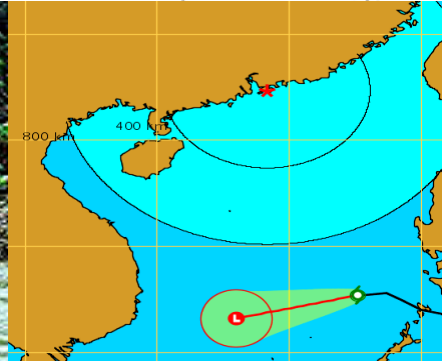


ASIAN DISASTER REDUCTION CENTER

Visiting Researcher Mr. VU Thanh Liem



NATURAL DISASTER AND DISASTER MANAGEMENT IN VIETNAM

Kobe, Japan
August 2008

Contents:

1. Natural disaster in Vietnam.
 2. Measures for natural disaster prevention, response and mitigation in Vietnam.
 3. Objective of the Visiting Research and Expected output
-

VIETNAM



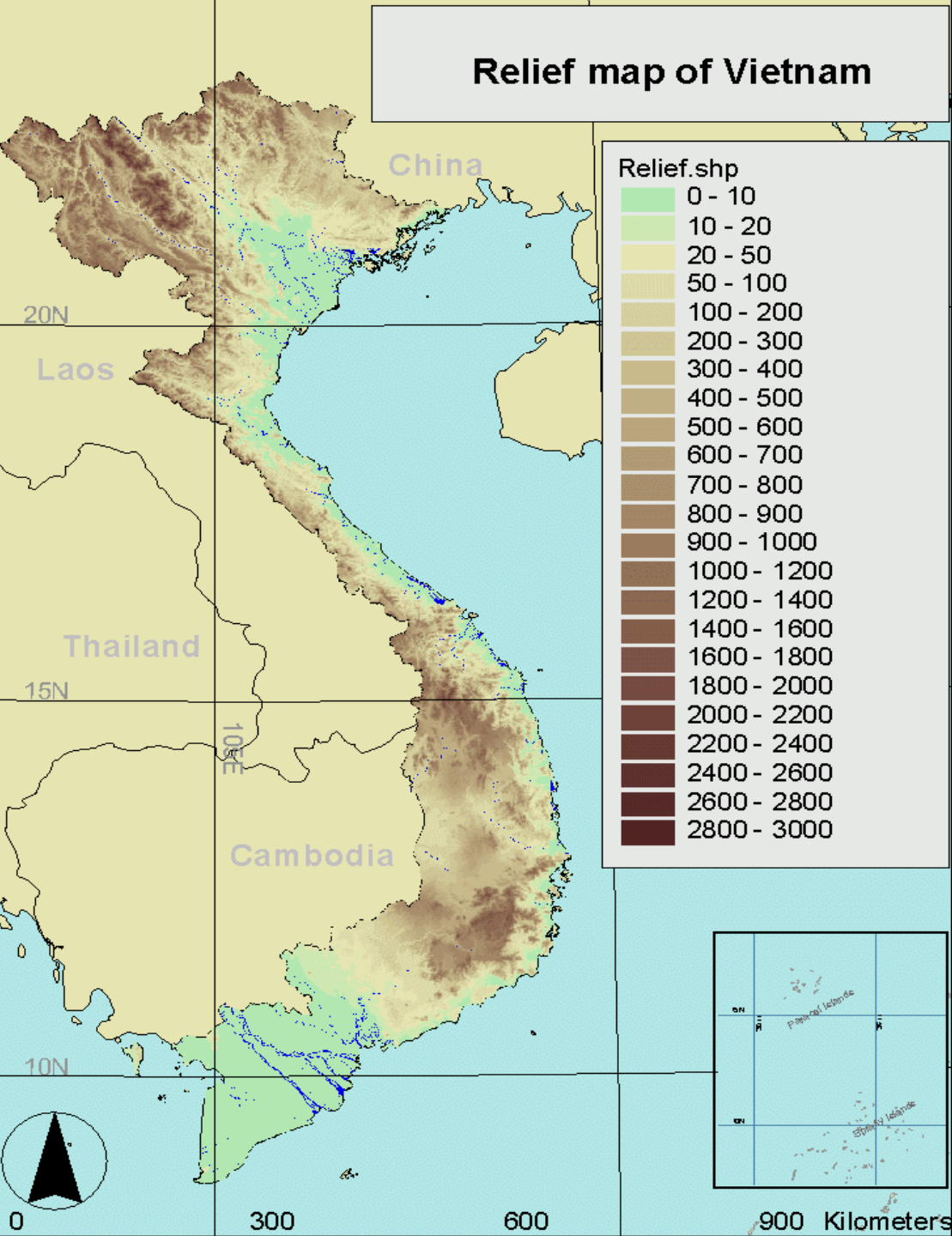
Vietnam is located at the Southeast of Asia, with 333.000 km² of the total natural area and 3200km of coastline.

Population: 84 million (2006's statistics)

Population density: 226 capitas/km²

Urban population: 27 %

Rural population: 73 %



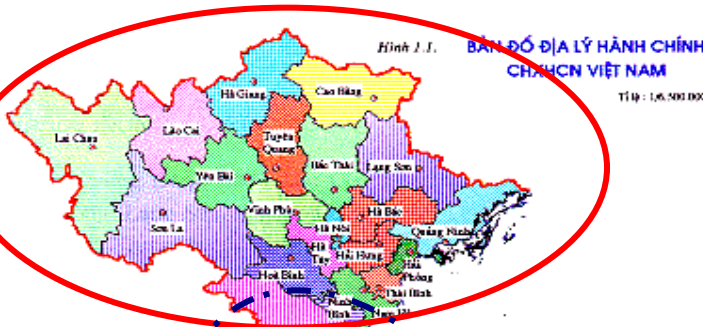
NATURAL TOPOGRAPHY

1. The Northern Vietnam is divided by high mountain ranges located in Northwest-Southeast direction. The topographical elevation lowers from the Northwest to the Southeast and to the sea side. Delta areas of the Red River, Thai Binh river and the coastal area have low natural elevation.
2. Central and Highlands region has elevation sloping from the West to the East, with the Truong Son range in the West and low-land having sand dunes in the coastline area.
3. The Southern Vietnam has relatively flat topography with low elevation.

MAIN RIVER SYSTEMS IN VN

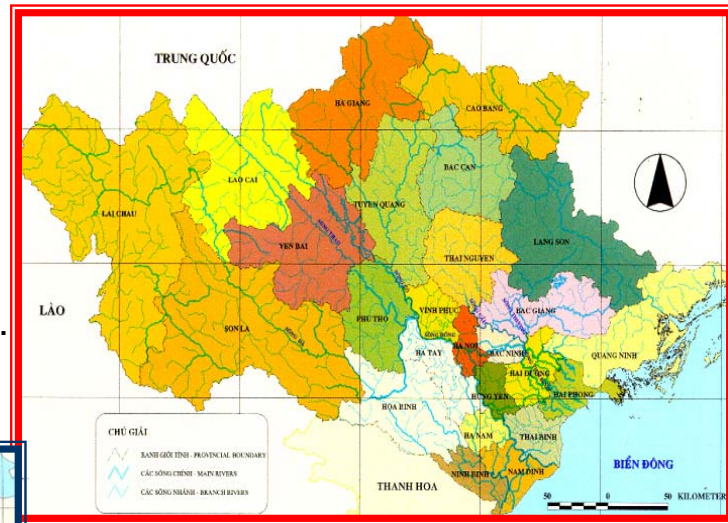
Vietnam has 14 main river systems. River density is 1,5 – 2 km/km². There are 2 river systems sharing international basins.

MAIN RIVER SYSTEMS IN VIET NAM



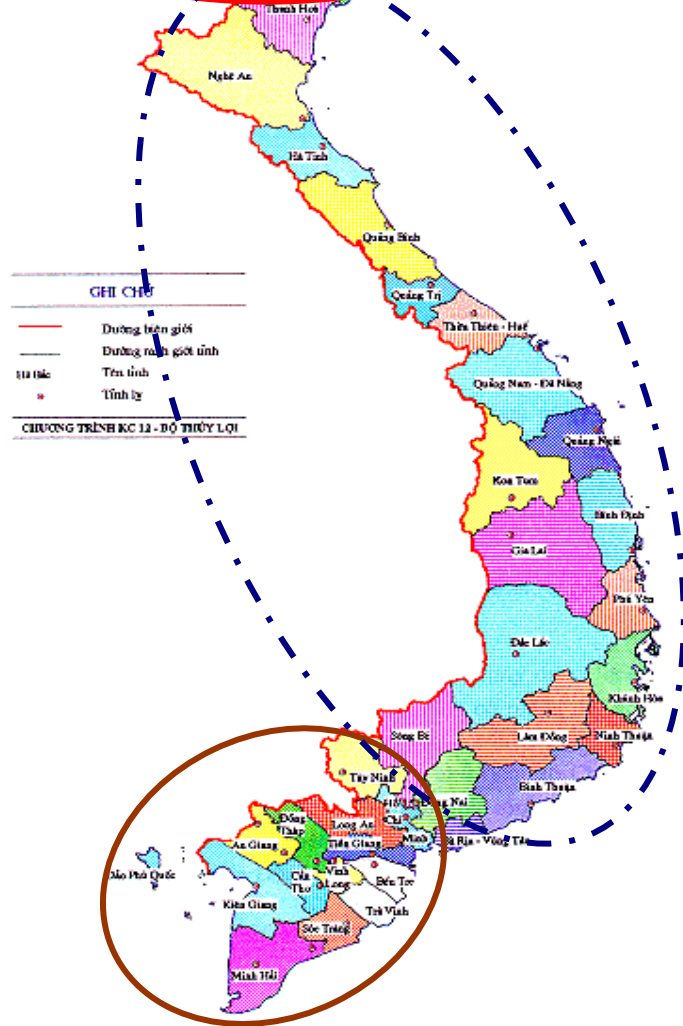
Northern river systems: Red river and Thai Binh river

- Basin area in VN: 86.660 km² (51% total basin).
- Crossing 23 provinces and cities.
- Flood season: May to Sep.



River in the Central

- River in central of Vietnam is sort river and flood coming very fast.
- Flood season:
 - Thanh Hoa – Ha Tinh: June to Oct.
 - Q.Binh – Binh Thuan: Sep. to Dec
- Disaster management in central is difficulties work



River in the Southern

The Mekong river system:

- Large basin area.
- High river network density.
- Flood reason: Oct. – Sep.



Natural Hazards in Vietnam

Relative Frequency

High

Flood (river)
Typhoon
Inundation
Flash flood

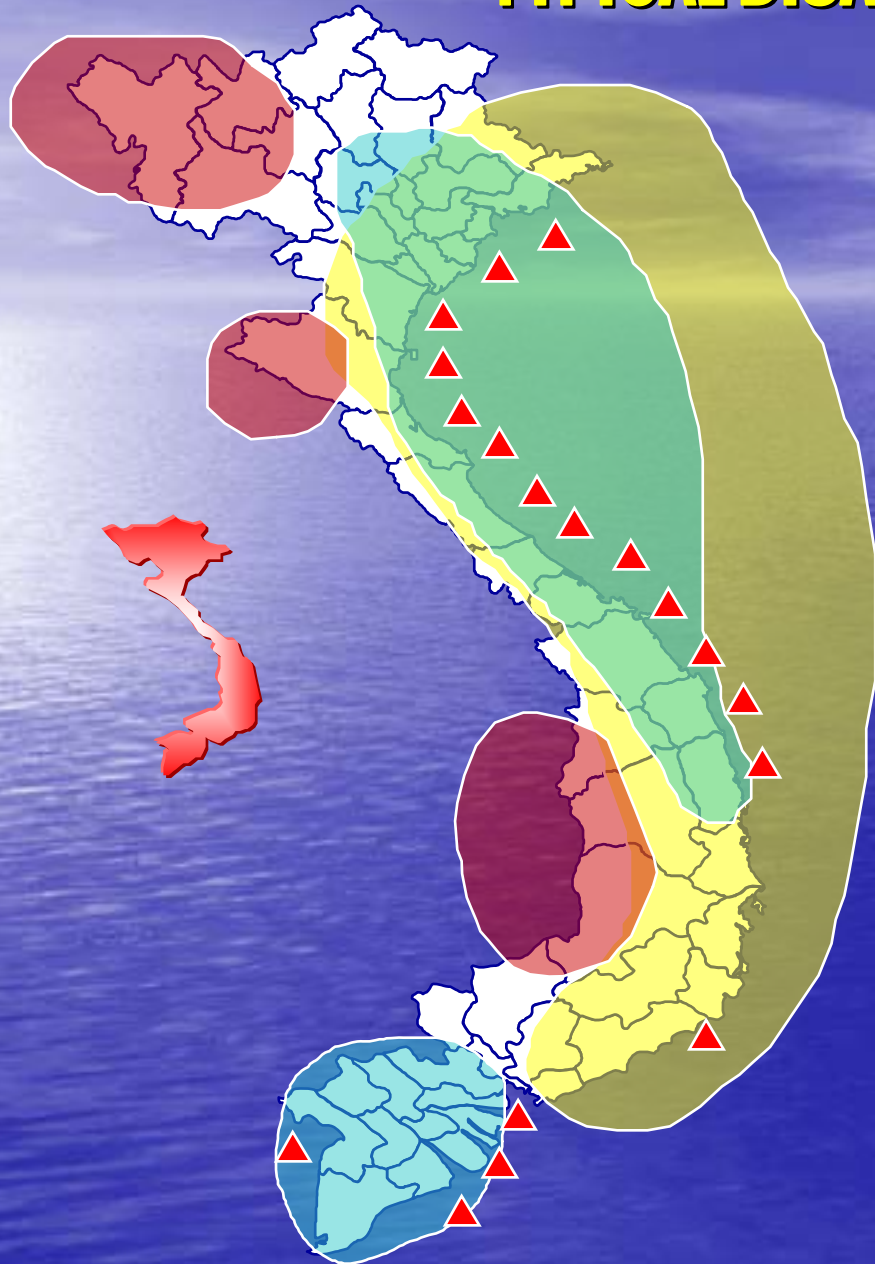
Medium

Hail rain
Drought
Landslide, erosion
Cyclone
Sea surge
Fire
Deforestation
Salinity intrusion

Low

Earthquake
Tsunami
Frost

TYPICAL DISASTERS IN VIET NAM



 River Flooding

 Flash floods

 Typhoons

 Storm Surges

Not included in map:

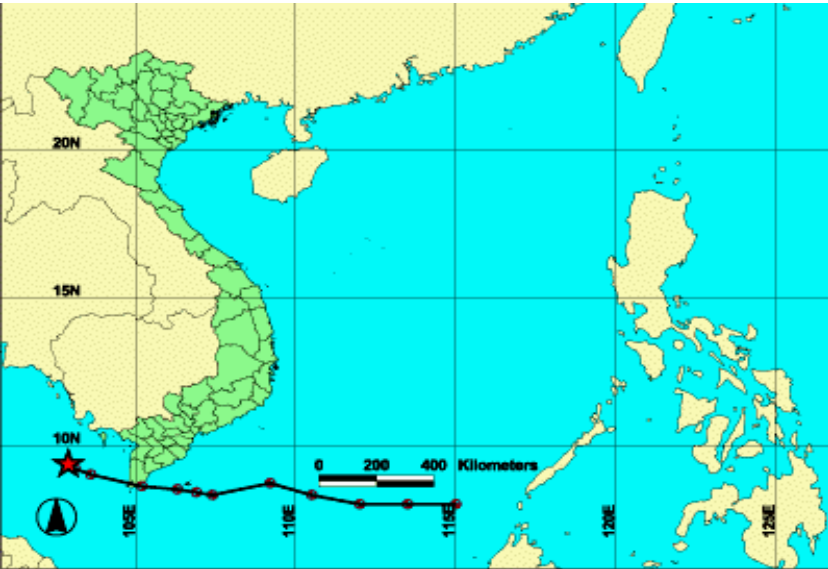
- Droughts
- Salt water intrusion
- Forest fire

SERIOUS DISASTERS 1945 - 2007

- **Historical flood event of 1945 on the Red river system.**
- **Historical flood event of 1971 on the Red river system**
- **Flash floods in Lai Chau Province 1996**
- **Linda Storm 1997**
- **Flooding in Central Vietnam 1999**
- **Xangsane Typhoon 2006**
- **Flooding in Mekong River 2000, 2001,2002**

SERIOUS DISASTERS

Linda Storm (2 Nov. 1997)



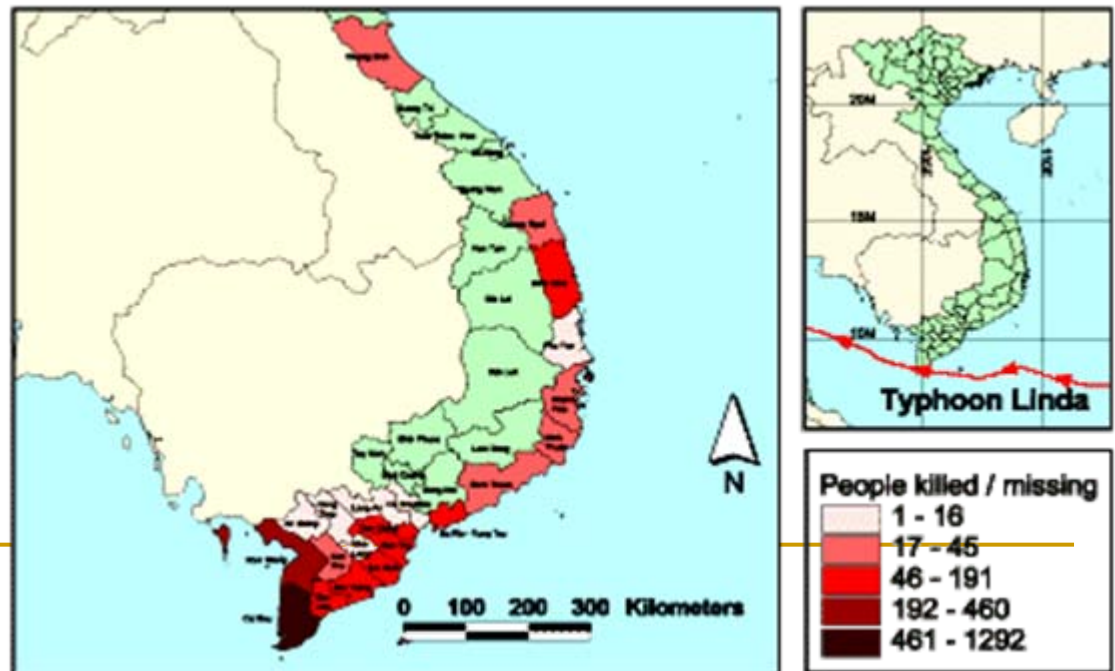
- On 2 November 1997 the center of Typhoon Linda hit the southern tip of Vietnam (the area from Bac Lieu Province to Ca Mau Province) with wind velocities of 75 to 102 km/h (Beaufort Scale 9 to 10).
- On 3 November 1997, Typhoon Linda moved west and northwest, away from Viet Nam, towards the Gulf of Thailand, at a speed of 20 km/h.

No. of people killed: 778

No. of people missing: 2123

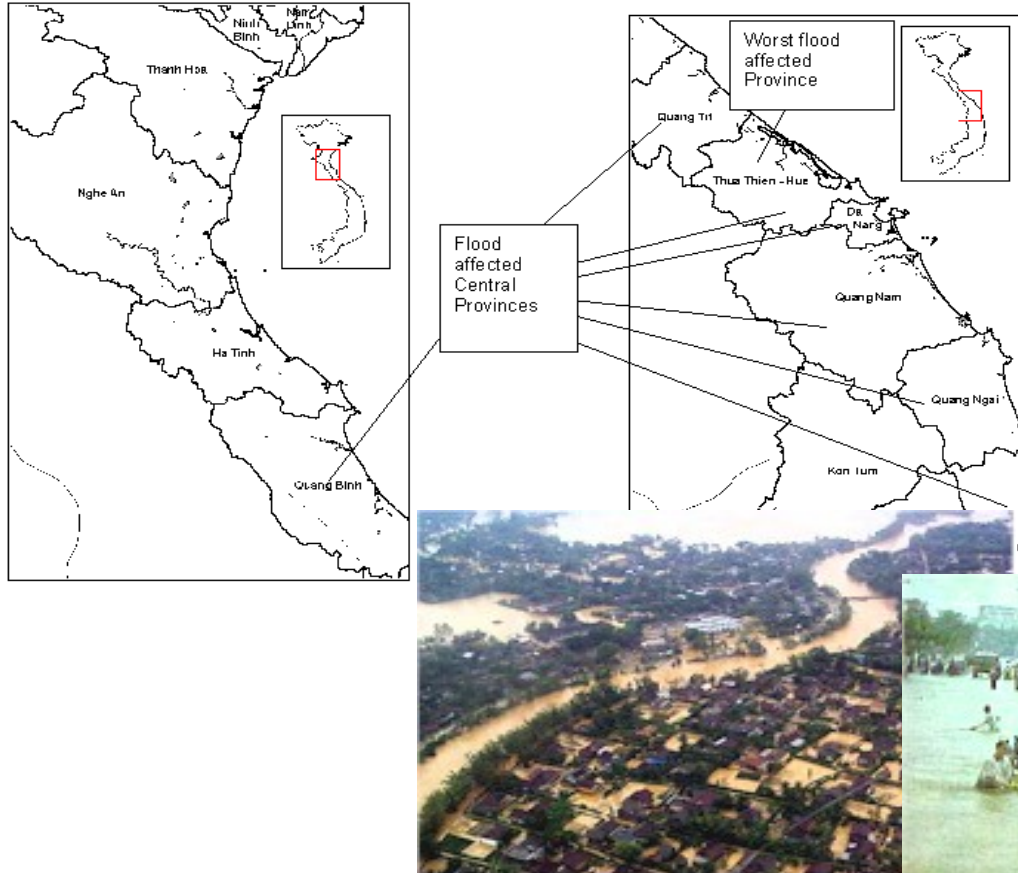
No. of people injured: 1232

Economic loss: \$US 593 Mil



SERIOUS DISASTERS

Flooding in Central provinces 1999



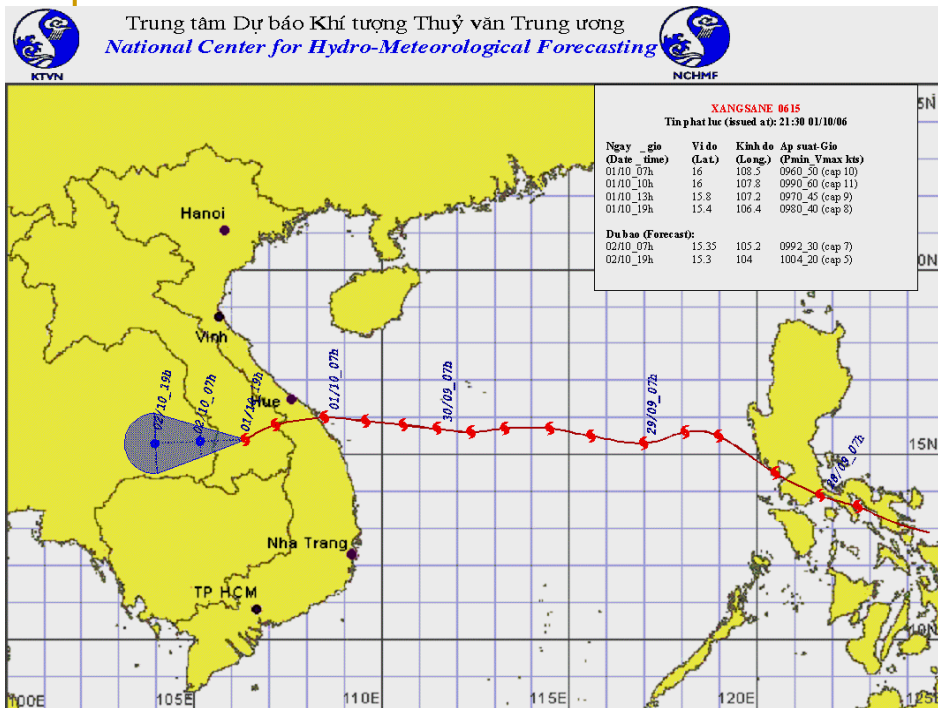
In November 1999, severe floods occurred in the Central Provinces from Quang Binh to Binh Dinh



More than 600 people were killed or reported missing and the value of the loss of property was approx. \$US 300 Mil.

SERIOUS DISASTERS

“Xangsane typhoon 2006”



One of the most violent typhoon in the last 20 years in Vietnam (Beaufort scale 12, gusting Beaufort scale 13-14)

Formed in the East sea of the Philippine (26/9/06) landed to Da Nang AM 1/10/06

Stable track, intensity and high movement speed (20km/h).

Broad affected area of strong wind (Quang Tri - Quang Ngai)

- Dead: 66 persons
- Missing: 2 persons (by flood)
- Injury: 525 persons
- Collapsed houses: 19.736 houses
- Damaged houses: 273.744 houses
- Sunk and damaged boats: 878 boats
- Total economic loss estimated: 650 million US\$

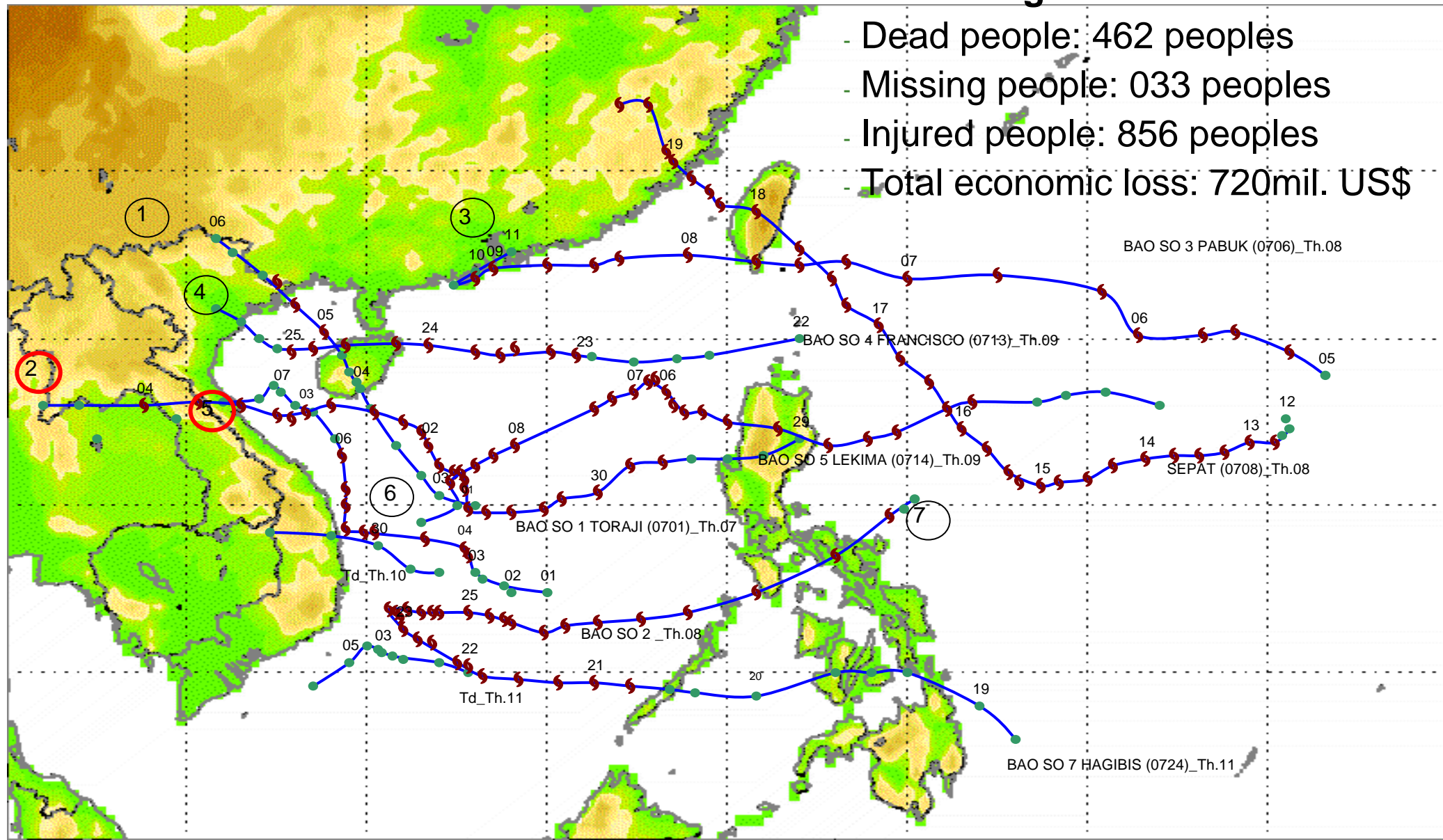
Natural disaster in 2007

- **In 2007, natural disaster occurred severely, especially in central provinces, there were:**
 - 07 typhoons,
 - 03 tropical depressions,
 - 08 floods and
 - 57 whirlwindswhich caused seriously damages in terms of human lives, state and people property.
- **Particularly, in Northern Center provinces, there were big floods after the storm No. 2 on August 7th. After storm No. 5 Lekima, there were also big floods in provinces from Ninh Binh to Quang Binh.**
- **Late Oct. and early Nov., heavy rain occurred all over Central provinces with the rainfall mostly from 200-400mm, particularly 500-600mm or even 700-800 in some places.**

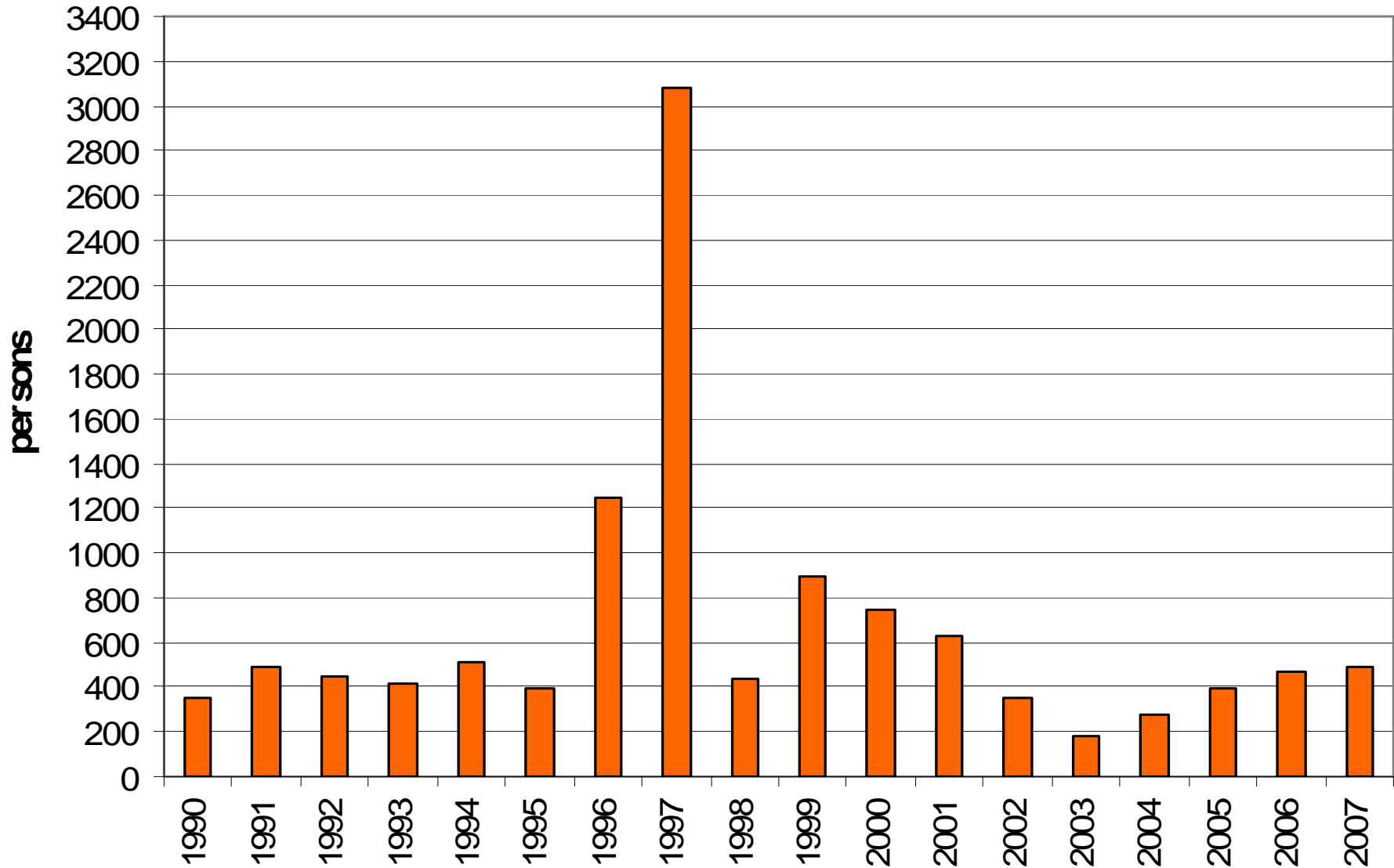
Track of typhoon 2007' year

Total damage of 2007:

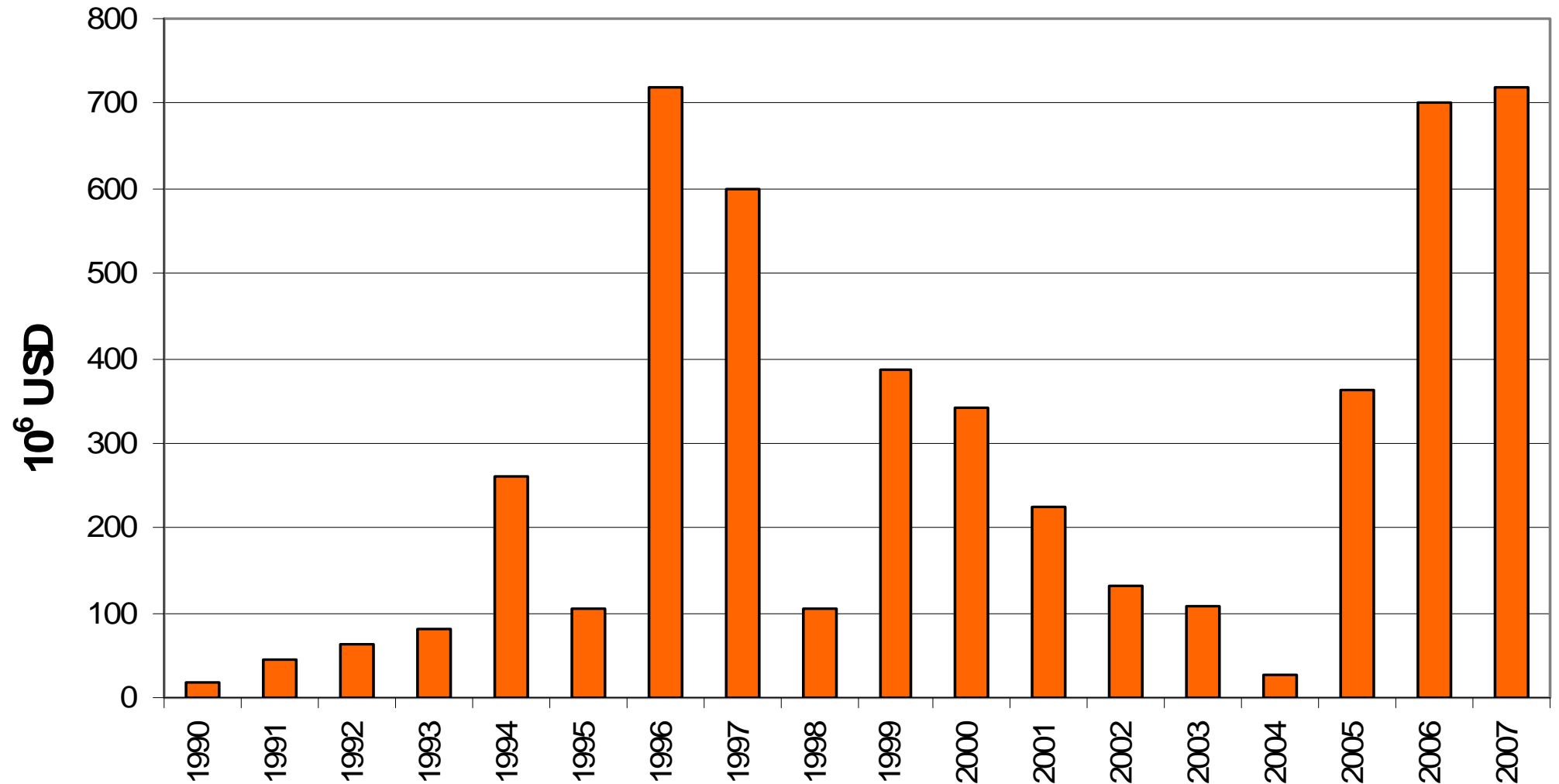
- Dead people: 462 peoples
- Missing people: 033 peoples
- Injured people: 856 peoples
- Total economic loss: 720mil. US\$



Human loss recorded from 1990 to 2007



Economic loss recorded from 1990 to 2007





MEASURES FOR NATURAL DISASTER PREVENTION, RESPONSE AND MITIGATION IN VIETNAM

In 16th November 2007, the Prime Minister issued the Decision No.172/2007/ QD- TTg on approving the National Strategy for natural disaster prevention, response and mitigation to 2020.

NATIONAL STRATEGY FOR NATURAL DISASTER PREVENTION, RESPONSE AND MITIGATION TO 2020

RESPONSIBILITIES AND SOLUTIONS

1. **General responsibilities and solutions**
2. **Responsibilities and solutions for each region
(5 regions)**



1. General responsibilities and solutions

- **Complete the system of laws, policies and mechanisms**
 - **Complete organizational and management structure**
 - **Socialization and Human resources development**
 - **Financial resources**
 - **Raise community's awareness**
 - **Develop science and technologies**
 - **Consolidate dyke and reservoir system**
 - **Enhance the search and rescue capacity**
 - **Improve international cooperation and integration**
-



2. Responsibilities and solutions for each region

a. The Northern plains and the North Central

The approach applied for the area: *“The responsibility is to prevent and control floods; additionally, active in preventing and responding to drought, sea surge”*

- Enhance flood-prevention capacity for river dyke system
 - Continue constructing reservoir system
 - Improve the flood discharge capacity for river bed
 - Implement programs such as restoring and upgrading sea dykes, plantation of watershed forest and protective forest.
-



2. Responsibilities and solutions for each region *(Cont.)*

b. The Central Coast, South East and Islands

The approach applied for the area: “*Proactive in prevention, avoidance and adaptation to develop*”

- Plan residential, industrial and tourism areas
 - Shift the crop and animal husbandry structure
 - Promote research and suggest solutions on preventing the river mouth area extension, enhancing flood discharge and combining with water traffic
 - Strengthen and upgrade dykes, preserve natural sand dune; build reservoirs, afforest; build parking space for boats and ships
-



2. Responsibilities and solutions for each region *(Cont.)*

c. The Mekong River Delta

The approach applied for the area: *“Live together with floods ”*

- Planning to control flood
 - Construction of residential clusters and infrastructure for the population to flood resistance
 - Proactively take advantage of floods
 - Enhance international cooperation with countries in Mekong basin
-



2. Responsibilities and solutions for each region *(Cont.)*

d. Mountainous areas and Central Highlands

The approach applied for the area: “*Proactively prevent natural disasters*”

- Define and map areas highly prone to flash floods, landslides
- Establish warning and communication systems
- Strengthen the international cooperation in natural disasters forecasting, warning

e. Offshore areas

The approach applied for the area: “*Proactively prevent and response*”

- Build management system for pelagic fishing boats and ships
 - Establish communication system
 - Strengthen the cooperation with other countries and border localities in region
-

NATIONAL STRATEGY FOR NATURAL DISASTER PREVENTION, RESPONSE AND MITIGATION TO 2020

ACTION PLAN

Focus on implementing objectives and programs up to 2020 as the follow:

- **Non-structure measures**
- **Structure measures**



1. Non-structure measures

- Complete system of legal documents
 - Complete the organization's structure and mechanism
 - A program of master plan making and reviewing
 - A program of capacity building, forecasting and warning
 - Improve the communities' awareness
 - Develop forests and protect upstream forests
 - Improve the management capacity
-



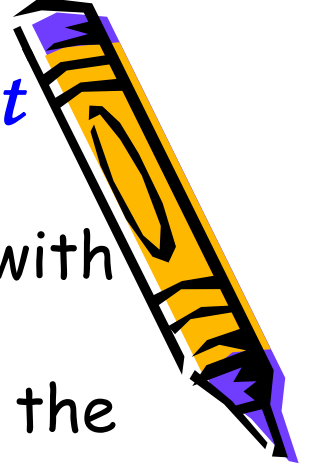
2. Structure measures

- A program to build and upgrade structures for disaster mitigation and preparedness in line with each region's features
 - A program to build reservoirs in upstream
 - A program to expand apertures of bridges and sluices for road and railway transportation
 - A program to build works for land slide preparedness
 - A program to upgrade the dike system
 - A program to construct works for ships and boats shelters from storm
 - A program to develop communities coming over flood and preparing for storm
-

**Objective of the
Visiting Research and Expected output**

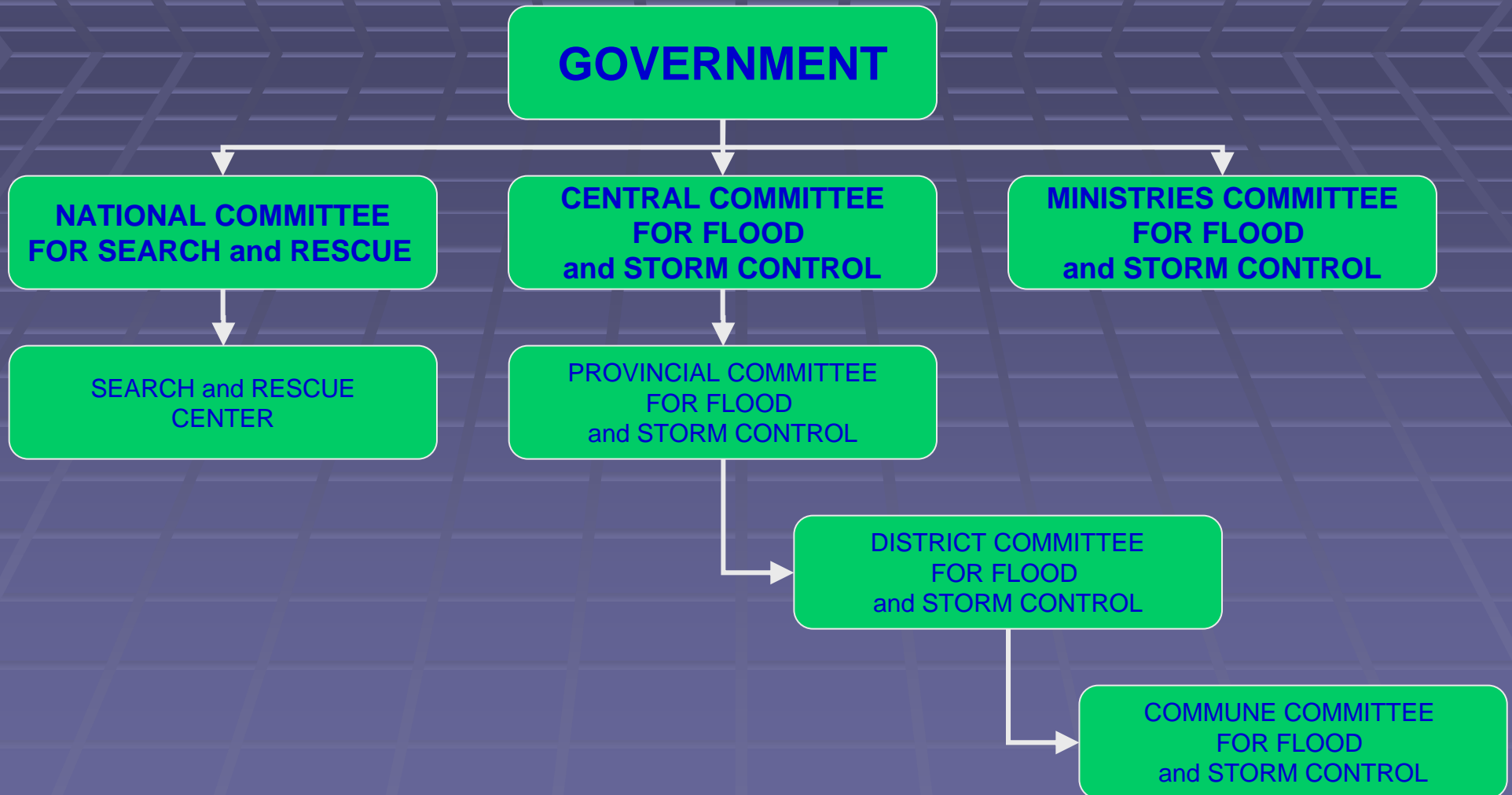
Objective of the Visiting Research and Expected output

- ❖ Research on the facts leading to Natural Disasters with special reference to typhoons, floods, inundations, droughts, landslides, Tsunami, earthquakes, etc. and the counter measures taken in Japan
- ❖ To study how the:
 - Activities for education, information dissemination, community awareness raising on disaster prevention, response and mitigation.
 - The community participation in formulating legal documents, in planning, managing and monitoring the implementation of programs, projects at local level.
 - International Cooperation works disaster prevention, response, mitigation, preparedness at central and local administrative levels;
 - Application of high-technology to disaster forecasting and warning, disaster reduction and establishment of disaster information system...

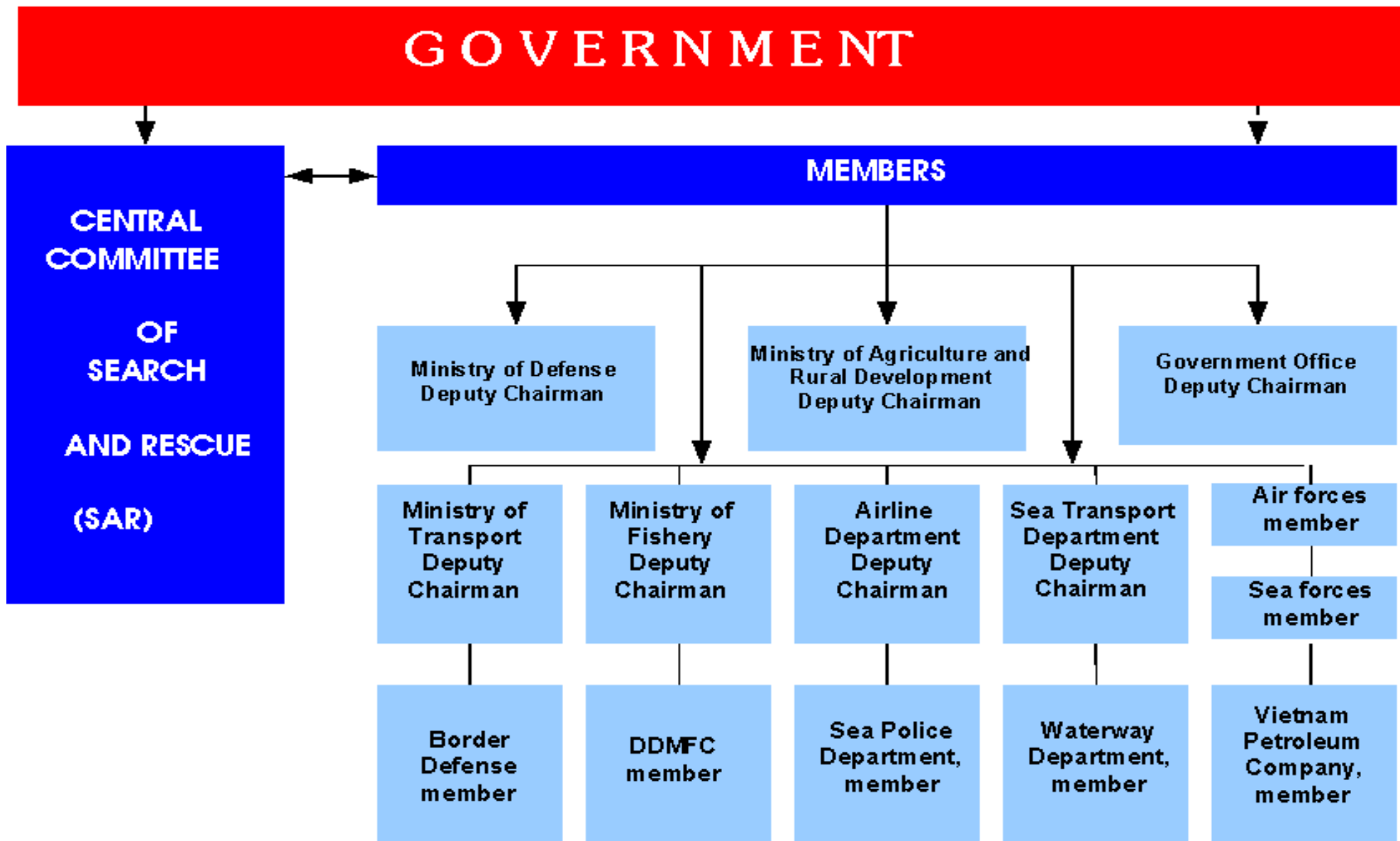


Organizations Chat for Disaster Prevention and Mitigation

INSTITUTIONAL FRAMEWORK FOR DISASTER MANAGEMENT IN VIETNAM



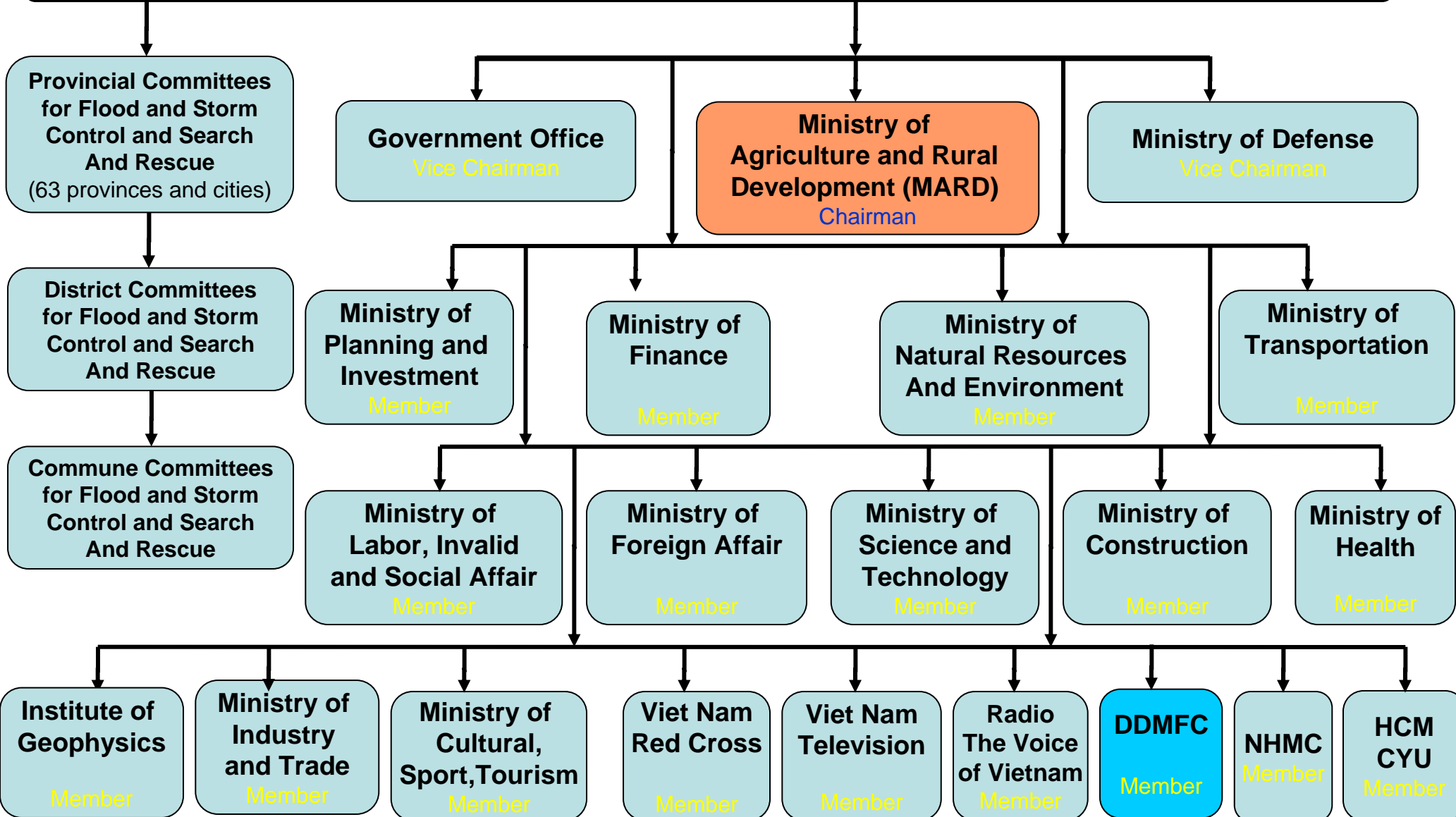
ORGANIZATION CHART OF THE CENTRAL COMMITTEE OF SEARCH AND RESCUE



ORGANIZATION CHART OF
THE CCFSC

GOVERNMENT

Central Steering Committee for Flood and Storm Control - Vietnam (CCFSC)





Thank for your Attention

