

A General View of Japanese Disaster Prevention System

Maki Fukami

Research Fellow, Japan Society for the Promotion of Science

Norio Hisamoto

Professor, Graduate School of Economics, Kyoto University

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List of Organizations

CBK	Chuou Bousai Kaigi (National level):Disaster Prevention Council
ChBK	Chihou Bousai Kaigi (Prefecture/local level)
SBK	Shichouson Bousai Kaigi (Specified local level ChBK)
JBS	Jisyu Bousai Soshiki
CMC	Crisis Management Center
CO	The Cabinet Office
FDMA	Fire and Disaster Management Agency
MEXT	Ministry of Education, Culture, Sports, Science and Technology
METI	Ministry of Economy, Trade and Industry
MLIT	Ministry of Land, Infrastructure, Transport and Tourism
MOE	Ministry of Environment
MAFF	Ministry of Agriculture, Forestry and Fisheries
MIC	Ministry of Internal Affairs and Communications
JMA	Japan Meteorological Agency
MOJ	Ministry of Justice
MOF	Ministry of Finance
MHLW	Ministry oh Health, Labour and Welfare
SMEA	The Small and Medium Enterprise Agency
MD	Ministry of Defense
JCG	Japan Coast Guard

1. INTRODUCTION

In Japan, disaster prevention and preparedness from an armed attack are distinguished in the emergency preparedness system. The latter is authorized by the law, *Kokumin Hogo Hou* (the Civil Protection Law). Its goal is to implement an appropriate and timely response if an armed attack was to occur. By enacting this law in 2004, the national government began to foster local emergency preparedness. However, the public's greatest concern is with natural disasters rather than an armed attack. In Japan, the number of active volcanoes is 7.1% of the world total and the number of the earthquakes over a magnitude of 6.0 is 20.5%. The number of deaths by earthquake represents 0.5% of the world but the economic damage is 16.0%.

Furthermore, there is no comprehensive concept such as the all-hazard approach in Japan. The main discussion area in Public Safety from a perspective of natural disaster measures is called *Bousai*, that is, Disaster Prevention. Therefore, we could not discuss Japanese Disaster Preparedness in the context of Emergency Management. This paper describes such the present Japanese Disaster Prevention System.

2. JAPANESE DISASTER PREVENTION SYSTEM

2-1. General View

Japanese Disaster Prevention is authorized by the law, *Saigai taisaku kihon hou* (Disaster Preparedness Law) (table 1). This act was made in response to the Isewan Typhoon of Showa 36 (CE1961). The Cabinet Office lead the planning of this bill but the content was originally passive and bogged down as a result of the sectionalism between Departments. This law has three key components, that is, (1)the establishment of disaster preparedness, (2)clarification of responsibility, and (3)planning the basic response.

(1) the establishment of disaster preparedness is concerned with the overall organization. (2) clarification of the responsibility means the identification of responsibilities at the central government, prefecture, local (city, town, and village) and citizen level. (3) the central government has the primary responsibility of the whole preparedness system and therefore to develop the disaster response and recovery plan and their implementation. This

plan is called “*Bousai Kihon Keikaku*” (the basic disaster prevention plan) (table 2) and corresponds to NIMS in the US. At the prefecture level, local government is responsible for developing a local plan based on the national plan.

This “*Bousai Kihon Keikaku*”, created by *Chuou Bousai Kaigi* (CBK : the disaster prevention council), which is the only disaster specific council at the national level, is the basis for Japanese Disaster Prevention and is divided based on disaster type. More details are provided for each disaster’s respective law (table3) and each law is dependent on different Ministries.

Table 1 : Disaster Preparedness Law / *Saigai taisaku kihon hou*

1. General rules
2. Organization
3. Disaster planning
4. Preparedness
5. Response
6. Recovery
7. Finance
8. Urgent paperwork (required paperwork)
9. Minor rules
10. Penalty

Table 2 : Disaster Preparedness Plan / *Bousai kihon keikaku*

1. General rules
2. Earthquake
3. Storm and flood
4. Volcano
5. Snow
6. Maritime accident
7. Aviation accident
8. Railroad accident
9. Road accident
10. Nuclear
11. HAZMAT
12. Large scale fire
13. Bush fire
14. Other disaster
15. Preparedness operation plan and community preparedness

Table 3: Laws related to disasters

<i>Law related to disasters</i>	<i>The government offices responsible</i>
The Disaster Countermeasures Basic Law* (saigai taisaku kihon hou/災害対策基本法)	The cabinet office Fire and Disaster Management Agency
The Law Concerning Special Measures for Large Scale Earthquakes (daikibo jishin taisaku tokubetsu sochi hou/大規模地震対策特別措置法)	The cabinet office Fire and Disaster Management Agency
Act on Special Measures Concerning Nuclear Emergency Preparedness* (genshiryoku saigai taisaku tokubetsu sochi hou/原子力災害対策特別措置法)	Ministry of Education, Culture, Sports, Science and Technology Ministry of Economy, Trade and Industry Ministry of Land, Infrastructure, Transport and Tourism
The Disaster Prevention Law for Petrochemical Complexes (sekiyu konbina-to tou saigai boushi hou/ 石油コンビナート等災害防止法)	Fire and Disaster Management Agency Ministry of Economy, Trade and Industry
The Disaster Prevention Law for Marine Pollution and Maritime Disasters (kaizou ozen oyobi kaizyou saigai no boushi ni kansuru houritsu/海洋汚染及び海上災害の防止に関する法律)	Japan Coast Guard Ministry of Environment
The Building Standards Law* (kenchiku kijyun hou/建築基準法)	Ministry of Land, Infrastructure, Transport and Tourism
The River Law* (kasen hou/河川法)	Ministry of Land, Infrastructure, Transport and Tourism
The Coast Law* (kaigan hou/海岸法)	Ministry of Agriculture, Forestry and Fisheries Ministry of Land, Infrastructure, Transport and Tourism
The Sand Control Law* (sabou hou/砂防法)	Ministry of Land, Infrastructure, Transport and Tourism
The Disaster Prevention Law for Landslides (jisuberi tou boushi hou/地すべり等防止法)	Ministry of Agriculture, Forestry and Fisheries Ministry of Land, Infrastructure, Transport and Tourism
The Disaster Prevention Law for the Collapse of Steep Descent Lands (kyukeisyachi no houkai ni yoru saigai no boushi ni kansuru houritsu/急傾斜地の崩壊による災害の防止に関する法律)	Ministry of Land, Infrastructure, Transport and Tourism
The Forest Law* (shinrin hou/森林法)	Ministry of Agriculture, Forestry and Fisheries
The Extra Measures Law for the Prevention of Special Soil Disaster and Recovery (tokusyu dojoyou chitai saigai boujyo oyobi shininkou rinnji sochi hou/特殊土じょう地帯災害防除及び振興臨時措置法)	Ministry of Internal Affairs and Communications Ministry of Agriculture, Forestry and Fisheries Ministry of Land, Infrastructure, Transport and Tourism
The Law Concerning the Promotion of Disaster Prevention of Landslides on the Designated Landslides Area (dosya saigai keikai kuiki tou ni okeru dosya saigai boushi taisaku no suishin ni kansuru houritsu/土砂災害警戒区域等における土砂災害防止対策の推進に関する法律)	Ministry of Land, Infrastructure, Transport and Tourism
The Law Concerning Special Measures for Active Volcanoes (katsudou kazan taisaku tokubetsu sochi hou/活動火山対策特別措置法)	The cabinet office Ministry of Agriculture, Forestry and Fisheries
The Law Concerning Special Measures for Areas of	Ministry of Internal Affairs and

High Snowfall (gousetsu chitai taisaku tokubetsu sochi hou/豪雪地帯対策特別措置法)	Communications Ministry of Agriculture, Forestry and Fisheries Ministry of Land, Infrastructure, Transport and Tourism
The Law Concerning Special Measures for Earthquakes (jishin bousai taisaku tokubetsu sochi hou/地震防災対策特別措置法)	The cabinet office Ministry of Education, Culture, Sports, Science and Technology
The Law Concerning Special Measures for Typhoon-prone areas (taifuu jyousyuu chitai ni okeru saigai no boujyo ni kansuru tokubetsu sochi hou/台風常襲地帯における災害の防除に関する特別措置法)	The cabinet office
The Law Concerning the Promotion of Earthquake-Proof Buildings (kenchikubutsu no taishin kaisyuu no sokushin ni kansuru tokubetsu sochi hou/建築物の耐震改修の促進に関する法律)	Ministry of Land, Infrastructure, Transport and Tourism
The Law Concerning the Promotion of Services for disaster-proof blocks in Built-up Areas (missyuu shigaichi ni okeru bousai gaiku no seibi no sokushin ni kansuru houritsu/密集市街地における防災街区の整備の促進に関する法律)	Ministry of Land, Infrastructure, Transport and Tourism
The Weather Service Law* (kisyuu gyomumu hou/気象業務法)	Japan Meteorological Agency
The Fire Service Law* (syoubou hou/消防法)	Fire and Disaster Management Agency
The Flood Defense Law* (suibou hou/ 水防法)	Ministry of Land, Infrastructure, Transport and Tourism
The Disaster Relief Law* (saigai kyujyo hou/災害救助法)	Ministry of Health, Labour and Welfare
The Law Concerning Special Financial Aid for Coping with Disasters : The Disasters Law* (gekijin saigai ni taisyo suru tame no tokubetsu no zaisei enjoy tou ni kansuru houritsu/激甚災害に対処するための特別の財政援助等に関する法律)	The Cabinet Office
The Law Concerning Special Measures for the National Expenditure of group evacuations for Disaster Preparedness (bousai no tame no syudan iten sokushin ni kakaru kuni no zaisei jyou no tokubetsu sochi tou ni kansuru houritsu/防災のための集団移転促進事業に係る国の財政上の特別措置等に関する法律)	Ministry of Land, Infrastructure, Transport and Tourism
Act on National Treasury's Sharing of Expenses for Project to Recover Public Civil Engineering Works Damaged by Disaster (koukyou doboku shisetsu saigai fukkyuu jigyou hi kokko futan hou/公共土木施設災害復旧事業費国庫負担法)	Ministry of Agriculture, Forestry and Fisheries Ministry of Land, Infrastructure, Transport and Tourism
Act on Temporary Measures for Subsidies from the National Treasury for Expenses to Projects to Recover Facilities in Agriculture, Forestry and Fisheries Damaged by Disaster (nourinsuisangyou shisetsu saigai fukkyuu jigyouhi kokko hojyo no zantei sochi ni kansuru houritsu/農林水産業施設災害復旧事業費国庫補助の暫定措置に関する法律)	Ministry of Agriculture, Forestry and Fisheries

Act on National Treasury's Sharing of Expenses for Recovery of Public School Facilities Damaged by Disaster* (kouritsu gakkou shisetsu saigai fukkyuu hi kokko futan hou/公立学校施設災害復旧費国庫負担法)	Ministry of Education, Culture, Sports, Science and Technology
The public housing law* (kouei jyutaku hou/公営住宅法)	Ministry of Land, Infrastructure, Transport and Tourism
The Interim Measures Law Concerning for Fund Raising for agriculture, forestry and fisheries damaged by natural disasters (tensai ni yoru higai nourin gyogyousya tou ni taisuru shikin no yuuzuu ni kansuru zantei sochi hou/天災による被害農林漁業者に対する資金の融通に関する暫定措置法)	Ministry of Agriculture, Forestry and Fisheries
Act on Special Fiscal Measures concerning Urgent Improvement Projects for Earthquake Countermeasures in Areas under Intensified Measures against Earthquake Disaster (jishin bousai taisaku kyouka chiiki ni okeru jishin taisaku kinkyuu seibi jigyou ni kakaru kuni no zaisei jyou no tokubetsu sochi ni kansuru houritsu/地震防災対策強化地域における地震対策緊急整備事業に係る国の財政上の特別措置に関する法律)	The Cabinet Office
Act on Improvement of Railroads and Rail Tracks (tetsudou kidou seibi hou/鉄道軌道整備法)	Ministry of Land, Infrastructure, Transport and Tourism
Airport Maintenance Law (kuukou seibi hou/空港整備法)	Ministry of Land, Infrastructure, Transport and Tourism
Act on Special Measures concerning Reconstruction of Urban Districts Damaged by Disaster (hisai shigaichi fukkou tokubetsu sochi hou/被災市街地復興特別措置法)	Ministry of Land, Infrastructure, Transport and Tourism
The Law Concerning Special Measures for the reconstruction of buildings in damaged areas (hisai kubun syoyuu tatemono no saiken tou ni kansuru tokubetsu sochi hou/被災区分建物の再建等に関する特別措置法)	Ministry of Justice
Act on Special Measures concerning Preservation of Rights and Interests of Victims of Specified Disaster (tokutei hijyou saigai no hiaisya no kenri riei no hozen tou wo hakaru tame no tokubetsu sochi ni kansuru houritsu/特定非常災害の被害者の権利利益の保全等を図るための特別措置に関する法律)	The cabinet office Ministry of Internal Affairs and Communications Ministry of Justice Ministry of Land, Infrastructure, Transport and Tourism
Act on Support for Reconstructing Livelihoods of Disaster Victims (hisaisya seikatsu saiken shien hou/被災者生活再建支援法)	The Cabinet Office
Finance Corporation Law for Agriculture, Forestry and Fisheries (nourin gyogyou kinyuu kouko hou/農林漁業金融公庫法)	Ministry of Agriculture, Forestry and Fisheries
Agricultural Disaster Compensation Act (nougyou saigai hoshou hou/農業災害補償法)	Ministry of Agriculture, Forestry and Fisheries
Act on Government-Managed Forest Insurance (shinrin kokuei hoken hou/森林国営保険法)	Ministry of Agriculture, Forestry and Fisheries
Act on Compensation of Fishery Disaster (gyogyou saigai hoshou hou/漁業災害補償法)	Ministry of Agriculture, Forestry and Fisheries

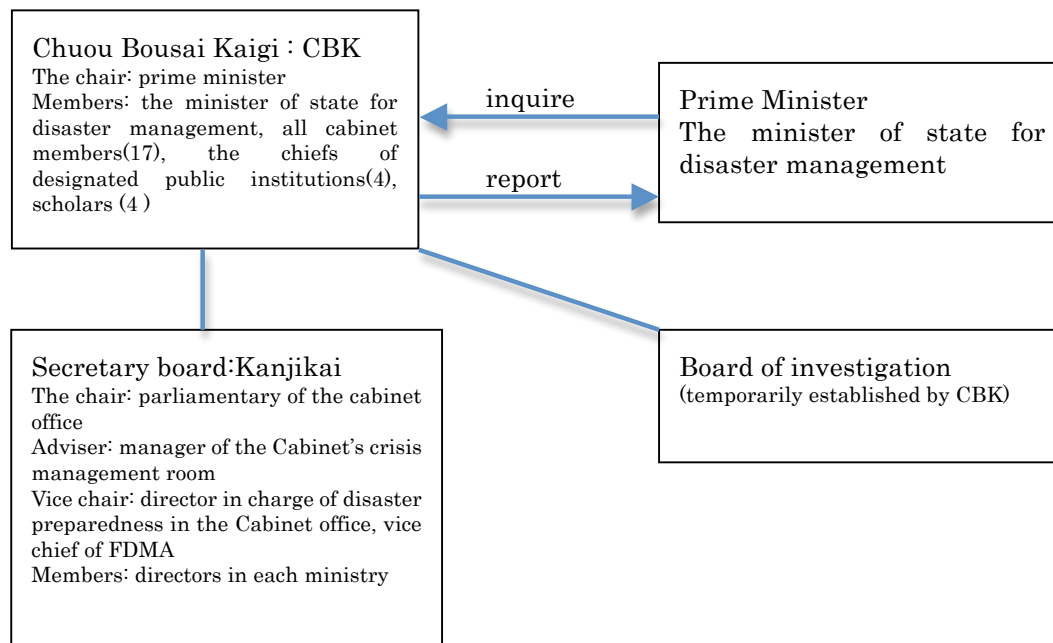
Act on Compensation for Damages Related to Fishing Vessels (gyosen songai tou hosyou hou/漁船損害等補償法)	Ministry of Agriculture, Forestry and Fisheries
Small and Medium-sized Enterprise Credit Insurance Act (chuusyou kugyou shinnyou hoken hou/中小企業信用保険法)	The Small and Medium Enterprise Agency
Act on Equipment Installation Support for Small Enterprises (syokibo kigyousya tou setsubi dounyuu shikin jyosei hou/小規模企業者等設備導入資金助成法)	The Small and Medium Enterprise Agency
Act on Earthquake Insurance (jishin hoken ni kansuru houritsu/地震保険に関する法律)	Ministry of Finance
Act on the payment inquiry money for the victims of disasters (saigai kii kin noshikyuu ni kansuru houritsu/災害忌慰金の支給等に関する法律)	Ministry of Health, Labour and Welfare
Fire Fighting Organization Law* (syoubou soshiki hou/消防組織法)	Fire and Disaster Management Agency
Japan Coast Guard Act* (kaijyou hoan chou hou/海上保安庁法)	Japan Coast Guard
The Self Defence Forces Law* (jietai hou/自衛隊法)	Ministry of Defense
The Japanese Red Cross Law* (nihon sekijyuuji hou/日本赤十字法)	Ministry of Health, Labour and Welfare

* : Formal English translation by Japanese Government.

2-2. National level

2-2-1. Organizations: The Cabinet Office and Disaster Prevention Council

Chuou Bousai Kaigi (CBK : Disaster Prevention Council), the only disaster specific council at the national level, has the prime role of decision-making in disaster planning. The roles of CBK are (1)planning *Bousai Kihon Keikaku* (the basic disaster prevention plan) and *Jishin Bousai Keikaku* (an earthquake specific disaster prevention plan) and promoting their implementation, (2)planning the urgent measures for unexpected disasters and emergencies and promotion of the implementation, (3)deliberation on important subjects about disaster preparedness and responding to inquiries from the prime minister or the minister of state for disaster management, (4) reporting to the prime minister and the minister of state for disaster management regarding important subjects related to disaster preparedness.



In the legislation process of the *Saigai Taisaku Kihon Hou* (Disaster Preparedness Law), it was suggested that the chief of the Fire and Disaster Management Agency (FDMA) will be the chair of CBK and set the office of CBK in FDMA as a suggestion from the Liberal Democratic Party of Japan. However, this suggestion faced strong resistance from each ministry.

2-2-2. Budget of Japanese Disaster Prevention related policies: extraction

Disaster & Crisis related Budget FY2008		
Dept./Bureau (Ministry)	Name of Policy	Budget Amount (yen)
総合政策局 (MLIT) Dept. of policy management	Maintain safety and security 安心安全の確保	149,000,000 1 億 4900 万円
国土計画局 (MLIT) Dept. of land use	Promotion of the emergency business of disaster preparedness 災害対策等緊急事業推進費	25,000,000,000 250 億円
土地水資源局 (MLIT) Dept. of water resources	Land security 土地の安全性等	1,533,000,000 15 億 3300 万円
土地水資源局 (MLIT) Dept. of water resource	Maintain safety and security of water resources 安全安心な水資源の確保	182,000,000 1 億 8200 万円
都市地域整備局 (MLIT) Dept. of urban planning	Promotion of safe and secure town planning 安全で安心なまちづくりの推進 (総事業費)	56,000,000,000 56 億円
河川局 (MLIT) Dept. of rivers	—	934,400,000,000 9344 億円
住宅局 (MLIT) Dept. of housing	Housing Safety 住宅セーフティネットの充実	259,600,000,000 2596 億円
鉄道局 (MLIT) Rail way Bureau	Maintain safety and security 国民の安全安心の確保	6,990,000,000 69 億 9000 万円
自動車交通局 (MLIT)	Safety Policy	4,905,000,000

Automobile transportation Bureau	安全対策の充実	49 億 500 万円
海事局 (MLIT) Maritime Bureau	Safety of marine transportation 安全安心な海上交通の実現	4,860,000,000 48 億 6000 万円
港湾局 (MLIT) The Ports and Harbors Bureau	Maintain safety and security 安全安心の確保	54,800,000,000 548 億円
航空局 (MLIT) Aviation Bureau	Maintain safety and security 安全安心の確保	27,700,000,000 277 億円
北海道局 (MLIT) Hokkaido Bureau	Maintain safety and security 安全安心の確保	3,900,000,000 39 億円
官庁営繕局 (MLIT) Government Office Maintenance Bureau	—	42,622,000,000 426 億 2200 万円
MEXT	Promotion of earthquake proof public schools 公立学校施設の耐震化の推進等	210,400,000,000 2104 億円
MEXT	The project for children's safety 子供安心プロジェクト	2,036,000,000 20 億 3600 万円
MEXT	Strategic promotion of research development (2) information technology 各分野研究開発の戦略的推進 (2) 情報通信	68,365,000,000 683 億 6500 万円
MEXT	Strategic promotion of research development (8) earthquake disasters 各分野研究開発の戦略的推進 (8) 地震防災	33,512,000,000 335 億 1200 万円
MEXT	Promotion of science technology to contribute to safety and security 安心安全に資する科学技術の推進	30,892,000,000 308 億 9200 万円

2-3. Local Level

2-3-1. Prefecture level

<Chihou Bousai Kaigi : ChBK>

Chihou Bousai Kaigi (ChBK) is the disaster specific council at the local (prefecture) level. Its roles are (1) planning a local specific disaster plan (*Chiiki Bousai Keikaku*) and promoting its implementation, (2) collecting information about disasters, (3) coordination among related agencies or departments, (4) planning the urgent measures for unexpected disasters and emergencies and promotion of the implementation. The head of ChBK is the prefectural governor and the members are the following: heads of local public institutions, a general of the Ground Self Defense Force, the head of the board of education, the Superintendent-General of Metropolitan Police or a prefectural police chief, governor's designated staff members, a mayor or a director of the fire department, and executives from local public institutions.

< Crisis Management Center : CMC>

CMC is set to collect and sort information, communicate relevant information in case a crisis/emergency situation requires the set up of a disaster response headquarters. CMC has been established in 79% of all prefectures and 77% of those are located in their prefectural office.

Major systems in CMC are the following; a disaster response headquarters support system, staff call up system, information network, wide area support system, simple damage simulation system, and weather information receiving apparatus. CMC refers only to the place of a disaster response headquarter, not the organization.

< Exercise >

According to 2008 White Paper of FDMA (Fire and Disaster Management Agency), the total number of training sessions which were implemented throughout Japan in the year is 341. We can see that almost local government implemented Earthquake and Tsunami exercises.

	Disaster Prevention Simulation Training								
	Typhoon etc	Landslip	Earthquake Tsunami	Petrochemical Complex Accident	Large Fire	Forest Fire	Nuclear Power	Volcano	Other
Training Sessions	50	44	207	25	2	10	38	6	23
No. of Groups	26	20	45	19	2	10	16	5	14

	The Type of the training			
	Exercise	Table top	Communication	Other
Training Sessions	171	76	77	17
No. of Groups	46	33	20	8

2-3-2. City / Town Level

The major players at the local level are SBK, fire and JBS (*Jisyu Bousai Soshiki*). ChBK at the local level is also called “*Shichouson Bousai Kaigi* (SBK)”. SBK is based on ChBK (prefecture level) guidelines and related jurisdictional duties. Fire preparedness plays a major role at the local level because of the concern over fires at the municipal level. JBS is a community-based group, like a citizen corps in the US. Main members of JBS are the head

of a residents' association, a welfare commissioner, the director of a Social Welfare Council etc, they are charged with organizing community preparedness by local governments. According to *Saigai Taisaku Kihon Hou*, JBS is a volunteer organization which discharges their obligations and responsibilities based on a sense of solidarity with and to protect their own community. FY 2008, FDMA reported that the possibility of JBS's covering (the number of households within JBS area / the number of households within the jurisdiction) was 71.7%.

JBS has the role of a first response force including extinguishing fires, leading evacuations, and distributing food during disasters. JBS is the closest unit to citizens. However, the JBS area of responsibility corresponds to that of a school catchment area and some problems have been pointed out as a result. The area covers too great of a population for effective emergency response or preparedness. Regarding Japanese Disaster Preparedness, the JBS area corresponds to the elementary catchment area. The size of the school catchment area depends on the population of the city/town/village. The catchment area of major cities covers from 1000 to 10,000 families, in general. Therefore, it is pointed out there is a need to establish an organization which covers smaller population areas but such improvement measures have not been set out yet. Furthermore, JBS tends to lack an effective communication method between themselves and residents because the majority of JBS members are of traditional heritage and tend to maintain the traditional closed culture. JBS groups lacking the ability to effectively perform their duties are not few.

Therefore, in some municipalities, especially in large cities, some emergency management conscious leaders have recently established volunteer organizations for individual apartment buildings. On the other hand, there still remains many municipalities that are struggling with how to effectively activate JBS, especially in towns lacking sufficient resources.

3. JAPANESE FIRE SERVICES

3-1. History

The first formalized fire prevention services by the government was established in 1648 during the Edo era in Japan. This first fire prevention system was implemented in Edo (Tokyo) and this focused only on Edo castle (Shogun's house; Shogun was the actual

sovereign during Edo era in Japan) and other samurai areas, however this excluded merchant class areas. Therefore, merchants had to protect their property from fires by themselves. This is the birth of the Japanese municipal fire services.

In the Meiji era, the fire department was established in 1870 in Tokyo, and the first fire team was established within the Metropolitan Police Department in 1875, this created a permanent fire department. At that time the local situation was still very diverse, the base of the municipal fire system was established in 1894. In the Taisho era, 1919, permanent fire departments were established in major cities. Those fire institutions were called voluntary guards and charged with the role of civil defense from 1939.

Before WW2, the Japanese fire service was an internal department in the Police force. After WW2, General of the Army Douglas MacArthur suggested to create municipal fire departments in cities/towns which had populations over 5000. As a part of post-war reforms, the Japanese fire service was separated from the Police and an independent department was established. This is the direct origin of today's Japanese fire system.

The Japanese fire system has 3 unique features rooted in history. First, because of the historical background, Japanese fire personnel are still recognized as a part of the police institution and firefighters are prohibited to unionize. Secondly, the history of the municipal fire establishment is long and the role of the central government is quite limited. This is one of the reasons that standardization is difficult to achieve in Japan. Finally, the origin of the Japanese fire service is fire prevention and still now the main focus of Japanese fire departments is fire prevention and sometimes this is overemphasized in comparison to other tasks.

3-2. General View

The Fire institution at the national level is the Fire and Disaster Management Agency (FDMA). FDMA has 159 employees including workers temporarily assigned from local fire departments in the Fire College. The budget of FY 2008 was 13,789,980,000 yen (about 140,000,000 USD) and 8,251,020,000 yen (about 82,000,000 USD) in this budget was invested in fire-fighting equipment. Therefore, the main research in Japanese fire service tends to be focused on technical development in the context of equipment and it is said that technical development is the main national concern.

All over Japan, the number of fire department headquarters is 807, the total number of local fire departments is 1706, and the total number of employed fire fighters is 157,860.

The total amount of volunteer fire fighters is 888,900, volunteer fire fighting groups is 2,380 and there are an additional 23,180 local chapters.

4. DISCUSSION

The Japanese disaster prevention system is focused on the municipal level. Meaning the municipality has the prime role for preparedness or response as it is the closest level to the field and can respond promptly, such as the case of a municipal fire. This is the universal nature for disaster response systems rather than the disaster prevention / preparedness system. However, Japanese society doesn't have a single leadership as FEMA therefore all responsibility is charged to local governments including the promotion of their policy, public education and development and mitigation. Some scholars argue that problems exist with this system and offer suggestions for the local government's emergency management. For example, (1) define the responsibility of local emergency management, (2) maintain a sense of urgency awareness and use a business approach, (3) lead the policy and spreading the discussion about a crisis (Takayose,1996). Nakamura(2005) points out the following problems about JBS; (1) *Chiiki Bousai Keikaku* (a local specific disaster plan) is becoming emasculated, (2) low priority of disaster preparedness work, (3) lacking the appropriate information, (4) lack of development of across district coordination, (5) weak JBS activities.

The nature of disaster response could be recognized as a multi-agency system. However, further discussion and research are required about whether the all-hazard approach or a concept of Emergency Management could resolve the problems in Japanese disaster prevention or not and how it could be adapted to the Japanese system.

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REFERENCES

- Fukami, M., “An observation of Emergency Management in the United States”, Dissertation, Graduate School of Economics, Kyoto University, 2008
- Nakamura,H., “Korekara no Jichitai Bousai Keikaku(The Local Disaster Prevention Planning in future)”, Jichitai Kenkyusha, 2005
- Takayose,S., “Hanshin Daishinsai to Jichitai no taiou(Hanshin-Awaji Earthquake and Local Response)”, Gakuyou Shobo, 1996
- Tokuda, M.(ed.), “Ganbare Shouboudan-shintei(Tenacious Volunteer Fire-Fighting Team)”, Kindai Shoubou Sha, 2007
- White Paper, Fire and Disaster Management Agency, 2008