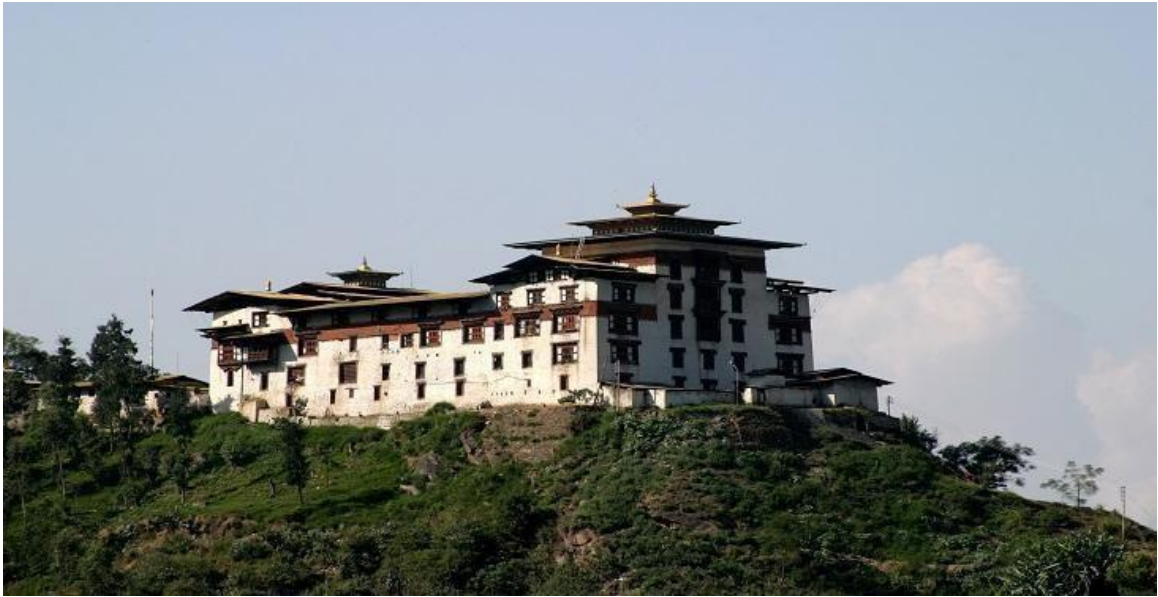


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Dzongkhag Administration

Trashigang



Dzongkhag Disaster Management & Contingency Plan

December 2022

(revised)

Executive Summary

According to Section 77 of the Disaster Management Act of Bhutan 2013, Dzongkhag Disaster Management Committees (DDMC) are mandated to develop Disaster Management and Contingency plans, in consultation with the Dzongkhag sectors and other relevant agencies. Further, Section 78 mandates the Committee to submit the Dzongkhag's disaster management plan to the National Disaster Management Authority through the Department of Disaster Management. Similarly, Section 79 of the Act mandates disaster management and contingency plans to be updated at least once a year and reviewed every five years.

With the changing risk patterns and frequency of disasters, formulation of Dzongkhag specific disaster management plan is an important strategy to strengthen local level disaster management systems and systematically reduce disaster risks.

The Dzongkhag Disaster Management Plan presents hazard, vulnerability and capacity profile for the fifteen Gewogs. The plan also outlines priority disaster risk reduction, awareness raising and capacity building activities for Trashigang and spells out the standard procedures for response in the Dzongkhag. An implementation and monitoring process for the plan is also included.

The Disaster Management and Contingency Plan is to be referred by Gewogs and sectors to ensure mainstreaming and integration of disaster risk management into their annual and five-year development plans. It is required that every stakeholder within Dzongkhag Administration and relevant National Disaster Management institutions and agencies take ownership and fulfill their own roles and responsibilities to make Trashigang disaster resilient and safe Dzongkhag.

All the stakeholders are expected to go through the Contingency Plan and promote safety measures, as always.



(Ugyen Dorji)
DZONGDAG

Acronyms

CBDRM	: Community Based Disaster Risk Management
DDM	: Department of Disaster Management
DM Act, 2013	: Disaster Management Act of Bhutan, 2013
DM	: Disaster Management
DDMC	: Dzongkhag Disaster Management Committee
DT	: Dzongkhag Tshogdue
GNH	: Gross National Happiness
GT	: Gewog Tshogdey
HVCA	: Hazard, Vulnerability and Capacity Assessment
NASART	: National Search and Rescue Team
NDMA	: National Disaster Management Authority
RBP	: Royal Bhutan Police
SDMP	: School Disaster Management Plan

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Scope & Objectives

As required by the Disaster Management Act 2013, the Dzongkhag Administration had prepared the Disaster Management and Contingency Plan (DMCP) to serve as a reference document by all relevant stakeholders for implementation of disaster risk reduction and preparedness activities through mainstreaming. The plan was endorsed by the Dzongkhag Disaster Management Committee (DDMC) held on 21st December 2022.

The plan is covering the whole disaster management cycle (*Pre-disaster-awareness, capacity building and mainstreaming, During-Disaster-Effective response and Post-disaster- Early Recovery and Reconstruction*).

The objectives of the Plan are:

- To mainstream and facilitate the implementation of disaster risk reduction and preparedness activities in Dzongkhag;
- To ensure that required capacities are developed for risk reduction, mitigation, preparedness and response;
- To create awareness on disaster risks, risk reduction and preparedness measures in the Dzongkhag;
- To establish a coordination mechanism for emergency response and relief operations.
- To ensure safety of community, reduce loss to property, protect critical infrastructure, and environment and continuity of essential services.

CHAPTER 1: Overview of Dzongkhag

1.1 Geography

Trashigang Dzongkhag shares its border with Mongar Dzongkhag to the west, Samdrup Jongkhar and Pemagatshel Dzongkhag to the South, Trashi Yangtse Dzongkhag to the north and Indian state of Arunachal Pradesh to the east. It is 551 km away from Thimphu, the capital city and is one of the largest Dzongkhags in the Kingdom. The Dangmechu, one of the largest rivers in the country, passes through the Dzongkhag. The altitude elevation ranges from 600 m to over 4500 m above sea level. The climate is mainly temperate with an annual rainfall between 1000 mm and 2000 mm. The lowest human settlement is found at an altitude of 550 m above sea level at Deno of Lumang Gewog and the highest at Merak at an altitude of 4600 m above sea level.

The Dzongkhag has a total area of 2204.5 square kilometers. As per PCH 2017, the Dzongkhag had a total of 8,610 households with a population of approximately 71,768. The density of the population is 33 per sq.km. The forest cover accounts for 77.87 percent of the total. The Dzongkhag has arable land of 3.64 percent of its total area.

The Dzongkhag Headquarters is located at Mithidrang, which falls under Samkhar Gewog. The Dzong is used as the Dzongkhag Headquarters and also as the seat of Dzongkhag Rabdhey.

The Dzongkhag is administratively divided into three Dungkhags, 15 Gewogs and 79 Chiwogs including a Thromde. All the Gewogs are connected with motorable roads.



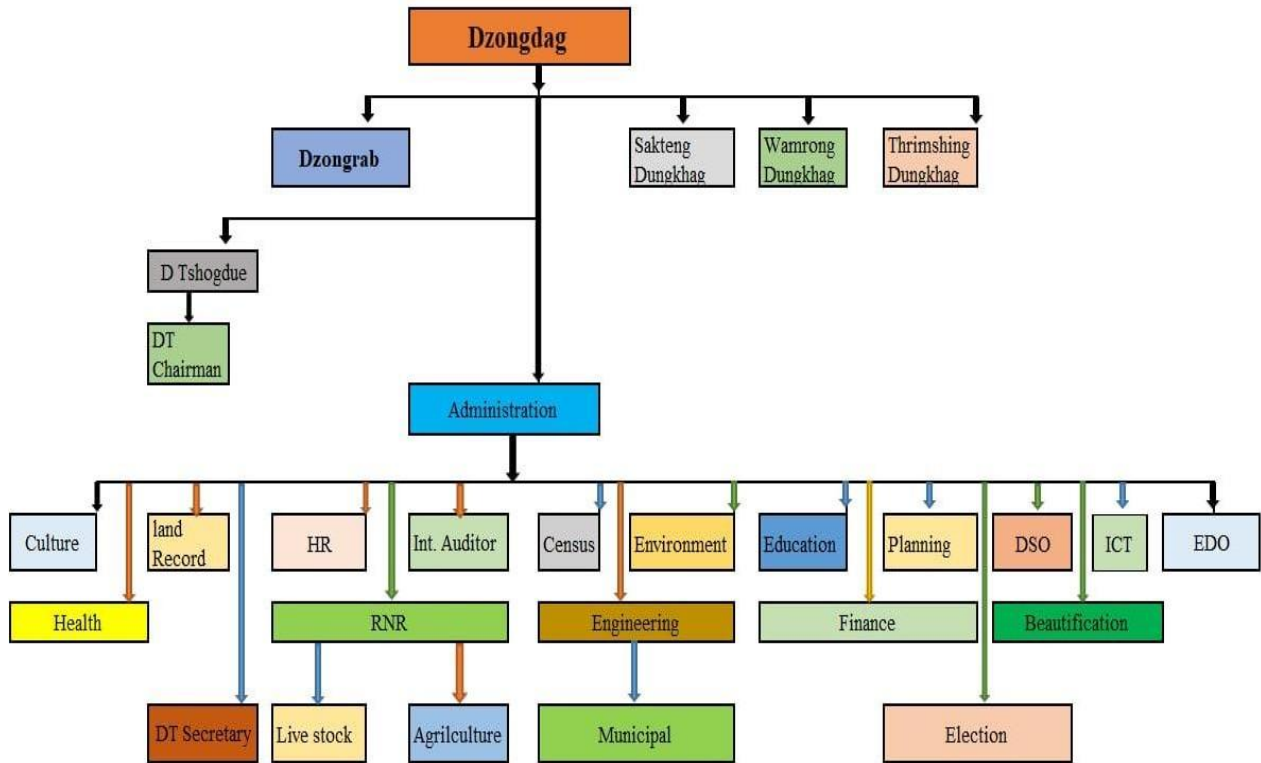
Figure 1: Dzongkhag Boundary Map (Source: NSB)

1.2 Administrative Profile

The Dzongkhag Administration is headed by the Dzongdag with over twenty sectors representing line ministries.

As per the directive of the RCSC and the OD exercise in 2022, the forest sector had been delinked from the Dzongkhag's RNR and merged with the Territory Divisional Forest under the Ministry of Agriculture and Forest.

Figure 2: Organogram of Dzongkhag Administration



1.3 Demography

As per PHCB 2017, the Dzongkhag had a total population of 71,768 as per annual census and 45,518 as actual resident. The Crude Birth Rate(CBR) is 12.8%, and the Crude Death Rate(CDR) is 8.6%. As per PHCB 2017, the Dzongkhag has the highest CDR. The population is projected to 22,110 for 2047 as per Population Projection Bhutan, 2017 to 2047 (NSB)

Sl. No.	Gewog	Area (Sq. Km.)	No. of Households	Population		Health Facilities			Schools				
				M	F	Hospital	BHU	ORC	HSS/CS	MSS	LSS	PS/CPS	ECR/ECCD/NFE
1	Bartsham	35.1	522	1952	1883	1	0	3	1	0	0	1	1
2	Bidung	47	515	1889	2022	0	1	3	0	0	1	1	3
3	Kanglung	63.32	750	2677	2674	1	0	4	1	0	1	3	5
4	Kangpara	341.9	497	2248	2342	0	2	4	0	0	1	1	2
5	Khaling	154.5	603	3126	2931	1	0	7	1	0	1	3	1
6	Lumang	102.9	725	1795	1803	1	1	3	1	0	1	5	6
7	Merak	867.70	353	1254	1149	0	1	1	0	0	0	1	2 ECCD 1 NFE
8	Phongmey	99.4	589	2549	2459	0	2,1-subpost	1	1	0	0	2	2 ECCD 1 NFE
9	Radhi	29	697	2976	2830	0	1	4	0	1	0	2	ECCD-1 NFE-1
10	Sakteng	910	408	1355	1270	0	2	1	0	0	1	1	ECR-1 ECCD-1 NFE-2
11	Samkhar	90.9	525	552	616	0	1	3	0	0	1	1	ECR-1 ECCD-3 NFE-2
12	Shongphu	92.4	2976	2976	750	1	2	2	1	0	0	3	ECR-1 ECCD-3 NFE-2
13	Thrimshing	52.8	634	2810	2765	1	2	3	1	0	1	3	ECCD-3 NFE-2
14	Udzorong	102	646	2319	2186	0	1	5	0	1	0	3	4
15	Yangneer	72.3	660	1755	1860	0	1	5	0	1	0	2	NFP-4, ECCD-6

Chapter 2: Dzongkhag Disaster Management System

2.1 Dzongkhag Disaster Management Committee (DDMC)

The DDMC is comprised of following:

- a) Dasho Dzongdag, Chairperson (ex-officio)
- b) Dzongkhag Welfare Officer, member
- c) Chairperson of Dzongkhag Tshogdu (DT), member
- d) Gup of affected Gewogs
- e) Thromde Thuemi, member
- f) Superintendent of Police/Officer-in-Charge, RBP, member
- g) Drungchen, Trashigang Rabdey, member
- h) Dzongkhag Disaster Management Officer, Member Secretary
- i) Any other member as may be co-opted in accordance with the rules framed under the Act

On the expiry of the term of the Gup/Thromdey Thuemi or in the event of resignation, the Chairperson of the Dzongkhag Disaster Management Committee shall designate the most appropriate official in the Gewog/Thromdey who shall represent in the DDMC during the interim period.

2.2 Functions of DDMC

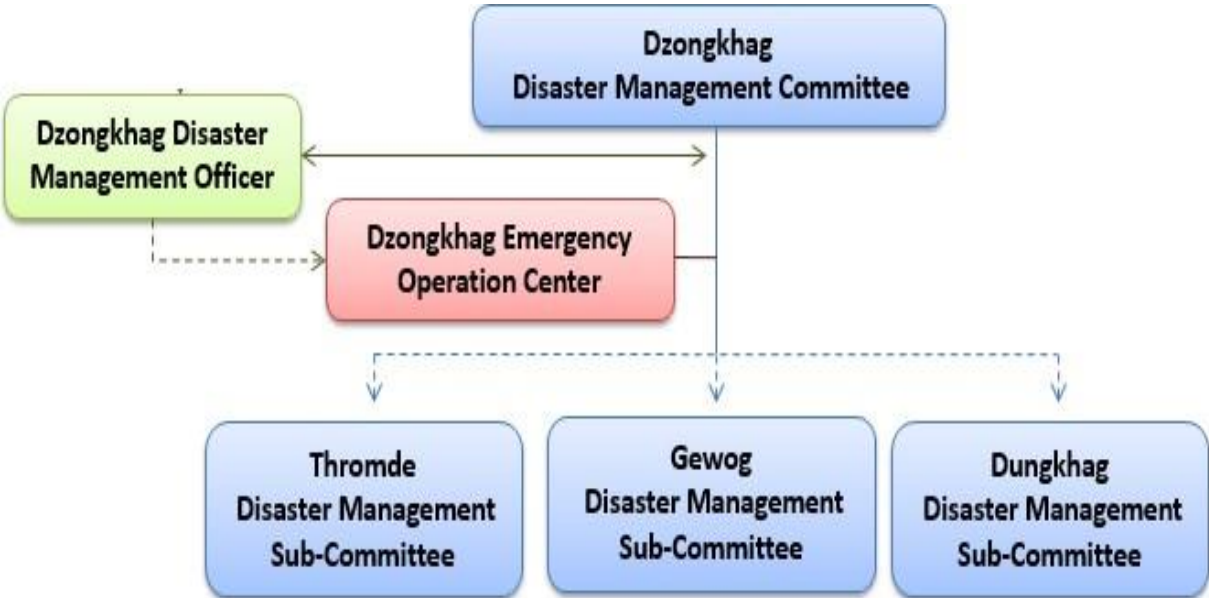
The DDMC shall be responsible for coordinating and managing all disaster management operations in the Dzongkhag under the direction and supervision of the National Disaster Management Authority (NDMA). The DDMC and Chairperson shall function as mandated under Section 31 & 38 of DM Act 2013.

In the case of a disaster, the Chairperson of the DDMC may exercise all or any of the functions of the DDMC, subject to ex post facto ratification of the Committee.

The DDMC is mandated to meet at least twice a year and to frame rules and regulations concerning the conduct of its meeting.

2.3 Disaster Management Subcommittee

The DDMC may, if it considers necessary, constitute a subcommittee at the Dungkhag, Thromde or Gewog level to assist the DDMC in the performance of its functions under the DM Act of Bhutan 2013.



The DDMC may frame rules and regulations under this Act to determine the composition and function of a sub-committee constituted under Section 35 of the DM Act.

Chapter 3: Disaster Risk Profile of Dzongkhag

3.1 Hazard Assessment

Trashigang Dzongkhag has experienced several disasters over the last 20 years, the most devastating on 21st September 2009, with a magnitude of 6.1 hit the Narang under Mongar Dzongkhag. It damaged major parts of development activities throughout the country including Yangneer Gewog. The Gewog also suffered one dead. The Narang earthquake lasted 95 seconds with a damaged cost estimated at Nu.2,501 million (DDM report) and recorded 12 death in the country.

On 18th September, 2011 Sikkim earthquake of magnitude 6.9, caused widespread damages to rural homes and government infrastructures.

Nepal earthquake on 25th April, 2015 also had a major impact in the country.

The other major and recurrent hazard has been windstorms that have resulted in extensive damages to roofs of rural houses and government infrastructure. The Hazard, Vulnerability and Capacity Assessment (HVCA) process carried out in the Gewogs also identified other hazards such as – forest fire, structural fire, flood, landslides, thunder storms and pests and diseases. The hazard assessment of each Gewog, as per consultations with the community, is presented below:

Table 1: Hazard Assessment Table (Trashigang Throm)

Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of past disaster	Impact
Structural Fire	Forest fire	December, January February March April	High	NA	Property loss, claim of lives,
Flash flood/Landslide	Artificial Dam formation	June , July August	Medium	1994	Property loss, claim of lives, migration,
Hailstorm	flood	July, August, September	Low	2015	Damage to agricultural products, forest,
Earth quake	Landslide, structure fire	Anytime	unpredictable	2009	Damage to households, cultural sites, loss of lives,
Forest Fire	Structural fire, Human life conflict	Dry season	high	Every year	Damage to old and antique structures
Windstorm	Structural fire	July, August, September	Medium	2013, 2015	Property and Crop damage

1. Bartsham Gewog

Table 2: Bartsham Gewog Hazard Assessment

Sl. No	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of Past disaster	Impact
1	Structure Fire	Forest fire	Dry and Windy season (Nov-March)	High	2013	destroyed 6 HHs (Dzongthung)
2	Flash Flood/Landslide		Monsoon season (May-August)	High	1982 & 1992	Loss of farm land loss crop damages
3	Earthquake	Structure fire, Landslide, forest fire, FR destruction	unpredictable	High	2009	Major damages to HHs and Lhakhang
4	Windstorm	Structure fire	Windy season (March & April)	High	2017	damaged 11 HHs, Crop loss
5	Human and wildlife conflict		March - Nov	High	Every year	Crops losses

2. Bidung Gewog

Table 3: Bidung Gewog Hazard Assessment

Sl. No	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of Past disaster	Score	Ranking	Impact
1	Forest Fire	Structural fire	Dry and Windy season (Nov-March)	High	2014	10	1	Damaged 3 Houses
2	Flashflood/Landslide		Monson season (May-August)	High	2016	9	2	farm land loss and crop damage
3	Earthquake	Structure fire, Landslide, forest fire, FR destruction	unpredictable	High	2009	8	3	Major damages to HHs and lhakhang
4	Windstorm	Structure fire	Windy season (March & April)	High	2015, 2016, 2017	6	4	Crop loss
5	Human and wildlife conflict		March - Nov	High	Every year	5	5	Crops losses

3. Kanglung Gewog

Table 4: Kanglung Gewog Hazard Assessment

Hazard	Secondary hazard	When it could occur	Probability of occurrence	Year of past disaster	Impact
Earthquake	-Flood	Uncertain	High risk of flood	2014, Ritshangdung Chiwog	-Several damages to few households. -Damages 12 household under Ritsangdung Pangthang Chiwog
Flood	-	June-August		2016, Rongthung	Washed away bodidrang and Bamdrirang bridges, affected RWSS and Irrigation Channel
Windstorm	fire disaster	Feb-March		2014, Ritshangdung	-Every year 15-25 household were affected by windstorm, major damages on - Damaged 3 Household, Major damages on crops under Ritshangdung Chiwog
Human wild life conflict	-	Damage potato from June-October every year. Whole year	high in all villages	every year	Major Damages on crops of people residing at Yonphupam and Ritshangdung
Structural Fire	Forest fire	Dry and Windy season (Nov-March)	High	2016, manthung	Major damages of ap Dangling's House
Forest Fire	Landslide/Mudslide	Oct-Mar	High	2016, Ritshangdung	Damages around 50-70 acres of govt. and private land/forest under Ritshangdung Chiwog

4. Khaling Gewog

Table 5: Khaling Gewog Hazard Assessment

Sl. No	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of Past disaster	Impact	Score	Ranking
1	Structure Fire	Forest fire and Community	Dry and Windy season (Dec-Feb)	High	1950, 2016	Structure & property loss	10	1
2	Flood	–	Monsoon season (June-August)	High	2016	Power house, Bridge, Farm Road & land damage	9	2
3	Earthquake	–	Anytime	High	2009, 2011	Structure & property loss	6	4
4	Windstorm	–	Windy season (Feb-March)	High	2010	Crop & Property loss	8	3
5	Human and wildlife conflict							

4. Kangpar Gewog

Table 6: Kangpar Gewog Hazard Assessment

Sl. No	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of Past disaster	Impact
1	Structure Fire	Forest fire	Dry and Windy season (Nov-March)	High	2016	Property
2	Flood	Landslide, Damages Land	Monsoon season (July-August)	High	1-2 years	Bridges materials loss, farm land loss
3	Earthquake	Structure fire, Landslide, flood	Unpredictable	High	2009	Houses badly affected
4	windstorm	Structure fire, damages and men casualty	Windy season (December, January, Feb)	Medium	every 2-3 years	House roof damages
5	Human and wildlife conflict	Damages Crops	Every Year	High	Every year	Crops losses

6. Lumang Gewog

Table 7: Lumang Gewog Hazard Assessment Table

Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of past disaster	Impact
Landslide	Flash flood	Summer/monsoon season	High	2003	Large landslides at Moshi and Tshogonpa Chiwogs. Large area of arable land were affected
Structural fire	Forest fire	Prevalent in dry and cold season	High	2009, 2014, 2020	8/10/2009 – Wamrong Throm fire – 12 structures damaged and 26 families displaced (cause-electrical short circuit), 2014 – 1 House, 2020 – 2 Houses, damaged by structural fire
Earthquake	Structural fire, landslide	Unpredictable	High	2006, 2009, 2019, 2021	Affected 10 (2009) houses, 2 (2009) houses
Pests and diseases	Famine and poverty	Spring, Summer and Autumn seasons	High	Minor infections annually	
Windstorm	Structural fire, crop damage	Dry and Winter season	High	2009, 2018, 2019	2009 – affected 2 houses, 2018 – damaged 15 acres of crops, 2019 – affected 3 houses
Human wild life conflict	Disease outbreak, poverty	Both Summer winter season	High	Every year	Crop damage – No proper data

7. Merak Gewog

Table 8: Merak Gewog Hazard Assessment

Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of past disaster	Impact	Score	Ranking
Structure Fire	Forest Fire	Dec-Feb (Dry and Windy season)	High		Loss of Property and lives	10	1
Windstorm	Structure fire, forest fire	Dec-Feb	High		Loss of Property and Lives	9	2
Earthquake	Landslide, Forest and falling Rocks	Unpredictable	High	2009	Loss of properties and lives	7	3
Landslide		June-Sept (Monsoon/Rainfall)	medium		Loss of Property and lives	5	4
Flood	Landslide	June-Sept (Monsoon/Rainfall)	low		Loss of Property and Lives	4	5
Forest Fire	Structure fire	Dec-Feb (Dry and windy season)	Low		Loss of Property and Lives	3	6

8. Phongmey Gewog

Table 9: Phongmey Gewog Hazard Assessment

Hazard	Secondary Hazard	When it could occur	Probability of Occurrence	Year of past Disaster	Impact
Floods/Landslide	Forest fire, Settlements fire,	Monsoon(July, August and September)	High	2001,2004 (3 lives lost, Yudiri Bridge washed away)	Destruction of crops and lands.
Earthquakes	Fires	Anytime	High	2009,2011(21 Houses damaged)	Property loss
Windstorms	Forest Fires	winter season(Jan, Feb,)	High	1992 (all chiwogs)	Destruction of Crops and lands
Structure Fires	Forest fire, Settlements fires	Dry and winter seasons (Jan and Feb)	High	1977(6 households destroyed at Yabrang and Phimsong)	Property loss.
Crop Diseases		Harvesting Season(sep, Oct)	Medium	2014 at Yabrang Village	Crop Damage

9. Radhi Gewog

Table 10: Radhi Gewog Hazard Assessment

Hazard	Secondary Hazard	When it could Occur	Probability of Occurrence	Year of past disaster	Impact	Score	Ranking
Earthquake	Structure fire/ Landslide/ Artificial dam formation	Anytime	high	2009 & 2011	Property loss	10	1
Structure fire	Forest fire	Dry and windy seasons(dec-May)	high	1978&1991(11household in Tongling& 1 house in Dekidling Village)	Property loss	10	1
Windstorm	Structure fire	Winter and dry seasons	medium	2014 & 2016	Property loss & crop damage	8	2
Landslide	flood	Monsoon season (july-Aug.)	high	Every year	Property/land damage	7	3
Flashflood		Monsoon season (July-Aug.)	high	Every year	Property/land damage & crop damage.	5	5
Forest fire	Structure fire	Dry and windy seasons(dec-May)	Low	April 2017, below Tshangkhar village	Property/ forest damage.	6	4

10. Samkhar Gewog

Table 11: Samkhar Gewog Hazard Assessment

HAZARD	SECONDARY HAZARD/	WHEN IT COULD OCCUR	PROBABILITY OF OCCURRENCE	YEAR OF PAST DISASTER	IMPACT
Forest Fire	Structure Fire	Dry & Windy season (Jan-March)	High	2015	Damages on pipe lines and electric poles, destruction on community forest.
Flash Flood	Landslide	Monsoon season (June-Sept.)	High	2004	Loss of bridges, road, Houses and domestic animals.
windstorm	Forest fire	Nov-Jan	High		Crop damage
Earthquake	landslide/forest fire		High	2009	loss of property.
Landslide		June-Sept.	High		Damage on public property
Human wildlife conflict	Poverty	AUG-OCT	High	Every Year	Major damage on crops

11. Sakteng Gewog

Table 12: Sakteng Gewog Hazard Assessment

Sl. No	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of Past disaster	Impact
1	Structure Fire	Forest fire	Dry and Windy season (Nov-March)	High	2013	destroyed 6 HHs (Dzongthung)

2	Flash Flood/Landslide		Monsoon season (May-August)	High	1982 & 1992	farm land loss and crop damage
3	Earthquake	Structure fire, Landslide, forest fire, FR destruction	unpredictable	High	2009	Minor damages to HHs and lhakhang
4	Windstorm	Structure fire	Windy season (March & April)	High	2017	damaged 11 HHs, Crop loss
5	Human and wildlife conflict		March - Nov	High	Every year	Crops losses

12. Shongphu Gewog

Table 13: Shongphu Gewog Hazard Assessment

Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of past disaster	Impact
Flash flood	Landslide	Rainy season (June-August)	High	2004	-Bridge washed away.
Earthquake	Forest fire/landslide			2009	Loss of property
Human-wildlife conflict	Income reduced	May-Aug	High	2017	Crop damaged
Windstorm	Forest fire	Dec-Jan	High	2010	Structure loss
Gungtong	Age gap		high		House left empty and Land left fallow

13. Thrimshing Gewog

Table 14: Thrimshing Gewog Hazard Assessment

Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of past disaster	Impact
Flash flood	Landslide	Rainy season (june- Aggust)	High	2004	Bridge washed away.
Earthquake	Forest fire/landslide			2009	Loss of property
Human-wildlife conflict	Income reduced	May-Aug	High	2017	Crop damaged
Windstorm	Forest fire	Dec-jan	High	2010	Structure loss
Gungtong	Age gap		high		House left empty and Land left fallow

14. Udzorong Gewog

Table 15: Udzorong Gewog Hazard Assessment

Hazard	Secondary hazard	When it could occur	Probability of occurrence	Year of past disaster	Impact
1. Forest fire	Landslide/drying of water source/shooting boulders	Nov-March	High	2010	Biodiversity loss
2. Wildlife conflict	Disease outbreak	August-December	High	2000	Crop damage and Production loss
3. Windstorm	Forest fire/structure damages/Crops damages	May-August	High	2012	Forest and production loss
4. Landslide	Farm Road damages/structure damages(house)	June-August	High	2005	Defunct Farm Road/ damage houses
5. Earthquake	Landslide/structure fire			2009	Property loss

15. Yangneer Gewog

Table 16: Yangneer Gewog Hazard Assessment

Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Year of past disaster	Impact	Score	Ranking
Forest fire (Yangner)	-Structural fire - water source dry up-landslide - flash flood	Dry season and windy (dec-feb)	High	2011	school, bridges, lhakhang, roads	10	1
Earthquake	-Structural fire- Landslides -shooting boulders		High	2009	Property loss	6	5
Windstorm	Crop & structural damage	Winter (Dec –jan)	High	2009	Property & crops loss	8	3
Landslide	-Structural damage -water source damage.	Monsoon (June-July)	High	1996	Property & crops loss	5	6
Pest disease	-Crops damaged -food security	March	Less	1980	Crops loss	7	4
Human wildlife conflict	Property & crops damaged	Feb -Oct	High	Every year	Crops loss	9	2

3.2 Vulnerability Assessment

Vulnerability assessment for the Dzongkhag is carried out based on underlying vulnerabilities identified during the HVCA process in each Gewog:

1. Bartsham Gewog

Table 17: Bartsahm Gewog Vulnerability Assessment

Sl.no	Hazard	Element at risk	Why they are at risk	
			Physical/material	Social/organization
1	Structure Fire	House, Lhaxhang, Govt. infrastructure, Human (old age/disable people, children) & forest	People don't use butter lamp case in house, Use Bukhari, Poor electrification	Lack/inadequate of awareness in community, Clustered settlement, Makeshift houses
2	Flashflood/Landslide	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & human	Steep slope, climate change, construction of more farm roads, Land located near stream, House construction along stream	No landholding in other area, lack/inadequate awareness on SLMP, more development activities in the gewog,
3	Earthquake	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & Human	poor quality structure, Old structure and two storage house, 3-4 storied lhaxhangs	Local/untrained Dozow & Shingzow, Inadequate of awareness in community, temporary makeshift
4	windstorm	House, Crops, Lhaxhang, Govt. Infrastructure, human, electric poles	Poor construction of house (CGI sheet)	Lack/inadequate of awareness in community, poor maintenance (gungtong)
5	Human and wildlife conflict	Crops	Poor maintenance of electric fencing	

2. Bidung Gewog

Table 18: Bidung Gewog Vulnerability Assessment

Sl.no	Hazard	Element at risk	Why they are at risk	
			Physical/material	Social/organization
1	Forest Fire	House, Lhaxhang, Govt. infrastructure, Human (old age/disable people, children) & forest	Thick dry bushes near houses, No fire line construction	Lack/inadequate of awareness in community,
2	Flood	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & people	Land located near stream, paddy field along stream	Inadequate awareness in community
3	Earthquake	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & people	Poor construction of house, Old structure and mud rammed house/	Inadequate awareness in community
4	windstorm	House, Crops, Lhaxhang, Govt. Infrastructure & people	Poor construction of house, most of the roofing of houses are CGI sheets without ,climate change	Lack/inadequate of awareness in community, low income
5	Human and wildlife conflict	Crops	No fencing for animals	k/inadequate of awareness in community

3. Kanglung Gewog

Table 19: Kanglung Gewog Vulnerability Assessment

Hazard	Elements at risk	Why they are at risk	How will they be affected	When it could occur
Earthquake	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & people	1. Poor construction of house, Old structure and mud rammed house 2. Local/untrained Dozow & Shingzow, Inadequate of awareness in community	Loss of lives, properties and damages to structures and infrastructure. Secondary hazards such as landslides and flood	uncertain
Flood	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & people	1. no awareness in community 2. no river protection wall	Loss of live, properties, animals etc	Monson season (July-August)
Windstorm	House, Crops, Lhaxhang, Govt. Infrastructure & people	1. Poor construction of house, most of the roofing of houses are CGI sheets without iron rope 2. Lack/inadequate of awareness in community	Roofs will be blown away completely and falling trees will hit cable lines and block road.	Windy season (December, January, Feb)

4. Khaling Gewog

Table 20 : Khaling Gewog Vulnerability Assessment

Sl.no	Hazard	Element at risk	Why they are at risk	
			Physical/material	Social/organization
1	Structure Fire	House, Lhaxhang, Govt. infrastructure, Human (old age/disable people, children) & forest	People don't use butter lamp case in house, Use Bukhari, Poor electrification, old structure	Lack/inadequate of awareness in community, Clustered settlement, Makeshift houses
2	Flood	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & people	Land located near stream, House construction along stream	No landholding in other area, lack/inadequate awareness in community

3	Earthquake	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & people	Poor construction of house, Old structure and two storage house	Local/untrained Dozow & Shingzow, Inadequate of awareness in community
4	windstorm	House, Crops, Lhaxhang, Govt. Infrastructure & people	Poor construction of house, most of the roofing of houses are CGI sheets without	Lack/inadequate of awareness in community

5. Kangpar Gewog

Table 21: Kangpar Gewog Vulnerability Assessment

Sl.no	Hazard	Element at risk	Why they are at risk	
			Physical/material	Social/organization
1	Structure Fire	House, Lhaxhang, Govt. infrastructure, Human (old age/disable people, children) & forest	People don't use butter lamp case in house, Poor electrification, old structure	Lack/inadequate of awareness in community,
2	Flood	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & people	no river protection wall	No landholding in other area, lack/indequate awareness in community
3	Earthquake	House, Lhaxhang, Govt. infrastructure, land, road & bridges, livestock & people	Poor construction of house, Old structure and mud rammed hous	Local/untrained Dozow & Shingzow, Inadequate of awareness in community
4	windstorm	House, Crops, Lhaxhang, Govt. Infrastructure & people	Poor construction of house, most of the roofing of houses are CGI sheets without iron rope	Lack/inadequate of awareness in community
5	Human and wildlife conflict	Crops	No fencing for animals	Inadequate funds

6. Lumang Gewog

Table 22: Lumang Gewog Vulnerability Assessment

Hazard	Element at Risk	Why they are at Risk	
		Physical/Material	Social/Organization
Landslide and flash flood	Buildings (houses and historical monuments), public infrastructures, land, farm roads, human and animal life	Developmental activities (especially farm roads), lack of drain along farm roads, geo-landscape, incessant rainfall	Lack of ownership (especially regular maintenance of drains along farm road), construction of farm roads without proper/concrete drain
Structural Fire	Buildings (houses and historical monuments), public infrastructures, forest	Poor and old electrical wiring, open lighting of butter lamps and Bhukaris, improper kitchen settings	Hut/Makeshift houses/temporary sheds & lack/inadequate awareness / poor community vitality/fraternity.
Earthquake	Buildings (houses and historical monuments), public infrastructures	Poor quality design and construction, improper site selection, loose foundation	Inadequate wealth to construct strong houses, poor planning and design, lack of awareness/practice of house construction
Windstorm	Houses, historical monuments, govt. structure, property, animal & human life	Poor quality of CGI sheets, site selection, poor quality of infrastructure.	Makeshift houses/temporary sheds) lack/inadequate awareness.
Human wild life conflict	Crops, animal & human life	Improper fencing, restriction from Nature Conservation Act, encroachment/reduction of natural habitats	Lack/inadequate awareness, poor community harmony

Forest fire	Houses, historical monuments, govt. structure, animal & human life	No fire line, no fire brigade/equipment, dry environment	Lack of awareness and advocacy program, weak
Pest and diseases	Crops and human	Organic farming, growing pests and diseases in the regions	Absence of use of pesticides and insecticides, inadequate farmers knowledge on pest and diseases

7. Merak Gewog

Table 23: Merak Gewog Vulnerability Assessment

Hazard	Element at Risk	Why they are at Risk?	
		Physical	Social/Organization
Structure fire	Houses, Lhakhangs, Properties, Livestock, Human, Schools, RNR, BHU, Gewog Centre, Park office and Forest	Improper installation of Bukhari, poor electrification, no usage of butter lamp case, prevalence of more wooden structure houses	Poverty Lack of awareness Poor community harmony
Earthquake	Houses, Lhakhangs, Properties, Livestock, Human, Schools, RNR, BHU, Gewog Centre, Park office and Forest	No earthquake resilience structure	No awareness program
Landslide	Houses, Lhakang, properties, livestock, human and forest	Unstable construction	Poor land management Lack of awareness
Windstorm	House, Lhakang, livestock, Human, Properties and forest	Old structure houses	No training Poverty

8. Phongmey Gewog

Table 24: Phongmey Gewog Vulnerability Assessment

Hazard	Element at Risk	Why they are at Risk	
		Physical/Material	Social/Organization
Floods/Landslides	Houses, Lands, Roads, Crops damage	High and Difficult Terrain	Lack of quality, designs, Lack of disaster management
Earthquake	Houses, Electric Poles, Farm Roads	Poor quality construction	Lack of awareness, trainings of mason and carpenters, old method of construction
Windstorms	House, Crops, Lhaxhang, Govt. Infrastructure & people	Poor construction of house, most of the roofing of houses are CGI sheets without iron rope	Lower income (makeshift & huts), lack of knowledge on building disaster resilient structures
Structure Fire	Houses, Lhaxhangs, Properties, Livestock, Human, Schools, RNR, BHU, Gewog Center, Park office and Forest	People don't use butter lamp cases in their houses, Poor electrification, old structures.	Negligence, inadequate knowledge on the use of electrical appliances & gas cylinders
Crop Diseases	Crops	Usage of Old method of Cultivation/quality of seeds	Lack of Trainings/Awareness

9. Radhi Gewog

Table 25: Radhi Gewog Vulnerability Assessment

Element at Risk	Why they are at Risk	
	Physical/material	Social/organization

1. Earthquake	Buildings, human, land, livestock, crop, properties , basic infrastructures like roads, bridges, power lines, communication towers etc..	Poor quality construction, geological instability	Lack of adequate awareness, poor community harmony, poor disaster mainstreaming in plans, untrained mason & carpenters
2. Structure fire	Lhakhangs, houses, Human, forests	Substandard electrification, use of heating appliances, butter lamp	Carelessness, lack of adequate awareness
3. Windstorm	Houses and crops	Use of CGI sheets, no anchorage, Use of traditional seeds	Practice of traditional style of roofing.
4. Landslide/flash flood.	Houses,roads,bridges, Land & crop	Geological instability, incessant rain, Seasonal streams	Lack of adequate awareness, poor community harmony, no sustainable land management practices, deforestation, overgrazing

10. Samkhar Gewog

Table 26: Samkhar Gewog Vulnerability Assessment

HAZARD	ELEMENT AT RISK	WHY THEY ARE RISK	
		PHYSICAL/MATERIALS	SOCIAL/ORGANIZATION
Forest Fire	Houses, Lhakhang,human lives, Properties, Livestock, Human life & Forest	Throwing of lighted Cigarette buds, People don't put off fire after picnicking, Lightning and poor transmission line clearance	Lack of awareness, lack of sense of ownership, individual carelessness.
Flash Flood	Bridges, Houses, Domestic animals, Roads, Lands, human lives and lives of many aquatic animals	formation of artificial lake, Continious rainfall and poor drainage system	lack of awareness and poor coordination among public while implementing developmental activities.

Windstorm	Crops, Houses, Lhakhangs and Human lives	Deforestation	Poor housing condition and lack of awareness.
Landslide	Crops, Houses, Lands Lhakhangs and Human lives	Deforestation, rainfall, unplanned construction, poor drainage system and lack of land management activities.	lack of land management campagne.
Earthquake	Houses, Lhakang, human lives, Properties, Livestock, Human life & Forest	lack of earthquake resistant construction.	lack of earthquake preparedness and failure in recognition of safe evacuation site
HUMAN WILDLIFE CONFLICT	Crops	Thick forest and lack of electric fencing	lack of awareness

11. Sakteng Gewog

Table 27: Sakteng Gewog Vulnerability Assessment

Sl.no	Hazard	Element at risk	Why they are at risk	
			Physical/material	Social/organization
1	Structure Fire	House, Lhakang, Govt. infrastructure, Human (old age/disable people, children) & forest	People don't use butter lamp case in house, Use Bukhari, Poor electrification, prevalence of more wooden structures	Lack/inadequate of awareness in community, Clustered settlement, Makeshift houses
2	Flood	House, Lhakang, Govt. infrastructure, land, road & bridges, livestock & people	Land located near stream, House construction along stream	No landholding in other area, lack/indequate awareness in community
3	Earthquake	House, Lhakang, Govt. infrastructure, land, road & bridges, livestock & people	Poor construction of house, Old structure and mud rammed house	Local/untrained Dozow & Shingzow, Inadequate of awareness in community

4	Windstorm	House, Crops, Lhakhang, Govt. Infrastructure & people	Poor construction of house, most of the roofing of houses are CGI sheets without	Lack/inadequate of awareness in community
5	Human and wildlife conflict	Crops	No fencing for animals	
6	Wild dog	Livestock	Leave unheard in the forest	
7	Heavy snowfall	House, Livestock & people	Poor roofing timber	

12. Shongphu Gewog

Table 28: Shongphu Gewog Vulnerability Assessment

Hazard	Element at risk	Why they are at risk	
		Physical/material	Social/organization
Windstorm	Houses, historical monuments, govt. structure, animal & human life	Poor quality of CGI sheets, site selection, poor quality of infrastructure.	Makeshift houses/temporary sheds) lack/inadequate awareness.
Landslide	Houses, historical monuments, govt. structure, animal & human life	More developmental activities, deforestation, lack of proper drainage	Afforestation, lack/inadequate of awareness
Earthquake	Houses, historical monuments, govt. structure, animal & human life	Poor quality of construction materials, improper site selection,	Poor planning, religious conflict, lack/inadequate of awareness poor community harmony
Flash Flood	Houses, historical monuments, govt. structure, animal & human life	Improper site selection, lack of land management/land degradation program	Improper planning, Lack of awareness and advocacy program. Lack of Early warning system in place
Forest fire	Houses, historical monuments, govt. structure, animal & human life	No fire line, no fire brigade/equipment.	Lack of awareness and advocacy programs.
Structure fire	Houses, historical monuments, govt. structure, animal & human life	Poor electrification, improper installation of Bukhuri and other room heating appliances	makeshift houses/temporary sheds & lack/inadequate of awareness poor community harmony

Human wildlife conflict	Houses, historical monuments, govt. structure, animal & human life	No solar fencing. Restriction from Nature conservation act.	Lack/inadequate of awareness, poor community harmony

13. Thrimshing Gewog

Table 29: Thrimshing Gewog Vulnerability Assessment

Hazard	Element at risk	Why they are at risk	
		Physical/Material	Social/organization
Structure fire	-House,Lakhang. – livestock,Human.	Poor electrification. improper installation of Bukhari, do not use butter lamp case.	Poverty(Temporary shed). Lack of awareness. Poor community harmony.
Flash flood	-House,lakhang, Human,Road,Bridges etc.	Poor drainage system, fragile environment, rapid socio-economic development and heavy rainfall, deforestation.	Lack of awareness, poor community harmony.
Earthquake	-House,lakhang, Human,Road,Bridges, livestock.	Old structures, poor skills among locality.	Avail training to locality.
Windstorm	Crop, Human,livestock, House, Lakhang	Deforestation.	-Poor living standard, lack of awareness.
Human-wildlife conflict	Human, Livestock, Agriculture,wild animals.	Religion and law, no proper fencing, deforestation.	Lack of awareness.
Gungtong	Fallow land increased,	-modernization,	Low income,

14. Udzorong Gewog

Table 30: Udzorong Gewog Vulnerability Assessment

Hazard	Element at risk	Why they are at risk	
		Physical/material	Social/organization
1. Forest fire	House, lhakhang, properties, human, livestock	Poor electrification, lightening/ human error	Poverty (makeshift house/temporary sheds)

			Poor community harmony
2. Wildlife conflict	Agriculture crop and livestock	No fencing facilities and freeing of domestic animals	Less participation in the community
3. Landslide	House, human, livestock and properties	No proper drainage system, no plantation after new farm road construction, no land management practice (check dam/hedge row plantation)	no awareness in the community
4. Earthquake	Human, House, livestock	Due to poor mapping before construction, old house, never renovation	Lack of awareness about disaster risk
5. Windstorm	Crop/house/human	No improved variety d (short variety) , big trees are not properly trim	Lack of awareness in the community and no ideas about improved variety

15. Yangneer Gewog

Table 31: Yangneer Gewog Vulnerability Assessment

HAZARD	ELEMENT AT RISK	WHY THEY ARE RISK	
		PHYSICAL/MATERIALS	SOCIAL/ORGANIZATION
Forest Fire	Houses, Lhakhang, human lives, Properties, Livestock, Human life & Forest	Throwing of lighted Cigarette buds, People don't put off fire after picnicking, Lightning and poor transmission line clearance	Lack of awareness, lack of sense of ownership, individual carelessness.
Flash Flood	Bridges, Houses, Domestic animals, Roads, Lands, human lives and lives of many aquatic animals	formation of artificial lake, Continuous rainfall and poor drainage system	lack of awareness and poor coordination among public while implementing developmental activities.
Windstorm	Crops, Houses, Lhakhangs and Human lives	Deforestation	Poor housing condition and lack of awareness.

Landslide	Crops, Houses, Lands Lhakhangs and Human lives	Deforestation, rainfall, unplanned construction, poor drainage system and lack of land management activities.	lack of land management campaign.
Earthquake	Houses, Lhakhang, human lives, Properties, Livestock, Human life & Forest	lack of earthquake resistant construction.	lack of earthquake preparedness and failure in recognition of safe evacuation site
HUMAN WILDLIFE CONFLICT	Crops	Thick forest and lack of electric fencing	lack of awareness

3.3 Capacity Assessment

There are various capacities in each Gewog corresponding to different hazards as outlined below:

Physical capacities - those that are present in the Gewog which can withstand or reduce the impact of the hazard up to certain extent.

Economic capacities – include resources households and communities can rely on for recovery and re-construction in the aftermath of a disaster.

Social capacities - include strength inherent in the community in terms of community cooperation or knowledge that would be useful during disasters.

1. Bartsham Gewog

Table 32: Bartsham Gewog Capacity Assessment

Sl.no	Hazard	Capacities	
		Physical	Social/Institutional
1	Structure Fire	Stream, Open spaces/ evacuation centers	Close community, RNR, BHU, School, Network, Road, RICBL, DKO
2	Flashflood/landslide	Too many boulders, Open spaces, gewog office	Network, Road, BHU, RICBL,DKO
3	Earthquake	Structures which remain safe during earthquake, Open spaces/ evacuation centers, gewog utility vehicle, G.C road	Network, Road, BHU, School, Community, VHW, Desuup group
4	windstorm	gewog office, gewog utility vehicle, chiwog FR,	BHU,Community,Dzongkhag Administration,RICBL
5	Human and wildlife conflict	Bamboo, Poles, Boulders, trees	RNR, Geog Office, Dzongkhag Administration

2. Bidung Gewog

Table 33: Bidung Gewog Capacity Assessment

Sl.no	Hazard	Capacities	
		Physical	Social/Institutional
1	Forest Fire	BHU,Gewog Center,school,ground,geog bolero	Close community, RNR, BHU, School, RBP, Network, Road
2	Flood	SLMP	RBP, Park office, Dungkhag, Network, Road, BHU
3	Earthquake	Too many boulders, Open spaces,BHU,Geog Center,school,ground, Gewog bolero	RBP, Park office, Dungkhag, Network, Road, BHU, School, People
4	windstorm	Trees, Roof Anchor, better structure	Dungkhag, BHU, RBP, Community,
5	Human and wildlife conflict	Bamboo, Poles, Boulders,electric fencing	RNR, Geog Office,Government subsidise

3. Kanglung Gewog

Table 34: Kanglung Gewog Capacity assessment

Hazard	physical capacity	economic capacity	social/institutional capacity	environment capacity
Earthquake	school and forest office, open spaces	insurance	-GDMC -neighbors and close friends	Timber, NWFP, Water, stones, CF
Flood	retaining wall constructed	insurance	GDMC	Timber, NWFP, Water, stones
Windstorm	-	insurance	GDMC and neighbors and close friends	plantation near the houses to protect the wind current
Human wildlife conflict	-Electric Fencing		GDMC and Gewog livestock office	-
Structure Fire	Man power Stream, Open spaces/ evacuation centers, Neighbors and Dessups informed	Insurance	Gewog Office BHU Mobile network Fire Extinguisher	Timber support
Forest Fire	Man power	Insurance and bank savings	CDMC & civil servants	Stones and timber

4. Kangpar Gewog

Table 35: Kangpara Gewog Capacity Assessment

Sl.no	Hazard	Capacities	
		Phycial	Social/Institutional

1	Structure Fire	Stream, Open spaces/ evacuation centers, Neighbours and Dessups informed	Fire Extinguisher
2	Flood	School ground, open space, Goweg pol and private cars.	food stock, JCB machine
3	Earthquake	Structures which remain safe during earthquake, Open spaces/ evacuation centers	RBP, Park office, Dungkhag, Network, Road, BHU, School, People
4	windstorm	Near GeWog Ground, Voluntary Labour force and tarpauline, CGI sheet in stock, skilled carpenters	Insurance deposited, drinking water availability and call to Dzongkhag for further help
5	Human and wildlife conflict	Electric fencing	National Plant protection centre

5. Khaling Gewog

Table 36: Khaling Gewog Capacity Assessment

Sl.no	Hazard	Capacities	
		Physical	Social/Institutional
1	Structure Fire	Syntex, Regional Office, Motorable Road, Gewog Pool Vehicle, School Ground, Farm Shop & Forester	Close community, RNR, BHU, School, RBP, Dungkhag, Network, Desuups & Barshong Dratshang
2	Flood	Regional Office, Motorable Road, Gewog Pool Vehicle, School Ground, Farm Shop & Forester	JCB machine, RNR, BHU, School, RBP, Dungkhag, Network, Desuups & Barshong Dratshang
3	Earthquake	Regional Office, Motorable Road, Gewog Pool Vehicle, School Ground, Farm Shop & Forester	Close community, RNR, BHU, School, RBP, Dungkhag, Network, Desuups & Barshong Dratshang
4	Windstorm	Regional Office, Motorable Road, Gewog Pool Vehicle, School Ground, Farm Shop & Forester	Close community, RNR, BHU, School, RBP, Dungkhag, Network, Desuups & Barshong Dratshang

6. Lumang Gewog

Table 37: Lumang Gewog Capacity Assessment

Hazard	CAPACITIES	
	Physical	Social/Institutional
Landslide and flash flood	Carried out SLMP and water source protection program, open spaces/evacuation centers, 1 Hospitals, 1 BHUs, 7 schools, 9 Lhakhangs, National Highways, farm roads	RBP, Desungs, insurance scheme (life and house), Gewog Administration, near Dungkhag for immediate relief support, good community vitality
Structural fire	Scattered settlement, Schools and Lhakhangs in every Chiwogs, presence of nearby BHU and Hospital	HM semso, Insurance scheme, Desung, RBP, community vitality (most of relatives live in nearby areas)
Earthquake	Accessible paved and farm roads, BHU, Hospital, Strong infrastructures, presence of Lhakhang and schools in every Chiwog, open space especially flat arable land and play ground	HM semso, insurance policy, Desung, RBP, govt policy on construction of houses, good community vitality
Windstorm	Strong public and private infrastructures, open spaces, high mountains, thick forest, BHU, Hospitals, schools	Community support, desung, insurance policy, construction policies, better fraternity
Human wild life conflict	Construction of solar fencing with government resources, abundant reserved forest	Compassionate faith towards other living beings, easy market (for procurement in case of shortages)
Forest fire	Coverage of green and wet forest areas, private and community forests, Forest Offices	Awareness program, strict and favoring government policies and regulations, Forest Officials, RBP, Desungs
Pests and diseases	Sufficient arable land, more farm road coverage for faster transportation,	Agriculture office at Gewog level, crop insurances, use of pesticides and insecticides, awareness programs

7. Merak Gewog

Table 38: Merak Gewog Capacity Assessment

Hazard	Physical capacity	Social/Institutional capacity
Earthquake	Open spaces, 40 boleros, 1 DCM	Dessups, Gewog Administration, School,RNR, PHC Gewog Gagdey Office, Red Cross Members, Park Office
Landslide	Safe space Plantation, 40 boleros, 1 DCM	Dessups, Gewog Administration, School, Gewog Gagdey Office Red Cross Members, Park Office, RNR and PHC
Structure fire	Open spaces	Dessups,Gewog Administration, School,Gewog Gagdey Office Red Cross Members, Park Office, RNR and PHC
Windstorm	Well-structured roofing	Dessups, Gewog Administration, School, RNR, PHC Gewog Gagdey Office,Red Cross Members, Park Office

8. Phongmey Gewog

Table 39: Phongmey Gewog Capacity Assessment

Particular	Capacities	
	Physical	Physical/Institutional
Floods/Landslides	School Football Ground, Open Space, evacuation Center, Utility Vehicles, Land Management(SLMP)	Schools/ BHUs, Shedras NFE Center, RNR Center, Park Office, Gewog Center, , VHWs, Health worker, Contractor, Goenday.
Earthquakes	School Football Ground, Open Space, evacuation Center, , Farmer user Groups, Skilled carpenters	Schools/ BHUs, Shedras NFE Center, RNR Center, Park Office, Gewog Center, Vehicles, VHWs, Health worker. Insurance, Subsidized timbers, Insurance and Subsidized Timbers

wind storms	School Football Ground, Open Space, evacuation Center, Skilled Carpenter	Schools/ BHUs, Shedras NFE Center, RNR Center, Park Office, Gewog Center, Vehicles, VHWs, Health worker. Insurance, Subsidized timbers
Structures Fires	School Football Ground, Open Space, evacuation Center, Utility Vehicles.	Schools/ BHUs, Shedras NFE Center, RNR Center, Park Office, Gewog Center, , VHWs, Health worker, Contractor
Crop Diseases	Farmer Groups, Paddy Fields, Fallow Land	Compensations, Eradication of Diseases by RnR officials, Dzongkhag Administration, MoAF

9. Radhi Gewog

Table 40: Radhi Gewog Capacity Assessment

Hazard	Capacities	
	Physical	Social/institutional
Earthquake	Earthquake resistant structures, open spaces/playgrounds/ Paddy fields for evacuation, Utility vehicles(Govt & private) , School bus, Subsidized rural timber	Subsidized rural life and house insurance schemes, Schools, BHUs,RNR center, Range office, Gewog office, 3G/4G mobile connectivity, Desuups, ORCs, Dratshang, Kiduofficer,Lhakhangs, Local shops.
Structure fire	Quality electrifications, open spaces/playgrounds for evacuation, Utility vehicles(Govt & private) , School bus, Subsidized rural timber	Subsidized rural life and house insurance schemes, Schools, BHUs,RNR center, Range office, Gewog office, 3G/4G mobile connectivity, Desuups, ORCs, Dratshang, Kiduofficer,Lhakhangs, Local shops.

10. Sakteng Gewog

Table 41: Sakteng Gewog Capacity Assessment

Sl.no	Hazard	Capacities	
		Physical	Social/Institutional
1	Structure Fire	Stream, Open spaces/ evacuation centers	Close community, RNR, BHU, School, RBP, Park office, Dungkhag, Network, Road
2	Flood	Too many boulders, Open spaces	RBP, Park office, Dungkhag, Network, Road, BHU
3	Earthquake	Structures which remain safe during earthquake, Open spaces/ evacuation centers	RBP, Park office, Dungkhag, Network, Road, BHU, School, People
4	windstorm	Trees,	Dungkhag, BHU, RBP, Community, Jomo Solkha
5	Human and wildlife conflict	Bamboo, Poles, Boulders	Park Office, RNR, Geog Office
6	Wild dog	Tibetan Mastiff Dog	Herders
7	Heavy snowfall	Trees,	RNR, BHU, School, RBP, Park office, Dungkhag, Network, people

11. Samkhar Gewog

Table 42: Samkhar Gewog Capacity Assessment

HAZARD	CAPACITIES	
	PHYSICAL	SOCIAL/INSTITUTIONAL
Forest Fire	Forest fire line maintained, well equipped with materials ,trained personels well established CF members , community based fire management and public volunteerism is high.	Support from Dzongkhag Administration, Police and Desung Trashigang.
Flash Flood	Proper drainage system in place, Environment friendly developmental activities, river bank protection, safety equipment in place, good public volunteerism and Trained personnel.	BHU, Trashigang Hospital and risk transfer mechanism in place.

Windstorm	well-structured roofing system and Bamboo plantation around the settlement	Risk transfer mechanism in place, BHUs
Earthquake	Structures which remain safe during earthquake, Open space/evacuation centers.	Risk transfer mechanism in place, BHUs and Schools.
Landslide	Machineries in place (Dzongkhag CMU machine) and land management expertise support from dzongkhag and plantation.	Risk transfer mechanism in place and BHUs.

12. Shongphu Gewog

Table 43: Shongphu Gewog Capacity Assessment

Hazard	Capacities	
	Physical	Social/Institutional
Windstorm	First aid equipments in place, open spaces/evacuation centers. Wind proof structure & Hybrid seed	Risk transfer mechanism in place, BHUs, schools, , manpower like 8 numbers of Desuups in the gewog Timely insured of any structure.
Landslide	SLMP program initiated, , open spaces/evacuation centers	Risk transfer mechanism in place, BHUs, schools, manpower like 8 numbers of Desuups in the gewog, Timely insured of any structure.
Earthquake	Structures which remains safe during earthquake, open spaces/evacuation centers	Risk transfer mechanism in place, BHUs, schools, Timely insured of any structure.
Flash Flood	One kilometer of embankment constructed, open spaces/evacuation centers	Risk transfer mechanism in place, BHUs, schools, 80 nos of shopkeepers and 150 nos. of monks, Timely insured of any structure.
Forest fire	Fire line and firefighting equipment in place. open spaces/evacuation centers	Forest fire awareness conducted, Risk transfer mechanism in place, BHUs, schools
Structure fire	First aid kits in place, open spaces/evacuation centers, firefighting equipments in place. Proper electrification installed.	Timely insured of structure, Risk transfer mechanism in place, BHUs, schools,RNR centre
Human wildlife conflict	Solar fencing provided	Annual production increased

13. Thrimshing Gewog

Table 44: Thrimshing Gewog Capacity Assessment

Hazard	Capacities	
	Physical	Social/institutional
Structure fire	Entertainment ground, open space in front of RBP colony, football grounds,	Schools, BHU and lakhangs.
Flash flood	Entertainment ground, open space in front of RBP colony, football grounds, gewog and Drungkhag vehicles	Schools, BHU, Geog office, Drungkhag Administration, Drungkhag Court., RBP office, RNR.
Earthquake	Earthquake resilient structure constructed, open space, bolero.	Schools, BHU, Geog office, Drungkhag Administration, Drungkhag Court., RBP office, RNR.

14. Udzorong Gewog

Table 45: Udzorong Gewog Capacity Assessment

Hazard	Capacities	
	Physical	Social / institutional
1. Earthquake	Public football ground, gewog bolero and private transportation	HA, VHW, BHU, ORC, School
2. Forest fire	Stream, vehicles, telephone	Forest range officer, CF members
3. Landslide	Land management (Check dam, hedge row development, wall, annual plantation)	MoAF, DoA, RNR office
4. Wildlife conflict	Solar fencing, barbet fencing, bio fencing	RNR office, NPPC (National plant centre, Dzongkhag kidu office, RICBL)
5. Windstorm	Hybrid seeds and skilled carpenter	National seeds centre

15. Yangneer Gewog

Table 46: Yangneer Gewog Capacity Assessment

Hazard	Capacities	
	Physical	Social/ institutional
1. Earthquake	4 physical open space available Pra-bangsa, Phangthang, Thagkhoe, Woongchelu, private transportation, Man power-9 desups , 4 village health worker, 3 trained Health Assistant. 4 ORC, Gewog meeting hall, RnR Centre, NFE centre, ECCD.	Yangner play ground, Gongthung Play ground,
2. Structure Fire	Road accessibility, Communication, youth volunteer, 2 foresters, CF Member, Village RWSS users group, FR users group. Fire fighting Bag & equipments.	Monks –Shengmi Lhakhang
3. Windstorm	-Skilled carpenter & hybrid seed	RICB , Dzongkhag & Gewog , Kidu office
4. Landslides	-Sustainable land management -annual plantation	MoAF, Dzongkhag Agriculture office.
5. Human Wildlife conflict	-Solar & Electric fencing	(NPPC) National plant protective centre.

Overall ranking of the Dzongkhag - hazard wise.

Sl #	Gewog	Earth-quake	Wind-storm	Forest Fire	Pest & Diseases	Structural Fire	Flood	Hailstorm	Thunder/Lightening	Land-slide	Human Wildlife Conflict	Drought	Avalanche
1	Bartsham	8	7	10	3	4	9	1	2	5	6	0	0
2	Bidung	9	6	10	2	1	5	3	4	8	7	0	0
3	Kanglung	6	8	5	7	3	9	2	1	4	10	0	0
4	Kangpar	3	4	8	2	7	5	10	9	6	1	0	0
5	Khaling	8	3	7	6	4	2	9	10	1	6	0	0
6	Lumang	10	7	3	8	6	4	2	1	9	5	0	0
7	Merak	8	9	2	1	10	6	3	5	4	7	0	0
8	Phongmey	8	7	5	3	6	9	2	1	10	4	0	0
9	Radhi	10	8	6	4	5	5	2	1	7	5	0	0
10	Sakten	9	6	5	7	10	8	2	0	3	4	0	1
11	Samkhar	5	10	6	9	2	0	3	7	7	8	0	0
12	Shongphu	9	5	1	7	8	10	4	2	3	6	0	0
13	Thrimshing	9	8	3	4	2	10	5	7	1	6	0	0

14	Udzorong	8	7	10	6	7	5	4	2	3	7	0	0
15	Yangneer	8	9	10	5	2	1	4	6	3	8	4	0
	Total	110	104	91	74	77	88	56	58	74	90	4	1
	Ranking	1 st	2 nd	3 rd	7 th	6 th	5 th	9 th	8 th	7 th	4 th		

(Score; 1 to 10 (10 highest, 1 lowest, 0 unknown), Overall Rank: (1 = highest and 9= Lowest)

The overall ranking of hazards shows that earth quake is the most vulnerable followed by windstorm and forest fire. The other hazards includes such as Human wildlife conflict, flood and structural fire. The drought and avalanche are the least hazards that does not pose risk. However, the Gewog has their own individual ranking of hazards. Kangpar has identified hailstorms as the most vulnerable, while Khaling Gewog has identified thunder/lightning and landslide for Phongmey Gewog.

Generally, all the Gewogs have certain capacities and some level of awareness on prevailing hazards and some knowledge on the measures to reduce risk before and during disasters.

Following are the summary of capacity needs in the Dzongkhag:

1) Risk Reduction and Mitigation

There is a need to build capacities in the Dzongkhag engineering cell and Dzongkhag DM Officer to lead both structural and non-structural mitigation activities in the communities, schools, health facilities, etc. Rural homes, school structures, health facilities and cultural structures have been particularly vulnerable in past earthquake.

Therefore, vulnerability assessment of old and important/ public structures are important to determine strengthening needs or replacement decisions. In terms of earthquake, and also other hazards, there is a need to strengthen the construction quality monitoring system to ensure constructions adhere to standards and building codes.

Structural fire is also a top hazard and there is need to raise awareness in the community on measures such as fire safety and carrying out mitigation in structures such as roads, schools, lhakhangs, etc. that suffer from recurrent structural fire damages.

Community groups such as community forest groups and systems of having Re-suups, Me-suups, Chu-suups, etc. need to be encouraged. There is still a need to raise awareness within the Dzongkhag and in the communities on key messages for risk reduction and preparedness.

2) Preparedness

In order to better prepare for the disaster, the early warning/ advisory issued for heavy rainfall, thunderstorms, avalanches, hailstorms, and other such extreme weather conditions National Centre for Hydrology and Meteorology should be communicated instantly. Capacities also need to be built in terms of raising community awareness in important public institutions such as schools and health facilities.

3) Response

In terms of response, capacities for - Search and Rescue, First Aid, conducting various assessments (rapid, damage, safety etc.) need to be built at various levels. There is also a need to support and organize volunteers for response and coordinate with existing volunteer organizations such as Desuups.

For effective response, Standard Operating Procedures (SOPs) need to be developed for each Gewog. Simulations and drills should be carried out to test and practice the procedure. At the Dzongkhag level, EOC should be established along with related Standard Operating Procedures (SOPs).

Disaster Management Action Plan (2021 – 2026)

Table 16: Dzongkhag Level Action Plan (draft) for budget proposal only

Hazard Severity	Priority Areas	Key activities	Target	Responsible Agency	Supporting Agency	Time-line							
Structure Fire	Awareness and Education	1. Providing training on use and operation of firefighting equipment	Monks, caretakers, civil servants, local leaders, business communities	✓ DDMO ✓ RBP	DDM	2021-2026							
							2. Sensitizing on fire safety measures including proper electrification	✓ Municipal ✓ BPC ✓ RICBL	Dzongkhag	2021-2026			
		Enhanced risk reduction and mitigation		1. Developed and provide hazard zonation map.	Dzong, Shops, and Offices, school and hospital	Municipal					DDMO	2021-2026	
							2. Procure and install firefighting equipment.	Dzong, shops, and Offices, school and hospital	Municipal	Dzongkhag			2021-2026
		Enhanced preparedness , response and recovery levels		1. Fire Mock drills	Dratshang, Business communities, corporate employees, civil servants	✓ DDMO ✓ RBP	DDM, MOE, MOH & Dzongkhag	2021-2026					
2. Health EMT trained	Health officials		DHO						DDMO, MOH	2021-2026			

Forest fire	Awareness and Education	3. Providing training on use and operation of firefighting equipment	Monks, caretakers, civil servants, local leaders, business communities	✓ DDMO ✓ RBP	DDM	2021-2026
		4. Sensitizing on fire safety measures		✓ Municipal ✓ Forest Territorial Division	Dzongkhag	2021-2026
	Enhanced risk reduction and mitigation	1. Procure and install Firefighting equipment.	Dzong, shops, and Offices, school and hospital	Municipal	Dzongkhag	2021-2026
	Enhanced preparedness , response and recovery levels	1. Health EMT trained	Health officials	DHO	DDMO, MOH	2021-2026

Chapter 4: Contingency Plan

As per the Contingency Planning Guidelines for Bhutan 2014, a contingency plan “*aims to prepare an organization to respond well to an emergency and its potential humanitarian impact. The Developing a contingency plan involves making decisions in advance about the management of human and financial resources, coordination and communication procedures, ad being aware of range of technical and logical response*”

The contingency procedures and arrangement will cover the response and early recovery phases:

- Immediately before a disaster when/if early warning of an impending situation or an event is received;
- During a disaster when immediate response and relief measures need to be implemented; and
- After a disaster for measures to be taken in terms of relief and setting the recovery process in motion.

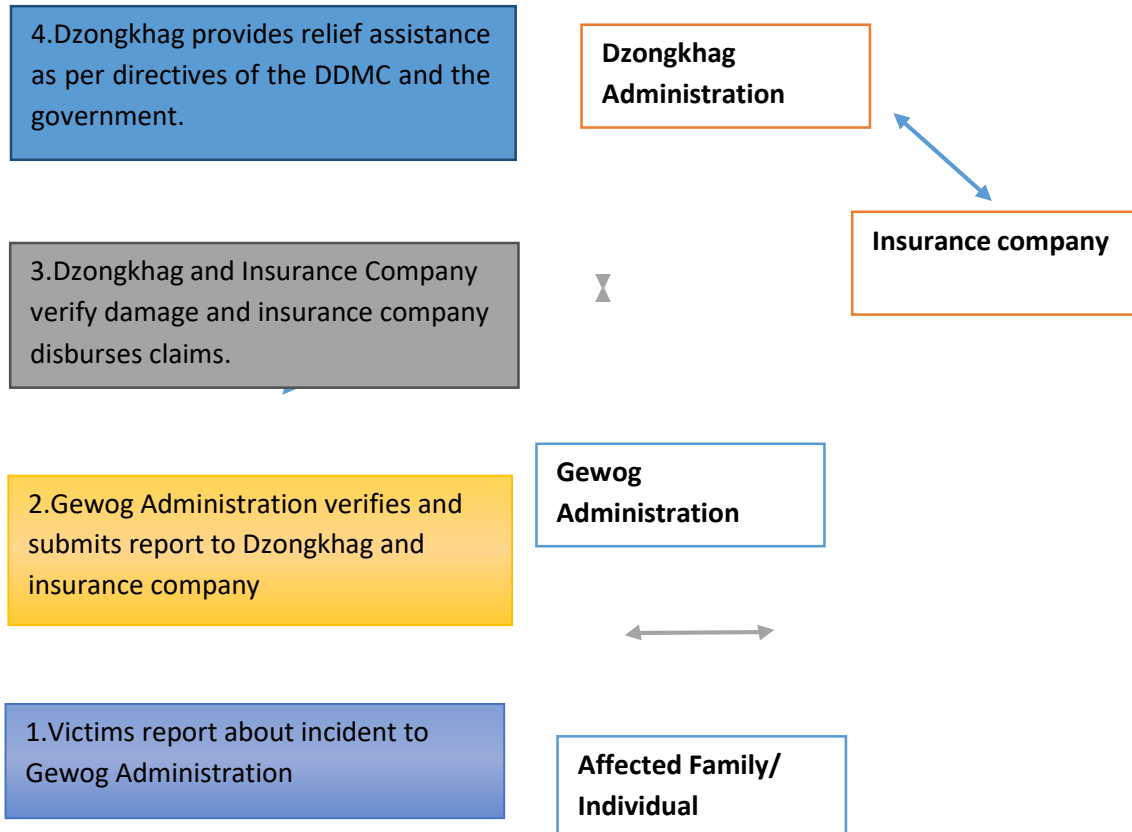
1. Standard Procedures for Response at Dzongkhag level

b. Isolated local incidents

Isolated Local Incident - An isolated local incident is an incident which does not have a widespread effect on people and property and can be managed within the normal operations of the agencies concerned, and such incident shall not require emergency procurement and funding

For isolated local incidents, such as fire affecting single house or windstorm blowing off roof of one structure in a locality, and cases which

do not qualify under Disaster Types I - III of the Disaster Management Act of Bhutan 2013, the following standard procedure shall be followed.



Disaster Types

As per the Disaster Management Act of Bhutan 2013 and the DM rules and regulations standard procedures for response at the Dzongkhag level for different Disaster Types will be as follows:

1. In case of Type I

Disaster Type I - A disaster shall be classified as Type I if it can be managed with available resources and is within the coping capacity of the Gewog/Thromde concerned

- a. In case of an impending disaster situation, Gewog/ Thromde administration will be responsible for establishing immediate contact with likely affected areas as soon as there is early warning information and provide orders for evacuation and immediate response.

- b. In case of an incident/disaster situation:
 - a. Gewog/Thromde shall immediately submit “First Information Report” (FIR) to the DDMC/ Dzongkhag Disaster Management Officer (DDMO) along with request for declaration (Form I) of Type I Disaster. The DDMC chairperson shall declare Type I Disaster using Form II.
 - b. Gewog/Thromde shall provide immediate response and relief within their capacity and submit for SAR and other response needs to the DDMC, if required.
 - c. The DDMO shall submit the FIR to the DDM within 24 hours of the incident.
 - d. Gewog/Thromde shall conduct rapid needs assessment as per Bhutan Disaster Assessment (BDA) tool within 72 hours.
 - e. Gewog/Thromde shall conduct detailed damage assessment along with insurance companies for relief and early recovery and submit report to DDMC.
 - f. Gewog/Thromde shall provide relief and early recovery support as per damage assessment using available funds at Gewog/Thromde level and submit expenditure report and bills to DDMC for further submission to Ministry of Finance, with a copy to DDM, for reimbursement.
 - g. Gewog/Thromde shall seek for extension of Type I Disaster as per Form III.

- c. In case the incident is beyond the coping capacity of the Gewog/Thromde, request for up-gradation of disaster from Type I to Type II shall be submitted to DDMC.

2. In case of Type II

Disaster Type II - A disaster shall be classified as Type II if it can be managed with available resources and is within the coping capacity of the Dzongkhag concerned.

- a. In case of receiving early warning of an impending disaster situation, the DDMC Chairperson shall immediately activate the Dzongkhag Emergency Operation Centre and relay the early warning to all the Gewog/Thromde offices along with orders for evacuation, deployment of Search and Rescue Teams or any other response as required.
- b. In case of an incident/disaster situation:
 - a. The DDMC Chairperson shall activate the DEOC and be in contact with the National Emergency Operation Centre. NEOC shall supervise the functioning of the Dzongkhag Emergency Operation Centre as per clause 107 of the DM Act of Bhutan 2013.
 - b. DDMC shall establish contact and line of communication with disaster site and provide immediate response and relief within their capacity and submit for SAR and other response needs to NEOC, if required.
 - c. The DDMO shall submit the FIR to the DDM within 24 hours of the incident.
 - d. DDMC shall direct evacuation of disaster-affected communities to safe areas and temporary shelters.

- e. DDMC shall manage national and international assistance and human resources in the field for response, relief and early recovery.
 - f. DDMC shall immediately submit “First Information Report” (FIR) to the DDM along with request for declaration of Type II Disaster (Form I). The DDMC chairperson shall declare Type I Disaster using Form II.
 - g. DDMC shall conduct rapid needs assessment as per Bhutan Disaster Assessment (BDA) tool within 72 hours.
 - h. DDMC shall conduct detailed damage assessment along with insurance companies for relief and early recovery and submit report to DDMC.
 - i. DDMC shall provide relief and early recovery support as per damage assessment using available funds at Dzongkhag level and submit expenditure report and bills to DDM for further submission to Ministry of Finance for reimbursement.
 - j. Dzongkhag shall seek for extension of Type I Disaster as per Form III.
- c. In case the incident is beyond the coping capacity of the Dzongkhag, request for up-gradation of disaster from Type II to Type III shall be submitted to the NDMA.

3. In case of Type III

A disaster Type III is at national scale and will be managed by the NDMA and the DDMC shall follow the directives of the NDMA.

Disaster Type III - A disaster shall be classified as Type I if severity and magnitude is so great that it is beyond available resources and coping capacity of the Dzongkhag concerned.

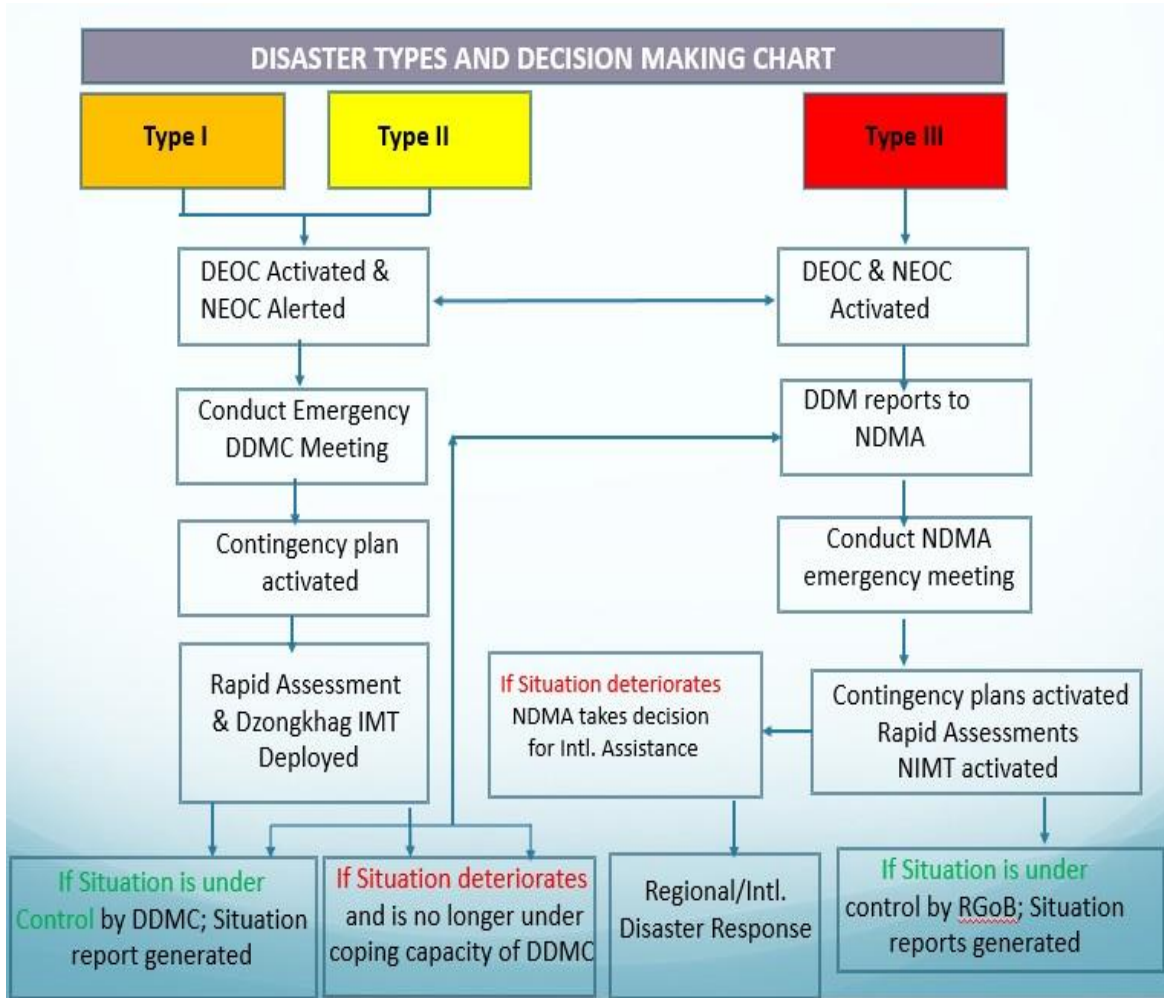
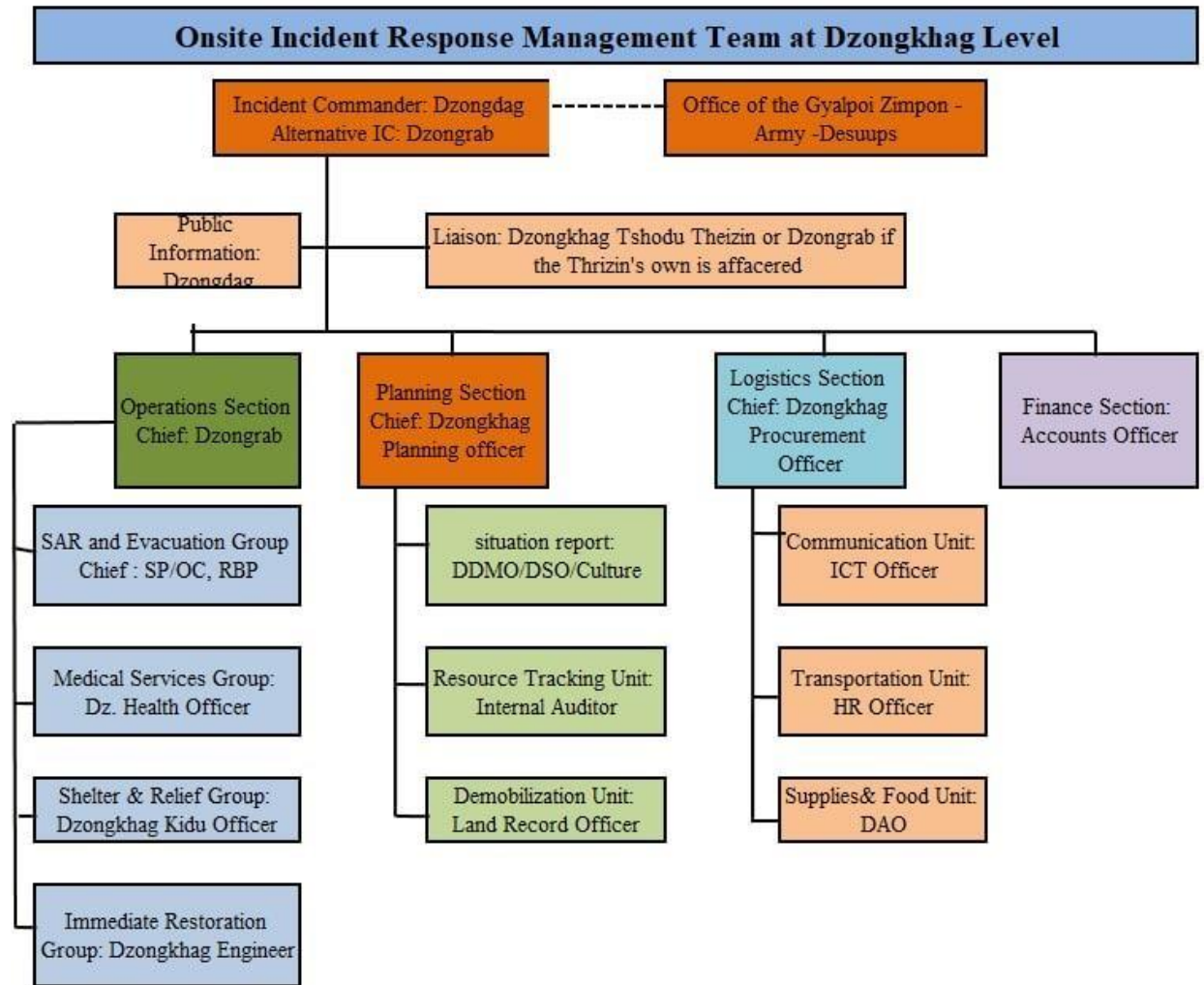


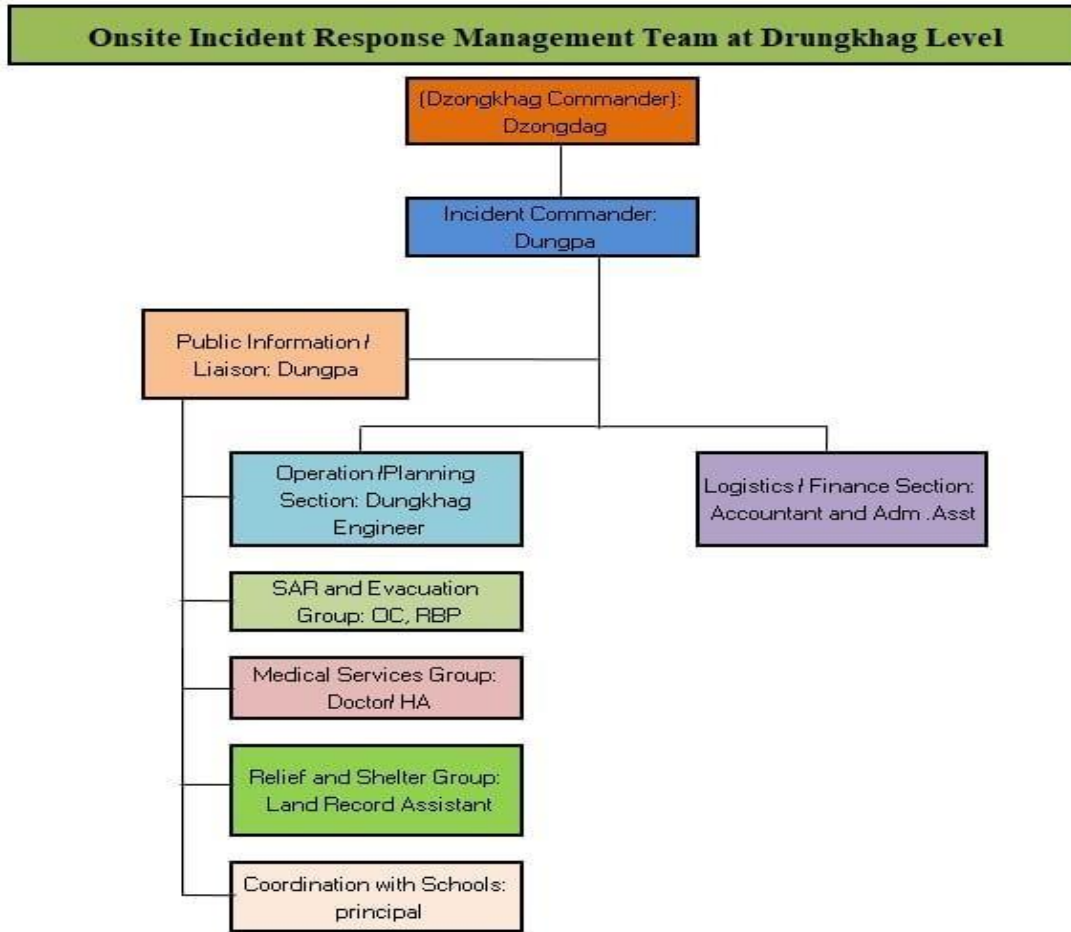
Figure 5: Coordination Mechanism for Response at Dzongkhag level

At the Dzongkhag level, under the DDMC, during a disaster, the following Incident Command System shall be instituted and activated during Type II and III disasters. The following teams shall be formed under the Incident Commander:



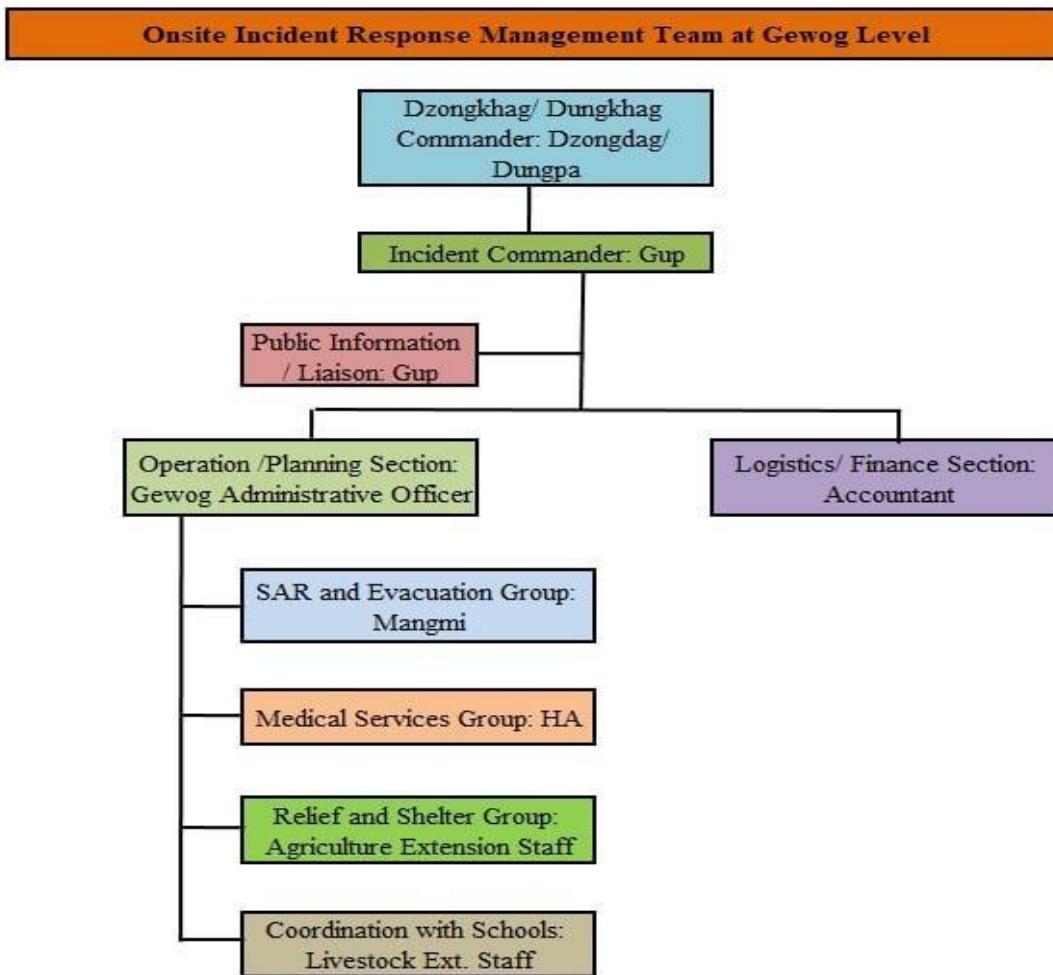
NOTE: The support of Desuups/ Dratsang/ NGOs/ CSOs/ Corporations/ Regional Offices/ Private businesses and communities will be used during a disaster but will be coordinated through the NDRCC and IMT at the national and Dzongkhag level. As per the section 41 of the Disaster Management Act 2013, the Dzongdag (chair of DDMC) has the authority to 'requisition necessary human and material resources from any agency, CSO, private sector or person' for the purpose of response and relief operations.

Figure 6: Coordination Mechanism for Response at Dungkhag level



Due to the lack of sufficient officers at the Dungkhag level, the Logistics and Finance functions will be undertaken by the same officer especially in type I disasters. In case the disaster becomes type-II but still limited to geography of the affected Dungkhag then the IMT from the Dzongkhag will assume command with the support of the IMT at the Dungkhag.

Figure 7: Coordination Mechanism for Response at Gewog level



Role of officials under ICS at Dzongkhag Level

- 1. Incident Commander** –Dzongdag, as the head of the Dzongkhag, shall be the overall Incident Commander in the Dzongkhag during a disaster and will provide overall directives.
- 2. Alternative Incident Commander** - Dzongrab shall oversee all the operation, logistics and planning sections and also act as IC in absence of Dzongdag.

3. Operation Section

- a. Chief of the Operations Section - Depending on the nature of the disaster the Chief will be from the relevant sector. For example in case of health hazard disaster, it will be DHO; in case of forest fire it will be the Forest Officer; in case of a livestock hazard it will be the Dzongkhag Livestock Officer.
- b. The following teams shall be formed under the operations section:
 - i. **Search and Rescue (SAR) Team** - SAR shall be carried out by the RBP and RBA along with the Dzongkhag SAR Team. They shall perform search and rescue operations and assist in evacuation. They will also be responsible for the provision of site security and maintenance of law and order.
 - ii. **Medical Team** - The medical team shall be headed by the DHO and provide first aid, triage, trauma management and other emergency medical services.
 - iii. **Rapid Assessment Team** – The DDMO shall coordinate and compile, while the DE shall head the damage assessment, by forming a committee.

4. Logistic Section

- a. The Chief of the Logistic section will be the Dzongkhag Procurement Officer.
 - i. **Relief Team** – The Relief team will be headed by the head of Dzongkhag Statistical Officer with support from RBA/RBP and Desuup volunteers. The relief team shall

be responsible for providing temporary shelter, WASH and food supplies for both responders and affected families.

- ii. **Procurement Team** – The procurement team shall assist the procurement officer in mobilizing resources and carrying out emergency procurement.
- iii. **Transportation Team** – The MTO of the Dzongkhag in close collaboration with RSTA shall ensure transportation arrangements, including helicopter services, as required.

Chapter 5: Implementation Mechanism

As per the Disaster Management Act, the DDMC will be responsible for the formulation, endorsement, implementation, monitoring and updating of the Dzongkhag Disaster Management and Contingency plan. The DDMC shall meet at least twice a year to review and update the plan's implementation progress.

Dzongkhag and Gewog administrations will be responsible for implementation of the prioritized plan activities and ensure that the activities are mainstreamed into their annual and five year plans. The Dzongkhag Disaster Management Officer will facilitate mainstreaming of priority disaster risk reduction, preparedness, awareness and capacity building activities in annual and five year development plans of the Dzongkhag.

In the event of disaster, DDMC will activate the Dzongkhag Contingency Plan. DDMC will, as an emergency measure, meet the expenses for response and relief operation from the annual budget of the Dzongkhag in accordance with the financial guidelines.

For immediate restoration of critical disaster management facilities, DDMC will submit the fund request to DDM, secretariat to NDMA as per financial guidelines.

The budget requirement for the recovery and reconstruction works should follow the normal budgetary process. The DDMC and concerned sectors shall, for the purpose of recovery and reconstruction of public assets and infrastructure, undertake detailed damage assessment within its area of responsibility as per the post disaster assessment framework endorsed by the NDMA. The detailed damage assessment along with the work

program and cost estimate will be submitted to DDM who will review and forward to NDMA for further submission to MoF.

The DDM, as the national coordinating agency for disaster management and the executive arm of the NDMA, shall ensure support of the NDMA and of concerned sectors and agencies. The DDM will also provide technical and monitoring support and help in mobilizing resources for the plan.

As member secretary, the DDMO will keep record, maintain data, and assist the chairman of the DDMC in monitoring the Dzongkhag DM plan activities. The DDMO shall present the plan's progress during DDMC meetings and update DM plan activities and budget annually. DDMO will also ensure that reports are submitted to the DDM and the NDMA, as required.

Annexure

a. Contact number of DDMC members and other head of agency

Sl. No.	Members	Name	DDMC	Contact No.
1	Dzongda	Ugyen Dorji	Chairperson	17613681
2	Dzongrab (offtg)	Dorji Duba	Vice Chair	17515488
3	SP	Sonam Wangchuk	Member	17540988
4	Drungchen	Tshering Penjor	Member	17347119
5	Thrizin	Duptho	Member	17119370
6	Thrizin Wom	Dorji Tshering	Member	17700016
7	Kanglung Gup	Kinzang Dorji	Member	17797063
8	Sakteng Gup	Tshewang Tenzin	Member	17121117
9	Bartsam Gup	Kelzang Dawa	Member	17646542
10	Phongmey Gup	Namgay Wangdi	Member	17725489
11	Merak Gup	Nima	Member	17827593
12	Samkhar Gup	Jamyang	Member	17885046
13	Thrimshing Gup	Yejay Dorji	Member	17789578
14	Shongphu Gup	Jigme Thinley	Member	17946033
15	Bidung Gup	Chador Phuntsho	Member	17863446
16	Radhi Gup	Yonten Phuntsho	Member	17435092
17	Khaling Gup	Sonam Dorji	Member	77725777
18	Lumang Gup	Sangay Gyeltshen	Member	77665584
19	Kangpara Gup	Sangay Tenzin	Member	17462175
20	Dzongkhag Disaster Management Officer/offtg	Dezom	Member secretary	17435249
21	Thromdey Thuemi	Sonam Dorji	Member	17586023

b. Contact details of Regional Heads

Sl no	Name	Designation	Contact Details
1	Drangpon	Pema Choden	17121118
2	BDBL, Manager	Tshewang	17699101
3	RICB Manager	Karma	17111059
4	BT Manager	Pema Dorji	17113318
5	BPC, Manager	Mani Gurung	17501763
6	DoR, Chier Engineer	Sonam Tenzin	17711626
7	BoB, Manager	Kinga Pelzang	17750482
8	BNBL, Manager	Kinley Jamtsho	17161800
9	RSTA Base	Sangay Wangdi	17545154
10	RBP, Dzong incharge	Sonam Tshering	17564331
11	Desuung Coordinator	Dawa	17601667
12	CFO	Karma Leki	17687706

c. Geog Administrative Officer

Sl no	Geog	Name	Contact Details
1	Bartsam	Pema	17836219
2	Bidung		
3	Radhi	Dorji	
4	Samkhar	Tshering Dekar	17434631
5	Shongphu	Thinley	17544317
6	Yangnyer	Nidup Gyeltsen	17674441
7	Udzorong		
8	Khaling	Kezang Jigme	17713575
9	Kangpara	Pema Wangmo	17320901
10	Thimshing	Sonam Gyeltshen	17693454
11	Lumang		
12	Kanglung		
13	Merak	Sonam Tenzin	17798155
14	Sakteng	Yeshe Wangmo	17466833
15	Phongmey	Phurba Wangdi	

d. Trashigang Dzongkhag SAR Team

S/N	Participants	Designation/Office	Contact Number	Remarks
1	Richen Wangdi	Teacher	17774822	
3	Chador Tenzin	Teacher	17679542	
4	Tashi Penjor	DDMO	17625574	Resigned
5	Wangchuk	Mangmi, Bartsham	17748246	
6	Pema Wangdi	Mangmi, Kanglung	17117740	
7	Tandin Wangchuk	Mangmi, Shongphu	17499239	
8	Ngawang Gyeltshen	Mangmi, Samkhar	17435829	
9	Sonam Rabgay	Mangmi Khaling	17926931	

e. Firefighting (trucks, equipment, location, capacity)

SI No	Facilities	Location	Capacity	Phone
1	Fire Fighting Truck	Trashigang Police Station	113	17540988
2	Firefighting(medium)	Attached to dzong		17564331

f. Emergency Numbers

Sl.No.	Agency	Number
1	DDM	233
2	Ambulance	112
3	Police	113
4	Fire	110
5	Disaster	999

g. Desuup Coordinator under Trashigang Dzongkhag, Gewog wise

SLNO	NAME	CID	DID	CONTACT NO	NAME OF AREA
1	Rinchen	DS(45)21-22034	11503003785	17751189	Bartsham
2	Ugyen Thinley	DS(06)13-606	10704000584	17834573	Bidung
3	Tandin Dorj	DS(14)15-1580	11410001148	17663750	Kanglung
4	Tshering Norbu	DS(38)20-4636	11505001798	17704546	Kangpara
5	Nawang Drukda	DS(28)18-3307	11505005114	17668495	Khaling
6	Sangay Wangmo	DS(32)19-3811	11514002523	17390430	Lumang
7	Sangay Choden	DS(37)20-4338	11507001645	17558581	Merak
8	Dawa Gyeltshen	DS(10)14-1061	11514004457	17684053	Phongmey
9	Jigme Kuenzang	DS(10)14-1086	12001000241	17681436	Radhi
10	Kinley	DS(25)17-3003	11608003946	17942246	Sakteng
11	Kelzang Nima	DS(39)20-7150	12003000442	16932721	Samkhar
12	Yeshi Dori	DS(28)18-3373	11510001216	17914104	Shongphu
13	Sonam Pelki	DS(12)14-1347	10602001584	17515050	Thrimshing
14	Jamyang Gyeltshen	DS(18)16-2097	10102002990	17775710	Udzorong
15	Rinchen Langpo	DS(39)20-7339	11504001606	17697797	Wamrong
16	Karsang Dorji	DS(21)16-2502	10906000863	17928010	Yangnyer

h. Desuups trained in SAR during the 2nd batch at Lobesa, Punakha

SAR TRASHIGANG TEAM					
SI.NO	NAME	DID	GENDER	CONTACT NO	WORKING AGENCY
1	Thinley Gyeltshen	DS(43)20-17945	Male	17529787	Unemployed, Khaling
2	Jamyang Dorji	DS(39)20-6941	Male	17480193	SSI, Jigme Sherabling CS
3	Kinzang Lhamo	DS(42)20-16580	Female	17312850	Unemployed, Khaling
4	Jigme Gyeltshen	DS(35)19-4189	Male	17321723	Farmer, Khaling
5	Ugyen Tshomo	DS(41)20-1318	Female	77275382	Unemployed, Khaling
6	Tashi Tobgay	DS(36)19-4326	Male	17480775	Sakteng Gewog
7	Kinga Zangmo	DS(40)20-11027	Female	77704669	Unemployed, Merak
8	Tshering Choki	DS(42)20-15828	Female	17461783	Uemployed, Merak
9	Karam Loday	DS(41)20-11027	Male		Unemployed, Merak
10	Tashi Wangdi	DS(43)20-17947	Male		Unemployed, Sakteng Gewog

i. Hospitals and PHC in charges as of December, 2022

SI No	Name	Health facility	Contact No.
1	Dr. Sonam Wangchuk	Bartsham Hospital	17669517
2	Tshering Dema	Bidung PHC	17734660
3	Rinzin Chhophel	Bikhar PHC	17696623
4	Dorji Wangchuk	Chaling Sub-post	17912409
5	Tashi Chedup	Changmey PHC	17547257
6	Dhan Bdr Mongar	Joenkhar PHC	17499260
7	Sonam Wangdi	Kangpar PHC	17707042
8	Dr. Beroj Sharma	Kanglung Hospital	17806175
9	Dr. Khando Wangchuk	Khaling Hospital	17988186
10	Sonam Chuki	Lumang PHC	17717864
11	Jampay Zangmo	Merak PHC	17787737
12	Dechen Phuntsho	Passsaphu sub-post	17721539
13	Sonam Lhendup	Phekpari sub post	17474548
14	Sonam Choden	Phongmey PHC	17699366

15	Sangay Tshomo	Radhi PHC	17699676
16	Dr Chimi Wangmo	Rangjung Hospital	17923406
17	Dr. Jigme Tenzin	Reserboo Hospital	17504058
18	Gimkit Lepcha	Sakten PHC	77365431
19	Sarmanda Sanyasi	Thongrong sub-post	17310661
20	Tshewang Tenzin	Thungkhar PHC	17835253
21	Dr. Tshering Penjor	Trashigang Hospital/CMO	17543035
22	Dr. Ngajay Tshering	Tsangpo Hospital	77603414
23	Karma Phuntsho	Udzorong PHC	17862642
24	Pema Wangchuk	Yabrang PHC	17536700
25	Tashi Dorji	Yangnyer PHC	17696015
