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Kyoo-Man Ha

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Rank-Oriented Disaster Management: The Korean Experience

Kyoo-Man Ha*

Korea Environmental and Safety Institute, Inje University, Busan, Korea

ABSTRACT

Rank is the position or standing in the Korean field of disaster management, whereas ability is the competence or required proficiency in carrying out appropriate disaster management. This paper aims to examine the ways to improve emphasis on rank in Korea for the ultimate goal of increasing related productivity. A qualitative content analysis with the support of descriptive approach has been used as the main methodology. With respect to this, rank-oriented disaster management has been systematically compared with ability-oriented disaster management via the five stakeholders, namely the public officials, businessmen, researchers, volunteers, and local community. The key tenet is that the nation needs to change its current rank-oriented disaster management into ability-oriented disaster management as a form of cultural change. This paper, as a pioneer study, rigorously discusses the issue of rank versus ability in the Korean field of disaster management.

KEYWORDS

Bureaucracy; Confucianism; military culture; ability-oriented disaster management; cultural change

Introduction

South Korea (hereinafter Korea) has tried to develop its modern disaster management system for the last decade or so similar to many other Asian nations. Korea has also been able to solve many threatening problems in the field of disaster management by attributing powerful roles to its major players, following the tradition (Halverson, 1978). In difficult situations regarding disaster response, the field of disaster management has allowed individuals with high positions to make final decisions with respect to their own environment.

Despite this, Korea has faced various problems in its national disaster management system such as the low level of disaster awareness, information failure, and the lack of disaster management resources among others (Aryal & Dobson, 2011). Among these, one of the crucial problems is that diverse stakeholders have excessively relied on rank hierarchy during disaster management. In terms of coordination, many decisions have been based on stakeholders' hierarchically ordered ranks.

Until the end of twentieth century, very few Koreans realistically recognized the negative aspect of rank hierarchy due to reliance on it, for many, being part of the national culture. However, some professionals have recently expressed their concerns regarding the detrimental aspect of emphasis on rank via international criteria. For instance, the field of disaster management has failed to reflect individuals' ability when making decisions in general. In the international community, the topic of disaster management was pretty much neglected within the arena of public administration. Only recently has the issue of disaster management gained the status of an important field (Farazmand, 2014). Keeping the aforementioned in mind, the major research focus of this study is how Korea has handled its emphasis on rank in the field of disaster management.

The article aims to investigate how the current status of emphasis on rank in Korea can be improved for the ultimate goal of effective disaster management, reducing adverse physical and social impacts. With regard to this, the paper will compare rank-oriented disaster management with ability-oriented disaster management via five sub-variables, namely public officials, businessmen, researchers, volunteers, and local community. The most significant finding is that Korea has to replace rank-oriented management with ability-oriented management, while utilizing cultural change, multilevel targets, all four phases of disaster management cycle, communication, and educational curriculum.

Literature review

The term rank refers to one's position or standing in an organization. As rank plays many positive roles in leading disaster management, rank-oriented management has been an important subject in the field of disaster

CONTACT Kyoo-Man Ha ha1999@hotmail.com Korea Environmental and Safety Institute, #203-6dong, 76, Yutongdanji 1-ro, Gangseo-gu, Busan, 46721, Korea.

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management (Macgurn, 2010). However, rank is neither the only tool or factor nor the best solution in the field. Rather, there are other means such as standard operating procedures and manuals among others. Even though a person has a high rank in the field, his or her influence may not be appropriate or sufficient in many cases.

Ability, refers to the state or quality of doing something and has been considered as opposite of rank in this context because each term defines a different approach (e.g., consequential contents vs. official forms) toward disaster management (Kumazawa, 2014). Ability has a meaning similar to that of other terms such as capacity or capability. The field of disaster management needs to actively consider and implement ability-oriented management throughout the disaster management cycle, knowing that with the right skills and abilities, appropriate actions can be carried out and sustained.

The debate of rank versus ability has often been carried out in the field of disaster management. As such, rank is relevant in bureaucracy whose proponent was Max Weber. Bureaucracy has many positive aspects in the field include administrative class, official records and documentation, work division, and rules and regulations. One of its greatest advantages is hierarchy (Chand, 2016; Henderson, 2004). Hierarchy, as a top-bottom approach, is about the ranking of diverse positions in an organization. A person at a lower position is supposed to subject to a person at a higher position via supervision, control, communication lines, and the delegation of authority. As a result, no individual is left uncontrolled in the field of disaster management.

Clearly, bureaucracy possesses a multifunctional role in the field of disaster management (Farazmand, 1994). To elaborate, bureaucracy comprises of various orientations to include politics, socioeconomics, ideology, culture, and others. Besides, bureaucracy has includes diverse themes such as theory, analysis, philosophy, and history among many. Bureaucracy has continued to address other topics to include civil services, service delivery, effectiveness and efficiency, privatization, managerial performance, and others.

While utilizing the hierarchy or the multifunctional role, bureaucracy centralizes the structure of decision-making (Mansfield, 1973). Decision-making in an organization is not decentralized but is centralized, reflecting that all decision-making processes are based on the exercise of hierarchically ordered power. With the period of disaster response being generally short, centralized decision-making is an advantage because quick action is crucial in certain situations.

In a similar manner, anticipatory disaster management has often been encouraged in the field of disaster management during normal times in particular (Farazmand, 2007). No urgent situation is provided during normal times and thus an organization needs to implement routine tasks. Anticipatory disaster management suggests that bureaucracy or hierarchy has been very appropriate for routine works in the field. Essentially, anticipatory disaster management plays a role in mitigating manifest behaviors during peaceful times.

Nonetheless, bureaucracy has also demonstrated a few negative aspects in the field of disaster management (Takeda & Helms, 2006). Due to heavy dependence on the rank order or ranking, bureaucracy may cause failure in integrating or absorbing outside information, form-filling, and inappropriate course of action. Essentially, bureaucracy can be defined as the will to govern one's own organization. Additionally, bureaucracy may even cause time delay in some cases. Moreover, the field of disaster management is so complicated and vast that related bureaucracy may not address all of its holistic aspects.

Adhocracy has risen as an alternative to bureaucracy in the field. Adhocracy is an informal organization style which includes adaptive and flexible behaviors. Adhocracy addresses not only self-regulation but also individual initiative. Therefore, adhocracy may respond to the ever-changing environment of disaster management (Deutschmann, 1995; Schneider, 1992). Accordingly, adhocracy does not emphasize individual ranking but places importance on their ability to carry out tasks for disaster management.

Similarly, surprise disaster management has been frequently advocated during the occurrence of various disasters (Farazmand, 2009). Unexpected, sudden, or chaotic situations occur during the period of disaster response, and thus, it paralyzes all kinds of management function. Surprise disaster management refers to the integration, in the field, of the high extent of surprise into a key aspect of non-routine tasks which requires not only attention but also action. Surprise may cause discomfort at the beginning but may help outdo many challenges. Basically, surprise disaster management has been considered as a capacity of managing terrible disasters without relying on individual ranking in particular.

Though bureaucracy persists in the field of disaster management, democratic theory and practice are deficient (Farazmand, 2010). Based on an extensive human history, when the persistence of bureaucracy has prevailed, it has accordingly paid off with respect to disaster management. In particular, bureaucracy has clearly prevented many stakeholders in the field from addressing the development of democratic theory and practice. As a result, sound democracy has not been easily established in the field.

In China, in about 500 B.C., Confucius (also known as Kong Fu Ze) taught his wisdom to the public. At the same

time, his students recorded what he taught (Hofstede & Bond, 1988). Since then, Confucianism has been considered as ethics in Far East Asia or East Asia and not as a religion. Korea has adopted Confucianism as its ethical guidelines as well. Therefore, almost all of Korea's practices or cultures, including disaster management, have been strongly influenced by Confucianism.

For instance, Confucius taught the importance of age and of recognizing the principle of seniority toward social harmony. Naturally, both age and seniority are relevant to rank. According to Confucius, respecting the aged and following the seniority principle would enable a society to be in harmony. Specifically, Confucius taught the positive aspect of seniority as well as that of age in a society (Chen & Chung, 2002). He continued to maintain that owing to age and seniority, members in a society would not have critical conflicts in particular by respecting and treating old people and seniors.

Notwithstanding, the Koreans have negatively interpreted that not only the entity of age but also the topic of seniority should be much supported in the field of disaster management (Choi, 2004). In short, without Confucius' direct intention, the issue of official rank has been excessively vindicated in the Korean field. In other words, individuals' official ranks have been considered a sort of privilege in the Korean field. At the same time, official ranking has been accorded much power, authority, and status regarding disaster management. Consequently, the nation has come to disregard the significance of individual ability in this field.

National culture is usually characterized by two ideologies, individualism, and collectivism (Eisend, Evanschitzky, & Gilliland, 2016). Under individualism, people are willing to act on their activities as individuals to achieve their goals. On the other hand, under collectivism, people prefer to act as co-operative members or as a group. In this context, Koreans, under the strong influence of collectivism, are oriented toward conformity, group behaviors, and common goals.

National culture may address many aspects of a disaster when reflecting that each nation or region has its own disaster management under its own culture. Regarding this, the cause of a specific disaster can be identified through a cultural viewpoint. Identifying the cause of a disaster is considered a fundamental step in further promoting disaster management (Richardson, 1993). Korea's culture, as far as disaster management is concerned, considers rank more than ability.

In the field of disaster management, cultural competence refers to the ability of various stakeholders to fight against disasters. When individual ranking prevails in the field, the level of cultural competence may not be high (Engelen, Flatten, Thalmann, & Brettel, 2014). On the other hand, when individual ability is implemented and recognized, cultural competence is high. Therefore, with individual ability, controversial issues in the field may be solved.

The armed forces play various roles in managing diverse disasters, providing their expertise, resources, and quick action, making the military quite significant to disaster management (Etkin, McBey, & Trollope, 2011). For example, the U.S. Army Corps of Engineers (USACE) has systematically dealt with hurricanes accompanied by flooding. Japan's Self-defense Force has actively participated in dealing with various disasters. As the scope of the paramilitary includes semi-militarized force or organizational structure, disaster management can be considered paramilitary (Kaushik, 2011).

In a similar manner, the field of disaster management functionally requires the diversity of professional military forces such as the span of control, the unity of command (e.g., rank), the operational briefing, and others concerning disaster response within a short period (Emergency Management Agency [EMI], 2011; Stern, 2014). Accordingly, many directors of national or local emergency management agencies comprise of those who have directly or indirectly worked for military forces, regardless of national boundary. In summary, disaster management, as a paramilitary field, facilitates the importance of rank.

Further, Korea has been influenced by the military culture (Song, 2014). This is evident by the fact that military dictators occupied the nation until the beginning of the 1990s. Currently, it is compulsory for all Korean men are to work for the military for a certain period. Although the rigidity of military culture has been decreased in the twenty-first century, many Koreans' way of thinking has been influenced by a series of military education techniques. The Korean field of disaster management has been influenced by military culture by advocating for the efficiency of rank without exceptions.

In the meantime, two opposite approaches have been available regarding the direction of disaster management, namely politics-oriented approach versus risk-oriented approach. Many practitioners have fundamentally evaluated the issue of disaster management to be politics-related (Selves, 2017). Political consideration including rank has been a key factor for decision-making in disaster management. Although some have examined the positive aspect of politics, majority believe that politics-oriented management causes disastrous consequences for the field.

On the other hand, risk-oriented approach describes that decision-makers are to choose options based on appropriate risk-based analysis (Canton, 2013). In

general, risk includes the likelihood of human loss, economic damages, and psychological impact. Similarly, individual ability is also included in the risk category. Decisions are made based on the analysis of risks and not impulsive and potentially political motivations. This would enable disaster management efforts to be more efficient.

Considering all these factors, it may be summarized that many accredited researchers in the international community have studied the issue of rank versus ability with respect to the topics of bureaucracy, multifunctional roles, anticipatory disaster management, adhocracy, surprise disaster management, natural culture, paramilitary, politics, and risk-oriented approach. In western countries, many researchers have frequently examined the aspect of bureaucracy with respect to disaster management. In non-western nations, quite a few researchers have analyzed the impact of national culture.

Certain Korean researchers have similarly studied the aforementioned sub-topics in their own academic areas in Korea. In the field of disaster management, however, a few researchers have partially touched upon the negative aspect of bureaucracy or local culture. Further, almost no rigorous research has ever been attempted to directly study the contrast between rank and ability within disaster management (Choi, 2014). Therefore, this paper's attempts have potential values to be examined as a research agenda.

Methodology

Qualitative content analysis has been evaluated as one of the most widely used research methods which subjectively interprets the contents of text data and information by systematically identifying and analyzing targeted topics and then providing an appropriate paradigm(s) (Hsieh & Shannon, 2005). By implementing such a method, qualitative content analysis achieves a high extent of flexibility because it allows any researcher to adapt and change all aspects of the main issue. This article utilizes qualitative content analysis as a major methodology, reflecting that diverse qualitative data and information have been flexibly identified, analyzed, and then interpreted throughout the manuscript.

The data and information were chiefly collected via internationally known search engines such as EBSCOhost (ASC), ScienceDirect, Oxford University Press, and Google Scholar among others. In particular, EBSCOhost and Google Scholar provided more appropriate articles, books, and related websites than other search engines. In addition, Korean search engines were partially utilized to identify or collect text data on the reality of Korean disaster management from such sources as KISS, DBpia, Daum.net, and Naver.com among many. These sources included several Korean research articles, Korean government websites, and related Korean newspaper articles. Typed keywords (both in English and in Korean) included "Confucianism and seniority rule," "bureaucracy and disaster management," "surprise disaster management," "paramilitary system and disaster management," "productivity in disaster management," and "how to change disaster culture," among others.

Several Korean professionals were interviewed at various times, particularly to identify either the major direction of Korean disaster management or some detailed aspects of disaster mechanism. These professionals included government officials at the central government level, local officials, emergency responders, volunteers, students, local residents, news reporters, medical doctors, and others. Usually, the author visited them in their workplaces for face-to-face interviews. In some cases, the author called them on the phone if that was unavoidable. The contents of interviews with them were flexibly blended into the right places of manuscript.

Other sources were also utilized to extract data and information, particularly in informal ways. For example, the author had chances to watch TV programs on the negative effects of Korean government bureaucracy. Some Russian delegates expressed their negative concern on rank-oriented approach in the Korean society. In addition, the author exchanged emails with internationally recognized scholars to get the right information on bureaucracy in advanced nations such as the United States and Germany. The author continued to rely on social network service such as Linkedin.com to get international reaction on "rank versus ability."

Besides, two techniques are available in terms of approach to written texts such as prescriptive approach and descriptive approach. The former specifies what each individual should do similar to the function of a school textbook whereas the latter explains related disaster management topics as they really are (Polysyllabic, 2017). In this context, this paper has heavily utilized descriptive approach in the viewpoint of the approach to written language.

During the process of data and information collection, the author did not, generally, have much difficulty; particularly so long as the author was allowed full access to internationally known search engines and recognized Korean search engines. However, the author encountered one major challenge. It was that the Korean government did not reveal the details of the negative aspects of their bureaucracy. As a result, related researchers to include the author could not gather certain materials (e.g., numerical data) on the negative aspects of either government bureaucracy or

disaster management in time. On the other hand, Korean government made effort to produce the data and information on the positive aspects of government bureaucracy and then distributed them to the public.

While fully addressing the qualitative content analysis including the descriptive approach and struggling with challenges, this paper maintains that Korea needs to replace its current rank-oriented management with ability-oriented management in the field. Following Figure 1, rank-oriented disaster management refers to the situation when the field mainly relies on a series of ranks during decision-making in particular. On the other hand, ability-oriented disaster management refers to the situation when the field rationally depends on individuals' ability whenever possible.

To systematically compare rank-oriented management with ability-oriented management, this paper introduces a chain of sub-variables. In fact, the names of sub-variables (or even their numbers) are changeable depending on individual criteria such as internal stakeholders, external stakeholders, governments, employees, customers, partners, investors, communities, and others. At any rate, this article chooses five comparative sub-variables such as public officials, businessmen, researchers, volunteers, and local community based on the extensive literature review. Each sub-variable has its own justification to be included into the category of major players in the Korean disaster management field. In other words, without depending upon any of those five sub-variables, the article would be faced with many barriers in accomplishing its original goal.

To elaborate, public officials are key players in the field considering that disaster management refers to governments' efforts to manage various disasters for the public with the support of close partners. Similarly, thinking that disaster management is a kind of public goods makes public officials the concerned parties. Businessmen, researchers, and volunteers are included into a set of close partners. They constitute an iron triangle as major partners. For instance, businessmen under business continuity planning are to provide emergency resources for the field based on contracts. Also, many businessmen have set up and implemented the disaster management plans for their corporates, which are beyond the scope of computer back-up system. Researchers are required to develop appropriate technologies or strategies to deal with disaster. Particularly, without developing cutting-edge technologies, it would be hardly possible to realistically deal with mega disasters in the field. In addition, disaster management would be unable to fulfill its own function without the support of volunteers in this century. In fact, the role of

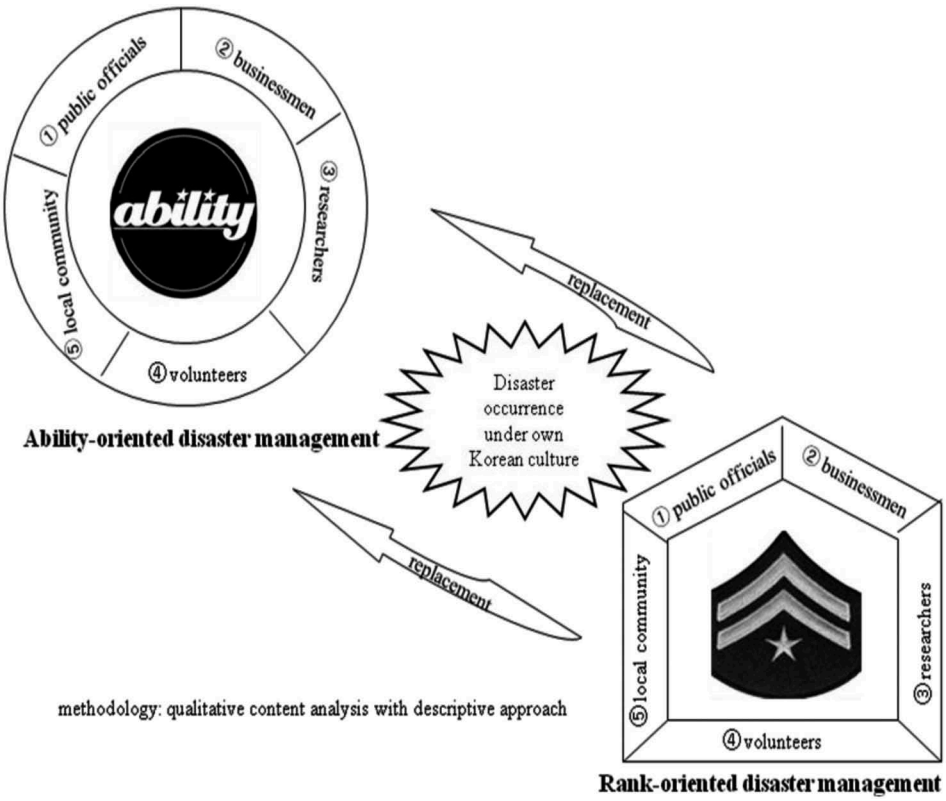


Figure 1. Analytical framework for Korea.

volunteers is indeed essential in the twenty-first century. Lastly, local community is important as the public includes not only residents but also mass media and others. It is not others, but the local community that must confront dire disasters on the spot.

With above in mind, it is certain that the methodology of qualitative content analysis may contribute to expanding the existing knowledge, particularly as may be seen that this article explores and discusses a case study using the methodology of directly and subjectively analyzing multiple aspects of Korean disaster management. At the same time, descriptive approach may reveal the situation more completely when validating the findings than prescriptive approach. Therefore, many Korean researchers in the field may realize how effectively they can utilize not only qualitative content analysis but also descriptive approach in their future researches.

Rank-oriented disaster management

Public officials

At the level of the central government, the Ministry of the Interior and Safety (MOIS) plays a role in managing all kinds of hazards (MOIS, 2019). Under the principle of chain of command, public officials at higher positions are considered as incident commanders in many cases. While managing the sinking of the ferry Sewol in 2014, the minister of MOIS (or formerly known as the Ministry of Security and Public Administration), which was not an expert on maritime accidents, took charge of the situation. Consequently, the incident was not managed well and situations actually deteriorated and worsened.

Each local government has its own section of natural disaster management as well as a local fire station for manmade emergencies. Public officials in such institutions strongly believe in the power of ranking with respect to their activities based on what the central government does. A person with a high position does not initiate visiting people at lower positions for business particularly when an incident involves multiple agencies. Rather, a person at a low position voluntarily visits other higher institutions.

Businessmen

A Few conglomerate corporations called "Chaebol" have begun to produce some products and services for the field of disaster management such as Samsung's Global Loss Control Center (Samsung, 2018). Nonetheless, a number of small- and medium-sized corporations have mainly worked for the Korean field. Though all corporations are trying to fit into the global trend, many corporations, as part of a corporate culture, are still confined by the inflexible structure of rank within their own organizations.

With respect to public organizations, businessmen prefer building their relations with public officials at higher positions. Businessmen believe that public officials at lower positions may not provide good opportunities for corporations on the way of delivering disaster management products and services. By getting support from public officials at higher positions, businessmen attempt to manage their deals or contracts with public organizations such as the many cases during the redevelopment of the four great rivers from 2008 to 2012.

Researchers

Certain disaster researchers in Korea have worked for private research and development (R&D) institutions. However, the majority of disaster researchers, who are either firefighters or civil engineers, have worked for public R&D institutions such as the Korea Fire Institute (KFI) and the National Disaster Management Research Institute (NDMRI). This indicates that a majority of researchers as government employees are still under the influence of a public culture to include the emphasis on rank.

For instance, NDMRI strives to create or improve appropriate alternatives against natural disasters in Korea. Many civil engineering researchers have employed efforts to provide new ideas on related topics (NDMRI, 2019). However, due to the highest rank researcher's (or the director's) decision regarding research direction via evaluation, the extent of research creativity is quite moderated, depending on his/her perspective. Without compromising with the highest rank's assertion, no R&D project would be produced in the NDMRI.

Volunteers

Korea did not officially have the concept of western volunteers until its national modernization. Via the globalization arena, however, volunteers have increased their activities in supporting disaster management such as the oil spill of Hebei Spirit in 2007 and typhoon Chaba in Ulsan in 2016 among others. In particular, owing to the development of communication and information technology, the activities of volunteers are now more organized.

Volunteers are not supposed to receive any pay despite carrying out various chores during disaster response. Their activities are strongly based on altruism. Similarly, the majority of volunteers have a pure motivation to work for disaster victims and thus contribute to disaster management (Park, 2016). In this

Table 1. Summary on the level evaluation of rank-oriented disaster management in Korea.

Units	Detailed levels
1) Public officials	●
2) Businessmen	●
3) Researchers	● or ◐
4) Volunteers	○
5) Local community	◐ or ○

Notes: ● = top level, ◐ = middle level, and ○ = low level.

regard, volunteers have not been much influenced by the structure of rank in the field. Without resorting to rank, almost all volunteers equally carry out their own assignments in the field.

Local community

Local residents, being a major category of the public, are at the center of the public culture. Hence, they exactly reflect the certain (or medium) extent of emphasis on rank in Korea. However, as residents are inhabitants of a particular household, they pay attention to managing various disasters within their areas. This suggests that residents do not have many businesses to interact with outside ranks regarding management in general, although some have multiple interactions with such ranks.

Mass media are either public institutions or private institutions in Korea. Considering the mass media as an organization, they are involved in a certain level of emphasis on rank in organizational life (Kim, 2016). However, when mass media shares disaster management information with the public, they are not usually oriented toward rank for related justification. Table 1 provides a summary of the five sub-variables' emphasis on rank.

Ability-oriented disaster management

Public officials

Disaster management has been linked directly with the effect of government leadership. A public official or any institution needs to initiate related change for ability-oriented management (Cheney, 1987; Somers & Svara, 2009). A leader has to plan the execution of the change by providing a clear and firm vision. Developing a system follows along with the cooperation of a team of experts. Being an inspiration and providing guidance and communicating well are keys to a successful implementation.

With government leadership in mind, it is the minister of MOIS that is supposed to initiate getting rid of the extent of all governments' emphasis on rank. In general, the minister of MOIS is a disaster management expert either because the scope of MOIS activities is quite extensive or due to political reasons. In this case, the minister must study related disaster management for future change or he or she has to let another public official take charge of related change instead of him/her.

Businessmen

Due to excessive reliance on the rank system, businessmen may not contribute to disaster management and thus fail to obtain economic benefits. Therefore, businessmen need to consider market-oriented mechanism by discerning the abilities of all stakeholders (Blackstone, Hakim, & Meehan, 2017). Letting market forces interact freely in particular without embodying ranks' intervention or disruption may help stakeholders to show related ability in the field. Additionally, disaster information as well as market incentive will be further appreciated in the field.

It is necessary for businessmen to scientifically identify their market shares. In particular, a rank system is only a part of their market shares. Therefore, businessmen must also consider all stakeholders' (own people and public employees) collective substantial abilities with regard to their investment. When doing so, wise businessmen will be able to find and connect with better targets (e.g., public employees with abilities at lower positions) for their business.

Researchers

To get rid of rank-oriented management, researchers must fully rely on performance-oriented R&D (Wang, Lin, & Huang, 2010). By measuring the level of performance on each research product, researchers can identify, plan, or work and decide which disaster management project should be the focused on or disregarded. This will help significantly reduce the uncertainty around R&D resulting from emphasis on rank.

Similarly, the NDMRI needs to re-develop its R&D evaluation system such that each researcher's ability and expertise are respected. Till date, the role (or rank) of NDMRI's director has been given excessive significance. Therefore, it is crucial for the NDMRI to improve its evaluation committee on each R&D and let it assess the whole process of R&D. Each evaluation committee should consist of diverse experts based on the national database. Reducing the power of NDMRI's director will not only further enhance R&D diversity but also creativity.

Volunteers

Volunteers have not relied much on rank in the Korean field of disaster management. However, this does not indicate that volunteers have faced any problems. In fact, many volunteers have been assigned various disaster-response activities following the principle of "first

come, first served" without considering their occupations. Many volunteers have not performed activities that were related to their professional skills. Therefore, the field needs to utilize its volunteers by focusing on their exact occupations (Drymalski, 2008).

For the goal of ability-oriented management, the field may continue to use the case of volunteers. It is true that not many Koreans have practiced ability-oriented management in the field. Therefore, after working for disaster victims, volunteers return to their routines or regular occupations. On many occasions, they also discuss or spread information on the severity of the differences between rank and ability to their members, neighbors, peers, or others such as how the veterans discussed their experience on war and battlefield with their children or hometown neighbors. This could be a sort of initiative toward the systematic change in Korea.

Local community

Local residents as individual citizens are willing to express their advocacy for social justice regarding disaster management (West-Olatunji & Goodman, 2011). Considering that emphasis on rank gives rise to negative values or social injustice in a region, local residents must identify and carry out what their local community sincerely wants to do regarding disaster management. In other words, local residents may pursue ability-oriented management while promoting positive values or social justice in the field.

Mass media must play an independent role in emphasizing abilities without being influenced by internal politics or organizational conflicts. Mass media, unlike before, must also comprehensively integrate other aspects of disaster management such as politics, economy, and religion into the issue between rank and ability (Hjarvard, 2008). By outlining the big picture, mass media may provide the exact coverage on the issue of rank versus ability.

Discussion

Various cases in the field of disaster management have included not only the worst but also the best. Additionally, administrative reform in the field of disaster management has been one of the most challenging tasks (Farazmand, 1990, 2016). Even though many politicians, administrators, or practitioners have attempted to reduce the high extent of bureaucracy, anticipatory disaster management, or individual rankings, the results have not been very successful regardless of national boundary. Therefore, nowadays, many nations focus on reforming their power structure in the field.

Productivity is generally expressed as the ratio of output to input (Spira, 2006). Till this point, the productivity of disaster management efforts has been evaluated as the ratio of the extent of the potential risks (e.g., human loss, economic damages, and psychological impact) to visible and invisible investments in the field. As long as the field relies on rank-oriented management, its productivity may not be very high. Rank may not permanently but temporarily solve many challenges in the field but productivity may not be maximized.

On the other hand, when utilizing ability-oriented management, productivity may be much higher than that of rank-oriented management. When depending on the utilization of abilities, the field may more flexibility address various barriers. Similarly, new ways of thinking will be more frequently suggested to the field of disaster management. In such a situation, the field will have better chances of solving related problems (Greenbaum, 1998). Thus, the extent of the risks will be significantly decreased.

Similarly, in the case of ability-oriented management, citizen participation will be maximized in the field of disaster management (Farazmand, 2012). When fully utilizing individual ability, sound or good governance will be established by providing rationales for engaging individuals in the field. Therefore, majority of the citizens will be willing to participate in disaster management in the region similar to the concept of whole community approach.

The transformation from rank-oriented management to ability-oriented management concerns many literature issues such as bureaucracy, multifunctional role, anticipatory disaster management, adhocracy, surprise disaster management, the deficiency of democratic theory and practice, Confucianism, cultural competence, paramilitary, and politics and risk, among many. All these issues may be represented as a cultural change in Korea because each issue includes at least a considerable part of culture or cultural change in the nation. However, it will take a long time to accomplish the apex of cultural change in the field of disaster management.

For a cultural change, the field must not have a single-level target but multilevel targets (Klettner, Clarke, & Boersma, 2016). Considering that the transition from rank-oriented management to ability-oriented management consists of various aspects of disaster management, the field may not efficiently achieve its goal in the case of working on a single-level target. In particular, a cultural change follows a dynamically nonlinear pattern. By attempting to enhance multiple levels of disaster management such as personnel, resources, and strategies altogether, the field may look forward to its preferred management.

The transition requires a comprehensive process which includes all aspects of disaster management (Laidlaw, Spennemann, & Allan, 2008). The field needs to tackle

down each of the four phases of the disaster management lifetime, namely disaster prevention/mitigation, disaster preparedness, disaster response, and disaster recovery. While focusing on managing only one or two phrases as part of ability-oriented management, the field might not be able to systematically decrease the extent of rank-oriented management; all phases of disaster management cycle have to be covered to enhance the cultural change.

Similarly, the field must not utilize a single individual or institution but all stakeholders for a cultural change (Alvesson & Sveningsson, 2008; Slade & Forrester, 2015). By integrating all stakeholders' efforts to include all five sub-variables, the field will boost the engine of cultural change toward disaster management. In other words, the field may pursue a cultural change not by isolating some stakeholders or institutions but by cooperating with various players and institutions within a wide scope of disaster operation.

The road to any cultural change is paved with many critical challenges. Among them, with respect to the field of disaster management, the two barriers of knowledge hierarchy and denial trend are always present (Hopkins, 1999). A majority of people have considered their individual experiences to be the best alternative toward disaster management issues. This suggests that they do not equally consider others' experiences. Therefore, knowledge from many individuals has been ignored based on reliance on hierarchy.

Denial trend refers to the situation when people find contrary evidence regarding disaster management issues and are willing to deny it at the beginning. Vice versa, when people meet with evidence consistent with their original beliefs, they will continue to consider it. Hence, decision-making on disaster management (or cultural change) gets influenced by individuals' original beliefs. In short, in extreme cases, the above two barriers may paralyze the process of cultural change in Korea.

To obliterate these barriers, the field has to fully rely on communication (Barsade, 2014). Communication techniques include various ways such as top-bottom communication, bottom-top communication, and parallel communication. Without communication from all sides, these barriers will not be easily addressed. In addition, the field needs to resort to emotional response during communication. By communicating clearly and understanding individual emotions, such as anger, frustration, frankness, and emotional intelligence, among others, the field may dilute the extent or impact of such barriers.

Moreover, the field must address risk attitude, risk perception, and disaster awareness to solve these barriers (Pennings & Grossman, 2008). All three are related to how stakeholders view knowledge hierarchy and denial trend, while describing predisposition regarding a specific risk. Hence, without appropriate extent of attitude, perception, or awareness, nobody would take the initiative or drive to get rid of these two barriers and thus, this may result in failure to providing related measures toward the transition.

Training and exercise for disaster management have been implemented in many nations. By repeating information and procedures, the field attempts to support disaster management. Presently, the field has begun to address the importance of disaster management education in particular for the goal of cultural change (Benadusi, 2014). Without appropriate education, it would hardly be possible for the field to undergo a cultural change. Therefore, the field needs to address a cultural change by allocating budget and creating strategies for a series education.

To elaborate, the field has to change educational curricula for the goal of cultural change (Kitagawa, 2015). As long as the field follows old curricula, it cannot undergo a revolutionary change toward the disaster management culture. By including new and appropriate contents with respect to the stark contrast between rank and ability, educational curricula will be clearly improved from the level of compulsory school education. At the same time, the field must revolutionarily incorporate integrated subjects on cultural change into educational curricula.

Furthermore, the field needs to utilize the available cutting-edge technology when revising or improving educational curricula (Dubai School of Government, 2012). Even though advanced technology is free of beliefs or values, it may positively influence the way or the degree of how individuals or groups put it to use. Hence, cutting-edge technology may be considered one of the most efficient tools to enable cultural change. With the support of technological advantages in educational curricula, students or participants may be aided in realizing the differences and benefits of abilities over ranks.

Conclusion

This study focused on how Korea must reconsider its emphasis on rank in the field of disaster management. This study has attempted to contribute to the field of Korean disaster management presenting a discussion of the several challenges and alternatives that have been provided here. These include the practice of Confucianism, military culture, rank-oriented disaster management, ability-oriented disaster management, cultural change, and curriculum change.

A major finding of this paper is that Korea has to change its rank-oriented disaster management into ability-oriented disaster management. Otherwise, the productivity and efficiency of disaster management efforts would not be maximized. In other words, emphasis on rank or bureaucracy

has played many positive roles in the Korean field, but it must be appropriately incorporated with individual ability. To achieve this aim, all five major players (public officials, businessmen, researchers, volunteers, and local community) have to substantially carry out their assigned roles and responsibilities in the field while working toward cultural change, identifying multilevel targets, covering all phases of disaster management cycle, communicating, and spreading disaster awareness among others.

One of the most significant contributions of this article is that it introduced the need to fully delve into the issue of rank versus ability in the Korean field of disaster management. Although some researchers in Korea have partially studied related topics, no rigorous study has ever been attempted with this subject as its focus. Similarly, although this article focused on raising the negative aspects of emphasis on rank or bureaucracy similar to a few researches in the western countries, its result can be considered to be the first perspective regarding the Korean field. By providing a comprehensive picture of rank versus ability in terms of disaster management, this paper has attempted to provide a new perspective on Korea, and as such, this paper may be considered a pioneer study.

Future studies in Korea may further examine sub-topics on rank versus ability in disaster management to contribute toward increasing the related productivity. Similarly, international researchers may compare the Korean rank-oriented disaster management with their management styles or study their own rank-oriented disaster management with reference to this article, consequently addressing the goal of transnational disaster management.

Declaration of Interest

The author declares that he has no conflict of interest.

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