

THE LESSONS LEARNED FROM THE EVALUATION OF EMERGENCY MANAGEMENT FOR LOCAL GOVERNMENTS IN KOREA

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Abstract

The Korean NEMA has evaluated the emergency management of the local government to intensify the capabilities of emergency preparedness. The three components are involved in the evaluation: organizational capability, four phases of comprehensive emergency management, and the elected official's interest. 250 local governments took part in the evaluation process.

The main point was to move organizational programs from efforts toward post-disaster to efforts toward pre-disaster, via a route that poses strategies, policies, and budget, etc. However, the lack of experience of emergency management for the local government was that the integrated emergency management system was not organized elaborately. The evaluation showed that every community needs to develop its own emergency preparedness program, which permits effective response, although vulnerability and threats vary.

Introduction

Korea NEMA (national emergency management agency) had managed prevention, mitigation, preparedness, response, and recovery of natural disaster since being established in 2004. And NEMA had set up its organizational structure over local governments and operated local emergency management teams last year. For the teams' operations, NEMA built up national laws, regulations, policies, programs, and liabilities, etc in terms of local emergency management.

NEMA had the necessity to evaluate how well the emergency management department of the local government follows the rules about emergency preparedness, and in conducting its emergency response and recovery. In addition, the law required evaluation yearly. Accordingly, this paper introduces the evaluation of the emergency management practice (activities) for the local government and it also addresses the lessons learned from it.

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Evaluation Indicator

The purpose of the evaluation of the local government activities was to intensify its capabilities, teach about past activities, prepare more detailed evaluation methods objectively, and to drive interest of top official such as the mayor. Evaluation indicators were first developed to achieve these goals. The indicators' scheme was composed of a hierarchical structure. The first level of this structure was as the following components: organizational capability, four phases of comprehensive emergency management, and the elected official's interest. These components were divided into a more detailed hierarchy.

Organizational capability meant emergency management team organization, emergency management plan feasibility, emergency operation center essentials, emergency management funds preparation, special policy development with innovative activities, and committee organization. This first component included six criteria, and each criterion had its own two or three sub-criteria. These sub-criteria were composed of several elements which get a score on the basis of written documents described by the local government [table 1].

[Table 1] An example of evaluation indicator scheme

Criteria	Sub-criteria	Grading basis element	Evaluation standard	Referred documents
1010 Emergency management team	1011 EMT Organization & Consolidation	1011-1. EMT propriety 1 section 2 charge (A) 2charge (B) 1 charge (C) Others (D)	Organizational Structure	Regulation of EMT Organizational Chart & human resource
		1011-2. Manpower Increase 8 above (A), 6 above (B), 4 above(C), below (D)	Human formation	
		1011-3. Ratio (present staff/full staff)*100 90%(A), 80%(B), 70%(C), below (D)	Organization Consolidation	

The second component (four phases of comprehensive emergency management) referred to prevention including mitigation, preparedness, response, and recovery. Prevention phase included 10 activities that mainly focus on public safety. Preparedness phase consisted in six criteria that explained exercise and emergency preparation according to the types of disaster. The response phase had four elements that primarily showed emergency action and relief. In the last phase, the recovery step was evaluated by the physical restoration of the community and detailed recovery plans from disasters.

The third component (the elected official's interest) was an essential indicator. The total budget, reserve funds, and the organization structure depended on high-ranking officials' interest and support. These high-ranking officials included the provincial governor, the mayor, the county headman, and the mayor of a borough. The third level was concerned with how much they make an effort to manage the local disasters.

Evaluation Method

[Table 2] shows that mark allot to the first level (components) of the evaluation indicator's scheme. The total mark of the megalopolis and the province was different from the city, the county, and the borough, in which their activities were centered in the actual field.



[Table 2] Allotting of Mark Table

Component		Megalopolis, Province		City, County, Borough	
		mark	Subtotal	mark	subtotal
Organization Capability		250	250	250	250
4 Phases of Emergency Management	Prevention	240	500	350	700
	Preparedness	90		150	
	Response	70		100	
	Recovery	100		100	
Official Interest		50	50	50	50
Total		800	800	1,000	1,000

Nine megalopolises, seven provinces, and 234 cities/counties/boroughs took part in the evaluation process. First, the emergency management team of the megalopolis and the province evaluated their jurisdictional cities, countries, and borough with grading standard that symbols A (A+, Ao), B (B+, Bo), C (C+, Co), and D. As a result, the team selected a high-ranking 20% and a low-ranking 20% among their jurisdictional ones and reported the consequences to NEMA.

The central evaluation team consisted of NEMA officials, university professors, and consultants of private sectors. They visited the office of the local governments, and reviewed written documents, and interviewed officials in terms of their selected high-ranking city, county, and/or borough including the megalopolis and the province. They also interviewed the provincial governor, the mayor, the county headman, and the mayor of the borough about their efforts, interests, and their participation in the local emergency management.

Evaluation Result

Of course, the central team chose excellent local governments, in which the team praised and rewarded them. The overall viewpoint was to transfer organizational programs from efforts toward post-disaster (response and recovery phases) to efforts toward pre-disaster (mitigation and preparedness), via a route that poses strategies, plans, goals, policies, regulations, and budget, etc.

However, the integrated emergency management system was not organized elaborately because of the lack of practice and experience of emergency management for the local government. The evaluation showed that every community needs to develop its own prevention and emergency preparedness which permits effective response, although vulnerability and threats may vary. The evaluation also helped assess the personal and organizational vulnerability, and recognize the importance of the top leader's supporting structure.

Another objective of this evaluation was to find out a good model case from each phase of the emergency management. NEMA expects that the local government reflects lessons learned from the suggested models to manage local disasters with other disasters.

Learned Lessons

The main issue from the evaluation was necessary to elaborate the emergency management system and the institution for the community's confidence. Here are the lessons learned from the local emergency activities.



Intensify Vulnerability/Risk Assessment Process

First, the vulnerability and risk assessment will have to be conducted if the plan of effective local safety management, preparations of local prevention foundation, specific character of locality, and a particular program can be designed and operated successfully. For instance, some models were like as the following:

- Research project for disaster prevention and hazard mitigation about disaster vulnerable areas
- Evacuation manual by developing a map of expected flood districts.
- Response plan about oil spill accidents of private sectors located in a district.
- Awareness survey of officials and civil monitors in terms of emergency management

Second, the local government will have to be induced so that it can do risk assessments using disaster funds because of limitation about regular safety inspection of local facilities. Also, so it can monitor vulnerable areas simply for the prevention and the mitigation.

In conclusion, the local vulnerability/risk assessment was essential to increase local prevention capabilities as well as being projected programs of the emergency management suitable to local characteristics.

Strengthen Field Response Functions

First, the coordination plan between EMT, government agencies, and civil organizations will have to be specific to mobilize and allocate human and physical resources efficiently.

Second, it requires an effort to make public media coordinate during disasters to participate in proactive and reactive disasters such as training and exercise, public information, damage assessment, and the restoration from disasters.

Third, it requires the identification of the role of EMT of megalopolis and province that guides and advises some activities related to emergency management of its jurisdictional organizations in order to intensify the team's authority and capability. The following systems for guidance and advice are included: funds support, evaluation institution, pamphlet publication for community etc.

Reinforce Lesson Learning Process

First, the Lesson and Learning process has to be reinforced to improve programs related to the prevention and the emergency preparedness through education, training, exercising, disaster recoveries, and through the official's knowledge etc. A good model in a county was illustrated where inhabitants lightened candle-lights or smoked using straws to rise temperature in vinyl houses during snow storm.

Second, the evaluation system needs to be mainly concerned with improving somewhat and reflecting somewhat to the system rather than simply evaluating institutions and programs of emergency management. The following elements will be suggested as evaluation process:

- Accumulate vital records and knowledge with experience for emergency management learning.
- Gather why cases become successful and unsuccessful.
- Examine whether the emergency action plan were activated and the response procedures were undertaken well.



Need High-ranking Officials' Interest, Participation, and Support

First, it needs policy and institution for top official to be more interested in protecting life and property of residents rather than a demonstration effect about facilities and administration

- Participate in education and exercising.
- Observe vulnerable and dangerous districts regularly.

Second, a good model of top official's prevention needs to be found out as following:

- Have a meeting with the top leaders of each organizations monthly to discuss some issues related to a county.
- Set up organizations newly to support human power for damage recovery.
- Inspect and Improve their living facilities by improving power, gas, and boilers etc, for poor residents and the back village that lacks the ability to do it themselves
- Apply a patent about development of prevention product.
- Operate local self-control organization of prevention that inhabitants join.

Require Information Support System

First, it is necessary to use information support system or data retrieval system after developing it. For increasing officials' productivity, resources such as human, physical data including vital records, manuals, and private organizations can be retrieved and modified efficiently. Thus, these resources must be managed systematically.

Second, information technology can be applied to emergency management after business processes are rearranged. A good case in a city showed that the mayor interviewed through the conference call system because he was in another megalopolis.

Conclusion

The lessons learned from this regular evaluation helped improve disaster prevention performance and made emergency preparedness more comprehensive and realistic. The evaluation activity was ultimately helpful in finding oversights and deficiencies, and guiding how well the emergency management was being managed.

References

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