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Comparative study of Disaster Management of Japan and Kyrgyz Republic

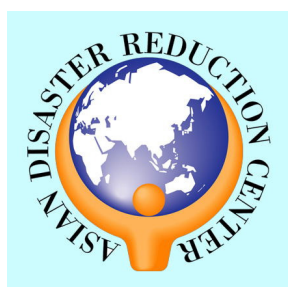
ADRC Visiting Researcher Programm FY2012

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Ministry of Emergency Situations of the
Kyrgyz Republic



ADRC Visiting Researcher Programm – Objectives



Analyze Japan Disaster Management System

Information, knowledge and experience exchange in the field of Disaster Risk Reduction in Japan

Make list of recommendation appropriate to Kyrgyz Republic

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- Kyrgyz Republic

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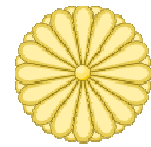
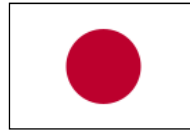
Introduction

The threat of natural disasters, industrial accidents requires measures to ensure public safety, infrastructure, economy, maintain the stability of ecological systems.

Crises and disasters affect all areas of human existence, society and state. The signs of their origin is often hidden from the modern and surveillance systems, and measures to prevent and eliminate the effects require a coordinated response.

The most effective response to natural and technological disasters and accidents can be achieved earlier action based security timely prediction and eliminate the very possibility of emergency situations, increase security and the environment in the event of their occurrence.

Japan



Japan located on the islands in the western of Pacific Ocean

Land Square – 372.2 km²



General Information

There are 8 region, 47 prefecture

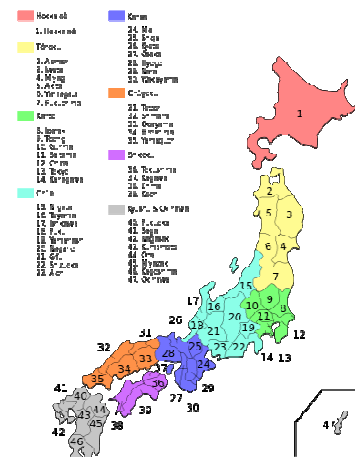
There are 4 main islands
Honshu, Hokkaido, Kyushu and Shikoku

Population – 127.47 million people

Capital – **Tokyo**

Religion – Buddhism, Shinto

Regions and Prefectures of Japan



General Information

Kyrgyz Republic



Kyrgyz Republic – a country on the eastern part of Central Asia, located in the western and central part of the Tien Shan and the northern part of the Pamirs.



Land Square – 199.9 km²

General Information

There are:

- 7 regions
- 40 administrative districts
- 20 cities
- 429 administrations

Population – 5.5 million people

Capital – **Bishkek**

Religion – 75% – Muslim

25% – Christian

10% – other

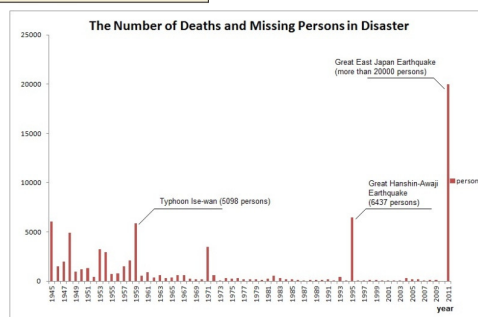
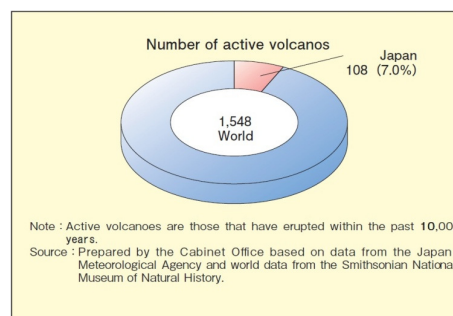
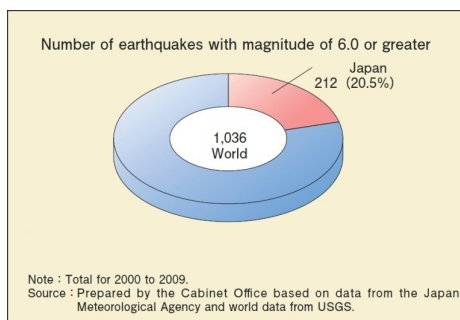


General Information

Disaster Management of Japan



Historically, destructive natural disasters have posed greatest challenge for Japanese society. Unfavorable geographical, topographical and meteorological conditions of the country have made it one of the most disaster prone countries in the world.



Natural Hazards in Japan

- ▶ Earthquake
- ▶ Tsunami
- ▶ Volcano
- ▶ Storm disasters (typhoon, flooding, landslides, tidal waves, avalanches)



Disaster Management System of Japan

Legislative Basis

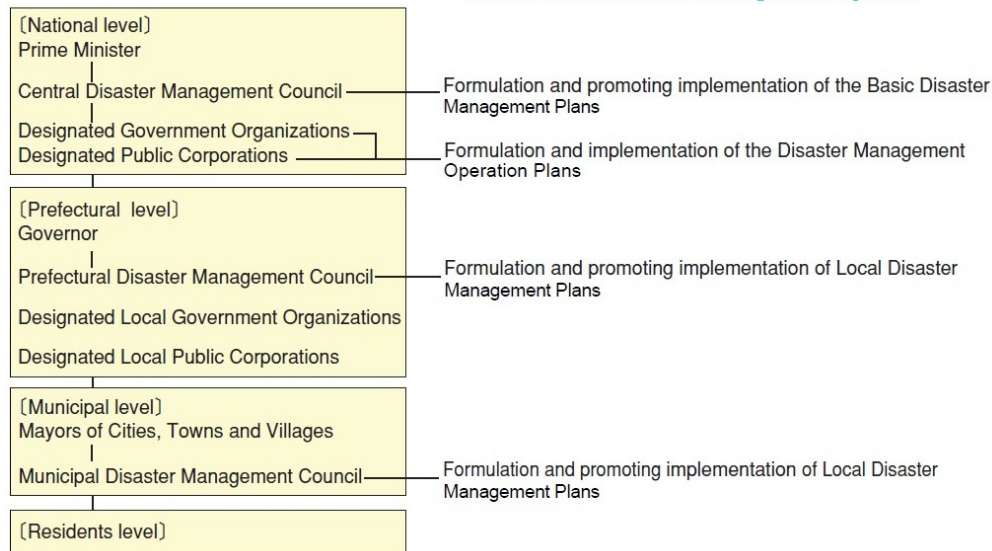
- ▶ Various disaster management related laws adopted since late 40th has laid down the legal framework for the disaster management system of Japan.
- ▶ There are **7 Basic Acts**: **18** – Disaster Prevention and Preparedness, **3** – Disaster Emergency Response, **23** – Disaster Recovery and Reconstruction, and Financial Measures.

Events	Disaster Management Acts	Disaster Management Plans and Systems
1945 - Typhoon Makurazaki 46 - Nankai Earthquake 47 - Typhoon Catherine 48 - Fukui Earthquake	47 - Disaster Relief Act 49 - Flood Control Act	
1950 59 - Typhoon Ise-wan	50 - Building Standard Law	
1960 61 - Heavy Snowfalls 64 - Niigata Earthquake	60 - Soil Conservation and Flood Control Urgent Measures Act 61 - Disaster Countermeasures Basic Act 62 - Act on Special Financial Support to Deal with Extremely Severe Disasters - Act on Special Measures for Heavy Snowfall Areas 66 - Act on Earthquake Insurance	61 Designation of Disaster Reduction Day 62 Establishment of Central Disaster Management Council 63 Basic Disaster Management Plan
1970 73 - Mt. Sakurajima Eruption 76 - Seismological Society of Japan's report about the possibility of Total Earthquake 78 - Miyagi-ken-oki Earthquake	73 - Act on Special Measures for Active Volcanoes 78 - Act on Special Measures for Large-Scale Earthquakes	79 Tokai Earthquake Countermeasures Basic Plan
1980 80 - JCO Nuclear Accident	80 - Act on Special Financial Measures for Urgent Earthquake Countermeasure Improvement Projects in Areas for Intended Measures 81 - Amendment of Building Standard Law	83 Designation of Disaster Reduction Week Campaign
1990 95 - Great Hanshin-Awaji Earthquake 99 - Torrential Rains in Hiroshima	95 - Act on Social Measures for Earthquake Disaster Countermeasures - Act on Promotion of the Earthquake-proof Retrofit of Buildings - Amendment of Disaster Countermeasures Basic Act 96 - Act on Special Measures for Large-scale Earthquakes 97 - Act on Special Measures for Preservation of Rights and Profits of the Victims of Specified Disasters 98 - Act on Promotion of Disaster Resilience Improvement in Densely Inhabited Areas 99 - Act on Support for Livelihood Recovery of Disaster Victims 99 - Act on Special Measures for Nuclear Disasters	95 Amendment of Basic Disaster Management Plan Designation of Disaster Reduction and Volunteer Day
2000 00 - Torrential Rains in the Tokai Region 04 - Niigata-Fukushima Torrential Rains, etc. 04 - Niigata-ken-Chuetsu Earthquake	00 - Act on Promotion of Sediment Disaster Countermeasures for Sediment Disaster Prone Areas 01 - Amendment of Flood Control Act 02 - Act on Special Measures for Promotion of Tokanai and Nankai Earthquake Disaster Management 03 - Specified Urban River Inundation Countermeasures Act 04 - Act on Special Measures for Promotion of Disaster Management for Trench-type Earthquakes in the Vicinity of the Japan and Chishima Trenches 05 - Amendment of Flood Control Act - Amendment of Act on Promotion of Sediment Disaster Countermeasures for Sediment Disaster Prone Areas - Amendment of Act on Promotion of the Earthquake-proof Retrofit of Buildings 06 - Amendment of Act on the Regulation of Residential Land Development	01 Establishment of the Cabinet Office 03 Policy Framework for Tokai Earthquake Policy Framework for Tokanai and Nankai Earthquakes Tokai Earthquake Countermeasures Basic Plan 04 Tokanai and Nankai Earthquake Countermeasures Basic Plan 05 Tokai Earthquake Disaster Reduction Strategy Tonankai and Nankai Earthquake Disaster Reduction Strategy Policy Framework for Tokyo Inland Earthquakes 06 Policy Framework for Trench-type Earthquakes in the Vicinity of the Japan and Chishima Trenches Tokyo Earthquake Disaster Reduction Strategy Basic Framework for promoting a Nationwide Movement for Disaster Reduction 08 Disaster Management Strategy for Trench-type Earthquakes in the Vicinity of the Japan and Chishima Trenches 09 Chubu and Kinki regions Inland Earthquake Countermeasures Basic Plan

◆ Japan's Disaster Management System is subdividing for 3 stages of management: National, Prefecture, Municipal level

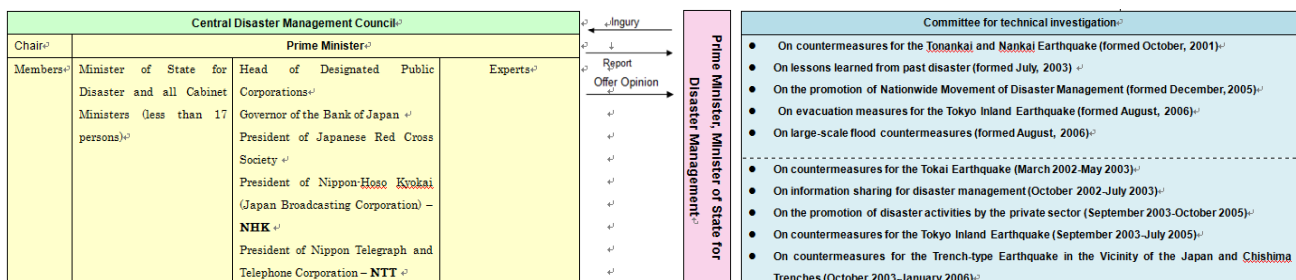
In every stage there is Disaster Management Council, which one of the objectives is to formulate and promote implementation of the Disaster Management Plans

Outline of the Disaster Management System



Disaster Management System of Japan

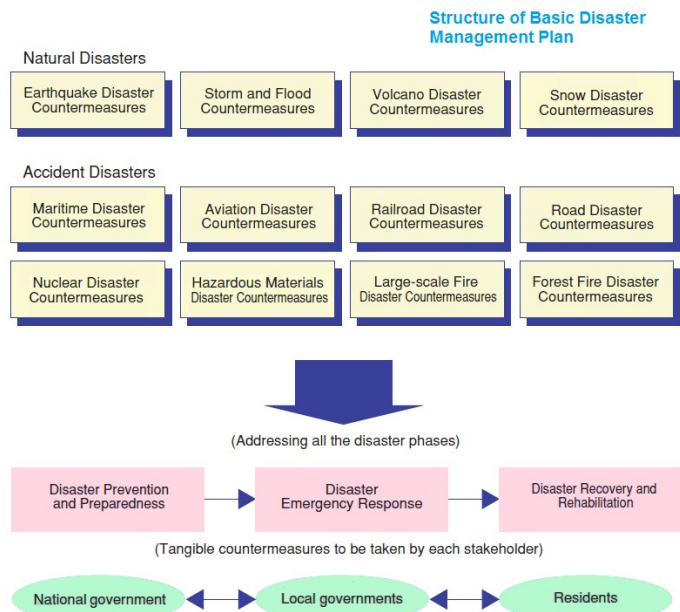
◆ **Central Disaster Management Council** – it is one of the councils that deal with crucial policies of the Cabinet, and established in the Cabinet Office based on the Disaster Countermeasures Basic Act. The council consists of the *Prime Minister*, who is the chairperson, *Minister of State for Disaster Management*, all ministries, heads of major public institutions and experts. The council promotes comprehensive disaster countermeasures including deliberating important issues on disaster reduction according to requests from the Prime Minister or Minister of State for Disaster Management



Disaster Management System of Japan

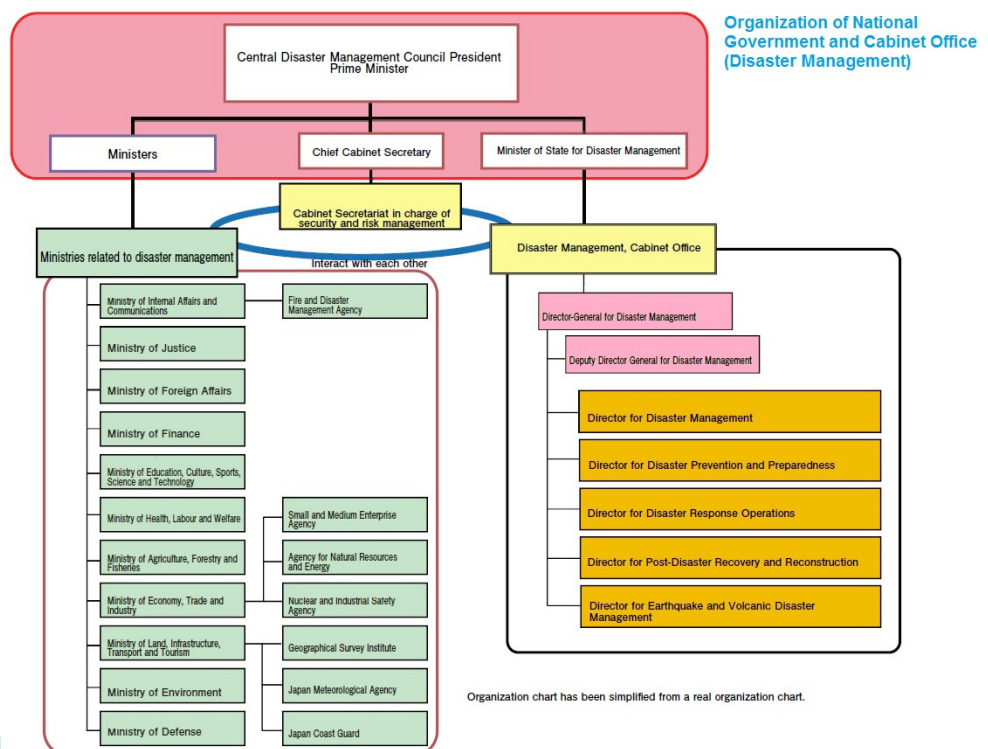
- ◆ **The Basic Disaster Management Plan** states comprehensive and long-term disaster reduction issues such as disaster management related systems, disaster reduction projects, early and appropriate disaster recovery and rehabilitation, as well as scientific and technical research. The plan was revised entirely in 1995 based on the experience of the Great Hanshin–Awaji Earthquake. It now consists of various plans for each type of disaster

- **Basic Disaster Management Plan**
- **Disaster Management Operation Plan**
- **Local Disaster Management Plan**



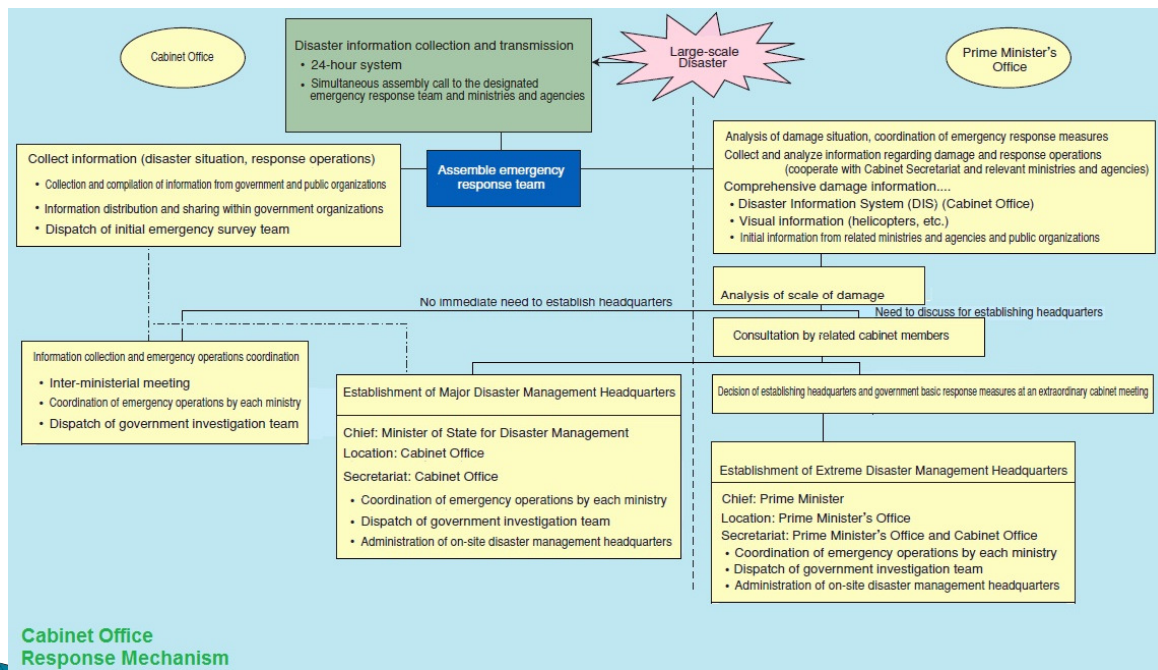
Disaster Management System of Japan

Organization of National Government and Cabinet Office



Disaster Management System of Japan

Cabinet Office Response Mechanism – Large-scale disaster



Disaster Management System of Japan

Disaster Risk Reduction

“Basic Science and Technology Plan – Third Term” (2006) - describes Japan’s basic scientific technology policies, sets a major goal of making Japan a country that can take pride in being the safest in the world ———> sets 10 important issues on disaster reduction

Important Research and Development Issues in Disaster Reduction

(1) Earthquake observation, monitoring and prediction
(2) Geological research
(3) Damage reduction technologies such as earthquake-proofing and development of disaster response, recovery and rehabilitation plans
(4) Volcanic eruption prediction technologies
(5) Storm, flood, landside and snow disaster, observation, prediction and damage reduction technologies
(6) Satellite-based natural hazard observation and monitoring technologies
(7) Monitoring, warning, information transmission and damage prediction technologies to be used in the event of a disaster
(8) Search and rescue and other emergency response operation technologies
(9) Development of a disaster-resilient society
(10) Facility security assurance and accident reduction technologies



Disaster Risk Reduction

National Land Conservation

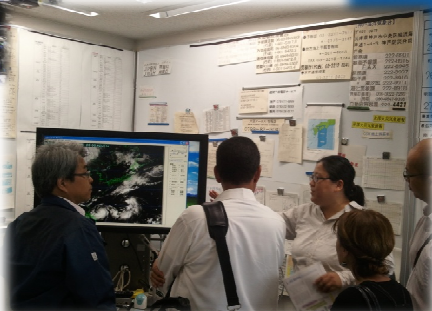
National land conservation projects such as river improvement, soil erosion control (sabo), and soil and coastline conservation are carried out strategically for protecting national land, citizens' lives and property from various disasters



*Disaster Prevention
and Preparedness*

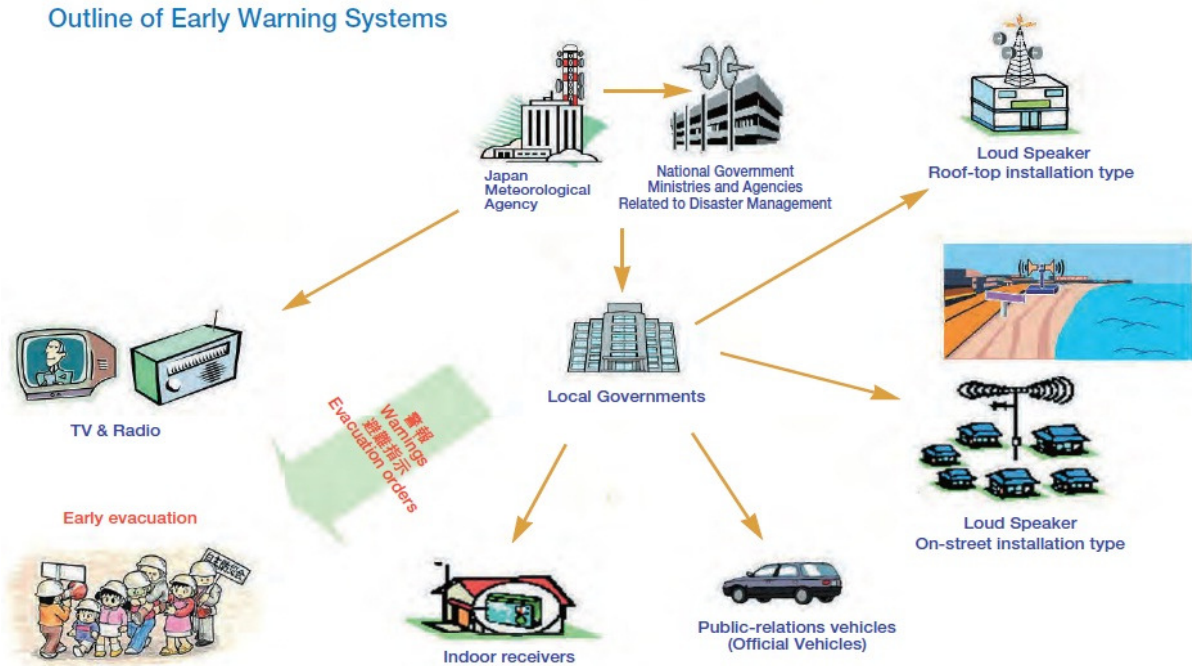
Observing, Forecasting and Warning of Disaster Risk

Observation systems that can accurately detect disaster risks in real-time have been progressively improved for establishing early warning systems, supporting the early evaluation of residents and response activities of disaster management organizations, and thereby reducing disaster damage.



*Disaster Prevention
and Preparedness*

Outline of Early Warning Systems



*Disaster Prevention
and Preparedness*

Disaster Reduction Drills and Exercises

- ▶ Disaster reduction drills and exercises are good opportunities to review effectiveness of the disaster management system in view of quick public awareness through wide participation
- ▶ On September 1st, Disaster Reduction Day, wide-area, large-scale disaster reduction drills are conducted in every region across the country in collaboration with disaster related organizations



*Disaster Prevention
and Preparedness*

Disaster Education in Japan

- ▶ The importance of disaster-prevention education was particularly recognized upon the Great Hanshin-Awaji Earthquake disaster. Since then, disaster-prevention programs have been actively implemented, such as education to raise awareness of local residents, training to foster disaster management leaders and disaster-prevention expert training at education institutions.

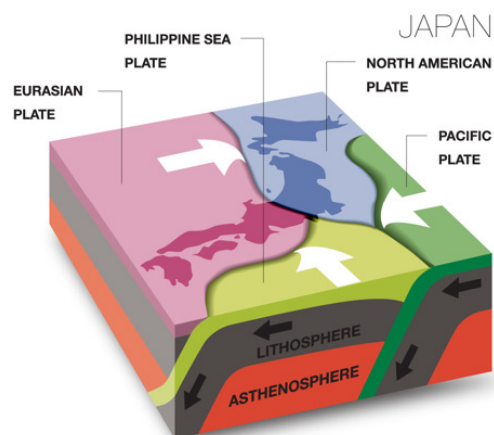


*Disaster Prevention
and Preparedness*

Disaster Countermeasures

Earthquake Disaster Countermeasures

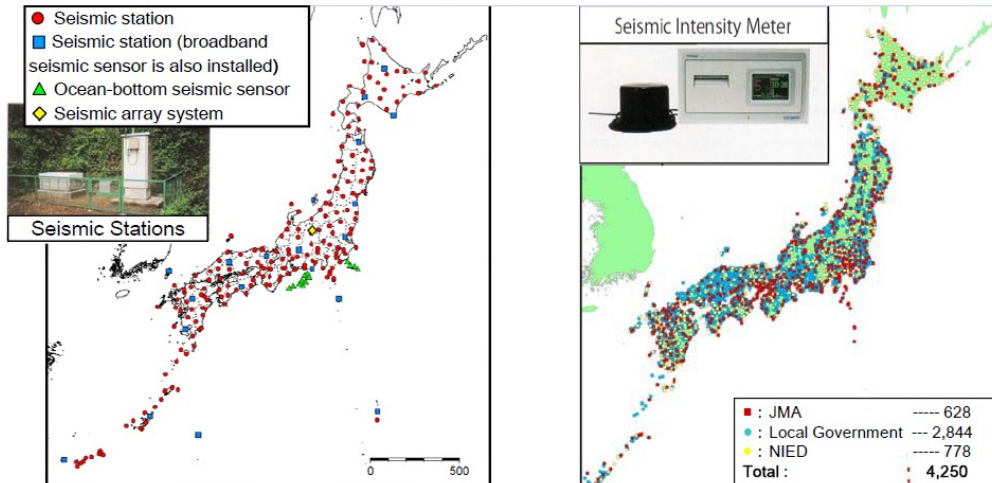
Japan is located at a point on the earth's surface where four of more than 10 tectonic plates covering the globe are crushed against each other, making it earthquake prone. More than 20% of the world's earthquakes (magnitude 6 or greater) have occurred in or around Japan.



*Disaster
Countermeasures*

▶ In order to constantly monitor seismic activity, the Japan Meteorological Agency (JMA) and other relevant organizations install and maintain seismometers that are used for estimating the location of the epicenter and magnitude of an earthquake as well as for tsunami warnings, and seismic intensity meters that measure the intensity of ground motion, in numerous places nationwide

Sites of seismic intensity meters

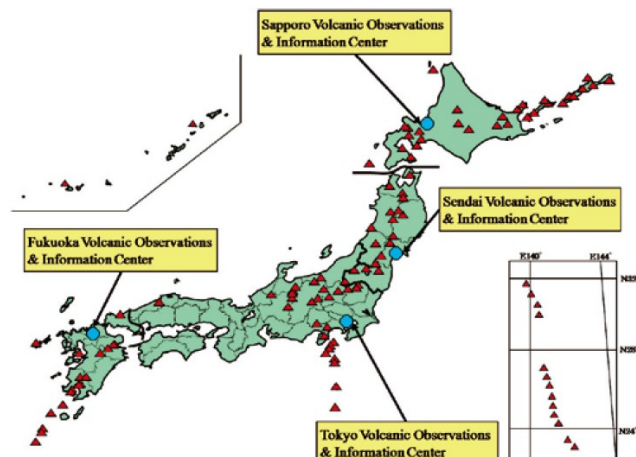


Disaster Countermeasures

Volcano Disaster Countermeasures

▶ 24 hours a day JMA by network of seismometers, telephoto cameras and angle meters ranged around 47 volcanoes throughout Japan (selected by the Coordinating Committee for Prediction of Volcanic Eruptions, an organization of academics and related government agencies), monitors the volcanoes.

Active Volcanoes in Japan



Disaster Countermeasures

Tsunami Disaster Countermeasures

Tsunami countermeasures, such as expediting the announcement/transmission of tsunami forecasts and improving coastal embankments (tidal embankments) and tide prevention gates, have been carried out. The Cabinet Office, in cooperation with relevant ministries has prepared guidelines for the creation of a tsunami hazard map and the designation/development of tsunami evacuation buildings by local governments, and is working on disseminating the guidelines.



Disaster Countermeasures

Storm and Countermeasures

The Japan Meteorological Agency observes meteorological phenomena that cause storm and flood disasters using the Automated Meteorological Data Acquisition System (AMeDAS), which automatically measures rainfall, air temperature and wind direction/speed, weather radar, and geostationary meteorological satellites.

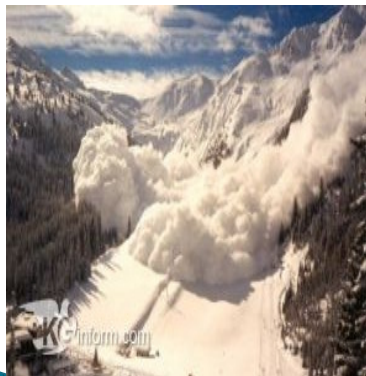


Disaster Countermeasures

Disaster Management of the Kyrgyz Republic



Natural Hazards in the Kyrgyz Republic



**Earthquake
Flood and mudflows
Landslides
Avalanches
Meteorological
hazards**



Legislative Basis

- ▶ **Ministry of Emergency situations (MES)** is a government body of the executive authorities of the Kyrgyz Republic in the field of civil protection, fire protection, nuclear and radiation safety and meteorology.
- ▶ Legislation of Ministry of Emergency situations has few documents for disaster management in the Kyrgyz Republic:
 - ❖ *Law of the Kyrgyz Republic on "Civil Protection"*
 - ❖ *Law of the Kyrgyz Republic "On Fire Safety"*
 - ❖ *Law of the Kyrgyz Republic "On Radiation Safety"*
 - ❖ *Law of the Kyrgyz Republic "On the emergency rescue services and status"*
 - ❖ *Law of the Kyrgyz Republic "On the tailings and waste dumps"*

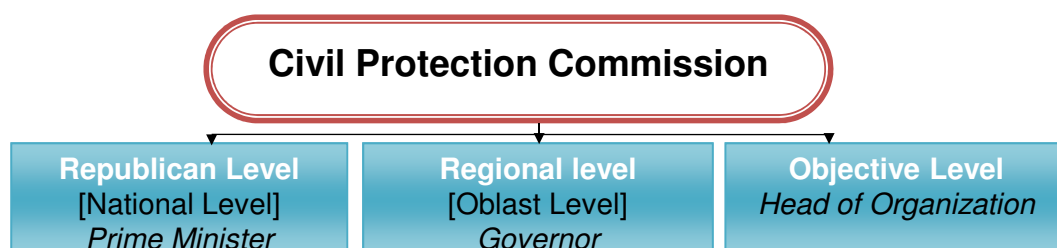
Disaster Management
System of Kyrgyz
Republic

As in Japan Disaster Management in Kyrgyz Republic subdivided to 3 stage:

- *Republican Level*
- *Regional Level*
- *Objective Level*

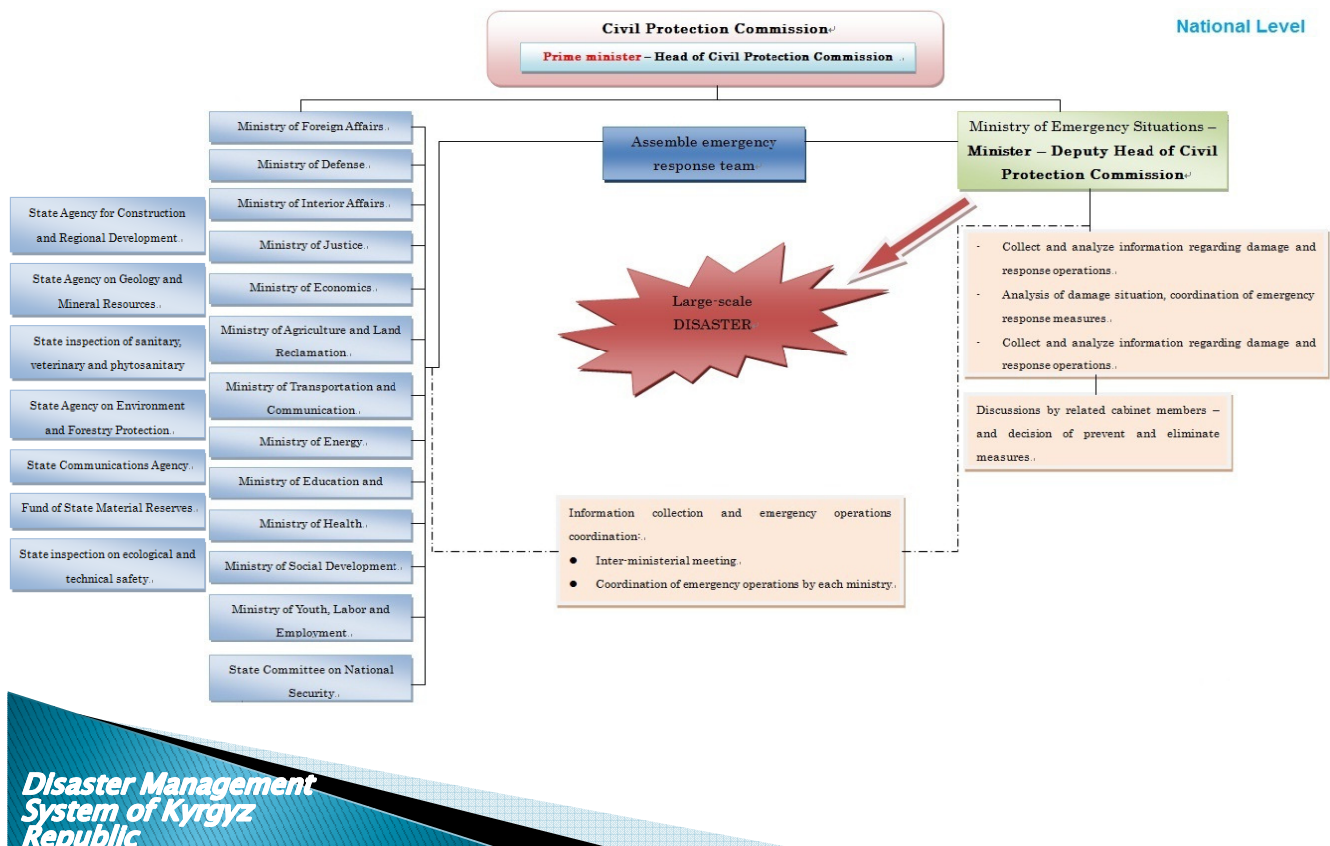
In every stage in case of disaster creates Civil Protection Commission

The main goal in every stage is to implement a unified policy in the field of civil protection, fire protection, nuclear and radiation safety and meteorology



Disaster Management
System of Kyrgyz
Republic

Response Mechanism



Disaster Risk Reduction

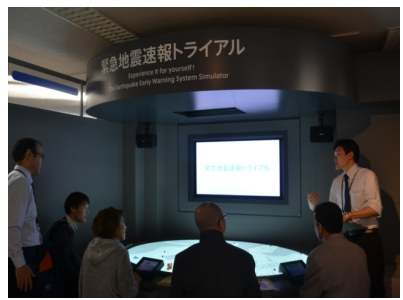
For Disaster Risk Reduction in republic MES yearly implements policy, which includes

- Prevention events in emergency and disaster objects [disaster countermeasure];
- Maintaining of civil force in permanent readiness [disaster drills];
- Training of population to basic skills and major activities in case of emergency [disaster education] and etc.



Disaster Risk Reduction

Conclusion



Conclusion

Comparing analys



- ✓ Exposure of some similar disasters
- ✓ Disaster responsible stages [levels]
- ✓ Disaster response mechanism [cooperation of government and disaster management agencies]

Conclusion

Recommendation to MES KR

- Study and using of “Sabo” work experience in the field of DRR.
- Strengthening of activities of responsible agencies and departments for disaster education and preparedness activities.

Recommendation

Thank You for Attention!

