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Visiting Researcher Program (VR 2017A)
Asian Disaster Reduction Center (ADRC)
Kobe, Japan



Country Presentation : Bhutan

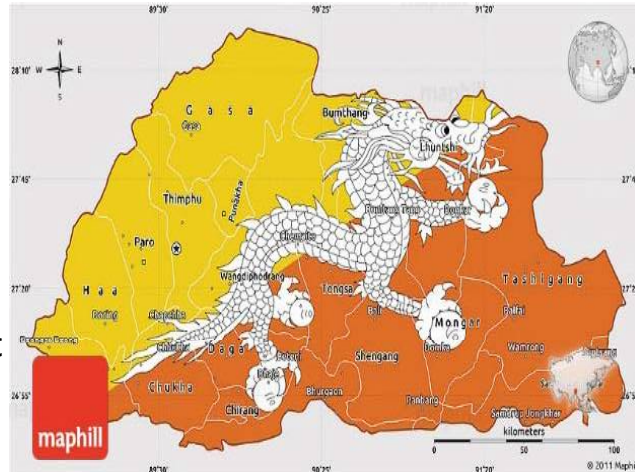


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7th September 2017



Visiting Researchers Program(FY2017A)



Kuzu Zangpola- おはようございます

Presentation Outline

1. Introduction- Bhutan
2. Natural Hazards in Bhutan
3. Recent Disaster Events
4. Disaster Management System in Bhutan
5. HFA and Bhutan
6. DRR in Bhutan
7. SFADRR in Bhutan
8. Challenges
9. Way forward
10. Research plan



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About Bhutan: Location



latitudes 26° 40'N & 28° 15'N
 longitudes 88° 45'E & 92° 10'E.



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About Bhutan

Location : 100% (China) in the north and India in the east west and

Area : 38,394 sq. Km

Population : 797,765 (2016, [World Bank](#))

Altitude :

Capital : Thimph

District : 20

National Language :

Currency : Ngultrum(100Yen = 53Ngultrum)

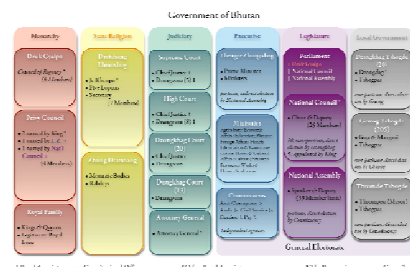
Religion

Political System : King is Head of State and

Climate : Four seasons (Spring, summer, Autumn & Winter)

National Tree

National Bird



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About Bhutan

- National Animal** :
- National Flower** :
- National Day** : 17th
- National Game** : Archer
- National Dress** :
- National Dish** :
- National Flag** : Upper Half yellow and lower half Orange color with



National Emblem : contained in a circle, is composed of a double diamond thunderbolt placed above a lotus.



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Natural Hazards in Bhutan

1. Earthquakes

Bhutan is located in one of the most active seismic zones (Zones IV &V Indian Classification)

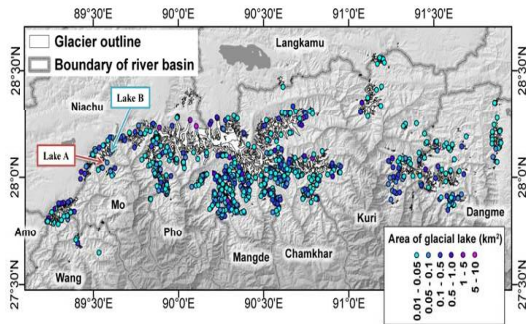
Past earthquakes – September 2009/2011 and 2015 Jan.

Lives lost and major damage to property and infrastructure



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Natural Hazards in Bhutan



Glacial Lake Outburst Flood (GLOF)

GLOFs: 25 lakes potentially dangerous

- ❖ 2794 glacial lakes in Bhutan, 562 are associated with glaciers
- ❖ GLOF flash flood hazards likely to increase in intensity with the impacts of climate change
- ❖ Major GLOF incidences - 1957, 1960, 1994, 2015, 28 June.
- ❖ Big threat to lives & livelihood of people in valleys and low lying river plains



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Natural Hazards in Bhutan

2. Fires: Structures and Forest

-Samdrup Jongkhar

Warehouse fire Aug 8 2017

-Mongar Town fire 16 Aug 2016

-June 2012

Wangduephodrang Dzong lost to fire

-Chamkhar town burnt down in Four consecutive fires 2010, 2011-Feb and May, Dec 30, 2016

-Forest fires in dry season



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Natural Hazards in Bhutan



3. Windstorm
Major
Windstorms:
2011, 2013,
2015, 2016
and 2017
damaged
thousands of
rural home
roofs, schools,
health
facilities and
crops.



Visiting Researchers Program(FY2017A)

Natural Hazards in Bhutan

4. Landslides

Bhutan experiences many landslides esp. during the rainy season and due poor construction practices.



Natural Hazards in Bhutan

5. Floods

- ✓ Recurrent phenomena in Bhutan
- ✓ July 2016 Monsoon in Southern, Western and Eastern Bhutan caused loss: 4 lives, 121 houses and hundreds acres of land washed away. Highways washed away



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Natural Hazards in Bhutan



5. Epidemics, Pests and Diseases

- ❖ Avian flu and other pandemic
- ❖ Pests,
- ❖ Damages to crops by wild animals etc
- ❖ Drought



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Disaster Management System in Bhutan

1. Disaster Management System
2. Legal System and Framework
3. Structure of Disaster Management and DDM Organogram
4. DM in National, LG Levels-District, City, Sub-district and Block level.



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Birth of Disaster Management Department

Reaction based. Reliefs and recovery were looked after by King's Welfare office (Visits affected area to provide reliefs and moral support).

Vision

Promote a Safe and Happy Bhutan (GNH)

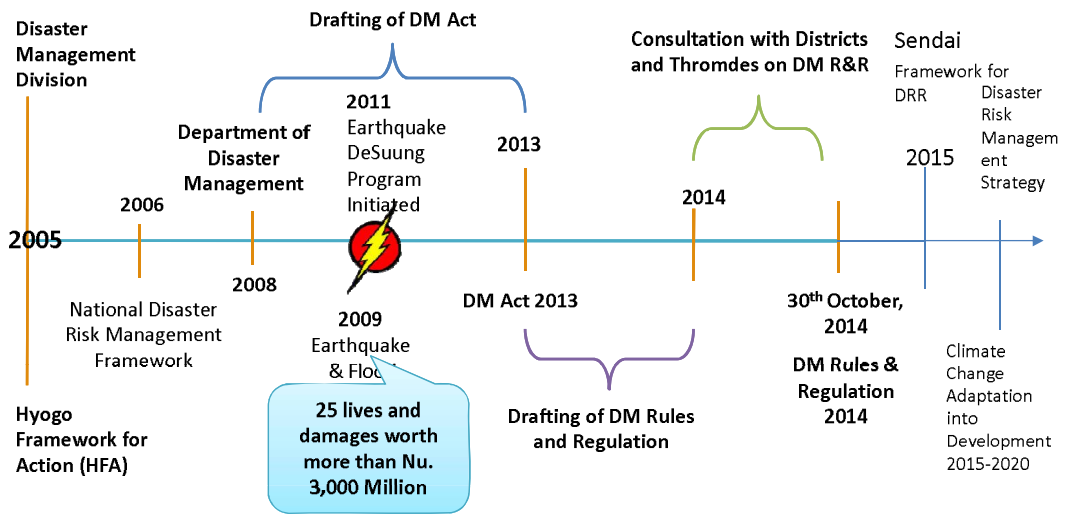
Mission

- Awareness, Mitigation, Prevention
- Pro-active and affective Disaster Management.
- Enhance and strengthen capacities of disaster management managers at all levels.



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Introduction to DDM



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Department of Disaster Management (DDM)

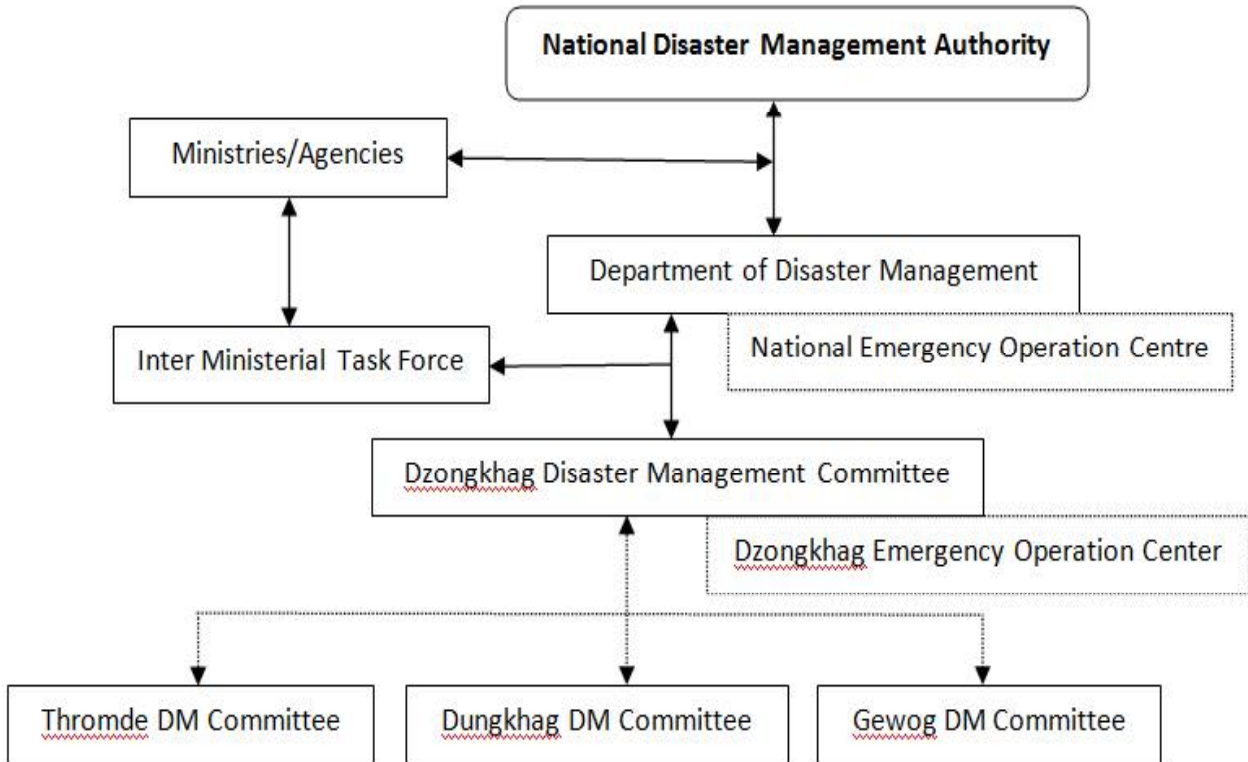
1. **National Level Coordinating Agency in formulating policy and project implementation.**
2. **Resident Coordinator international organizations during crisis**
3. **Capacity building for national and regional**
4. **National coordinator during any crisis and secretariat DM Management.**

DM National Budget

Fiscal Year	Total Amount (Million)	Remarks
2013-2014	20.56	Yen 38 million
2014-2015	35.372	Yen 69 million
2015-2016	45	Yen 89 million
2016-2017	50	Yen 98 million
2017-2018	98 (NEOC)	Yen 195 million

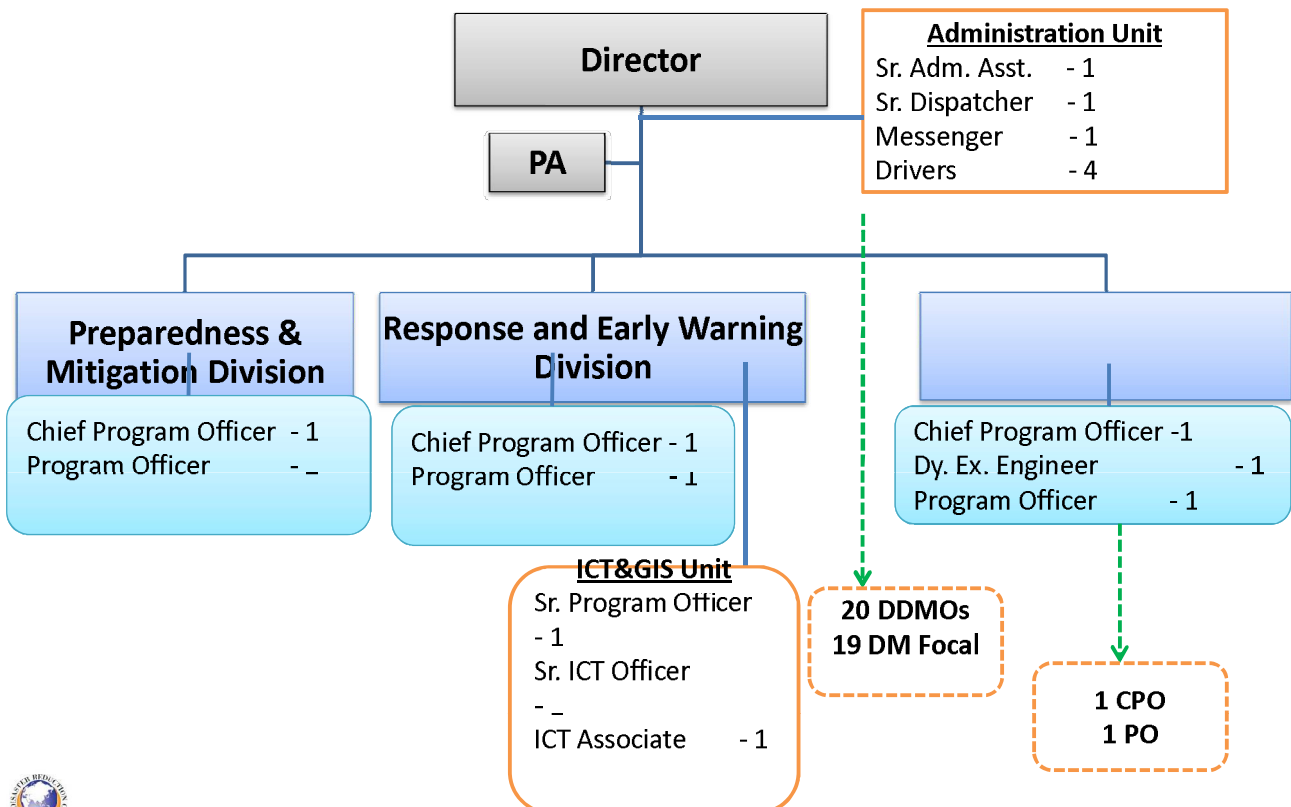


Structure of Disaster Management Institutions



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DDM Organization Chart

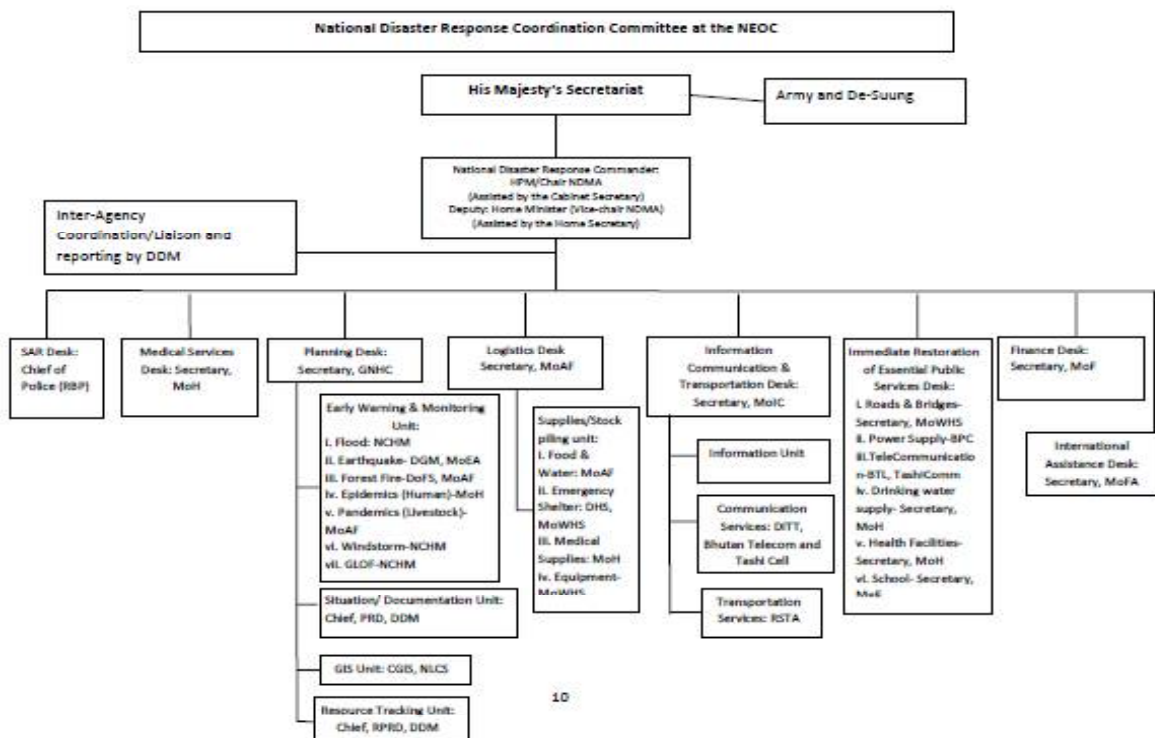


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Regulations and Policy Strategies on DM

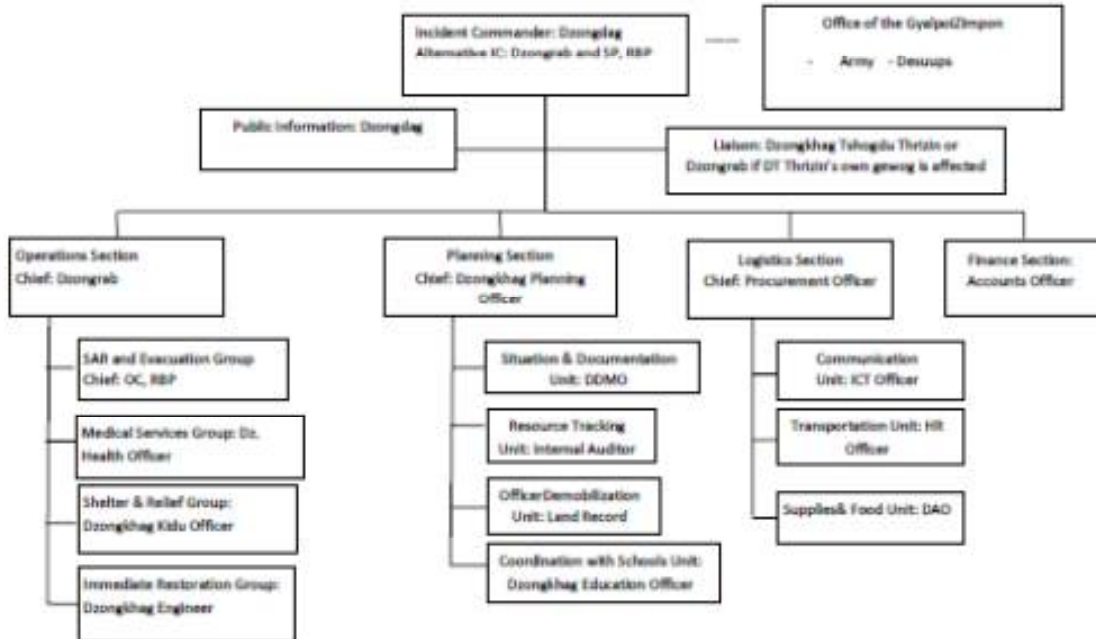
1. Disaster Financing Guidelines 2017
2. Disaster Response and Coordination Process at the National and Dzongkhag level
3. Disaster Risk Management Strategy
4. Disaster Management Rules and Regulation 2014
5. Disaster Management Act 2013
6. Disaster Management Planning and Contingency Guidelines
7. School Disaster Management Planning Guideline
8. Disaster Management Strategic Policy Framework
9. Guideline on Proper Construction Practices Non Engineered Buildings.
10. Environmental Management Framework For Bhutan : Improving Resilience to Seismic Risk 2013

Incident Command System at National Level



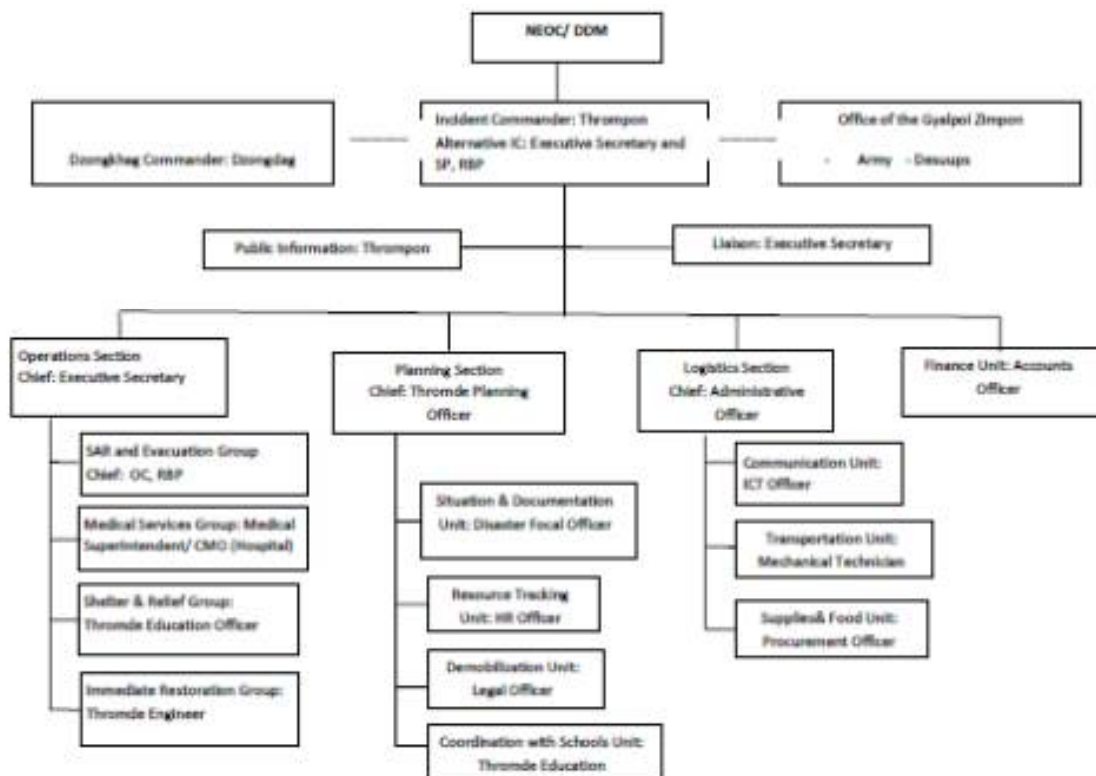
Incident Command System at Dzongkhag Level

Onsite Incident Response Management Team at Dzongkhag Level

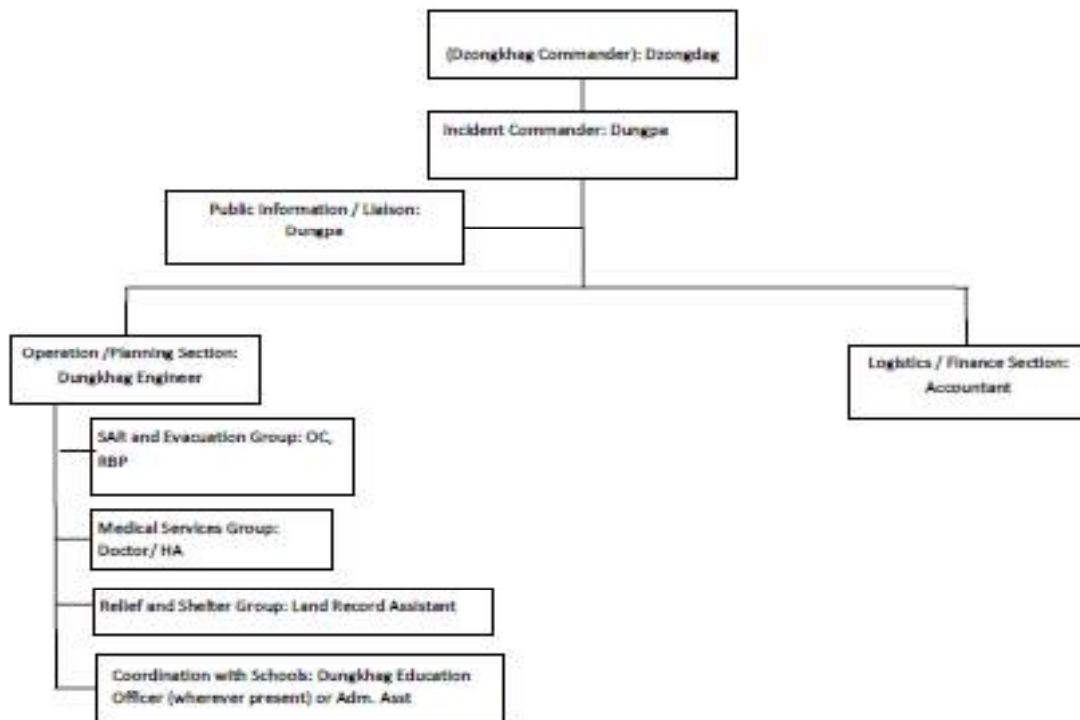


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Incident Command System at Thromde Level

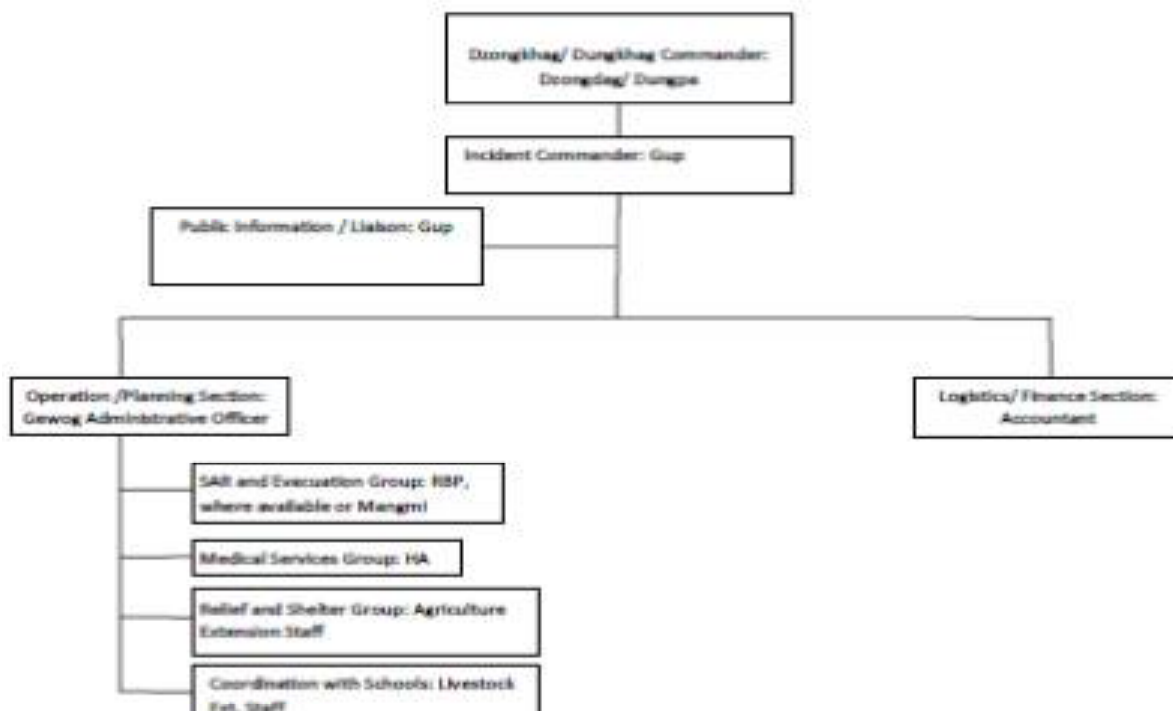


Incident Command System at Dungkhag Level



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Incident Command System at Geog Level



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Classification of Disaster

Three Types

Type I- Geog or City Level

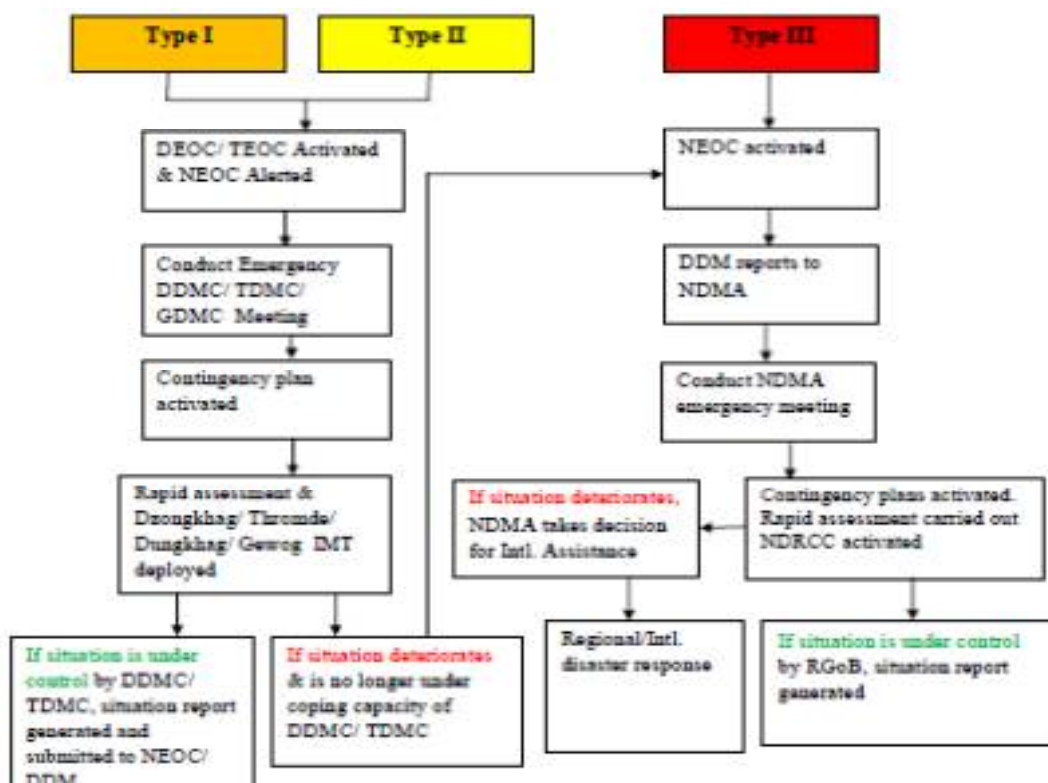
Type II- Within the capacity of affected Dzongkhag.

Type III- beyond available resources and the coping capacity of the Dzongkhag concerned.



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Decision Making Chart



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Preparedness



Weather & Climate Services Division

Dzongkhag Search and Rescue Units

National Weather and Flood Warning Center



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HFA and Bhutan

Use Knowledge, Innovation, Education to Build a Culture of Safety and Resilience at all Levels

• **Public Awareness and Education :**
Disaster Information to communities.

**Capacity Development: Executive
Coordination Workshop Training.**



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Role of HFA in Supporting Risk-sensitive Development

1. Disaster Management System in place at all level as per the Disaster Management Act of Bhutan 2013
2. Mainstreaming DRR Initiatives at the national and local level: Sustainable development, climate change and disaster risk reduction integration
3. Creating awareness at all level (decision makers)
4. Community Based Disaster Risk Management (CBDRM) Program
5. Vulnerability Assessment of Critical Structures
6. Initiatives to integrate cultural heritage and disaster risk reduction
7. Good Construction Practice: Enhancing the knowledge and skills of local masons and carpenters

Mainstreaming DRR into Plans and Policies

1. Priority Implementation Partnership (First Phase) project implemented:
 - National level Training on Mainstreaming DRR
 - Disaster Resilience included as one of the 16 National Key Result Areas (GNHC Planning Guidelines)
2. Four Sensitization Workshops for Mainstreaming DRR into 11th FYP
3. Priority Implementation Partnership (Second Phase) project implemented:
 - DDM as the one of the member in the main reference group under GNHC
 - Revised Royal Institute of Management's Developmental Policy Document
 - Conducted DRR Awareness Program
 - Published document on mainstreaming DRR into Education and Road Sectors

Followup to Sendai Action of DRR

- Bhutan hosted the “12th Regional Consultative Committee (RCC) Meeting on Disaster Management” in June 2015.
- RCC Action Plan 2015-2020 Drawn.
- Mainstreaming DRR and Climate Change Adaptation into Development (MDRD) Program (2015-2020)

Challenges

- ✓ Increasing Risk
- ✓ Absence of National, Dzongkhag and Thromde Operation Centre (National Emergency Communication Network)
- ✓ Low institutional and Technical Capacities at all levels
- ✓ Insufficient mainstreaming of DRR: Inadequate capacity at community/District/Sectoral/Ministrial level
- ✓ Lack of multi-hazards risk profiles.
- ✓ Lack of multi-sectoral coordination.
- ✓ Resource constraints to carry out DM activities.



Way Forward

- i. Hazard Zonation and Mapping for DM Planning.
- ii. Strengthening and expanding the existing Dzongkhag SAR Team.
- iii. Formation of Permanent SAR teams at Local Level; training and equipping them.
- iv. Setting up of backup communication facilities
- v. Effective DM management and well informed communities on hazards.
- vi. Proposal for delinking and upgrading Fire Service Division, RBP.
- vii. DM units all Private and government offices.
- viii. Building mapping in cities and towns.
- ix. Training to Emergency Response Teams all levels.
- x. Mainstreaming DRR in Development Plans and Policies targeting all levels.



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Research plan

Title : Mainstreaming of Disaster Risk Reduction in Development Plans.

Main Objective

- To identify Disaster Risk Reduction Strategies.
- To identify key considerations on mainstreaming DRR into development plans
- to identify comparative benefits of mainstreaming DRR into development

Sub Objective

- Disaster Risk Reduction Strategies how it can be applied to Bhutan.
- Mainstreaming DRR into development plans, programmes and policies in upcoming 12th Bhutan five Year Plan.
- Analyze pros and cons of DRR while mainstreaming into development plans, programmes and policies in upcoming 12th Bhutan five Year Plan.



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ARIGATO GOZAMASU

&

KADIN CHE LA