



**Draft Bumthang Dzongkhag Disaster Management &
Contingency Plan
2023**

Dzongkhag Administration, Bumthang

ROYAL GOVERNMENT OF BHUTAN

Executive Summary

As mandated by Section 77 of the Disaster Management Act of Bhutan 2013, the Dzongkhag Disaster Management Committee is tasked to develop Disaster Management and Contingency plans, in close consultation with the communities.

The plan is prepared through conduct of Hazard, Vulnerability and Capacity Assessment (HVCA) of 4 gewogs and 1 throm in consultation with the Gups, Gewog Administrative Officer (GAOs), Tshogpas, discussion with Dzongkhag Administration officials; data collation and analysis; and finally a simulation on standard procedures for response followed by endorsement from the Dzongkhag Disaster Management Committee (DDMC).

The Dzongkhag Disaster Management Plan comprises of hazard, vulnerability and capacity profile for 4 gewogs and 1 throm. The plan also outlines priority disaster risk reduction, awareness raising and capacity building activities and spells out the standard procedures for response. An implementation and monitoring process for the plan is also included.

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.

There are no separate budgets to implement the Disaster Management Plan. Therefore, it serves as a guide for Dzongkhag administration 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 and relevant National Disaster Management institutions and agencies take ownership and fulfill their own roles and responsibilities to make this Dzongkhaga disaster resilient and safe place.

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	DzongkhagTshogdu
GNH	Gross National Happiness
GT	GewogTshogde
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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Disaster Management Terms

Scope& Objectives of the BumthangDzongkhag Disaster Management and Contingency Plan

The development of Disaster Management and Contingency Plan for Bumthang Dzongkhag is mandated by the Disaster Management Act of Bhutan 2013. The plan was endorsed by the Dzongkhag Disaster Management Committee (DDMC) on and will serve as a document for reference by all relevant stakeholders and Sectors for implementation of prioritized disaster risk reduction and preparedness activities and guide the Dzongkhag in any response and relief operations.

The objectives of the Dzongkhag Disaster Management and Contingency Plan are:

- To ensure mainstreaming and facilitation for implementation of disaster risk reduction and preparedness activities in Dzongkhag;
- To ensure required capacities are developed for risk reduction, mitigation, preparedness and response;
- To increase 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, environment and continuity of essential services.

Note: The Dzongkhag Disaster Management and Contingency plan will be updated on a yearly basis.

Chapter 1: Overview of Bumthang Dzongkhag

Geography

Bumthang Dzongkhag is located in the Northern part of the country bordered by Lhuntse Dzongkhag in the East, Trongsa and Wangdue Phodrang Dzongkhag to the West, Zhemgang Dzongkhag to the South and the Tibet Autonomous region of China to the North. It has an approximate area of 1879.5 sq. km with an elevations ranging from 2400 to 6000m above sea level. Approximately 59.3% of its total land area is under forest cover. It is administratively supported by four Gewogs namely Chhoekhor, Chumey, Tang and Ura. It has 1900 households and 104 villages. The total population of the Dzongkhag is 17820 (PHCB, 2017). A favorable terrain coupled with excellent motor road access has brought about great socio-economic benefits to the people of Bumthang.

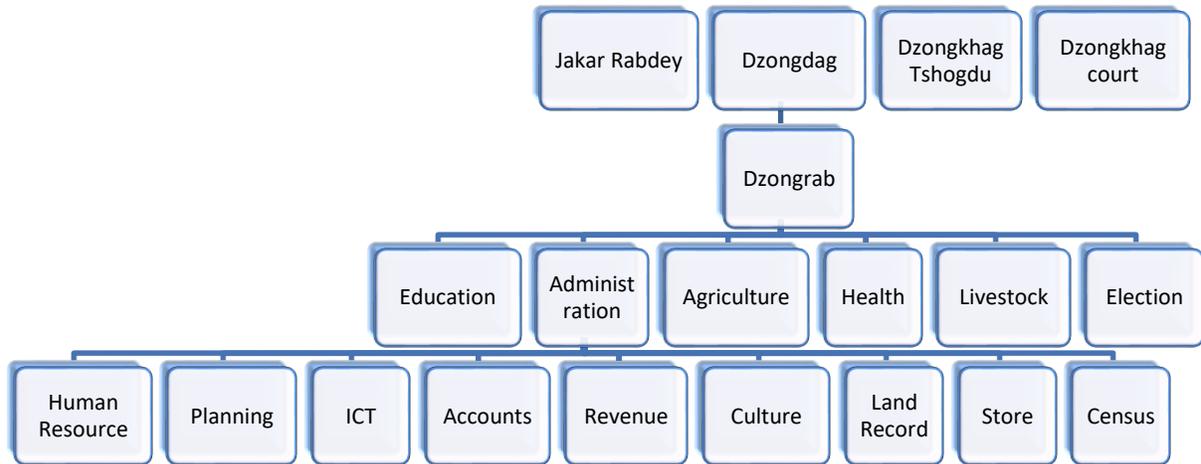
It experiences cold climatic conditions with warm summer and cold winters. Income from potato, livestock farms and the ever increasing tourists are gradually changing the economic status of the people of Bumthang. Recent legalization of sale of cordyceps has further added to rural income. Sale of Masutake and Medicinal plants have also further enhanced purchasing power of people of upper Chokhor and Ura Geog.

Dzongkhag Facts and Figures

Dzongkhag Name Bumthang Area 2667.7sq.km, Forest Cover 52.06%, Number of Geogs 4
Number of villages 104 Number of Households 3770. **PUBLIC REPRESENTATIVES**
Number of Gups 4, Number of Mangmis 4, Number of Tshogpas 20, Number of DT Members 9,
Number of GT Members 29, **POPULATION**-(PHCB, 2017) Total population 17820, Male
9396, Female 8424, **AGRICULTURE**-Agriculture Ext. Center 4, **Forestry**-Ext. Center 4,
Livestock-Ext. Center 4, Veterinary Hospital 1, National Park 1, Research center 1,
EDUCATION-Community school 11, Lower Secondary school 1, Middle Secondary school 3.
Higher Secondary school 2, ERC 2, Non Formal Education center 12, **HEALTH**-Number of
Hospital 1, Number of Primary Healthcare Center (PHC) 5, Number of Out-Reach Clinics 12,
Number of Doctors 6, Number of ambulance 3, and Number of Post Office 1.

Social and Administrative Profile

Dzongkhag is administratively supported by 4 Gewogs namely, Chumey, Tang, Choekhor, and Ura



Organogram of Dzongkhag Administration

Table 1 – Key Demographics

S/L	Gewogs	Area (Sq. Km.)	No. of House holds	Population			Health Facilities			Schools				
				Male	Female	Total	Hospita l	BHU	ORC	HS S	MSS	LS S	PS	NF E
1	Chumey	401.1	709	1937	1637	3588	0	1	2	1	0	0	3	3
2	Choekhor	1530.4	2250	5423	4767	10190	1	2	3	1	0	1	5	6
3	Tang	520.0	432	1165	1153	2318	0	1	4	1	0	0	2	4
4	Ura	265.6	379	871	853	1724	0	1	3	1	0	0	2	0

BHU – Basic Health Unit; ORC – Out Reach Clinic; HSS – Higher Secondary School; MSS – Middle Secondary School; LSS – Lower Secondary School; PS – Primary School; ECR – Extended Classroom

Cultural Properties, bridges, Alternative routes and Farm shops in the Dzongkhag

Gewogs	Total no of Cultural Properties		No of Bridges	Alternative routes to the area	No of Farm shops
	Lhakhang	Chorten			
Chumey	28	49		Royal Heritage trek route (Chumey-Kungarabten),Tunglaya path (Chumey - Trongsa), Yontong la path(Trongsa), Kekila route (Jakar)	1
Choekhor	30	81		Tongkhang lam (Gewog-jakar), Kharsa lam(Kharsa – Choekhor	0

				toe)	
Tang	23	108		Fai fai lam(Tang- Choekor toe), Badey la (Tang - Chamkhar),Rudung la (Tang to Kurtoe), Zhangbey la (Tang to Ura)	1
Ura	14	71		Zhangbey la (Ura- Tang),Singmi la (Ura- Kurtoe), Wangthang la (Ura- Mongar)	1
Chamkhar Throm	1 mani dungkhor	1		Dawathang zam,	
Jakar Dzong					

Chapter 2: Dzongkhag Disaster Management System

2.1 Dzongkhag Disaster Management Committee (DDMC)

Bumthang Dzongkhag Disaster Management Committee (DDMC) is constituted as below in line with the provisions of the DM Act of Bhutan, 2013:

Sl. No.	Members	Designation	Organization	Remarks
1	Ratna B Gurung	Dzongda	DzongkhagAdm	Chairperson
2	Jampel	Chairperson of DzongkhagTshogdu	DzongkhagTshogdu Secretariat / ChumeyGewog	Member
3	Sonam Gyeltshen	Offtg. Dzongkhag Welfare Officer	DzongkhagAdm	Member

4	Sangla	Gup	Choekor Gewog	Member
5	Khandu Wangchuk	Gup	Ura Gewog	Member
6	Ugyen Nima	Gup	Tang Gewog	Member
7	Ugen Sangay	ThromdeNgotshap	Chamkhar Throm	Member
8	RinzinWangmo	DDMO	Bumthang Dzongkhag	Member Secretary
9	Jamyang Jamphel	SP, RBP	Bumthang Dzongkhag	Member

Other Stakeholders that may be co-opted as the members of DDMC are as follows:

1. RBA
2. BoBL
3. RICBL
4. Bhutan Telecom
5. Bhutan Power Corporation
6. BDBL
7. RSTA
8. Bhutan Post
9. Divisional Forest Office
10. Civil Aviation Office
11. BIL
12. BPC

On the expiry of the term/ resignation of the Dzongdag (Chair), the Dzongrab (Vice-Chair) will take over the functions of the chair. In case of the expiry of term/ resignation of Gup, the Chair of the DDMC may temporarily designate an official from the local government as a member of the DDMC to serve until the vacancy is duly filled.

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).

Detailed functions of the DDMC are mentioned in the clause 31 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 Functions of Chairperson

The Detailed functions of the Chairperson of DDMC are mentioned in the DM Act-2013 section 37 and 38.

Some of the important functions of the chairperson are as follows:

1. Without prejudice to the generality of the provision contained in section 37 of this Act, the Chairperson of the DDMC shall:
 - a) Regularly review and assess the effectiveness of DM Plan
 - b) Ensure decision and policy formulated by the DDMC is implemented
 - c) Ensure that disaster risk reduction and disaster management activities are consistent with Disaster Management Strategic Framework.
 - d) Provide prompt information on a disaster or an impending disaster situation to the DDM
 - e) Provide regular updates and detailed reports on a disaster event to the DDM upon completion of filed assessment of the situation
 - f) Manage response and relief operation in accordance with the directives issued by the national Disaster Management authority; and
 - g) Coordinate delivery of services and resources to disaster affected communities

Chapter 3: Disaster Risk Profile of Bumthang Dzongkhag (HVCA)

Bumthang Dzongkhag is vulnerable to various natural and man-made hazards. Repeated fire incidents in the Chamkhar town have come as a stark reminder of how vulnerable the communities in the Dzongkhag are. Like other Dzongkhags in country, Bumthang Dzongkhag has faced the brunt of two major earthquakes, seasonal windstorm which destroys houses and crops, with serious implication on the livelihood of the people.

The assessment of the disaster risk of the dzongkhag for this plan is done by looking at the hazard, vulnerability and capacities at the dzongkhag as well as individual gewogs. The HVCA is conducted by the Gups, GAOs, Mangmis, Tshogpas and DDMO. Finally the gewog’s hazard is prioritized for action planning using the probability and impact matrix.

3.1 ChumeyGewog

3.1.1 Hazard Assessment

S/N	Hazard	Secondary Hazard	When it could occur	Probability of Occurrence	History of Past Disaster	Impact
1	Structural fire	Forest Fire	Dec-Mar	High	1992	Property loss and livelihood
2	Wind Storm	Structural Fire	Dec-May	High	2017	Damage to Roofs
3	Earthquake	Structural fire	Unpredictable	High	2009, 2011, 2015	Damages to houses and cultural properties
4	Forest Fire	Structural Fire	Dry season	Medium	2015 & 2017	Loss of forest cover

5	Hailstone	Flood	Unpredictable	Low	2014	Crop damage
6	Flood	Landslides	Summer months	Low	2006	Damage to farm roads

3.1.2 Vulnerability Assessment

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Structural fire	Private and public properties in the gewog including lhakhangs and chortens	- Extensive use of Bhukhari, poor electrification. - No proper saves for butter lamps	Property and Live loss
2	Wind storm	Structure (Whole gewog), Human (Special need) and crops	Traditional structures with no proper anchorage system.	Roofing will be blown off, structures collapsed, lives lost/injury
3	Earthquake	Traditional houses, all the people in the gewog along with the livestock	- Traditional houses are not earthquake proof. - Livestocks are at risk in case there is a slide and collapse structure	Structure collapse, earthquake triggered landslides and floods will have big loss on lives and properties
4	Forest fire	Forest cover, livestock, cultural, public and private properties	Careless attitude of the people	Forest fires will burn the gewog's forest cover and will spread to private and public properties

5	Hailstones	Crops	Crops cannot resist hailstones	Crops will be damaged during flowering season and will affect the yield
6	Flood	Public and private properties, agricultural land , crops	Most agricultural lands are located near streams which can flood during summer	Flood will wash away all the elements located in the vulnerable areas

3.1.3 Capacity Assessment

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Structural fires	School football ground and ground for evacuation	House Insurance, Kidu, Life and house insurance.	RBP, Gewog Administration, BHU, Community Forest group, Schools,	River and stream
2	Wind Storm	Most houses are one storied	House Insurance, Kidu, Life insurance.	DDMC, Gewog Administration, BHU, Community Forest group, Schools,	Good forest cover in the gewog
4	Earthquake	Most of the HH are one storied ekra type house, school grounds for evacuation	House Insurance, Kidu, Life insurance.	DDMC, Gewog Administration, BHU, Community Forest, Schools, Village welfare group, DoR, RBP	Good water source

5	Forest Fire		Community Forest Group	Community Forest Group, RBP, Gewog Administration	River and streams nearby
6	Flood	School grounds for evacuation	Insurance	Community Forest Group, RBP, Gewog Administration, Desuups	Good water source and forest cover

3.1.4 Probability and impact matrix

Very probable			Heavy rainfall, Earthquake		
Probable					
Less probable		Windstorm		Structure Fire	
Improbable					
Impact	Unimportant	Limited	Serious	Very serious	Catastrophic

3.2 ChoekhorGewog

3.2.1 Hazard Assessment

S/N	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	History of past disaster	Impact
1	Flash Flood	Landslide, soil erosion	Monsoon Season	High	1999&2009	Damages to land, crops and roads
2	Earthquake	Structure fire/forest	Unpredictable	High	2009 & 2011	1. Major damages to households and

		fire/landslide				cultural properties
3	Windstorm	Forest structural fire	Dry season (Dec-March)	High	2011 & 2013	1. Loss of crops 2. damages on roofs
	Hailstones	Flood	Dry season	High	2017	Crop damage

3.2.2 Vulnerability Assessment

S/N	Hazard	Element at Risk	Why are they at Risk	How will they be affected
1	Flash Flood	Agriculture land, house, livestock, human lives	Location of elements in the vulnerable area	Landslides triggered by flash floods will damage land, crops and properties
2	Windstorm	Roofs of houses in the village and other cultural properties	Location of the houses & their conditions not maintained	Windstorms will damage the roofs, damage crops and uproot trees
3	Landslide	Agricultural land, houses, bridges and farm roads	Location of elements at risk in the vulnerable area	Landslides can damage the agricultural land and also damage the public and private structures

4	Forest fire	Community, government forest lands, properties	Careless attitude of the people	-Structural losses -Injuries & casualties -Vegetation loss -Habitat losses

3.2.3 Capacity Assessment

S/N	Hazard	Physical Capacity	Economic Capacity	Social/Institutional Capacity
1	Flash Flood	Practices of tree plantations , retention wall, open ground for evacuation	Insurance	Capacity building exercise by relevant agencies
2	Windstorm	Available open ground for evacuation, most houses are one storied	Insurance	Relief support from Dzongkhag administration, and response from RBP and Desuups

2	Landslides	Open spaces available for evacuation	-Life & House insurance	- Kidu from the Dzongkhag - Dzongkhag Disaster Management team -Desuups volunteers -Gewog extension officer & GAOs trained on SAR
4	Forest fire	-Open available spaces	-Life & house insurance	-Dzongkhag Relief team -Desuups volunteers -Gewog staffs trained on SAR - UWIC, RNR research office, Park officials

Very Probable			<i>Landslides</i>	<i>Earthquake</i>
Probable			<i>Windstorm</i>	
Less Probable		<i>Forest Fire</i>		
Improbable				

Impact	Unimportant	Limited	Serious	Very Serious	Catastrophic
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3.2.4 Probability and impact matrix

3.3 TangGewog

3.3.1 Hazard Assessment

S/N	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	History of Past Disaster	Impact
1	Flash flood	Landslide	Monsoon season	High	2009	Damage to agricultural land and farm road
2	Windstorm	Structural Fire	In the month of March, April, July and August	High	2016	Blown away roofing
3	Landslides		Monsoon season	High		Damage to crops and farm roads
4	Forest Fire	Structural fire	From January to March	High	2015	Damage to forest cover
5	Human wild life conflict			Medium	Annually	Damage to crops.

3.3.2 Vulnerability Assessment

S/N	Hazard	Element at Risk	Why they are at risk	How will they be affected
1	Flood	Houses, bridges, livestock and imp. Govt. properties	No flood protection wall, location of communities near the river banks	Loss of scarce agricultural land, lives loss, injuries , villages will be cut off
2	Windstorm	-Houses , Crops, cultural properties and imp public infrastructure	-Located in windy area, no- resilient house roofs	roofs of houses will be blown away and falling trees could disrupt electricity lines
3	Earthquake	Private and govt. properties	Most houses are old and not earthquake resilient	Quaking could damage and destroy homes and properties
4	Structural fire	Private homes , properties and govt. properties	Poor electrification, extensive use of Bhukhari, lack of butter lamp case, carelessness of people	Fire will destroy all the properties and disrupt lives
5	Hailstorm	Cash crops and food crops	They are main staple and cash crops	When they are tender or during flowering & fruiting time is very vulnerable
6	Human wild life conflict	Crops	Lack of electric fencing	Crop loss which will affect the food security

3.3.3 Capacity Assessment

S/N	Hazard	Physical Capacity	Economic Capacity	Social/Institutional Capacity

1	Earthquake	Access to road, mobile network at Gewog level, Mobile network and Electricity, school ground, ORC, School ground for evacuation.	Every HH are covered under rural housing insurance.	Community vitality, good income from cordeycep collection, Desuup civil servants, relief and response support from Dzongkhag
2	Windstorm	Access to road, mobile network, electricity, open ground	Every HH are covered under rural housing insurance.	Relief support from Dzongkhag
3	Structural fire	Access to road, mobile network, electricity	Every HH are covered under rural housing insurance.	Support from Dzongkhag, community vitality
5	Forest Fire	-----	House insurance and life insurance	Gewog Forest Office, Park office
7	Hailstorm	-----	-----	Community support

3.3.4 Probability and impact matrix

Very Probable			Earthquake, Windstorm, Landslides		
Probable		Forest Fire	Structural fire		
Less Probable		Outbreak of Poultry disease	Hailstorm		
Improbable					
Impact	Unimportant	Limited	Serious	Very Serious	Catastrophic

3.4 UraGewog

3.4.1 Hazard Assessment

S/N	Hazard	Secondary Hazard	When it could occur	Probability of Occurrence	History of Past Disaster	Impact
1	Structural Fire	forest fire	Winter season	Medium	2015	damages of Properties
2	Forest fire	Structural fire	Dry season	Medium	2015	Crop damage, risks to human life and properties
3	Earthquake	Fire	Unpredictable	High	2009 & 2015	Damage to houses
4	Windstorm	Forest fire and structural fire	unpredictable	March-May	2012	Damage to roofs and crops
5	Human wildlife conflict		Annually	High	Yearly	Crop damage

3.4.2 Vulnerability Assessment

S/N	Hazard	Element at Risk	Why they are at risk	How will they be affected
1	Structural Fire	Houses, people, domestic animals and cultural properties	Irresponsibility of people while using gas, bhukhari, butter lamp and also poor	Loss of properties like houses, infrastructures, loss of human & animals live

			electrification	
2	Forest Fire	Houses, people, domestic animals, crops damage, and vegetation loss	Dry winter season and careless behavior of some people	Loss of houses, cultural properties, forest cover, water source with wildlife
3	Windstorm	Roof damage of private and public properties	Roof not anchored, old structures	Hampers the daily lives of the people.
4	Human wild life conflict	Houses, people, domestic animals, crops	improper fencing	Crops loss , loss of human & animals lives.
5	Earthquake	Houses, infrastructure, people, domestic animals, road blocks at Gewog	Old structures, houses built with traditional techniques.	Loss of properties like houses, infrastructures, loss of human & animals live, electric shocks, food shortage, transportation & communication disruption

3.4.3 Capacity Assessment

S/N	Hazard	Physical Capacity	Economic Capacity	Social/Institutional Capacity
1	Structural Fire	Open ground available	Rural house and life insurance	Community support, support from the Dzongkhag
2	Forest Fire	-----	Rural house & life Insurance	Thrumshingla park office, support from the Dzongkhag
3	Windstorm	Most of HHs has CGI-sheet. Mobile & road connectivity.	Rural house & life Insurance	Thrumshingla park office, support from the Dzongkhag, Desuups

4	Human wildlife conflict	Solar fencing	-----	Thrumshingla park office, support from the Dzongkhag,
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3.4.4 Probability and impact matrix

Probability of Events					
Very Probable				Windstorm	Landslide, Earthquake
Probable			Hailstorm		
Less Probable			Structure fire, lightening & thunderstorm, pest & diseases	Forest fire	
Improbable					
Impact	Unimportant	Limited	Serious	Very Serious	Catastrophic

3.5 ChamkharThrom

3.5.1 Hazard Assessment

S/N	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Disaster History	Impact
1	Structure Fire	Forest Fire	Mostly during winter months	High	2016, 2010	4 devastating fires have damaged most shops and settlement in the town.

2	Flash Flood	Landslide, erosions, fire	Monsoon season	Medium	2009 cyclone aila floods	
3	Earthquake	Fire, landslide	Unpredictable	High	2009 2012 2015	
4	Forest Fire	forest fire	Unpredictable	Medium	2011 2014	

3.5.2 Vulnerability Assessment

S/N	Hazard	Element at Risk	Why they are at Risk	How will they be affected
1	Structural Fire	Shops, public and government infrastructures, goods and properties	Careless attitude of the elements at risk, extensive use of wood, use of cheap electrical appliances	Fire will destroy the livelihoods of many people and render them homeless
2	Earthquake	Building, Houses, bridges, farm roads, schools, Hospital, Office, Offices, people	Bhutan is located in highly seismic zone. Most of the houses are non-disaster resilient structures.	Property loss, damage, loss of livelihood, heavy reconstruction costs
3	Windstorm	Roofs of all the houses and shops in the town	Winters and springs in the town are quite windy	Roofs of the shops and houses will be damaged

3.5.3 Capacity Assessment

S/N	Hazard	Physical Capacity	Economic Capacity	Social/Institutional Capacity
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1	Structural Fire	Open ground for evacuation in the town	Insurance for homes and properties, diverse source of income	Relief support from Dzongkhag and Kidu office, RBP, Desuups and other volunteers, Airport
2	Flood	Available high elevated area	house and life insurance	Relief support from Dzongkhag and Kidu office, RBP, Desuups and other volunteers. Awareness Program by relevant area, Airport
3	Windstorm	-----	House and Life Insurance	Relief support from Dzongkhag and Kidu office, RBP, Desuups and other volunteers

3.5.4 Probability and impact matrix

Very Probable				Windstorm	Earthquake
Probable		Structure fire	Landslides		
Less Probable			Pests & Diseases		
Improbable					
Impact	Unimportant	Limited	Serious	Very Serious	Catastrophic

Capacity Assessment at the Dzongkhag level

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	All	2 fire brigades, one water tanker, 55 Dessups, 25 SAR teams, 42 police personnel, 5 ambulance,	House Insurance, Royal Kidu, Life insurance.	DDMC, Hospital, FCB, Farmers group, Dzongkhag Dratshang,	Water source, Timber,

Chapter 4: Disaster Management Action Plan (2023 – 20228)

This chapter details the action plan for Bumthang to raise awareness, reduce risk, and enhance preparedness and resilience for five years starting from 2017 to 2021 for the hazards which were prioritized.

Priority Hazards: Earthquake, Windstorm, Landslide, Flood and Fire (including forest fire)

Priority Area	Key Activities	Target	Nodal Agency	Supporting agencies	Timeline	Budget estimate (Nu. in M)
DDMC Meetings as per the DM Act of Bhutan 2013	Conduct DDMC meetings as per the DM act of Bhutan 2013	DDMC	DDMO	DDMC	Annually	0.50
Review Dzongkhag DMCP	To review the DM and Contingency plan, assess implementation of the activities and dissemination of plan)	DDMC	DDMO	DDMC	Annually	0.50

Develop Gewog Contingency Plan	As per the DDM Act 2013, each gewog can have their own gewog ICS and develop their own Gewog level contingency plan for any emergency.	4 Gewogs	DDMO/GAO	Gewog's Disaster Management Committee	2024-2025	0.50
Basic SAR Training front liners	To develop and enhance capacity of Dzongkhag Search and Rescue (SAR) Team to facilitate effective response operations during disasters and emergencies.	Dzongkhag SAR Team and other relevant officials	DDMO/DLG DM	Dzongkhag SAR Team and other relevant officials	2024, 2026 & 2029	1.5
Construct DEOC	As mandate by DDM Act 2013, every Dzongkhag must have a Dzongkhag Disaster Emergency Operation Center (DEOC) for emergency.	DEOC	DDMC/DLG DM	DEOC	2025-2027	56
Procure furniture for DEOC	To equip the DEOC with required equipment and furniture	DEOC	DDMO/DDM C	DEOC	2027-2028	1.0

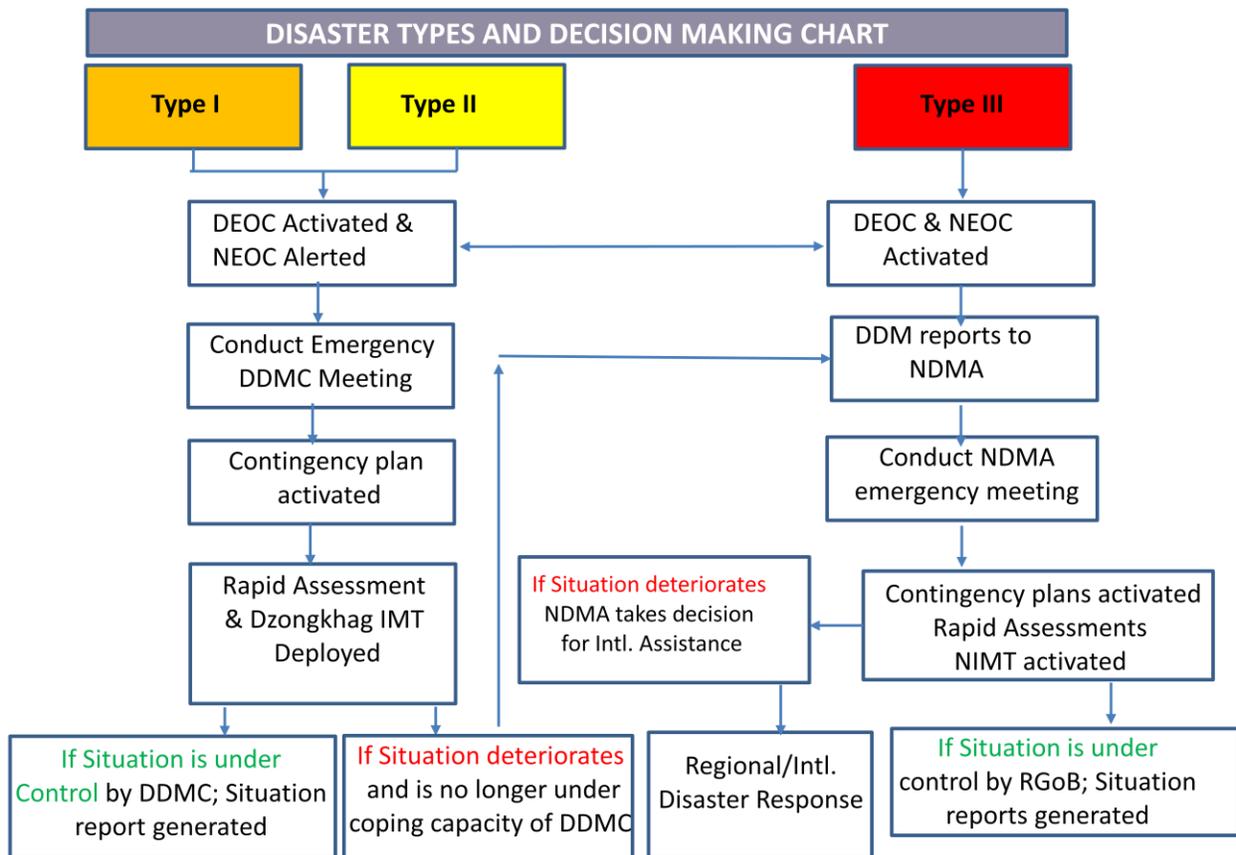
Procurement of Disaster Equipment on need basis.	Need base procurement of disaster equipment during the emergency.	Dzongkhag Administration	Dzongkhag	DDMC/DLGD M	Annually	2.0
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Chapter 5: Dzongkhag Contingency Plan

This chapter details the contingency plan of Bumthang Dzongkhag including the response/coordination structure and standard operating procedures.

The chart below shows the general decision making, information flow and reporting mechanism during disaster type I, II and III.

Figure 1: Reporting and information flow mechanism



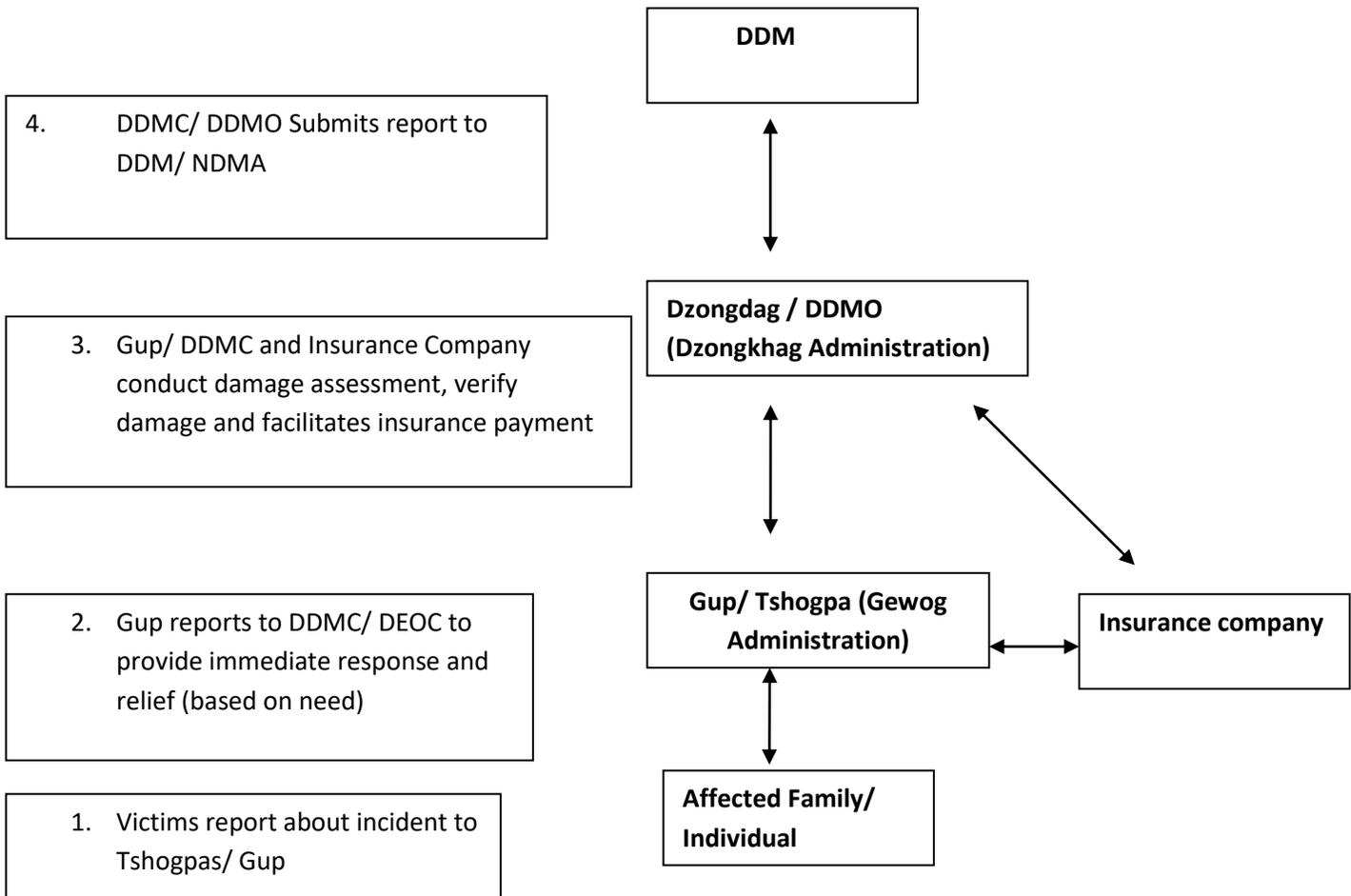
5.1 Standard Procedures for Response

5.2.1 Standard Operating Procedure for 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.

Figure 2 – Standard procedure for isolated local incidents

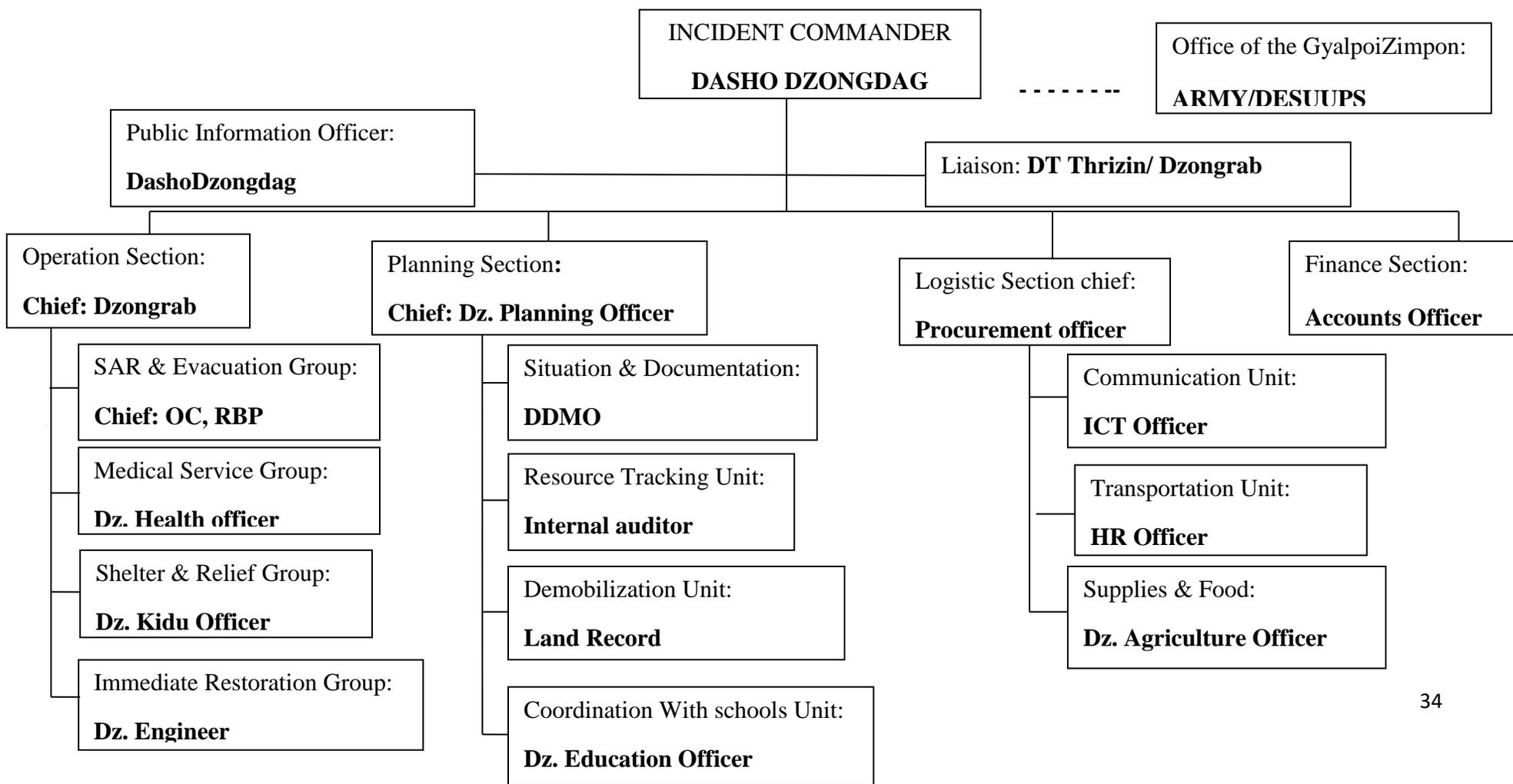


5.2.2 Coordination and response structure for various disaster types

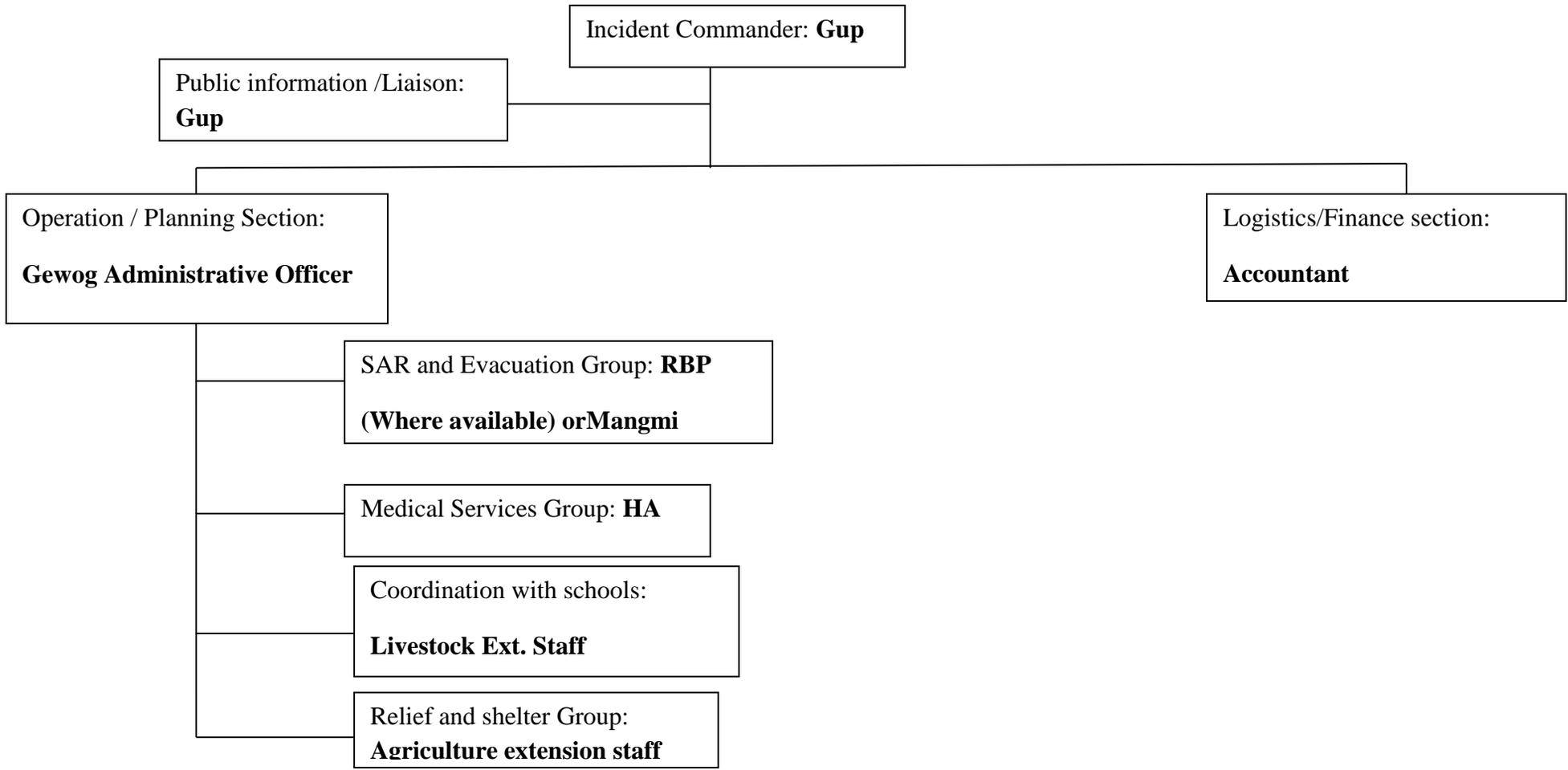
As per the DM Act of Bhutan 2013 and the DM rules and regulations standard procedures for response at the dzongkhag level for different Disaster Types will be as follows:

Incident Response Management team at DzongkhagLevel:

Note: Lead role base on relevancy. Eg. Agriculture related-DAO, Livestock-DLO etc...



Incident Response Management team at GeogLevel:



Note: Identify number of teams and team members in discussion with relevant stakeholders

Flow of information and communication- Team members to team leaders, team leaders to Section Chiefs, Section Chiefs to IC, IC to Responsible Officer

Roles and Responsibilities of the IMT:

1. Responsible Officer

- ❖ Overall management of the incident/ disaster
- ❖ Gives policy direction

2. IC:

- ❖ Will be responsible for all aspects of an emergency response
- ❖ Develop incident objectives and manage incident operations
- ❖ Application of the resources and responsibility for all persons involved

Concerned Person:

3. Public Information Officer/ Liaison Officer:

- ❖ Communicate and share important incident response information with others responding units and/or organizations and the public.

Concerned Person:

4. Operation Desk

- ❖ Oversees and coordinates the entire operation.
- ❖ During recovery, all of the other recovery teams will report to this team on a regular basis.
- ❖ Advices the IC on issues regarding incident safety
- ❖ Ensures the safety of all incident personnel

- ❖ *Actions needed:* need to set up the DEOC (Equipment support provided through NAPA II) – interim DEOC identified as disaster store

Concerned Person:

a) Rapid Assessment Team

- ❖ Pre –Identify Rapid Assessment Team members and train and familiarize with assigned area
- ❖ Pre – Communication set-up (procure additional HF/VHF sets and distribution)
- ❖ Pre - Rapid assessment forms to be available in all gewogs and in the DEOC after the form is finalized by DDM.
- ❖ During - conduct immediate assessment of disaster in terms of no of people affected (dead, injured, without shelter, missing), people needing SAR, evacuation, medical assistance, extent of damage, road network and bridges
- ❖ After – Carry out periodic assessments as directed by team leader

Concerned Person:

b) SAR team

- ❖ Pre – identify members and leaders (including how many teams)
- ❖ Pre - Any other SAR teams, volunteers
- ❖ Pre – SAR teams to be trained (including code of conduct and emergency first aid) and equipped
- ❖ Pre – stockpiling of SAR equipment
- ❖ During – Contact and deploy, including other SAR teams and volunteers

Concerned Person:

c) Medical Teams

- Pre – Identify team members
- Pre –Training in emergency first aid for Dzongkhag/ gewog staff and residents
- During: Provide medical relief

Concerned Person:

d) Evacuation Team (identify team members and no of teams)

- a. Pre-List of vehicles with names and contact details (Dzongkhag and regional Pool vehicle, private vehicle, school buses)
- b. Pre-identify people in each team based on identification of evacuation areas- identify team leader
- c. Pre-Identify volunteers from the communities
- d. **Pre**-Evacuation areas: identify evacuation areas for each location
- e. Pre-Awareness on the identification of evacuation centers and routes (based on specific hazard)
- f. **Pre**-Pre-arrangement with BoD for fuel supply
- g. **During** – Evacuation from the affected area to the nearest identified evacuation center/Medical center
- h. **During**- give priority to the vulnerable groups (injured, old, children, people with special needs, women)

Concerned Person:

e) Debris Clearing Teams

- a. **Pre**- no of teams- names of the team members, leader
- b. **Pre**-Make list of Machinery, excavators within the dzongkhag including private, DoR and corporate
- c. **Pre**-Identify the volunteers from communities
- d. **During**- Clear debris based on the rapid assessments (roads, buildings, bridges etc)

Concerned Person:

f) Immediate Restoration Team

- a. Pre-** Identify required resources, stockpile, mapping of road network, bridges, water supply network
- b. Pre-** pre-arrangement with services providers (BPC, RSTA, RBP, RBA, relevant stakeholders)

g) Mass Corpse Management Team:

- a. During – support families to transport body to cremation ground; support Dratshang Lhentshog and RBP to carry out mass cremation in case of unidentified bodies
- b. Pre – Clarify dead body management guidelines with MoH and DDM
- c. Pre - Clarify procedures at national level, including identification of locations and arrangements for dead body storage/ preservation; dead body handling/ labor at cremation sites – DDM and MoH
- d. Territorial/ Range Office to provide firewood

h) Carcass disposal Team

- a.** Pre – clarify procedures for carcass disposal (MoAF – BAFRA, DoL)
- b.** Pre – Identify locations and labors
- c.** During – collect, transport and dispose carcass at identified locations in coordination with DoL and BAFRA

Team Leader-

5. Logistics/ Admin/ Finance Desk:

- ❖ Identify shops and items (based on guidelines issued by DDM)
- ❖ Logistics team to be stationed at DEOC/ or strategic location depending on assessment

- ❖ Request, maintain and distribute stockpiles of Equipment, Food, water, Tents, blankets and other emergency relief items
- ❖ Provide logistics support to all operations teams
- ❖ Responsible for all the matters related to finance during the disaster
- ❖ Provide financial directives to DEOCC
- ❖

Team leader:

i) Evacuation Centre Management Team/ Relief Team

a. Shelter -

Pre-stockpile (blankets, tarpaulin sheet, tents, CGI sheets, family kits, minimum standards, bamboo, rope, mat/mattress fuel/fire wood (pre-arrangement)

During- setup the shelters, distribute relief items

b. Food and water-

Pre- as per the minimum standards (individual or family) (FCB)

During -Distribute food and water, ensure fair distribution

c. Sanitation-

Pre-stockpile (health and hygiene kits)

During – distribute health and hygiene kits

d. Safety and security, crowd management- RBP at distribution points and at each evacuation center with assistants from trained volunteers

Pre- agreement on dress code, procedure on safety and crowd management and awareness to general public on safety arrangement

Pre – pre-arrangement with the RBP

During – provide safety and security at the evacuation center, crowd management

e. Medical –MoH (medical staff in each evacuation center)

Pre – pre-arrangement with the MoH;

During – provide medical services at the evacuation center, triage, counseling and psycho-social support

Need: stockpiles of essential food- FCB, tents, blankets, basic SAR equipment (shovel, helmet, gloves, stretcher, battery operated lighting, safety boots, flash lights, goggles, dust mask etc), generators, portable toilets

- Detailed inventory of stockpiles and resources and things that need to be procured

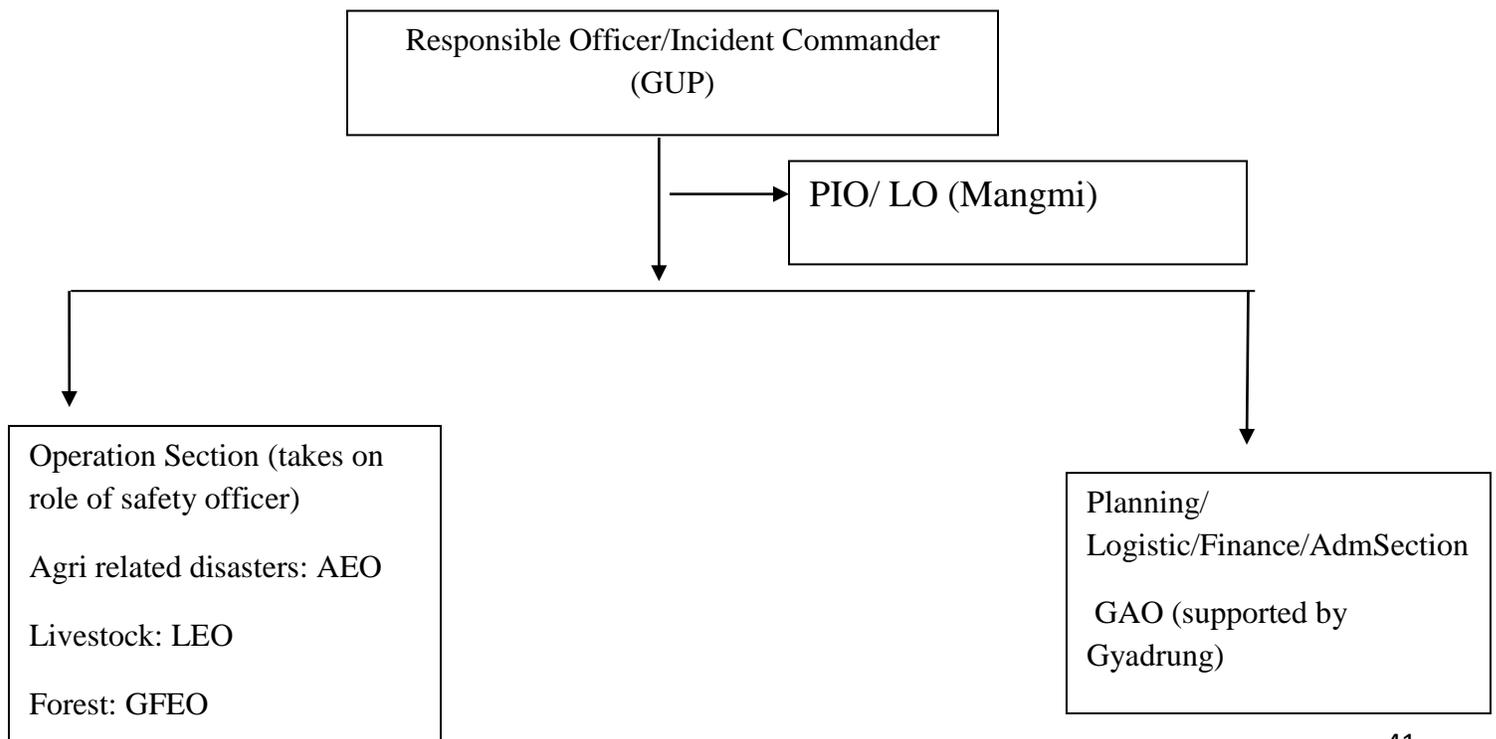
Concerned Person:

6. *Planning Desk*

- ❖ Responsible for making the incident action plan
- ❖ Maintain proper documentation, reporting and accounts

Team Leader:

ICS Organizational Chart at the Gewog Level (IMT)



Annexure

1. List of DDMC

Sr.	Name	Designation	Contact No
1	Ratna B Gurung	Dzongdag	17920090
2	Jampel	DT Thrizin	17671655
3	Jamyang Jamphel	SP	17118003
4	Jigme Kelzang	DHO	17606306
5	Pema Wangchuk	CMO	
6	Ugen Sangay	Thromde Ngotshab	17337296
7	Dorji Jamtsho	Procurement Officer	17766202
8	Tshering Choden	Finance Officer	17834168
9	Jigme Namgyal	Desuung Coordinator	17928070
10	Rinzin Wangmo	DDMO	17581681
11	Sangla	Chokhor gup	17674749
12	Ugyen Nima	Tang gup	17445276
13	Khandu Wangchuk	Ura gup	17341959

III. Dzongkhag SAR team:

Sl. no	Name	Designation	P/DID/CID No.	Agency	Training Type, Place & Year			Cont. No.
					Basic	Refresher	Month-Long	
1	Rinzin Wangmo	DDMO	11509001777	Dzongkhag	Yes			17581681

2	Tashi	Technician	11606003040	Dzongkhag	Yes			17493520
3	Kipchu	Pharmacist	11903000911	Hospital	Yes			17984407
4	Tshering Kiba	Technician	10104001604	Hospital	Yes			17544511
5	Jigme Namgayl	Desuup coordinator	10101004144	Desuup	Yes			17928070
6	Leki	Teacher (Jakar HSS)	11914001102	Desuup	Yes			17814938
7	Damcho Wangchuk	Drungtsho, Hospital	10402000223	Desuup	Yes			17696624
8	Dechen Loday	Principal (Gangrithang PS)	11704002478	Desuup	Yes			17723282
9	Karma Wangdi	Teacher (Gyatsa PS)	10706002646	Desuup	Yes			17860207
10	Leki Wangdi	Wangdichoili ng LSS	12005002622	Desuup	Yes			17969131
11	Karma Wangchuk	RRCO	11509004451	Desuup	Yes			17658054
12	Pema Tshering	Teacher (Chumey CS)	10101002663	Desuup	Yes			17430964
13	Sonam Tobgay	Chuma	12008000171	RBP	Yes			17385117
14	Tshering Gyeltshen	Gopa	11605003224	RBP	Yes			17493508
15	Tshering Dorji	Gopa	10208000041	RBP	Yes			17291490
16	Tshering Tshomo	Chuma	11704001410	RBP	Yes			17853349
17	Namgay Dorji	Gopa	10203004441	RBP	Yes			77342767
18	Kinley Dorji	Pelpon	12008000800	RBP	Yes			17576428
19	Dazala	Drimpon	11501001575	RBP	Yes			77294592
20	Tshering Dorji	Drimpon	10207001191	RBP	Yes			17687481
21	Sampa Gyeltrshen	Drimpon	11504001616	RBP	Yes			17254022
22	Sangay Dorji	Pelpon	10703001336	RBP	Yes			77336355
23	Tobdhen	Drimpon	12005000802	RBP	Yes			77713654
24	Wang Tshering	Drimpon	11111001336	RBP	Yes			17689313
25	Tsheten	Peljab	11506001992	RBP	Yes			17502883

	Wangchuk							
26	Bir Bdr. Limbu	Gopa	10205003635	RBP		Yes	Yes	77245183
27	Namgay Dorji	-	10101000176	Desuup		Yes	Yes	17598729
28	Tshering Jamtsho	-	10101004800	Desuup		Yes	Yes	17536136
29	Ugyen Phuntsho	-	10101004961	Desuup		Yes	Yes	77703811

IV. Logistics Capacity in the Dzongkhag

Emergency Contact Numbers of Responsible Officials at the Dzongkhag and Gewog level

SL. No.	Name	Position	Telephone Number	
			Office	Residence
	Dzongkhag Level			
1	Ratna Bahadur Gurung	Dzongda	17920090	
2	Jamyang Jamphel	SP	17118003	
3	Jigme Kelzang	DHO	17606306	
4	Pema Wangchuk	CMO	17767720	
5	Dorji Jamtsho	Procurement	17766202	
6	Chojay Tenzin	Planning	17992206	
7	Sonam Gyeltshen	DAO	77301004	
8	Jambay Dorji	DLO	17830505	

9	Tshering Choden	Finance	17834168	
10	Ugen Sangye	Thromde Thuemi	17337296	
11	Jigme Namgyel	Desuup Coordinator	17928070	
12	Rinzin Wangmo	DDMO	17581681	
SL. No	Gewog Level			
1	Sangla	Chokhor Gup	77299781/17674749	Chokhor Gewog
2	Namgay Tshering	GAO	17613653	
3	Kencho Norbu	Mangmi	17366311	
4	Chimi Dorji	Tshogpa	17292161	
5	Sonam Phuntsho	Tshogpa	17619576	
6	Kinley	Tshogpa	17715194	
7	Tashi Galey	Tshogpa	17452171	

8	Pema Tshomo	Tshogpa	172384236	
9	Jampel	Chumig Gup	17671655	Chumig Gewog
10	Kelzang Dorji	Mangmi	17617413	
11	Sangay Tenzin	Tshogpa	77791489	
12	Kelzang Dorji	Tshogpa	17970767	
13	Pema Gyeltshen	Tshogpa	17254325	
14	Sonam Lhamo	Tshogpa	17493226	
15	Kuenzang Lhamo	Tshogpa	17554947	
16	Ugyen Nima	Tang Gup	17445276	
17	Lobzang Dhendup	GAO	17834718	
18	Sangay Tshewang	Mangmi	17422320	
19	Tashi Lhendup	Tshogpa	77298490	

20	Sangay Tshewang	Tshogpa	17675622	
21	Ngawang Lhendup	Tshogpa	17434153	
22	Thekcho Dorji	Tshogpa	77870406	
23	Sonam Dorji	Tshogpa	17361049	
24	Khandu Wangchuk	Ura Gup	17341959	Ura Gewog
26	Khandu Tshering	Mangmi	17517768	
27	Tshering Dema	Tshogpa	17671355	
28	Phuntsho Dendup	Tshogpa	17416902	
29	Tshewang Jamtsho	Tshogpa	17534868	
30	Pema Wangchen	Tshogpa	17944962	
31	Ugyen	Tshogpa	19381190	

List of Major Government Health Facility

Sl. No.	Name of Hospital	Telephone No.	No of Doctors	Facilities available
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	& address			No. of beds	Ambulances	Blood bank	X-ray machine
1.	Wangdicholing Hospital	03631112	7	28	2	Yes	Yes
2.	Choekhortoe PHC	17705091	Nil	4	Nil	No	No
3.	Chumey PHC	17705030	Nil	4	Nil	No	No
4.	Mitsethang PHC	77109546	Nil	4	Nil	No	No
5.	Menchu PHC	17346506	Nil	4	Nil	No	No
6.	Pangkhar PHC	17321582	Nil	4	Nil	No	No

List of Medical Stores / Pharmacies

Sl. No.	Name of medical store and address	Telephone no.	
		Shop	Residence
1.	Tshering Netshel Pharmacy (Chamkhar)	17714348	
2.	Pema Yangzom Pharmacy (Chamkhar)	17670900	

List of Temporary Shelters for Evacuation

Sl. No.	Name and address	In-Charge	Telephone no.
1.	Jakar School MPH (Jakar)	Principal	17614930
2.	Wangdicholing MPH (Wangdicholing)	Principal	17670732
3.	Chumey School MPH (Chumey)	Principal	17676727
4.	Ura School MPH (Ura Dozhi)	Principal	17120566
5.	Tang School MPH (Mesithang)	Principal	17120375
6.	Karma Academy MPH (Phurjoen)	Principal	17688793
7.	Gyatsa Community hall (Gyatsa)	Tshogpa	77791489
8.	Gyatsa School MPH (Gaytsa)	Principal	17919503
9.	Zungaye School MPH (Zungage)	Principal	
10.	Chungphel community hall (Chungphel)	Tshogpa	17554947
11.	Thangbi Community hall(Thangbi)	Tshogpa	17715194
12.	Tangsibi Community hall (Tangsibi)	Tshogpa	17944962
13.	Dhur School MPH	Principal	
14.	Kuenzangdrak Community hall (Kuenzangdrak)	Tshogpa	17434153
15.	Tangsibi School MPH	Principal	
16.	Shingnyer School MHP	Principal	17120261

List of Animal Shelters

Sl. No.	Name and address	In-Charge	Telephone no.
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1.	National Cattle Breeding Centre, Lebi, Bumthang	Mr. Padam Gurung	17649855
2.	National Equine Research and Development Centre, Nasiphel, Bumthang	Mr. Sonam	17606458
3.	National Small Ruminant Research and Development Centre, Dungmithang, Bumthang	Mr. Sonam Jamtsho	17683484
4.	Wobthang Community Dairy Farm, Tandingang, Tang, Bumthang	Mr. Pema Namgay	17254715

List of Rescue Equipment Used During Earthquakes

Sl. No.	Name of Equipment	Address of owner	Telephone no.
1.	Ordinary Stretcher (Basket type)	DDMO, Bumthang Dzongkhag	17581681
2.	Easy Stretcher (Cloth)		
3.	Static Rope (200 m)		
4.	Hard Hat		
5.	SAR Kit		
6.	Life Vest with Zip		
7.	Rescue Ascender		
8.	Ready Made Anchor		
9.	Body Harness		
10.	Carabineer		
11.	Single Pulley		
12.	Seat Harness		
13.	Figure of Eight		
14.	Tandum Prussik		

List of Transportation Vehicles

Sl. No.	Type	Name and address	Telephone no.
1.	Bus	Jakar School	17614930 (Principal)
2.	Bus	Tang School	17120375(Principal)
3.	Isuzu hilux		
4.	Bus	Ura School	17120566(Principal)
5.	Bolero		
6.	Bus	Chumig School	17676727(Principal)
7.	Isuzu Hilux		
8.	Bus	Karma Academy	17688793(Principal)
9.	Bus	Chumey VET	(Principal)
10.	Toyota Hilux		

11.	DCM	Dzongkhag	17710899 (MTO)
12.	Ford Hilux		
13.	Toyota Hilux		
14.	Veterinary Ambulance Bolero		
15.	Land Bolero		
16.	Fortuner		
17.	Isuzu Hilux		
18.	DCM(waste)		

List of Voluntary Organizations

Sl. No.	Name	Address	Telephone no.
1.	Red Cross Society	Chamkhar, Bumthang	17110328
2.	Desuup Coordinator	Regional Office, Bumthang	17928070
3.	Ugyen Wangchuck Institute of Conservation and Environment Research	Lamai Gonpa, Bumthang	77480269
4.	Royal Bhutan Police	Wing XIII, Bumthang	17118003

List of Volunteers

Sl. No.	Name	Address	Telephone no.
1.	De-suup	Regional Office, Bumthang	17928070
2.	Royal Bhutan Police	Division XIII, Bumthang	17118003
3.	Ugyen Wangchuck Institute of Conservation and Environment Research	Lamai Gonpa, Bumthang	77480269
4..	Karma Dema, Red Cross Society	Chamkhar, Bumthang	17110328

List of Food Warehouses

Sl. No.	Address	Capacity	Telephone no.
1.	Food Corporation of Bhutan Limited, Chamkhar	150 MT	17628425
2.	Regional National Seed Centre Farm Store, Nasiphel	100 MT	17649772
3.	Regional National Seed Centre Farm Store, Chamkhar	100 MT	17649772

List of Fire-fighting (trucks, equipment, location, capacity)

SL	Facilities/equipment/ personnel	Location	Capacity	Contact person	Phone
1.	Fire brigades	RBP, Chamkhar	4500 lit	PelponDazala	110
2.	Fire Fighting (Pump)MV	RBP, Chamkhar	1500 lit	-Do-	

V. Contact details of Des-sup In-charges

Regional Co-coordinator: Mr. Jigme Namgyal, UDee Construction, Bumthang- 17928070

Sl.No	Name	Work Place	Mobile Number	Remark
1	Jigme Namgyal	UDee Const, Bumthang	17928070	Regional Coordinator
2	Namgay Dorji	Businessman, Chamkhar	77870367	In-charge, Chokhor
3	Pema Tshering	Teacher, Chumig HS	17430964	In-charge, Chumig
4	Sonam Wangdi	VP, Tang HS	17685147	In-charge-Tang
5	Karma Jurmi / Khandu Wangchuk	Public/Gup	17732699/17341 959	In-charge, Ura