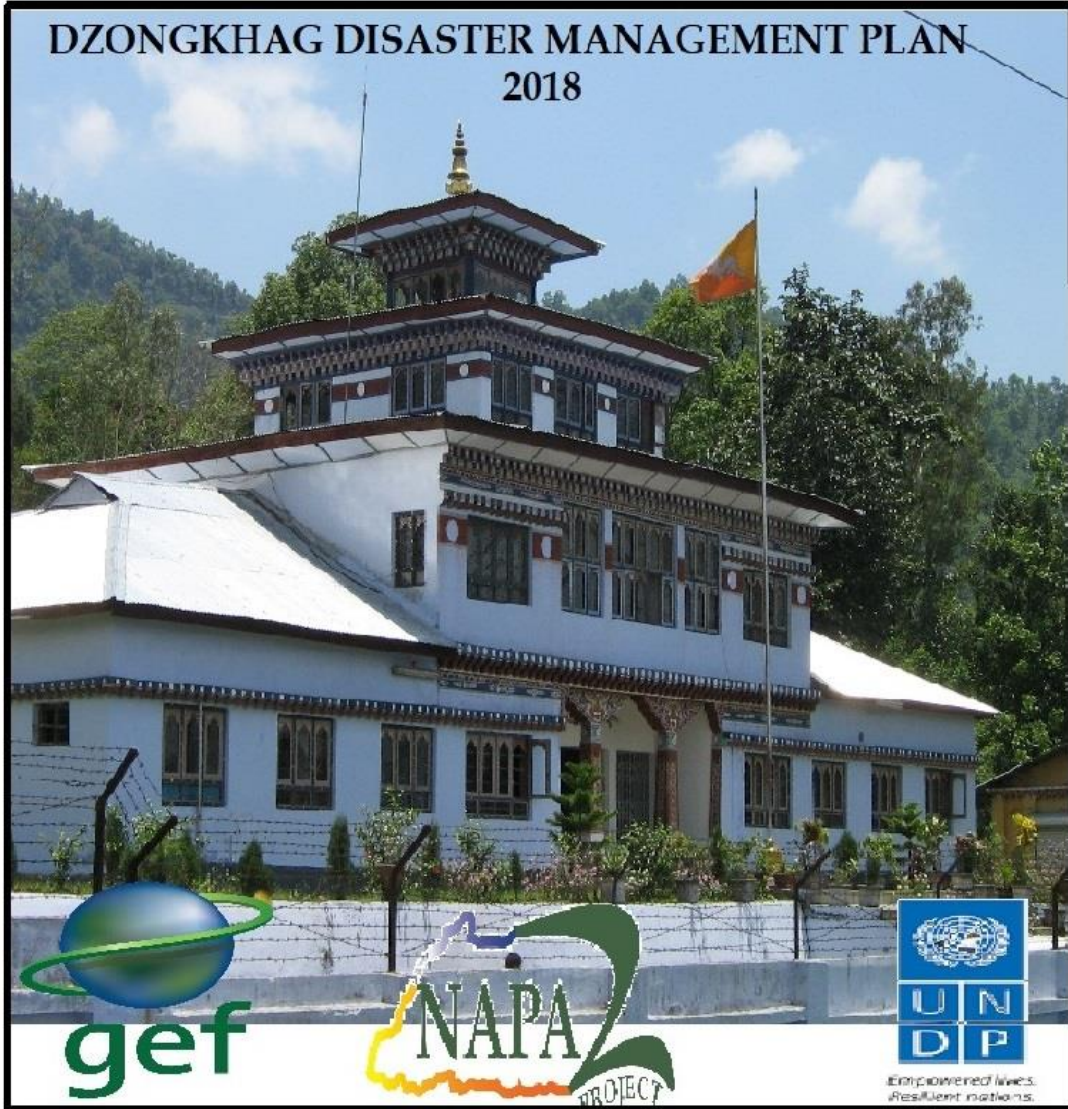




ROYAL GOVERNMENT OF BHUTAN
DZONGKHAG ADMINISTRATION
SAMTSE

DZONGKHAG DISASTER MANAGEMENT PLAN
2018



FOREWORD

The Dzongkhag Disaster Management Committee, Samtse Dzongkhag has developed Dzongkhag Disaster Management and Contingency Plan in-line with the section 77 of the Disaster Management Act of Bhutan 2013. It was prepared through the conduct of Hazard, Vulnerability and Capacity Assessment (HVCA) of the 15 Gewogs. The Dzongkhag with support from the Department of Disaster Management conducted a week long workshop with participants from different stakeholders, including the Local Government and Regional Offices who made vital contributions in drafting the plan. Data collection and analysis, mock drills and simulations on Standard Operating Procedures (SOPs) were simultaneously conducted and endorsed by the Dzongkhag Disaster Management Committee (DDMC). Thus, we believe that there are Disaster Management linkages across the sectors.

The drafting of the Disaster Management and Contingency Plan started since 2017 and came to proper shape only in January 2018. It was possible only with the facilitation and technical support from the Department of Disaster Management and financial support of the NAPA II project. Some of the most effective strategies were incorporated during the coordination meeting held in the Dzongkhag from 27-29th November, 2017. Their experiences and expertise in this particular field contributed in developing those strategies.

The Dzongkhag Disaster Management Plan has Hazard, Vulnerability and Capacity profile for the 11 Gewogs. The plan also outlines priority on Disaster Risk Reduction (DRR), awareness raising and capacity building activities. It also has standard procedures for immediate response and relief during disaster, implementation and monitoring processes. With the changing risk patterns and frequency of disaster, formation of Dzongkhag specific disaster management plan is an important strategy to strengthen the local disaster management system and systematically reduce disaster risks.

The Disaster Management Plan, which shall be revised every after five years, is to be referred by Dzongkhag Administration and sectors to ensure mainstreaming and integration of disaster risk reduction into their annual plans. All the stakeholders, relevant National Disaster Management Institutions and agencies are required to take ownership and fulfill their own roles and responsibilities to make Dzongkhag a disaster resilient and safe place.

Tashi Delek!


(Sonam Wangyel)
DZONGDAG

Acknowledgement

The Dzongkhag Administration, Samtse would like to thank NAPA 2 project for rendering financial support in developing the Dzongkhag Disaster Management Plan and Contingency plan. The Disaster Management and Contingency Plan has come into existence with the funding support from NAPA 2 project and contributions from different stakeholders.

The Dzongkhag also would like to extend our appreciation to the Department of Disaster Management, Ministry of Home and Cultural Affairs for the technical and facilitation support in conducting Community Based Disaster Risk Management (CBDRM) in 15 Gewogs of Samtse Dzongkhag and subsequently developing the Disaster Management and Contingency Plan for the Dzongkhag.

The Dzongkhag also would like to thank the members of Dzongkhag Disaster Management Committee, two Dungkhags, Regional Heads and Sector heads of Samtse Dzongkhag for rendering full support in the process of developing the Plan. Their participation in workshops and meetings were crucial for development of the Plan.

The Gewogs collected data from Chiwogs, participated in CBDRM activities, developed their own Gewog Disaster Management Plan. The participation and contribution by Gewogs and Chiwogs also played a major role in developing the Dzongkhag Disaster Management Plan. The Dzongkhag extends its gratitude towards the members of Gewog Disaster Management Committee for their contribution.

Executive Summary

According to Section 77 of the Disaster Management Act of Bhutan 2013, Dzongkhag Disaster Management Committees are mandated to develop Disaster Management and Contingency plans, in consultation with the Dzongkhag sectors and other relevant agencies. Further, Section 78 mandates the Dzongkhag Disaster Management Committee to submit the Dzongkhag's disaster management and Contingency 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 and contingency plan is an important strategy to strengthen local level disaster management systems and systematically reduce disaster risks.

The Samtse Dzongkhag Disaster Management and Contingency Plan presents hazard, vulnerability and capacity profile for the 15 Gewogs. The plan also outlines the priority disaster risk reduction, awareness raising and capacity building activities for Samtse 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 plan. It is required that every stakeholder within Samtse Dzongkhag Administration and relevant Disaster Management institutions and agencies take ownership and fulfill their own roles and responsibilities to make Samtse a disaster resilient and safe Dzongkhag.

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
SAR	Search and Rescue

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Scope& Objectives

The Disaster Management and Contingency Plan for the Dzongkhag is prepared, as mandated by Disaster Management Act 2013. The plan was endorsed by the Dzongkhag Disaster Management Committee (DDMC) on 19th July 2017 and will serve as a document for reference by all relevant stakeholders – different Dzongkhag Sectors and Gewog Administrations - for implementation of prioritized disaster risk reduction and preparedness activities through mainstreaming. The plan will address all hazards in the Dzongkhags 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 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 coordination mechanism for emergency response and relief operations.
- To ensure safety of community, reduce loss to property; protect critical infrastructure, and environment and ensure continuity of essential services.

Chapter 1: Overview of the Dzongkhag

1.1 Geography

Samtse Dzongkhag has an area of approximately 1305 sq.km, bordered by Chhukha Dzongkhag in the east, Haa Dzongkhag in the north and the Indian States of West Bengal in the South and Sikkim in West. The elevation ranges from 600-3600 meters above sea level and temperature varies from 15 to 30 degree Celsius. The Dzongkhag receives an annual rainfall of 1500-4000 mm. Samtse has two Dungkhags namely Dophuchen and Tashicholing. One of the four major rivers in Bhutan, Amochu flows in Samtse Dzongkhag. Samtse Dzongkhag has 15 gewogs.

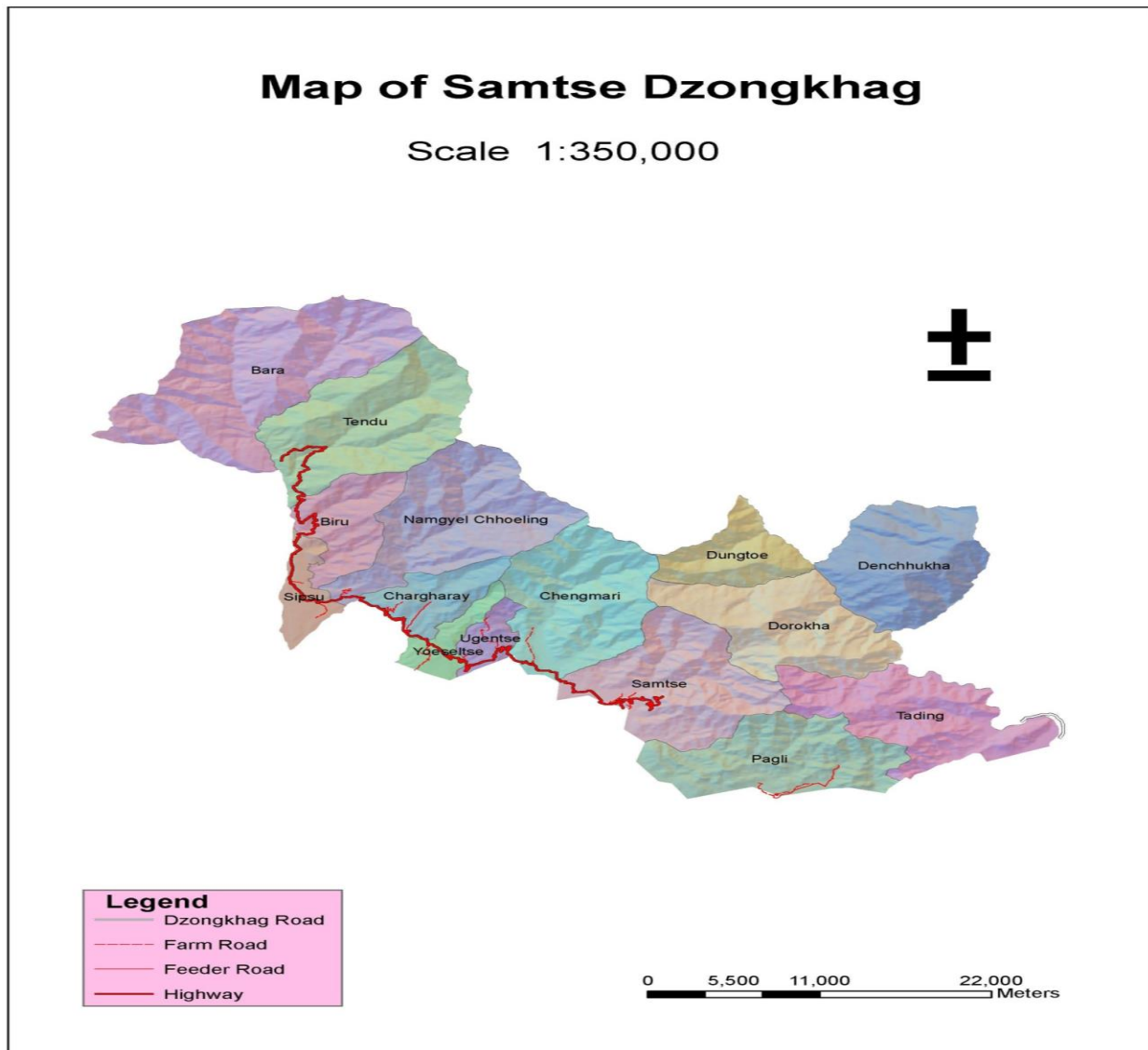


Figure 1: Dzongkhag Boundary Map (Source: NSB)

1.2 Administrative Profile

The Dzongkhag Administration, similar to the administrative setup in other Dzongkhags, is headed by the Dzongdag with various sectors representing line Ministries working under the Dzongkhag's administrative jurisdiction. The Dzongdag and the Dzongkhag Administration work in close collaboration with the elected local bodies – the Dzongkhag Tshogdu and the Gewog Tshogde.

The other institutions in the Dzongkhag are the Dzongkhag's judicial system headed by the Drangpon and the Lam Neten respectively.

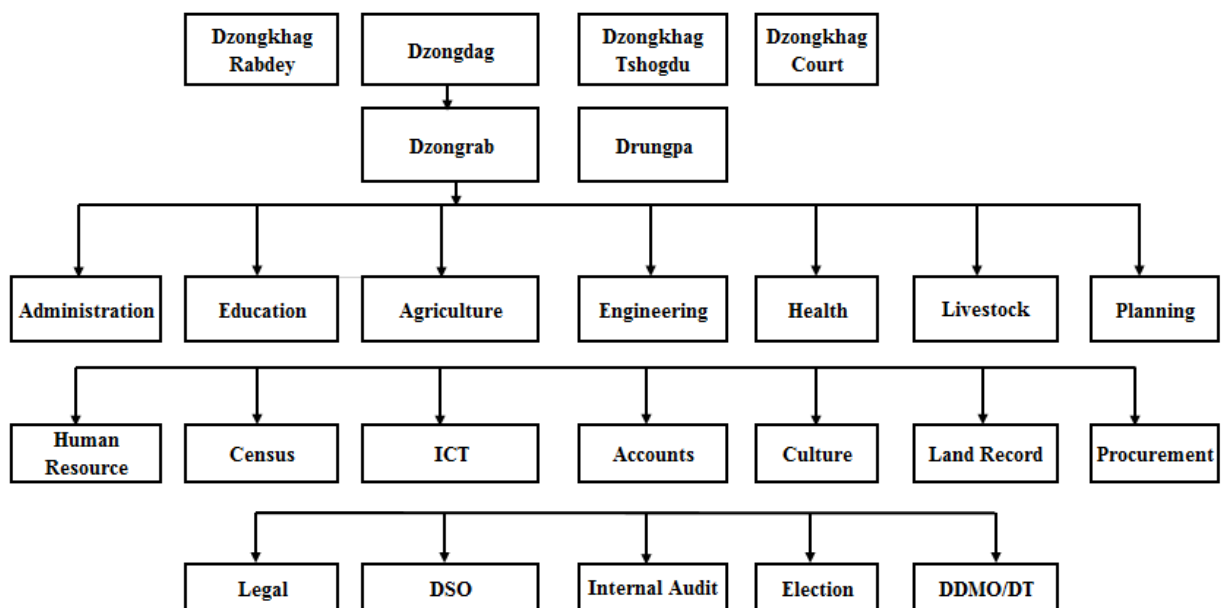


Figure 2: Organogram of Dzongkhag Administration

1.3 Demography

The total population of Samtse Dzongkhag is around 70,618 (DPP-2006-2015) with the population density of 54 per sq.km. The general literacy is 49.8% against the national average of 63%, second lowest in the country, youth literacy stands at 70.6% compared to the national average of 86.1% and adult literacy at 40.2% against the national average of 55.3%.

Table 1: Key Demographics

Gewog	Area (Sq. Km.)	No. of HH	Population		Health Facilities			Schools					
			Male	Female	Hosp	BHU	ORC	HSS/CS	MS	LS	PS	ECR/ECCD	

1	Dumtoe	48.8	341	756	677		1	3				2	1
2	Dophuchen	104.56	1173	2708	2711		2	8	1		1		
3	Denchukha	102.15	481	1176	983		1	2			1	1	
4	Namgaycholing	128.49	658	1672	1469		1	2				2	2
5	Norbugang	115.09	896	2103	1972		1	2			1	2	2
Z6	Norgaygang	187.51	847	1740	1803		1	3			1	1	2
7	Pemaling	49.04	724	1692	1570		1	3				2	2
8	Phuentsho Pelri	116.02	2040	3943	3792	1		4		1		2	
9	Tading	108.27	1120	2425	2294		1	3			1	1	3
10	Tashicholing	27.67	1149	2318	2259		1	1	1			1	
11	Tendruk	132.52	1347	3216	1942		1	3	1			2	4
12	Sangacholing	39.37	722	1579	1482		1	4			1	1	1
13	Samtse	105.48	2073	4475	4527	1		3	1		1	2	3
14	Ugyentse	21.16	342	699	691		1	2				1	1
15	Yeoseltse	22.95	624	1320	1312		1	2		1			2

BHU – Basic Health Unit; ORC – Out Reach Clinic; CS- Central School; HSS – Higher Secondary School; MSS – Middle Secondary School; LSS – Lower Secondary School; PS – Primary School; ECR – Extended Classroom. Source : PHCB Report, 2017.

1.4 Weather and Climate

The Dzongkhag has two major climatic conditions. Summer is usually very hot, humid and wet while winter months are dry and cool. Heavy rainfall occurs in the month of June-September, which leads to abundant water flow causing major flash floods in the plain area.

1.5 Economy

Samtse has an abundance of natural deposits of talc, dolomite and other resources which are exported to the neighboring districts of India. It also houses a number of industrial and manufacturing units. At present Samtse has over 13 active mines consisting of quartzite, limestone, dolomite, and few others new proposals in the pipeline.

Cardamom and oranges are the predominant cash crops, although most farmers practice subsistence farming. Out of the many gewogs of Bhutan, Norgaygang gewog has the largest cardamom growing areas, however in recent years, almost all the northern gewogs have also shown interest in growing of cardamoms. The southern gewogs are largely in cultivation of rice, the staple food in the Dzongkhag.

1.6 Education

Samtse has a total of 33 schools, 3 Higher Secondary schools, 3 middle secondary schools, 7 lower secondary schools and 20 primary schools enrolling over 15896 students with 568 teachers.

It also has a tertiary institute- the Samtse College of Education (SCE) offering teaching courses.

Chapter 2: Dzongkhag Disaster Management System

2.1 Dzongkhag Disaster Management Committee (DDMC)

Samtse Dzongkhag Disaster Management Committee (DDMC) is constituted as below as mandated by the DM Act of Bhutan, 2013:

1. Dasho Dzongdag, Chairman
2. Dasho Dzongrab, Vice Chairman
3. Drungchen, Samtse Rabdey, member
4. Superintendent of Police/Officer-in-Charge, RBP, Samtse, member
5. Dzongkhag Kidu Officer, member
6. Chairperson of Dzongkhag Tshogdu (DT), member
7. Gups of all Gewogs, member
8. Thromde Thuemi, member
9. Dzongkhag Disaster Management Officer, Member Secretary

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. The DDMC is mandated to fulfill the following functions as per the act:

In line with clause 31 of DM Act 2013, the DDMC shall:

- a) Prepare, review, update and implement the Dzongkhag Disaster Management and Contingency plan
- b) Monitor and evaluate measures taken for prevention, mitigation, preparedness, response, recovery and capacity building by each sector in the Dzongkhag
- c) Ensure establishment and functioning of the Dzongkhag Emergency Operation Center
- d) Ensure mainstreaming of disaster risk reduction into the development plan, policy, program and project
- e) Ensure compliance of the approved hazard zone and vulnerability map
- f) Ensure the enforcement of structural and non-structural measures
- g) Ensure that information about an event or a disaster is promptly communicated to the NDMA, DDM and all concerned.

- h) Ensure that the damage assessments in the field are carried out professionally and efficiently without fear or favor
- i) Coordinate and support disaster response and relief operation including recovery and reconstruction
- j) Ensure that detailed reports and regular updates on disaster event is provided to the DDM upon completion of field assessment of the situation
- k) With the support of the DDM promote education, awareness, capacity building and community training on hazard, risk, vulnerability and measures to be taken by the community to prevent, mitigate and respond to disaster
- l) Conduct regular mock drill
- m) Report on a quarterly basis to the NDMA on the progress of implementation of its DM plan
- n) Perform such other function as may be prescribed under the Act or any law in force or as directed by the NDMA/ DDM

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

1. The Chairperson of the DDMC shall exercise and discharge such functions of the DDMC as the committee may delegate
2. 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

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.

2.4 Disaster Management Subcommittee

The DDMC may, if it considers necessary, constitute a subcommittee at the Dungkha, 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.

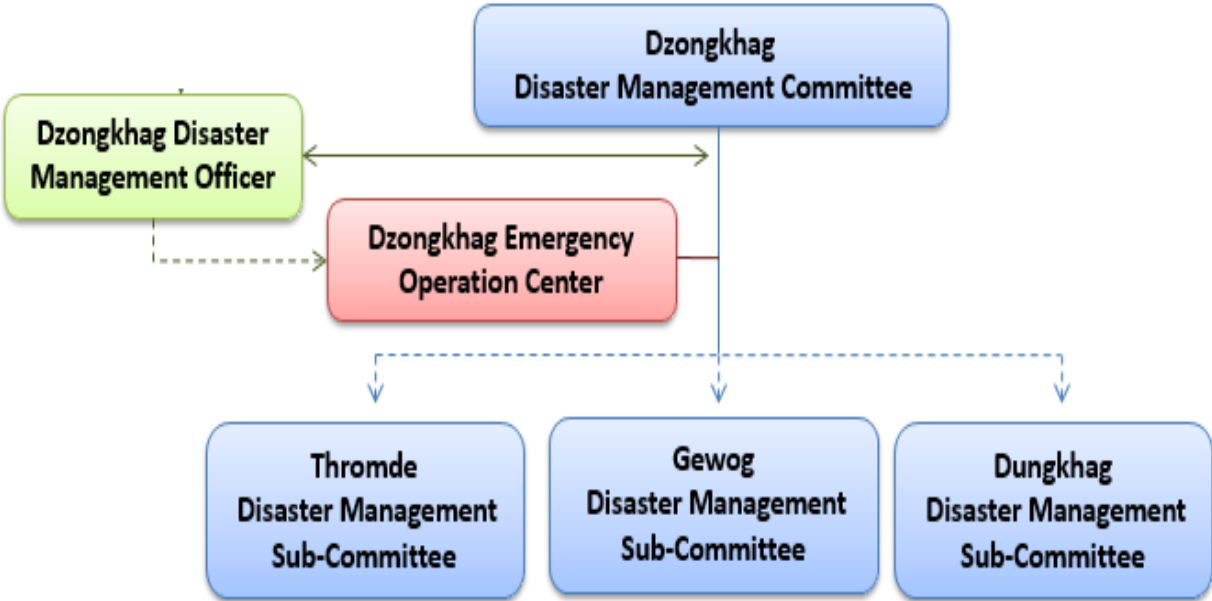


Figure 3: Dzongkhag Disaster Management System

Chapter 3: Disaster Risk Profile of Dzongkhag

3.1 Dzongkhag HVCA

Samtse Dzongkhag has experienced several disasters in the recent decades, the most devastating being the earthquake, which caused widespread, damages to rural homes and government infrastructure in the 2009, 2011 and 2015. The other major seasonal and recurrent hazards are windstorms, lightening and flood. Windstorm in 2014 and 2015 caused extensive damages to roofs of houses and government infrastructure. Lightening and floods have also caused casualty to human live and domestic animal. 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, thunderstorms and pests and diseases. The HVCA of each Gewog, as per consultations with the community, is presented below:

1. Dumtoe Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History	Major Impact
1	Windstorm	Forest fire, structural fire	2015,2016	120 HHs affected Maize field damaged
2	Earthquake	Landslide, flood, structural fire	2011, 2015	Affected major village
3	Flash flood/flood	Landslide, soil erosion	2015, 2000	2015: 1 student lost 2000: Suspension bridge washed away
4	Thunder/Lightening	Structure fire and forest fire	2013, 2016	1 casualty 1 woman injured

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Windstorm	1.Houses on the hill-tops and slope areas. 2.Crops like maize.	1.Location of houses. Roof of the houses are not fixed well. 2.land scape.	1.Roofs can be blown away. 2. Damage of Maize Field.
2	Earthquake	1.Structures like houses which is located on steep slope. 2.Human and animals. 3. Roads and water sources.	1.Location of the houses & poor structure of houses. 2. loose soil.	1.Structural losses. 2. Loss of lives. 3. Landslide along Farm Road.
3	Flash flood/flood	1.Structures like houses which is located on steep slope. 2.Human and animals. 3. Roads and water sources.	Land Scape(steep slope).	Decrease in Agriculture Production and loss of Lives.
4	Thunder/Lightening	Houses and Human	electrical wire are not fixed properly and no earthing.	1.Structural losses. 2. Loss of lives.
5	Structural Fire	Houses and Human	electrical wire are not fixed properly.	1.Structural losses.
6	Heavy Rain fall	Roads and houses, crops	Loose soil or poor stability of soil and No proper drainage along Road side and Land Scape,	Road Blocks and land slide or erosion of Agroculture land

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Windstorm	50% of the HH are concrete and technically built	House Insurance, Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee and Gewog utility vehicle and private vehicle available.	Water source,
2	Earthquake	50% of the HH are concrete and technically built, evacuation sites at school ground and Lhaxhang ground. No big building, mostly one storied houses	House Insurance, Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee and Gewog utility vehicle and private vehicle available.	Water source,timber, bamboo.
3	Flash flood/flood	concrete bridges coming up at Teen Dovan, Concrete bridge at Kuchey Khola,and Namchu Khola.	Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee and Gewog utility vehicle and	Water source,timber, bamboo.

				private vehicle available.	
4	Thunder/Lightening	most of houses are well structured and has safe roofing.	House Insurance, Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee and Gewog utility vehicle and private vehicle available.	Timber, Bamboo.
5	Structural Fire	School football ground and Meadgang Lhakhang open ground for evacuation.	House Insurance, Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee and Gewog utility vehicle and private vehicle available.	Water source, timber, bamboo shoot, fern, mushrooms
6	Heavy Rainfall	permanent structures Houses nearby roads.	Disaster relief Fund for Gewog Budget yearly.	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee, community forest and DoR.	fern, Bamboo shoot and mushroom

2. Dophuchen Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History	Major Impact
1	Flood	Landslide and Soil erosion	2000, 2008, 2016	Damaged to land and crops Damaged to farm road
2	Windstorm	Structure fire, forest fire	2014, 2015	20-30 HHs roof damaged 10 buildings of school roof damaged
3	Earthquake	Landslides, structure fire, forest Fire	2009 and 2011	40-45 HHs damaged

Vulnerability Assessment Table

Sl. No.	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Windstorm	1.Houses on the hill-tops and slope areas. 2.Crops like maize.	1.Location of houses. Roof of the houses are not fixed well. 2.land scape.	1.Roofs can be blown away. 2. Damage of Maize Field.
2	Earthquake	1.Structures like houses which is located on steep slope. 2.Human and animals. 3. Roads and water sources.	1.Location of the houses & poor structure of houses. 2. loose soil.	1.Structural losses. 2. Loss of lives. 3. Landslide along Farm Road.
3	Flash flood/flood	Agriculture Land, Human and Animals.	Land Scape(steep slope).	Decrease in Agriculture Production and loss of Lives.
4	Thunder/Lightening	Houses and Human	electrical wire are not fixed properly and no earthing.	1.Structural losses. 2. Loss of lives.
5	Structural Fire	Houses and Human	electrical wire are not fixed properly.	1.Structural losses.

6	Heavy Rain fall	Roads and houses, crops	Loose soil or poor stability of soil and No proper drainage along Road side and Land Scape,	Road Blocks and land slide or erosion of Agroculture land
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Capacity Assessment Table

Sl. No.	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Windstorm	50% of the HH are concrete and technically built	House Insurance, Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village commettee and Gewog utility vehicle and private vehicle available.	Water source,
2	Earthquake	50% of the HH are concrete and technically built, evacuation sites at school ground and Lhaxhang ground. No big building, mostly one storied houses	House Insurance, Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village commettee and Gewog utility vehicle and private vehicle available.	Water source,timber, bamboo.
3	Flash flood/flood	concrete bridges coming up at Teen Dovan, Concrete bridge at Kuchey	Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village commettee and Gewog utility vehicle and private vehicle available.	Water source,timber, bamboo.

		Khola, and Namchu Khola.			
4	Thunder/Lightening	most of houses are well structured and has safe roofing.	House Insurance, Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee and Gewog utility vehicle and private vehicle available.	Timber, Bamboo.
5	Structural Fire	School football ground and Meadgang Lhakhang open ground for evacuation.	House Insurance, Kidu, Life insurance	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee and Gewog utility vehicle and private vehicle available.	Water source, timber, bamboo shoot, fern, mushrooms
6	Heavy Rainfall	permanent structures Houses nearby roads.	Disaster relief Fund for Gewog Budget yearly.	DDMC, Gewog Administration, BHU, RNR, Schools, Village committee, community forest and DoR.	fern, Bamboo shoot and mushroom

3. Denchukha Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History of past disaster	Impact
1	Earthquake	Structure fire/forest fire/GLOF	1982/2009/2011	Damages gewog office and more than 20 households
2	Windstorm	Structure/fire/forest fire	No major destruction so far	None
3	Thunder/Lightening	Forest fire/structure fire/short circuit	2004	1 man and 4 cattle were killed

4	Hailstorm	Flash flood/breakdown of roofs/damages of crops	1977/2015	Fruit bearing trees and crops damaged
5	Incessant Rainfall	Landslide/flashflood	2000/2014	Wash away of paddy fields, Houses and roads blocked.
6	Forest fire	Structure fire	2001	Land degradation and soil erosion
7	Mechanical hazard	Bridge collapsed	2016	Claimed lives of 7 labors and transportation failure

Vulnerability Assessment Table

Sl. No.	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Windstorm	1.Houses on the hill-tops and slope areas. 2.Crops like maize.	1.Location of houses. Roof of the houses are not fixed well. 2.land scape.	1.Roofs can be blown away. 2. Damage of Maize Field.
2	Earthquake	1.Structures like houses which is located on steep slope. 2.Human and animals. 3. Roads and water sources.	1.Location of the houses & poor structure of houses. 2. loose soil.	1.Structural losses. 2. Loss of lives. 3. Landslide along Farm Road.
3	Flash flood/flood	Agriculture Land, Human and Animals.	Land Scape(steep slope).	Decrease in Agriculture Production and loss of Lives.
4	Thunder/Lightening	Houses and Human	electrical wire are not fixed properly and no earthing.	1.Structural losses. 2. Loss of lives.
5	Structural Fire	Houses and Human	electrical wire are not fixed properly.	1.Structural losses.
6	Heavy Rain fall	Roads and houses, crops	Loose soil or poor stability of soil and No proper drainage along Road side and Land Scape,	Road Blocks and land slide or erosion of Agroculture land

Capacity Assessment Table

Sl. No.	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Windstorm	50% of the HH are concrete and technically built	House Insurance, Kidu, Life insurance	DDMC, Administration, RNR, Schools, village commettee and utility vehicle available.	Gewog BHU, Village Gewog private vehicle available. Water source,

2	Earthquake	50% of the HH are concrete and technically built, evacuation sites at school ground and Lhaxhang ground. No big building, mostly one storied houses	House Insurance, Kidu, Life insurance	DDMC, Administration, RNR, Schools, commettee and utility vehicle and private vehicle available.	Gewog BHU, Village Gewog	Water source,timber, bamboo.
3	Flash flood/flood	concrete bridges coming up at Teen Dovan, Concrete bridge at Kuchey Khola,and Namchu Khola.	Kidu, Life insurance	DDMC, Administration, RNR, Schools, commettee and utility vehicle and private vehicle available.	Gewog BHU, Village Gewog	Water source,timber, bamboo.
4	Thunder/Lightening	most of houses are well structured and has safe roofing.	House Insurance, Kidu, Life insurance	DDMC, Administration, RNR, Schools, commettee and utility vehicle and private vehicle available.	Gewog BHU, Village Gewog	Timber, Bamboo.
5	Structural Fire	School football ground and Meadgang Lhaxhang open ground for evacuation.	House Insurance, Kidu, Life insurance	DDMC, Administration, RNR, Schools, commettee and utility vehicle and private vehicle available.	Gewog BHU, Village Gewog	Water source, timber, bamboo shoot, fern, mushrooms
6	Heavy Rainfall	permanent structures Houses nearby roads.	Disaster relief Fund for Gewog Budget yearly.	DDMC, Administration, RNR, Schools, commettee,community forest and DoR.	Gewog BHU, Village	fern, Bamboo shoot and mushroom

4. Namgaycholing Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History (Major Event)	Major Impact
1	Earthquake	Fire, Forest fire, landslide, flood	1930, 1940, 1954, 1978, 2011	Approximately 20 Houses were damaged
2	Flash flood	Landslide	1954, 2000, 2005, 2014	4 houses washed away 2 lives lost and 8 injured
3	Hailstorm		1985, 1989, 2007, 2013	Around 15 acres of crops were damaged
4	Thunder/Lightening	Structure fire	2013, 2014, 2015, 2016	8 cattle killed
5	Landslide	Flood	2013, 2014, 2015, 2016	1 HH is destroyed Farm road damaged

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Earthquake	Structures/Houses	Non-disaster resilient	Property loss, Live loss & Injuries
2	Thunder/Lightening	Structures/Houses, Human & Livestock	Location -Lightning prone area & lack of installation of lightning arresters	Property loss, Live loss & Injuries

3	Windstorm	Structures/Houses, Human, Livestock, Crops & Cash Crops	Location – Windstorm prone area	Structural roofing blowing off, injuries to humans & livestock, Crops damages
4	Epidemics	Humans/other livestock	Epidemics are critically contagious	Live loss
5	Flood	Structures/Houses, Livestock, land	Heavy downpours during every summer season	Property loss, Livestock loss, road blocks arable land will be washed away and crops damaged
6	Windstorm	Structure fire	2013, 2014, 2015, 2016	1 House roof damaged Electrical line damaged

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Earthquake	Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes.	Namgaycholing PS, RNR-EC, Territorial Forest Office, Farm Shop, CC, mining sites, business establishments and huge population in the Gewog ensuring good human resources and near Hospital to the Geog in case of severe injuries.	Good tropical Forest and great number of trees for any structural reconstructions
2	Thunder/Light ening	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes.	Namgaycholing PS, RNR-EC, Territorial Forest Office, Farm Shop, CC, mining sites, business establishments and	Good tropical Forest and great number of trees for any structural reconstructions

				huge population in the Gewog ensuring good human resources and near Hospital to the Geog in case of severe injuries.	
3	Windstorm	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes.	Namgaycholing PS, RNR-EC, Territorial Forest Office, Farm Shop, CC, mining sites, business establishments and huge population in the Gewog ensuring good human resources and near Hospital to the Geog in case of severe injuries.	Good tropical Forest and great number of trees for any structural reconstructions
4	Epidemics	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes.	Namgaycholing PS, RNR-EC, Territorial Forest Office, Farm Shop, CC, mining sites, business establishments and huge population in the Gewog ensuring good human resources and near Hospital to the Geog in case of severe injuries.	Good tropical Forest and great number of trees for any structural reconstructions
5	Flood	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes.	Namgaycholing PS, RNR-EC, Territorial Forest Office, Farm Shop, CC, mining sites, business establishments and huge population in	Good tropical Forest and great number of trees for any structural reconstructions

				the Gewog ensuring good human resources and near Hospital to the Geog in case of severe injuries.	
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5. Norgaygang Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History (Major Event)	Major Impact
1	Flood	Landslide, Erosion	1968 & 2015	Whole gewog affected in 1968 -roads and mule track washed away
2	Earthquake	Structure fire, landslide	2011	60+ households affected
3	Hailstorm		2016	Destroyed more than 15 acres of cardamom Destroyed CGI sheet of 70 HH

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
01	Flood	1.Land (Lingarnang, Patshaling and Dangraybug), 2. Human(30ewog30ers along Norgaygang	1. Land and roads are prone to landslides and erosion, 2. Human are	1.Livestock animals might get washed away /swept away with

		GC road) 3.Roads (Joenpang-Lingarnang Farm road, GC road, Betini Farm road, khababgang-Chingoo farm road, Khababgamg-Changzhu farm road)	exposed to the disaster	landslide. 2.Human may be at risk while travelling due to falling boulders 3. Roads will get washed away since their base isn't much stable.
02	Earthquake	1. Traditional houses 2.Lhakhang 3. Human requiring special needs. 4. School infrastructures with old designs 5. Livestock	1. Traditional houses are not technically constructed. 2. Livestocks are at risk in case there is a slide	1.collapsed/ cracked 2. Live lost/ injury
03	Hailstorm	Structure (Whole 31ewog), Human(Special need) and crop.	1.Traditional structures. 2.People with special needs won't be able to escape if the hazard occurs adhoc.	1. Roofings will be blown off. 2. Structures collapsed. 3.Live lost/injury 4. Crops will be damaged
04	Structural fire	1. Structures (two schools, one lhakhang) and villages. 2.Crops and properties all over the Gewog 3.High risk for differently able people during fire hazard	1. Use of oven, poor electrification. 2. Disabled and old age since they require special need. 3. The crops sown nearby the house and the properties inside it will get burned along with it.	1.Property loss. 2. Live lost

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
01	Flood	1. permanent structures on farm roads. 2. There are almost 822house holds	Monsoon restoration budget from Gewog/ Dzongkhag	DDMC, Gewog Administration, BHU, Community Forest, Schools, Village welfare group, DoR	Jungle edibles like fern, Bamboo shoot and mushroom
02	Earthquake	75% of the HH are single storied, concrete and technically built, evacuation sites include school ground and Gewog Centre ground, and all the identified evacuation grounds at every villages	House Insurance, Kidu, Life insurance.	DDMC, Gewog Administration, BHU, Community Forest, Schools, Village welfare group, DoR	Water source,timber, bamboo, stones
03	Hailstorm	40% of the HH are concrete and technically built	House Insurance, Kidu, Life insurance.	DDMC, Gewog Administration, BHU, Community Forest, Schools, Village welfare group, DoR	Water source,
04	Structural Fire	School football ground and Gewog Centre open ground for evacuation	House Insurance, Kidu, Life insurance.	DDMC, Gewog Administration, BHU, Community Forest, Schools, Village welfare group	Water source, timber, bamboo shoot, fern, mushrooms

6. Norbugang Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History (Major Event)	Major Impact
1	Flood	Landslide, soil erosion	July 2000	Diana bridge was damaged Caused major landslide
2	Earthquake	Structure fire	2014	52 HHs affected
3	Windstorm	Structure fire	2014	48 HHs roof damaged Norbugang School roof damaged
4	Landslide	Flood, soil erosion	July 2016	Road block at Chipchepayeverry year 20 HHs in danger due to slide
5	Thunder/Light ening	Forest fire, structure fire	Annually	Every year, many HHs electrical appliance lost 8 sheep and 5 cattle killed

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Earthquake	In general, whole Gewog will affect. Among whole Gewog, 40HHs of Baundara & Lower Kirney, 35 HHs of Shikaridara are at high risk.	Compromising on the construction materials, Poor methods of construction, not knowing dos & don'ts and most of the settlements are located at landslide areas.	Property loss, live loss, injuries
2	Wind Storm	Norbugang CS campus –II, Norbugang Dratshang, Lhakhangs & Five chiwogs of Norbugang, Tsheringang-Lambilamjosa, Dawaling-Yangphelthang, Khangduzhi-Kyidsa, Dramzegang-Medhgang & Damzhagsa-Tsaphelthang.	Expose to wind direction & near to border areas, Not using wind protective like lungo in Lotsham areas, Lack of proper anchored. Traditional way of construction & lack of awareness.	Properties, live loss, Injuries and affect to crops.
3	Floods	Structures, agricultural land, livestock, Farm roads, water sources. (Khanduzhi-Kyidsa, Dramzegang-Medhgang & Damzhagsa-Tsaphelthang chiwogs)	Most of the settlements along the rivers side, lack of landslide mitigation and one reason due to heavy rainfall in southern areas.	Loss of live, Property & forest
4	Lightening & Thunder	Structures, Schools, Human lives, Animals etc.	Lightening & Thundering prone areas, Climate change, Lack of proper wiring system and earthing.	Loss of live, Property, Human lives and domestic animals.

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Earthquake	Road accessible, mobile connection, Open space like NCS play field, football ground at Gewog office, Market shed & ECR areas	Rural house & life insurance -Royal semso Rural Saving in Commercial banks (eg. BDBL, CIC, BoB, BNBL)	Community vitality health facilities, Dessups, Norbugang PS, NCS,BHU, ORCs &Rehabilitation initiatives from His Majesty's secretariat	Wild potato, Ferns, bamboo & cane shoot, wild yams, wild fruits and caves, firewood, timber
2	Wind Storm	Road accessible, mobile connection, Open space like NCS play field, football ground at Gewog office, Market shed & ECR areas	Rural house & life insurance -Royal semso Rural Saving in Commercial banks (eg. BDBL, CIC, BoB, BNBL)	Community vitality health facilities, farmshops Dessups, Norbugang PS, NCS,BHU, ORCs &Rehabilitation initiatives from His Majesty's secretariat	Wild potato, Ferns, bamboo & cane shoot, wild yams, wild fruits and caves, firewood, timber
3	Floods	Gabion walls, drains and culverts, DOR excavator & SLMC	House and life insurance, even agricultural incentives, Properties and livestock insurance	Traditional knowledge of evacuating to higher ground	Evacuation site
4	Thunder &Lightening	Installation of lightening	House and life insurance,	Community vitality health facilities,	Evacuation site

		arrester, proper wiring & earthing.	livestock insurance, Royal semso	farmshops Dessups, Norbugang PS, NCS,BHU, ORCs , Gewog center &Rehabilitation initiatives from His Majesty's secr	
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7. Pemaling Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History	Impact
1	Earthquake	Structural fire, Landslide, Flood, Forest Fire	2009, 2011, 2014	2011: 45 HHs affected 2011: Gewog office damaged
2	Landslide	flood, soil erosion	2008, 2011	2008: One house washed away 2008: Bridge embankment damaged
3	Windstorm	Structure fire, forest fire	2015	21 HHs roof damaged 2 acres of forest damaged by strong wind
4	Forest Fire	Soil erosion, Landslide, Structural fire	2011	3 acres of forest damaged above gewog center
5	Thunder/Lightening	Structure fire	2012,	2012: 12 cows killed

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
6	Drought	Structure fire, forest fire	1997	2013: 3 people injured and 5 HHs electric wiring damaged 8 months dry caused huge damage to cash crops
1	Windstorm	Structure (whole Gewog, Human and crops.	Old and traditional structure, people with disability	Roof, structures
2	Structural fire	1. Structure 2. Crops and	Disability, use	Property loss

Vulnerability Assessment Table

		properties of all over the Gewog	of firewood,	
3	Lightning and thunderstorm	Structural and forest fire, lives and property	Poor lighting system,	Electric shot
4	Earthquake	Traditional house, special needy people	Traditional houses are technically proven to be vulnerable to earthquake, livestock	Collapsed, live lost, injury

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/institutional capacity	Environment capacity
1	Windstorm	Many of the houses are built with wind resistance.	House insurance, kidu, life insurance	Gewog, Schools, BHU	Water source
2	Structural fires	School ground, meeting hall for evacuation	Insurances , kidu	Gewog, BHU, community	Timber, bamboo
3	Earthquake	Houses are built in concrete and technically evacuations in school ground,	Insurance, kidu	Gewog, BHU	Water, timber, bamboo

4	Land slides	Open space in and around the school campus	Life and house insurance, kidu	Gewog, Dzongkhag	bamboos
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8. Phuentsho Pelri Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History	Impact
1	Forest Fire	Falling boulder	2013	0.5 acres of forest destroyed
2	Windstorm	Structural fire and forest fire, soil erosion	2014	45 HHs affected
3	Flood	Landslide, soil erosion	Every year	Road block and crop damaged
4	Thunder/Lightening	Structure fire	2016	One man killed

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Windstorm	Structure(Whole Gewog), Cash crops(Arecanut, cardamom)	-weak roofing structures, weak foundation with most of the structures built with planks	Roofs would be blown off and the main structure would be damaged due to weak foundation posing risk to

				lives and properties
2	Heavy rainfall	Land, farm roads, structures	Landslides and erosion.	Agriculture land will be damaged by erosion and slides, farm roads will be blocked, structures will be damaged by the slides
3	Thunder and lightning	Human and livestock, electrical appliances and properties	No lightning arrester installed, poor electrical wirings.	Lightning can pose serious threat to livestock and humans, structures and properties.
4	Earthquake	Structures, human and livestock, land slides, road blocks	Weak foundation and structures	Structures will be damaged and pose threat to lives.

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Windstorm	30 % of the population live in towns where the structure are concrete and resilient to wind storm	House insurance, majority of the people employed by factories and industries	4 Lhakhangs and Goenpas, one MS School, two Primary Schools, one Hospital, 4 ORCs, Gewog Office, regional offices, companies	Huge water reservoir tank (PCAL), Ferns, bamboo shoot.

2	Heavy rainfall	Construction of river bank protection walls, river dredging works by NRDCCL,	Majority of the population employed by companies, close proximity to Indian border	4 Lhakhangs and Goenpas, one MS School, two Primary Schools, one Hospital, 4 ORCs, Gewog Office, regional offices, companies	Huge water reservoir tank (PCAL), Ferns, bamboo shoot.
3	Thunder and Lightning	People installing lightning arrester, and proper electrical earthing	Majority of the population employed by companies, close proximity to Indian border	4 Lhakhangs and Goenpas, one MS School, two Primary Schools, one Hospital, 4 ORCs, Gewog Office, regional offices, companies	
4	Earthquake	Mandatory Construction approval ensuring earthquake resilient structures, concrete structures due to cement plant operating in the same community	House Insurance, Life Insurance, Semso kidu, people employed by the companies.	4 Lhakhangs and Goenpas, one MS School, two Primary Schools, one Hospital, 4 ORCs, Gewog Office, regional offices, companies	Water reservoir tank built jointly by PCAL and RGoB.

9. Tading Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History (Major Event)	Major Impact
1	Flash Flood	Landslide, soil erosion	2014	Bridge over Lorikha damaged
2	Windstorm	Structural fire, Forest fire	2014	Handicraft sales shop roof damaged
3	Forest fire	Structure fire	2016	0.70 acres of forest damaged
4	Landslide		2016	5 HHs affected 1.47 acres agricultural land destroyed

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Structural fire	1. Structures (Thongsa 105 HH Tabagang 85 HH), Dry area , slopy and no perennial water source	1. Use of oven, poor electrification. 2. Disabled and old age since they require special need.	1. Property loss. 2. Live lost

		2. Crops and properties all over the Gewog	3. The crops sown nearby the house and the properties inside it will get burned along with it.	
2	Wind storm	Structure (Whole gewog), Human (Special need) and crop.	1. Traditional structures. 2. People with special needs won't be able to escape if the hazard occurs adhoc.	1. Roofings will be blown off. 2. Structures collapsed. 3. Live lost/injury
3	Heavy rainfall	1. Land (Whole gewog), Farm roads are unstable and prone to landslide. 2. Risk to human 3. Animals	1. Land and roads are prone to landslides and erosion, 2. Human are exposed to the disaster	1. Livestock animals might get washed /swept away along with landslide. 2. Human may be at risk while travelling due to falling boulders 3. Roads will get washed away since their base isn't much stable.
4	Earthquake	1. Traditional houses 2. Human requiring special needs. 3. Livestock	1. Traditional houses are not technically constructed. 2. Livestocks are at risk in case there is a slide	1. collapsed/cracked 2. Live lost/injury

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Structural fires	School football ground and open ground for evacuation	House Insurance, Kidu, Life insurance.	DDMC, Gewog Administration, BHU, Community Forest, Schools, DoR	Water source, timber, bamboo shoot, fern, mushrooms
2	Wind Storm	Technically designed construction in the Gewog , public aware of disaster response	House Insurance, Kidu, Life insurance.	DDMC, Gewog Administration, BHU, Community Forest, Schools, DoR	Water source,
3	Heavy Rainfall	All the 1000 HH, permanent structures on farm roads.	Insurance , Kidu, House insurance	DDMC, Gewog Administration, BHU, Community Forest, Schools, DoR	Jungle edibles like fern, Bamboo shoot and mushroom
4	Earthquake	evacuation sites include school ground and open ground	House Insurance, Kidu, Life insurance.	DDMC, Gewog Administration, BHU, Community Forest, Schools, DoR	Water source,timber, bamboo.

10. Tashicholing Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History	Impact
1	Earthquake	Structural fire, Landslide, Flood, Forest Fire	2009, 2011, 2015	12 HHs affected
2	Windstorm	Structural fire and forest fire, soil	2013, 2014, 2015	8 HHs roof damaged

		erosion		
3	Flood	Landslide, soil erosion	1999, 2004	2 Bridges damaged
4	Flash flood	Landslide, soil erosion	2014	12 HHs affected
5	Forest fire	Structure fire	2016	1 acres of forest affected
6	Landslide	Flood, soil erosion	2004, 2014	2 acres of land affected
7	Hailstorm	Crop damage	2015	5 acres of crop damaged

Vulnerability Assessment Table

Sl no	Hazard	Element at Risk	Why they are at Risk	How they will be affected
1	Earthquake	1. RCC Bridge at Dangling and Bailey Bridge at Singyegang 2. Houses/building whole villages 3. Water source at Penjorling and Dangling 4. Farm road at Dangling, Kangdungphug and Gangjung	1. traditional design houses 2. The landscape of land and forest are steep slope and loose soil 3. The bailey bridges are became old	1. Landslide 2. Structural fire 3. forest fire 4. loss lives/injury 5. collapse and crack of houses
2	Windstorm	1. House at the hill top of Dangling and Gangjung 2. House at the plain open area of Singyegang, Dewachen, Zhiwaling, Penjorling, Norjangsa, Belpoteng 3. human, crops and livestock 4. Electrical pole may collapse	1. Roofing materials are traditional designed 2. people with special need wont be escape during the windstorm 3. Transmkssion line are constructed at hill top	1. Roofing will be blown off 2. structure collapse 3. Structure fire 4. loss of live/injury 5. Electric shots

3	Flood	<ol style="list-style-type: none"> 1. Lower part of Dangling and Gangjung village 2. RCC bridge at Dangling 3. Bailey bridge at Singyegang 4. Tashicholing PS 5. water source at Penjorling and Dangling 6. Farm road at Dangling and Gangjung 7. Crematorium 8. irrigation channel at Kangdungphu, Belpoteng zhiwaling 	<ol style="list-style-type: none"> 1. gewog experiences heavy downpour during summer season 2. settlement are located nearby the the river 	<ol style="list-style-type: none"> 1. Landslide 2. loss lives/injury 3. collapse and crack of bridges
4	Flash Flood	<ol style="list-style-type: none"> 1. House at the hill top of Dangling and Gangjung 2. human, crops and livestock 3. Electrical pole may collapse 4. Farm road at Dangling 5. Irrigation channel at Dangling, Kangdungphu, Belpoteng, Penjorling 6. Tashicholing PS 	<ol style="list-style-type: none"> 1. gewog experiences heavy downpour during summer season 2. settlement are located nearby the the river 3. Located at steep slope 	<ol style="list-style-type: none"> 1. Landslide and soil erosion 2. loss lives/injury 3. collapse and crack of bridges 4. blockage of irrigation channel and farm roads
5	Forest fire	<ol style="list-style-type: none"> 1. House 2. Domestic animals 3. electric/transmission lines 4. Biodiversity 	<ol style="list-style-type: none"> 1. Over growth of vegetation in the fallow land in the gewog 2. Houses are located near the forest 3. location of forest being border area miscreant does the fire intentionally 	<ol style="list-style-type: none"> 1. structure collapse 2. Structure fire 3. live will be lossed/injury 4. Electric shots
6	Landslide	<ol style="list-style-type: none"> 1. Water source of whole gewog 2. irrigation channel at Dangling and Kangdungphu 3. farm road at Dangling and Gangjung 4. Tashicholing PS 	<ol style="list-style-type: none"> 1. Natural topography of area 2. Cluster settlement 	<ol style="list-style-type: none"> 1. Landslide 2. Structural fire 3. forest fire 4. loss lives/injury 5. collapse and crack of houses

7	Hailstorm	<ol style="list-style-type: none"> 1. Crops 2. Roofing of the houses 3. Livestocks 	<ol style="list-style-type: none"> 1. the hailstorm occurs at mids of flowering and harvesting season of crops 2. poor quality of CGI sheets 3. improper shed for livestock 	<ol style="list-style-type: none"> 1. Damage flowers and fruits 2. affect the money income of the farmers 3. loss of lives/injury
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Capacity Assessment Table

sl no	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment Capacity
1	Earthquake	<ol style="list-style-type: none"> 1. Access to road connectivity 2. mobile network connectivity 3. Electricity 4. Ground at Penjorling HSS and Drungkhag for evacuation 5. Access to internet connectivity 	<ol style="list-style-type: none"> 1. Rural house and life insurance insured 2. Mobile banking facilities available in CC 	<ol style="list-style-type: none"> 1. Penjorling HSS 2. Tashicholing PS 3. Drungkhag Court 4. Drungkhag Administration 5. RNR 6. BDBL 7. BOBL 8. BNBL 9. RICBL 10. RRCO 11. Tashicholing BHU-I 12. Dratshang 13. RBP and RBA 14. Forest territorial office 15. Kidu response from the Dzongkhag 	<ol style="list-style-type: none"> 1. Community forest 2. Availability of bamboo 3. Access to rural timer 4. Majority of houses are single and two storied 5. Water source

2	Windstorm	<ol style="list-style-type: none"> 1. Access to road connectivity 2. mobile network connectivity 3. Electricity 4. Access to internet connectivity 	<ol style="list-style-type: none"> 1. Rural house and life insurance insured 2. Mobile banking facilities available in CC 	<ol style="list-style-type: none"> 1. Penjorling HSS 2. Tashicholing PS 3. Drungkhag Court Administration 4. Drungkhag RNR 5. BDBL 6. BOBL 7. BNBL 8. RICBL 9. RRCO 10. Tashicholing BHU-I 11. Dratshang 12. RBP and RBA 13. Forest territorial office 14. Kidu response from the Dzongkhag 	<ol style="list-style-type: none"> 1. Community forest 2. Availability of bamboo 3. Access to rural timer 4. Water source
3	Flood	<ol style="list-style-type: none"> 1. Access to road connectivity 2. mobile network connectivity 3. Electricity 4. Ground at Penjorling HSS and Drungkhag for evacuation 5. Access to internet connectivity 6. Constructed retaining wall along the sipso river 	<ol style="list-style-type: none"> 1. Rural house and life insurance insured 2. Mobile banking facilities available in CC 	<ol style="list-style-type: none"> 1. Penjorling HSS 2. Tashicholing PS 3. Drungkhag Court Administration 4. Drungkhag RNR 5. BDBL 6. BOBL 7. BNBL 8. RICBL 9. RRCO 10. Tashicholing BHU-I 11. Dratshang 12. RBP and RBA 13. Forest territorial office 14. Kidu response from the Dzongkhag 	<ol style="list-style-type: none"> 1. Water source

4	Flash Flood	<ol style="list-style-type: none"> 1. Access to road connectivity 2. mobile network connectivity 3. Electricity 4. Ground at Penjorling HSS and Drungkhag for evacuation 5. Access to internet connectivity 	<ol style="list-style-type: none"> 1. Rural house and life insurance insured 2. Mobile banking facilities available in CC 	<ol style="list-style-type: none"> 1. Penjorling HSS 2. Tashicholing PS 3. Drungkhag Court Administration 4. Drungkhag RNR 5. BDBL 6. BOBL 7. BNBL 8. RICBL 9. RRCO 10. Tashicholing BHU-I 11. Dratshang 12. RBP and RBA 13. Forest territorial office 14. Kidu response from the Dzongkhag 	<ol style="list-style-type: none"> 1. Community forest 2. Availability of bamboo 3. Access to rural timer 4. Majority of houses are single and two storied 5. Water source
5	Forest fire	<ol style="list-style-type: none"> 1. Access to road connectivity 2. mobile network connectivity 3. Electricity 4. Ground at Penjorling HSS and Drungkhag for evacuation 5. Access to internet connectivity 6. Available of 3 nos fire hydrant 	<ol style="list-style-type: none"> 1. Rural house and life insurance insured 2. Mobile banking facilities available in CC 	<ol style="list-style-type: none"> 1. Penjorling HSS 2. Tashicholing PS 3. Drungkhag Court Administration 4. Drungkhag RNR 5. BDBL 6. BOBL 7. BNBL 8. RICBL 9. RRCO 10. Tashicholing BHU-I 11. Dratshang 12. RBP and RBA 13. Forest territorial office 14. Kidu response from the Dzongkhag 	<ol style="list-style-type: none"> 1. Community forest 2. Water source 3. Bamboo available

6	Landslide	<ol style="list-style-type: none"> 1. Access to road connectivity 2. mobile network connectivity 3. Electricity 4. Ground at Penjorling HSS and Drungkhag for evacuation 5. Access to internet connectivity 	<ol style="list-style-type: none"> 1. Rural house and life insurance insured 2. Mobile banking facilities available in CC 	<ol style="list-style-type: none"> 1. Penjorling HSS 2. Tashicholing PS 3. Drungkhag Court Administration 4. Drungkhag RNR 5. BDBL 6. BOBL 7. BNBL 8. RICBL 9. RRCO 10. Tashicholing BHU-I 11. Dratshang 12. RBP and RBA 13. Forest territorial office 14. Kidu response from the Dzongkhag 	<ol style="list-style-type: none"> 1. Community forest 2. Availability of bamboo 3. Access to rural timer 4. Majority of houses are single and two storied 5. Water source
7	Hailstorm	<ol style="list-style-type: none"> 1. Access to road connectivity 2. mobile network connectivity 3. Electricity 4. Ground at Penjorling HSS and Drungkhag for evacuation 5. Access to internet connectivity 	<ol style="list-style-type: none"> 1. Rural house and life insurance insured 2. Mobile banking facilities available in CC 	<ol style="list-style-type: none"> 1. Penjorling HSS 2. Tashicholing PS 3. Drungkhag Court Administration 4. Drungkhag RNR 5. BDBL 6. BOBL 7. BNBL 8. RICBL 9. RRCO 10. Tashicholing BHU-I 11. Dratshang 12. RBP and RBA 13. Forest territorial office 14. Kidu response from the Dzongkhag 	<ol style="list-style-type: none"> 1. Community forest 2. Availability of bamboo 3. Access to rural timer 4. Majority of houses are single and two storied 5. Water source 6. Access to Indain market

11. Tendruk Gewog
Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History	Impact
1	Structural Fire		2015	Property loss (burnt 1 house), cash amounting 3,00,000, gold and others. Food shortage
2	Wind storm	Structure fire	2014	Blown roofing of several houses. Lack of proper shelter.
3	Heavy Rain fall	Soil erosion, falling boulders, increase volume of rivers	2014, 2015,2016,2017	Road block, unsafe drinking water, private land damages, risk for travelers.
4.	Earth quake	Land slide, structure fire	2011	11 households and Lhakhang at D.Bindu experienced damage.

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1.	Structural fire	Crops and properties	Use of free oven, poor quality of electrification, careless offering of butter lamps,	1. Property loss.

			stored crops inside the kitchen.	
2.	Wind storm	Structure (Whole gewog), and crops	Less quality of roofing.	1. Blown of roofing, 2. Damage of cardamom yield.
3.	Heavy rain fall	Lands (Miglamthang chiwog, Terkothang and Dawathang chiwog), Farm roads (Balukhop, Charcharey village)	Landed properties and roads are at prone area. Located below cliff	1. Damage of private land 2. Risk with the falling boulders while travelling. 3. Roads get washed away.
4.	Earth quake	Livestocks and traditional houses	House were not technically constructed, Located at cliff.	1. Collapsed/damage of houses. 2. Injury.

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1.	Structural Fires		House Insurance, Kidu office (Gyalpoi zimpon office)	Gewog Administration, BHU, Forest and Schools	Water source, ferns, timber
2.	Wind storm	Houses were technically built (as per engineer's	House Insurance, Kidu office (Gyalpoi	Gewog Administration, BHU, Forest and Schools	Water source

		drawing)	zimpon office)		
3.	Heavy rain fall	Permanent structures on farm roads.	House Insurance, Kidu office (Gyalpoi zimpon office)	Gewog Administration, BHU, Forest and Schools	Bamboo shoot, ferns
4.	Earth quake	Houses were technically built (as per engineer's drawing)	House Insurance, Kidu office (Gyalpoi zimpon office)	Gewog Administration, BHU, Forest and Schools	Water source

12. Sangaycholing Gewog
Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History	Impact
1	Earthquake	Structural fire, Landslide, Flood, Forest Fire	2011, 2014	24 HHs affected
2	Flood/flash flood	landslide	1999, 2014, 2015, 2016	1999: Bridge collapsed Damaged crops, roads
3	Thunder/Lightening	Heavy rain, fire	2008, 2013, 2014, 2015	House wiring damaged, meter damaged 3 man 5 cattle killed

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Earthquake	Structures/Houses	Non-disaster resilient	Property loss, Live loss & Injuries
2	Thunder/Lightening	Structures/Houses, Human & Livestock	Location - Lightning prone area & lack of installation of lightning arresters	Property loss, Live loss & Injuries
3	Windstorm	Structures/Houses, Human, Livestock, Crops & Cash Crops	Location – Windstorm prone area	Structural roofing blowing off, injuries to humans & livestock, Crops damages
	Epidemics	Humans/other livestock	Epidemics are critically contagious	Live loss
	Flood	Structures/Houses, Livestock, land	Heavy downpours during every summer season	Property loss, Livestock loss, arable land will be washed away and crops damaged

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Earthquake	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes.	SangNGagChhoeling LSS, RNR-EC, Territorial Forest Office, BPC Office Farm Shop, CC, Telecom, mining sites, business establishments and	Good tropical Forest rich in abundant NWFP and great number of trees for any structural

			Self-help groups is established in every Chiwogs	huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	reconstructions
2	Thunder/Lightening	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes. Self-help groups is established in every Chiwogs	SangNGagChhoeling LSS, RNR-EC, Territorial Forest Office, BPC Office Farm Shop, CC, Telecom, mining sites, business establishments and huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	Good tropical Forest rich in abundant NWFP and great number of trees for any structural reconstructions
3	Windstorm	Good Farm road, Mobile network,	All People and houses covered by	SangNGagChhoeling LSS, RNR-EC, Territorial Forest	Good tropical Forest rich in abundant

		Electricity & Internet accessibilities in the Gewog	rural Life insurance & housing insurance schemes. Self-help groups is established in every Chiwogs	Office, BPC Office Farm Shop, CC, Telecom, mining sites, business establishments and huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	NWFP and great number of trees for any structural reconstructions
4	Epidemics	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes. Self-help groups is established in every Chiwogs	SangNGagChhoeling LSS, RNR-EC, Territorial Forest Office, BPC Office Farm Shop, CC, Telecom, mining sites, business establishments and huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups	Good tropical Forest rich in abundant NWFP and great number of trees for any structural reconstructions

				established in all Chiwogs	
5	Flood	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes. Self-help groups is established in every Chiwogs	SangNGagChhoeling LSS, RNR-EC, Territorial Forest Office, BPC Office Farm Shop, CC, Telecom, mining sites, business establishments and huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	Good tropical Forest rich in abundant NWFP and great number of trees for any structural reconstructions

13. Samtse Gewog

Hazard Assessment Table

Hazard	Secondary Hazard	History of past disaster	Impact
Rainfall	Flood, landslides	2004 & 2016	Agriculture land and bridges damaged
Lightening	Electro wave	2014	One man death and other burnt partially
Windstorm	Cause damage to house roof & crops	2014	74 house roof blown out and major damage to maize crop

Earthquake	Houses damaged	2011	Several semi-structure damaged
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Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Flood(Majathang, Dourpani & Sukreti villages)	Residence and agriculture land	Constant flood during summer along the Buduney river and Sukreti river	Wash away by the fresh flood or covered by flood
2	Landslides (Bukay A and Tamangdara)	Residence & agriculture land	Due to unstable geographical area, major landslide occur during raining season	Landslides had already occurred and reached nearby their villages. If mitigation is not done soon, it will affect whole villages

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Flood	Awareness on flood incidence had conducted	There is no economic capacity in and around slide area	Gewog Administration and Dzongkhag Administration are located within their premises	Though mitigation work is on placed but it is not safe for them
2	Landslides	Though residence were given		Evacuation place already identified	Small mitigation work done

		awareness but they are not equipped with any other resources			but it will not protect if huge landslide occur.
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14. Ugyentse Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History (Major Event)	Major Impact
1	Earthquake	Landslide, Forest fire, Structural fire	2009/2011/2015	Minor damages
2	Windstorm	Structural fire, Forest fire	2015	10 HHs roof damaged RNR Office and staff quarter affected Milk processing Unit affected
4	Flood	Landslide, soil erosion		Kado bridge collapsed
5	Structure fire	Forest fire	2015	1HH damaged (Tashiding) causality 1 couple
6	Landslide	Formation of artificial lake	2015	Affected Kado & Nimalung
7	Mechanical		Nov. 2016	Bridge collapsed at Chumpathang due heavy load

Vulnerability Assessment Table

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
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1	Earthquake	Houses, Domestic animals, Roads, Government Structure and bridges	Non-resilient Traditional buildings	Earthquake shocks
2	Windstorm	Houses and Crops	-Located in windy area, non-resilient house roofs -Electricity lines are all through thick forest and cliffs	-Blow away roofs of houses and crops -Falling trees could disrupt electricity lines
3	Flood	Farm Road and bridges	heavy rainfall	loss of property and lives
4	Structure Fire	All houses are built of wood and stone	Burn	Houses in all Villages
5	Land slide	Houses, people, domestic animals, crops damage, water source, road blocks at Gewog	Loose soil and heavy rainfall	Loss of properties like houses, infrastructures, loss of human & animals live, drinking water shortage, transportation & communication disruption
6	Mechanical	Bailey bridge	Old	Cut off from Dzongkhag HQ.

Capacity Assessment Table

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Earthquake	Access to road, mobile network, electricity, Internet connection, at Gewog level, Mobile network and Electricity for other	Every HH are covered under rural housing insurance.	Ugyentse BHU, 2 ORC at Kado and Nimalung RNR and Gewog center and School at Ugyentse for immediate response	Have access to timber for building temporary sheds/rebuild. All houses are not more than 2

		villages, Ugyentse school ground, 2 ORC at Kado and Nimalung and GT Hall for evacuation.		Instituted a system of issuing clearance from Dzongkhag to ensure building earth quake resilience house. Have full support from Gyalpoi Kidu Office.	storied.
2	Windstorm	Access to road, mobile network, electricity, Internet connection, at Gewog level, Mobile network and Electricity for other village Ugyentse school ground, ORC for evacuation. Some houses with CGI roofing have wind tie in place.	Every HH are covered under rural housing insurance.	Ugyentse BHU, 2 ORC at Kado and Nimalung RNR and Gewog center and School at Ugyentse for immediate response	Some HH have planted trees around their houses to protect from strong wind. Have access to timber for building temporary sheds/rebuild.
3	Flood	Safe ground for evacuation at higher grounds. People are advocated.	Rural house and life insurance, HM's semso	Dzongkhag DMC. And Gewog Administration. Supports from RBA, RBP, desuups, chiwog Tshogpas. Close ties amongst the community.	
4	Structure Fire	Access to road, mobile network, electricity, Internet connection, at Gewog level, Mobile network and Electricity for other villages, Ugyentse school ground, ORC for evacuation.	Every HH are covered under rural housing insurance.	Ugyentse BHU, 2 ORC at Kado and Nimalung RNR and Gewog center and School at Ugyentse for immediate response	Have access to timber for building temporary sheds/rebuild. Scattered settlement pattern.
5	Land slide	Have good forest	Every HH are	Ugyentse BHU, 2	

		cover. Have school ground at Ugyentse which is safe from landslide.	covered under rural housing insurance if houses are affected.	ORC at Kado and Nimalung RNR and Gewog center and School at Ugyentse for immediate response	
6	Mechanical	Alternative route from India.	DoR is supportive.	Department of Roads.	

15. Yoeseltse Gewog

Hazard Assessment Table

Sl.No.	Hazard	Secondary Hazard	History (Major Event)	Major Impact
1	Earthquake	Landslide, Forest fire, Structural fire	2009, 2011	2011: 55 HHs affected
2	Thunder/Lightening	Landslide, Disease	2009, 2011, 2914	1 person killed and livestock lost
3	Windstorm	Structural fire, Forest fire	2012	12 household affected
4	Epidemics		2012	Bird flu outbreak
5	Flood	Landslide, soil erosion	2015	Damaged one household

Vulnerability Assessment

S/N	Hazard	Element at risk	Why they are at risk	How will they be affected
1	Earthquake	Structures/Houses	Non-disaster	Property loss, Live

			resilient	loss & Injuries
2	Thunder/Lightening	Structures/Houses, Human & Livestock	Location - Lightning prone area & lack of installation of lightning arresters	Property loss, Live loss & Injuries
3	Windstorm	Structures/Houses, Human, Livestock, Crops & Cash Crops	Location - Windstorm prone area	Structural roofing blowing off, injuries to humans & livestock, Crops damages
	Epidemics	Humans/other livestock	Epidemics are critically contagious	Live loss
	Flood	Structures/Houses, Livestock, land	Heavy downpours during every summer season	Property loss, Livestock loss, arable land will be washed away and crops damaged

Capacity Assessment

S/N	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Earthquake	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes. Self-help	Yoeseltse MSS, RNR-EC, Territorial Forest Office, BPC Office Farm Shop, CC, FMCL, many business establishments and huge population in the Gewog ensuring	Good tropical Forest rich in abundant NWFP and great number of trees for any structural reconstructions

			groups is established in every Chiwogs	good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	
2	Thunder/Lightening	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes. Self-help groups is established in every Chiwogs	Yoeseltse MSS, RNR-EC, Territorial Forest Office, BPC Office Farm Shop, CC, FMCL, many business establishments and huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	Good tropical Forest rich in abundant NWFP and great number of trees for any structural reconstructions
3	Windstorm	Good Farm road, Mobile network, Electricity & Internet accessibilities	All People and houses covered by rural Life insurance & housing	Yoeseltse MSS, RNR-EC, Territorial Forest Office, BPC Office Farm Shop, CC, FMCL, many business	Good tropical Forest rich in abundant NWFP and great number of trees for any

		in the Gewog	insurance schemes. Self-help groups is established in every Chiwogs	establishments and huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	structural reconstructions
4	Epidemics	Good Farm road, Mobile network, Electricity & Internet accessibilities in the Gewog	All People and houses covered by rural Life insurance & housing insurance schemes. Self-help groups is established in every Chiwogs	Yoeseltse MSS, RNR-EC, Territorial Forest Office, BPC Office Farm Shop, CC, FMCL, many business establishments and huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	Good tropical Forest rich in abundant NWFP and great number of trees for any structural reconstructions
5	Flood	Good Farm road, Mobile network,	All People and houses covered by	Yoeseltse MSS, RNR-EC, Territorial Forest Office, BPC	Good tropical Forest rich in abundant

		Electricity & Internet accessibilities in the Gewog	rural Life insurance & housing insurance schemes. Self-help groups is established in every Chiwogs	Office Farm Shop, CC, FMCL, many business establishments and huge population in the Gewog ensuring good human resources and BHU will render first aid services in case of injuries. And the Gewog Disaster Committee is established to respond to any kind of disasters besides self-help groups established in all Chiwogs	NWFP and great number of trees for any structural reconstructions
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Table: Hazard ranking by Gewogs

Sl No	Gewogs	Earth-quake	Wind-storm	Forest Fire	Pest & Diseases	Structural Fire	Flood	Hail - storm	Thunder/Lightning	Landslide
1	Dumtoe	8	10	3	6	4	5	9	6	7
2	Dophuchen	8	9	4	8	6	7	7	6	8
3	Denchukha	8	7	1	2	3	4	5	6	10
4	Namgaycholing	7	7	4	6	5	9	7	8	10
5	Norbugang	10	8	2	3	4	5	4	8	7
6	Norgaygang	7	6	3	3	5	5	6	4	7
7	Pemaling	7	8	1	3	3	0	6	9	3
8	Phuentsho Pelri	5	9	1	6	4	9	3	7	8
9	Tading	7	10	3	5	1	9	4	6	8
10	Tashicholing	7	6	3	4	2	6	5	9	3
11	Tendruk	6	3	3	2	4	1	5	2	8
12	Sangacholing	7	8	2	4	3	6	9	10	5
13	Samtse	9	10	8	5	5	10	8	8	8
14	Yeoseltse	6	8	0	5	2	5	5	10	2
15	Ugyentse	10	8	2	9	4	3	5	6	7
	Total	112	117	40	71	55	84	88	105	101
	Overall Rank	2	1	9	7	8	6	5	3	4

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

As per the Gewog hazard assessment findings – Windstorm is regarded as the most hazardous, followed by Earthquake, Thunder/Lightening Landslide, hailstorm & flood. The other perceived hazards were human-wild life conflict and flash flood.

Most hazards are seasonal and expected at the particular time of the year. Fire and windstorm occurs during the dry season from November-April. Similarly, floods arise mainly during the rainy season in the months of June - September. Therefore, **fire awareness and flood safety notifications and advisories should be made accordingly.**

People must ensure extra precautions during busy agricultural activity periods and during the festivals, people will be engaged and may not be able to respond to a disaster/ emergency immediately. Table 17 below shows the seasonal activities of 15 Gewogs under Samtse Dzongkhag. The Dzongkhag and relevant agencies to plan for awareness/training activities in the community may also use the seasonal calendar. Although agricultural activities happens throughout the year, the busiest months is reflected as P & H in the table.

Table: Seasonal Calendar of 15 Gewogs

Months and Activities													
SIN	Gewogs	J	Fe	Mar	Apr	Ma	Ju	Jul	Au	Se	O	No	De
o		a	b			y	n		g	p	ct	v	c
		n											
1	Dumtoe	F	F	W/S/ T	W/S/ T	M/ S/T	M	M	M	M/ H	H	H	F
2	Dophuchen	F	F	W/T/ S	W/T	T	M	M	M	M/ H	H	F/ H	F
3	Denchukha	F	F	T/W/ S	T/W/ S	M/ T/ W/ S	M/ P	M/ P	M	M/ F	F		F
4	Namgaycholing	F	F	M/T/ W/S	M/T/ W/S	M/ T/ W/ S	M/ T/S /P	M/ T/S /P	P		H/ F	H/ F	F/ H
5	Norbugang	W /F	W/ F	W/F	M/W /T	M/ T	M/ T	M	M	M	H/ F	H	H/ F
6	Norgaygang	F	F	W	S	M/ S/ W	M/ P	M/ P	M	M	H/ F	H/ F	
7	Pemaling	F	S/F	M/W /S	T/M/ W/S	T/ M/ W	T/ M	T/ M	M	H/ M	H/ F	H/ F	H/ F

8	Phuentsho Pelri	F	F	F/P/ W	P/M/ W	P/ M/ W	M/ P/ W	M/ P/ W	H/ M/ W	H/ M/ W	H/ P	F/ P	F
9	Tading	W /F	W			M	M	M	M/ H	M/ H		F	F
10	Tashicholing	W /F	W/ F	W	W/S/ T	S/T	M/ T	M	M		H/ F	H	H/ W/ F
11	Tendruk	F	F	W	S/W	M/ S/ W	M/ P	M/ P	M	M	H/ F	H/ F	F
12	Sangacholing	W /F	W/ F		M	M/ T/P	M/ W/ T/P	M/ W/ T	M/ T		F		
13	Samtse	H /F	P/F	P/W	P/W	P/ M/ W	M	M				F	F
14	Yeoseltse			S	S/T	M/ T	M/ T/P	M/ T/P	M			H	H
15	Ugyentse	W /F	W/ F	W	W/T	M/ T	M/ T	M	M		H	H	F/ T
S= Hail Storm, P=Plantation/Sowing, F= Festival, M=Monsoon, W: Windstorm, H=Harvesting. T: Thunder/Lightening													

Vulnerability Assessment

Vulnerability assessment for the Samtse Dzongkhag is carried out based on the underlying vulnerabilities identified during the HVCA process as following based on the hazard priority.

Hazards	Element at risk	Physical/Material	Social/Attitudinal
Windstorm	People (old age and disable), domestic animals, houses, Crops	Wind-prone location Lack of safe construction practices. Lack of resources to construct strong houses. Lack of adequate skills of good construction	Strong traditional construction believe Financial problem Unaware of the hazard Lack of monitoring by the relevant agencies in rural construction

		Use of inappropriate roofing materials and roofing techniques	Lack of awareness and knowledge on how to mitigate windstorm risks
Earthquake	Old structures and disable people, critical infrastructure	Lack of earthquake resistant features in structures Poor construction practice Stock of old rural homes	Financial problem Unaware of the hazard Unskilled labor Traditional believe
Landslide	People, domestic animals, houses, Crops, and Agriculture land	Lack of capacities & lack of awareness. Poor drainage system	Every seasonal damage Unaware of the hazard
Structure fire	People, domestic animals,	Poor/ unsafe electrification in homes unsafe use of butter lamps; placement of cooking utensils; in correct use of electrical appliances	Poverty effect Unaware of the hazard Traditional believe Dependence on external support
Thunder/Lightening	Human, domestic animals	No lightening arrester Poor earthing facilities	Lack of individual responsibility Dependence on external support
Flood	Human, domestic animals, crops, land, critical infrastructure	Location of settlements in low-lying and flood prone areas near river banks Absence of storm water drainage system, unplanned development Rampant mining activities along the river in dry season	Lack of awareness and education on flood risks, safety and mitigation measures Lack of/ or inability to access weather forecasts in case of extreme weather conditions and early warning information/advisory for flood

Capacity Assessment

Various kinds of capacities existing in each Gewog corresponding to different hazards have been outlined below. Physical capacities are 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 strengths inherent in the community in terms of community cooperation or knowledge that would be useful during disasters.

Hazard	Physical Capacity	Economic Capacity	Social/ Institutional Capacity
Fire	Schools, Play Ground, Fishery ponds, Farm roads	Insurance, Semso, DDM	Kidu Hospital, RBP, Goenpa, Factories and Industries, Dessups, Scouts
Flood/ Flash Floods	Bridge, wall, Industrial area, River Bank Protection Wall.	Insurance, Semso, Industries,	Kidu DDM, Hospital, RBP, Goenpa, Factories and Industries, Dessups, Scouts
Wind Storm	Schools, Industrial area, Farm roads,	Insurance, Semso,DDM, RHIS, MoAF	Kidu Hospital, RBP, Goenpa, Factories and Industries, Dessups, Scouts
Lightening	lightning arrester installed in some houses	Insurance, Semso, DDM.	Kidu Hospital, Gewog Administration, RICBL, Dessups
Wild Elephant Interception	School, RNR-EC, Electric Fencing, Indo-Bhutan Border Wall, Farm roads	Insurance, Semso, MoAF	Kidu DDM, Hospital, Gewog Administration, RICBL, Dessups
Earthquake	Mitigation being taken care	Insurance policy is being implemented and disaster relief fund allocated through GDG	Disaster relief team formed at community level

Overall, in all the Gewogs there are certain capacities and some level of awareness on prevailing hazards and some knowledge on the measures to take to reduce risk before and during disasters. Following are summary of capacity needs in Dzongkhag:

1) Risk Reduction and Mitigation

There is 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 events. 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 need to strengthen the construction quality monitoring system to ensure constructions adhere to standards and building codes.

Windstorm is also a priority hazard for Samtse and there is need to build capacities in the Dzongkhag to raise awareness in the community on ways of land management and carrying out mitigation in structures such as roads, schools, lhakhangs, etc. that suffer from recurrent landslide damage.

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

2) Preparedness

For preparedness there is need to ensure early warning capacities for heavy rainfall, thunderstorms, avalanches, hailstorms, and other such extreme weather conditions and have systems in place to provide the early warning/ advisory to the affected communities in time. Capacities also need to be built in terms of raising community awareness on risks and family preparedness. Similarly preparedness capacities need to be developed 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 level. There is also 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).

Chapter 4: Disaster Management Action Plan (2018 – 2022)

This chapter details the action plan for Samtse to raise awareness, reduce risk, and enhance preparedness and resilience for five years starting from 2018 to 2022 for the hazards which were prioritized.

Priority Area	Key Activities	Target	Lead Agency/Person	Supporting agencies	Timeline	Budget estimate (Nu. in M)
DDMC Meetings as per the DM Act of Bhutan 2013	Conduct DDMC meetings bi-annually as per the DM act of Bhutan 2013 (to review the DM and Contingency plan, assess implementation of the activities and dissemination of plan) (Gewogs to propose their own budget to hold GDMC as per need)	DDMC	DDMO	DDMC	to be clubbed with DT Meetings	0.50
Awareness and Education	1.1 Organize awareness programs to educate on Dos & Don'ts for top priority hazards – Windstorm, earthquake, Landslide and lightning/ thunder	Communities of all the 15 Gewogs	DDMC	Gewog Administration DDM RBP	2017	0.300 0.500

1.2 Conduct hands on training to incorporate traditional and modern roofing patterns in Dumtoe, Dophuchen, Tading and Phuntsho Perlri Gewogs	Carpenters and other locals	DDMO& Gewog Administration	DDMC DDM Gewog Adm. Relevant sectors	2017	0.060
1.3 Encourage owners of under construction houses and proposals to construct new homes to incorporate DRR features (Earthquake resilient features)	Both rural and urban communities	DE, Gups, DDMO	DDM Gewog Adm. DDMC	2017–2018	0.0
1.4 Educate people on importance of incorporating DRR features in farm road, irrigation canal, RWSS construction	Communities and contractors (mega and community)	DDMO, Gewog and sectors, DE	DDMC, DDM, MoWHS	Annually	0.300
1.5 Raise awareness on family preparedness	All Gewogs Communities	DDMO/GAOs	DDM, Gewog Adm.	2017-2018	0.200
1.6 Conduct awareness programs on insurance benefits and encourage families to insure their property against various hazards	All Gewogs Communities	DDMO/GAOs	Insurance companies, DDM, Gewog Adm.	2017 – 2018	0.200

Enhance risk reduction and mitigation	2.1 Conduct hands on training on Bio-engineering methods in Denchukha, Namgaycholing, Phuntsho pelri and other selected Gewogs prone to landslide	Engineers, carpenters, Masons and house owners	DDMO/ DE	DDM, DES, MoWHS	2017 - 2018	0.75
	2.2 Carry out vulnerability assessment of old/ existing government buildings – schools, health facilities, cultural buildings, office buildings	All Gewog centers, offices and schools	DDMO/DE	DDM, DES, MoWHS, MoE, Gewog Adm. Dratshang	2017 - 2020	2.00
	2.3 Carry our non- structural hazard hunts and implement all the non-structural hazard mitigation measures	All Gewog centers, RNR, BHU and Dzongkhag Administration	DE/ DDMO	DDM, DES, MoWHS, MoE, Gewog Adm. Dratshang	2019 onwards	Based on assessment
	2.4 Organize mass plantation drive in all the landslide prone Gewogs	Environment, Agriculture Sector	DEO, DAO, DDMO	NEC, MoAF, DDM Other relevant	2017 – 2018	0.200

				sectors		
2.5 Instruct anchorage of roofs and other mitigation for Windstorm Prone Gewogs	Gewogs, Respective Sectors	Gewogs/ Sector heads/ DDMO	DDM, MoF, concerned sectors	2017 - 2020	Based on identified priority mitigation activity	
2.6 Retrofitting, bring down and assess of old and damaged structures in the Dzongkhag	Gewogs, communities	DDMO/DE	DDM, DES	2017–2018	0.100	
2.7 Training of Engineers, Sector heads and GAOs on Rapid Damage Assessment Formats	Engineers, Sector heads and GAOs	DE/DDMO	DES, MoWHS, DDM, DDMC	2017	0.500	
2.9 Organize Hands on training on use of fire-fighting equipment	DDMC/Lhakhang care takers/Business Community and Communities	DDMO	RBP DDM Dratshang Relevant sectors	2017-2018	0.500	
2.10 Issue orders for compliance of fire preparedness measures to all the BODs and other vulnerable sectors	BOD and relevant sectors	Dzongkhag and Gewog	DDMC RBP	2016-2017		

3. Enhance preparedness, response and recovery levels	3.1 Establish and equip Dzongkhag Emergency Operation Center	Dzongkhag	DDMO	DDMC, DDM NDMA, Relevant sectors	2018	0.300 (for furnishing only)
	3.2 Raise awareness, review and update and check the functionality of the DM and Contingency Plan	Dzongkhag, Gewog, Dratshang, RBP, RBA, Judiciary, Regional Offices, De-Suups, Communities	Dzongkhag and Gewogs	DDM	2016-2017	0.500
	3.3 Stockpile materials required for emergency response and immediate recovery at strategic location and all the Gewogs	Dzongkhag and Gewogs	DDMC	DDM, MoF, relevant sectors	2017-2018	0.900
	3.4 Establish and institute pre-arrangements for emergency procurement and requirements	Dzongkhag	Procurement Officer DDMO/ Finance Officer	DDMC, DDM, MoF	2017-2018	0.200
	3.5 Form Gewog SAR team and Conduct Refresher course for the Dzongkhag SAR Team	Dzongkhag SAR team, RBP	DDMO	DDM, RBP	2017	0.500

Chapter 5: Dzongkhag Contingency Plan

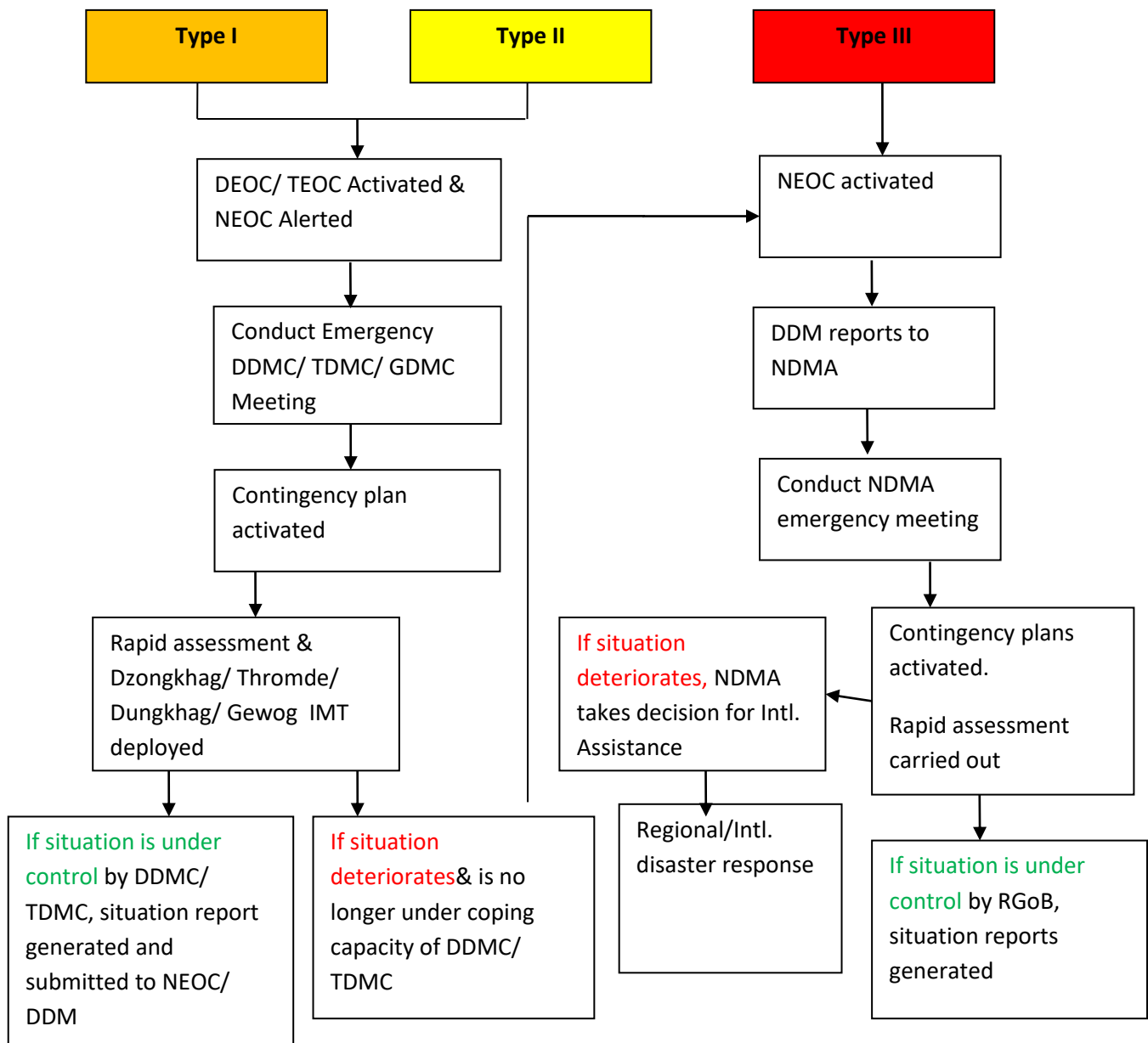
As per the Contingency Planning Guidelines for Bhutan 2014, a contingency plan “aims to prepare an organization to respond well to an emergency and its potential humanitarian impact. The Developing a contingency plan involves making decisions in advance about the management of human and financial resources, 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.

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

5.1 General disaster decision making and information reporting chart

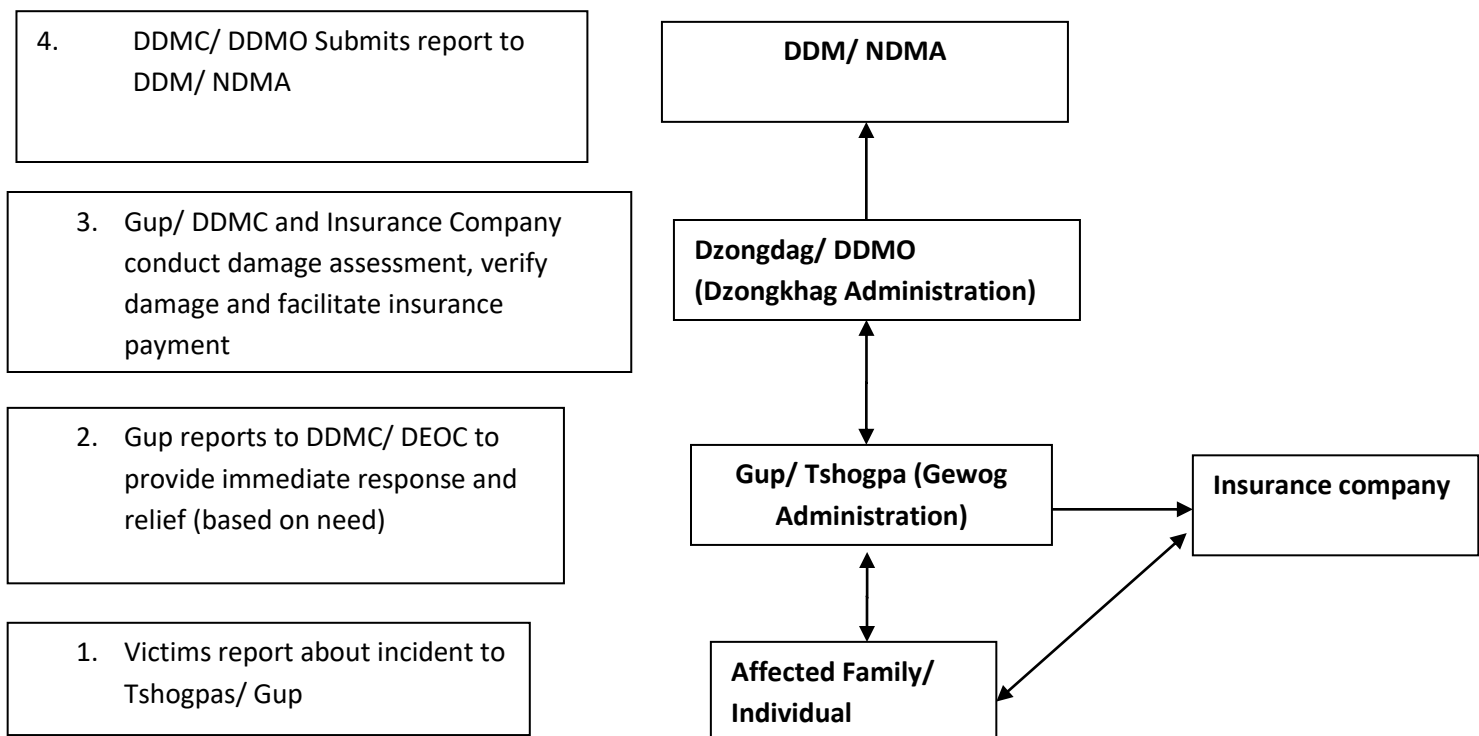


5.2 Standard Operating Procedure for Isolated local incidents

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



5.3 Standard Operating Procedure for 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:

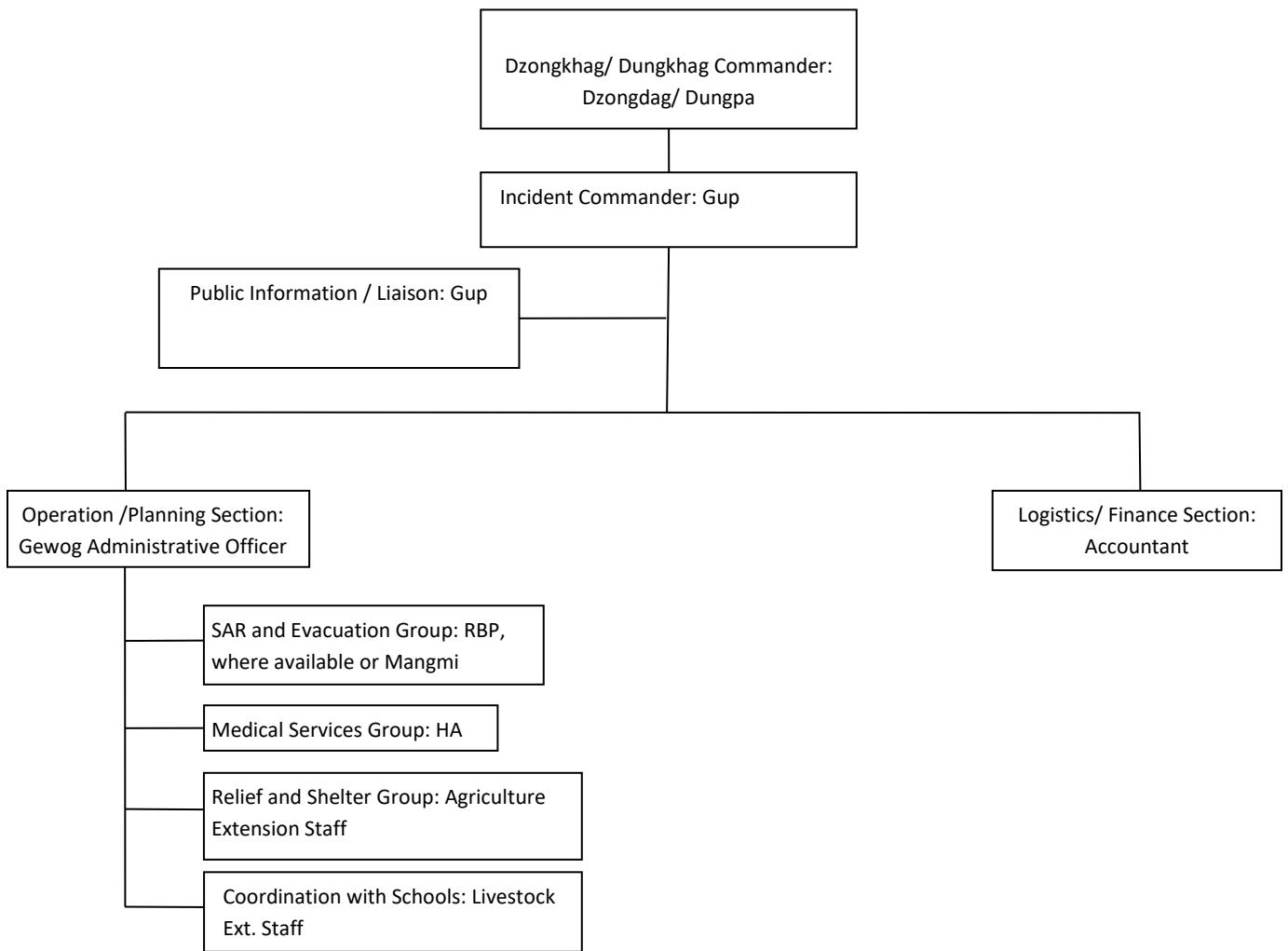
1. In case of Type I

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 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 shall immediately submit “First Information Report” (FIR) to the Dungkhag DM Sub-Committee/ DDMC/ Dzongkhag Disaster Management Officer (DDMO).
 - b. Gewog Incident Management Team 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 Incident Management Team shall conduct rapid needs assessment as per Bhutan Disaster Assessment (BDA) tool within 72 hours.
 - e. Gewog shall conduct detailed damage assessment along with insurance companies for relief and early recovery and submit report to DDMC.
 - f. Gewog shall provide relief and early recovery support as per damage assessment using available funds at Gewog level and submit expenditure report and bills to DDMC for further submission to DDM, for reimbursement.
 - g. In case the incident is beyond the coping capacity of the Gewog, request for up-gradation of disaster from Type I to Type II shall be submitted to DDMC.

Gewog Incident Management Team

The Gewog Incident Management Team will be led by Gup and monitored by Dzongdag/ Dungpa. Due to the lack of sufficient officers at the Gewog 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 Gewog then the IMT from the Dungkhag / Dzongkhag will assume command with the support of the IMT at the Gewog.



ICS organization at Gewog level

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.

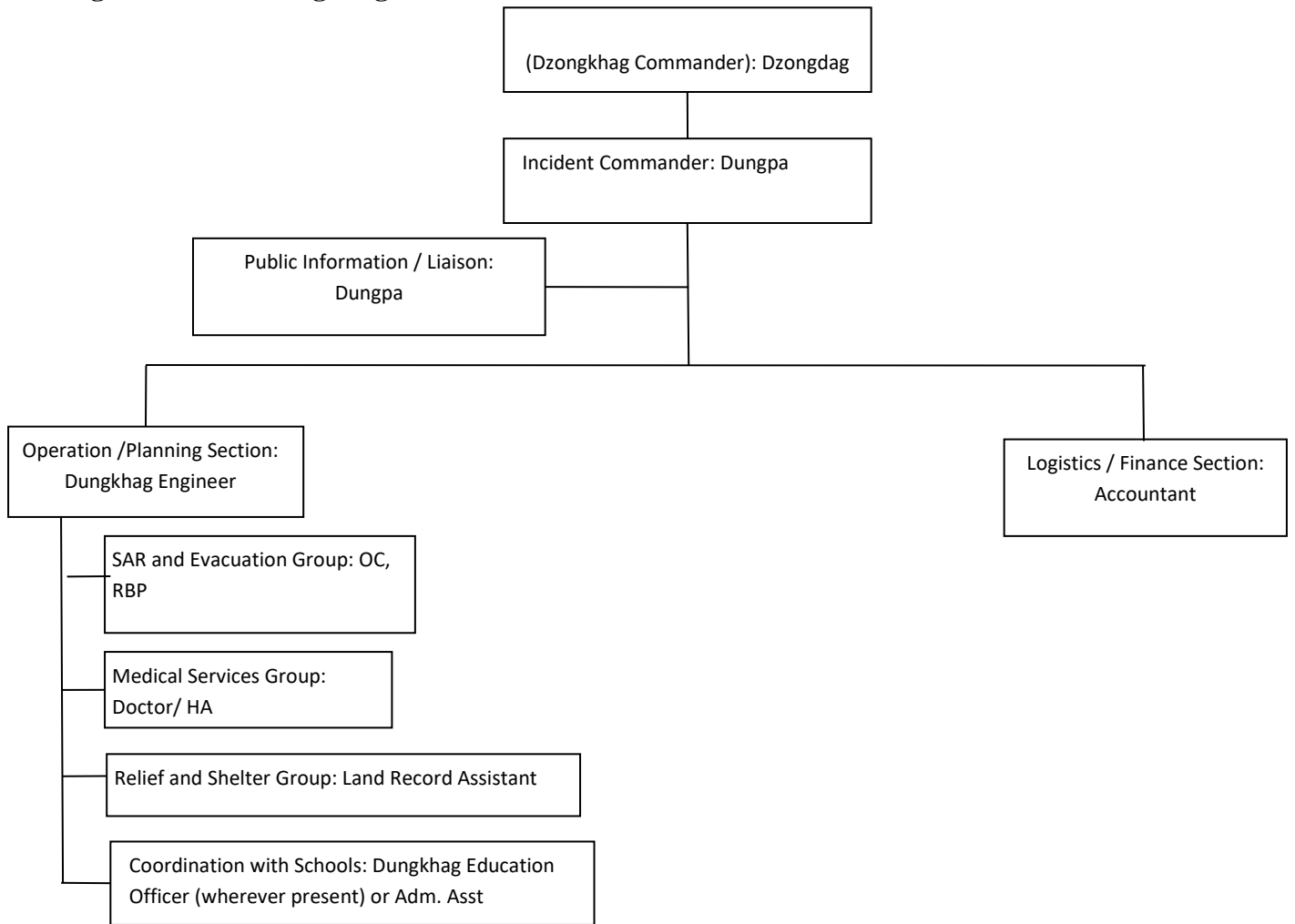
- a. In case of receiving early warning of an impending disaster situation, the DDMC Chairperson shall immediately activate the Dzongkhag Emergency Operation Centre and relay the early warning to all the Dungkhag/ Gewog/Thromde offices along with orders for evacuation, deployment of Search and Rescue 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.
 - b. Dzongkhag/ Dungkhag Incident Management Team 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. Dzongkhag/ Dungkhag Incident Management Team shall direct evacuation of disaster-affected communities to safe areas and temporary shelters.
 - e. Dzongkhag/ Dungkhag IMT shall conduct rapid needs assessment as per Bhutan Disaster Assessment (BDA) tool within 72 hours.
 - f. Dzongkhag/ Dungkhag shall conduct detailed damage assessment along with insurance companies for relief and early recovery and submit report to DDMC.
 - g. 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.
 - h. 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.

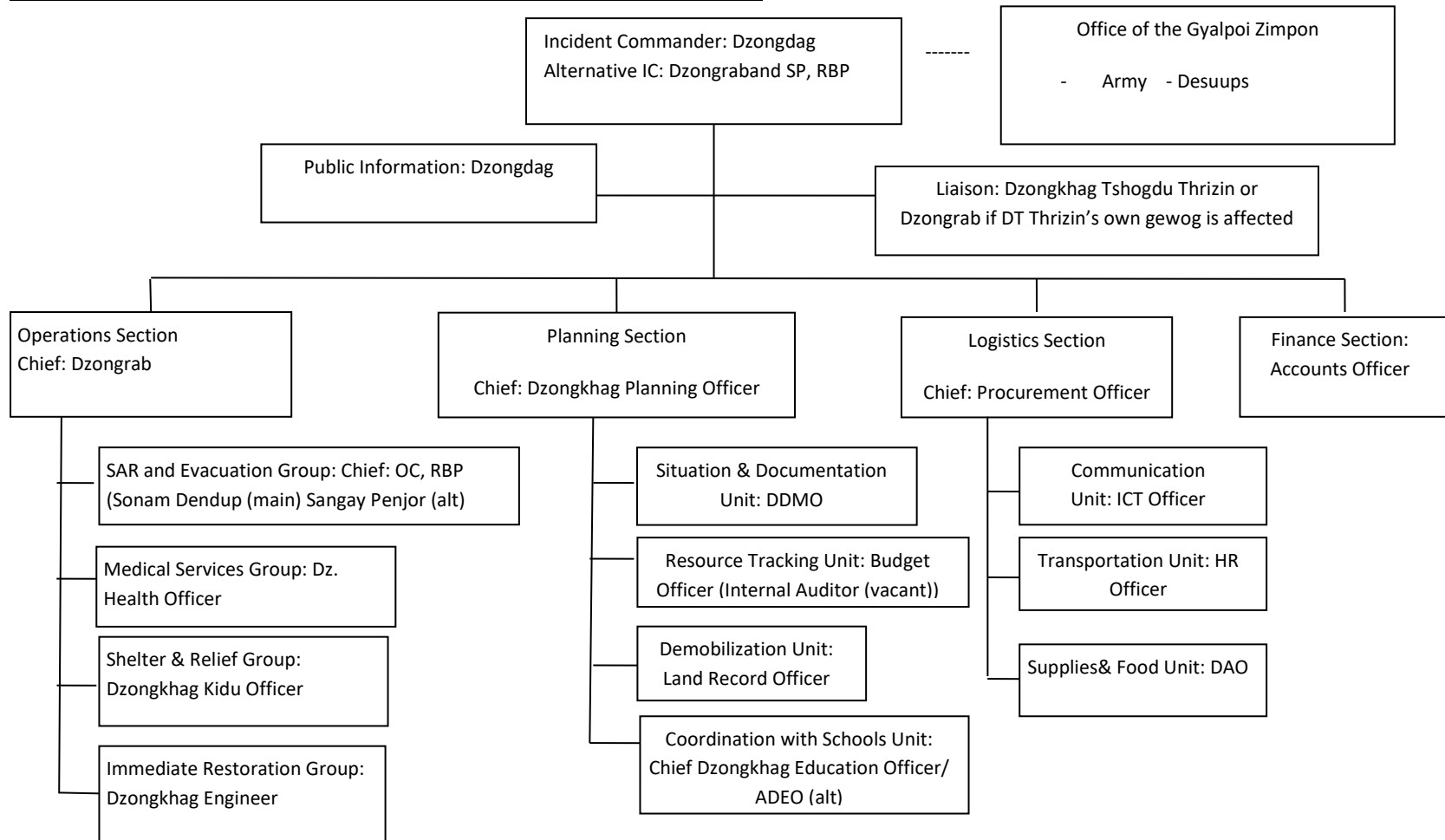
Dungkhag Incident Management Team

The Dungkhag Incident Management Team will be led by Dungpa and monitored by Dzongdag. 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.

ICS organization at Dungkha level



Dzongkhag Incident Management Team at the Dzongkhag level



Transportation Unit leader to liaise with RSTA Base In-charge

Note: The support of Desuups/ Dratshang/ NGOs/ CSOs/ Corporations/ Regional Offices/ Private businesses and communities will be coordinated through the NDRCC and IMT at the national and dzongkhag level. As per 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.

3. In case of Type III

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

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/ the National Disaster Response Coordination Committee.

5.4 Standard Operating Procedure (SOP) developed for response to flood:

Based on mock drill and simulations conducted at Dzongkhag level in December 2017, the following Standard Operation Procedure (SOP) was developed for response to flood.

1. Convene emergency Dzongkhag Disaster Management Committee meeting in the Conference Hall
2. Activate Dzongkhag Emergency Operation Centre (which room) and Incident Command System
3. Liaise with DDM (Focal point in DDM: Yang Dorji: 17650223/ 327319) and NCHM for further weather/ rainfall information
4. Develop an Initial Incident Action Plan (IAP) by the Planning Section Team in consultation with the IC and other section heads
5. Respond as per the IAP
6. Activate information, communication and reporting channels
7. Inform Gup of nearby gewogs on the early warning message/ impending threat
8. Gup to relay information to the community through the Tshogpas to stay away from the low lying areas or move to higher grounds
9. Inform the Thromde Thuemi to inform town residents
10. Relay information to Dzongkhag SAR Team, EMTs and RBP to be ready to move
11. Deploy the Dzonkhag SAR team, EMT and RBP to the affected areas if required
12. Inform Military Intelligence to inform the border areas of the risk, if required
13. Relay information to school to keep headcount of children and keep them in school till further notification or to close down the schools if there is high risk.
14. Inform RSTA to restrict movement of vehicles if required (Focal person in RSTA: Ugyen, RTO 17623574)
15. Liaise BPC to cut the power supply (Focal person in BPC: Kipchu, Sr. Manager- No)
16. Contact excavators and JCB owners and identify vehicles for transportation (List as Annexure) if required
17. Submit periodic reports and request for assistance to the NEOC (forms to be kept ready)

5.5 Roles and Responsibilities of the various positions under the IMT

INCIDENT COMMANDER

The individual responsible for all incident activities, including the development of strategies and tactics and the ordering and the release of resources. The IC has overall authority and responsibility for conducting incident/disaster operations and is responsible for the management of all incident/disaster operations at the incident site.

Public Information Officer: responsible for interfacing with the public and media or with other agencies with incident-related information requirements.

Liaison Officer: responsible for coordinating with representatives from cooperating and assisting agencies.

Operations Section: responsible for all tactical operations at the incident such as search and rescue, medical, infrastructure, and shelter/relief.

Groups under the Operations Desk

- **SAR and Evacuation Group:** will be responsible for conducting the SAR and providing evacuation at the site of the incident. Also responsible for monitoring and assessing safety hazards or unsafe situations, and for developing measures for ensuring personnel safety.
- **Medical Services Group:** will provide medical assistance to the victims.
- **Shelter & Relief Group:** responsible for providing shelter and relief to the affected families
- **Immediate Restoration of Essential Public Services Group:** responsible for immediate restoration of essential public services

Planning Section: responsible for the collection, evaluation, and dissemination of information related to the incident, and for the preparation and documentation of Incident Action Plans. The Section also maintains information on the current and forecasted situation, and on the status of resources assigned to the incident.

Units within Planning Section

- **Situation and Documentation Unit:** Responsible for the collection, organization, and analysis of incident status information, and for analysis of the situation as it progresses. Responsible for collecting, recording, and safeguarding all documents relevant to the incident.
- **Resources Unit:** Responsible for maintaining the status of all assigned resources (primary and support) at an incident.
- **Demobilization Unit:** responsible for assuring orderly, safe, and efficient demobilization of incident resources.
- **Coordination with Schools Unit:** responsible for coordination with schools.

Logistics Section: Responsible for providing facilities, services, and materials for the incident.

Units within Logistics Section

- **Communications Unit:** responsible for providing communication services at an incident.
- **Transportation Unit:** responsible for the fuelling, maintaining, and repairing of vehicles, and the transportation of personnel and supplies.
- **Supplies and Food Unit:**
 - Responsible for ordering equipment and supplies required for incident operations.
 - Responsible for providing meals for incident personnel and for providing food/supplies for the Relief and Shelter Unit (for victims).

Finance Section

- Responsible for all incident costs and financial considerations.
- Responsible for tracking costs, analyzing cost data, making cost estimates, and recommending cost-saving measures.
- Responsible for financial concerns resulting from property damage, injuries, or fatalities at the incident.
- Responsible for fiscal matters involving hiring, purchasing goods and services, and establishing local sources for obtaining equipment and supplies.

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

Mode of Communication during disaster/ threatening disaster situation:

First line of communication: VHF handsets

Alternative modes of communication: Mobile phones

Social media (wechat and Telegram groups for Dzongkhag, Dungkha and Gewogs)

BBS and radio for giving information to communities

Sat phone: not activated (to be used for emergencies when other modes of communication fail)

Dzongkhag Emergency Operation Centre Establishment and Management

The DEOC is to be established as per Section 105 of the Disaster Management Act of Bhutan. The DEOC will perform the following functions for coordination and management of disasters:

1. receive disaster alerts and warnings from responsible agencies and other sources and communicate the same to all relevant agencies
2. forward reports to relevant agencies
3. monitor response and relief operations
4. facilitate coordination
5. requisition resources during disaster
6. other functions as may be necessary

Location of the DEOC:

- temporary: Dzongkhag Conference Hall
- permanent: to be proposed in the new dzong construction in the 12th FYP

Staffing during normal times

1. Officer in charge: DDMO
2. To be manned by two full time technicians as per Section 62 of the Rules and Regulations

During threatening/ disaster situations

1. Dzongdag to head the DEOC
2. Other sector experts to staff the DEOC
3. DDMC to meet in the DEOC to make critical decision

Disaster Lessons Learnt:

DDMO will coordinate and facilitate lessons learnt after every disaster and based on the lessons learnt update the DM and Contingency Plan. The format as per Annexure I will be used for conducting lessons learnt exercise. In case of a major disaster the lessons learnt will be submitted to DDM/ NEOC

Chapter 6: Implementation Mechanism

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

Dzongkhag administration will be responsible for ensuring that the activities are incorporated into their annual and five year plans and for implementation of the prioritized plan activities.

The Dzongkhag Disaster Management Officer/ Gewog Administrative Officer will facilitate incorporation of priority disaster risk reduction, preparedness, awareness and capacity building activities in annual and five year development plans of the Dzongkhag/ Gewog and facilitate implementation of the prioritized activities.

As member secretary to the DDMC, the DDMO will keep record, maintain data, and assist the chairman of the DDMC in monitoring the 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, on the implementation of the DM and Contingency Plan as required.

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.

6.1. Financial Provisions as per the Disaster Management Act of Bhutan 2013

As per the Disaster Management Act 2013, there are four different types of financial arrangement such as *Response and Relief Expenditure*, *Budget for National Disaster Management Activities*, *Budget for Department of Disaster Management* and *Recovery and Reconstructionbudget*.

However, there are three main categories of the disaster management activities in the Dzongkhag for which budget allocation is required;

- i) Preparedness
- ii) Response and Relief Expenditure

iii) Recovery and Reconstruction

1. Preparedness

The Disaster Management Act 2013(DM Act 2013) mandates Gewog, Thromde, Dzongkhag, Agency and Private Sector notified to ensure mainstreaming of Disaster Risk reduction into its development plan, policy, programme and project. Thus, any expenditure on disaster preparatory works, like mitigation, prevention, preparedness and so on should be proposed by the concerned Agency/Sector following the normal planning and budgetary procedures. For instance, any construction in the country should incorporate disaster resilient features.

2. Response and Relief Expenditure

The Chairperson of DDMC shall, upon declaration of disaster, have the authority to use annual budget of the concerned Dzongkhag, to provide immediate response and relief support to the affected people and communities. Response and Relief shall include the following:

- a) Providing food, shelter and other essential relief items for the affected people and *Responders (if need be)* as per the minimum standards set by the Department of Disaster Management (DDM).

“Procurement of items/ goods/ services for the purpose of relief and response, not reflected in the annual quotation of the Dzongkhag/Sectors, may be exempt from standard procurement procedures specified in the Procurement Rules and Regulations, where exigencies of the disaster situation demands, as per section 89 of the DM Act 2013”. However, the dzongkhags may have an understanding with FCB located within the dzongkhag to procure immediate relief items for payment later.

- b) Payment of Compensation to person or private entities, whose property is used, lost or damaged during relief, response and recovery operation in accordance with Chapter 11 of the DM Act 2013.

After the expenditures are met from the annual budget, *the agencies shall* submit detailed accounts of expenditure with copies of documentary evidences, at the earliest, to the National Disaster Management Authority (NDMA) through the DDM for budget sanction by the Department of National Budget (DNB), MoF. The DNB, MoF shall, upon receipt of reimbursement letter from NDMA, reimburse the actual amount of expenditure to the agency concerned at the earliest possible (*within 3 weeks*).

In case the annual budget of the agencies is not enough to meet the expenses for response and relief operation, the Chairperson of DDMC may make written requests to the Chairperson of the NDMA for additional funds from DNB, MoF.

The Operation Coordinator or Chairperson of DDMC shall ensure that a detailed inventory of goods/items and services procured for response and relief operation.

3. Recovery and Reconstruction

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 shall be submitted to DDM who shall review and forward to NDMA for further submission to MoF. The NDMA shall make recommendation to the Government (MoF) for release of fund to the sectors concerned. However, for any major recovery and reconstruction works, the concerned Dzongkhag or agency shall plan that such works are considered for the budget allocation during the preparation of the annual budget.

In the event of major disaster, where the restoration expenditures are huge and depending on the availability of resources, the government may have to reprioritize the plan

Annexures:

Annexure 1:Disaster Lessons learnt Template

Sl No.	Questions	Response	Remarks
1.	What was the Disaster/ incident?	Eg. Flood/ Earthquake/ Landslide etc	
2.	What was the impact of the disaster/ incident?		
3.	<p>What was the response to the disaster/ incident:</p> <p>a) Initial response</p> <p>b) Coordination</p> <p>c) Reporting</p> <p>d) Response taken by the Dzongkhag/ Drungkhag/ Thromde/ Gewog IMT?</p> <p>e) Did you get feedback from the affected communities?</p> <p>f) How did you involve the corporate/ private sector and volunteer services?</p>		
4.	Were you able to convene the DDMC meeting? What was the process and outcome?		
5.	EOC coordination and reporting		

6.	Lessons learnt from the disaster/ incident?		
7.	Actions required to implement lessons learnt with timeline and responsible official.		

Note: Dzongkhags to conduct lessons learnt for all incidents and improve their response. Lessons learnt report of disasters of higher magnitude to be submitted to DDM.

Annexure 2: List of DDMC members with contact details;

Name	Phone - (Office)	Phone - (Residence)
1.Sonam Wangyel, Dzongdag, Chairman;	00975-05-365308	00975-17777656
2.Phuntshok Wangdi, Dzongrab	00975-05-365305	00975-17114588
1. Dasho Gupda, Royal Bhutan Army, Samtse	-	00975-17708528
2. DT Chairman;	-	00975-17163811
3. All Gups;	-	Refer Annex '9'
4. All Thrompons /Thromde Thuemi.	-	00975-17263248
5. The Superintendent of Police, Royal Bhutan Police;	00975-05-365216	00975-17952088

6. The Drungchen of the Samtse Dratshang;	00975-05-365239	00975-17641846
7. Regional Commissioner, Revenue and Custom office	00975-05-365207	00975-17113342
8. RD, Department of Immigration	0097-05-365828	00975-17650769
9. Manager, Bhutan Power Corporation,	T-0097-05-365447 F-365583	00975-17617494
10. Manager, Bhutan Telecom Ltd.	00975-05-365100	00975-17113024
11. Chief Forest Officer, Dept. of Forest,	00975-05-365359/365253	00975-17998794
12. Project Engineer DOR [project]	00975-05-365413	00975-17635532
13. Asst. Engineer DOR [maintenance]	00975-05-365413	00975-17374124
14. Dzongkhag Kidu Officer	0975-05-365366	00975-17374124
15. The Dzongkhag Disaster Management Officer		00975-17671549
16. Dessup leader/Ugyentse GAO	-	00975-77191418
17. Dzongkhag Education Officer		00975-17620232
18. Planning Officer		00975-17680595
19. Accounts Officer	00975-05-365377	00975-17715356
20. Dzongkhag Agriculture Officer	00975-05-365613	00975-17623673

21. Dzongkhag Livestock Officer	00975-05-365252	00975-17660349
22. Dzongkhag Health Officer	00975-05-365314	00975-17627282
23. Dzongkhag Statistical Officer	00975-05-365335	00975-17307670
24. Dzongkhag Procurement Officer	00975-05-365765	00975-17503062
25. ICT Officer	00975-05-365601	00975-17696097
26. Dzongkhag Land record Officer	00975-05-365617	00975-17607383/77607383
27. Dzongkhag Human Resource Officer	00975-05-365737	00975-17161771
28. Dzongkhag Engineer	00975-05-365750/365614	00975-17841735

Annexure 3: Dzongkhag SAR Team

SEARCH AND RESCUE (SAR) MEMBER LIST SAMTSE DZONGKHAG			
SL NO	Name & number of Participants	Designation/ Office	Contact Number
1	Sangay Penjor	Major, RBP	17952088/ 77281514
2	Sonam Dendup	Liut., RBP	17682745
3	Pema Namgay	Drimpon, RBP	17894020
4	Tshering	Pelpon, RBP	17704086
5	Kinley	Pelpon, RBP	17448815
6	Pema Jampel	Pelpon, RBP	77359211
7	Phuntsho Dargye	Pelpon, RBP	17637368
8	Tshering Phuntsho	Peljab, RBP	17770725
9	Pema Thinley	Peljab, RBP	17774849

10	Sonam Tobgay	Chuma, RBP	17414941
11	Pema Thinley	Chuma, RBP	17367710 77272075
12	Pasang Dorji	Chuma, RBP	77659114
13	Nim Penjor	Chuma, RBP	17314027
14	Karma Jamtsho	Chuma, RBP	17823529
15	Tshering Penjor	Chuma, RBP	17583826
16	Wangchuk Dorji	Chuma, RBP	17602844
17	Sonam Phuntsho	Kidu Officer	17374124
18	Sonam Dendup	RRCO	17989292
19	Pemba Tshering	Samtse HSS	17642127
20	Ngawang Namgyal	ICT Associate	1796097
21	Chhime Dorji	Teacher	17800047
22	Tshewang Gyeltshen	Samtse HSS	17821997
23	Deo Raj Ghalley	RRCO	17658159

Annexure 4: SAR Team of Tashichhoeling Drungkhag

SEARCH AND RESCUE (SAR) MEMBER LIST TASHICHOELING DRUNGKHAG			
SL NO	Name & number of Participants	Designation/ Office	Contact Number
1	Bhim Kumar Subba	Drungkhag	17952968
2	Kezang Jigme	GAO, Tashichholing Gewog	17713575
3	Sonam Dorji	GAO, Pemaling Gewog	17113211
4	Tobgay	GAO, Tendu Gewog	17113580
5	Kinley Tshering	GAO, Namgaycholing Gewog	
6	Yeshey Rangdol	GAO, Norgaygang Gewog	17955527
7	Tandin Dorji	Ranger, Tashicholing forest range	17605334
8	Thinley	Census Asst. Drungkhag	
9	Tshewang Jamtsho	RBP	77396563
10	Wangchuk Dorji	RBP	17602844

11	Dorlry Dorji	RBP	17850433
12	Sonam Tobgay	RBP	17553669
13	Nim Dorji	RBP	17314037
14	Pema Thinley	RBP	17774849
15	Sonam Tobgay	RBP	17971614

Annexure 5: SAR Team of Dorokha Drungkhag

SEARCH AND RESCUE (SAR) MEMBER LIST DOROKHA DRUNGKHAG			
SL NO	Name & number of Participants	Designation/ Office	Contact Number
1	Wang Tshering	Adm. Asst (Dorokha)	77743064
2	Pema Wangdi	OC/RBP	17792636
3	Yeshey Nidup	Dy. CDEO	17670916
4	Lekdhen Tshering	HA	17161658
5	Sonam Tobgay	Teacher(Dorokha CS)	17655739
6	Penjor	JE/ Drungkhag	17892542
7	Thinley Pelgay	JE/ Drungkhag	17602326
8	Tashi Wangdi Doya	Cook/BHU	17555734
9	Thinley Penjor	RBP	17693993
10	Thinley Chedup	RBP	17855714
11	Pempo Tshering	RBP	17879629
12	Tempa Chedup	RBP	17385665
13	Tenzin Wangdi	RBP	17443230
14	Ugyen Namgay	RBP	77279542
15	Nopchey Doya	RBP	77475617
16	Leki Tshering	Revenue Officer (Dorokha)	17701827
17	Tika Ram Biswa	Store/ Drungkhag	17160803
18	Chandra Bir Rai	Drungkhag	17951329
19	Yadup Prasad Phuyel	Gewog Caretaker	17696062
20	Sarbajeet Darjee	Volunteer	17952848

Annexure 6: Equipment available at Samtse Dzongkhag to setup Emergency Operation Centre

Sl.No	Equipment/Furnitures	Specification	Remarks
1.	Desk top	Dell	3 sets
2.	Revolving Chair	Blue	3 Nos.
3.	Computer/Desktop table	Wooden	3 Nos.
4.	White Board	Big	1 No.
5.	Photocopy machine	Canon Image runner(Cannon 2002 N)	1 No.
6.	Printer	HP Laserjet (HP laserjet P3015 dn)	1 No.
7.	Emerson Network Power System	AC power system	1 No.
8.	Satellite Phone	For Dasho Dzongdag	1 No.

Annexure 7: Contact details of Des-sups

Sl.No	Name	DID NO	Address	Contact No
1	Dasho Sonam Wangyel		Dzongkhag Administration, Samtse	17777656
2	Kinley Wangdi	DS(09)13-981	GAO,Ugyentse	77191418
3	Sonam Phuntsho	DS(15)15-1657	Kidu Officer, Samtse Dzongkhag	17374124
4	Ngawang Dorji	DS(19)16-2155	Envt. Officer, Samtse Dzongkhag	17698864
5	Tashi Tobgay	DS(19)16-2252	HRO, Samtse Dzongkhag	17161771
6	Karma Yangzom	DS(09)13-1022	HRO, Samtse Dzongkhag	16918122
7	Dorji Chogyel		Adm Asst, Samtse Dzongkhag	17408524
8	Choden		Election, Samtse Dzongkhag	
9	Tshering Wangchuk	DS(21)16-2432	Engg. Samtse Dzongkhag	17647854
10	Dechen Wangmo	DS(10)14-1161	Lecturer, Samtse College of Education	17506710
11	Chechey	DS(03)12-242	Lecturer, Samtse College of Education	17349659

12	Sonam Gyeltshen	DS(03)12-290	Lecturer, Samtse College of Education	77249172
13	Tshewang Gyeltshen	DS(14)15-1563	Teacher, Samtse HSS	17821997
14	Pemba Tshering	DS(03)12-295	Teacher, Samtse HSS	17642127
15	Tshering	DS(23)17-2748	Teacher, Samtse HSS	17942340
16	Dorji Wangchuk	DS(23)17-2703	Principal, Samtse LSS	77219292
17	Babita Pradhan	DS(03)12-347	Teacher, Samtse LSS	17339363
18	Wangchukla	DS(23)17-2732	Teacher, Samtse LSS	17640318
19	Diwas Sundas	DS(23)17-2694	Teacher, Samtse LSS	77684959
20	Thinley Tenzin	DS(13)14-1512	Businessman, Samtse	17116462
21	Tshering Dolkar	DS(04)12-459	Ice Beverage	17324445
22	Kesang Thrinlek	DS(22)16-2580	Dental Surgeon, Samtse Hospital	77455656
23	Chador Gyeltshen	DS(24)17-2850	BAFRA	17630617
24	Buddha Kumar Rai	DS(20)16-2336	Samtse Hospital	77684959
25	Nidup Dorji	DS(11)14-1206	Businessman, Samtse	17665647
26	Phuntsho Wangdi	DS(17)15-1948	Businessman, Samtse	17113050
27	Karma Thinley Wangchug	DS(24)17-2807	Immigration	17772227
28	Yeshi Tshering	DS(22)16-2616	Immigration	17578559
29	Sonam Dhendup	DS(11)14-1185	RRCO	17989292
30	Choki Wangmo	DS(21)16-2421	RRCO	17747848
31	Pema Choki	DS(8)13-939	House wife, Samtse	17739363
32	Chimi Dorji	DS(06)13-624	Teacher, Norbugang LSS	17800047
33	Ugyen Yeshi	DS(03)12-252	Teacher, Norbugang LSS	

34	Sonam Pelden	DS(01)11-59	Teacher, Norbugang LSS	17878157
35	Karma Duptho	DS(23)17-2644	Teacher, Ugyentse PS	17431872
36	Dorji Wangchuk	DS(23)17-2693	Teacher, YoetseltseMSS	77208000
37	Dechen Zangmo	DS(24)17-2802	CIC, Yoetseltse	17555933
38	Sonam Gyelmo	DS(24)17-2770	House wife, Ugyentse	17863095
39	Dawa Gyeltshen	DS(10)14-1130	Teacher, Namgaychholing	77297770
40	Leki Norbu	DS(10)14-1129	Teacher, Namgaychholing	77231842
41	Karma	DS(10)14-1098	Teacher, Penjorling HSS	17679299
42	Ugyen Wangmo Tenzin	DS(02)11-160	Teacher, Penjorling HSS	17560922
43	Sonam Tshering	DS(10)14-1067	Teacher, Penjorling HSS	17806200
44	Sangay Wangdi	DS(23)17-2753	Teacher, Penjorling HSS	77764819
45	Sonam Zangmo	DS(23)17-2681	Teacher, Penjorling HSS	17999799
46	Tshoki Lhamo	DS(18)16-2137	Teacher, Tashitang PS	17786106
47	Dawa Tshering	DS(14)15-1565	Teacher, Sherubgatshel LSS	77391700
48	Ten Gyeltshen	DS(18)16-2017	Principal, Dzongsar PS	17116462
49	Tempa Nima		Teacher, Sherubgatshel LSS	
50	Tshering Duba	DS(12)14-1314	Staff Nurse, Sibsoo Hospital	17689439
51	Chencho	DS(23)17-2688	Teacher, TendrukCS	17711732
52	Dema Lham	DS(24)17-2805	Teacher, Tendruk CS	17666057
53	Biswas Rasaily	DS(23)17-2657	Teacher, Tendruk CS	77473376

54	Karma	DS(23)17-2658	Teacher, Phensum PS	77316310
55	Karma Jurmi	DS(17)15-1931	Dungpa, Dorokha	17111619
56	Devi Prasad Gurung	DS(23)17-2685	Teacher, Dorokha CS	77463120
57	Shiva Kumar Sunuwar	DS(23)17-2756	Teacher ,Dorokha CS	17513767
58	Kinzang Gyeltshen	DS(23)17-2689	Teacher,Dorokha CS	77989363
59	Pema	DS(23)17-2766	Teacher, Dorokha CS	77476794
60	Yonten Norbu	DS(06)13-641	Teacher, Sengden LSS	17623965
61	Pukar Gurung	DS(06)13-642	Teacher, Sengden LSS	77778469
62	Singye	DS(06)13-640	Principal, Sengden LSS	17661314
63	Namgay	DS(06)13-657	Teacher, Jaringay	77460342
64	Karma	DS(24)17-2819	RICBL, Gomtu	17689175
65	Pema Dorji	DS(14)15-1564	Teacher, Gomtu MSS	17649082
66	Tshering Dema	DS(03)12-325	Teacher, Gomtu MSS	17680431
67	Phub Dem	DS(23)17-2737	Teacher, Gomtu MSS	77331797
68	Thinley Wangchuk	DS(13)14-1510	Gomtu	17605909
69	Ugyen Kezang	DS(13)14-1509	Gomtu	17160363
70	Tshewang Dorji	DS(13)14-1511	Gomtu	17649212
71	Tsheltrim		Samtse, Khanduthang	
72	Kencho Tenzin	DS(26)17-3082	GM, AWP Samtse	
73	Kuenzang Gyeltshen	DS(26)17-3034	Lecturer, SCE	
74	Rinchen Yoezer	DS(23)17-2697	Teacher Tendruk CS	
75	Tashi Tenzin		Teacher, Phunsum PS	

Annexure 8: Contact details of Principals of Samtse Dzongkhag

Samtse Dzongkhag Schools Contact Details - 2018				
Sl.#	School	Principal	Contact No.	Adm. Assitant & Contact No.
1	Samtse HSS	Tshueltrim Dorji	17948355/05365622	Santi & Indra 17510473/17693971
2	Tendruk CS	Ugyen Dorji	1640163/77191416	Sonam Dema 17662691
3	Peljorling HSS	Namgay Wangchuk	17160886/17670997	Phibila Limbu, 17458437
4	Gomtu MSS	Gembo Rinzin	17648199/05371225	Kusha 17650938/05371029
5	Yoeseltse AS	Pema Tshewang	17686968/16540612	Chenga Zangmo
6	Dorokha CS	Pema Chogyel	17161179/17111297	Kado 77355744
7	Norbugang CS	Tshering Gyeltshen	77206299/77191419	Namgay 17855081/77855081
8	Samtse LSS	Dorji Wangchuk	77219292/05365214	Sangay Wangmo 17630832/05365728
9	Sengdhyen LSS	Singye	17161532/17160831	Tshering Youden
10	Denchukha LSS	Tashi Tshering	77108459	Rinzin Wangdi, 77835498
11	Sherubgatshel LSS	Samdrup Gyelpo	17661828/17161998	Pelden 17566059
12	Sang-Ngag chhoeling LSS	Kezang Choden	16581010/17614145	17912473/17160298
13	Tabadramtoe LSS	Wangchuk Drukpa	17161587/77257381	Aita Singh Lama, 17422059
14	Panbari PS	Benu Prasad Powdyel	17160180/77160180	Pelden
15	Namgaycholing PS	Pema Dorji	77462249	Tshewang Rinzin
16	Khandothang PS	Nima Dorji	17125425/77476761	Passang, 77360353
17	Phuntshopelri PS	Kado	77107215/17665991	Usha Gautam, 173269/77437065
18	Ugyentse PS	Lham Penjor	77106021	Tenzin Pem
19	Dzongsar PS	Ten Gyeltshen	17929327	Lhawang Dema,17848703

20	Gayshingoan PS	Gap Tshering	17963032	Bena
21	Gangthok PS	Tashi Tobagy	17161618	Sangay Tshering
22	Phensum PS	Tshering Phuntsho	77108246/17733471	Yes
23	Chongzhu PS	Chencho Dorji	17620251	Tara Maya Ghalley
24	Tashicholing PS	Choney Dorji	77108218/17466166	17610947
25	Mindruling PS	Thinley	17161174/77285525	Nil
26	Gawaling PS	Sancha Man Rai(offtg.principal)	77305558/17892378	Nil
27	Jaringay PS	Namgay	77460342	Nil
28	Bukkey PS	Sharad Kumar Lama	77105793/17483511	Dawa Dema
29	Kyidsa PS	Pema Yeozar	17745883/77103645	Nil
30	Soeltapsa PS	Tashi Dargay	17160849	
31	Tashithang PS	Damber Bdr. Gurung	77317508/17115708	
32	Depheling PS	Dorji Lethro	77222731	
1	Fenchi ECR	Nil		
2	Thika ECR	Namgay Tenzin & Tshewang Lham	17721282/17625299	
3	Kachin ECR	Pempu & Dhan Maya	17536526/17754016	
4	Lamitar ECR	Sangay Penjor	17698085	
5	Sangla ECR	Dorji Wangmo	77322685	
6	Malbasey ECR	Jigme Jamtsho &	17483511	
7	Nangladang PS	Dorji Wangchuk & Tsheringla	77442058	
8	Dipujora ECR	Rinchen Kinley & Kencho Wangmo	17389454	
9	Sombek ECR	Kuenzang Thinley	17956758	
10	Tading ECR	Tashi Wangdi	77256930	
11	Titiring ECR	Nima Dorji	17906749	
12	Bucca ECR	Sonam Penjor	17806131	
13	Mandraney ECR	Karma Wangchuk	77771414/17771414	
14	Bhoteykharka	Siwan rai	77382352	
15	Birutar ECR	Alop Kumar Dawa Zangmo	77889868	

16	Negurey ECR	Sunita Sharma NCT	16907280/77621559	
1	Chief DEO	Karma Sonam Chophel	17620232/365543	Dzongkhag Administration
2	Dy. CDEO	Chencho Tshering	17614066	
3	Dy. CDEO	Yeshe Dorji	17380911	
4	Dy. CDEO	Yeshe Nedup	17670916	
5	Adm. Assistant	Uma Gurung	17658023	
6	Adm. Assistant	Jai Kumar	17727312	
7	Adm. Assistant	Tshering Yangzom	77496741/77104660	Tashicholing Drungkhag
8	Adm. Assistant	Wang Tshering	17160892/77743064	Dorokha Drungkhag

Annexure 9: Contact details of Gups

Sl.No	Gewog	Name	Designation	Mobile No.
1	Norgaygang	Rinchen Dorji	Gup	17821973/77821973
2	Pameling	Khem Raj Ghaley	Gup	17115732/77669547
3	SangNgagchholing	Kalyan Pradhan	Gup	77317692
4	Norbugang	Kinga Wangdi	Gup	77611900/16583007
5	Denchukha	Chandra Man Bhandari	Gup	77216090
6	Doongtoed	Dambe Singh Rai	Gup	77952046
7	Dophuchen	Padam Bdr Rai	Gup	17952815
8	Phuntsho Pelri	Robot Lepcha	Gup	17756278
9	Tading	Jagat Bdr. Ghalley	Gup	17343026
10	Namgaychholing	Ratna Bdr Ghalley	Gup	77233349
11	Tashichholing	Samir Giri	Gup	17623864/77623864
12	Tendruk	Nima Dukpa	Gup	17163811
13	Samtse	Wangchuk Lepcha	Gup	77282540
14	Ugyentse	Karna Bdr Thakuri	Gup	77360591/17668057

15	Yoeseltse	Ganga Prsd. Limbu	Gup	17729407
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Annexure 10: Contact details of Gewog Administrative Officers

Sl.No	Gewog	Name	Mobile No.
1	Norgaygang	Yeshey Rangdrel	17617733
2	Tendu		
3	Pemaling	Sonam Dorji	17113211
4	Tashichholing	Kelzang Jigme	17713575
5	N/Chholing	Kinley Tshering	17955527
6	S/Chholing	Sherab Zangpo	17644468
7	Yoeseltse	Phup Tshering	17691073
8	Ugyentse	Kinley Wangdi	17170212/77191418
9	Norbugang	Kinlay Dorji	17289769
10	Phuntsho Pelri	Sangay Penjor	17686285
11	Samtse	Pema Tenzin	17904009
12	Tading	Rinchen Dorji	17660280
13	Dumtoe	Pema Yuden	17495349/77220114
14	Denchukha	Tobgay	17113580/17609832
15	Dophuchen	Minjur Dorji	17544316

Annexure 11: Dzongkhag Incident Management Team:

Sl.No	Name	Designation	Responsibility in ICS	Contact:
1	Dasho Sonam Wangyel	Dasho Dzongdag	Incident Commander (IC)	17777656
2	Dasho Phuntshok Wangdi	Dasho Dzongrab	Alternative IC	17114588
3	Dasho Phuntshok Wangdi	Dasho Dzongrab	Operation Chief	17114588
4	Dasho Karma Jurme	Dasho Drungpa	IC in Drungkhag level	17117003
5	Dasho Tshewang Tobgyel	Dasho Drungpa	IC in Drungkhag level	16681668
6	Dasho Sonam Dendup	OC, RBP	SAR and evacuation Head	17682745
7	Sonam Phuntsho Rinzin Dorji Langa Dorji	Kidu Officer Cultural Officer Environment	Shelter and Relief Head Shelter and relief team Shelter and relief team	17374124 17658033 17678473

	Tenzin Choida	Officer Census Office	Shelter and relief team	17621485
8	Gunja Raj Gurung	DHO Doctors and other health staffs	Medical Team Head Emergency Medical Team	17616282
9	Kinzang Dorji	Dzongkhag Engineers	Immediate Restoration Head	17841735
10	Tashi	Planning Officer	Planning Section Head	17680595
11	Jamyang Tshomo Phuntshok Chhoegyel	DDMO DSO	Documentation Team Documentation Team	17671549 17307670
12	Chatur Man Gurung	Budget Officer	Resource Tracking	
13	Phub Thinley	LRO LR Staffs	Demobilization Head Demonization Team	17607383
14	Karma Sonam Chopel	CDEO	Coordination with schools unit	17620232
15	Pemba Gyeltshen	Procurement Officer	Logistic Section Chief	17503062
16	Tshering Wangchuk	ICTO	Communication	17755548
17	Tashi Tobgay Ugyen	HRO RSTA	Transportation Head Transportation team	17161771 17623574
18	Chogyel Norbu	DAO DLO	Supplies and food	17623673
19	Leki Dema	Accounts Officer Accountants	Finance Section Head Finance Team	17739517