

Journey to Sustainability & Safety Together

August 8, 2017

SDMC, Gandhinagar

Types of Disasters- Geophysical

Main Event	Secondary Disaster
Earthquake/Mass movement of earth Materials	<ul style="list-style-type: none">• Landslide following earthquake;• Urban fires triggered by earthquakes;• Mass movement of earth materials, usually down slopes
Tsunami	<ul style="list-style-type: none">• A series of waves that are generated by a displacement of massive amounts of water through underwater earthquakes, volcanic eruptions or landslides.
Volcano	<ul style="list-style-type: none">• Surface displacement of earthen materials due to ground shaking triggered by volcanic eruptions• volcanic eruptions of lava, ash, hot vapour, gas, and pyroclastic material.• Ash fall; Lahar - Hot or cold mixture of earthen material flowing on the slope of a volcano either during or between volcanic eruptions;• Lava Flow

Main Event	Secondary Disaster
<ul style="list-style-type: none"> • Flood • Landslides 	<p>large mass of loosened earth material, snow, or ice that slides, flows or falls rapidly down a mountainside under the force of gravity</p>
<ul style="list-style-type: none"> • Wave Action 	<p>Coastal Erosion - The temporary or permanent loss of sediments or landmass in coastal margins due to the action of waves, winds, tides, or anthropogenic activities</p>
	<p>Flash Flood Hydrological - Heavy or excessive rainfall in a short period of time that produce immediate runoff, creating flooding conditions</p>
	<p>Flood Hydrological - A general term for the overflow of water from a stream channel onto normally dry land in the floodplain</p>

Types of Disasters- Meteorological

Main Event	Secondary Disaster
<p>Hazard caused by short-lived, micro- to meso-scale extreme weather and atmospheric conditions that may last for minutes to days</p>	<ul style="list-style-type: none">• Cyclone, Storm Surge, Tornado, Convective Storm,• Extratropical Storm, Wind• Cold Wave, Derecho• Extreme Temperature, Fog, Frost, Freeze, Hail,• Heat-wave• Lightning, Heavy Rain• Sand-Storm, Dust-Storm• Snow, Ice, Winter Storm, Blizzard

Types of Disasters-Climatological

Main Event	Secondary Disaster
<p>Unusual, extreme weather conditions related to long-lived, meso- to macro-scale atmospheric processes ranging from intra-seasonal to multi-decadal (long-term) climate variability</p>	<ul style="list-style-type: none">■ Drought■ Extreme hot/cold conditions■ Forest/Wildfire Fires■ Glacial Lake Outburst■ Subsidence

Types of Disasters-Biological

Main Event	Secondary Disaster
Exposure to germs and toxic substances	<ul style="list-style-type: none">• Epidemics: viral, bacterial, parasitic, fungal, infections• Insect infestations• Animal stampedes

Human-Induced Disasters

human-induced hazards arising from accidents (industrial, road, air, rail, on river or sea, building collapse, fires, mine flooding, oil spills, etc.). Chemical, Biological, Radiological, and Nuclear (CBRN) hazards rank very high in among the human-induced risks. Terrorist activities and secondary incidents add to these risks and call for adequate preparedness and planning.

Impacts due to disasters

- The disaster creates damages -these damages are visible and not visible
 - **Damage to Physical well being**
 - **Damage to Economic well being**
 - **Damage to Social well being**
 - **Damage to Environmental well being**

Disaster Management Paradigm Shift

- Response Centric
- Relief Centric

1st Paradigm Shift



- Mitigation Centric
- Preparedness Centric
- Disaster Centric

2nd Paradigm Shift



- Hazard Centric
- Vulnerability Centric
- Environment Centric



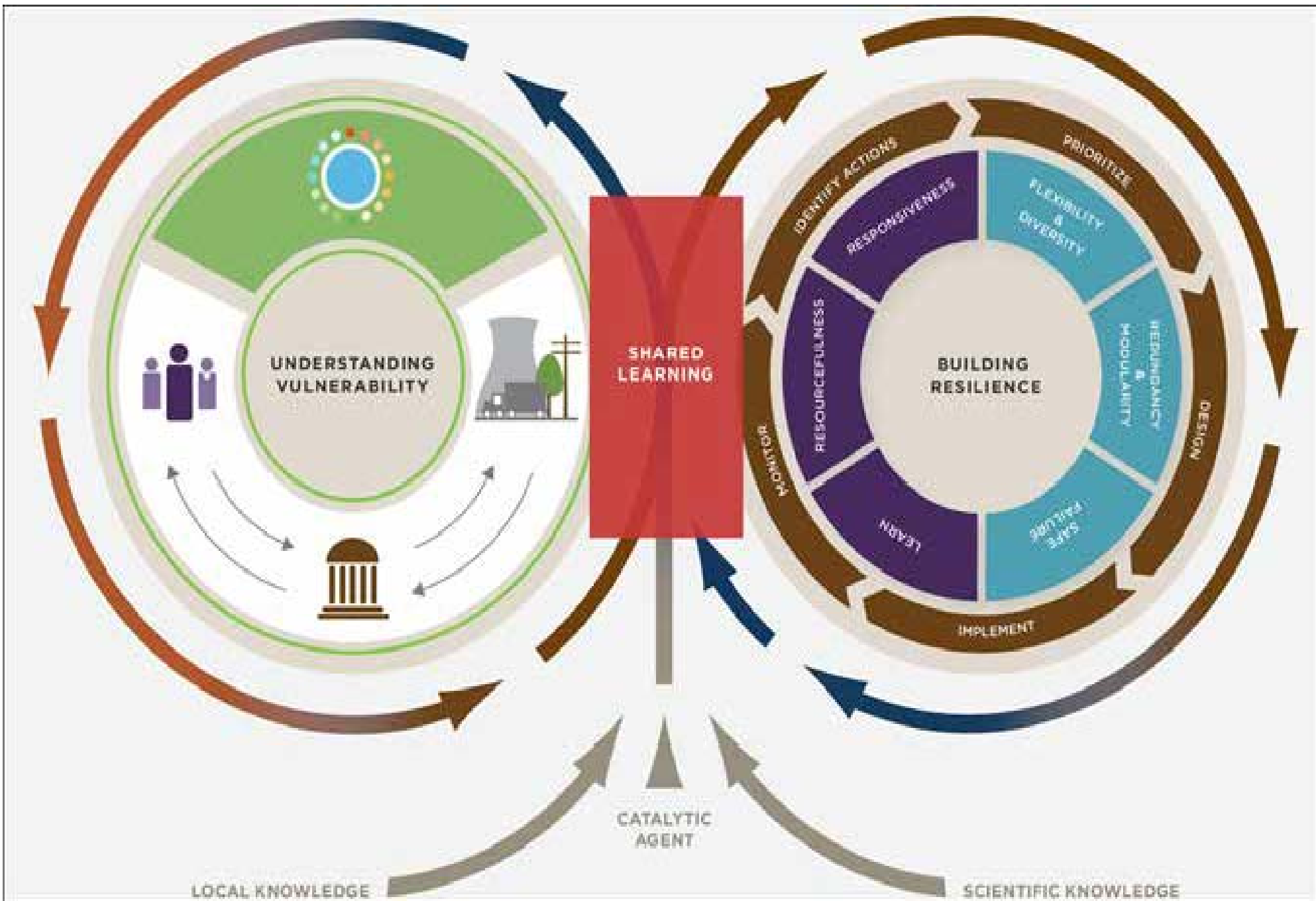
Climate Change Adaptation

-From Relief to Risk Reduction.

-From Compartmental to Integration.

-From Ad-hoc to Organised.

-From Single-Hazard to Multi-Hazard



Background to the WCDRR

- In accordance with a UNGA resolution, ten-year period from January 1990 was designated as the **International Decade for Natural Disaster Reduction (IDNDR)**.
(Designation of the International Day for Natural Disaster Reduction, promotion of DRR measures, establishment of the secretariat for UNISDR in Geneva)
- **World Conference on Natural Disaster Reduction (May 1994, Yokohama)**
 - Conducted interim review of the International Decade for Natural Disaster Reduction
 - Adopted the **Yokohama Strategy** and Plan of Action for a Safer World
- **World Conference on Disaster Reduction (January 2005, Kobe)**
 - Held in the city affected by the Great Hanshin-Awaji Earthquake, at its tenth anniversary
 - Released a joint statement for building a tsunami warning system in response to the Indian Ocean Earthquake that occurred at the end of 2004.
 - Adopted the **Hyogo Framework for Action 2005-2015 (HFA)**
- **World Conference on Disaster Risk Reduction (March 2015, Sendai)**
 - Adopted the **Sendai Framework for Disaster Risk Reduction**, as a new framework for 2015 through 2030, committed to continue the action.
 - Held in Sendai, which was affected by the Great East Japan Earthquake in March 2011

Priorities & Targets of SFDRR

Priorities

1. Understanding Disaster Risk
2. Strengthening Disaster risk Governance to Manage Disaster Risk
3. Investing in Disaster Risk Reduction for Resilience
4. Enhancing Disaster Preparedness for effective Response and to “Build Back Better” in recovery, rehabilitation and reconstruction

Targets

1. Substantially Reduce Disaster Mortality by 2030
2. Substantially reduce the number of affected people globally by 2030
3. Reduce direct disaster economic loss in relation to gross domestic product by 2030.
4. Substantially reduce disaster damage to critical infrastructure and disruption of basic services, including through developing their resilience by 2030.
5. Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020
6. Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of present framework by 2030
7. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030.

Hyogo Framework of Action (2005-2015)

- World Conference on Disaster Reduction convened under UN resolution at Hyogo, Japan in 2005
- Identified the gaps – linkage between DRM strategy and local development planning; inadequate political will, sustained allocation of resources and practical action; poor quality data on vulnerability and hazard risks – not properly mapped; poor early warning mechanisms; DRM information and experience inadequately used; legislative provisions and policies as facilitative mechanisms
- 3 strategic goals – **linking DRR with development policies, plans and programmes; systematically building resilience at all levels; incorporating DRR in response and recovery.**
- Priorities for Action
 1. Ensuring DR priority with institutional mechanisms (legislative provisions, resources and community participation)
 2. Identify, assess and monitor the disaster risk, enhance early warning (hazard & vulnerability mapping, early warning system, capacities)
 3. Knowledge, innovation and education (information management, exchange, training, research, public awareness)
 4. Reduce underlying risk factors (environment, NRM, food security, social security nets, urban development)
 5. Disaster preparedness at all levels (knowledge and capacities, coordination, operational mechanisms, efficient response and recovery, emergency funds)

SAARC :2006 Regional Framework for DM

- Establish and strengthen the regional disaster management system to reduce risks and to improve response and recovery management at all levels
- Identify and elaborate country and regional priorities for action
- Share best practices and lessons learnt from disaster risk reduction efforts at national levels
- Establish a regional system to develop and implement regional programmes and projects for early warning
- Establish a regional system of exchanging information on prevention, preparedness and management of natural disasters
- Create a regional response mechanism dedicated to disaster preparedness, emergency relief and rehabilitation to ensure immediate response
- Create a regional mechanism to facilitate monitoring and evaluation of achievements towards goals and strategies.

Indian PM's 10-point agenda on DRR

1. All development sectors must imbibe the principles of disaster risk management.
2. Work towards risk coverage for all-starting from poor households to SMEs to multi-national corporations to nation states.
3. Encourage greater involvement and leadership of women in disaster risk management.
4. Invest in risk mapping globally. For mapping risks related to hazards like earthquakes we have accepted standards and parameters.
5. Leverage technology to enhance the efficiency of our disaster risk management efforts.
6. Develop a network of universities to work on disaster issues.
7. Utilise the opportunities provided by social media and mobile technologies.
8. Build on local capacity and initiative.
9. Opportunity to learn from a disaster must not be wasted. After every disaster there are papers on lessons that are rarely applied.
10. Bring about greater cohesion in international response to disasters.

6th Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) 2016

- Recognize the opportunity to build on past achievements by reaffirming our commitment to disaster risk reduction and resilience.
- Re-emphasize that the Sendai Framework for Disaster Risk Reduction is complementary to the 2030 sustainable development agenda.
- Remain concerned by the increasing level of risk and impact of disasters on the people and economies of the region.
- Recognize the urgent need to accelerate the implementation of the agreed global frameworks; it is our primary responsibility to put in place national and local level strategies to ensure the achievement of the seven global targets of the Sendai Framework.
- Commit to the principle of a people-centred and whole-of-society approach and the need to strengthen national and local multi-stakeholder platforms..

5th Global Platform for Disaster Risk Reduction

May 2017, Mexico

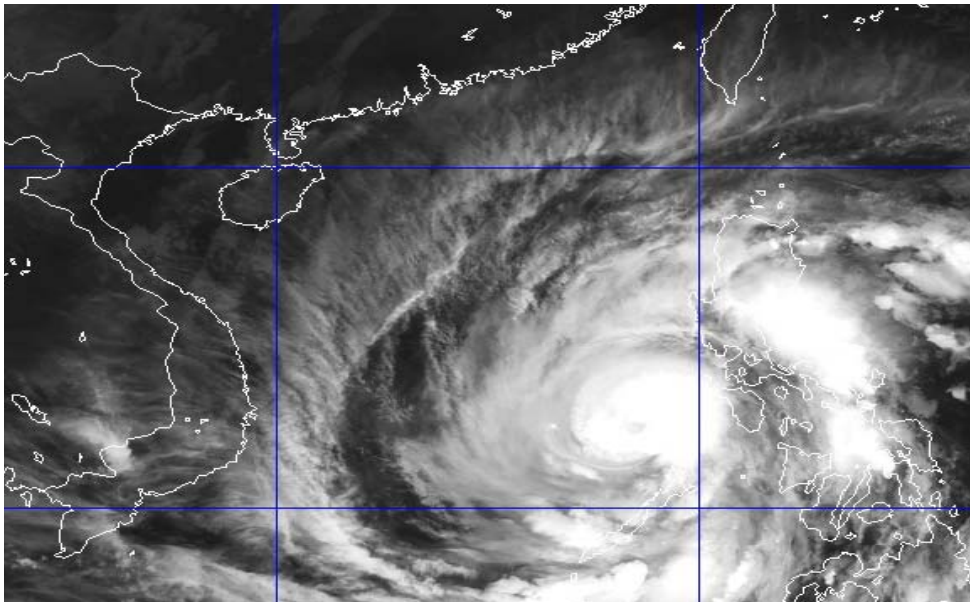
1. Only prove progress on reducing disaster losses if we know accurately what those losses are. Today we heard evidence that at least 87 UN Member States are putting data baselines in place and this effort needs intensive support over the next two years.
2. Preparation of national disaster loss databases; early warning systems for least developed countries; empowerment of local authorities to manage disaster risk; application of disaster risk management to overall economic planning; and the empowerment of women in leadership on disaster risk management.
3. Resilience of infrastructure and housing, especially for the poor and vulnerable
4. Commitment to action and ensuring coherence across implementation of the Sendai Framework, the Paris Agreement on climate change and other elements of the 2030 Agenda for Sustainable Development.

Odisha Super Cyclone

Oct 25 to Nov 3, 1999

Maximum sustained winds
260 km/h

Death : 10,000



PHAILIN, India

October 09-13, 2013

Maximum 1 min-sustained
winds: 259 km/h

Death : 45

