Fire Service System in Japan

Materials created by the Fire and Disaster Management Agency were translated by the International Fire Service Information Center
Introduction

Fire services in our country, first established as community-based municipal fire services, has been supporting and corresponding to various disasters and accidents starting with prevention of fires while also performing firefighting, emergency, and rescue services to fulfill a significant role as leaders of “national safety and security”. The Great East Japan Earthquake which was an unprecedented large disaster, the recent disaster involving the volcano eruption, and large scale landslide disasters, etc. have left us with a lot of lessons to be learned.

It is requested of us to further strengthen the firefighting and disaster prevention system built around local communities with firefighting headquarters and volunteer fire brigades in the center.

While preparing for large scale special disasters as well the large scale earthquakes such as the Nankai Trough Earthquake and the Tokyo Metropolitan Earthquake that are expected to occur in the near future, we are committed to developing communities in which every single citizen can live safely.
Total Population of Japan: 127,235,000 (as of January 1st, 2014)

Local public entities consist of two layers
- 47 prefectures (wide-area local public entities)
- 1,719 cities, towns and villages (basic local public entities)

Assemblies chosen by election are formed in prefectures, cities, towns, villages, and special wards.
Fire Fighting System in Japan

### Fire and Disaster Management Agency (FDMA)
- Number of staff: 169
- Fiscal 2014 budget: 12,679 million yen ($125.53 million)

### Cities, towns and villages
- Conventional fire service
  - Number of fire headquarters: 770
  - Number of fire-fighting personnel: 160,392
  - Conventional fire service covers 99.9% of the total population in Japan.
- Non-conventional fire service
  - Number of volunteer fire corps: 2,224
  - Number of volunteer fire corps members: 868,872

* Fiscal 2011 settled account of expenditure related to fire fighting in cities, towns and villages amounted to 1,838.8 billion yen ($1,825.94 million)

### Roles of the FDMA
- Roles of the FDMA include planning and drawing of fire service systems, as well as supporting and instructing fire services in cities, towns and villages.
- Fire departments (conventional or non-conventional fire services) belong to the organization of cities, towns and villages - the principle being that fire services are based in cities, towns and villages.
Fire Defense Organization Law (enacted in 1947)

Tasks of fire services

- Protect people’s lives, bodies and properties from fires
- Prevent and minimize damage due to fire, flood, earthquake and other disasters
- Transfer injured and sick people caused by disasters

Fire Services in Japan (Major activities)

- Fire fighting operation
- Ambulance operation
- Rescue operation
- Flood prevention activity
- Fire prevention
Characteristics and composition of fire fighting system

I. Separation from police

II. The principle that fire services are based on local governments (cities, towns and villages)

III. Cooperation from the national government, prefectural governments, and city, town and village governments
Allocation of roles in fire services among cities, prefectures and national government

National government
(Fire and Disaster Management Agency)

- Planning of fire fighting measures and policies
- Effective use of emergency fire response teams during large-scale disasters

Prefectures

Cities, towns and villages

- Own fire academy and provide fire defense education and training.

* Own fire academy and provide fire defense education and training.

* Large cities have their own fire academy.

* Have actual fire units and carry out actual fire fighting activity.

* Fire services in cities, towns and villages are not submitted to the administrative control and operational management of the national and prefectural governments.
Fire departments in cities, towns and villages

Mayor of city, town or village

Conventional fire service

Non-conventional fire service

Fire Headquarters

Volunteer Fire Corps

<table>
<thead>
<tr>
<th>Maximum jurisdictional population</th>
<th>Minimum jurisdictional population</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>12,551,087 persons</td>
<td>2,721 persons</td>
<td>159,097 persons</td>
</tr>
<tr>
<td>Maximum jurisdictional area</td>
<td>Minimum jurisdictional area</td>
<td>Average</td>
</tr>
<tr>
<td>3,641.9 km²</td>
<td>4.03 km²</td>
<td>467.3 km²</td>
</tr>
<tr>
<td>Maximum number of fire personnel</td>
<td>Minimum number of fire personnel</td>
<td>Average</td>
</tr>
<tr>
<td>18,920 persons</td>
<td>13 persons</td>
<td>200 persons</td>
</tr>
</tbody>
</table>

(Annual Report of Fire Services, 2011)
Fire service by cities, towns and villages

- Fire fighting -

There were 44,189 cases of fire during 2012

Breakdown of causes of fire

- Arson and suspicion of arson: 8,590 cases (19%)
- Cigarette: 4,212 cases (10%)
- Cooking stove: 3,959 cases (9%)
- Open-air fire: 2,430 cases (5%)
- Playing with fire: 1,206 cases (3%)
- Other causes: 23,792 cases (54%)

Type of fire

- Buildings: 25,583 cases (58%)
- Others: 12,879 cases (29%)
- Forests and fields: 1,178 cases (3%)
- Vehicles: 4,549 cases (10%)

• In Japan, there are many wooden houses which stand close together, and destructive fires often occurred in the past, too.
• The origin of organized fire-fighting activity can be traced back to 1650.
The average period of time for an ambulance to arrive from an initial call is approximately 8.3 minutes.

There were approximately 5.8 million cases in 2012 in which ambulances were dispatched (including 3,246 cases in which helicopters were dispatched).

Ambulances were dispatched every 5.4 seconds.

Since 1963, emergency transportation has been regarded by the law as a fire service.

(White Paper on Fire Services, 2013)
Fire service by cities, towns and villages -Rescue-

There were 56,103 rescue operations in 2012.

Rescue called by type of accident (56,103 cases)

- Accident caused by building (21,383 cases) 38%
- Traffic accident (16,080 cases) 29%
- Fire (4,797 cases) 9%
- Water accident (2,644 cases) 5%
- Others (11,199 cases) 19%

(White Paper on Fire Services, 2013)
Fire service by cities, towns and villages
-119 call and mobilization order -

119 telephone call

Acceptance of 119 call

Determination of the location of disaster

Location of disaster

Formation of units to move into action

Order to move into action

Fire fighting operation

Mechanism of 119 telephone call
Various regulations according to the purposes of buildings
- Objects in general to be protected from fire, such as department stores, hotels and business establishments
- Residential houses in general (mainly detached residential houses)
- Dangerous facilities such as petroleum tanks and gasoline tanks
- Facilities where explosives such as detonating powder and high pressure gases such as LPG are handled

Establishment of criteria such as installation of fire fighting equipment and compilation of fire defense plans, and implementation of inspection

Criteria for hardware
- Fire extinguisher
- Sprinkler system
- Automatic fire detection system
- Exit route light
  etc.

Criteria for software
- Appointment of person in charge of fire defense
- Inspection of fire control conditions and fire fighting equipment
- Implementation of fire fighting and evacuation drills
  etc.
Guideline for improvement of fire defense strength

The national government formulates the nationwide universal standard for facilities and personnel needed by cities, towns and villages to fully perform the responsibilities of fire services.

Cities, towns and villages determine their own standard numbers of fire facilities and personnel and make planned improvement.

Grounds for calculating facilities and personnel (example)

- Fire department ⇒ downtown population (3 fire departments per 100,000 people)
- Pump trucker ⇒ downtown population (6 pump truckers per 100,000 people)
- Ladder truck ⇒ Number of mid-to-high-rise buildings in the area under the fire department's jurisdiction (1 ladder truck per 10 buildings)
- Fire fighter ⇒ 15 persons per 1 vehicle such as pump truck

National government formulates guidelines ⇒ Cities, towns and villages promote improvement

Facilities and personnel needed to perform the responsibilities of fire services

Indicates a nationwide universal standard for fire defense strength

Determine standard numbers of fire facilities and personnel, and make planned improvement
Collaboration with local communities
Japan’s Volunteer Fire Corps and regional disaster prevention system

Voluntary disaster prevention organizations
About 39.62 million persons

Volunteer Fire Corps
About 870,000 firefighters

Conventional fire service
About 160,000 persons

Volunteer Fire Corps plays a role of cooperation between conventional fire service and voluntary disaster prevention organizations, and constitutes a core presence in regional disaster prevention.

Fire organization

Independently take measures against disasters in their own regions

(White Paper on Fire Services, 2013)
Volunteer Fire Corps

**Status of Volunteer Fire Corps members**

- Part-time local civil servants
- Having authority and duty to carry out fire defense activity in the region
- Engaged in their own occupations under normal conditions and acting as fire organization during disasters
- Turning up depending on the types of disasters. Functional volunteer fire corps members will be introduced.

**Activities by Volunteer Fire Corps**

- Conventional fire service and Volunteer Fire Corps exist together. ⇒ Act in cooperation.
- Fire fighting in the initial stage in each region, response to natural disasters by effectively using their capability to mobilize, etc. ⇒ Volunteer Fire Corps plays an important role.
- The number of volunteer firefighters is on a declining trend each year: The number once reached the 1 million level. ⇒ Currently falling below 0.88 million
Disaster prevention activities by residents, etc.

Because of their limited human and material resources, fire departments, which provide public assistance, are not able to cope with all cases during large-scale disasters such as earthquake.

Residents’ preparations (self-help) and voluntary disaster prevention activity in the region (mutual assistance) are indispensable.

(White Paper on Fire Services, 2013)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Outline</th>
<th>No. of organizations</th>
<th>Number of members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary fire prevention organization</td>
<td>Disaster prevention organization which carries out activities voluntarily based on the unit of neighborhood association (rate of organizational activity coverage: 77.4 %)</td>
<td>153,600</td>
<td>About 39.62 million</td>
</tr>
<tr>
<td>Women’s fire prevention club</td>
<td>Organizations mainly consisting of housewives, with organized disaster prevention as its major object</td>
<td>9,554</td>
<td>About 1.43 million</td>
</tr>
<tr>
<td>Youngsters’ fire prevention club</td>
<td>Organization consisting of boys and girls, whereby they learn fire and disaster prevention through their daily life</td>
<td>4,587</td>
<td>About 0.42 million</td>
</tr>
<tr>
<td>Children’s fire prevention club</td>
<td>Organization mainly consisting of school and kindergarten children, through which they can have an understanding about the correct use of fire and the fire fighting job during childhood</td>
<td>13,599</td>
<td>About 1.15 million</td>
</tr>
</tbody>
</table>

* In addition, there are also many companies that carry out voluntary disaster prevention activities as a member of the region (such as disaster prevention drills carried out in cooperation with regional residents).
Aiming for development of safe regions

- Not only should administrative organs such as fire departments implement measures (public assistance) ……
- but each citizen, with full knowledge of disaster prevention and an awareness of risk management, should also regard disasters as “his/her own matter” (self-help) ……
- and at the same time, people should help each other in the community or neighborhood (mutual assistance),
- and it is important that self-help, mutual assistance and public assistance should be properly combined, not implemented in an uncoordinated manner.

- With daily efforts in disaster prevention and preparations, personal suffering can be mitigated by making prompt and appropriate response when a disaster occurs.
Moves of fire services during large-scale disasters
Allocation of roles in fire services among cities, prefectures and national government

National government
(Fire and Disaster Management Agency)

- Planning of fire fighting measures and policies
- Effective use of emergency fire response teams during large-scale disasters

Prefectures

Cities, towns and villages

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General fires, accidents, and disasters

- Handled by fire services in cities, towns and villages

Number of fire-fighting head offices (Nationally): 770
Number of fire-fighting personnel (Nationally): 160,392
Number of volunteer fire corps members (Nationally): 868,872
(As of Apr 1, 2013)

Larger-scale fires, accidents, and disasters

- Based on mutual aid agreements for fire services, fire services in neighboring cities, towns, and villages (including those in other prefectures) will provide assistance.

Agreements between municipalities in the same prefectures: 1,635
Agreements with municipalities in different prefectures: 595
(As of Apr 1, 2013)

Emergency Fire Response Teams (4,431 teams registered as of June 1, 2012)
The national government has ensured the fire response system to effectively and swiftly carry out rescue activities, etc. in times of large-scale/extraordinary disasters.

[Circumstances behind establishment]
• Established in 1995 taking into account of the lessons learned from The Great Hanshin-Awaji Earthquake.
• The revision of the Fire organization Act (June, 2003) has legally established Emergency Fire Response Teams and has enabled them to be dispatched by order of the Commissioner of the Fire and Disaster Management Agency.

Examples of mobilization
- Rescue — Amagasaki Rail Crash (2005), etc. (24 cases in total)

* First order of the Commissioner of FDMA

Request by the Commissioner of the Fire and Disaster Management Agency, etc.

In case of localized disasters
⇒ To be mobilized from neighboring prefectures

In case of the Tokai earthquake: Mobilized from all over Japan
Moves of Fire and Disaster Management Agency of Ministry of Internal Affairs and Communications during large-scale disasters

I. Formation of FDMA disaster task force

II. Dispatch of FDMA's advance team

III. Dispatch of emergency fire response team

Prime Minister’s Office: Risk Management Center

Dispatch: Information collection, liaison and coordination

Information collection at Fire, Disaster and Risk Management Center

Coordination for dispatch of emergency fire response team

Liaison and coordination by FDMA's advance team at the prefectural office
(1) Problems during Great Hanshin-Awaji Earthquake in 1995

- Radio congestion among fire fighting reinforcements, inadequacy in the system to effectively command units, lack of interchangeability of fire hoses and other equipment, etc.
- Inadequacy in the cooperation system between afflicted areas and their cities/towns/villages, prefectures, national governmental organs, etc.
- Inadequacy in the national government’s leadership

(2) Establishment of emergency fire response team

- The system of an emergency fire response team was started in 1995 as a lesson drawn from the Earthquake.
- The system has been gradually expanded since then.

<At the time of start in September 1995> 1,267 units → <As of June 2012> 4,431 units → <Plan until end of March 2014> 4,500 units

(White Paper on Fire Services, 2013)
Mobilization scheme of emergency fire response team

• Large-scale earthquake, flood, tsunami, large-scale fire disaster, terrorism, etc.

Governor of the prefecture to which the affected city, town, or village belongs

(1) Request

The Commissioner of the Fire and Disaster Management Agency

(2) Request

(2) Instruction

Mayor of a city, town, or village in which the team is registered

(3) Request

Mayors of other cities, towns, or villages

(3) Instruction

(4) Mobilization of emergency fire response team

(2) Request

(2) Instruction