



Thromde Disaster Management and Contingency Plan 2018



Thromde Administration, Phuentsholing
Royal Government of Bhutan

Vision & Mission

Vision:

Phuentsholing Thromde, a responsive city offering its residents a clean and livable environment with comprehensive quality services that nurtures rich traditional and cultural values and enhances vibrant commercial atmosphere.

Mission:

To be a vibrant Local Government by ensuring the provision of municipal services and socio-economic infrastructure and facilities to make Phuentsholing Thromde an ideal place to live in.

FOREWORD

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In accordance to the Chapter 6, section 66 of Disaster Management Act of Bhutan 2013, the National Disaster Management Authority (NDMA) notified the Phuentsholing Thromde to formulate the Disaster Management Committee and simultaneously Thromde Disaster Management and Contingency Plan is formulated through the financial support from the NAPA 2 Project. The climate change being the major issues today is enhancing and changing the risk patterns and frequency of disasters. The magnitude of the flooding incidences is very rampant in Phuentsholing and with the prominently varying risk every year. The formulation of the Disaster Management plan and contingency plan for a identified hazard is part of mainstreaming the disaster risk reduction with the shared responsibilities among the stakeholders within the Thromde.

The whole preparation process of the Disaster Management Plan started with the assessment of the Hazard, Vulnerability and Capacity Assessment (HVCA) of the 6 constituencies in consultation with the Thromde Tshogpas, elders, discussion with Thromde Administration officials, representatives from the schools and regional offices. The plan is finalized with the endorsement from the Thromde Disaster Management Committee (TDMC) and endorsement through the Thromde Tshogde (TT). The Phuentsholing Thromde Disaster Management Plan highlights the hazard, vulnerability and capacity profile for the 6 constituencies. The priority disaster risk reduction, awareness raising and capacity building activities are incorporated in the plan with the standard procedures for response. An implementation and monitoring process for the plan is also included.

The Disaster Management Plan will not only mainstream risk reduction but guide the Thromde in framing annual and five year development plans for the disaster risk reduction but ensure that every agency have a stake in making Phuentsholing Thromde a safe place to live in.



(Uttar Kumar Rai)

Thrompon

ཐོལ་འཕྲོལ་
ཕྱི་མཁོ་གསལ་བྱེད་ ཐོལ་ཕྱེ།

ACRONYMS

CBDRM	Community Based Disaster Risk Management
DDM	Department of Disaster Management
DM Act, 2013	Disaster Management Act of Bhutan, 2013
DM	Disaster Management
TDMC	Thromde Disaster Management Committee
TT	Thromde Tshogde
GNH	Gross National Happiness
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

Table of Contents

Vision & Mission	2
ACRONYMS	4
CHAPTER 1: OVERVIEW OF PHUENTSHOLING THROMDE	8
Geography, Weather and Climate	8
Administrative and Socio-economic Profile	8
CHAPTER 2: THROMDE DISASTER MANAGEMENT STRUCTURE	11
2.1 Thromde Disaster Management Sub-Committee (TDMC).....	11
2.2 Functions of TDMC	12
2.3 Functions of Chairperson	13
CHAPTER 3: DISASTER RISK PROFILE OF PHUENTSHOLING THROMDE (HVCA)	14
3.1 Phuntsholing Toed, Nyadra and Phuentsholing Maed Constituency	14
3.1.1 Hazard Assessment	14
3.1.2 Vulnerability Assessment	15
3.1.3 Capacity Assessment.....	16
3.1.4 Probability and impact matrix.....	17
3.2 Pasakha Constituency	18
3.2.1 Hazard Assessment	18
3.2.2 Vulnerability Assessment	19
3.2.3 Capacity Assessment.....	20
3.2.4 Probability and impact matrix.....	21
3.4 Rinchending and Pekarzhing constituency	21
3.4.1 Hazard Assessment	21
3.4.2 Vulnerability Assessment	22
3.4.3 Capacity Assessment.....	22
3.4.4 Probability and impact matrix.....	23

Chapter 4: Disaster Management Action Plan (2018 – 2022)	24
Chapter 5: Thromde Contingency Plan	30
General disaster decision making and information reporting chart.....	31
5.1 Standard Operating Procedures for Response.....	32
5.2 Mode of Communication during disaster/ threatening disaster situation:	
5.3 Thromde Emergency Operation Centre Management (TEOC)	
5.4 Disaster Lessons Learnt.....	37
Chapter 6: Implementation Mechanism	38
Financial Provisions as per the Disaster Management Act of Bhutan 2013	38
Preparedness	38
Response and Relief Expenditure	39
Recovery and Reconstruction	39
Annexure:	41
4. Contact Details of School Principals and Focal Teachers	
5. Contact Details of Thromde SAR team	44
7. Capacity in the Thromde.....	48
SAR, EOC equipment and machineries	48
Disaster Management Terms	50
Capacity	50
Mitigation.....	51
Preparedness	51
Prevention	51
Recovery and Reconstruction	51
Response	51

SCOPE AND OBJECTIVE

The Disaster Management Plan gives the overall framework to all the relevant stakeholders within the Thromde for the implementation of long-term preparedness of the prioritized disaster risk reduction activities while the immediate response and relief operations are outlined in Thromde Contingency plan. The plan's arrangement and the procedures will be limited to the Phuentsholing Thromde's jurisdiction. The Thromde Disaster Management Plan and Contingency plan will be updated at least once a year with the review of the plan every 5 years.

The objectives of the Thromde Disaster Management Plan are:

1. To mainstream and facilitate implementation of disaster risk reduction and preparedness activities in the Thromde's annual and five year plans;
2. Capacity development for risk reduction, mitigation, preparedness and response;
3. Increase awareness on disaster risk, risk reduction and preparedness measures in the Thromde;
4. Establish a coordination mechanism for emergency response and relief operations.

The objectives of the Thromde Contingency Plan are:

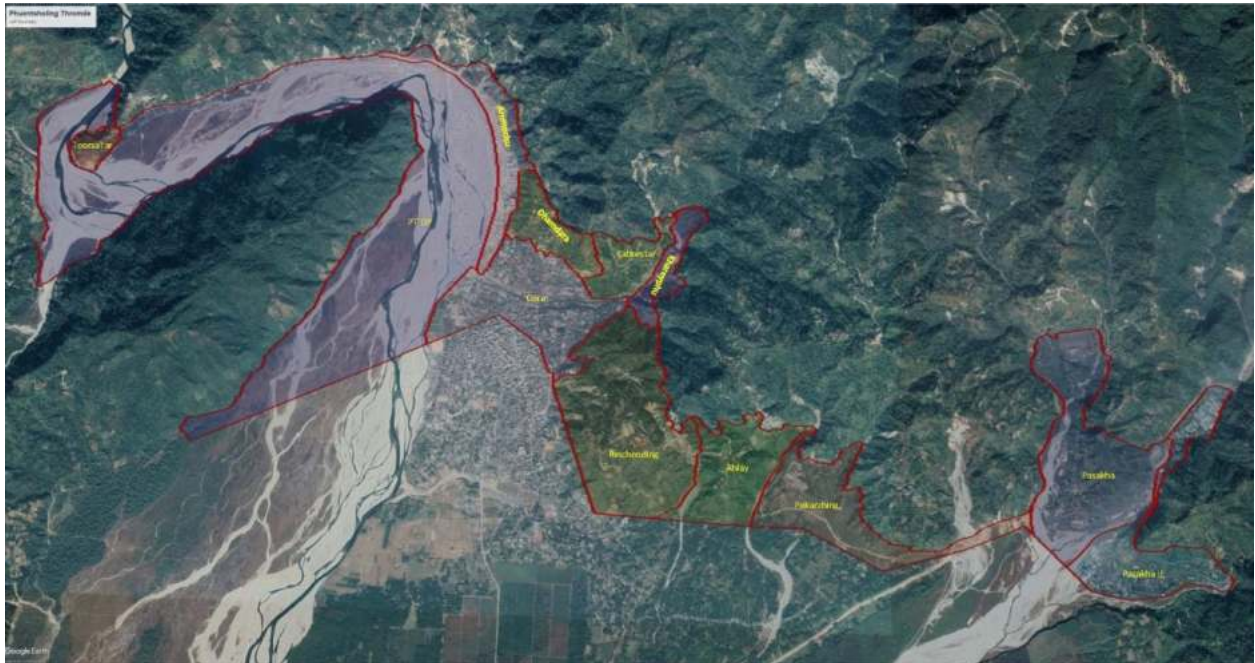
1. Life saving and public safety
2. Life sustaining for the first two weeks
3. Ensuring Thromde's resilience
4. Laying the foundation for 'Build Back Better'

CHAPTER 1: OVERVIEW OF PHUENTSHOLING THROMDE

Geography, Weather and Climate

Phuentsholing is situated in the southern part of the country bordering the Indian town of Jaigoan, West Bengal. It is set at an altitude of approximately 160 m above sea level and has a total area of 19.68 sq. km. It is surrounded by rugged hill slopes, tropical thick forests, and several rivers and rivulets, escape routes are limited and this makes the entire city extremely vulnerable in the event of landslides and floods. The topography is inherently fragile due to the relatively young geologic formation, which is characteristic along much of the Himalayan foothills in Bhutan and the northeast region of India. The annual average rainfall is 4000mm which occurs in the month of June to September. During the extreme rainfall the entire city becomes highly vulnerable to landslides and floods owing to its topographic fragility. In terms of monthly average temperatures, the highest maximum temperature is recorded in June with an average of 32.5 °C and the lowest minimum temperature in January with an average of 13.3°C (JICA, 2014). The climate is that of tropics with relatively high temperature throughout the year. Phuentsholing valley has one of the major rivers of Bhutan, Amo Chu with other accessory rivers such as Barsa Chu, Balujhora Chu, Om Chu and Singye Chu.

Map of Phuentsholing Thromde



Administrative and Socio-economic Profile

Phuentsholing Thromde is one of the four Class “A” Thromdes in Bhutan with an elected mayor since 2011. The Thromde is administratively divided into 6 constituencies –

Phuentsholing Toed, Phuentsholing Maed, Pasakha, Nyedra, Rinchending and Pekarzhing with the total population of 24,000. Each constituency is headed by an elected councilor (Thuemi). All the constituencies are connected by road, telecommunication networks, and electricity.

It is one of the biggest commercial and industrial hub being a “gateway to Bhutan” located at the Indo-Bhutan border making the place accessible to wide opportunities for job and livelihood means. This is the main reason for people migrating to Phuentsholing from other rural places. More than 51% of the working population is engaged in government jobs and other public organizations and 27.52% engaged in the Private sector. Business occupation comes next constituting to almost 14% leaving agricultural activities to the lowest at just 7% (Socio Economic survey).

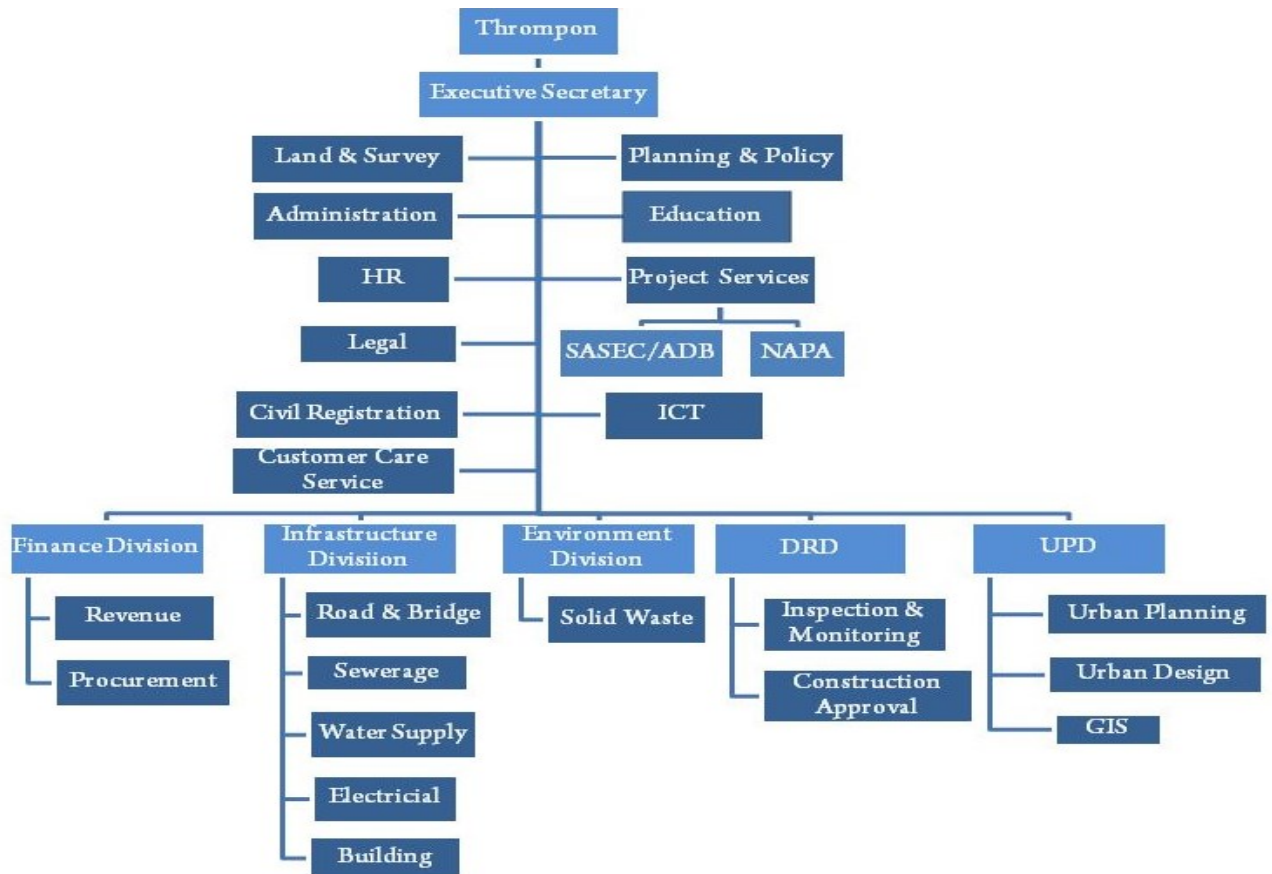
The Thromde Administration work in close collaboration with the regional offices within the Thromde’s jurisdiction such as Bhutan Power Corporation (BPC), Bhutan Telecom Ltd. (BTL), Food Corporation of Bhutan Ltd. (FBCL), Road Safety Transport Authority (RSTA), Natural Resources Development Corporation Ltd. (NRDCL), Regional Revenue and Customs Office (RRCO), Bhutan Chamber of Commerce and Industry (BCCI), Royal Insurance Corporation Ltd. (RICBL), National Housing Development Corporation Ltd. (NHDCL), RBA and RBP etc.

Table 1 – Key Demographics

	Constituency	Area (Sq.K m.)	No. of Households	Population		Health Facilities			Schools					
				Male	Female	Hospital	BHU	ORC	HSS	MSS	LSS	PS	ECR	
1	Phuentsholing Toed	1.0	735	1,362	1,285									1
2	Phuentsholing Maed	1.5	5,288	12,480	6,559	1			1	2	1			2
3	Pasakha	3.6	1,201	2,735	1,590									ECCD
4	Nyedra	2.4	171	405	212									
5	Rinchending	3.7	608	1,357	834				1	1				
6	Pekarzhing	1.2	287	644	391									

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

Figure 1 – Organogram of Thromde Administration



CHAPTER 2: THROMDE DISASTER MANAGEMENT STRUCTURE

2.1 Thromde Disaster Management Sub-Committee (TDMC)

Phuentsholing Disaster Management Sub-Committee (TDMC) is constituted as below in line with the provisions of the DM Act of Bhutan, 2013:

Sl.No	Members	Designation	Organization	Role
1	Uttar Kumar Rai	Thrompon	Thromde Office	Chair
2	WangchukThayey	Executive Secretary	Thromde Office	Vice-chair
3	Karma Rinchen	Drungpa	Dungkhag	Member/ Vice Chair
4	Wangchuk La	Superintend of Police	RBP	Member
5	DorjiWangchuk	Thromde Edu. Officer	Thromde	Member
6	SangayDorji	Regional Secretary	BCCI	Member
7	DorjiWangchuk	Planning Officer	Thromde	Member
8	TashiDorji	De-Suong Coordinator	De-Suong	Member
9	Nakchung	Electrical Officer	Thromde	Member
10	NimaWangmo	Environment Officer	Thromde	Member Secretary/ TDMO
11	PhuntshokZangmo	Administrative Officer	Health	Member
12	SharmilaLimbu	Thuemi	Phuentsholing Toed Constituency	Member
13	Nar Bdr Rai	Thuemi	Pasakha Constituency	Member
14	PravathRai	Thuemi	Nyedrak Constituency	Member
14	PassangNorbu Tamang	Thuemi	Rinchending Constituency	Member
15	Tirtha Maya	Thuemi	Pekarzhing Constituency	Member
16	ChungkuDawa	Thuemi	Phuentsholing Moed Constituency	Member

Other important stakeholders who may be co-opted as members of the TDMC are:

Sl.No	Organization	Roles and Responsibilities
1	BPC	Power services and power service Restoration
2	Bhutan Telecom	Communication and Service restoration
3	RBA	SAR, Evacuation, Medical help, Relief
4	FCBL	Stockpiling of essential food items
5	RSTA	Transport Management

6	NRDCL	Provide natural resources
10	RICBL	Rapid Assessment and insurance payment
11	NHDCL	
12	BCCI	Food supply and sheltering support
13	BNB	Financial Support
14	BOB	Same
15	PNB	Same
16	BDFC	Same
17	BAFRA	Animal disease control and food safety and regulation

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

2.2 Functions of TDMC

The TDMC shall be responsible for coordinating and managing all disaster management operations in the Thromde under the direction and supervision of the National Disaster Management Authority (NDMA).

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

- a) Prepare, review, update and implement the Thromde 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 Thromde
- c) Ensure establishment and functioning of the Thromde 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 of 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 TDMC may exercise all or any of the functions of the TDMC, subject to ex post facto ratification of the Committee

The TDMC 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 TDMC 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

CHAPTER 3: DISASTER RISK PROFILE OF PHUENTSHOLING THROMDE (HVCA)

Phuentsholing Thromde has experienced several disasters over the last 20 years, the most devastating being the September 18, 2011 Sikkim earthquake of M 6.7, which caused widespread damages to rural homes and government infrastructure. The other major and recurrent hazard has been floods that have resulted in extensive damages to houses, government and private infrastructure in 2000 and more recently in July 2016. Landslide is another major hazard in Phuentsholing. In some of the historical landslide-prone zones, more stabilization/protection measures are urgently required but such measures have not been feasible considering the high estimated cost and the technical know-how required. Among these highly unstable landslide and flood prone vulnerable areas in Phuentsholing are Toorsa, main core town areas, along the river course of Singye chu, Barsa Chhu and Balujhora chu at Pasakha.

Risk assessment for Phuentsholing Thromde was carried out through the hazard, vulnerability and capacity assessment followed by prioritization of the hazards that should receive priority in action planning for each of the six constituencies involving the representatives, Thuemis, Thromde officials and officials from regional offices and business community.

3.1 Phuntsholing Toed, Nyadra and Phuentsholing Maed Constituency

3.1.1 Hazard Assessment

SLNo	Hazard	Secondary Hazard	When it could occur	Probability of Occurrence	History of Past Disaster	Impact
1	Flood	Building collapse, landslide, debris flow	Monsoon (June, July & August)	High	Severe (1996 2000, 2016) Annual event	<ul style="list-style-type: none"> • Landslide along the banks destroying cash crops (maize and ginger) • Destruction to the water pipelines • Structural damage (Retaining wall/ culvert) • Loss of lives and damage to private properties

						<ul style="list-style-type: none"> • Road blockage • Water logging
2	Earthquake	Fire , Landslide Collapse of tree	Unpredictable	High	2009, 2012, 2015	<ul style="list-style-type: none"> • Structural damage (minor cracks) • Minor slides
3	Windstorm	Collapse of trees, Fire (electricity shortcircuit)	Spring (April-May)	High	2014, 2015	<ul style="list-style-type: none"> • Loss of lives • Property damage (buildings, car, crops (beetle nuts)) • Fire incidences
4	Fire	Disease outbreak,	Unpredictable		Major (2014 2015) Every year	<ul style="list-style-type: none"> • Loss of lives • Property damages (house)
5	Dengue	Malaria, Typhoid	Post monsoon season	High	Annual	<ul style="list-style-type: none"> • Major population infection.

3.1.2 Vulnerability Assessment

Sl.No	Hazard	Element at risk	Why they are at risk	How well they be affected	When it could occur
1	Flood	<ul style="list-style-type: none"> • River protection works along the Omchu and Amochu • Settlements along the river embankment • Road connectivity 	<ul style="list-style-type: none"> • Close proximity to the river, • Instability of the soil. 	<ul style="list-style-type: none"> • Loss of property and lives • Affect the accessibility (road cut off) 	June to September Extreme in peak monsoon
2	Earthquake	<ul style="list-style-type: none"> • Buildings along the slopes (Damdara). • Old buildings (Gol Building, • Industrial estate • RICB building (Deki line) • Gas stations explosion 	<ul style="list-style-type: none"> • Instability of the land (too steep) • Electric short circuit • Unstable old structures 	<ul style="list-style-type: none"> • Loss of property and lives 	Unpredictable

3	Windstorm	Poorly built houses, the industrial estate structures, the commuter along the road to Kabraytar	BPC and Telecom poles are lined up all over the place, Poor roofing of the house, tall trees along the road	Loss of property, loss of life, disruption in basic amenities (movement, communication, water supply)	Monsoon season
4	Fire	Old building (workshop areas, huts), Housing colonies, Gas stations,	<ul style="list-style-type: none"> • Old electric facilities in old buildings • Stockpile of flammable items in the gas station • Clustered settlement 	Loss of live and properties	Any time
5	Dengue	Settlements near the waterlogged area and improper drainage system	Poor drainage system, only one hospital, huge population, cross border movement	Morbidity and loss of lives	Monsoon season

3.1.3 Capacity Assessment

Sl. No	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Flood	<ul style="list-style-type: none"> • Ground (PHSS, SMSS, PSA) • Park (Karbraytar, Trade Junction, RIGSS), • Open space (PHPA, FCB godown, Shedra, Dratshang) • SAR equipment stockpile 	<ul style="list-style-type: none"> • Employment opportunity in the industrial estate and FCB godown • Insurance and Loan availing facilities from financial organization 	<ul style="list-style-type: none"> • TDMC • ICS system • Business communities • Health care centres • SAR trainees, Desuups, RBA, RBP • Regional offices 	<ul style="list-style-type: none"> • Timber supply from the forest, • streams for water supply,

2	Earthquake	<ul style="list-style-type: none"> • School ground (SMSS) • New children park (Karbraytar), • PHPA parking lot, • Pepsi Factory open spaces • FCB godown area • Bus parking (RSTA) 			
3	Windstorm	School hall (SMSS), FCB godown, PHPA hall			
4	Fire	Fire Extinguishers Trained Fire Brigades Fire hydrants	Same	Same	Waste Sources (rivers)
5	Dengue	Hospital		Hospital Awareness	

3.1.4 Probability and impact matrix

Very probable					Earthquake
Probable		Dengue	Windstorm, Fire	Flood	
Less probable					
Improbable					
Impact	Unimportant	Limited	Serious	Very serious	Catastrophic

3.2 Pasakha Constituency

3.2.1 Hazard Assessment

Sl. No	Hazard	Secondary Hazard	When it could occur	Probability of Occurrence	History of Past Disaster	Impact
1	Flood	Collapse of buildings, landslide, debris flow	Monsoon (June, July & August)	High	Severe (1996, 2000, 2016) Annual event	<ul style="list-style-type: none"> • Landslide along the banks • Structural damage (Retaining wall/ culvert) • Loss of live and damage to private properties • Road blockage • Water logging • Pollution of water from the spillage of industrial effluents
2	Earthquake	Fire (electric short circuit , Landslide Collapse of tree	Unpredictable	High	2009, 2011, 2014, 2015	<ul style="list-style-type: none"> • Structural damage (building collapse) • Loss of life • Industrial fire
3	Windstorm	Collapse of trees, Fire (electricity short circuit)	Spring (April-May)	High	2011	<ul style="list-style-type: none"> • Loss of life • Property damages (buildings, car, crops (bettle nut.) • Fire incidences (industrial area) • Water pollution from industrial residues
4	Fire	Air pollution, Respiratory and visual, skin health issues	Unpredictable		2014, 2016	<ul style="list-style-type: none"> • Loss of life • Property damages (house) • Industrial air pollution
5	Dengue	Malaria, Typhoid	Post monsoon season	High	2015	<ul style="list-style-type: none"> • Major population infection (factory workers and informal settlers)

3.2.2 Vulnerability Assessment

Sl.No	Hazard	Element at risk	Why they are at risk	How well they be affected	When it could occur
1	Flood	<ul style="list-style-type: none"> River protection works along Barsachu, Singye Chu and Balujhorachu Road and bridges Substation Factories Colony (BFAL, BCCL) 	<ul style="list-style-type: none"> Close proximity to the river, Instability of the soil. Poor river protection along the settlement Improper River training or dredging 	<ul style="list-style-type: none"> Loss of property and lives Affect the accessibility (road cut off) 	<ul style="list-style-type: none"> June to September Extreme in peak monsoon
2	Earthquake	<ul style="list-style-type: none"> Buildings along the slopes (Damdara).. Old factory structures Bridge collapse Gas stations explosion 	<ul style="list-style-type: none"> Instability of the land Electric short circuit Unstable old structures Improper planning 	<ul style="list-style-type: none"> Loss of property and lives 	<ul style="list-style-type: none"> Unpredictable
3	Windstorm	<ul style="list-style-type: none"> Poorly build houses, structures, crops (tall beetle nut trees) Fire breakout in factories 	<ul style="list-style-type: none"> Old roofing and unstable soil. Extensive use of heat in the factories 	<ul style="list-style-type: none"> Loss of property and lives, 	<ul style="list-style-type: none"> Pre and post monsoon season
4	Fire	Old building(workshop areas, huts), Housing colonies, Gas stations,	<ul style="list-style-type: none"> Old electric facilities in old buildings Stockpile of flammable items in the gas station Clustered factories 	<ul style="list-style-type: none"> Loss of live and properties. Severe explosion 	Unpredictable

5	Dengue	<ul style="list-style-type: none"> Settlements near the waterlogged area and improper drainage system 	<ul style="list-style-type: none"> Poor drainage system, High chances of disease spread as most of the people work in the same unit in the factories, 	<ul style="list-style-type: none"> No proper hospital/clinic in that area. 	Monsoon season
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3.2.3 Capacity Assessment

Sl. No	Hazard	Physical capacity	Economic capacity	Social/Institutional capacity	Environment capacity
1	Flood	<ul style="list-style-type: none"> Ground (Dratshang, BPC , BCCL) Gurung Dara Top 	<ul style="list-style-type: none"> Employment opportunity in the industries Insurance and Loan availing facilities from financial organization 	<ul style="list-style-type: none"> ABI TDMC ICS system Business communities SAR trainees, Desuups, RBA, RBP 	<ul style="list-style-type: none"> Stone and sand Water sources
2	Earthquake	<ul style="list-style-type: none"> Pasakha old School ground , Archery ground BCCL/BFAL/ KCCL colony open space BPC children park 			
3	Windstorm	<ul style="list-style-type: none"> Newly built structures and buildings (community centre 			
4	Fire	<ul style="list-style-type: none"> Fire Extinguishers Trained Fire Brigades 	Same	Same	Waste Sources (rivers)

		<ul style="list-style-type: none"> • Fire hydrants 			
5	Dengue	<ul style="list-style-type: none"> • Transportation facilities from the factories 	Same	Same	

3.2.4 Probability and impact matrix

Very Probable					Earthquake
Probable		Dengue	Fire/ Windstorm	Flood	
Less Probable					
Improbable					
Impact	Unimportant	Limited	Serious	Very Serious	Catastrophic

3.4 Rinchening and Pekarzhing constituency

3.4.1 Hazard Assessment

Sl. No	Hazard	Secondary Hazard	When it could occur	Probability of occurrence	Disaster History	Impact
1	Fire	Forest fire	Dry and windy season (December-February)/ up to April	High	1975 2011-2012, 2013	Loss of Private property and lives. Loss of biodiversity
2	Windstorm	<ul style="list-style-type: none"> • Fire (electric short circuiting) • Slides 	Monsoon Season (June-September)	High	2015	Loss of private property and lives
3	Flashflood	<ul style="list-style-type: none"> • Landslide along the road, Rinchening Goenpa, Reldri High School, Landfill site, 	Monsoon season (June-September)	High	Annual Event	Loss of property and risk to live

		Zimdra food factory, 3km				
4	Earthquake	<ul style="list-style-type: none"> • Fire • Landslide 	Unpredictable	High		Property damage, Risk to lives.

3.4.2 Vulnerability Assessment

S/N	Hazard	Element at Risk	Why they are at Risk	How will they be affected	When it could occur
1	Fire	Old House, Forest	Free movement of border people Defund border wall	Property loss , affect	Dry Season (December-April)
2	Development Hazard	House, Land, Water source			Monsoon Season (June-September)
3	Sound Hazard	Health (Human Health)	No Conductive Environment	Health Disturbances	Dry and Night
4	Air Pollution	Human, Animal, Agricultural Productivity	Health Problem Reduce in Agricultural Earning	Respiratory diseases water atmosphere pollution	All the year
5	Earthquake	Building structure Human Life Landed properties	Poor construction method	Collapse of structure due to poor construction method Less slope binding	Unpredictable

3.4.3 Capacity Assessment

S/N	Hazard	Physical Capacity	Economic Capacity	Social/Institutional Capacity	Environmental Capacity
1	Structure Fire	Poor	Poor	Nearby RBA, RBP, CST and Rinchending Lhaxhang)	Poor

2	Development Hazard	Poor	Poor	Phuentsholing Thromde and other public	Wild Fruits and Vegetable
3	Sound Hazard				
4	Air Pollution	Wear breathing mask	Industry	Thromde	
5	Earthquake	Better Construction code of Practice Adoption		Toribari Committee	Accessible to road

3.4.4 Probability and impact matrix

Very Probable			Industries Sound	Earthquake	
Probable		Air Pollution Chemical Pollution	Fire	Landslide Windstorm	
Less Probable		Flood			
Improbable					
Impact	Unimportant	Limited	Serious	Very Serious	Catastrophic

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

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

Priority Hazard: Earthquake, Flood, Landslide, and Fire

Priority Area	Key Activities	Target	Nodal Agency	Supporting agencies	Timeline	Budget estimate (Nu. in M)
Awareness and Education	1.1 Raise awareness on hazard safety (Distribute user friendly key messages on risk reduction and disaster preparedness)	9 Schools (including private), 6 constituencies, Agencies- include vulnerable groups- women and people with disabilities	TDMC members	Thromde Administration DDM RBP	Annually starting 2018	0.5
	1.2 Conduct meeting with TEO, Principals and disaster focal teacher	9 schools	TDMC		2019	
	13 Schools conduct community outreach activities	Nearby Communities	DEO	MoE DDM TDMC	2019-2020	0.2
	1.4 Thromde observes International disaster day (13 th October)	Schools, communities, Rabdey, Business community	TDMO	TDMC, Thromde Administration	Annually from 2018	0.25
	1.5 Raise awareness on family preparedness	All Communities (include	TDMO	DDM, Thuemis	2018-2019	0.200

		people with disabilities)				
	1.6 Raise awareness on insurance benefits and encourage families to insure their property against various hazards	All Gewogs Communities	TDMO	Insurance companies, DDM, Thuemis	2018 – 2019	
	1.7 Raise awareness on installation of fire safety gadgets (fire alarm, extinguishers in govt. and private buildings)	Govt offices and private building owners	RBP/ Thromde		2018-2019	
	2.1 Conduct training on Bhutan Building Codes	Engineers, carpenters, Masons	DE	TDMO, DDM, DES, MoHWS	2018-2019	0.15
Enhance risk reduction and mitigation	2.2 Carry out vulnerability assessment of old/ existing government buildings (earthquake)	Schools, health facilities, cultural buildings, office buildings, Industries, private buildings	DE	TDMC, DDM, DES, MoHWS, MoE,	2019 - 2021	1.00
	2.3 Implement structural mitigation measures or replacement as per vulnerability assessment recommendations on a prioritized	Mitigation for priority structures (Government structures)	DE/ DDMO	DDM, DES, MoHWS, MoE,	2020 onwards	Based on assessment

	basis			Gewog Adm. Dratshang		
	2.4 Institute construction quality control and monitoring mechanism for materials and adherence to standards and designs	Engineering Division	DE/ TDMO	DES, MoWHS, DDM Other relevant sectors	2018 – 2019	0.10
	2.5 Flood and landslide hazard zonation	Phuentsholing Thromde	DGM, DHMS, MoWHS	TDMC, Thromde Administrati on	2018-2020	To propose to MoWHS
	2.5 Implement mitigation measures on a prioritized basis in the Constituencies as per HVCA: - Fire safety training in the 6 constituencies and Pasakha Industrial area, Agencies - Flood mitigation along AmoChhu to be taken up in the AmoChhu reclamation project - Flood mitigation in Om chhu, Balujhora, Barsa and Singye river as per the flood hazard zonation		Thuemis, Respectiv e Sectors, TDMO	DDM, GNHC, MoF, concerned sectors	2018 - 2021	Based on identified priority mitigation activity
	2.6 Strengthen systems to disseminate weather forecast and	Communities	TDMO	DDM, NCHM,	2018-2021	

	advisories			DoA		
	2.7 Installation of fire hydrants as per needs assessment	Thromde	RBP/ Thromde		2018-2020	0.50
	2.7 Training of Engineers, Sector heads and Thuemis on Bhutan Disaster Assessment Tools	Engineers, Sector heads and Thuemis	DDM	Thromde Administration	2018	DDM to conduct
	2.8 Refresher course for the Thromde SAR Team (including De-Suups)	Thromde SAR team, RBP	TDMC	DDM, RBP	Annually from 2018	0.70
	2.9 Ensure fire-fighting preparedness is put in place in the town BOD	BOD	TDMC	TDMC RBP Thromde	2018	
	3.1 Identify Evacuation sites for various hazards (keeping in mind the needs of people with disabilities, women, children and elderly)	Community, Offices	TDMC	DDM, relevant sectors	2018	

	3.2 Establish Thromde Emergency Operation Center (including Standard Operating Procedures)	Thromde	TDMO	TDMC, DDM NDMA, Relevant sectors	2018-2019	(equipment supported through NAPA 2 Project)
	3.3 Procure Urban SAR equipment	Thromde/ RBP	Thromde Administration	DDM	2019	3.0
3. Enhance preparedness, response and recovery	3.2 Raise awareness and sensitize on Thromde DM and Contingency plan (mock drill/ simulation)	Thromde and Drungkhag Administration, Dratshang, RBP, RBA, Judiciary, Regional Offices, De-Suunps, Business and Communities	TDMC	DDM	2018-2019	0.30
	3.3 Stockpile materials required for emergency response and immediate recovery at strategic locations		FCB (Essential food item) Thromde Adm (for other items)	DDM, MoF, relevant sectors	2018-2021	0.500
	3.4 Establish and institute pre-arrangements for emergency	Thromde	Procurement Officer/ Finance	TDMC, DDM, MoF	2018-2019	0.05

Phuentsholing Thromde

	procurement and requirements		Officer			
	3.5 Establish community based early warning system for floods, including flood monitoring and reporting system	Thromde	TDMC	DDM, NCHM, RBP, Thuemis	2019-2020	0.20

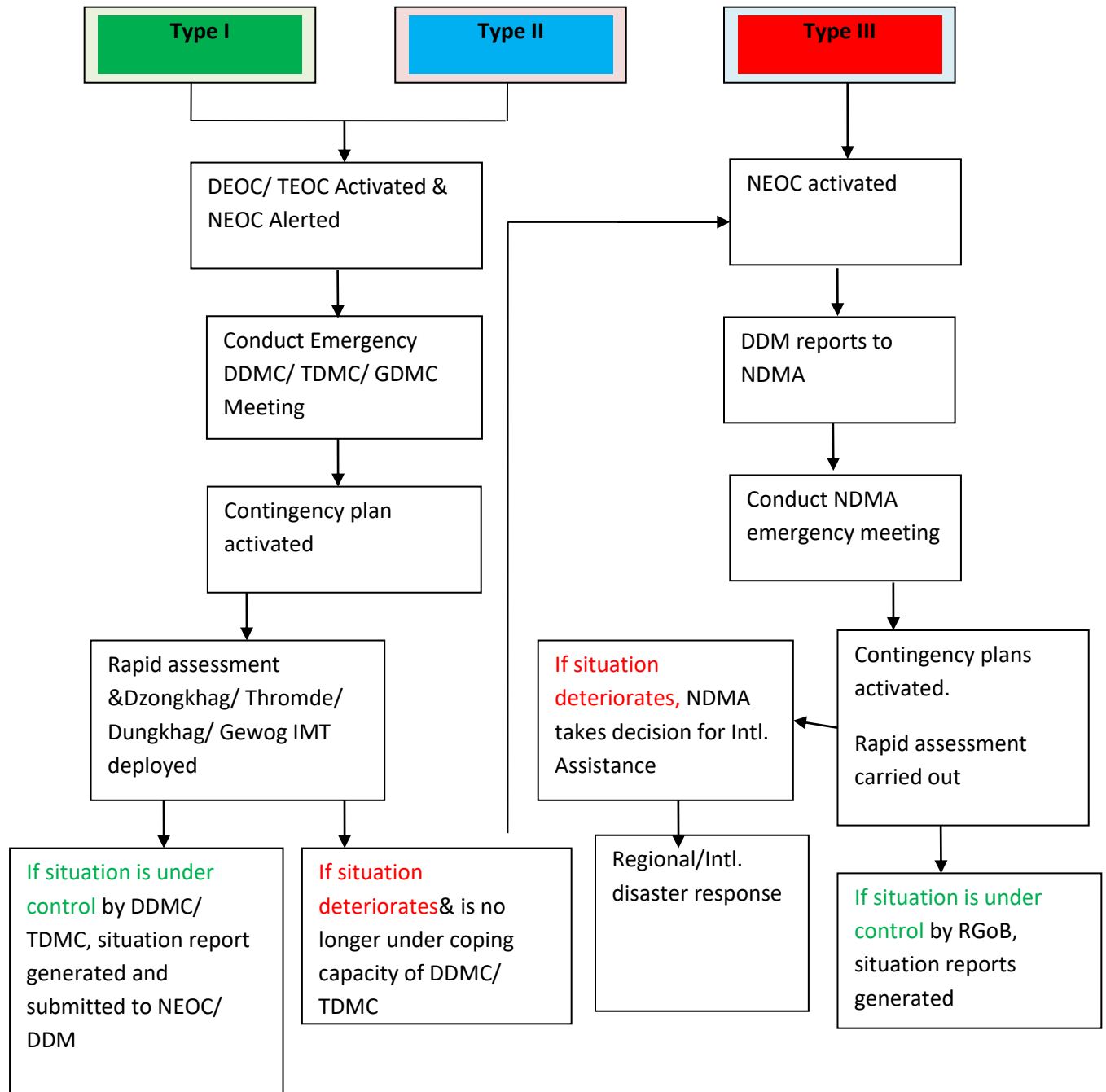
Chapter 5: Thromde Contingency Plan

The contingency plan for Phuentsholing Thromde is developed to have a coordinated response during emergencies and probable disaster (specifically Earthquake and flood) among the stakeholders within the Thromde. The contingency plan will outline only the response and relief operation for the golden hour (immediate, within 24 hours) and for first 2 weeks after the disaster. The key responsibilities and functions of the stakeholders are identified through the incident command system for proper coordination, logistic arrangements and communication during the emergencies.

The incident command system will not be limited to the emergencies/ disasters but can be applied for any events involving mass participation (eg: cleaning campaign, important event celebrations).

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

General disaster decision making and information reporting chart



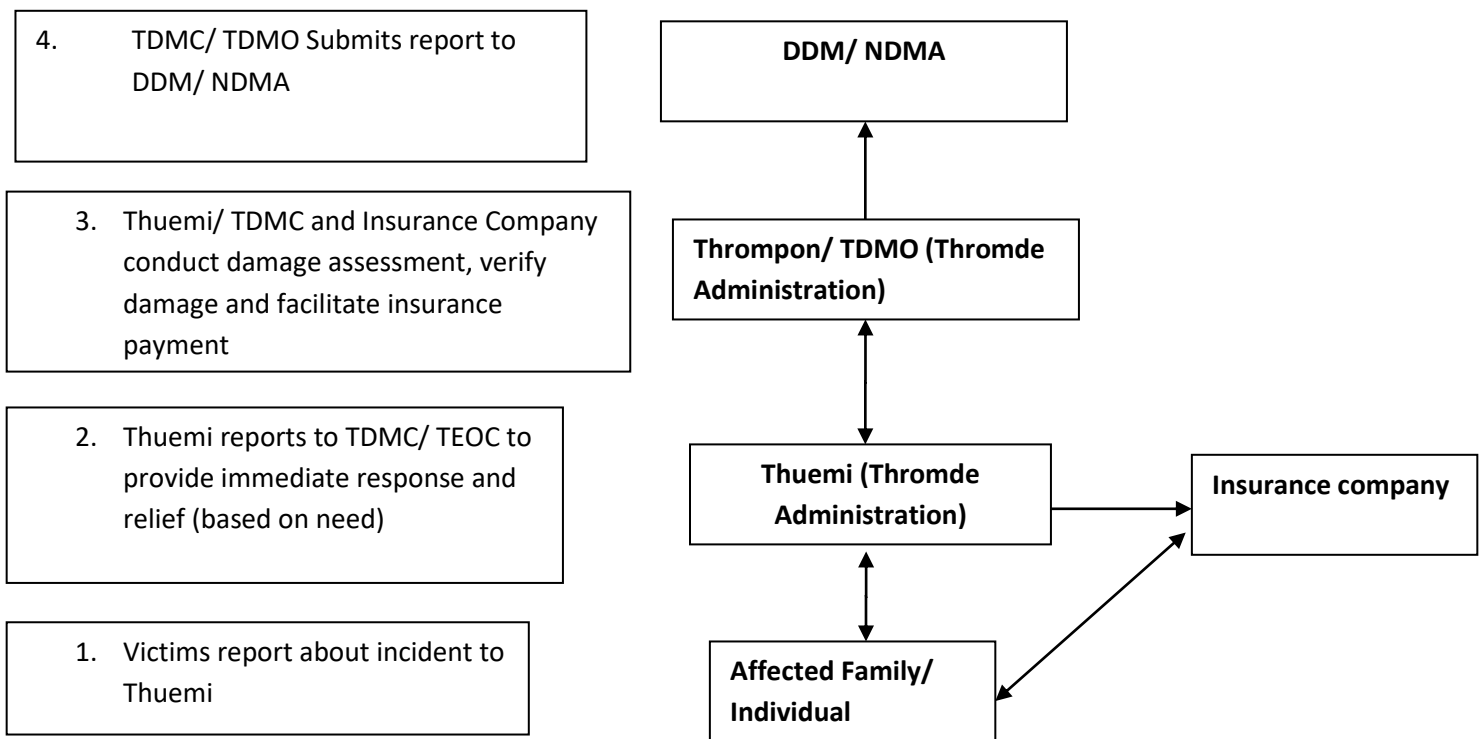
5.1 Standard Operating Procedures for Response

a. 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



b. During disaster:

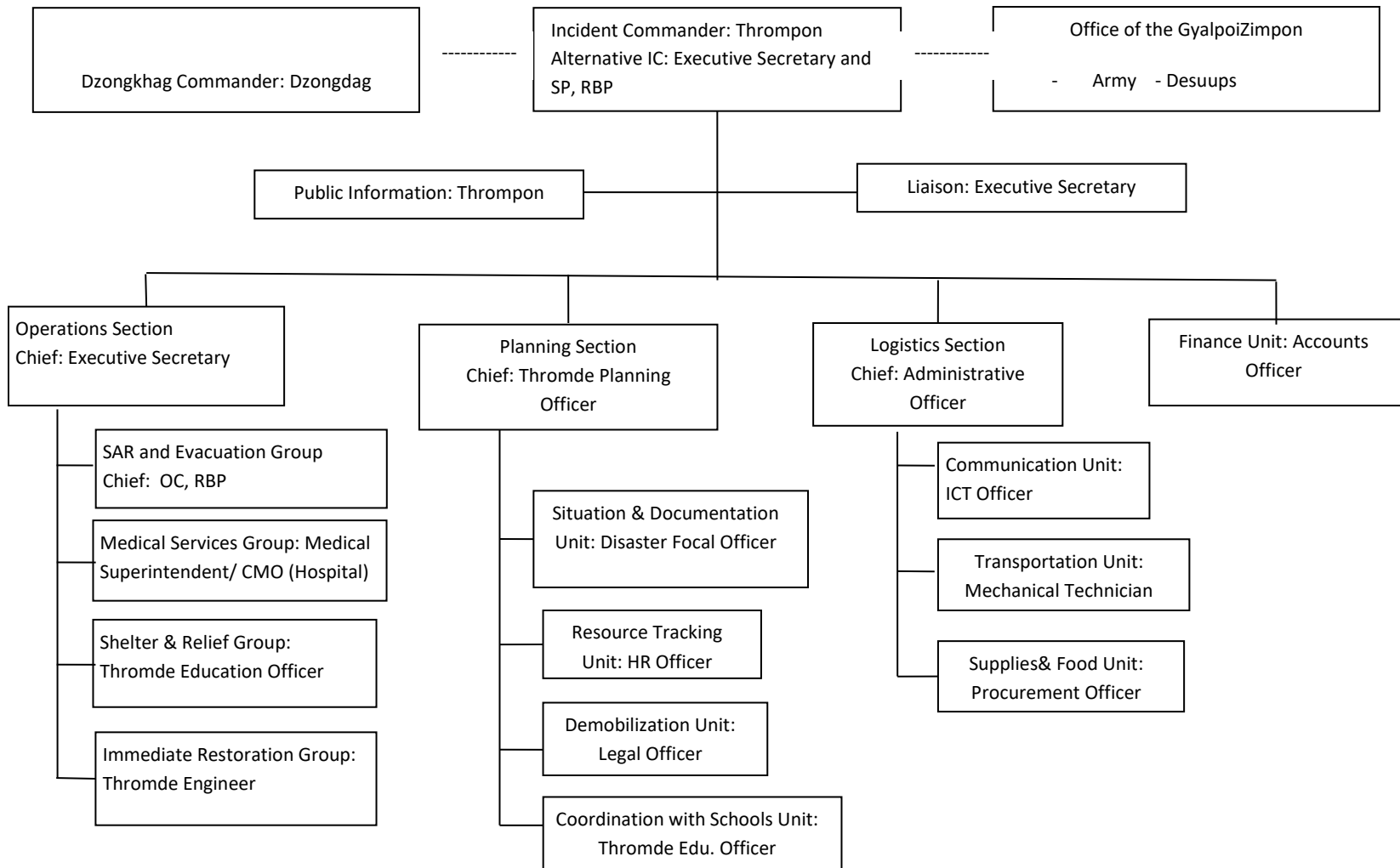
In case of receiving early warning of an impending disaster situation, the TDMC Chairperson shall immediately activate the Thromde Emergency Operation Centre and relay the early warning to all the Thromde constituencies along with orders for evacuation, deployment of Search and Rescue Teams or any other response as required.

Response Immediately during or after a disaster:

1. Thuemi to immediately submit first information to the TDMC/ Thromde Disaster Management Officer (TDMO).
2. The TDMC Chairperson shall activate the TEOC and be in contact with the National Emergency Operation Centre.
3. TDMC and Thromde Incident Management Team to report to Thromde EOC(TEOC)
4. Thromde 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.
5. Thromde Incident Management Team shall direct evacuation of disaster-affected communities to safe areas and temporary shelters.
6. Thromde IMT shall conduct rapid needs assessment as per Bhutan Disaster Assessment (BDA) tools.
7. The TDMO shall submit the First Information Report to TDMC within 24 hours of the incident.
8. IC to provide timely press releases and advisories
9. Thromde to conduct detailed damage assessment along with insurance companies for recovery and reconstruction and submit report to TDMC once the disaster is contained.

Thromde Incident Management Team

The Thromde Incident Management Team is as follows:



Details of IMT positions and Functions

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

Liaison: 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.

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.

5.2 Mode of Communication during disaster/ threatening disaster situation:

- First line of communication: VHF handsets
- Alternative modes of communication: Mobile phones
- Social media (whatsapp, wechat and Telegram groups)
- BBS and radio for giving information to communities
- Sat phone (to be used for emergencies when other modes of communication fail)

5.3 Thromde Emergency Operation Centre Management (TEOC)

The TEOC is established as per Section 105 of the Disaster Management Act of Bhutan 2013. The TEOC will perform the following functions for coordination and management of disasters:

Disaster Management & Contingency Plan 2018

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 TEOC: Opposite Thomde Office

Staffing during normal times:

1. Officer in charge of TEOC: TDMO

During threatening/ disaster situations

1. Thrompon to head the TEOC.
2. Other sector experts to staff the TEOC
3. TDMC to meet in the TEOC to make critical decisions.

5.4 Disaster Lessons Learnt

Disasters offer opportunity for the TDMC and the Thomde IMT to learn from it and to improve their DM and Contingency plan. Thus the TDMO will facilitate the conduct of lessons learnt after every disaster in the format attached as Annexure 1. The lessons learnt will then be incorporated in the Thomde DM and Contingency Plan. In case of Disaster Type II, the lessons learnt will also be shared with DDM for record and reference.

Chapter 6: Implementation Mechanism

As per the DM Act, the TDMC shall be responsible for the formulation, endorsement, implementation, monitoring and updating of the Thromde DM and contingency plan. The TDMC shall meet atleast twice a year to review the plan's implementation progress and to review and update the plan.

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

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 Thromde Disaster Management Officer will facilitate incorporation of priority disaster risk reduction, preparedness, awareness and capacity building activities in annual and five year development plans of the Thromde. The TDMO shall facilitate implementation of the prioritized activities. As member secretary, the TDMO will keep record, maintain data, and assist the chairman of the TDMC in monitoring the DM plan activities. The TDMO shall present the plan's progress during TDMC meetings and update DM plan activities and budget annually. TDMO will also ensure that reports are submitted to the DDM and the NDMA, as required.

Financial Provisions as per the Disaster Management Act of Bhutan 2013

As per the Disaster Management Act 2013, there 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 Reconstruction* budget.

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

- i) Preparedness
- ii) Response and Relief Expenditure
- iii) Recovery and Reconstruction

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, purchase of equipment 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 the disaster resilient technology inclusive of its budget.

Response and Relief Expenditure

As per the DM Act 2013 there shall be a Thromde Disaster Management Committee (TDMC). The Chairperson of TDMC shall, upon declaration of disaster, have the authority to use annual budget of the concerned Thromde, to provide 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 Thromde/Sectors, may be exempt from standard procurement procedures specified in the Procurement Rules and Regulations, where exigencies of the disaster situation demand, as per section 89 of the DM Act 2013”.

- 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 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 TDMC may make written requests to the Chairperson of the NDMA for additional funds from DNB, MoF.

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

Recovery and Reconstruction

The budget requirement for the recovery and reconstruction works should follow the normal budgetary process. The TDMC 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 Thromde 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 activities to finance the requirement.

Annexure:

1. Disaster Lessons Learnt Template

Disaster Lessons learnt Template

SI 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.	What was the response to the disaster/ incident: a) Initial response b) Coordination c) Reporting d) Response taken by the Dzongkhag/ Drungkhag/ Thromde/ Gewog IMT? e) Did you get feedback from the affected communities? f) How did you involve the corporate/ private sector and volunteer services?		
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: Thromde to conduct lessons learnt for all incidents and improve their response. Lessons learnt report of disasters of higher magnitude to be submitted to DDM.

2. Contact details of Thromde Disaster Management Committee

Sl. No	Members	Designation	Organization	Position in the TDMC	Contact No.
1.	Uttar Kumar Rai	Thrompon	Thromde Office	Chair	17410281
2.	WangchukThayey	Executive Secretary	Thromde Office	Vice-chair	17760096
3.	Karma Rinchen	Drungpa	Dungkhag	Member	17600072
4.	Wangchuk La	SP	RBP	Member	17644913
5.	DorjiWangchuk	TEO	Thromde	Member	17761714
6.	SangayDorji	Regional Secretary	BCCI	Member	
7.	DorjiWangchuk	Planning Officer	Thromde	Member	17821439
8.	TashiDorji	De-Suung Coordinator	De-Suung	Member	77105582
9.	Nakchung	Electrical Officer	Thromde	Member	17636521
10.	NimaWangmo	Environment Officer	Thromde	Member Secretary/ TDMO	17504283
11.	SharmilaLimbu	Tshogpa	Phuentsholing Toed	Member	17569994
12.	Nar Bdr Rai	Tshogpa	Pasakha	Member	17684381
13.	PravathRai	Tshogpa	Nyedrak	Member	17461726
14.	ChungkuDawa	Tshogpa	Phuentsholing Mae	Member	17475517
15.	PassangNorbuTang	Tshogpa	Rinchending	Member	17475746
16.	TirthaMaya Mongar	Tshogpa	Perkarshing	Member	77373946

2. Contact details of Thromde IMT

Sl. No	Name	Designation	Position in the Thromde IMT	Contact No.
1.	Uttar Kumar Rai	Thrompon	Incident Commander (IC)/ Public Information	17410281
2.	WangchukThayey	Executive Secretary	Alt. IC/ Liaison/ Operations Section Chief	17760096
3.	Wangchuk La	SP	Alt. IC	17644913
4.	DorjiWangchuk	Planning Officer	Planning Section Chief	17821439
5.	TshewangTandin	Adm. Officer	Logistics Section Chief	17768405
6.	Uma Pradhan	Accounts Officer	Finance Unit	17911067
7.	UgyenTshewang	OC, RBP	SAR & Evacuation Group Leader	17131358
8.	ThinleyPelzang	CMO	Medical Services Group Leader	17757814
9.	DorjiWangchuk	Dy. Chief TEO	Shelter & Relief Group Leader/ Coordination with Schools Unit Leader	17761714
10.	Karma Thinley	Asst. Engineer	Immediate Restoration Group Leader	17563668
11.	NimaWangmo	Env. Officer	Situation & Documentation Unit	17504283
12.	KunzangLhamo	HRO	Resource Tracking Unit	17491402
13.	DorjiZangmo	Legal Officer	Demobilization Unit	17526007
14.	Sanjay Gurung	Sr. ICT Officer	Communication Unit	17612316
15.	SonamJamtsho	Mechanical Technician	Transportation Unit	17979292
16.	AshisSubba	Procurement Officer	Supplies & Food Unit	17783881

3. Contact Details of School Principals and Focal Teachers

Sl #	Name	School	Mobile No.
1	Yanki Dem	PHSS	17655533
2	Tshewang	PMSS	17655553
3	DorjiTshering	SMSS	17678991
4	TshewangRinzin	PLSS	17617714
5	Jigme	Norbu Academy	17661200
6		YontenKuenjung Academy	17465053
School Disaster Focal Persons			
Sl #	Name	School	Mobile No.
1	Hem Raj Subbaa	PHSS	17623481
2	TashiPenjor	PMSS	17555661
3	Taupola	SMSS	17720162
4	Jamba Choeda	PLSS	17611351
5	Jigme	Norbu Academy	17661200
6		YontenKuenjung Academy	17465053

4. Contact Details of Thromde SAR team

Sl.No	Name of Desuup	DS ID No.	CID No.	Contact No.	Organization/Dept
Coordinator					
1	TashiDorji	DS(15)15-1703	11505004976	77105582	Dy. General Manager, HR/Adm.,Tashi Metals (Tashi Group)
Dy. Coordinator					
2	Penpa	DS(05)12-485	12003002516	17351399	Lobouofficer,DEL,MOLHR
GROUP - A					
1	SonamZangmo (Sub Gojay)	DS(23)17-2648	11705000340	17717887	Teacher, Sonamgang MSS
2	GopalGhalley	DS(01)11-050	11202001569	17685144	Environment officer,BCCL
3	KelzangLhamo	DS(01)11-118	10606002062	17571399	Self Business
4	UgyenThinley	DS(02)11-170	10101005435	77219793	Asst.Manager,BFAL
5	DorjiWangdi	DS(02)11-186	12001001030	17986715	Marketing officer,TCC

6	PemaDechen	DS(17)15-2009	11410004553	17859447	Drangpoen,Royal Court
7	Karma Rinchen	DS(17)17-	11302002342	17600072	Drungpa, MOHCA, Pling
8	Tanka Bdr. Pradhan	DS(04)12-408	11309001381	77867383	Asst.Manager (BOD)
9	UgyenNamgyal	DS(24)17-2855	11506000868	77241268	Work-Japanese language training
10	TsheringChoden	DS(24)17-2803	1200800176	17628878	Immigration Inspector
GROUP - B					
1	Nagwang (Sub Gojay)	DS(23)17-2734	11301001434	17734632	Teacher, Sonamgang MSS
2	YeshiDorji	DS(05)12-524	10602000177	17937521	Teller,BNBL
3	KingaThinley	DS(05)12-481	11503001047	17891151	General Manager,RICBL
4	Hem Raj Subba	DS(06)13-637	11204001206	17623481	Teacher,PHSS
5	Zangmo(Treasurer)	DS(23)17-2747	10211002737	17977620	Teacher, Sonamgang MSS
6	TshewangPhuntsho	DS(24)17-2873	11512000718	17301632	Fresh Graduate
7	Tashi Tenzin	DS(24)17-	12003002738	17393673	Asst. Program Manager, BOC
8	ChokiDorji	DS(24)17-2823	12002000552	17609554 RRCO
9	JigmeDorji	DS(08)13-855		17989393	Pharmacy Technician,PGHospital
GROUP - C					
1	ChenchoDhendup(Sub Gojay)	DS(08)13-882	10810001677	17629732	Junior Engineer,BPC
2	SangayDorji	DS(07)13-721	11411001720	17280051	CI Officer,BFAL
3	KezangChoden	DS(06)13-678	11410005145	17655370	Teacher,Chumithang MSS
4	Gem Tenzin	DS(11)14-1179	10102000692	77647560	Officiating Tax Head, RRCO
5	TsheringDorji	DS(18)16-2081	11506006188	17644574	Teacher ,Pling MSS
6	Karma Nidup	DS(17)15-1941	11410002698	17110895	MD,FCBL
7	Dr.ChokiDorji	DS(17)15-1993	11502003029	17899867	Driector.CST
8	RinchenDema	DS(24)17-2773	10706001011		Immigration Inspector

9	Darjay	DS(24)17-2881	115122000100	17726790 RRCO
GROUP - D					
1	TashiPhuntsho 'B' (Sub Gojay)	DS(18)16-2039	11506003152	17547753	Teacher,Kamji Center School
2	TashiPhuntsho'A'	DS(18)16-2031	10203002890	17658876	Teacher,Kamji Center School
3	Dawa	DS(06)13-607	10203004533	17911901	Teacher,Tashilakha PS
4	NetenDorji	DS(06)13-644	10702001245	17410621	Teacher,wangdigatshel PS
5	PemaLhendup	DS(06)13-621	10905005207	17716962	Teacher,Kamji Center School
6	ChhimiDorji	DS(18)16-2026	10606000017	17952663	Teacher,Kamji Center School
7	UgyenDorji	DS(18)17-2023	11514001242	17575796	Teacher,Kamji Center School
8	DechenWangmo	DS(23)17-2650	12001001036	1434727	Teacher, Lingden PS, Pachu
GROUP - E					
1	Tshering (Sub Gojay)	DS(16)15-1897	10204001456	17237757	Incharge,HotelDruk
2	JigmeYeshe	DS(11)14-1214	11702000727	17838527	Regional Officer,NPPF
3	TashiWangchuk	DS(09)13-982	11509004287	17380844	Self Business
4	TashiDekar	DS(09)13-1051	11503003354	17646000	Self Business
5	ChenchoDorji	DS(09)13-1005	20805000009	17261700	Freliance tour guide
6	Karma Wangchuk	DS(11)14-1218	11506000305	17470855	Central Stores, Bhutan Brewery
7	LungyalZangpo	DS(12)14-1322	11512001864	17728862	Immigration Inspector
8	PemaWangda	DS(09)13-1007		17716781	Sersang Agriculture
9	KuenzangChoki	DS(16)15-1886	11410004947	17624608	TashiBeverages,SalesExcecutive
GROUP - F					
1	Chadho (Sub Gojay)	DS(16)15-1767	11915001261	17668789,RRCO
2	K.S Dendup	DS(13)14-1520	11704001083	17110137	MD,Bhutan Polythene

3	Towpola	DS(14)15-1537	1010200697	17720162	Teacher, Sonamgang MSS
4	SangayPenjor	DS(14)15-1533	12004002980	17709655	Teacher, Chumithang MSS
5	Tenzin Jamtsho	DS(15)15-1708	11106005006	17610559	Self Business
6	NidupGyeltshen	DS(15)15-1660	10705002128	17592763	Legal Assistant, Royal Court
7	KinleyTshering	DS(15)15-1675	11907000607	17698484	Immigration Officer
8	Karma(Jerry)	DS(15)15-1721	11405001234	77391922	Safety Officer, Ugyen Ferro
9	SonamPenjor	DS(15)15-1714	11904001645	17691099	BBS Reporter
10	WangchukThayey	DS(17)17-		17760096	Executive Secretary, Thromde

Thromde SAR Trained Personnel

Sl.No	Name of SAR Trainees	Contact No.	Organization/Dept	Email Address
1	Ugyen	17765501	Urban Planner, Thromde	ugyen@pcc.bt
2	Migma Sherpa	77264594	Sr. Technician II/ Thromde	msherpa@pcc.bt
3	BhuddhimanDarje		JE/Thromde	bdarjee@pcc.bt
4	Sonam Tenzin	17161110	Building Inspector/ Thromde	stenzin@pcc.bt
5	PemaLhendup	17999955	Electrician	plhendup@pcc.bt
6	JamtshoDrukpa	17664398	Sr. Technician I/Throme	jdukpa@pcc.bt

5. Evacuation Sites

Sl.No	Evacuation sites	Disaster
1	TashiChoelingShedra Ground	Flood/Earthquake
2	Hospital area open space	Flood/ Earth quake
3	FCB Godown area	Flood/ Earhquake
4	Kabraytay Children park	Earthquake
5	RSTA Ground	Earthquake
6	PHSS school Ground	Earthquake
7	PSA Ground	Flood/ Earthquake
8	YDF Hall	Flood/Earthquake
9	Yoga Centre	Flood/ Earthquake
10	PMSS MPH hall	Flood/ Earthquake
11	KharbandiGoenpa Ground	Flood/Earthquake
12	RRCO parking area	Flood/ Earthquake

Disaster Management & Contingency Plan 2018

13	CST campus open spaces	Flood/ Earthquake
14	BCCL colony ground	Earthquake
15	IIDD hall and open space	Flood/ Earthquake
16	Pasakha Lhakhang Open space	Flood/ Earthquake
17	GurungDara top	Flood/ Earthquake
18	New Truck Parking	Earthquake

6. Capacity in the Thromde

SAR, EOC equipment and machineries

Thromde Emergency Equipment

Sl.No	Name of Equipements	Numbers
1	Hard hat(Light weight design, sturdy short brim for better vision)	12
2	PrusikTendem Loop	10
3	Single pulley (pairs)	6
4	Jummer Ascender (pairs)	2
5	Figure of 8 decender	12
6	Static Rope 11mm (100mtrs)	2
7	Seat Harness	12
8	Plain Carabineer	12
9	Screw Carabineer (25KN)	20
10	Screw Carabineer (75N)	2
11	Ringer Gloves	5
12	Tape Sling 1" Flat (100m roll)	1
13	Lead Search Light	3
14	Basket Stretcher	1
15	Water Throw Bag	4
16	Dynamic Rope 11m (100m)	2
17	Double pulley	4
18	Easy Evacuation Stretcher (ord)	2
19	Life Jacket	4
20	Anchor Plate	1
21	Full Body Harness (Ptlz)	2
22	Spine Board	1
23	Triangular evacuation harness	4
24	Fall Arrester	1
25	Knee Pad	2
26	Elbow Pad	2
27	Easy Anchor Wedding	2

28	Easy Anchor Cable	1
29	Prusik Cord	1
30	Static Rope 200mts	1
31	Desktop Computer Set	3
32	Computer Table	3
33	Computer Revolving Chair With arm	3
34	UPS Backupp APC-3KVA	1
35	White Board Medium (4x6)	1
36	Photocopy Machine (Cannon 2202 N0	1
37	Printer (HP Lazerjet P3015 dn)	1
38	Web Camara	1
39	Irridium 9555 Handset	1
40	IrridiumSim Card	1
41	Tarpaulin Sheet	5
42	Emergency tent	10
43	Life Jacket (T)	5
44	Fire Brigade	1
45	Excavator	1
46	JCB	1

Disaster Management Terms

Capacity

The combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals.

Capacity development

The process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions.

Coping capacity

The ability of people, organizations and systems, using available skills and resources, to manage a disaster.

Disaster

Subject to section 132 of the DM Act 2013, means a natural or man-made occurrence, which causes environmental loss, increased mortality, illness or injury, and destroys or disrupts livelihoods, affecting the people of an area as classified under Chapter 9 of the Disaster Management Act.

Disaster risk management

The systematic process of using administrative, directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.

Disaster risk reduction

Means the conceptual framework of elements considered with the possibility to minimize vulnerability and disaster risk throughout the society and to avoid or to limit the adverse impact of hazard within the broad context of sustainable development.

Disaster risk reduction plan

A document prepared by an authority, sector, organization or enterprise that sets out goals and specific objectives for reducing disaster risks together with related actions to accomplish these objectives.

Early warning system

Set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.

Mitigation

Measures aimed at reducing risk, impact or effect of a disaster or an impending disaster situation.

Preparedness

State of readiness to deal with a potential disaster situation or disaster and its effects thereof.

Prevention

Measures taken to avert a disaster from occurring or to impede a hazard so that it does not have any harmful effects.

Recovery and Reconstruction

Efforts, including development, aimed at: a) Restoring normalcy in condition caused by disaster; b) Mitigating the effect of disaster; or c) Creating circumstances that will reduce the risk of similar disasters from occurring.

Response

Measures taken during or immediately after a disaster in order to bring relief to people and communities affected by the disaster and includes activities such as search and rescue, evacuation, rapid assessment, relief distribution among others.

Retrofitting

Reinforcement or upgrading of existing structures to become more resistant and resilient to the damaging effects of hazards.

Risk

The level of value of expected losses in the form of deaths, damage to property etc. caused by a hazard.