



PDMA



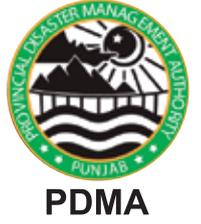
SNOWFALL CONTINGENCY PLAN OF PUNJAB

WINTER SEASON
2022/23

PROVINCIAL DISASTER
MANAGEMENT AUTHORITY
(PDMA), PUNJAB



PROVINCIAL DISASTER MANAGEMENT AUTHORITY



**SNOWFALL CONTINGENCY
PLAN OF PUNJAB**
**WINTER SEASON
2022/23**



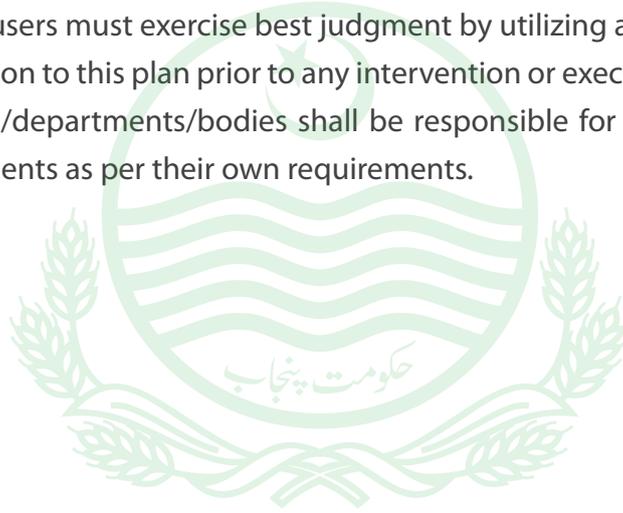
GOVERNMENT OF THE PUNJAB

Disclaimer

The data and content expressed in this plan is as received from different departments/authorities and District Administrations, and do not necessarily reflect the views of PDMA Punjab.

Though a conscientious effort has been made to ensure the correctness and accuracy of data and analysis presented in this plan, readers must understand that future events may not be realized as estimated, and the past occurrences may not necessarily guide the future scenarios. PDMA will not bear any legal responsibility as a result of repercussions arising out of the use of any one or multiple products for any purpose.

It is suggested that users must exercise best judgment by utilizing all available sources of information in addition to this plan prior to any intervention or execution of activities. The agencies/authorities/departments/bodies shall be responsible for carrying out detailed site-specific assessments as per their own requirements.



Copyright 2022

Provincial Disaster Management Authority, Punjab, Pakistan

All rights reserved. Any part of this report may be used or reproduced for academic and not for profit purpose provided proper acknowledgement is made. For inquiries and feedback, please contact:

Director General PDMA, Punjab 40, Lawrence Road, Lahore.

email: pdma.gop@gmail.com

Executive Summary

Since its establishment in 2010, the Provincial Disaster Management Authority (PDMA), Punjab has made tremendous efforts in shifting paradigm from reactive to proactive approach with more focus on mitigation, prevention, and preparedness. Likewise, facing to some of major disasters during recent years, the PDMA was able to handle disasters very effectively with the close coordination of all government and non-government stakeholders, which ultimately helps in building internal capacities to manage disasters by undertaking several initiatives including the development of scenario based multi-hazard vulnerability and risk assessment, establishment of hi-tech provincial and district levels emergency operation centers, satellite based connectivity with District Disaster Management Authorities (DDMAs) and line departments for early warning dissemination, Punjab Disaster Management Information System, establishing humanitarian response facilities with all possible emergency response stockpiling, DSNGS Vans, and mobile communication facilities etc.

The preparation for snowfall season is one among such initiative, where PDMA takes all preparedness measures well before the onset of winter season to keep ready for facing any emergency and unforeseen situation arising due to the heavy snowfall, and snowstorm/blizzards. The development of Snowfall Contingency Plan is the continuation of such efforts to check the readiness, pool available resources, identify resources that might be required, share responsibilities and monitor situation on 24/7 basis through provincial and district emergency operation centers (PEOC and DEOC) established at the PDMA and District Administration premises. The plan has been developed through series of consultations with the District Disaster Management Authorities (DDMAs) Provincial and National level stakeholders and in-house deliberate discussion and review at the PDMA.

This Snowfall Contingency Plan developed keeping in view three scenarios i.e. pre-snowfall, during snowfall and post-snowfall arrangements.

The activation procedures of provincial and districts emergency operation centers are explained in this plan, where the PEOC will serve as the hub of coordination for the Government response to any winter and snowfall related disaster. The center shall receive early warnings and issue information to the general public, media, ministries, departments, and humanitarian response agencies. The PEOC and Rawalpindi and Murree DEOCs shall be operational round the clock to meet any unforeseen situation and take on-time measures to safeguards lives of general public.

Glossary of Acronyms

BHU	Basic Health Units	THQ	Tehsil Head Quarter
C&W	Communication & Works	UC	Union Council
FWO	Frontier Works Organization	PTCL	Pakistan Telecommunication Company Limited
CBO	Community Base Organization	POL	Petroleum, Oil and Lubricants
DDMA	District Disaster Management Authority	PEOC	Provincial Emergency Operation Center
DDMP	District Disaster Management Plan	PDMA	Provincial Disaster Management Authority
DEOC	District Emergency Operation Centre	PMD	Pakistan Meteorological Department
DHQ	District Head Quarter	SMS	Short Message Service
IEWS	Integrated Early Warning System	IESCO	Islamabad Electric Supply Company
NGO	Nongovernmental Organization	NHA	National Highway Authority
DRR	Disaster Risk Reduction	PDMC	Provincial Disaster Management Commission
DRM	Disaster Risk Management	DSNG	Digital Satellite News Gathering
FM	Frequency Modulation	DC	Deputy Commissioner
DPO	District Police Officer	HR	Human Resource
GPO	General Post Office	CMH	Combined Military Hospital
TDCP	Tourism Development Corporation Pakistan	RWMC	Rawalpindi Waste Management Company

Contents

Disclaimer	i
Executive Summary	ii
Glossary of Acronyms	iii
Context and Background	v
i. Introduction to the Provincial Disaster Management Authority, Punjab	v
ii. Purpose of Snowfall Contingency Plan	vi
iii. Scope of the Plan	vi

CHAPTER - 1 OVERVIEW 01

i. Geographic and Demographic Settings of Punjab Province	02
ii. Climate and Weather	03

CHAPTER - 2 HAZARD PROFILE OF DISTRICT MURREE 04

i. Murree District	05
ii. Snow Storm/Snow Blizzard Hazard	06
iii. Recent Snow Storm Incident	07

CHAPTER - 3 RESPONSE MECHANISM DURING DISASTER 08

Strategy for Current Winter Emergencies	09
1. Taking Support for the PMD's Winter Weather Outlook	09
2. Outlook for December-January-February (DJF) 2022-23	09
3. Guidelines for Winters 2022/23	10
4. Disaster Risk Management Measures	11
i. Roles and Responsibilities of Key Line Department	11
ii. Development of the District Level Snowfall Contingency Plans	14
iii. Establishment of the Emergency Operation Center at PDMA and DDMA's	15
v. Strengthening Early Warning System	16
vi. Setting Alert Levels	16
vii. Identification Important Roads/Routes	17
viii. Responding to Trapped Tourists	18
ix. Establishment of the Facilitation Centers	19
IX. Establishment of Relief Camps	20
X. Tourist Education & Awareness	21

CHAPTER - 4 ANNEXES 22

i. Human Resource Available at Murree	23
ii. Machinery / Equipment Available at Murree	24
iii. Backup Resources	25

Context and Background

i. Introduction to the Provincial Disaster Management Authority, Punjab

Over the years, reactive disaster response approach remained a predominant way of dealing with disasters in Pakistan and Punjab province was not an exception. Before earthquake of 2005, neither preparedness for disaster management had been prioritized nor did it become part of the planning and budgeting processes in the province. That is the reason that, neither designated organizations could be developed nor human resource could be designated and trained for effective disaster response management. Most importantly many areas that significantly contribute to reduce the consequences of disasters were either ignored or could not be regulated effectively. This includes encroachments, violation, or absence of building codes, effective management of canal system, pollution, and management of industrial waste, etc.

The heavy damage brought about by the earthquake in 2005 and of flood 2010 were wakeup calls for the whole country that led Punjab to initiate provincial level efforts in developing a robust disaster management system with focus on prevention, mitigation, preparedness and integration of responses by conducting a review of traditional disaster management system and policies on emergency response. Further, effective institutional and policy arrangements were emphasized by promulgating National Disaster Management Ordinance 2006 that became the Act of the parliament in year 2010. After the 18th Amendment in the constitution, the management of disasters became provincial subject, which enhanced the need that effective provincial policies, strategies, and programs for the protection of communities prone to disasters.

With the understanding that spending more on mitigation and preparedness shall save more during disaster response and recovery, the government of Punjab is committed to develop specialized institutions which are well-prepared to mitigate and respond to any natural and human-induced disasters in the province. Now the institutional knowledge within the governments has increased for effective response, stakeholders became more aware and the Punjab government has demonstrated its commitment to priorities and plan for mitigating and managing disasters. This is demonstrated through implementation of National Disaster Management Act 2010 to facilitate in implementation of disaster risk management system in the country.

The Provincial Disaster Management Authority (PDMA) is headed by the Director General. Under the National Disaster Management Act 2010, the following powers and functions of PDMA have been designated:

- I. Formulate DRR policy and obtain approval of the PDMC;
- II. Ensure implementation of DRR policy and disaster management plans in the province;
- III. Coordinate and monitor the implementation of the National DRR Policy, National and Provincial DRM Plans;
- IV. Examine the vulnerability of different parts of the province to different disasters and specify prevention or mitigation measures;
- V. Lay down guidelines to be followed by provincial departments and district authorities for preparation of disaster management plans;
- VI. Evaluate preparedness and response arrangements of public and private agencies/ departments at the provincial level;
- VII. Coordinate response during any disaster situation; give directions to any provincial department or authority regarding actions to be taken for emergency response; and
- VIII. Ensure that communication system is in order and disaster management drills are being carried out regularly.

ii. Purpose of Snowfall Contingency Plan

The purpose of developing Snowfall Contingency Plan, Winter Season 2022/23 is to provide information and guidelines to all the stakeholders, especially the District Administration, regarding the necessary measures required for readiness and preparation to manage the hazards related to snowfall. The purpose is to save the lives, livelihood, properties and infrastructure by employing all possible measures through coordinated efforts. This outlines a comprehensive, integrated and coordinated approach, and reflects a shared responsibility for flood related emergency response management.

iii. Scope of the Plan

The scope of this plan includes:

- Extent of potential primary and secondary hazards related to snowfall, and snowstorm and its possible consequences to general public and infrastructure
- The strategy, practices, and Standard Operating Procedures (SOPs), in place to mitigate risks and build community resilience before, during and after occurrence of disaster.
- The institutional and organizational responsibilities and inter-organizational coordination to undertake various activities for rescue, provision of relief, rehabilitation activities during and after the snowstorm and snowfall events at local level.



CHAPTER 1

OVERVIEW

According to the population census of 2017 statistics, the total population of Punjab province is 109,989,655 accounts for around 53% of the country's total population share. The total population living in urban areas is recorded as 40,547,205 with a share of 36.86% against 69,442,450 in rural areas with a share of 63.14%. The average population density of the province is 536 person/km².

Murree features a monsoon influenced subtropical highland climate (Cwb) under the Köppen climate classification. It is situated in the outer Himalayas, retaining high altitude. This type of area has cold, snowy winters, relatively cool summers with drastically escalated rain, in relation with lower altitudes, and frequent fog. Precipitation is received year round, with two maxima, first one during winter and second one at summer, July–August. Total mean precipitation annually is 1,904 mm (75.0 in). Murree receives around 62.6 inches (1,590 mm) of snow per year according to a 13-year data. Heavy snowfall starts in January and February.

Murree District is a district in the northernmost part of Punjab province of Pakistan, with it being headquartered in Murree city. It is a relatively new district established on 14 October 2022, and is a tourist district of Pakistan. It has two tehsils, Kotli Sattian and Murree.

Sr.No	Tehsil	Headquarter	Area (Kms)	Population (2017)
1	Murree	Murree	434	119,312
2	Kotli Satian	Kotli Satian	304	233,471

ii. Climate and Weather

Most areas in Punjab experience extreme hot weather during summer and cold foggy in winter especially in the plain areas. Over the years, the temperature ranges between -1°C to 42°C. However, occasionally it reaches up to 48°C in summers and can touch down to -05°C in winter. Most of the rainfall receive during summer season, anticipated to reach Punjab by the end of June and continue till September first half, although irregularities found in weather pattern and rainfall distribution since early 1970s. The average annual rainfall ranges between 120 mm in Bahawalpur division to 1778.2 mm in Rawalpindi and in 1004 mm in Sialkot district. The North-Western parts of the province lie on the foothills of the Himalayan range and hence experience higher rainfall, especially in the winter season.

Murree, which lies in the Rawalpindi division experiences 1778 mm of rainfall on average annually. The rest of the province is mostly semi-arid and plain which receives considerably less rainfall throughout the year. The southern parts of the province are predominantly dry arid land, with deserts in the extreme south bordering India and Sindh province.



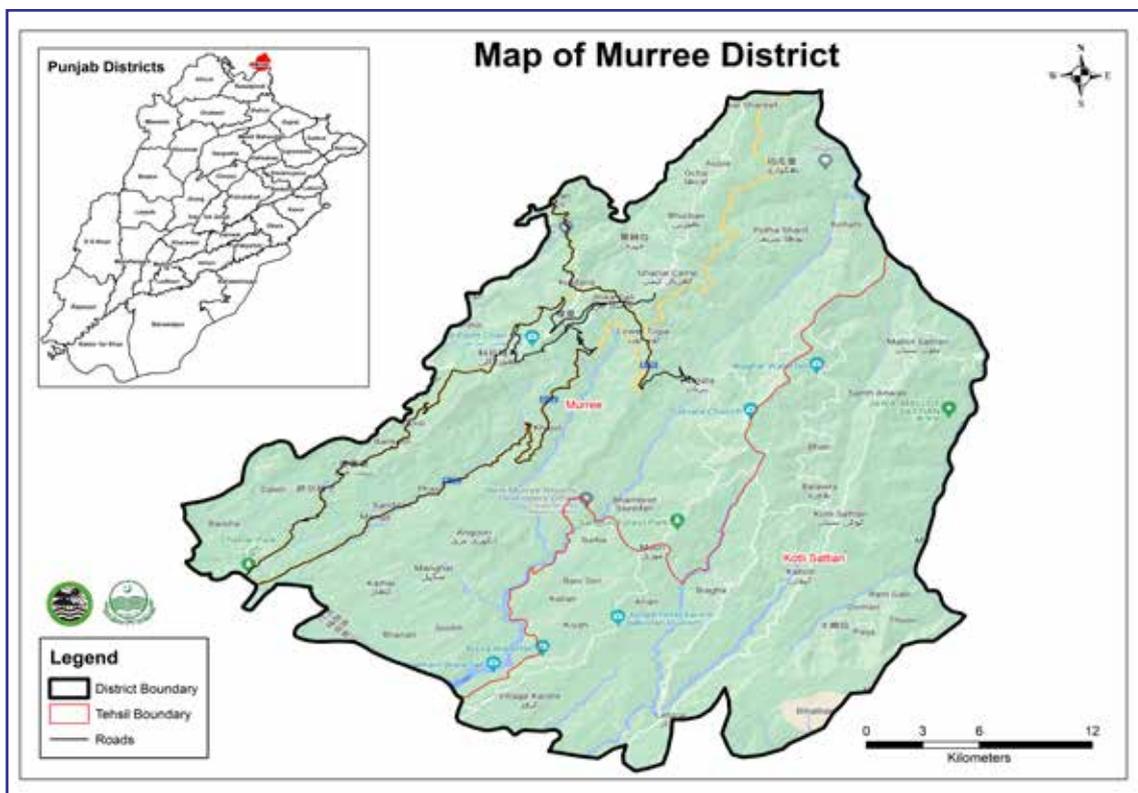
CHAPTER 2

HAZARD PROFILE OF DISTRICT MURRE

i. Murree District

Murree is a district in the northernmost part of Punjab province with it being headquartered in Murree city, which forms the outskirts of the Islamabad-Rawalpindi metropolitan area, and is about 30 km northeast of Islamabad. It has average altitude of 2,291 metres.

Murree city is a major tourist station with peak visitors in the Winter Season (December and January) and Summer Season (June and July) each year. 7th January 2022 was a dark day in history of Murree where due to unprecedented snow blizzard 22 tourists lost their lives while being stuck in their cars, reportedly due to Carbon Monoxide poisoning.



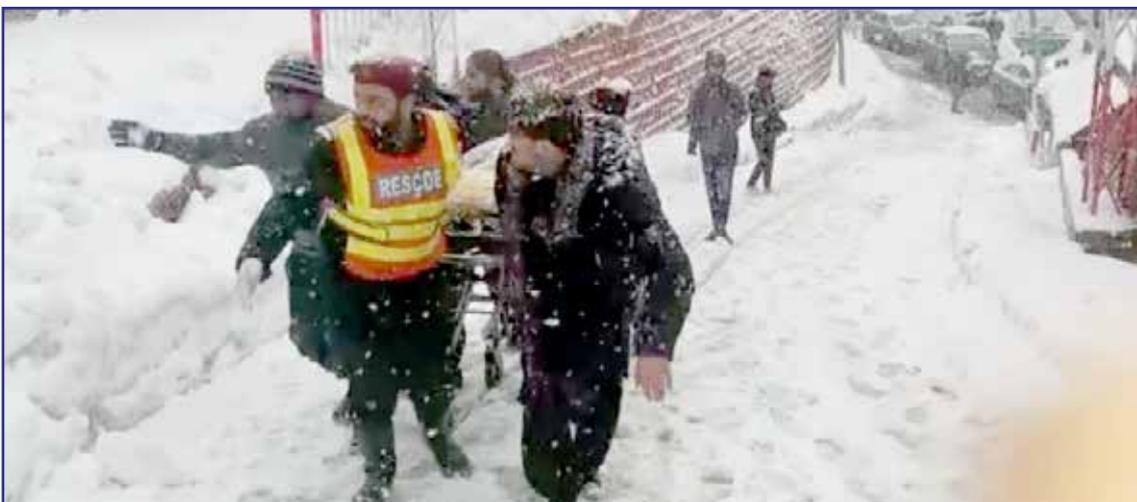
The District Administration prepared a digital map taking into consideration the topography of District Murree and its past climate patterns to identify areas that receive the highest amount of snow. As can be seen from the map below, the following points have been identified as most crucial hence needing utmost attention for all Departments. These can be listed as Lower Topa, Jhika Gali, Bhurban, Mall Road, Pindi Point, Kuldana, Darya Gali, Barrian, Bansra Gali and Ghora Gali (highlighted as dark blue).

iii. Recent Snow Storm Incident

During the snow storm incident 2022 in Murree, several vehicles became stuck on the roads due to the snowfall and thousands of tourists spent the night on the roads. On 7th January, a blizzard dumped four feet of snow on Murree. During the intervening night of 7 and 8 January, over 157,000 vehicles entered Murree as snowfall began. Cars were packed bumper-to-bumper on the roads surrounding Murree. All routes into and out of Murree were effectively blocked, leaving the tourists stranded. When it began to snow heavily, a lot of people left their cars on the roads to seek shelter in hotels, further contributing to the congestion.

Lack of resources with the local authorities to manage such kind of disaster may have also contributed to the congestion: in some areas, over 13,000 cars were allowed onto roads that were only designed to accommodate 4,000 at a time. In some places, the heavy snowfall and strong winds caused trees to fall, blocking roads and in at least one case falling onto multiple vehicles. At least 22 tourists died. The victims suffered from hypothermia while some may have died of carbon monoxide inhalation because their exhaust pipes were blocked by snow, which resulted in leakage of carbon monoxide into the cars, causing the deaths.

Pictures of Murree incident





CHAPTER 3

RESPONSE MECHANISM DURING DISASTER

Strategy for Current Winter Emergencies

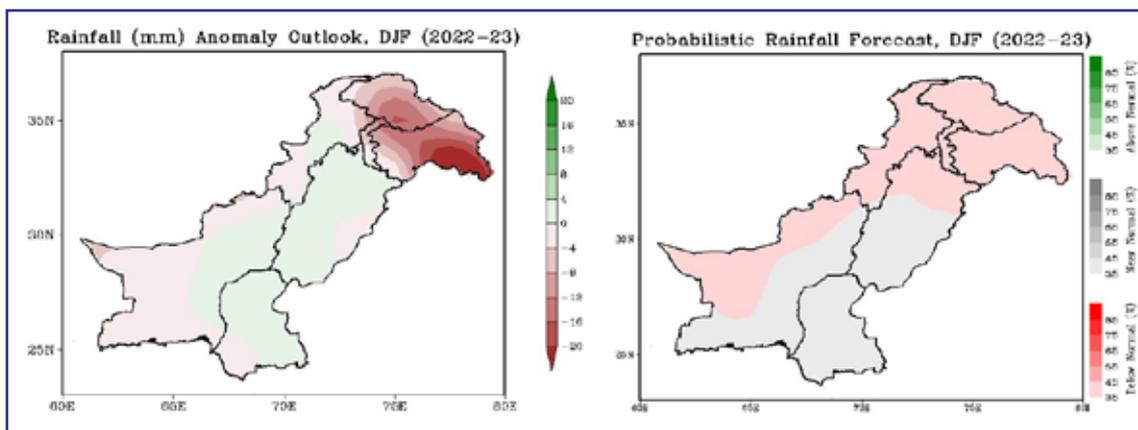
The PDMA with the support of DDMA Murree and other Government Department at National and Provincial Levels have devised the following strategy to prepare for any emergency situation arising with the arrival of snowstorm/snowfall in Murree or surrounding areas.

1. Taking Support for the PMD's Winter Weather Outlook

With the start of winter season, the PDMA Punjab shall closely liaison and coordinate with the Meteorological Department for getting updated Weather outlook. The PMD themselves also updates weather outlook weekly as soon as they observe any unusual changes in the weather pattern and occurrence of snow storm / blizzards as witnessed last year. They share it on their website, disseminate to all concerned department and upload on the social media for wider dissemination to inform the general public.

2. Outlook for December-January-February (DJF) 2022-23

Outlook for December-January-February (DJF) 2022-23



Synoptic Situation:

During the Season DJF, 2022-23, weak La-Nina condition, prevailing during the start of the season is expected to make transition to a neutral phase during January 2023 while the IOD is expected to remain in neutral phase during the season. Based on the global and regional circulation patterns, the outlook for DJF, 2022-23 in Pakistan is as under:

Seasonal Outlook:

Overall, a tendency for **normal to slightly below normal precipitation** is likely over the country with maximum negative departure over northern half.

Northern Punjab, Khyber Pakhtunkhwa, Kashmir, and Gilgit-Baltistan may receive slightly below normal precipitation whereas southern Punjab, most parts of Balochistan and Sindh are expected to receive nearly normal precipitation during the forecast season.

The temperatures are expected to remain above normal over northern parts of the country; slightly above normal over western to south-western parts with a tendency towards below normal night time temperatures over south western parts during the forecast season.

Impacts:

- Dry and stable atmospheric conditions during the current season (DJF) may cause thick foggy conditions in plain areas of Pakistan; this condition will get improved towards the end of the season.
- Dry conditions are likely to adversely impact the air quality index in urban (southern and central Punjab) areas of the country; resulting in smog development over these areas.
- High temperatures could shorten the Rabi crop season in Sindh and Punjab.

3. Guidelines for Winters 2022/23

National Disaster Management Authority (NDMA) has shared following guideline for winters 2022/23;

- a) Carryout immediate risk/ vulnerability assessment of respective regions to identify choke/ hazard prone sites/ areas.
- b) Energize existing local administration/ DDMA and line department-based monitoring and reporting mechanism, especially in vulnerable areas.
- c) Engage local communities at traditionally dangerous/ hazard prone sites to enable round the clock monitoring and feedback mechanism for early warnings and alerts for at-risk population.
- d) Prepare general and area/ region specific awareness campaigns and ensure wide spread propagation of likely threats/ hazards.
- e) Plan and conduct field visits/ reconnaissance by all stakeholders; including members of local administration, line departments/ C&W, Rescue 1122/USAR teams and Armed Forces/ CAFs/ Levis for updated orientation and situational awareness.
- f) Organize mock exercises both departmental and combined with all stakeholders to exercise readiness of men and machinery.
- g) In coordination with NHA/ FWO, local C&W and line departments to devise and pre-place appropriate machinery at vulnerable/ choke points.
- h) Local administration to assess and plan deployment of additional resources and exercise control over vehicle movement leading to and in vicinity of vulnerable/ choke points to prevent losses/ damages and save precious lives.
- i) Medical resources; paramedics, equipment and medicine be deployed as per the vulnerability/ risks identified in different regions to meet respective regional requirements.
- j) Expedite the work on mitigation projects such as retaining walls, clearance/ debris removal from water channels.

- k) Stocktaking/ audit of existing resources for judicious deployment.
- l) Prioritize and ensure pre-placing of required resources for snow clearance/ road restoration and stocking of food commodities of immediate need.
- m) Timely identify critical deficiencies and pool-up resources from less threatened areas.
- n) Activate the forward tourist/ traveler’s facilitation centers in respective regions.
- o) Devise city-based snow clearance and traffic management plans especially in snow prone areas likely to face greater influx of tourists.
- p) Coordinate with local hotel and transport associations for facilitating travels, tourists and locals in case of emergency.
- q) LEAs along with traffic police to advise travelers regarding likely situations / dangers of road closure/ slippery conditions and use of precautionary measures.
- r) Travelers and tourists be forewarned about likely risks posed at vulnerable locations.
- s) Establishment of EOCs at district and province level for continuous monitoring of situation.

4. Disaster Risk Management Measures

i. Roles and Responsibilities of Key Line Department

For effective, timely and swift response to winter related disaster/emergency, coordinated efforts are required to maximize energies by sharing responsibilities and resources to cope up with the disaster. In this regard, the PDMA will closely work with the Murree DDMA and key line department especially very regularly before and during the winter season to ensure preparedness and safety measures in respect of heavy snowfall in the Murree. Below have been mentioned some of key line department with their specific role in combating snowfall related disaster:

Table 01: Roles and Responsibilities of Line Departments

Department	Major/ Specific Tasks
National Disaster Management Authority	<ul style="list-style-type: none"> • Coordinate response and relief efforts during the disaster situation • Resource mobilization and provide immediate relief fund • Build capacities including trainings, conducting mock drills like Simex exercises involving all government stakeholders • Coordination and provide technical backstopping • Support in arranging relief items during emergencies

Department	Major/ Specific Tasks
District Disaster Management Authority	<ul style="list-style-type: none"> • Prepare, review and update district level winter contingency plans • Organize mock drills and ensure active participation of all stakeholders before the onset of winter season • Facilitate community training and awareness programmes for effective emergency response • Set up, maintain, review and upgrade the mechanism for early warnings and dissemination of proper information to public • Conduct damage and needs assessment and ensure its provision working with PDMAs and humanitarian agencies.
Assistant Commissioners	<ul style="list-style-type: none"> • Establishment of relief camps
Primary & Secondary Healthcare	<ul style="list-style-type: none"> • Organize and equip medical mobile team to the place of disaster at shortest possible time • Ensure sufficient provision of medicines and medical supplies for disaster victims. • Review inventory level of medicines, vaccine and replenish stores. • Outreach and Community Based Activities, which focus on immunization, sanitation, malaria control, maternal and child health, and family planning.
Rescue 1122 Emergency	<ul style="list-style-type: none"> • Placement of requisite machinery and material at safe locations near the vulnerable points in district Murree and Rawalpindi during snow spells. • Preparation of inventory of snow storm and landslides fighting equipment available. • Devise the mechanism to hold mock exercise/drills for handling the future mega disaster events as of 2021 snow storm.
Police Department	<ul style="list-style-type: none"> • Take security measures at evacuation points, evacuated areas, relief centers/stores • Direct traffic and organizing alternate road connections • Place men, material and equipment at the disposal of the local administration on demand. • Train the personnel/ provide to the Army for training in operation of large scale snow / landslides debris removing, first aid and lifesaving operations.
Highways	<ul style="list-style-type: none"> • Clearance of roads of major and inner roads • Completion of ongoing work before snowfall season.

Department	Major/ Specific Tasks
NHA	<ul style="list-style-type: none"> • Clearance of Expressway
RWMC	<ul style="list-style-type: none"> • Clearance of city streets
Forst Department	<ul style="list-style-type: none"> • Trimming of trees on all road sides and clearance of fallen trees
Cantonment Board	<ul style="list-style-type: none"> • Trimming of trees on all road sides and clearance of fallen trees in Cantonment Area
Motorway Police	<ul style="list-style-type: none"> • Traffic Management on Express motorway
Traffic Police	<ul style="list-style-type: none"> • Traffic Management on all other roads • Broadcasting of travel advisory through FM
Tourism Department	<ul style="list-style-type: none"> • Broadcasting of travel advisory through SMD screens • Facilitation of tourist and decimation of information
IESCO	<ul style="list-style-type: none"> • Ensure uninterrupted supply of electricity and timely reenergizing in case of power breakdown
MC Murree	<ul style="list-style-type: none"> • Branding of roads and Tourist Facilitation Centres with awareness/informative material • Removal of building material and temporary encroachments from all major roads/paths
Information and Culture	<ul style="list-style-type: none"> • Undertake a continual campaign of informing the population about facing the snow storm disaster situation. • Establish and activate snow storm and smog related information cell in the province. • Use of electronic and digital media for raising awareness and provide real time reliable information from concerned government department to general public.
Social Welfare Department	<ul style="list-style-type: none"> • Coordination with NGOs/Aid Agencies in provision of relief goods to disaster victims. • Assist the local administration in rescue, evacuation and relief operations. • Extend guidance and counselling to disaster victims.
Army / 4 Corps	<ul style="list-style-type: none"> • Organize medial aid and evacuation of snow disaster victims on request of the Civil Administration.

Department	Major/ Specific Tasks
<p>Civil Defence Department</p>	<ul style="list-style-type: none"> • The office of Civil Defence assists in the evacuation of people and their household properties from the disaster affected areas. The office engages a large number of volunteers for search, rescue, evacuation, and disbursement of relief goods. These volunteers generally are known as "Razakars" and are usually trained in basic rescue techniques, first aid, etc. District Governments will build Razakars skills in simulation and mock exercises. The Civil Defence collaborates with Punjab Emergency Services (Rescue 1122) in sophisticated search, rescue and evacuation operations. • The Civil Defence Department organizes mobile squads of Razakars and scouts in collaboration with local wardens and scout organizations to assist local administration/army, Rescue 1122 in evacuation and other disaster response activities. Razakars manage and utilize generators, searchlights, and other lifesaving equipment. Razakars provide first aid to injured victims before transporting them to hospitals. The Civil Defense also assists the District Administration and Police in setting up an information system for members of the public whose relatives, friends, and family members are missing.

ii. Development of the District Level Snowfall Contingency Plans

During the snow storm incident 2022 in Murree, several vehicles became stuck on the roads due to the snowfall and thousands of tourists spent the night on the roads. On 7th January, a blizzard dumped four feet of snow on Murree. During the intervening night of 7 and 8 January, over 157,000 vehicles entered Murree as snowfall began. Cars were packed bumper-to-bumper on the roads surrounding Murree. All routes into and out of Murree were effectively blocked, leaving the tourists stranded. When it began to snow heavily, a lot of people left their cars on the roads to seek shelter in hotels, further contributing to the congestion.

Lack of resources with the local authorities to manage such kind of disaster may have also contributed to the congestion: in some areas, over 13,000 cars were allowed onto roads that were only designed to accommodate 4,000 at a time. In some places, the heavy snowfall and strong winds caused trees to fall, blocking roads and in at least one case falling onto multiple vehicles. At least 22 tourists died. The victims suffered from hypothermia while some may have died of carbon monoxide inhalation because their exhaust pipes were blocked by snow, which resulted in leakage of carbon monoxide into the cars, causing the deaths.

iii. Establishment of the Emergency Operation Center at PDMA and DDMA's

The PDMA has established Provincial Emergency Operation Center (PEOC) at its head office Lahore. The PEOC is mainly responsible for command, control and communication throughout the year on 24/7 basis. The PEOC is fully operational and acts as role model for the rest of PEOCs in the country.

The stakeholder departments of PEOC would base their decisions on a rapid assessment of the disaster. This assessment carried out by the district representatives of different departments would be shared among all participants at the PEOC.

Besides, with all necessary gadgets, the PDMA has established District Emergency Operation Centers (DEOCs) in Rawalpindi and Murree to meet the emergencies. Both the DEOCs are provided with the following facilities:

- Dedicated Staff as per the magnitude of the disaster
- Duty roaster of the staff
- Two dedicated telephone lines
- Dedicated Fax
- Wireless Internet and Email or any other source of communication
- Power backup

The following are the potential members of the DEOC working under the supervision of Deputy Commissioner Murree.

iv. Structure of Duty Officers at DEOC Murree

Officials from following departments will be deputed in DEOC Murree during winter season;

Table 02: Structure of Duty Officers at DEOC Murree

1. MC Murree	7. Rescue 1122	13. Forrest Department
2. Traffic Police	8. Cantonment Board	14. PDMA
3. Motorway Police	9. Police/Tourism Police	15. THQ Murree
4. Highways Mechanical	10. PHA Murree	16. Health Department
5. Provincial Highways	11. NHA	17. IESCO
6. Military Police	12. RWMC	18. Tourism Squad

v. Strengthening Early Warning System

The following early warning protocols of PEOC and DEOCs have been established:

Table 03: Roles and Responsibilities of Line Departments

Protocols	Details
Receipt of Warning	The early warning is received from resources like PDMA, Pakistan Metrological Department (snow storms, landslides, smog, drought), Rescue 1122, Civil Defense & police, Health, transport, local governments through emails, phone calls & SMS depending upon nature & the gravity of the warning.
Functions of DEOC	<ul style="list-style-type: none"> • Information collection & dissemination • Establish coordination among departments. • Communicate with the concerned department (depending upon the nature & gravity of the warning). • Resource dispatching and tracking. • Warning distribution among government departments, Public, & media. <p>The information received at the district control room is dispatched to the concerned department (focal person/district head) through email, SMS or phone call depending upon the severity of the warning after getting clearance from chairman DDMA.</p>
Mode of Communication of Early Warning to Relevant Population	<p>The relevant warnings to the concerned population are passed in three phases</p> <p>Phase 1 Notices are served through Patwari and Gardawar to the concerned residents of the vulnerable area regarding alternate arrangements for expensive items/goods in case of emergency evacuation.</p> <p>Phase 2 Mock exercises and drills are conducted through relevant departments regarding evacuation.</p> <p>Phase 3 In this phase, the warnings are issued through sirens, announcements through loudspeaker/megaphone and electronic media.</p>

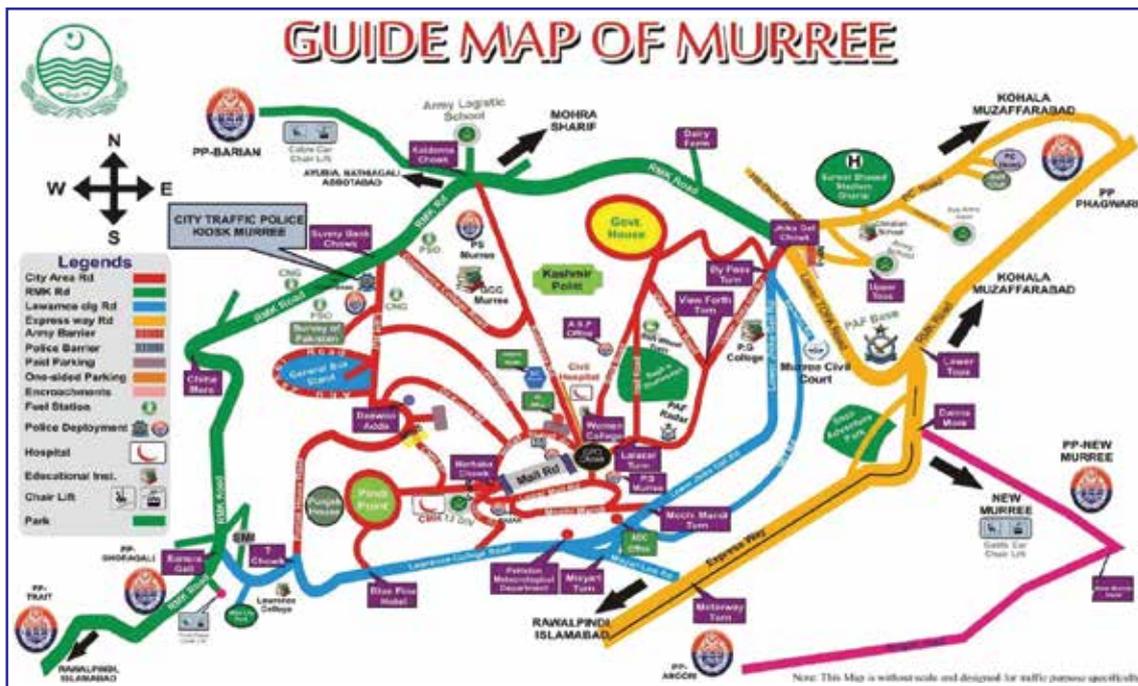
vi. Setting Alert Levels

For activation of the Emergency Operation Centers (EOCs) at their respective levels, the PDMA Punjab has established certain alert levels based upon the threat perception. These alert levels are as follows.

<p>Level-D (Disaster threat is perceptible)</p>	<p>DDMA shall conduct monthly meetings besides at least 2 mock exercises as per DDMP, well in time, to make the concerned officers/officials understand their role and responsibilities for better coordination and testing of rescue and relief equipment. DDMA shall also ensure the physical presence of concerned staff deputed and availability of equipment/resources for all designated vulnerable sites within given time frame during disaster.</p>
<p>Level-C (Alert) (Warning issued but likelihood of occurrence is less than 100%)</p>	<p>Activities to be undertaken in level D DDMA shall issue “alert” to all concerned for the vulnerable area. DDMA control rooms be made operational 24/7 and ensure availability of all required (available and additional) resources for on call mobilization and monitor the situation on 6 hourly bases. Only DC and DPO shall grant leave according to the situation.</p>
<p>Level-B (High Alert) (Disaster threat is imminent)</p>	<p>Activities to be undertaken in level C DDMA shall issue EW to all stakeholders and “High Alert” for the district to ensure that all additional HR and material resources including volunteers have reported to their assigned duties, and all resources for evacuation and disaster management have been mobilized as per DDMP. All emergency (Health, Fire, and Rescue 1122, MC etc.) facilities shall work 24/7 with full staff strength. DDMA shall monitor the situation on hourly basis.</p>
<p>Level-A (Red Alert) (Disaster is materialized)</p>	<p>Activities to be undertaken in level B DDMA shall respond to the emergency immediately and shall carry out rescue and relief operation as defined in DDMP and shall continuously monitor the situation. Resources of adjoining districts shall be mobilized and Army may be called keeping in view the magnitude of the disaster.</p>

vii. Identification Important Roads/Routes

In light of this data the following routes have been identified as being most crucial for snow clearing operation and management of traffic. Some of these major roads have also been notified as one way during peak season. The following roads have been identified as most important as can be seen from the given Guide Map of Murree.



- Musyari Turn to Lower Topa
- Lower Topa to Seherbagla
- Lower Topa to Jhika Gali
- Jhika Gali to GPO Chowk
- Bank Road
- Hall Road
- Kuldana Road
- Cart Road
- Jhika Gali to PC Bhurban
- Jhika Gali to Kuldana Chowk (via Thanda Jungle)
- Kuldana Chowk to Barrian (via Sandhia and Kali Mitti)
- Kuldana Chowk to Sunnybank
- Sunnybank to Bansra Gali

viii. Responding to Trapped Tourists

In order to ensure effective management a network of 13 Tourist Facilitation Centre is being established, each of which will consist a team of personnel from different departments whom will be stationed along with required machinery / equipment.

The main reasons behind establishing these Tourist Facilitation Centers are as follows:

- Facilitation of tourists, which includes distributing awareness material and educating tourists visiting Murree.

- Immediate and timely response in case of any emergency or eventuality.
- Quick mobilization of resources and personnel in the assigned area.
- Combining / pooling of resources from all departments for better utilization and efficiencies.

The Facilitation Centers will be connected to the Central Control Room/DEOC by both Wireless sets and PTCL numbers. The position of the Facilitation Centers along with details of resources deployed and routes to be covered are listed below in detail:

ix. Establishment of the Facilitation Centers

Following facilitation Centers will be activated during the winter season;

1. Musyari Turn

Location: **Container (situated at chowk)**

Routes covered: **Musyari Turn to Lower Topa**

2. Lower Topa

Location: **Container (opposite McDonalds) and Forrest Office**

Routes covered: **Lower Topa to Jhika Gali**

Lower Topa to Seherbagla

3. Seher Bagla

Location: **UC Secretary Office**

Routes covered: **Lower Topa to Seherbagla**

4. Jhika Gali Chowk

Location: **Container**

Routes covered: **Jhika Gali to Viewforth Turn**

Jhika Gali to Kashmiri

Bazaar Jhika Gali to Kuldana Chowk

5. Kashmiri Bazaar

Location: **Revenue Field Staff office**

Routes covered: **Kashmiri Bazaar to PC Bhurban**

6. Thanda Jungle

Location: **Container (service area/public washrooms)**

Routes covered: **Thanda Jungle to Jhika Gali Chowk**

Thanda Jungle to Kuldana Chowk

7. GPO Chowk

Location: **Civil Defence Office**

Routes covered: **GPO Chowk to Viewforth Turn**

GPO Chowk to Kashmir Point (Bank Road) GPO

Chowk to Kuldana Chowk

GPO Chowk to Marhaba Chowk (Mall Road)

8. Kashmir Point

Location: **Public Health Office**
Routes covered: **Kashmir Point to Government House**
Kashmir Point to Viewforth Turn
Kashmir Point to Lalazar Chowk (Hall Road)

9. Kuldana Chowk

Location: **Container (Opposite ASL)**
Routes covered: **Kuldana Chowk to Barrian Bazaar**
Kuldana Chowk to Sunny Bank

10. Sandhian

Location: **Container (service areas/public washrooms)**
Routes covered: **Sandhian to Kali Miti**
Sandian to Kuldana Chowk

11. Kali Miti

Location: **BHU Kali Miti**
Routes covered: **Kali Miti to Barrian**
Kali Miti to Sandhian

12. Sunny Bank

Location: **Highways Office**
Routes covered: **Sunnybank to Kuldana Chowk**
Sunnybank to Bansra Gali

13. Bansra Gali

Location: **TDCP Container**
Routes covered: **Bansra Gali to Gohra Gali**
Bansra Gali to Sunnybank

IX. Establishment of Relief Camps

In order to provide relief to any stranded passengers in case of any emergency, 3 relief camps will be established at Kohsar University Campuses i.e Girls College Bank Road, Boys College Jhika Gali and Resource Centre Kashmir Point.

Food and lodging services will be provided at these facilities for stranded tourists in coordination with PDMA and local Hotel and Trade Associations who have pledged their full support.

The following Health Facilities will be operational to provide instant health services:

- THQ Hospital Murree
- CMH Murree
- BHU Kali Mitti
- BHU Rawat
- Health Camps x 2
 - Lower Topa
 - Bansra Gali
- Mobile Ambulances of Rescue 1122 x 13

X. Tourist Education & Awareness

After much deliberation it was pointed out that a major reason for last year's tragic incident was partly due to lack of awareness provided to the tourists as they were found ill prepared for any emergency. Hence a mass level awareness campaign will be undertaken this year so that every visitor arriving in Murree is well equipped with the knowledge that will ensure a pleasant and enjoyable stay.

The method to ensure effective campaign of awareness will involve the following:

- Pamphlets to be distributed at entry points of 17 Mile, Bansra Gali and Lower Topa
- 13 Facilitation Centres with maps and awareness material
- Banners / informative material will be displayed on all major roads
- Travel advisory through FM at Motorway Police and Traffic Police
- Travel advisory and information through 10 TDCP screens



CHAPTER 4

ANNEXES

i. Human Resource Available at Murree

Department	Available	Addl. Required
Civil Defence	11	20
NHA	15	0
Highways Machinery	38	150
Traffic	73	285
Forrest	102	0
MC Murree	42	0
Rescue 1122	140	0
Motorway Police	40	40
Tourism Squad	35	58
RWMC	113	0
TOTAL	609	553

ii. Machinery / Equipment Available at Murree

Equipment	Available
Snow clearing machinery	16
Vehicles	5
Traffic	
4x4 Vehicles	1
Fork lifters	1
Small cranes	0
Forrest	
Chainsaws and spades	3
Rescue 1122	
Ambulances	13
Fire vehicles	5
Rescue vehicles	2
TOTAL	609

iii. Backup Resources

Backup resources available at adjoining districts;

- **Rawalpindi**
Backup team comprising of 50 personnel (02 4x4 Ambulances, 01 Rescue Vehicle) will be on stand-by at RS-01 Rawalpindi
- **Attock**
Backup team comprising of 25 personnel (02 Ambulances) will be on Stand-by at RS-01 Attock
- **Jhelum**
Backup team comprising of 25 personnel (02 Ambulances) will be on Stand-by at RS-01 Jhelum
- **Chakwal**
Backup team comprising of 25 personnel (02 Ambulances) will be on Stand-by at RS-01 Chakwal.
- **10 Mobile Health Units (MHUs)** are available at Provincial Health Department in Lahore. These MHUs can be deputed upon the occurrence and snowfall disaster in Murree.



PDMA