

New Institutional Framework for Dealing with Catastrophic Civil Emergency and Its Resilience in Japan

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PREFACE

History has taught us to expect the unexpected. Incidents can, and do, take place that by their nature cannot be anticipated exactly. What we should do to build and maintain a secure and resilient society against future risks? The paper discusses this question and provides some ideas of institutional framework focusing on challenges in central government for materializing all-hazards and whole-of-government approach and cross-sectoral collaboration based management to civil emergency and resilience of critical infrastructures in Japanese context.

LEGAL SYSTEM RELATED TO CIVIL EMERGENCY RESPONSE AND RESILIENCE

An inland earthquake that directly hits the capital of Japan, the Nankai Trough earthquake that extensively attacks the Pacific Coast, severe and complex situations involving terror- and cyber- attacks against critical facilities etc.; these events would impact on directly large in geographical extent, and seriously on the national economy and public welfare. Considering the situation above-noted, it is difficult to respond to them with current Japan's disaster countermeasures legislation. Based on this understanding, we propose a legal system related to civil emergency responses at the national level as follows.

Recommendation 1: *Enacting Civil Emergency and Resilience Act (provisional name) focused on the government-led countermeasures*

Considering the current circumstance that socio-economic activities are broadly interconnected at multiple levels and their interdependency is increasing, and looking further into the evolution of the future shape of society, it is necessary to formulate a comprehensive and effective legal system in order to minimize damage to people's lives, health, properties and the environment, restore the critical functions of society that support civilian life and socio-economic activities at an early stage, and effectively and efficiently rehabilitate the damaged activities, even if hazards/threats of a different quality and scale occur simultaneously or in a

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cascade that results in large-scale complex disasters.

In designing Civil Emergency and Resilience Act (CERA), it is desirable to examine and define the following points.

- 1) Together with uniformly defining the concept of “state of emergency” stipulated in the current specific laws such as Disaster Countermeasures Basic Act, Civil Protection Act, Police Act, Self-Defense Forces Act, etc., it is necessary to clarify concretely its constituents. Specifically, as the direct impact of such situations will reach a wide area of the national land and seriously affect the national economy and public welfare, and keeping in mind “push-type” countermeasures where the national government promptly plays a leading role and responds, “a situation of emergency that significantly serious damages to the lives and assets of the citizenry have occurred or may occur” can be proposed as a candidate of the definition, referencing the situations of “emergency” supervised by the Deputy Chief Cabinet Secretary for Crisis Management stipulated in Article 15 of the Cabinet Act.
Further, it is necessary to sharply distinguish from the national emergencies such as armed attacks stipulated in the National Security Council Establishment Act, and the emergencies, namely states of emergency that cannot be dealt with using the peacetime governing structure, such as war, civil war, or panic referred in the debates over national emergency rights.
- 2) Hazards and threats subject to the Act include; ①natural hazards, ②technological/accidental hazards, ③health threats/hazards, ④emerging phenomena & technologies, ⑤ intentional threats. That is, all-hazards approach, referring to the entire spectrum of hazards. This approach means to focus on minimizing damages to citizens’ lives, health and assets, vital societal functions and the environment regardless of the type or magnitude of hazard and threat. The intention of an all-hazards approach is to employ generic emergency planning methodologies, modified as necessary according to the circumstances.
- 3) Civil Emergency and Resilience Act presumes a push-type countermeasure where the national government invokes authority, assuming catastrophic situations such as the ones noted in 1). Therefore, it clearly differs from the conventional pull-type countermeasure based on the Disaster Countermeasure Basic Act, and it clearly specifies the overall scheme, roles, jurisdictions, responsibilities, conditions, and procedures of the relevant entities.
- 4) It stipulates that a standby law (to be described later) will be enforced by the emergency declaration.
- 5) The government (Civil Emergency and Resilience Secretariat) is obliged to implement national risk assessment on hazards/threats that could potentially have a serious impact on people’s lives and health, civilian life, and

socio-economic activities. Similarly, a broad administrative area (at a regional level) will be set up and local public bodies are obliged to jointly implement regional risk assessment. It also stipulates the utilization of knowledge obtained from these risk assessments, such as prioritization of resource allocation, identification of emergency response capability gaps, input of resilience planning, and sharing risk awareness in governmental agencies and local governments.

- 6) It clearly specifies to protect and secure resilience of critical infrastructure (facilities, systems, operation bases, networks, and services necessary for continuing social and economic activities that are essential for daily life and the nation). Critical infrastructure includes the energy supply (electricity, gas, petroleum), information & communication (communication, broadcasting), transportation/logistics (roads, railways, aviation, sea routes, harbors), water supply (water supply system, sewer system, industrial water supply), finance, medical care, food, emergency response (self-defense forces, police, firefighters, evacuation centers, etc.), and government functions including local municipalities. Specifically, it obliges governmental agencies that supervise critical infrastructure owners and operators to formulate a sector/resilience plan (annual, long-term plan) by public-private partnership.

Recommendation 2: Preparing in advance a law that should be appropriate in emergencies, the so-called standby law (a special case set of administrative regulations) in order to reduce as much as possible the extralegal measures taken in an emergency

Preparing the standby law in advance can prevent situations where local officials are forced to decide whether to comply with the existing law or to accept illegal actions as measures for risk elimination and rapid reconstruction (disengagement from illegal acts of administrative officials); by examining these situations during peacetime, it is possible to make reasonable judgments considering cost effectiveness. In addition, as preparation in peacetime, the formulation of the standby law and applied training will provide opportunities for thought experiments to exercise the imagination and reduce unexpected situations for officials of both central and local governments, and industries where this law is applicable, and has the effect of forcing training on application of the legal system.

The main points of the standby law are as follows.

- 1) Along with bringing to light the legislative special measures taken during the damage expansion and recovery stages in the large-scale disasters of the Great Hanshin-Awaji Earthquake, the Great East Japan Earthquake, and the Fukushima Daiichi Nuclear Plant Accident, and the deregulation measures taken

by notification of central government agencies (including a form of extralegal measure), it needs to examine and deliberate operational requirements, such as mitigation measures in emergency situations by both the public and private sectors, and then prepare a set of special cases of administrative regulations.

- 2) With regard to the law, lawfully stipulate the requirements to bring into operation a law that recognizes special cases of the peacetime law, and the recognition of authority for satisfying the requirements and the spatial/temporal coverage of the special cases that are specified by a Cabinet Order (when the Cabinet meeting cannot be convened, the Prime Minister will determine this). Similarly, it is conceivable that local governments prepare special case measures of ordinance in preparation for cases where Diet cannot be convened, and formulate provisions that leave its invocation within the governor's authority.
- 3) The application of the standby law is enforced by the declaration of emergency situations based on the aforementioned Civil Emergency and Resilience Act. Regarding the extension of the execution period, preparing a way to stop the abuse of authority of the executive power, requires the Diet's approval. In addition, it is necessary to pay attention to the fact that the general application or partial application of special case measures depends on the characteristics of the emergency, and to consider the implementation method.
- 4) In response to emergencies, it is fundamental that the public administration requests and obtains cooperation from private business operators, etc. Under the circumstances where the public administration is supposed to take (necessary) measures for private enterprises, etc. with compulsory power beyond the request, under the present situation, legal grounds are required for permission and command authority in peacetime, but the standby law clarifies the authority of the public administration in emergencies.

INSTITUTIONAL AND ORGANIZATIONAL DESIGNS OF EMERGENCY AND CRISIS MANAGEMENT FUNCTIONS AT THE NATIONAL LEVEL

Since August 2014 the Vice-Ministers Council has been held to examine effective and efficient organizational system in the government for dealing with civil emergency and crisis, and briefly concluded that the current organizational system in the government works well, referring to successful experiences dealing with the Great East Japan Earthquake. In order to examine effective and efficient organizational system in the government for dealing with emergency and crisis, without being captured in the experiences of recent disasters, it is consider what functions are necessary to ensure that government agencies carry out response, recovery, and reconstruction in a rapid, effective, and efficient manner in situations that directly impact a wide area of national land and seriously affect the

national economy and public welfare. Based on this recognition, we propose institutional and organizational design of emergency and crisis management functions at the national-level as follows.

Recommendation 3: Establishing a Civil Emergency and Resilience Secretariat (provisional name) in the Cabinet Secretariat to strengthen national-level crisis management and resilience functions

Currently, the government's initial response system under the supervision of the Deputy Chief Cabinet Secretary for Crisis Management, is integrated in a unified way to the Cabinet Secretariat (countermeasures/crisis management) regardless of the type or magnitude of hazard and threat, but it could be considered important to continue and reinforce its function not only at the time of the initial operation but until the end of the emergency and recovery.

Under the current situation, the emergency/crisis management system that are centered on Deputy Chief Cabinet Secretary for Crisis Management, unify the Cabinet Secretariat (National Center of Incident Readiness and Strategy for Cybersecurity, National Resilience Promotion Office, H1N1 influenza countermeasure office, Crisis Management Team for Airports and Harbors, Coordination Office of Measures on Emerging Infectious Diseases), the Cabinet Office (Disaster Management) and the Disaster Prevention Council, and establish a new organization named the Civil Emergency and Resilience Secretariat (hereafter, CERS), where the Deputy Chief Cabinet Secretary for Crisis Management becomes the director. The CERS is responsible for the Civil Emergency and Resilience Act. The CERS is positioned as being paired with the National Security Secretariat (NSS) dealing with basic policy and important matters of defense, serious emergencies, and the national security policy on diplomacy and defense.

The CERS shall take charge of the following matters.

1) Implementation and utilization of National Risk Assessment (NRA)

The director of CERS is responsible for implementing NRA. In order to ensure a coordinated approach to the all-hazards NRA process, the CERS establishes an Interdepartmental Risk Assessment Working Group (IRAWG) representing governmental institutions participating in the NRA process. The IRAWG is responsible to choose, amongst the entire list of departmental priority threats and hazards, key risks that will be further assessed during each NRA cycle. For each risk, likelihood/plausibility and impacts of reasonable worst case scenario (a plausible yet challenging manifestation of the risk) is assessed. The results of the NRA allow to the Government to reinforce preparedness and increase economic and societal resilience, and to provide policy options for effective risk management and communication at national level. The role and human resource of the National Resilience Promotion Office of the Cabinet Secretariat

need to be carefully reconsidered.

- 2) Designation of leading/supporting/coordinating agencies in advance to securing critical societal functions required in emergency, and checking the government agencies' business continuity plan from a comprehensive viewpoint

As mentioned earlier, each government agency autonomously makes decision and takes actions under its jurisdiction based on the stipulated legal grounds according to the type of the emergency after initial coordination by the Cabinet Secretariat. It is a so-called decentralized and pluralistic system. For realizing effective and efficient responses in civil emergency and resilience, however, the Whole-of-Government or Joined-up Government approach needs. Given the premise of the decentralized and pluralistic system, ministries and agencies should clarify first the interdependency of their administrative actions for securing vital societal functions in the temporal context. Then the CERS should design a new mechanism (leading ministries, designation of support ministries and authorities, and responsibilities) that can effectively secure critical societal functions with the cooperation of the government agencies. Upon consideration, the LGD (Lead Government Department) system in the U.K. and ESF (Emergency Support Function) in the U.S. NRF (National Response Framework) are helpful. The CERS should also examine the consistency and adequacy of ministries' and agencies' business continuity plans in terms of WOG approach.

- 3) Supervision of the execution status of the standby law

The standby law is invoked by the declaration of an emergency based on the Civil Emergency and Resilience Act. The CERS decides a package or partial application of special administrative measures considering the characteristics of the emergency carefully, subsequently notifies promptly the list of special administrative measures to be implemented by related ministries, local governments, and designated public institutions, and should supervise the execution status continuously.

- 4) Establishment and operation of an advisory committee on critical infrastructure protection and resilience enhancement

The CERS organizes the committee that consists of ministries/departments supervise critical infrastructure owners and operators to understand and share information about the vulnerabilities and risks of critical infrastructure against all hazards and threats. The CERS establishes an Advisory Committee of the Chief of the Civil Emergency and Resilience Secretariat – the Ministry of Finance is an essential member – to allocate and prioritize resources across ministries and agencies for risk mitigation and resilience measures.

- 5) Supporting the planning of a sector resilience program for critical

infrastructure and strengthening the public-private sector partnership

To strengthen civil emergency and resilience capabilities at the national level, it is important to develop mutually competence (co-capability) including private infrastructure businesses. In the process of formulating the sector resilience plan, the CERS facilitates a proactive, flexible and inclusive partnership among critical infrastructure owners and operators, all level of government and regulators. At that time, the CERS provides common threat scenarios (attack methods, tactics) to critical infrastructures, information of the general threat environment, and concrete threat information (intelligence base) by infrastructure.

6) Construction of the Incident Command System and advancement of situational awareness capability

Large-scale emergency response is a complicated task that requires inclusive management; it is based on exercising core functions such as the command, operation, planning, logistics, and financial administration. Even in the Government-led push-type emergency response, the fundamentals that are common to every situation should be standardized, and it is important to give autonomous authority to on-scene and enable to respond with flexibility. The CERS should construct a widely applicable management system enabling to organize on-scene operations for a broad spectrum of emergencies from small to complex incidents, both natural and man-made hazards, making reference to the Incident Command System (ICS) that is a fundamental component of National Incident Management System (NIMS) in the United States.

The CERS should construct an inter-operable integrated system of multi-dimensional information to advance capability of situational awareness among first responders and organizations concerned.

7) Construction and operation of a scientific advice system in emergencies

It is necessary for the CERS to construct and operate a scientific advisory system composed of experts in academic and practical fields from the viewpoint of securing vital societal functions.

Recommendation 4: Establishing the Emergency and Resilience Division and scientific advice system in emergency in each ministry and agency

The organizational structure of the current government agencies' emergency response is designed based on priorities at the time of the emergency (emergency response tasks and important generic administrative works) that is assumed to be an extension of administrative works in peacetime. Therefore, although officers and staffs in charge of tasks acquire skills through drills and training, seriously it is incompetent to respond in significant damaged situations due to a head-in-the-sand mentality.

Following this experience of establishment of an all-hazards response organization called the Ministerial Office on Health Crisis Management and Disaster Countermeasures in the Ministry of Health, Labor and Welfare in 2013, it is necessary for each ministry and agency (especially the Ministry of Land, Infrastructure and Transport, Ministry of Economy, Trade and Industry, Ministry of Internal Affairs and Communications, and Ministry of Foreign Affairs and Ministry of Environment) to establish such a cross-ministerial division called the Emergency and Resilience Division (ERD) that is responsible for coordinating comprehensively within the ministry, liaising between the CERS and leading/supporting ministries, and organizing sector-resilience planning, in the Minister's Secretariat. In order to make the CERS an effective organization, it is important to develop human resources who have the ability and a lot of experience to deal with emergencies, and it is desirable to establish a scheme to gather experienced staffs from each the ERD above-noted as the core talent of the WOG approach. It is also desirable to construct and operate a scientific advisory system consisting of academic and practical experts in each ministry' ERD similar to the CERS.

Recommendation 5: Implementing strategic foresight at the government level

In a situation where development and improvement of the national risk management and emergency response capacity will become a more important issue, it is necessary to comprehensively develop a foundation of activities and insight into the future of society. Information from this activity is also important when implementing a national risk assessment to develop a reasonable worst-case scenario based on a society in the future.

RESEARCH POLICY AND PUBLIC-PRIVATE PARTNERSHIP FOR STRENGTHENING CRITICAL INFRASTRUCTURE PROTECTION AND RESILIENCE

To build a resilient society, it is essential to reinforce the resilience of critical infrastructure systems, namely, the critical facilities, systems, operation bases, networks, and services necessary to support people's lives and socio-economic activities and the continuity of the nation. Critical infrastructure systems are socially important functions, including not only hardware but also software. These critical infrastructures are large complex systems having physical, functional, social, and economic interdependence. Based on the above recognition, we propose research policies and systems for strengthening critical infrastructure protection and resilience.

Recommendation 6: Establishing a scheme that enables cross-ministerial and interdisciplinary comprehensive research to be implemented on an ongoing basis

Critical infrastructure needs to be regarded as a large-scale complex system,

and it is important to deeply understand system behavior against various hazards and threats based on a systems approach for its protection and resilience enhancement. This is the basis of a holistic and cross-government approach. It is necessary to promote a comprehensive research program integrating natural science, engineering, social science, and policy science regarding the risk environment, political environment, and operational environment surrounding critical infrastructure, the distributed network structure of critical infrastructure, its functional interdependency in physical space and cyberspace, different organizational structures and management forms of critical infrastructure companies, as well as governance structures including regulation. In order to advance these research programs, it is essential to cooperate not only in an interdisciplinary manner but also with critical infrastructure operators and the government agencies in charge. Furthermore, it is necessary that the funds for doing such research are continuously secured. It is extremely needed to establish a scheme enabling continuous implementation of a comprehensive and interdisciplinary research program on critical infrastructure protection and resilience enhancement across ministries and agencies.

The CERS should consult and cooperate with ministries and agencies concerned and consider a cross-government research scheme. Adopting a continuous research system allows for the development of human resources with strategic thinking, systems thinking, practical skills and expertises, and social dialog skills; it also makes possible the continuous search for innovations in technology, policy, and social systems required for dealing with emergencies in a complex society.

Recommendation 7: Reconsidering disaster prevention research from the viewpoint of emergency response

There are significant gaps between practical needs in emergency response and research issues. Consequently, important judgments on resource allocation for researches and studies interested have not been strategically and holistically put into practice. The CERS should consult with the ERDs of the ministries and agencies concerned to make a plan of effective research and study and consider its utilization.

Recommendation 8: Creating a university COE program on emergency response and resilience against all-hazards, promote advanced research and education, and foster next-generation human resources in the administrative, academic, and industrial sectors responsible for emergency response

In Japan, there is no government agencies specialized in dealing with emergencies such as the USDHS, but “science for policy” that underpins the

planning and implementation of preparedness, response and recovery policies relating to civil emergency is necessary. To achieve this, it is desirable to promote multidisciplinary, practical and advanced researches with the cooperation of academic scholars and resident experts dispatching from government and industries as university COE programs. It is important to undertake education in the relevant field in universities and to develop the next generation of professionals and administrative officers responsible for coping with civil emergency and resilience in Japan.

Recommendation 9: Strengthening public-private partnering through the formulation of sector resilience plans for critical infrastructure

Crisis management of critical infrastructure has a unique responsibility for each business operator, and there is a considerable barrier to cross-sectoral measures in terms of confidentiality of sensitive information. It is important to expand the experiences and achievements of public-private partnering led by the Cabinet Secretariat in such information security fields, and address landscapes of not only dependency on cyberspace but also interdependencies on other critical infrastructures in each phase of emergency response, recovery and reconstruction against diverse hazards/threats environment.

CONCLUDING REMARK

Socio-political and economic activities are now interlinked globally, in a multi-layered manner, and are supported by various technological systems. These activities are exposed to various threats, such as natural disasters, anthropogenic threats and accidents. The risks incurred by these activities are interdependent and systemic in nature in a hugely complex society and they serve as a serious obstacle both to national growth and to people's lives. Japan has amended and maintained its legal system every time it experience disasters and crises, but it may be that this gradual approach has reached its limits. Looking to a future society that will become even more complicated, much deliberation of national initiatives for civil emergency and resilience is common to national governance in the interconnected world. The author hope that the policy recommendations proposed in the article will invite discussions on strengthening the nation's resilience among concerned parties, such as government agencies and critical infrastructure operators, and lead to the formation of safety and security policies for civil society.

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