



TYPES OF EMERGENCIES / **NATURAL DISASTERS**



INTRODUCTION



DISASTER

❑ An event or series of events which gives rise to casualty and damage or loss of properties, infrastructures, environments, essential services or means of livelihood on such a scale which is beyond the normal capacity of the affected community to cope with.

❑ DM Act 2005 defines Disaster as a catastrophe, mishap, calamity or grave occurrence, in any area, arising from natural or man made causes, or by accident or negligence, which results in substantial loss of life or human suffering or damage to, and the destruction of property, environment, and is of such a nature or magnitude, as to be beyond the Coping capacity of the community of the affected area.



AIM



**TO UNDERSTAND THE
TYPES OF EMERGENCIES /
NATURAL DISASTERS**



PREVIEW



- **PART I – CLASSIFICATION OF DISASTERS**
- **PART II – TYPES OF DISASTERS**
- **PART III – ASSISTANCE DURING
NATURAL DISASTER**



PART I

CLASSIFICATION OF DISASTERS



- ☐ **NATURAL DISASTERS**
- ☐ **MAN MADE DISASTERS**



CLASSIFICATION



NATURAL DISASTERS

❑ WIND RELATED

- **Storms, Cyclones, Tornados, Tidal waves, air pollution,**

❑ WATER RELATED

- **Floods, Cloud burst, excessive rains, Drought, Land degradation, Desertification, Famine**

❑ EARTH RELATED

- **Earthquakes, Tsunamis, Avalanches, Landslides, Volcanic eruptions**



CLASSIFICATION



MAN MADE DISASTERS

- **ACCIDENTS**
- **INDUSTRIAL MISHAPS**
- **FIRES**
- **FOREST FIRES**
- **CONTAMINATION / POISONING**
- **ECOLOGICAL**
- **MINING**
- **RIVER POLLUTION**
- **EPIDEMICS**
- **COMMUNAL RIOTS**
- **TERRORIST ACTIVITIES**
- **WAR**
- **WEAPONS (NUCLEAR, BIOLOGICAL, CHEMICAL)**



PART II **TYPES OF NATURAL DISASTERS**



Map of India and neighbourhood showing earthquake epicentres



EARTHQUAKES





EARTHQUAKES



DEFINITION

- ☐ An earthquake is a natural phenomenon which creates trembling vibrations or sudden undulation of a portion of earth's crust caused by splitting of a mass of rock (tectonic) or by volcanic or other disturbances.

MESUREMENT OF MAGNITUDE

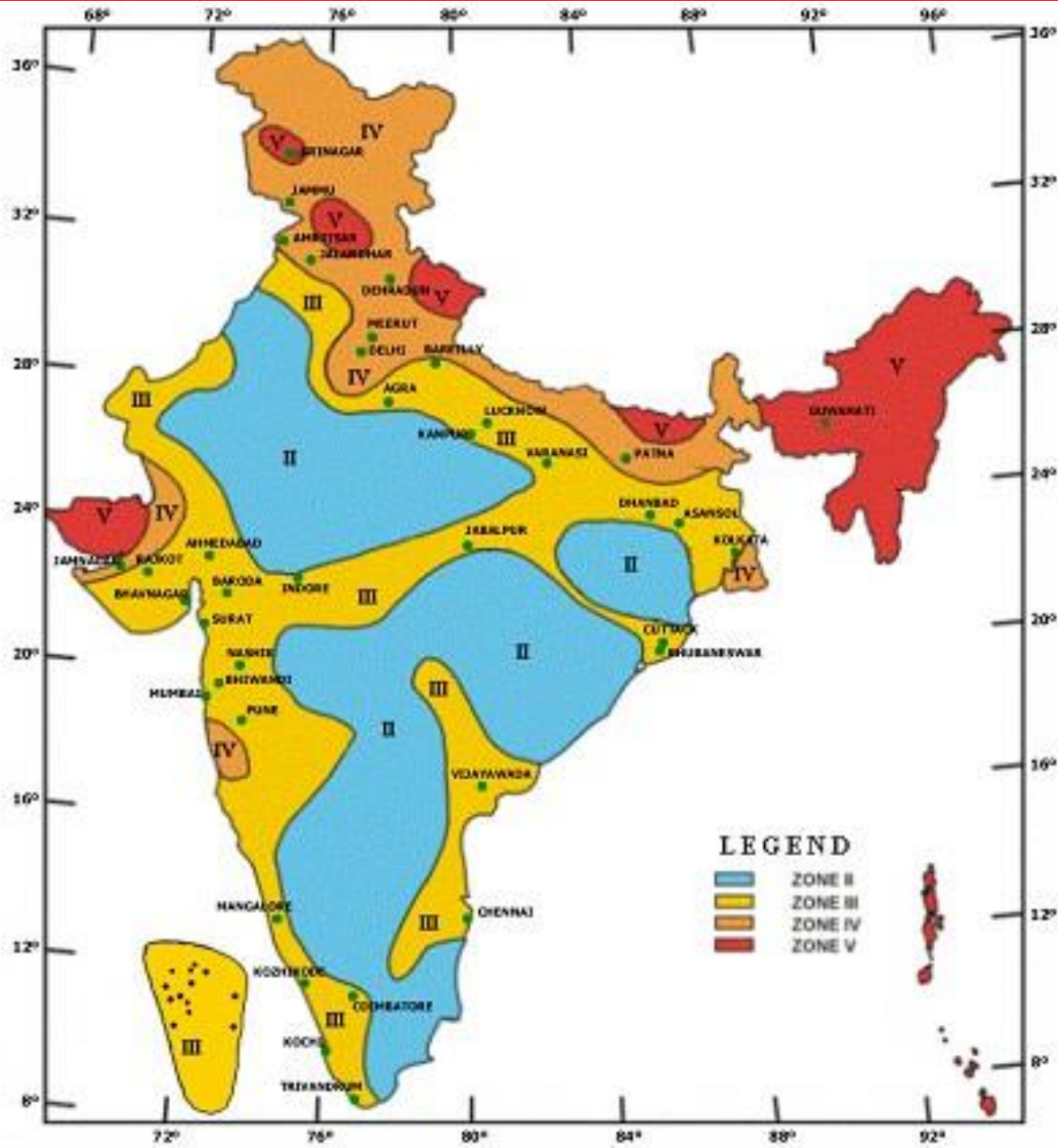
- ☐ Through Richter Scale (Charles Richter), 1- 10.

INDIAN SUBCONTINENT

- ☐ Highly prone. 59% of geographic area prone to seismic disturbances



SEISMIC ZONATION MAP OF INDIA





VOLCANOES



DEFINITION

- ❑ Volcanoes erupt when lower levels of earth crust push up on hot magma (lava) causing the volcano to burst through top layer of the earth.

INDIAN SUBCONTINENT

- ❑ Active Volcano-
Barren Island, Andamans,
135 Km NE of Port Blair,
354 Mtrs. Type- Strato
Volcano





DROUGHT



DEFINITION

- ☐ An extended period- a season, a year or more- of deficient rainfall relative to the statistical multi-year average for a region.

CAUSES OF DROUGHT

- ☐ Erratic behaviour of monsoons. (SW Monsoon, Jul-Sep, 74% of country's rainfall)

INDIAN SUBCONTINENT

- ☐ Over 68% of Indian landmass is vulnerable to draught.
- ☐ Maj drought years in India- 1877, 1899, 1918, 1972, 1987, 2002, 2009



LANDSLIDES



DEFINITION

- ❑ Downward and outward movement of slope forming materials composed of rocks, soil, etc along the surface of separation (plane of failure) by falling, sliding and flowing, either slowly or quickly, from higher to lower reaches.

CAUSES OF LANDSLIDES

- ❑ Natural factors, Anthropological factors

INDIAN SUBCONTINENT

- ❑ Approx 15% of India's landmass or 0.49 Million Sq KMs area is prone to landslides.



FLOODS



DEFINITION

- ❑ A temporary rise of water level, as in a lake or river, resulting in its spilling over and out of its natural or artificial confines onto land that is normally dry.

CAUSES OF FLOODS

- ❑ Excessive rainfall, silting, poor drainage

TYPES OF FLOODS

- ❑ Coastal, River, Urban, Flash floods

INDIAN SUBCONTINENT

- ❑ The area liable to floods- 40 Mn Hecters (12% of landmass)



CYCLONE, HURRICANE, TORNADO OR TYPHOON



Definition

❑ Cyclone is an area of closed, circular, fluid motion rotating in the same direction as the earth. This is usually characterised by inwards spiralling winds that rotate counter clockwise in the northern hemisphere and clockwise in the southern hemisphere.

Types of Cyclone

❑ Extra tropical, tropical, Sub tropical cyclones, Meso-cyclones, Tornadoes.

Indian Subcontinent

❑ India, with coastline of about 7516 km, is exposed to nearly 10% of world's tropical cyclones.



PART III

ASSISTANCE DURING NATURAL

DISASTER/OTHER CALAMITIES





THE EFFECTS OF DISASTERS

- **EXCESSIVE LOSS OF LIFE/ INJURIES.**
- **INUNDATION OF AREA.**
- **MAROONING OF VILLAGES, HOUSES, PEOPLE.**
- **DESTRUCTION/COLLAPSE OF BUILDINGS.**
- **DISRUPTION OF ESSENTIAL SERVICES.**
- **DAMAGE TO ROAD/ RAIL NETWORK.**
- **DISPLACEMENT/ LOSS OF ANIMALS.**
- **DESTRUCTION OF CROP/ LIVELIHOOD.**



ASSISTANCE REQUIRED



- **SETTING UP OF INFO CENTRES/ TELE.**
- **RE-EST OF ROAD / RAIL COMMUNICATION.**
- **EST OF RELIEF CAMPS / SHELTERS.**
- **CASUALTY EVACUATION & RESCUE.**
- **EST OF MEDICAL CAMPS, PROVIDING FIRST AID.**
- **EST OF SANITATION SERVICES.**
- **EST AND DISTR OF RELIEF MATERIAL, FOOD.**
- **CARACASS DISPOSAL.**

STRUCTURE OF DM IN INDIA

- ❖ AT THE **APEX LEVEL** IS THE MHA AS THE NODAL AGENCY WHICH SOUNDS THE DISASTER WARNING
- ❖ **NDMA** IS THE NATIONAL ORG MEANT TO IMPLEMENT THE INTEGRATED APCH TO DM
- ❖ AT THE **OP LEVEL**, WE HAVE THE **SDMA AND DDMA** WHICH DRIVES THE EFFORT AT APPROPRIATE LEVELS WITH ADEQUATE **COORD WITHIN THE STATE AND THE DIST**
- ❖ REQUISITE **SYNERGY** IS THE KEY TO SUCCESS

NATIONAL DM STRUCTURE

Cabinet Committee on
Management of Natural
Calamities

GOVT OF INDIA

Cabinet Committee on
Security

Planning Commission

High Level Cabinet Committee

National Crisis
Management
Committee

NDMA
NEC

National Institute of Disaster
Management

MHA

Ministries & Departments
of Govt of India

National Disaster Mitigation
Resource Centres

ARMED FORCES

STATES / UTs GOVts

National Disaster Response
Force

State Disaster Response Force

SDMAs / SECs

Police & Fire Service

Scientific & Technical
Institutions

DDMAs

Corporate Sector

NGOs

COMMUNITY



NDMA



- **NDMA UNDER THE PRIME MINISTER WITH NINE MORE MEMBERS FOR LAYING DOWN THE POLICIES, PLANS AND GUIDELINES FOR DM.**
- **ADVISORY COMMITTEE CONSISTING OF EXPERTS IN THE FIELD OF DM.**
- **THE AUTH WILL BE ASSISTED BY A NATIONAL EXECUTIVE COMMITTEE (NEC) OF SECRETARIES TO CENTRAL GOVT.**
- **NEC SHALL PREPARE A NATIONAL DM PLAN IN CONSULTATION WITH STATE GOVT**
- **NATIONAL PLAN TO INCL MEASURES FOR PREVENTION AND MITIGATION, INTEGRATION OF MITIGATION MEASURES IN THE DEVELOPMENT PLANS, AND PREPAREDNESS AND CAPACITY BLDG TO RESPOND EFFECTIVELY.**
- **THE NATIONAL AUTH TO RECOMMEND GUIDELINES FOR THE MIN STD OF RELIEF.**



SDMA



- **STATE DM AUTH (SDMA) TO BE CHAIRED BY CM.**
- **ONE OF THE MEMBERS MAY BE DESIGNATED AS THE VICE-CHAIRPERSON OF THE STATE AUTH BY THE CM.**
- **THE STATE AUTH MAY :-**
 - **CONSTITUTE AN ADVISORY COMMITTEE OF EXPERTS.**
 - **SHALL BE RESP FOR LAYING DOWN THE POLICIES AND PLANS FOR DM IN THE STATE.**
 - **SHALL RECOMMEND GUIDELINES FOR PROVIDING MIN STDS OF RELIEF.**
 - **WILL BE ASSISTED BY THE STATE EXECUTIVE COMMITTEE.**



DDMA



- **THE STATE GOVT SHALL ESTABLISH A DIST DM AUTH (DDMA) IN EACH DIST.**
- **THE DIST AUTH WILL BE HEADED BY DIST MAGISTRATE WITH SEVEN MORE MEMBERS.**
- **THE DISTRICT AUTH SHALL ACT AS THE DIST PLG, COORD AND IMPLEMENTING BODY FOR DM.**



LOCAL AUTH



- **THE LOCAL AUTH SHALL ENSURE TRG OF ITS OFFICERS AND EMPLOYEES AND MAINT OF RESOURCES SO AS TO BE READILY AVAILABLE FOR USE IN THE EVENT OF A DISASTER.**
- **IT SHALL ALSO ENSURE THAT ALL CONSTR PROJECTS UNDER IT CONFORM TO THE STANDARDS AND SPECIFICATIONS LAID DOWN.**
- **IT SHALL CARRY OUT RELIEF, REHABILITATION AND RECONSTR ACTIVITIES IN THE AFFECTED AREA WITHIN ITS JURISDICTION.**



NDRF

- **ROLE OF NDRF**

- SPECIALISED RESPONSE DURING DISASTERS
- ACQUIRE & UPGRADE TRG & SKILLS
- IMPART TRG TO STATE RESPONSE MECH
- COMMUNITY TRG & PREPAREDNESS
- LIAISON, RECCE, REHERSALS AND MOCK DRILLS
- PRO ACTIVE DPLY DURING IMPENDING DISASTER
- COMMUNITY CAPACITY BLDG

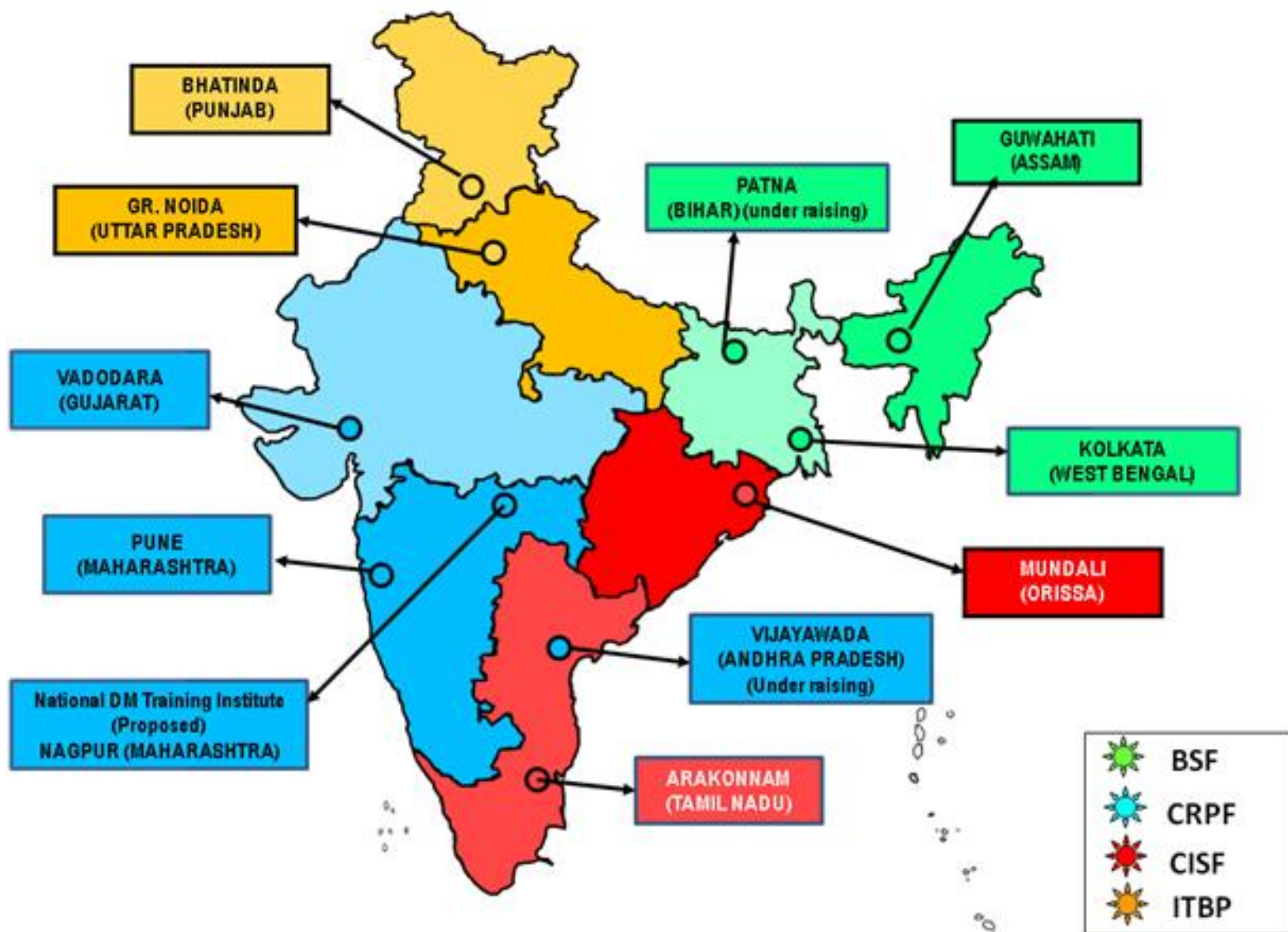
- **COMPOSN**

- EXISTING – 10 BNS
 - SIX COYS WITH THREE TEAMS EACH(18 TEAMS)
- TOTAL STR -1149 PERS

- **CAPB**

- SAR
- FLOOD RESCUE
- FIRE RESCUE
- MED ASSISTANCE & TRAUMA CARE
- CBRN EMERGENCIES (4 BNS)

LOC NDRF BNS





HQ DG NCC



➤ **ROLE OF HQ DG NCC - TO COORDINATE RELIEF OF DISASTER AS OVERALL COORDINATOR.**

➤ **DOCUMENTATION - EACH INTERNAL BRANCH WILL PROVIDE LIST OF DOCUMENTS PERTAINING TO THEM FOR AID TO CIVIL AUTHORITY FOR EACH TYPE OF DISASTER TO STATE DIRECTORATES.**

➤ **ROLE OF BRANCHES**

➤ **TRAINING BRANCH.**

- FORMULATION AND PROMULGATION OF SOPS.**
- ESTABLISHMENT AND FUNCTIONING OF CONTROL ROOMS AT HQ DG NCC.**
- ISSUE OF CERTIFICATES OF PARTICIPATION BASED ON WHICH THE CADET'S CONTRIBUTION IS TO BE RECOGNIZED BY THE STATE GOVERNMENT.**



ROLE OF HQ DG NCC



- **P&C BRANCH - PUBLICITY IN NATIONAL MEDIA AT DELHI BASED ON MATERIAL RECEIVED FROM THE STATE DIRECTORATE.**
- **P&F BRANCH - FINANCIAL ASPECTS TO INCLUDE GROUP INSURANCE AND REGULARIZATION OF EXPENDITURE.**
- **LOGISTICS BRANCH - ASSESSMENT OF ASSISTANCE REQUIRED AND PROVISION OF LOGISTIC REQUIREMENTS AS ASKED BY STATE DIRECTORATE AND REGULARIZATION OF FOL AND STORES USED.**
- **MS BRANCH - LEGAL ASPECTS INCLUDING RECOGNITION OF AID PROVIDED BY STATE GOVERNMENTS.**



ROLE OF DIRECTORATES



- **FORMULATION OF SOPS/ PLANS WITHIN THE STATE.**
- UPDATE OF DATA.**
- **STRENGTH OF CADETS (UNIT WISE).**
- **ESTABLISHMENT OF CONTROL ROOM.**
- **COORDINATION WITH STATE ADMINISTRATION.**
- **TRAINING OF NCC CADETS.**
- **CHECK LIST OF WARNING SYSTEMS.**
- **COMMUNICATION SYSTEMS AVAILABLE AND REQUIRED.**
- **CAPACITY BUILDING OF UNITS AND CADETS.**
- **ELABORATE ROLE OF OFFICERS, ANOS AND PI STAFF.**



ROLE OF GP HQs



- **REVISION OF PLANS AND SOPs PERTAINING TO THEIR GIVEN AREA UPDATION OF DATA.**
- **ESTABLISHMENT OF CONTROL ROOM.**
- **REHEARSAL & PLANNING FOR TRAINING OF OFFRS/PI STAFF/ANOS/CADETS.**
- **MONITORING OF SOPs/PLANS.**
- **MITIGATION MEASURES. PHYSICAL PREPAREDNESS TO PREVENT LOSS DUE TO DISASTER.**
- **STRENGTHENING OF AVAILABLE DATA BASE.**
- **DOCUMENTATION.**
- **ROLE OF OFFICERS, ANOS, PI STAFF AT GROUP HQs.**



ROLE NCC UNITS



- **REVISION AND MONITORING OF SOPS/PLANS.**
- **STRENGTHENING AND MONITORING RESOURCES & STRENGTH.**
- **STRENGTHENING DATA BASE.**
- **TRAINING IN DISASTER MANAGEMENT.**
- **CHECK LIST UP-DATE AND MONITORING.**
- **PHYSICAL MUSTERING OF STRENGTH AND RESOURCES.**
- **ELABORATE ROLE OF UNIT COMMANDER AND PI STAFF.**
- **MOTIVATION.**
- **MENTAL MAKE UP.**
- **PSYCHOLOGICAL CONDITIONING OF CADETS.**



EDUCATIONAL INSTITUTIONS



- **REHEARSAL OF DO'S AND DONT'S.**
- **AWARENESS OF DISASTER.**
- **PHYSICAL PRESENCE OF ANO'S, NCC APPOINTMENTS & CADETS.**
- **CHECK LIST OF ITEMS NEEDED IN DISASTER SITUATION.**
- **TRAINING FOR PREPARATION AND EXECUTION OF PLANS/SOPS.**
- **DELEGATION OF RESPONSIBILITY.**



ROLE OF INDIVIDUALS



- **KNOWLEDGE OF PLANS.**
- **RISK FACTOR KNOWLEDGE.**
- **TRAINING.**
- **AWARENESS.**
- **RESPONDING TO WARNINGS.**



CONCLUSION

