Final Presentation

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Joining in ADRC

- I joined ADRC on 2nd October, 2004 as visiting Researcher to share my experiences of my country on disaster management and study the disaster management system of Japan and other member countries of Asian Disaster Reduction Center.

First Visit

- On 7th of October, 2004 a group of three Visiting Researchers from Lao PDR, China and my self visited Kyoto City Citizens Disaster Prevention Center, Kyoto alongwith the Mr. Akihiro Teranishi, Senior Researcher and Coordinator of Visiting Researchers.

Kyoto Prefecture

- Kyoto Prefecture is one of the best known City of Japan. Kyoto is an oblong –shaped prefecture stretching from North to south.

Kyoto City Citizen's Disaster Prevention Center

- Kyoto City Citizen Disaster Prevention Center was build with the objective to learn the citizens of Kyoto about Disaster Prevention. This center was established after the long experience of disasters. In this Center, we can learn how to protect our self and to act against disasters. The Disaster Education programme is giving to the school going children. The Kyoto government is increasing the awareness of the children and the citizens through this center. This center is divided in the following Sections:-

Disaster Education Video Room

The past histories of disaster such as earthquakes that happened in Kyoto And their terror are Showed by Hi-Vision Visual System.

Typhoon Simulation Room

In this room, we can practically observed the impact of the strong wind by using the wind making machine with a wind speed of 90 to 150 kmph. By this experience we can be imagined how the strong wind devastated the crop, uprooted the trees and damages to houses during the Typhoon and also be learnt about the Typhoon.

Earthquake Simulation Room

In that room, we can experience of 4-7 intensity tremor shocks and we will introduce how to be prepared in the earthquake.

Smoke Simulation Room

- In this room, we can learn that in a building/hotel fire how to survive in the smoke.

Fire Fighting Equipment Room

- In that Room all kind of model of fire fighting equipments including helicopter are displayed. This type of the Helicopter is to be used in cases of fire caught to the big buildings for operation of the rescue operations of people.

First Aid Training Room

In that Room immediate basic needs items are displayed and also give trainings how to carry injured persons on the stretcher, how to bandage etc.

Fire Prevention Awareness Checking Section

- We can evaluate degree of fire risk in house and can learn how to act against fire.

Observation

- As I observed that over all this City Citizen Disaster Prevention Center is very useful for getting practical experience and creating general awareness about the disasters preventions to the citizens mainly for school children. In my opinion this type of disaster prevention centers may be opened at least one in all prefecture.

About in India

- As per my information India have no City Citizen Disaster Prevention Center in any State/City. In India the disaster awareness learning and prevention programme is included as a subject in Social Sciences in the school curriculum for class VIII and IX. The Central Board of Secondary Education (CBSE) which has introduce the curriculum runs in a very large numbers throughout of the country. Disaster Management will be introduced in Class X from the next coming academic session (started from 2005). The Disaster Management is also being included in the engineering and medical courses.

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- The State level training Institute are also organizing awareness training/workshop/Seminar /Symposium programmes for government officials, panchayat, Block and tehsil level workers, NGO's etc. The Disaster Management Division in India is operating a on Natural Disaster Management under this scheme the financial assistance is provided to the NGO's, State Governments etc. for creating awareness programmes to the local community. Practical knowledge giving in Citizen Disaster Prevention Center in Kyoto can be increased the level of awareness learning to the community.

Visit of Hyogo Prefecture Disaster Management Center

- The same group visited Hyogo Prefecture Disaster Management Center (DMC) on 12.10.2004. After reaching their, it has come to the notice that this DMC has various functions carry out disaster countermeasures. These special features includes :

Building resistant to any disasters

- The building of DMC is a earthquake resistant and also water and heavy to very heavy wind proof.

Equipment with back up functions to keep Headquarters operating

DMC has available Back- up system of two emergency electricity generators with fuel stock of, dual decoders and secured drinking water from their own well.

Centralized and streamlined Works of related Divisions of the Prefectural Government

- With its unique design and layout, this building helps to entire divisions related to disaster management and allowing them to work as effectively as emergency.

Sufficient Space in DMC

This Center has also secure a sufficient space for the officials of related government agencies such as Self Defence Forces and Police department and for representatives from utility companies.

Emergency Path

Disaster Management Center's Building have connected with the subway path to the Prefectural Government Office Buildings.

Relief material Store Room

In this building, the local Government have stored relief material in advance for distributing in case of any emergency such as boiled Rice and blankets.

Emergency Relief Headquarters Control Room

- This Huge Control Room contains U-shape setting arrangements for meetings among the Executive Director of the Headquarters, namely Governor of Hyogo Prefecture and other designated members in the event of emergency and also equipped with the phoenix Disaster Management System, which would provides the latest information relating to the damages. In case of a disaster, the control Room would form a core of disaster activities to be carried out in the Hyogo Prefecture.

Network Control Room

- This room is vital for disaster management in Hyogo Prefecture. It contains a variety of communication equipments including server of the phoenix Disaster Management Systems and Satellite communication network.

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This control room connected with 331 Computer work stations installed for disaster management with the Prefectural Government offices, prefecture related organizations, Municipalities, local fire stations etc.

Main Purposes of the Center

As I observed that the main purpose of this unique Disaster Management Center is collection of information as a result of disasters, initial stage estimation damage and assessment of actual damage, together with a map and visual images. In my opinion, establishment of DMC with phoenix systems required in each prefecture Headquarter.

About in India

- In India, All the State Governments have set up control room in the State Headquarters and also at the district level. All the district control rooms are connected with telephones (with simple four digit numbers), Internet and also having Fax Machine, Emergency light, Satellite Phone, Laptop, etc. But at present these control rooms are not having all kinds of latest technology equipments and facilities like the Phoenix Systems available in the Hyogo Prefecture. All the control Rooms in India, need requirement of the strengthening of the control rooms. The Governments have already taken initiated for strengthening of control rooms.

Next visit to Osaka Prefecture

Thereafter myself and my colleague from Lao have visited Osaka Prefecture office on 8.11.2004. Osaka city is the second largest city in Japan. This city is a business centre and also connected with the other countries by the International Air port. Being a largest city and business center, Osaka Prefecture has big responsibilities to the city. Two river namely Yado river and Yamato river passes through the Osaka prefecture besides their tributaries. Yado river is bigger than the Yamato river. The eastern part of the city is situated in the Neya river basin and very low lying area. As about three quarter part of the basin called internal water area.

Neya River

Activities under taken by the Government

The Sewerage Division, Department of Public Works under the Osaka Prefecture officials have informed about the sewerage system in Osaka prefecture. It has come to the notice that 99.5 % area of the Osaka city is connected with under ground drainage system.

Contd. about Activities

- They informed that there are four types of Sewerage Systems. The details of the sewerage systems are as under:-
- **Regional Sewerage System** – Collection, drainage and treatment of wastewater from public sewers within the river basin area.
- **Public Sewerage System –** Collection, drainage and treatment of domestic wastewater storm and industrial wastewater from within the municipal area.

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- **Specific Environmental Protection**
- **Sewerage System –** A special sewerage system for improving living conditions or conservation of the natural environment.
- **Urban Storm Drainage System –**Drainage storm water from an urbanized area in order to prevent inundation.

In the above mentioned sewerage system they treated wastewater and tested for purification. Thereafter, the wastewater discharged into the Neya River with the help of pumps installed in these areas. This process is followed for the improvement of the living environment.

- As I mentioned above Neya River Basin is low-lying land and having internal water, where rain water cannot naturally flow into the rivers. The rain water fall in this area is forcibly discharged into the river through the sewage system by pumping.

Reservoir

The local government has made few reservoir for overflow water of river and rain fall water. One Reservoir is pond developed as public park used in the normal days. During the rainy season the over flow water store in that pond. This pond is divided into three parts. Part A is normally used for storage of overflow water of the river and part B and C developed for play ground.

Another Reservoir made besides the Pond in the field of Pumping Station

Another Rain Water Reservoir underground in a field

Reservoir for Rain water developed under the play ground of the Junior High School

The local government has also installed a ground water lifting pump for supply of drinking water in the emergency.

The main Objective

The main objective of the sewerage system is creation of a safer and comfortable town. Neya River basin is mainly comprehensive flood control measures. In my opinion efforts taken by the Govt. are good, but not enough for the flood control measures.

About India

- The Geographical situations of each country is different. The geographical situation of India is quite different from Japan. In India, cities are not situated in the so much lowing areas and neither in the river basin. All the Greater Cities/Mega cities are having under ground sewerage system. Most of the greater cities are having a waste water treatment plant. After treatment of wastewater, water discharge in the rivers or directly in the sea.

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The local Governments have using pumping system for discharging rain water from the low lying areas through the drainage. In the small cities the local governments have also made pumping stations for lifting of ground water for drinking water supply. In India normally the people are not made their permanent houses in the river belt basin.

Next Visit to the Cabinet Offices, Tokyo

On 10.12.2004 I visited to the Emergency Operation Center of Ministry of Land, Infrastructure and Transport (MLIT). The main function of the Emergency Operation Center as central room for the disaster management to decide the immediate response in case of major disasters, i.e earthquakes or typhoons. The center is based on the latest Information Technology, has a comprehensive role to collect integrate, understand and disseminate the disaster information and the damage conditions.

Emergency Operation Center function as the Center Room

Collection of disaster Information

1. The regional organizations of MLIT and the related organizations automatically transfer the following information :-

- Comprehensive River information System:- Rainfall, water level, flood control, discharge etc.
- Meteorological Information System:-Weather map, Typhoon information, rainfall etc.
- Radar Rain Gauge System:- Estimated rainfall observed by radar system.
- Seismograph Network System :-Center has more than 700 seismograph data.

Collection of damage information

2. The system for the collection of real time of a disaster from a helicopter or monitoring camera is prepared.

- Helicopter position Information System:-

The flight position of helicopter may be displayed on a map by GSP

Helicopter Tele System: The photos got by a helicopter can be shown on the main display.

Estimation of damage

- Earthquake Disaster Prevention System:- Disaster Information System is introduced and developed by the Cabinet Office for automatic rough estimation of damage caused by an earthquake. It is the system which grasps an earthquake occurrence situation, displays the data and the seismic intensity distribution obtained from the seismograph and performs damage prediction of a structure etc.

The base function of activity

- TV Conference System (Tele conference):- Through the digit circuit, TV conference is performed with regional organization. As informed by MLIT, in this center, the executive members and core staff of MLIT assembled to seek for the comprehensive disaster countermeasures especially at the time of the establishment of headquarter for disaster.
- This center should be a central spot to provide information of MLIT for the Official Residence of the PM and other related organization, to request assistance to the related organizations and to carry out publicity work.
- This center should have a supportive role with local governments during the disaster.

Visit to Fire and Disaster Management Agency (FDMA)

- The Fire Services in Japan control under the autonomous bodies and developed as regional fire defense headquarters and volunteer Fire Corps.
- FDMA is the center of the fire defense administration, supporting the nation's fire defense forces. It also function as the national Govt. for autonomous bodies and fire defense related organizations.

The basis of the fire defense administration

- FDMA has formulated various measures to prevent disasters such as fire, earthquake, storm, flood damage etc., to develop the necessary legal basis and make improve arrangements consisting of the materials and necessary equipments to minimize damage when disaster occurs.

FDMA work as Control Tower in disaster control operations

- FDMA has the knowledge of the fire defense systems throughout the country, will play the role of a control tower in disaster control operation. It will ensure prompt communication with and an instructions to the relevant defense organizations including Emergency Fire Rescue Teams to minimize damage.

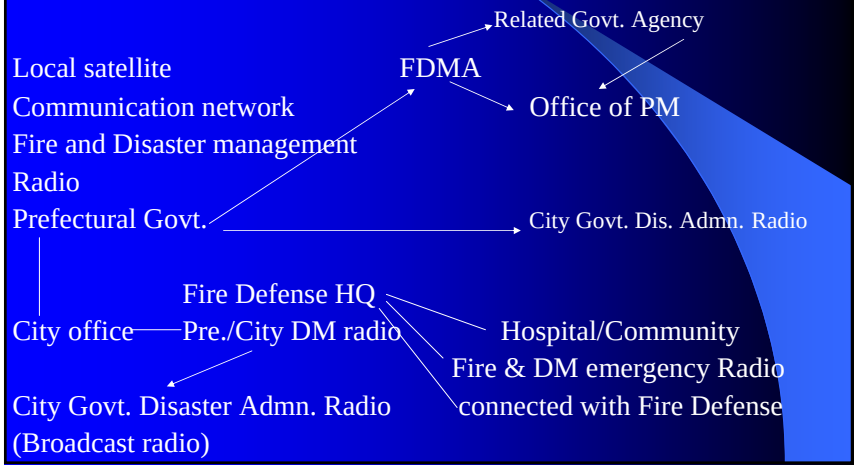
Disaster Prevention

- FDMA aim is to ensure people' safety in their social lives and need to develop infrastructure with a high capability for preventing disasters by considering every possible risk to put large forces to provide first aid, fire and rescue services including Emergency Fire Response Teams with in a limited time after the occur of the disaster in an efficient manner.

Disaster Prevention through community level efforts

- Volunteer Fire Corps plays a vital role as first responders to save disaster stricken people quickly. They have a knowledge of an area and who lives where is necessary. FDMA continues its public relations and supports activities with these voluntary disaster preventing organizations.

Development of fire and disaster prevention communication network useful in disaster



Linked with fire departments and branch stations

FDMA has links about 1600 departments and 3200 branch stations throughout the country. Permanent fire defense forces means departments and fire stations operated under city, towns and villages. About 0.93 million members (including female) are in Volunteer Fire Corps (VFC) who have other professions for a living. VFC continue to promote various activities to the communities disaster prevention programmes. They maintain close relations with towns when not on call or time of need.

First aid and Rescue operations

The aim of the fire services to save the lives that can be saved. They take quick action determines life or death. Present pre-hospital care conditions in Japan. An ambulance arrived at the site from a initial call in a fire department (119) is about 6 minutes. During this period they give first aid whatever they give.

Special rescue teams are reliable in an emergency

1493 Special Rescue Teams are available in the country and deployed in 859 fire headquarters with a total team numbers of about 24000. Rescue team members are professional. They rush to disaster sites where people who need help are in a critical condition. They got the hard training and having latest sophisticated and special equipments.

Prevent fire

After the Kabukicho building fire in Shinjuku occurred in Sept. 2001, FDMA has made Fire Defense law stipulates " Standards for fire prevention equipment and others. Under this rule every building/house should keep some necessary fire preventive equipments which minimize damage such as fire extinguishing, smoke alarming, evacuating, fire fighting etc.

Research and development of scientific technologies for prevention

Preventing fires, mitigating damage and identifying causes are not possible without the latest scientific technologies. For the research and development of new fire-fighting technologies the Govt. has established a National Research Institute of Fire and Disaster.

Fire Colleges to skill the Fire Personnel

Increasing the capability of Fire personnel capable of handling new types of disasters and accidents with the backing of knowledge on advance science and technology. Fire and Defence college as an Institution attached to FDMA and Disaster Prevention & Crisis Management College is designed to provide people with opportunities to learn disaster prevention & crisis on the Internet, so that it will help reinforce communities ability to prevent disaster.

In India

Fire Defense Services under the State Government but their Center is Civil Defense under the Ministry of Home Affairs. The other structure and work is same as in Japan. There is no fire Volunteer Corps. As per my information fire Defense has no helicopter. As an when required, they used Defence helicopter. For training of fire personnel and Research, there are two college namely National Fire service College, and National Civil Defense College both in Nagpur. But we need more strengthen fire services to be developed into multi-hazard response unit.

Visit to Disaster Management of Cabinet Office

- I visited International Disaster Management Section in the Disaster management Cabinet Office of the Govt. of Japan. Japan having the total area 0.25% of the world and 20% Natural Disasters occurred in Japan.
- Heavy Monsoon Rain Season (May-July)
- Japan has vulnerable to all variety of Disasters such as Earthquake, Typhoons (July-October), Floods, Torrential Rains, Landslides, Tsunamis, Volcanic Eruptions and Snow Avalanches

Historical records of Earthquake in Japan

- The experienced of earthquake is very ancient in Japan as per the first written record about the earthquake of Yamato-Kochi in August, 416 in Japan is available in the first Official history book of Japan.

Disaster Management System in Japan

- Organizational Structure of Disaster Management in 3 layers. The main aim is to ensure multi- sectoral coordination in 3 administrative layers.
- At National Level :-

1. Prime Minister : under the PM Central Disaster Management council, Designated Admn. Organs. and Designated public Corporation.

Their work is formulation and execution of DM plan, comprehensive coordination, promoting execution of the basic DM plan and operational plan

Prefectural Government Level

- Governor :- Under the Governor Prefectural Disaster Management Council, Designated Local Administrative Organizations and Designated Local Public corporation.

Their work is formulation and execution of DM plan.

Formulation and execution of Regional DM plan.

Municipal Level

- Mayors of Cities, Towns and Villages
- Municipal Disaster management Council

Their work is formulation and execution of DM plan

Formulation and promoting execution of Regional DM plan

To Resident Level

National Government

- PM is the Head of the Cabinet and Chairman of the Central Disaster Management Council.

Cabinet :- Cabinet Secretariat and the following Ministries attached with the cabinet :-

Ministry of Public Management, Home Affairs, Post and Telegraph- Fire Defense Agency

Ministry of Justice, Foreign Affairs, Finance, Environment, Agriculture, Forestry and Fisheries-Forestry Agency, Health, Labour and Welfare, Economy, Trade and Industry

Ministry of Land, Infrastructure and Transport –Japan Meteorological Agency (JMA), Coast Guard and Geological Survey Institute

Disaster Management Council

- Prime Minister, Minister of State for DM

Central Disaster Management Council

- **Chairman** – Prime Minister
- **Member of Council** – Minister of State for DM and all Cabinet Minister (less than 17)
- **Chief of Designated Public Corporation**- Governor of the Japan Bank, President of Japan Red Cross Society, President of Japan Broadcasting Cooperation, President of Nippon Telegraph and Telephone Corporation
- 4 Experienced Persons or Academic Standing

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- Committee for Technical Investigation :-
- **Chairman**- Parliamentary Secretary of the Cabinet Office
- **Advisor**- Deputy Chief Cabinet Secretariat for Crisis
- **Vice Chairman**- Director General for Disaster management, Cabinet Deputy Manager of Fire and Disaster Management

Initiation in Disaster Management

- After 1950 the Japan has taken initiated the countermeasures such as promotion of national land conservation projects, improvement in whether forecasting technologies, completion of disaster information systems and preparation of disaster management systems, the number of casualty and missing due to the natural disasters has been declined.

Turning Point in Disaster Management in Japan

The very large number of damage by the Typhoon Ise-wan in 1959 was the turning point for the disaster management, giving rise to a movement in plan and prepare a comprehensive disaster management systems. In 1961, the Disaster Countermeasures Basic Act was enacted. Thereafter, the DM system in Japan has been improved and strengthen. The record shows that the casualties onward 1960 to the current year 2004 declined except 1995 Great Hanshin - Awaji Earthquake.

In India

In India Ministry of Home Affairs is a nodal Ministry for Natural and Manmade disaster. Cabinet Minister of each Ministry is a member of the Cabinet. The Name of the important Ministry and disaster related organization is PM Office, M/O External Affairs, Home Affairs, Finance, Defense, Agriculture, Rural Development, Power, Telecommunication, Ministry of Road & shipping, Urban Affairs, Petroleum and Natural Gas, Information & Broadcasting, Labour etc. In India there are also 3 layers like in Japan. Central Relief Commissioner in the nodal Ministry of Natural Disaster Management takes the meeting of Crisis Management Group (CMG). The related ministries are the member of the CMG. The Central Relief Commissioner send the latest information and situation to the PM office and Cabinet office every day.

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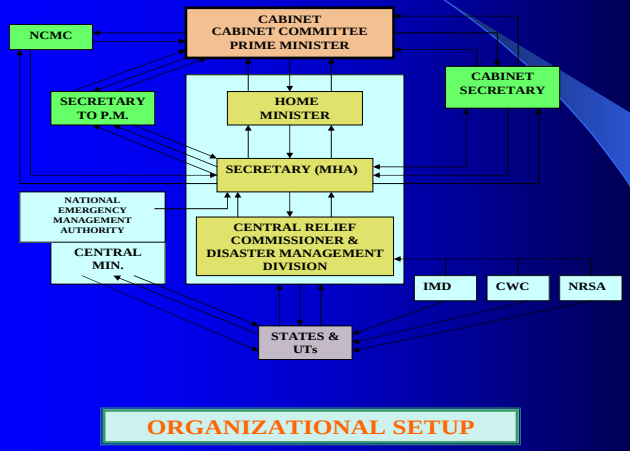
Public Sector/Private sector and Academicians are not involve in the Cabinet. In India is also 3 layers- Central Government, State Govt./ Prefectural and District including Municipalities as in Japan.

As I stated in my first presentation the basic responsibility for undertaking of Rescue, relief and rehabilitation measure in the event of disaster is that of the State Govt. in India. The role of the Central Govt. is supportive in terms of physical, Financial resources, complimentary measures in sectors such as Transport, food grains etc.

National Government



ORGANIZATIONAL SETUP

Turning Point in development in plan and strategies

The super cyclone in Orissa October, 1999 and the Bhuj Earthquake in Gujarat January 26, 2001 underscored the need to adopt multi disciplinary and multi sectoral approach and incorporation of risk reduction in the development plan and strategies.

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The Govt. of India have brought about a paradigm shift in the approach to disaster management. The new approach proceeds from the conviction that development cannot be sustainable unless disaster mitigation is built into the development process. After that the Govt. has taken so many initiated in the prevention of disaster management.

Observation

I observed that due to the long experienced of major disasters Japan has initiated action to develop in disaster management system more than 40 years earlier. India has brought out paradigm shift in the approach to disaster management in few years back and within a short period achieved in their development process. For example

- 18 Specialist Response Team has been trained. Each team consist 45 personnel including doctors, paramedics and structural engineering. Our target is to trained 144 teams.
- 14 Regional Response Centers of CPMF have been identified to across the country for immediate response to flood, cyclone, earthquake and landslide etc.,

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- A 200 beded mobile hospital, fully trained and equipped is being set up by the M/o Health and attached to the leading Hospital in Delhi.
- Adoption of building bye-laws for multi hazard resistant design and construction initiation of retrofitting of lifeline buildings
- Design and construction have been develop for States for district multi hazard Emergency Operation Centers for States and Districts. Construction work has been stated for multi hazard resistant EOCs in 6 States and 64 districts.

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- Elements of earthquake engineering in undergraduate Engineering/Architecture Curricula
- Disaster awareness introduced in school curricula etc.

Lessons Learned

- Fast Communication System
- Immediate Response
- Accuracy of early warning System
- Involvement of NGO's with the local Govt. in the rescue and relief operation
- Involvement of Public/Private Sector in the Policy making Council/Committee of Disaster Management System.

Thank You

ありがとうございました