

Disaster Management Class 01

INTRODUCTION (1:12 PM)

- Overview of the subject.
- Paper III of GS.
- 1-2 questions in Mains.

DISASTER MANAGEMENT

How to prepare? (1:18 PM)

- Previous years' papers
- Connecting the DM syllabus with other portions of the syllabus.

Keywords asked in DM in the past (1:26 PM)

- National Disaster Management Authority- National Executive Committee (NEC) (2011)
- Vulnerability- Characters & types (2011, 2013, 2014, 2019, 2021)
- Risk - assesment, reduction (2011, 2016, 2017, 2018)
- Disaster- Pre, Management, Reactive approach (2011, 2020)
- Role of the administrator (2011)
- Drought (2014)
- Guidelines- NDMA (2014, 2016, 2017)
- Preparedness (2014, 2015, 2016, 2017, 2019)
- Mitigation (2015, 2016, 2019)
- Framework- Sendai, Hyogo (2018)
- Hazard- Mapping, Management, (2019, 2021, 2022)
- Strategy- NDMA (Landslide) (2021)

Disasters

- Prepare along with examples.
- Drought (2013)
- El-Nino and La-Nina (2014)
- Earthquakes (2015, 2021)
- Urban Floods (2016)
- Cloudburst-Uttarakhand (2016, 2022)
- Tsunami (2017)
- Landslides (2019, 2021)
- Coastal erosion (2022)

DM terms and their pattern (1:53 PM)

Kindly refer to the flowchart made in the class

List of natural disasters-

Asked:

- Drought (2013), El Nino and La-Nina (2014), Earthquakes (2015, 2021), Urban Floods (2016), High-intensity rains, Flash Floods, Cloudburst-Uttarakhand (2016, 2022), Tsunami, (2017), Landslides (2019, 2021), Coastal erosion (2022).

List of official terms-

Asked:

- International: Sendai & Hyogo Framework
- National: NDMA (NEC, Guidelines, Strategy), Hazard(Mapping, Management), Vulnerability (Characteristics, and Types), Risk (Assessment, Reduction, Management), Management (Reactive approach- Post DM- Preparation, Mitigation, Preparedness.)

Not Asked:

- International:
- National: Pro-Active Approach (Pre DM- Preparation, Mitigation, Preparedness.

Sources for Preparation (2:13 PM)

- (1) India's Physical Geography NCERT: Chapter on DM (use for examples)
- (2) National Disaster Management Plan 2019 (official document)
- Read the entire executive summary, Hazard-Risk & Challenges, Chapters 1, 2, and, 3.
- Natural Disasters in India- Chapter 2.2.2

Key DM Terms- Explained (2:21 PM)

(1) Hazard

- Hazard is an event that has the potential to cause harm.
- More the potential to cause harm, the more hazardous the event or the thing.

- More fundamentally, things or events by themselves are not hazardous, they become hazardous only when handled in appropriately.

Types of Hazards:

(I) Natural Hazards

- Chapter 1.13 NDMA Document
- Geo-Physical Hazards
- Hydrological Hazards
- Meteorological Hazards
- Climatological Hazards
- Kindly use this document to note down the list of hazards for preparation

(II) Man-made Hazards

- For the purpose of DM, only CBRN Hazards are considered man-made

(2) Vulnerability (2:59 PM)

- Hazard is with respect to the affecting factor.
- Vulnerability is with respect to the affecting factor.
- It is the limit or the extent to which something can be harmful.

What all can be vulnerable? (3:03 PM)

- **(1) Living**
- Humans, and other living things.
- **(2) Non-Living**
- Natural: Environment
- Man-Made: Assets

Types of Vulnerability (3:06 PM)

Physical vulnerability

- Weak people, and, infrastructure are more vulnerable.

Economic or material Vulnerability

- Economic Vulnerability => Inability of people to access resources.
- Material vulnerability => Shortage of supplies.

Social Vulnerability

- When society is not able to come together to perform simple tasks during disasters.

Ecological Vulnerability

- Weakening of the environment because of which the environment is not able to resist the naturally hazardous situation.
- For Example, deforestation on the coasts, or the banks and the degradation of Mangroves, corals, and illicit mining from the coasts.

Organizational vulnerability

- When the government organizations which perform well during normal conditions fail to perform during disaster situations because they are not designed to act during disasters.

Educational Vulnerability

- When education does not tell you what to do during disasters.

Attitudinal or Motivational Vulnerability

- Not giving importance to educational and other factors for DM.

Political Vulnerability

- Not having enough representation for decision-making.

Cultural Vulnerability

- When the culture has some vulnerability.

Factors increasing vulnerability globally (3:36 PM)

- (1) Increase in population
- (2) Spreading to vulnerable or hazardous areas such as river valleys, coastal areas, mountainous valleys, basins, etc.
- (3) Environmental degradation
- (4) Increased industrialization and urbanization
- (5) New class of poor people- Urban Poor (have economic and material vulnerability)
- (6) Gender Inequality
- It is generally women who have to save the other physically unsafe (elderly and children) population. Women have to save more than themselves during a disaster.
- (7) Internal security and war

- Infrastructures are damaged and the workforce would be already deployed.
- (8) General neglect of developmental issues

(3) Risk (3:48 PM)

- Risk = (Hazard * Vulnerability)/Capacity
- Kindly use the NDMA document.

(4) Disaster (3:58 PM)

- When the event finally takes place and causes adverse effects, we call it a disaster.
- As per UNISDR, disaster is broadly defined as a harmful event due to high risk to the community (high vulnerability, high hazard, low capacity, leading to damage and loss of humans, community, assets, and environment.

TOPIC FOR THE NEXT CLASS: CONTINUATION OF KEYWORDS

Disaster Management Class 02

APPROACHES TO DISASTER MANAGEMENT (9:00 AM):

Conventional Approach:

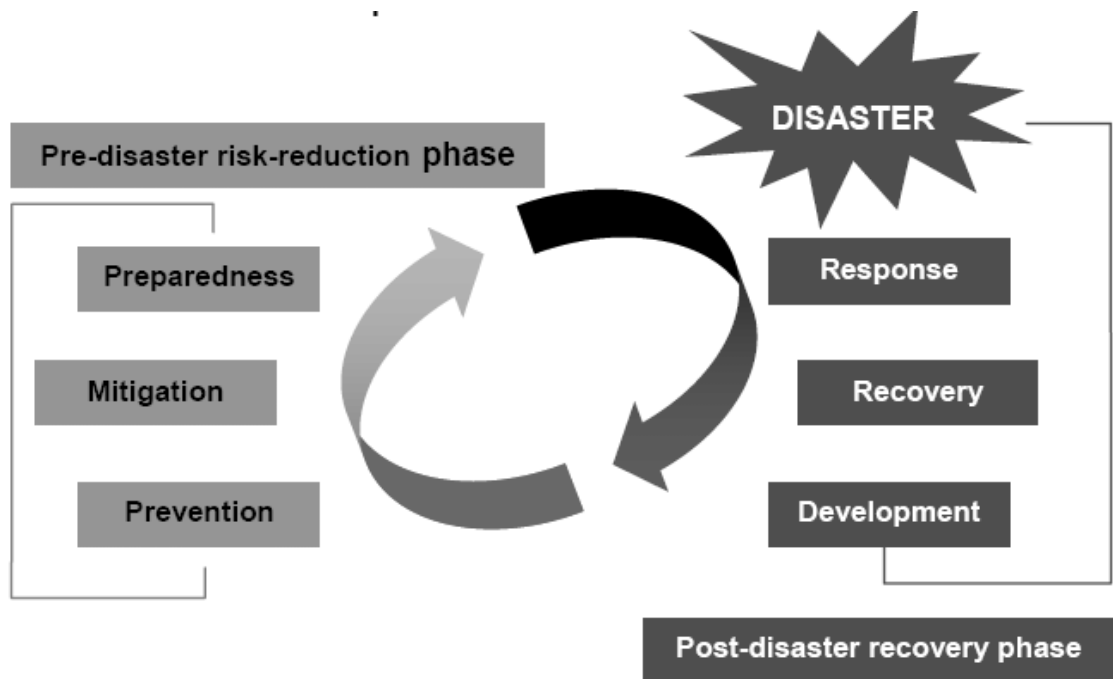
- If the administration gets informed that a disaster has struck, then the administrative actions as per the priority order will be:
- **I.** Inform those people who are yet unaware.
- **II.** Issue alert.
- **III.** Rescue the people affected.
- **IV.** Relief as per the situation and people involved.
- **V.** Rehabilitation, reconstruction & resettlement of the displaced as per the needs of the affected people.
- The ultimate aim remains to get the population back to the pre-disaster position as soon as possible.
- Providing psychological and empathetic support to the affected population would be very helpful.
- But in most cases, the administration faces a severe resource crunch for this purpose.

ISSUES WITH THE APPROACH (9:30 AM):

- This is a **reactive, or post-disaster approach**: this happens only after the disaster strikes.
- This is also a **no-development approach**: people are made to resume their pre-disaster level, and not better.
- Even if the administration is fully efficient, in most cases, the affected population resume from a position lower than they were before the disaster.
- The population remains at the same vulnerability level, if not at a higher vulnerability.
- The approach believes that natural disasters are an exceptional phenomenon that happens very rarely and is not natural cyclic events.
- This understanding itself is flawed because natural events are cyclic, if not periodic.

MODERN/ CONTEMPORARY/CYCLIC APPROACH(10:00 AM):

- This approach believes that the natural disaster are not exceptional events, but cyclic.



- This approach has different plans of action for the tragedy which can be prevented and which cannot be prevented.
- This approach aims to make the population better than their pre-disaster level and make them more resilient to future disasters.
- This is a pro-active approach that has separate plans of action for:
 - I. Pre-Disaster stage.
 - II. Post-Disaster stage.

Pre-disaster stage:

- Steps must be taken to reduce the risk of disasters as much as possible.
- The vulnerable population must be constantly prepared to face disasters.
- The planning must help in building resilient communities which will be better placed to withstand, respond, and recover from disasters.

Post-disaster Stage:

- The planning for this stage mainly deals with minimizing human casualties & effective and better rebuilding after the disaster strikes.
- The response must be customized as per the level of severity, the number of people impacted, and also the demographic profile of the affected population.

INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION (IDNDR) (1990-2000)(10:26 AM):

- Comprehensive natural assessment of risks.
- Mitigation plans at all levels.
- Easy access to Early Warning Systems (EWS).

Yokohama Strategy 1994:

- The goals of the strategy were:
 - I. Risk assessment.
 - II. Disaster prevention and preparedness.
 - III. Capacity building.
 - IV. Integrating development and mitigation activities.
 - V. Effective EWS.
 - VI. Local community participation.
 - VII. Proper design and identification patterns.
 - VIII. Technology transfer by the international community.
 - IX. Environmental protection.
 - X. The country is to mainly respond sible for disaster management.

International Strategy for Disaster Risk Reduction (2000-2010):

- It focussed mainly on risk management, hazard mitigation, and sustainable development.

Hyogo Framework for Disaster Management(2005-2015):

- The main objectives were:
- I. Disaster Risk Reduction is a national priority on a solid institutional basis.
- II. Assess disaster risks and EWS.
- III. Develop a **"Culture of Safety"**.
- IV. Reduce underlying risk factors like poverty, health education, etc.
- V. Strengthening preparedness for effective response.

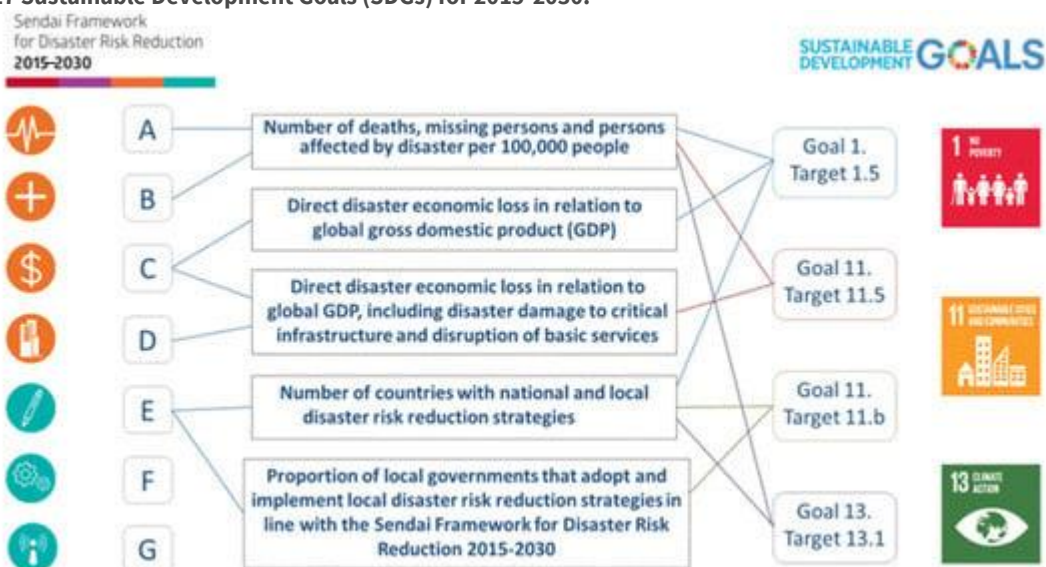
Sendai Framework:

- The four pillars under the framework:
- I. Understanding risks in all directions.
- II. Strengthening disaster risk governance to manage disaster risk.
- III. Investing in disaster risk reduction for resilience.
- III. Enhancing preparedness for effective response and Building Back Better in recovery, rehabilitation, and reconstruction (Developmental approach).

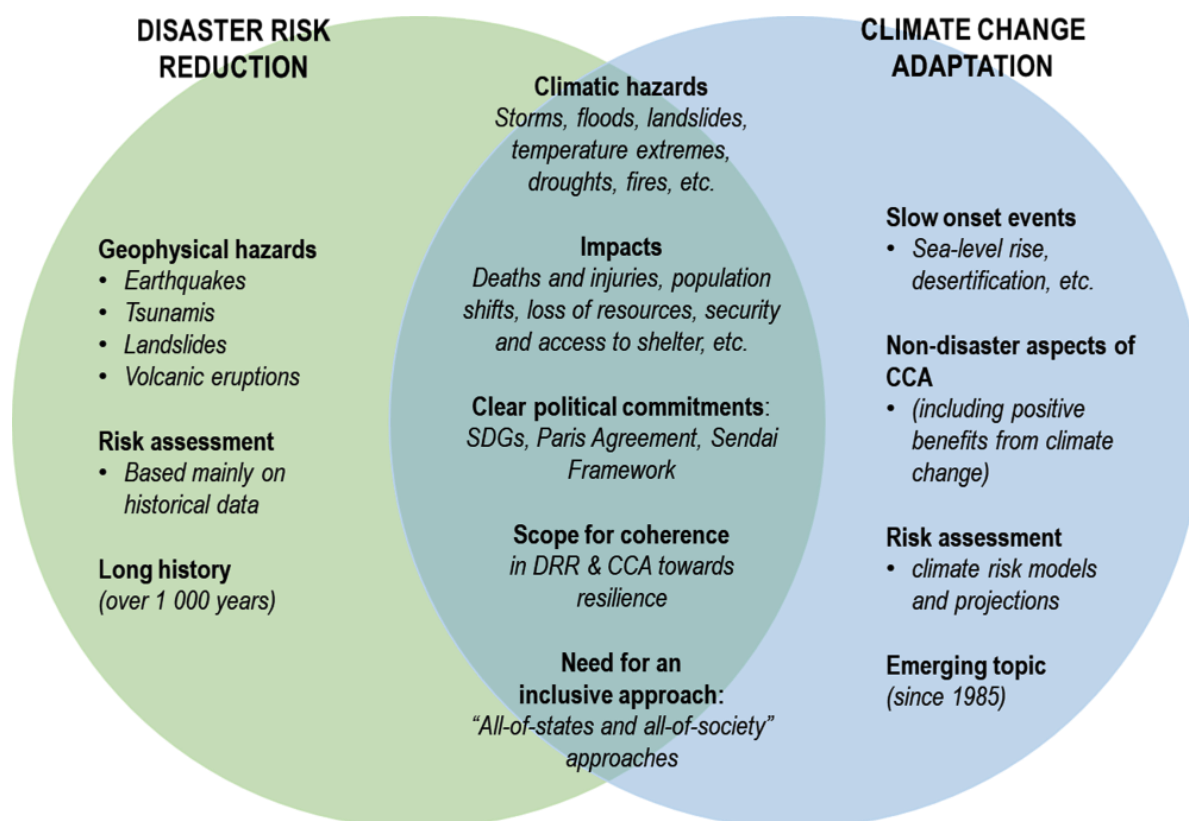
Seven Global Targets of Sendai:



- The deadline for making disaster risk reduction strategies is 2020.
- The deadline for all the rest 6 targets is 2030.
- All the above-mentioned are UN-led developments directly for disaster management.
- In addition to these, **two more international developments** led by the UN have been integrated with disaster management:
- **I. 17 Sustainable Development Goals (SDGs) for 2015-2030.**



- II. UNFCCC COP 21 Paris Agreement 2015.



• **Indian steps in this regard:**

Issue	International Step	National Step
Climate Change	COP 21	National Action Plan for Climate Change (NAPCC)
Sustainable Development	Sustainable Development Goals	SDG India Index by NITI Aayog
Disaster Risk Reduction	Sendai Framework	National Policy on Disaster Management

DISASTER MANAGEMENT IN INDIA (11:10 AM):

- There is no explicit provision for disaster management in the Indian constitution.
- There have been recommendations to include disaster management in the Concurrent List in VII Schedule :
- I. National Commission to Review the Working of the Constitution.
- II. Second ARC.
- III. J.C. Pant High Powered Committee on Disaster Management.
- After the international developments in the 1990s(IDNDR), a Disaster Management Cell was established in the Ministry of Agriculture.
- 1999 saw the **Odisha Supercyclone**.
- After this, it got evident that Disaster Management Cell, under the Ministry for Agriculture, is incompetent to handle such events.
- The J.C. Pant High Powered Committee on Disaster Management was set up after that.
- The committee gave some recommendations, on the basis of which two developments happened:
- **I.** Disaster Management Division was shifted to the Ministry of Home Affairs in 2002.
- **II.** In 2005, the National Disaster Management Act was enacted.
- This act was the official beginning of a proactive approach to disaster management in India.
- This means that before the 2005 act, the Indian approach to disaster management was **reactive**.

The approach before 2005:

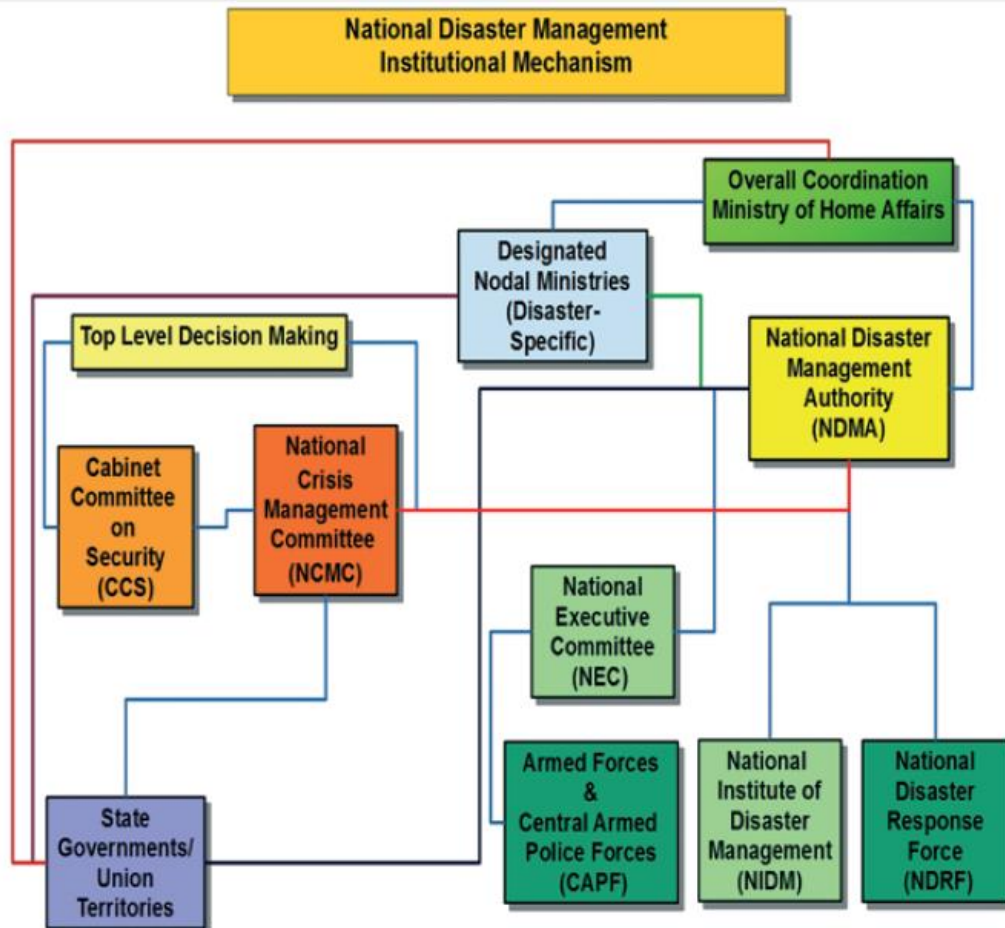
- There were ad-hoc cabinet committees for the purpose, made after the disaster struck.
- Natural disaster: Cabinet Committee on Management of Natural Calamities (CCMNC).
- Man-made disaster- Cabinet Committee on Security.
- The apex decision-making body was National Crisis Management Committee (NCMC).
- This committee was headed by the Cabinet Secretary and it had secretaries of other ministries.
- For the implementation of suggestions, there will be a hierarchical structure with Union level body-State Level Body- Local level Body.

- National Crisis Management Committee (NCMC) was formed after the disaster struck.

DEVELOPMENT AFTER THE NDMA 2005(11:35 AM):

- An institutional mechanism was set up, under which it was believed that we need robust infrastructure for disaster management.
- A National Disaster Management Policy was suggested in 2009.
- A National Disaster Management Plan was suggested in 2016 which got updated in 2019.
- National Disaster Management Guidelines have been given since 2007; we have around 33 guidelines as of now.
- We can avoid reading any of these guidelines as each of these are bulky documents and we do not expect more than one subjective question from them.

National Disaster Management Institutional Mechanism:



- The **National Executive Committee(NEC)** was headed by the Home Secretary for the deployment of personnel.
- India is among the first countries in the world to have a dedicated force for disaster response- **National Disaster Response Force (NDRF)**.
- NDRF personnel are deputed from other Centrally Armed Police Forces (CAPFs).
- NDRF is not to be deployed for other purposes (like election duty, etc.) as disasters can strike anytime.
- **National Institute for Disaster Management(NIDM)** was created for research and training purposes.

The financial mechanism as per the NDMA 2005:

- The National Disaster Management Fund was created for pre-disaster purposes(mitigation).
- The National Disaster Response Fund was created for post-disaster purposes(rehabilitation).
- Similar funds were created at state levels too.
- The act created a robust financial system because fund transfers between the pre and post-disaster funds were not permitted.

The administrative mechanism under the NDMA 2005:

- The NDMA implements the Scheme 'Strengthening of State Disaster Management Authorities (SDMAs) and District Disaster Management Authorities (DDMAs)'.

Administrative issues:

- The NEC and SECs seldom meet as per the CAG report and the P.K. Mishra Committee report.
- National Disaster Response Force (NDRF) is constituted and SDRF is also constituted in some states.
- Even as per the official sources, there is a discrepancy in the number of NDRF battalions (each battalion has 1149 personnel).
- The number of battalions is expected to be around 15.
- NDRF is a very competent force, but the manpower is insufficient.
- Hence, the dependence upon CAPFs continues.

Financial issues:

- Mitigation funds are not created on either the national level or the state level.
- Response funds have been created at the levels though.
- The fund transfer between the has been barred by the NDMA 2005.
- Officially, there is no fund under NDMA for mitigation activities.
- Hence de facto, the NDMA becomes a post-disaster management body.

Government reasoning for not making mitigation fund:

- The governments(both central and state levels) held that mitigation activities are essentially developmental activities.
- Most of the government steps and budgetary allocations are anyways for development purposes.
- So rehabilitation and orientation are more important.
- Different states are doing mitigation activities on their own (like Odisha), and not under the NDMA mechanism.

Further reading:

- Early Warning System to be covered by handouts.
- Value addition must be done through current affairs.

The syllabus for Disaster management has been completed.