raise safety standards and figure out what really occurred. The Prime Minister promised to take an active role by deploying a special committee chaired by a vice-minister (Board of Audit and Inspection of Korea 2003b). Also on March 1, a special support group under the chairmanship of Kim Jung-yang, the Chief of Appeals Commission, was sent to Daegu and was given the mission to deal with the central special group tasks from the victim’s perspective to re-establish mutual trust through talking with the families of victims. A head of an administrative department who chaired each presidential meeting of the accident control headquarters, delivered the contents of conversation between the families of victims and the chair of the central special supporting group. It was instructed to each representative that a channel of communication with the bereaved families would be unified to a central special supporting group. Thus, regarding the relationship between Daegu accident Control Headquarters and the central special support group, the chair of the central special supporting group would lead the accident control headquarters and the central special supporting group had a final decision-making authority by first hearing the opinions of Daegu stakeholders.

At the 17th Central Safety-measure Committee meeting, under the chairmanship of the Prime Minister on August 19, 2003, 160 billion KRW (203.2 billion KRW of 2015) was confirmed for required materials related to the Daegu subway fire accident (reserve fund 780; special grants 167; increased grants 200; Daegu 458).

Typhoon Maemi in 2003

As Typhoon Maemi hit the peninsula at 9:00 a.m. on September 12, 2003, a disaster measure committee with ministers and head administrators from 15 ministries and administrations such as the Ministry of Education, the MoND, the Ministry for Food, the MoCT, and the Ministry of Maritime Affairs and Fisheries was held under the chairmanship of the Ministry of Government Administration and Home Affairs, and a ministerial-level damage recovery meeting took place under the chairmanship of the Prime Minister at 11:00 a.m. The meeting was to vote for urgent support plans, such as reserve funds for disaster emergency recovery and immediate recovery measures of livelihoods and related facilities, such as power, communication, roads, and railroads. The next day, September 13, the ministers of the ministries related to flood damage such as the Ministry of Planning and Budget, the Ministry of Government Administration and Home Affairs, Ministry of Commerce, the Ministry of Information and Communication,
the MoCT, and the Ministry of Maritime Affairs and Fisheries visited Busan City, Gyeongsangnam-do, Gwangwon-do, and Gyeongsangbuk-do to assess and direct damage recovery. On the same day, the Prime Minister visited the central disaster control situation room, directed quick estimation of damage costs, emergency recovery planning, early emergency recovery of livelihoods and related facilities, such as power, communication, roads, and railroads, and sought for immediate support plans, such as reserve fund for disaster emergency recovery.

A government coordination officer opened a vice-ministerial level damage-recovery measure meeting on September 17, 2003, to review damage recovery status, measures, and recommendations, and on the next day, the eighteenth, the Prime Minister held a damage-recovery measure meeting to discuss fast tracking of recovery measures to the damaged facilities as an agenda item (NIDP 2003).

5.2.2.4 Problem Stream

Wow Apartment Collapse in 1970

The prosecution set up a policy to expose fraudulent constructions, slapdash constructions, and constructions based on personal considerations of the entire cooperative apartments in Seoul, and carried out overall investigation, taking the Wow Apartment collapse on April 9 as an opportunity. The prosecution team investigated the problems and causes of the accident and interrogated officials in charge of the apartment construction in the district office, workers from the construction company, and subcontractors.

The prosecution investigation found the following: (a) Wow apartments were constructed without footing beams, (b) instead of 70 19-mm rebars in a beam only 5 were used, (c) cement was not blended as specified, and (d) the weight of the 15 buildings was supposed to be 180 kg per m² as per the plan, but the real weight was around 900 kg per m². The more than 600 kg per m² excessive weight was partially due to individual homes adding stone floors, and bringing in heavy furniture such as pianos and briquettes. The planning engineers had taken such action by residents into account; however, they had significantly underestimated the additional weight that would be added to the superstructure. The excessive weight was found to be the fundamental catalyst for the collapse (Seoul City 1996).

Namyoung Ferry Sinking Accident in 1970

The cause of the Namyoung ferry sinking accident was the overload of passengers and loadings, and the belated response of the government authority on the SOS led to the great disaster.
Seoul Daeyeonggak Hotel Fire in 1971

Many complex factors contributed to the fire: (a) no implementation of a predelivery inspection, (b) the deviation from the blueprint by omitting an external emergency staircase, (c) omission of sprinklers, (d) poorly installed air conditioning units on all floors, (e) the omission of a “smoke tower,” and (f) no heliport (Lee 1972). Additionally, the built staircase acted as a fire conduit and the material used during construction and interior furnishing accelerated the fire (Korea Fire Safety Association 2012). Also, the following could also be pointed out: omission of fire-extinguishing facilities and smoke prevention facilities in elevator shafts, no fire safety training for workers, neglecting safety management of fire-extinguishing facilities and fire protection facilities from the person-in-charge and so forth.

Gunpowder Freight Train Explosion at Iri Station in 1977

An investigation team into the cause of the “Gunpowder Freight Train Explosion at Iri Station” on November 12, assigned by the National Assembly Special Committee on Budget and Accounts, found a staff supervising deliveries during the loading of dangerous products, neglected to secure personal belongings, did not consider safety measures as important and therefore neglected many safety protocols (National 119 Rescue Headquarter 1998).

Asiana Airlines Boeing 737 Crash in 1993

In order to investigate the Asiana Airlines Boeing 737 Crash near Mokpo Airport on July 26, 1993, 14 public officers from the MoT were mobilized for 9 days from August 6 to 14, to initiate a special safety checkup on Asiana’s flight maintenance and safety management. A disaster control committee established by the Minister of MoI on September 21 looked into whether special disaster areas should be announced. In the MoT’s Department of Aviation’s September 27 investigative report, the “result on the special safety check-up on Asiana,” was that Asiana was woefully suffering from many insufficient safety measures. The investigation found that Asiana had forgone such things as a safe-flight management system, high-tech support for mechanics, or nurturing a culture of excellence in order to focus on expanding the business abroad and meet the high demand for flight travel. The report included 36 glaring issues that needed remedying: 24 in-flight management problems, 12 equipment and maintenance management concerns and 10 safety management issues.
Seohae Ferry Sinking Accident in 1993

An investigation by Public Affairs against the National Police was conducted on October 14, as there was a criticism that the structure of the National Maritime Police Agency, with a focus on security, should be revised to focus on public maritime safety systems.

Seongsu Bridge Collapse in 1994

During the construction of the Seongsu bridge, the political and social environment was more concerned about time than quality. This led to contracts being won by companies that would promise to finish a project as quickly as possible instead of regarding the construction of a safe or quality product. This phenomenon was nationwide as also a lack of a technical supervising system to oversee construction or a mandatory budget to conduct maintenance by the winning construction company (Seoul District Prosecutor’s Office 1995). The causes of the collapse in terms of design, construction, and maintenance management based on “Seongsu Bridge thorough safety checkup report” by the Korea Society of Civil Engineers and “Collapse cause investigation appraisal report” by Seoul district public prosecutor’s office were as follows:

- **Design**

  All the dead loads and live loads loaded to the suspension truss where the collapse occurred were connected to anchor truss by only six vertical members. At the bottom of the hinge part, which link the suspension and anchor truss, a transverse bracing was divided. Though there was a structural systematical mismatch since a transverse load such as wind load and suspension load are asymmetric, after the three-dimensional interpretation, even regarding the total load, the vertical members did not exceed the maximum capacity, so there was no direct cause in design.

- **Construction**

  The direct cause of the collapse was poor welding of vertical members, which were the core elements to connect suspension truss to anchor truss. After radiographic investigation tests, among 111 connections of the bridge, 110 were identified with defects. Compared to the 18 mm thickness of vertical member, the actual depth of penetration was only 8 mm, and the available depth of penetration of some was merely 2 mm.

- **Maintenance management**

  Though the bridge was designed with DB-18 and DL18 design loading, the design loading increased to DB-24 and overloaded trucks rapidly increased. In spite of this situation, a practical maintenance management such as a thorough safety
checkup was not done due to lack of a maintenance management budget and a rigid budget operation system, which became a cause that failed to prevent the accident. After the accident was taken care of, Seoul City announced to reopen traffic after three months by repairing the intact parts but citizens were against the idea. Therefore, the policy was retracted and it was decided to newly construct the bridge. From April 26, 1995 Hyundai Engineering and Construction began to rebuild the Seongsu bridge and completed it on July 3, 1997, and the traffic was reopened on the same day. On the other hand, the Dangsan bridge for trains, which was built with a similar truss method after the collapse of Seongsu bridge, became a subject of safety checkup and was reopened on November 22, 1999 after demolition and reconstruction.

Gas Explosion in Daegu City in 1995

On April 28, 1995, the day of the accident, the President ordered an investigation of the entire Seoul subway lines. The new order strengthened an earlier plan to inspect the lines for pending disasters by the Board of Audit (Maeil Business News 1995a, April 29).

Sampoong Department Store Collapse in 1995

The cause and problems of the collapse were investigated in terms of design, construction, and supervision:

• Design

Originally, the principle was that a building should be constructed following design documents that were accepted by an approval administrative office, and if design was to be changed, a design change should be approved in advance. However, Sampoong Department Store ignored such design-change procedures, and constructed by applying another design document rather than approved design documents. After completion, it was revealed that public officers were given bribes and the Sampoong Department Store received a design change approval, which was an expedient. In fact, the actual design documents severely lacked pillar diameter, steel bar diameter, and its number compared to a structural bill. Also, employees were not fully equipped to calculate construction and had to use a poor design document that was randomly written by the construction company. This became one of the reasons the structure was left vulnerable. In addition, design documents were supposed to be completed before construction began; but in case of the Sampoong Department Store, there was no systematic construction management since the building owner frequently asked for design changes, and the construction company had to often turn in a design document by production process and by floor.
• Construction

Along with poor design, poor construction practices were widespread, such as poor connection in slab reinforcement where the collapse began in the pillars, iron bars between bearing wall and slab, and other places. Also, the collapsed rooftop of building A’s thickness of concrete was constructed thicker than the design, and as restaurants entered in the fifth floor unlike the design, a severe overload occurred due to large refrigerators, masonry walls, and rock gardens. Similarly, four cooling towers (about 138 tons) were placed at the back side of the rooftop of building A and were moved to the front side afterward which severely damaged the slabs. Even after completion, the bearing walls were disturbed in order to install a ventilation duct in the kitchens of the restaurants.

• Supervision

The architect and engineering office that won the design contract along with the supervision contract did not carry out daily supervision of construction until the frame construction was finished because the owner, the Sampoong Construction Company, did not pay the daily supervision cost. Also, after the frame construction was completed, an employee who was not qualified to supervise was sent to the construction site to execute supervision and directing tasks, and he turned in a falsely written local investigation to the public office in charge.

Korean Air Boeing 747 Crash in 1997

The final announcement of the investigation on the Korean Air Boeing 747 Crash occurred on August 6, 1997, and was opened to the public on November 2, 1999, at the Board Meeting of the US National Transportation Safety Board (NTSB). The reason for the two-year delay was the process of investigation by the NTSB that needed a longer time since it went through a complex procedure for massive disasters such as local investigation, truth investigation, public hearings, technical review, and final investigation report review. The NTSB found that a flight captain could not perform all the required tasks during approach adequately after investigating the flight, the communication with the control tower, and the rescue team, looking at the approach procedures, and consulting with the Korean Commercial Arbitration Board (KCAB) of MoCT, and the Federal Aviation Administration (FAA). Additionally, the NTSB found that the copilot and the flight engineer did not check their monitors and each other when the captain was trying the approach, the captain was fatigued, and the Korean Air flight attendants were inappropriately trained. Also, the FAA found that the minimum safe altitude warning mechanism malfunctioned (Ministry of Construction and Transportation 1999).
Typhoon Rusa in 2002

An October 2002 investigation into the damage caused by Typhoon Rusa (2002) found the precipitation caused by the typhoon to be 870.5 mm, which was 62% of the yearly average of rainfall in the Gangneung-si region. Although the heavy rain was the fundamental cause of the damage by the record-breaking typhoon, other factors such as a lack of appropriate response measures to disaster and a lack of awareness also led to intensifying the damage (NIDP 2002).

According to a result of inspection on natural disaster preparedness status done by the Board of Audit and Inspection in April 2003, several problems were pointed out, such as in the management of slope and cutting area caused by road construction and not considering heavy rain in terms of design and management of stream facilities (Board of Audit and Inspection 2003a). In the aftermath, the natural disaster preparedness status inspection report showed similar problems, such as a lack of safe securement in dams and measures against climate change, mismatch in basin unit flood control and stream area-related regulation, mismatch in national stream assignment and inappropriate management. Also many causes for natural disasters were identified, such as an absence of disaster and hazard management task control and coordination system, lack of investigation system for establishing the reasons for the casualties, absence of adequate local finance for alleviation measures by local public management facilities during damage recovery, inappropriate installation and management of weather radar, inappropriateness of long-term plan for dam construction, and lack of an automatic rainfall alarm system.

Daegu Subway Fire in 2003

In September 2003, the Board of Audit and Inspection’s supervision board found that the MoCT’s “Rule on city subway train safety standard,” was lacking in details when it came to regulating inflammable materials in the interiors of the trains. Additionally, train-purchase institutions such as the Daegu Metropolitan Subway Corporation did not consider specifying interior panels, seat covers, seat cushions, or flooring’s resistance to fire, which allowed the manufacturers to use material based on cost and not fire resistance (Board of Audit and Inspection of Korea 2003b).

Along with this, train manufacturers approved a resistance to flame test of interior materials only to newly manufactured trains. Furthermore, corporations that executed inspection tasks did not obtain a report from an official examination organization for a test of interior materials, but rather had manufacturers provide those reports. Additionally, when a train manufacturer first turned in a test result, nothing was claimed for interior materials manufactured by subcontractors without an approval of the ordering body. In addition, there was no necessary corrective action that took place regarding individual businesses passing the test and other interior materials being manufactured and delivered. After all, the lack of institutional tools and the absence of morality of those who manufacture, manage, and
direct train worked as a complex cause and created a material that was not resistant to flame and emitted toxic gas according to the Board of Audit and Inspection.

Typhoon Maemi in 2003

The National Institute for Disaster Prevention’s October 2003 report on Typhoon Maemi found that the main cause of the damage was due to several overlapping factors as follows: (a) an intense hailstorm, (b) the typhoon landing during high tide, and (c) ten deaths occurring in an underground karaoke club in Masan-si. The typhoon had a maximum wind speed of 50 m/s, released 400 mm of precipitation in the Korean interior over 6 hours (Youngdong area, Gangwon-do and Gyeongsangnam-do), snapped electrical poles and steel towers, and left 1,450,000 households without power (NIDP 2003).

5.2.2.5 Policy Change Through Policy Window in the Wake of Major Disasters

As the Korean government was established in 1948, the Division of Water Resources, which took charge of damage from storm and flood, and the Division of Fire Service, which took charge of fire, were established as basic organizations for the response to the disasters under the MoHA, and the coast guard team, which took charge of the disaster work at sea was also established. The organizations were established, but the level of the response to the disaster was not high enough, and if there was damage from storm and flood, the main measure was rescuing the displaced, which depended on international aid.

Since the Five-year Economic Development Plan was implemented in the 1960s, the countermeasures on storm and flood damage were systematized. As the MoC, which was expanded, took charge of the disaster work in 1961, structural measures like embankment construction and river refurbishment were implemented. In addition, fundamental acts on disaster management were passed in the 1960s. In 1961, Rescue and Aid at Sea and in the River Act was passed, and in 1967, Countermeasures Against Storm and Flood Act was passed, and in 1968, Fire Service Act was passed. Storms and floods were continuous in the 1970s and the 1980s, so the government invested continuously to construct infrastructure to prevent storm and flood disasters. Regardless of the effort of the government, due to rapid urbanization and industrialization, the risk of storms and floods in the urban areas continuously increased as lowlands were developed.

In such situations, the rain, which poured intensively for five days in the Gyeonggi-do on September 1990, greatly damaged the area including the Ilsan-si, and this worked as an opportunity of the change the history of disaster management in Korea.

The torrential downpour from September 9, 1990, recorded 452 mm of average precipitation and caused big and small damages throughout the country. As there
was a flood risk situation at the Ilsan levee on the eleventh, emergency reinforce-
ment work was implemented. Goyang-gu officials and soldiers were mobilized to
pile up sandbags on the levee. However, at 2:00 a.m. of the twelfth, a patrol team
found a symptom that the levee could collapse, reported the crisis to the superior
authority, and requisitioned emergency support. The related officials were mobi-
lized urgently at the site while asking the residents to evacuate, but before the
supporting labor and materials arrived, the lower part of the levee started to collapse
at around 3:30 a.m., and around 11:00 a.m., as the lost width of the levee reached
300 m, Goyang-gu was flooded. This great disaster is called the “Collapse of Levee
in Ilsan Region.” On the day of the collapse, there were four news articles, and on
the day after, there were 15 articles reporting in the social column, political column,
and economic column of the Hankyoreh, the Dong-A Daily News, and the
Kyunghyang Daily News. Some titles were “Collapse of Levee in Ilsan Region is
man-made disaster (social column of Dong-A Daily News on the thirteenth),”
“Shocked by the Collapse of Levee in Ilsan Region . . . Belated countermeasures
(social column of Dong-A Daily News on the fourteenth),” “Ignoring the reinforce-
ment work on Ilsan Levee was a delinquency of duties (political column of Dong-A
Daily News on the thirteenth),” “60-year-old worn out levee . . . Seoul City gets
only interested in demonstrative administration (social column of Dong-A Daily
News on the thirteenth),” the cause of the accident was considered as a man-made
disaster and not a natural disaster.

The recovery of the “Collapse of Levee in Ilsan Region,” which caused
163 deaths and 187,265 casualties started one hour after the collapse with the
instructions by President Roh Tae-woo at 12:00 p.m. The President instructed the
Cabinet to devote all energy to recover the destroyed and washed away levee, roads,
bridges, railroads, and houses and to mobilize authority power and officials to
minimize the damage to the crops, and instructed particularly the Ministers of
Home Affairs, Construction, and the National Defense to mobilize equipment and
military strength and to support as much as possible. Also, after two days, on the
fourteenth, the MoC announced the Han River bank reinforcement plan, which
stated the start and completion of the bank from Haengjudaegyo to the Goyang-gu
Isanpo section (12 km) of Jayu St section, which is located from the northern Han
River to Tongildongsan, by the end of 1992 to fundamentally reinforce the col-
lapsed Han River bank. Also, the Home Affairs Committee of the National Assem-
bly set up an administrative commission to identify the cause of the Chungju Dam
overflow with the collapse of the Han River embankment. The problems identified
were as follows: First, the conventional stream management was a dual system
where the responsibilities were separated into the MoHA in charge of management
and maintenance work and the MoC in charge of improvement and repair work of
the stream. Second, there was an improper management and lack of risk manage-
ment capacity at the MoHA. Therefore, the Countermeasures Against Storm and
Flood Act was revised with additional articles since the Government Organization
Act was amended by the Act No. 4268 on December 27, 1990, and the work on
disaster prevention measures moved from the MoC to the MoHA.
The “Collapse of Levee in Ilsan Region” was an accident, which demonstrated that the disaster work done mainly by the MoC after 1961 was improper, where there was rapid urbanization and industrialization. As a result, the work on measures against damage from storm and flood that focused on the construction of solid infrastructure due to the characteristics of the MoC moved to the MoHA that focused on disaster management by cooperation with the local governments. Meanwhile, the cooperation of the local governments meant the cooperation of citizens at the local governments. Therefore, it can be interpreted that there was a transformation of the disaster management from one-way management where there was only the government to a two-way management where there was cooperation between the government and the citizens.

From the amendment of the Government Organization Act on December 27, 1990, the work on disaster prevention measures was managed by the MoHA. From the 1990s, Korea went through various social disasters. There was a fire accident in a night club in October 1991, a bus plunge accident on Honam Expressway in April 1992, a fire accident at Uam Apartment in Cheongju-si in January, 1993, the Gupo Station train overturn accident in March 1993, Seoul Neurosurgery Clinic fire accident in Buchang-dong, Nonsan-si in April 1993, Asiana Airlines Boeing 737 crash in July 1993, the Seohae Ferry sinking accident in October, 1993, the Seongsu Bridge collapse in October 1994, Ahyun Gas explosion accident in December, 1994, and the Sampoong Department Store collapse in June 1995.

Particularly, the Seongsu bridge collapse and the Sampoong Department Store collapse were the disasters that shocked the public. The reasons were as follows: First, a bridge and a department store are places open to everyone, where anyone can be the victim of an accident. Second, a bridge and a department store are places where a large number of people flock, and everyone is vulnerable. Lastly, a bridge and a department store are not considered as structures that can collapse. This can be noticed from the articles in the press. For example, most of the major newspapers covered the catastrophic events as a front-page story, while opinion columns criticized the government’s failure to prevent the accidents and requested the development of comprehensive countermeasures.

The shock of the public and the various ripple effects on society were reflected immediately in politics and policies. In case of Seongsu bridge, President Kim Young-sam mentioned the expulsion of the companies that have done weak constructions and directed the amendment of the acts related with construction the day after the accident. Three days after the accident, on October 24, he announced a special statement to the nation that covered an apology through national television.

At the National Assembly, the cause of the collapse was identified, the countermeasures were considered to prevent the recurrence, and the cause of the collapse and the responsive attitude of the government were discussed with Prime Minister Lee Yung-dug at a regular session on November 25.

A year after, on January 5, 1995, the Special Act on the Safety Control of Public Structures (Act No. 4922) was passed to protect lives and properties of the public
and improve the utility of public structures through safety inspection and proper maintenance.

After the Sampoong Department Store collapse, President Kim Young-sam announced a statement on proclamation on special disaster areas on July 19. It included the following measures: First, the government established the Disaster Control Act so as to make the actions on prevention and countermeasures systematic and smooth for severe accidents due to disasters. Second, the government proclaimed the site of the Sampoong Department Store collapse as a “special disaster area.”

According to the proclamation of “special disaster area,” the government announced that it will provide special support in terms of finance, banking, and tax relief for the rescue and relief actions and disaster recovery. Third, the government promised to amend acts related with construction as to expel weak constructions and set up a culture of safety in Korean society, and eradicate corruption so as not to make public officials commit corruption and irregularities.

The National Assembly opened a special committee on the inspection of the Sampoong Department Store collapse and adopted the plan on investigation of the state administration of the Sampoong Department Store two weeks after the accident, on July 12, and carried out the investigation of the state administration for 31 days from July 12 to August 11, 1995.

The Disaster Control Act (Act No.4950) was passed on July 18, 1995. It aimed to establish disaster management systems for the national and local governments and to build emergency rescue recovery systems, which are needed to prevent and resolve a disaster like severe accidents, which can greatly damage lives and properties of the public. This was to make life of the people secure from various social disasters, like the collapse of the Seongsu bridge and the Sampoong Department Store, which greatly shocked the public in the early 1990s.

Also on October 19, there was a reorganization of the MoHA and the affiliated organizations (Presidential Decree No.14791) to strengthen the disaster management organizations of the MoHA. As a result, the Office of Civil Defense of the MoHA was reorganized as the Headquarter of Civil Defense and Disaster Management; an internal Disaster Management Division was also established; and the National 119 Rescue Service was also established under the Central Fire Academy of the MoHA. Also in the Office of the Prime Minister, the Coordination Office for Safety Management and the Director-General’s Office for Gas Safety Management in the MoCI, and the Director-General’s Office for Construction Safety Management in the MoCT were established, and in December, in terms of reinforcing the local disaster management organizations, the Civil Defense Bureau in the Metropolitan and Provincial governments were expanded and reorganized to the Civil Defense and Disaster Management Bureau. In addition, the Disaster Management Division was established in all local governments.

In August 2002, Typhoon Rusa, which damaged the country the most after Typhoon Sarah in 1959, occurred, and Typhoon Maemi occurred, which recorded 950 hPa which was the lowest central pressure after weather observations began in Korea. Also, a catastrophic fire accident happened in a Daegu subway station on
February 18, 2003, due to arson, and the crisis plunged the society into sadness and chaos.

The social interest surrounding Typhoon Rusa in 2002 and Typhoon Maemi in 2003 can be noticed by the amount of the articles reported by the press. A closer look at the press releases related to Typhoon Rusa show that there were 7 articles before the disaster, and 26 articles during the disaster, and 299 after the disaster. Also, in case of Typhoon Maemi, there were 221 articles where 56 of them were released during the typhoon and 129 of them were released for 7 days after the disaster. That there are a lot of articles released means the increase of social interest, and this brought changes in politics and policies.

At the emergency meeting on flood control measures of the concerned officials, President Kim Dae-jung directed a flood control measure in the morning before Typhoon Rusa dissipated around 3:00 p.m. on September 1, 2002, 130 km away from Sokcho Sea. On the eleventh, he designated the areas where there were severe damages as special disaster areas through the speech for revised supplementary budget for disaster recovery, expanded the government support, and announced the plans to be implemented.

President Roh Moo-hyun examined the designation of special disaster areas through a Cabinet meeting on September 16 it was four days later that Typhoon Maemi struck, September 12. On the twenty-second, he designated 156 cities, counties and districts, and 1657 eup, myeon, and dong, excluding Seoul and Incheon, as special disaster areas. On October 2, he drew up the second revised supplementary budget of 3 trillion KRW (3.81 trillion KRW of 2015) to recover public facilities from damage of Typhoon Maemi in the early stages through a temporary Cabinet meeting. He ordered release of 500 billion KRW (635 billion KRW of 2015) of emergency fund to relieve the displaced people and recover private facilities.

This kind of response strategies of the presidents, due to the two severe typhoons, impacted the policies on damage recovery, established “Special Disaster Areas” through Countermeasures against Natural Disasters Act (Act No. 6735) in September 2002 after Typhoon Rusa, and the Task Force for the Countermeasure of Flood Damage was installed (Presidential Decree No. 107) on November 2, 2002. These changes related not only to natural disasters but also to social disasters. High-level officials’ meetings were held under the leadership of the Daegu city mayor and discussed countermeasures on metro fire accidents at 10:00 p.m. on February 18, 2003, in the situation room on the second floor of the Daegu city office 12 hours after the Daegu subway fire accident in February 2003. Also, after two hours, Daegu city mayor suggested to the MoCT that the damaged area near Jungang St Station to be designated as a special disaster area. And the day after the accident, at 3:30 p.m., the central government discussed the support plan by opening the Support Measure Committee under Central Accident Countermeasure Headquarters that was formed in the MoCT, and accepted the suggestion of Daegu city mayor to designate the Jungang St station area of the Daegu subway line number 1 as a special disaster area.
President Kim Dae-jung urgently sent the Prime Minister and Ministers of related government departments, instructed to mobilize available national assets, expressed his condolences to the bereaved families, and designated the accident district as a special disaster area.

As the president-elect Roh Moo-hyun received the situation report on February 19, he aggressively intervened by directing countermeasures to prevent recurrence and visited the accident site with the chairman of the committee, Lim Chae-jung, on February 20; he promised to install an organization exclusively for disaster management. From the occurrence to response, recovery, and identification of the Daegu subway fire accident, the President, the National Assembly, and the government coordinated continuously for effective implementation.

In addition, Super Typhoon Rusa in 2002 and Super Typhoon Maemi in 2003 required preparedness and response measures different from the twentieth-century ones followed until then in Korean. Therefore, the National Disaster Management System Task Force was established and became operational on March 17, 2003, and the Special Act on the Safety Control of Publicly used Establishments (Act No. 7906) was established on May, 2003. On July 1, 2004, NEMA was established, and the Director-General’s Office for Social Disaster was created in the Ministry of the Interior.

This is not just the establishment of a new agency, but it is the establishment of the organization in charge of natural disaster and human-caused disaster as an independent agency for the first time in the Republic of Korea. And on January 2005, the entire Special Act on the Safety Control of Publicly used Establishments was amended, drastically strengthening preventive measures as to fundamentally cope with the risk of natural disasters increased by climate change. The dynamics of policy change through the policy window is summarized in Fig. 5.3.

5.3 Disaster-Triggered Policy Change in Korea

The result of applying the Disaster-Triggered Policy Change model to the Korean case indicates that the relation between the focusing event and institutional reforms for disaster response is path dependent. Disaster-triggered policy change happens when the policy window opens with the interactions of the political streams, policy alternatives stream, and problem stream triggered by increased attention in the wake of major disasters.

Among the three streams in Kingdon’s model, the political stream plays the most important role in policy change: the President is the leading power for policy change, while the National Assembly plays as the pushing power. Government actions to resolve the crisis and coming up with countermeasures plays as a driving power to follow up the President’s political will, and problem stream with the cause analysis by the audit office or research institute lays the foundation for the policy
change. In addition, abruptly increased press release pulls the gear for policy change by sparking public attention.

Figure 5.4 explains well the dynamic process in the wake of disasters from 1948 to 2005 in Korea with the Disaster-Triggered Policy Change model.

The most important finding in the analysis is that the President’s political will plays as a leading power for disaster response policy change in the wake of disasters. The President’s political will can be classified into three grades: announcement on the innovation of disaster management system; apology statement or order in Cabinet meeting; and statement in the National Assembly.

As analyzed above, disaster response policy change after focusing events in Korea is closely related with the President’s political will. Particularly, after 1990,
5.3 Disaster-Triggered Policy Change in Korea

Fig. 5.3 (continued)
The strong political will of the President to improve the disaster response system is reflected in the disaster response policy change in the wake of major disasters having large death tolls. The relationship among the impact of events, political will, and probability of disaster response policy change can be expressed in the form of the graph below. Figure 5.5 shows the Disaster-Triggered Policy Change model in Korea.
In summary, the Korean case model for disaster-triggered policy change shows that the disaster with high impact will drive the institutional reforms for effective disaster response when it is combined with high political will.

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