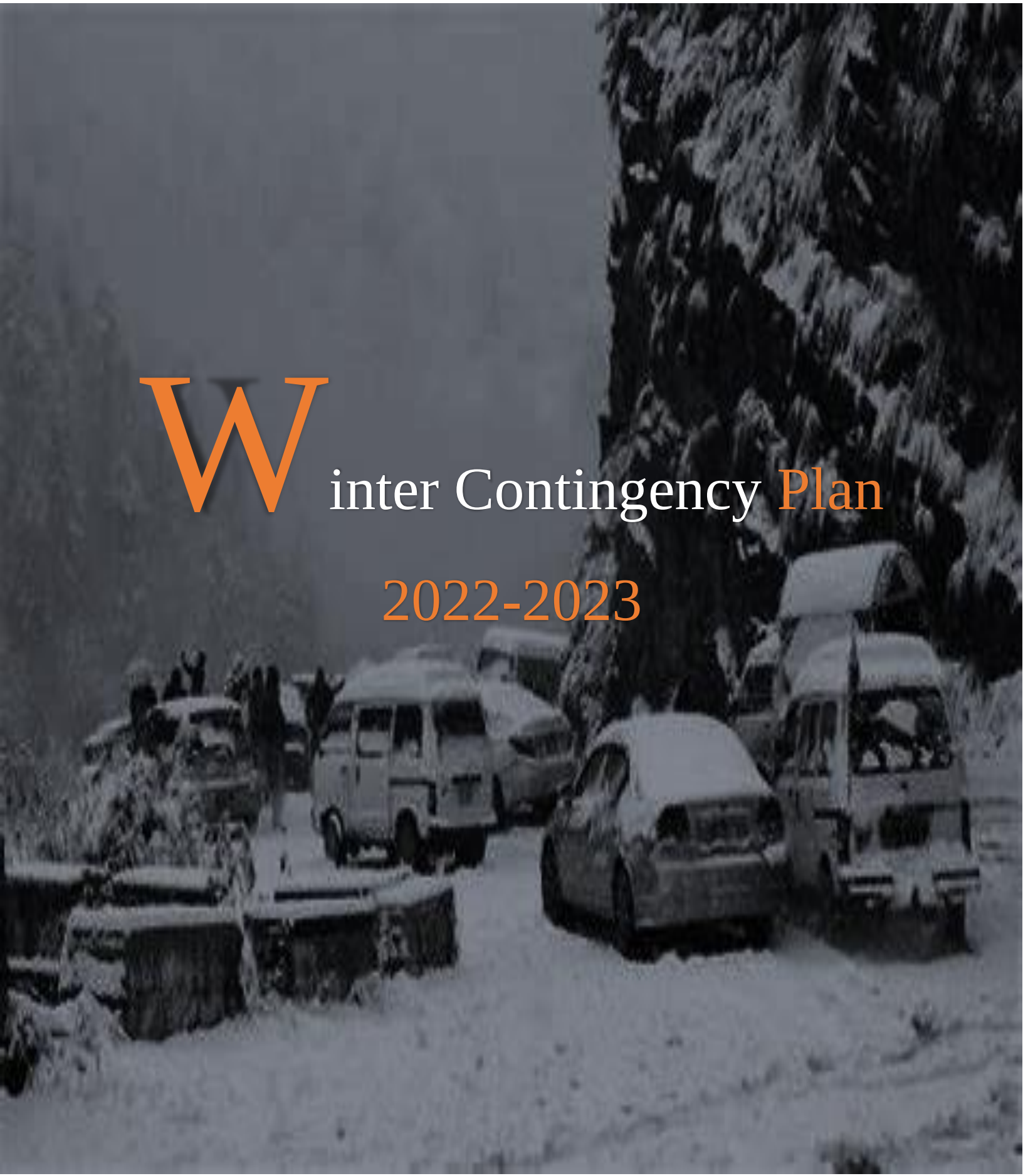


Winter Contingency Plan

2022-2023

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Forward

The province of Balochistan faces a range of natural hazards, including floods, flash floods, seismic activity along the mountainous and land sliding, and prolonged spells of impoverishing droughts in the arid zones of the province. The occurrence of such disasters causes massive losses in lives and livelihood, which tend to retard economic growth. Reactive disaster management and emergency response system exacerbates hazard impact. PDMA has initiated a proactive preparedness regime under guidelines established by NDMA for streamlining response at provincial and district levels in coordination with all relevant stakeholders.

This process of contingency planning for significant hazards shall enable the initiation of required mitigation measures and undertake a coordinated response to minimize loss of life and property in the event of a disaster. It is stakeholders' inclusive exercise that takes stock of plans and resources and hazards analysis to determine the likely relief caseloads as a planning assumption. Strategies, objectives, roles and coordination aspects of stakeholders are defined. Winter contingency planning constitutes the second exercise in this regard which. Similar activities for monsoon-based hazards, droughts, and earthquakes will follow. The technological hazards to facilitate the preparation of national disaster preparedness and response plan by the end of 2022-23.

The purpose of contingency planning is to prepare them to make accurate predictions during a crisis and to account for any unexpected consequences. It contains informed decision-making regarding resources, coordination and communication protocols, and being aware of the diversity of technological and logistical responses from all parties involved in a highly cohesive way to lessen the consequences of any catastrophe or recover from it. As a result, the planning process required tireless efforts from everyone involved. As we get closer to the winter of 2022-23, this strategy is an essential need. Because the Winter Contingency Plan has been established for the second in the history of PDMA Balochistan, it will play a critical part in guaranteeing the efficient administration of the whole process.

Director General
Provincial Disaster Management Authority
Balochistan

MESSAGE FROM PDMA MINISTER

Winter hazards occurring from November to March are accentuated by heavy precipitation in the upper mountainous regions of the province. Snow avalanches and landslides target vulnerable communities or isolate them by severing communication. Heavy rains can also cause flash floods in the catchment and semi-mountainous regions.

Poor first responders and local response capacities and insufficient logistic resources for early access to disaster-prone communities in remote mountainous regions or for reopening severed land routes aggravate the situation. Planning for winter emergencies caters for the worst-case scenario. Besides, latent socio-economic poverty, degree of vulnerability to hazards, scale and scope of risks, historical precedence, remoteness of danger-prone regions, and inadequacy of local coping mechanisms are the key criterion in determining the likely affected and vulnerable population. Resource mapping of the district administrations generally indicates sufficiency in meeting shelter, NFI and emergency food needs. Still, it would require situation-based support in emergency healthcare, reopening remote roads, and restoring potable water sources and livelihood.

The effective coordination of all the necessary actions to establish, maintain, and enhance the capacity to plan for, defend against, react to, and recover from catastrophe is known as "disaster management." A multi-sectoral, multi-disciplinary, and multi-source endeavor is required for this course of action to be taken. As a result, it is of the utmost importance that the Provincial Government, District Administrations, Civil Society Organizations (CSOs), and the private sector all fulfil the roles and responsibilities that are appropriate for them while also working together to achieve the common objectives that are associated with disaster management.

The Provincial Disaster Management Authority of Balochistan PDMA has developed a Winter Contingency Plan for 2022-23 to fulfil its commitment to protecting the lives of vulnerable communities in flood-prone areas and their properties, livestock, crops, and means of subsistence. I pray to Allah that every individual shall be kept in his shelter and saved from any disaster in the winter seasons. I urge PDMA and all stakeholders and community members to take. Ameen

Mir Ziaullah Langov
Minister for Home and Tribal Affairs
Balochistan

Acknowledgement

The Winter Contingency Plan will serve as a road map for emergency preparedness and response management during the winter season in the high-risk areas of Balochistan. The development of this report was developed based on past practices and adopted the new theory of disaster management. This report was only possible with the thought process of the Provincial Disaster Management Authority (PDMA) team, experts and consultants.

I would like to appreciate and acknowledge the efforts of every individual, particularly all stakeholders, including UN Agencies, INGO and NGOs; the Government Line Department in PDMA; the Director of Relief Operation, Finance, Admin, Rescue 1122, District Management, and MET Office I wish them for the successful implementation of the plan and looking forward for the best results in every operation of the PDMA, and DDMAs.

Director Planning and Coordination
Provincial Disaster Management Authority
Balochistan.

Chapter One

Introduction

Background

Geographically, Balochistan is divided into four distinct zones; Upper highlands, lower highlands, plains and deserts. Whereas, according to Climate, Balochistan experiences four rainy seasons winter (cold), pre-monsoon season (warm), monsoon season (hot), and post-monsoon season (mild). Due to tropical (coastal) and sub-tropical continental characteristics, the area familiarizes with two foremost seasons: winter and summer. The summers of the site long for five months in hilly areas and seven months in continental plains and coastal regions, whereas winters cover five months in the plains and seven months in the mountains. The climate of the upper highlands is characterized by freezing winters and warm summers. Winters of the lower highlands vary from extremely cold in the northern districts to mild conditions closer to the Makran coast. The winter conditions are worse in highlands as compared to plains and deserts. In highlands, heavy snow with cold weather creates different vulnerable conditions for the community compared to cold weather in plains and deserts. Further, the northern parts of Balochistan experience temperatures below zero in winter (October – April), mainly followed by heavy snow, flash floods, and cold waves. Evidence suggests that such a climate made the province of Balochistan susceptible to various natural disasters, including droughts, earthquakes, floods, flash floods, heavy snow and harsh winter.

Mainly During winters in northern parts, the extreme cold coupled with heavy snow and rainfall brings hardships for the community in many ways, for instance, road blockade, restricted mobility, power outages, shortage of natural gas, disruption of food, disruptions in pharmaceutical and critical supply chains, building damages, health issues and increased vulnerability to women, kids and older peoples.

Rationale

According to Global Climate Risk Index, 2021, Pakistan has been ranked 8th in the top ten global climate high-risk countries exposed to ongoing climate change and requires attention to resolve the issue. Being the largest province and unique physiography of Balochistan, featuring rough terrain with a combination of mountainous tracts and plains with varying heights, it faces a fantastic set of challenges linked to climate change. Over the decade, Balochistan has faced extreme events and unusual patterns of weather, such as floods, earthquakes, and heavy snowfall. For instance, PMD officials say heavy snowfall in Quetta had already broken the 20-year record.

"In Qilla Saifullah, the Met Office recorded three- to four-foot snow, which was [more than] double the usual one- to 1.5-foot snow," these extreme events have severe and devastating consequences, especially to those living in poverty without adequate shelter or heating and more vulnerable characteristics

As 52 per cent population of Balochistan lives below the poverty line and 72.4% of the total population is based in rural areas, these populations are more exposed to extreme events and face severe challenges. Last year reported, a severe case of heavy snow in the area during harsh winter occurred in the province, which caused casualties of human and animal lives and damaged property. According to the reports, due to continuous snowfall, many mud houses had collapsed or were destroyed in Quetta and the border town of Chaman, Bashor and Bostan area of the Pishin district, and several people were injured. Similarly, another report claimed that Six people, including three women and three children, died, and two others were injured when the roof of their house collapsed in the Shahabzai area of Zhob district due to heavy snowfall. Moreover, In the Killi Luqman area near the Pak-Afghan border in Chaman, five family members, including women and children, died, and six others were injured when the roof of a mud house collapsed during an engagement ceremony in the late evening hours. Two children died, and two others suffered injuries when the top of the room caved-in in the Killi Chukal area of the Pishin district, while another woman lost her life in a similar incident. Sources in Civil Hospital Quetta said that over a dozen people injured in snowfall-related traffic accidents were brought to the hospital for treatment.

In the winter season, labour also experiences extreme hardships because they carry the financial burden for their families. For instance, a report states that labour wages have dropped by over 50 per cent during winters. This drop means the family can't afford basic supplies. It leaves their women, children, and older members vulnerable during these months. Older adults are also more susceptible to hypothermia and Heart attacks, which can be deadly if not treated quickly. This situation worsens for those who don't have adequate shelter for living or those who are homeless and don't have a roof over their heads because the health and safety consequences of cold weather have significant and potentially deadly consequences.

Additionally, highways were blocked for several days due to heavy snow. For example, the national road N-50 was blocked for two weeks in Khanozai, Kan Mehtarzai, and Muslimbagh. It reduces human mobility in crises that make families more vulnerable.

On the one hand, low-income families are striving to break out of crippling poverty, and on the other hand, the extreme events make them more vulnerable, due to which these families cannot face the challenges alone. Given the situation, PDMA is responsible for supporting the vulnerable groups of society during disasters and extreme events by keeping them informed on time, especially in villages, taking precautions like putting in place an early warning system, providing necessary supplies to vulnerable families to lessen the risk and harm and engage all stakeholders in risk mitigation strategies.

Goal

The aim of this study is to design a winter contingency plan to address the needs and mitigate risks for community occurred due to extreme weather conditions in Balochistan.

Objective

- Quantify most vulnerable groups that require support during extreme winter conditions in Balochistan
- Create a resource pool indispensable to mitigate risks occurred due to heavy snow fall and rainfall in Balochistan during winter seasons.
- Develop a winter contingency plan for most vulnerable districts that falls in high winter risk areas of Balochistan

Scope

The winter contingency plan covered those geographical boundaries of Balochistan that are more prone to winter disasters that span four months- December to March. Further, the winter contingency plan provides direction to PDMA and line government departments that can support or be responsible for mitigating risks linked with winter disasters. Moreover, the winter contingency plan specifies a pathway for donor agencies to mobilize their resources in coordination with PDMA to support vulnerable community groups during the winter season.

Methodology

The Mix method research approach was used to design a winter contingency plan. The mixed method includes qualitative and quantitative design. In the first stage, the qualitative design opted for a desk review of secondary data, including the Rapid Need Assessment Report, Winter Contingency Plan and district profiles of Balochistan districts for identifying factors linked with vulnerability. The second stage collected quantitative data from different government organizations through PDMA staff survey tools. The qualitative data was analyzed through thematic analysis based on Braun and Clark's (2006) framework, and quantitative data were analyzed through frequency distribution on SPSS.

Chapter Two

Vulnerability and Risk Analysis

Risk Analysis

The desk review was conducted to identify the risk factors that emerged due to winter disasters. The desk review findings are categorised into themes; Shelter, Food Security and Livelihood, Nutrition, and Health.

Shelter

Heavy snowfall and rainfall could damage buildings, homes, and fences, especially those living in *Kacha houses* or tents. According to Census 2017, 75% population in assessed areas were living in *Kacha houses.* The vulnerability of people living in Kacha houses increases during heavy snow and rainfall. The RNA shows that a spell of heavy snow in 2020 caused severe damage to Kachha houses. For instance, 84% of Kacha houses were damaged in district Harnai, 30% in district Zhob, and 22% in section Pishin. During FGDs, it was highlighted that these homeless people stay with relatives, friends, masjid, under bridges and other arrangements.

Further, during a discussion with these people, it was highlighted that they don't have home repair toll kits, limiting their ability to rebuild or repair their homes. These conditions worsen when these homeless people don't have household goods to keep them warm. For instance, Blankets, LPG cylinders, women's essential items, and stoves etc. according to RNA, 69% of homeless people don't have Blankets to keep them warm, 75% do not have kitchen sets, and 73.5% don't have any fuel or gas to cook foods. Thereby, under extreme weather conditions, people living in Kacha houses and the homeless are more vulnerable in winter seasons which require government interventions and material support.

Food security & livelihood

One of the hazardous effects of Heavy snowfall and rainfall is on people's livelihood. The livelihood is a set of activities essential to everyday life. The RNA shows that 41% of households' livelihoods are based on agriculture, 22% depend on livestock, 15% are on daily wages (labour), 7% earn as shopkeepers/traders/business, and 5% are in a regular job (Government or Private). It shows that significant sources of livelihood are based on agriculture, livestock and labour.

Due to heavy snowfall and rainfall, the individual capacity to acquire necessities to satisfy the basic needs of themselves, their household and their livestock is diminished. Further, when the supply of goods becomes restricted, food shortage increases due to increased prices of essential

goods. Due to these market dynamics, the labour class, either working in agriculture, industry or construction, badly affects the livelihood of these labour classes. According to RNA, more than 50 per cent of households did not have adequate resources to purchase food from markets.

Snowfall and rainfall delays harvest operations, reducing the demand for agricultural labour. RNA reported that 34 per cent of the communities said the severe effect on agriculture-based livelihood sources (including agriculture labour), 39 per cent reported a moderate effect, 11 per cent reported a slight effect, whereas 16 per cent reported no impact.

For those communities whose livelihood sources are livestock, the heavy snow and rainfall also affect their livestock. First heavy snow and cold temperatures increase livestock feeding requirements. Around two-thirds of the communities reported limited availability of fodder/feedstock for livestock, while one-third faced a severe shortage of fodder/feedstock. Second, the livestock attains diseases. RNA found that overall, the overwhelming majority of communities (85 per cent) reported signs of severe animal diseases. Of these, Foot and Mouth Diseases (FMD) have been written by 48 per cent of the communities, followed by Paralysis (11 per cent), Hemorrhagic Septicemia (9 per cent) and Contagious Caprine Pleuropneumonia (CCPP) (5 per cent).

Nutrition

As discussed earlier, winters can impose a financial burden on low-income families. The families face the difficult decision about where to place their resources, either heating their homes, feeding themselves, feeding livestock or feeding their children. These tough choices may have a significant effect on the nutritional well-being of vulnerable segment children, women, disabled and older persons. Concerning Balochistan, the winter conditions in northern parts of Balochistan in 2020 have witnessed severe cold along with heavy snow that has caused nutritional deprivation for vulnerable groups especially lactating women and children under five years of age. Preliminary findings of the rapid assessment show that many lactating mothers are visibly wasted. However, information on other vital contributing factors, including dire health and food security, indicates that nutrition can be alarming if not addressed.

Health

During winters, especially in areas where the roads are blocked due to heavy snow, access to medical facilities becomes impossible. According to RNA, only 4 per cent of the population could reach MCH centres which are of great concern. As reported by the key informant in assessed communities, most of the population avail healthcare services at the Basic Health Unit, followed by the Rural Health Center. Only a tiny fraction of the population (0.5 per cent) has the availability of mobile health teams in their area. In contrast, only 4 per cent of the population can reach MCH centres which are of great concern.

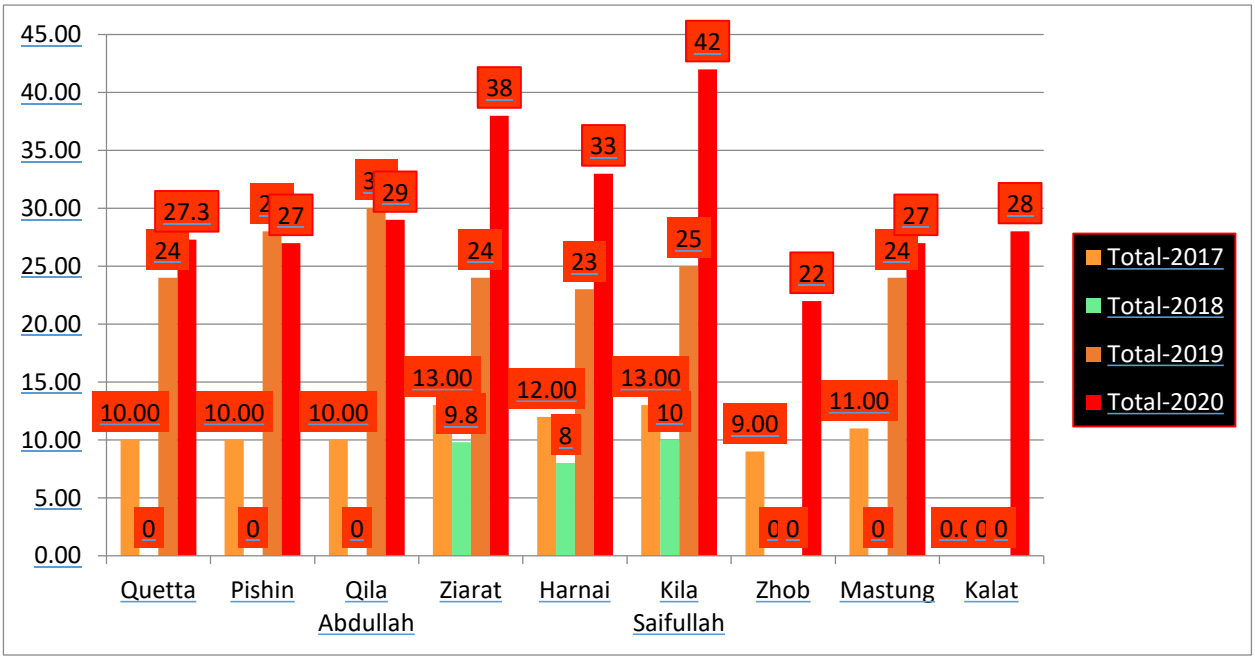
It was reported that almost half (49 per cent) of the health facilities had no in-patient facility, 35 per cent had 1-5 beds, 7 per cent had 6-8 beds, and only 9 per cent had more than ten beds per building. The effect of harsh weather and recent calamity was evident in the health care system. At the assessment time, almost half of the communities reported that a nearby health facility was not functional. Due to public access-related issues and the non-functionality of several healthcare providers, the average time to reach to health facility increased by 47 per cent (from 83 minutes on average before the disaster to 122 minutes after the disaster).

Safe and secure delivery kits were available in only 3 per cent of the area, while 94 per cent remained unnoticed. Five districts were equipped with this facility. Only a 14 per cent fraction of females have access to healthcare centres. We know that complications in pregnancy or childbirth are one of the leading causes of death.

Snowfall Trend across Balochistan

As in the recent time, the province of Balochistan saw a severe drought like situation, however since 2019 a drastic change has been observed in weather behaviours, for example in 2020 Balochistan received heavy snow and rains. Such change in weather behaviours could be linked with climate change. Below chart shows the short term (2017-20) data analysis of snowfall across the different districts Annual data. Result shows a clear increase in the snowfall since 2017.

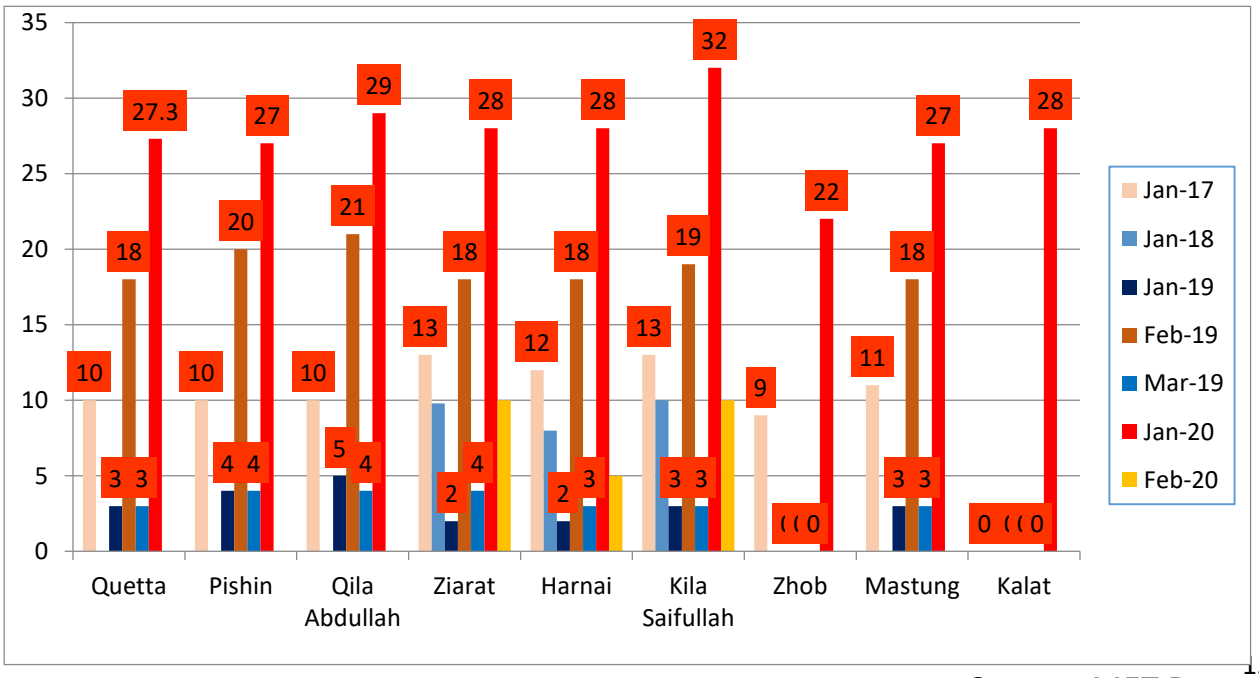
Annual Snowfall trend-2017-2020



Source: MET Dept.

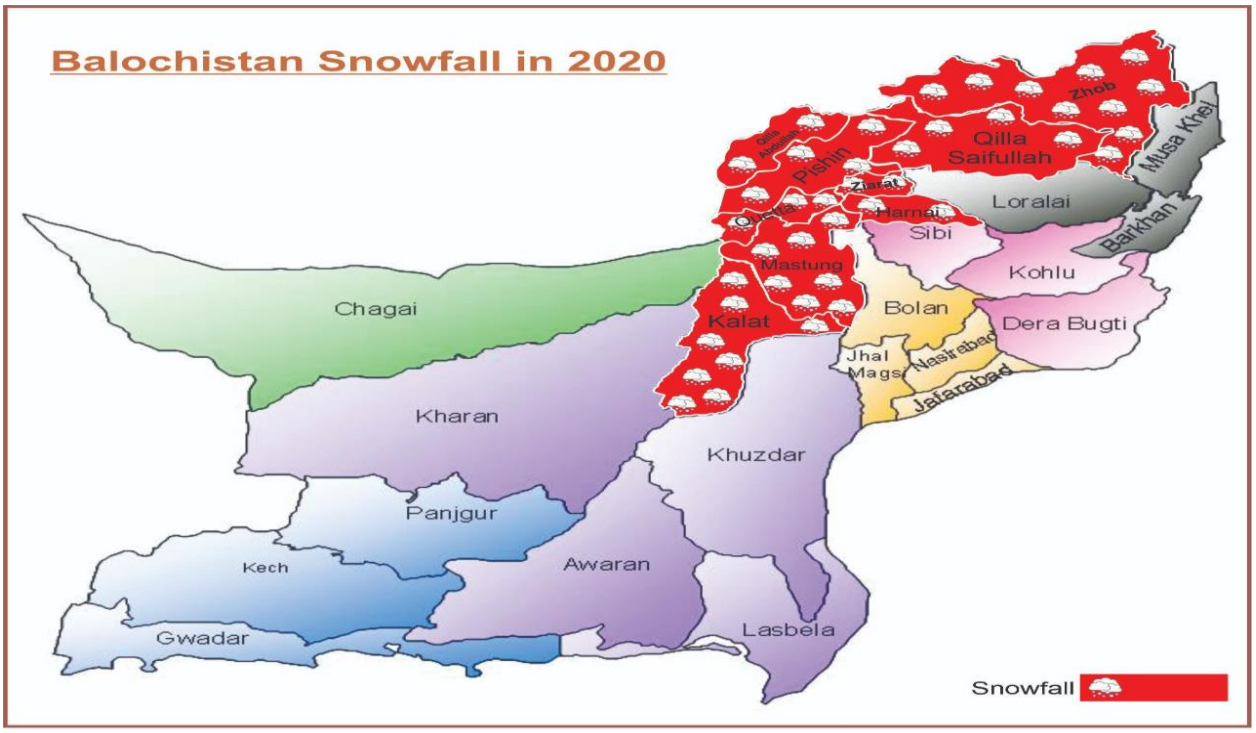
Monthly Snowfall Trend 2017-20

It has been observed that the winter in Balochistan is unpredictable, for example, the winter monthly data trend demonstrates snowfall in January and February. However, recently (November 2020) the province saw a slight rain and snowfall. Similarly, for Balochistan various online sources are predicting heavy snowfall and rain in December-2020 which will then be followed by harsh cold waves.



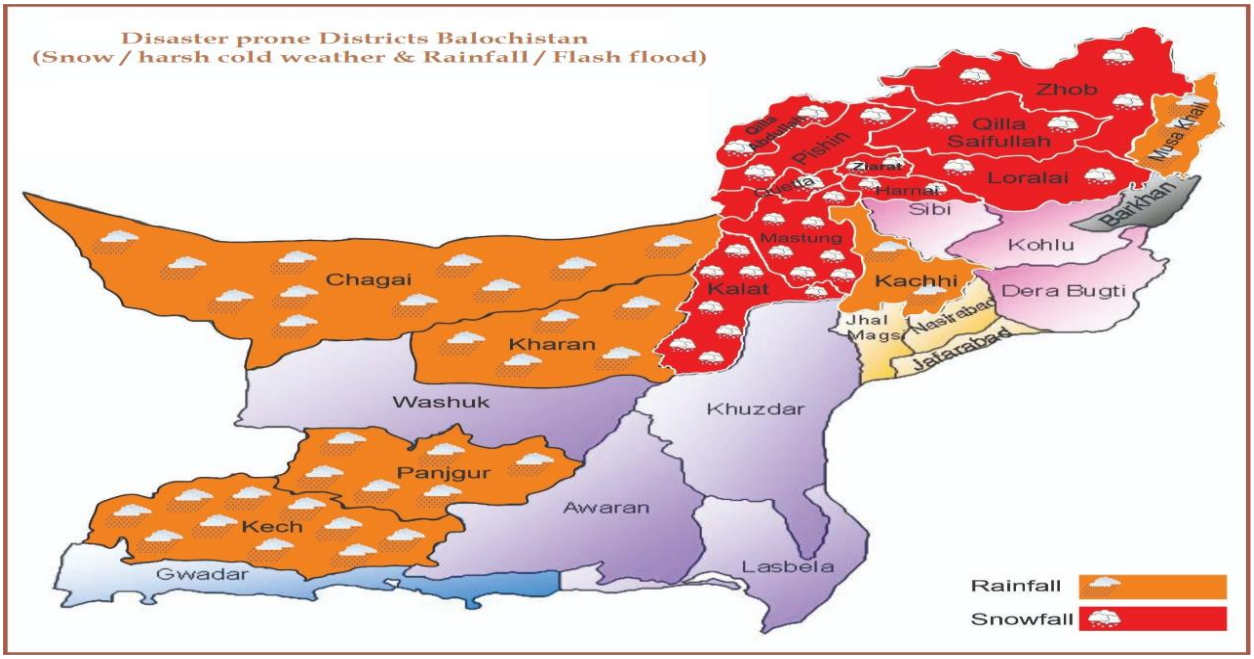
Source: MET Dept.

Snowfall Trend shown on Map



Source: MET Dept.

Snowfall & Rainfall / Flash flood Trend shown on Map



Source: MET Dept.

Chapter Three

Vulnerability Profiles of Balochistan

Balochistan Winter Situation

Balochistan faces a series of winter hazards due to its characteristics and geographical location. Consequently, flooding, strong winds, heavy snowfall, road blockade, avalanches, and landslides are reported. These series cause loss of property, death and livelihood in weak settlements, hurting the economy. Many districts of Balochistan received heavy snowfall that turned into a disaster in February 2020. Even communities, animals' health, and individual safety had very negative impacts due to winter storms. Due to the cold weather, people use gas heaters, and misuse of heaters causes carbon monoxide poisoning that causes death. Winter season is always tricky for animals. It is challenging for animals to get food and water and keep themselves warm.

These impacts of climate change are palpable, with more power and effect in Balochistan. The province is facing many challenges due to climate change. The shift in the Monsoon rainfall zone from NE to NW- 100km is one of Balochistan's pointers for climate change. Similarly, the snowfall pattern changed in frequency and intensity of rainfall between 2017 and 2020. There are a rising number of Extreme Climate Events marked as spatial and temporal changes in ecosystems like intense and concentrated winter, inconsistent winter behaviour, early start & late finish in the weather pattern and anticipated increase in snowfall. These involve extraordinary preparation actions, including Winter Contingency Plan (WCP).

Heavy rains and snowfalls broke the record for many years in Baluchistan province. Between 2017 to 2020 snowfall pattern changed in Balochistan from 3 to 8 districts. According to PDMA rapid need assessment report (January 2020), Balochistan's northern districts, including Quetta, Mastung, Kallat, Sikandarabad, Ziarat, Pishin, Killa Abdullah, Killa Saifullah, Harnai, Loralai and Zhob were affected due to heavy snowfall whereas southern districts Chagai, Washuk, Panjgur, Kech and Kachhi were affected by flash floods. According to the initial reports, more than 1,000 houses were injured, public services were guarded, and roads were blocked. That created a significant challenge in the access to relief operations carried out by the Government and humanitarian. Om January 13, 2020, the provincial Government of Balochistan declared a state of emergency. These natural calamities destroyed the groundwork and distracted the supply of goods and services.

Considering the situation, it is, therefore, obligatory to ensure a high level of preparedness for harsh weather contingencies. An early warning system with a spontaneous response plan to deal

with catastrophe requires a unified approach for creating a shared understanding by all stakeholders to ensure a rapid and coordinated response to any disaster

Overview

Balochistan, the largest of the four provinces of Pakistan, spreads over an area of 347,190 sq. km, forming 43.6 per cent of the total area of Pakistan. It has a clustered population and is the smallest in proportion compared to other provinces. Concerning the 2017 census, its population is 12.34 million, with low density per square kilometer.

Geography

Phenotypically, Balochistan is an extensive plateau of rough terrain divided into basins by ranges of sufficient heights and ruggedness. The geographical area of Balochistan can be divided into four distinct zones: Upper highlands, lower highlands, plains, and deserts. The upper highlands, known locally as Kakar Khorasan, rise as high as 3,700 meters, with valley floors about 1,500 meters above sea level.

The highlands include Sulaiman, Pab, and Kirther in the east and Makran, Kharan and Chaghi ranges in the West. The Upper High Lands fall mainly in districts Zhob, Killa Saifullah, Pishin, Quetta, Ziarat and Kalat. It comprises several ranges such as Sulaiman, TobakKakari, Murdar, Zarghoon, Takatu, and Chiltan ranges.

However, the Lower High Lands have an altitude ranging from 1970 to 3940 ft (600 to 1200 M). It consists of south-eastern Balochistan, except the eastern part of Kachhi, the southern end of Dera Bugti and the Naseerabad districts. Some are an extension of lower highlands that exist at the boundaries of Gwadar, Turbat, Panjgur, Kharan and Chaghi districts.

Balochistan has a relatively small area of plains compared to its total land area. They include the Kachhi plain, situated south of Sibi and extending into Naseerabad Division, the southern part of the Dera Bugti district, and the narrow plain area along the Mekran coast stretching from Kachhi to the Iranian border. The Kachi, Las Bela plains and river Dasht cover a sizable room. Mountains dominate the terrain, valley floors, and the piedmont plain makes up only 15% of the landscape.

The western part of the province consists of vast plains covered with black gravel surfaces and broad expanses of dunes; it includes Kharan and Chaghi districts.

The coastal line is about 780 Kilometres long, with a few peninsulas and capes. The coastal area is not effectively connected with the interior; the steep hills rise abruptly beyond the narrow coastal plain. Ports such as Somiani, Pasni and Gwadar are unsheltered. Federal and provincial governments have comprehensive development plans that feature a deep seaport at Gwadar and a coastal highway.

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Demographic Context

Despite this fact, the province is blessed with natural resources. However, it has to encounter emergencies in the shape of natural and man-made disasters. Some reasons for the harmful impacts of disasters are the development of lesser human and material resources to cope with such situations. The province certainly needs infrastructure, social & economic growth, and literacy improvement to convert challenges into opportunities. The context of the region is as follows;

The three critical dimensions of Baluchistan's demography are a low population density (higher cost per unit), a high population growth rate (increased challenges in each population cluster) and a youth bulge that creates opportunities and risks depending on the response from the government. Each of them has its implications for development. Nevertheless, the refugee population is an additional dimension that has been a constant factor since 1980.

Balochistan accounts for nearly 44% of Pakistan's total land area but contains only 6% of the country's total population. The province has a large swath of arid, hostile mountainous landscapes (347,190 square kilometres) and a population of 12.34 million. It has the lowest population density of all provinces (36 per sq. km. compared to the national average of 261 per sq. km.). A low population and a vast geographic region with a poor communication infrastructure mean that the unit cost of public service delivery in Balochistan is significantly high compared to other provinces. It has implications for the development model and expenditure.

Balochistan has the highest population growth rate among the provinces of Pakistan. There is an increase in population from 6.56 million in 1998 to 12.34 million in 2017, accounts for a four-fold increase of about 88%. The average annual growth rate was 3.37 per cent during this period. Of the 12.34 populaces, over 72% live in rural areas. In what is a replication of the broader national

five drift, the population of males (52.5%) in Balochistan is greater than that of females (47%.5). The total number of households is approximately 1.78 million. The Pakistan Demographic and Health Survey, 2017-18, reveals that Balochistan has one of the six highest prolificacy rates in the country (See Figure 2-1). The Total prolificacy rate in Balochistan is four births per woman against the national average of 3.6 births per woman.

Economic Context

Compared to the other provinces, Balochistan has the lowest per capita income and weakest performance over the past few decades. The GDP of Balochistan is estimated to have grown at the rate of 4.1% per year in 12 real terms between 1972 and 2005. By one % point annually, Balochistan's GDP had lagged more than other provinces since the early 1970s. A weak fiscal base, low investment, uncertain and limited water supply, weak private sector, poor security situation, inadequate institution, human resources and low population density are the key barriers to growth. Figure 2-3 GDP Growth by Region (1972-73 to 2004-05) (PKR Millions, 1980-81 prices) Source: World Bank (Balochistan: Development Prospects and Issues 2013). The province is facing industrial issues too; mostly industrial areas are located near Karachi, hub and underdeveloped services sectors. The latter's share has remained moderately immobile in Balochistan, increasing from approximately 42% in 1972 to 47% in 2010. On the other hand, many service sectors in other provinces, with their share of GDP 13, rose to 55% or more in 2010.

Balochistan has many assets such as livestock and agriculture, mine and minerals, 14 coastal areas with sustainable fisheries, and location. These assets have a significant contribution and high potential and continue to yield.

Balochistan has many coal, copper, lead, gold, chromite and other minerals. Despite abundant mineral resources, the province's mining sector is still tiny. This sector can be a significant source of contribution to the provincial GDP due to its potential. However, many factors disturb these sectors, such as a lack of required skill and technology, weak governance, poor connectivity, and a shortage of geological data.

The province's landform grants Pakistan a dynamic space for refuge and district trade. South Asia, the Middle East and Central Asia are important strategically and economically connected by Balochistan. This strategic location is essential as it makes it a gateway and hub for regional trade.

Coastal Area

Balochistan owns a nearly 750 km long coastal sash, secretarial for almost two-thirds of Pakistan's total coastline. Due to this, the fisheries sector offers great budding for becoming means of fiscal development in the province. The coastal area also provides a chance to develop energy using wind, an underutilized potential. On the other hand, the possibilities of solar remain high. Moreover, the province owns enormous potential for the progress of renewable energy sources.

Climate Diversity

The exclusive dynamics of Baluchistan's climate containing uneven territory with a vibrant blend of mountainous ground and plains with high diversity in heights, make an entire set of natural beauty that has boosted the background of the province. The province is subjected to different climatic situations, uniting different natural zones of the areas such as mountain ranges, deserts and dry lands, inland water bodies, forests, woodlands and grasslands due to diverse geographical aspects. The vast coastline extends from Quetta to Karachi with a length of 800km, which adds beauty to the province. The highly productive system in Balochistan is a coastal ecosystem that provides a range of goods and services.

As the territory of Baluchistan is already a dry district in Pakistan, Baluchistan has an annual drizzle of 210mm (per annum) on an average scale. The profound change in climatic conditions has proved the tendency of less rainfall and water shortage in different regions of the province. The reduction of secretive water resources is simply because water misconduct and an undue increase in water demand are due to thrilling weather conditions. Unfortunately, the supply is insufficient to fill the demand gap; there has also been a rise in the incidence of warm days in Baluchistan at around 4-16 days per span. Contrariwise, there has also been a notable rise in the frequency of cold days in mountainous areas of Balochistan, mainly in Baluchistan, of an average of 30-60 days.

Impact of Climate Change in Baluchistan

Due to climate change, Balochistan has been affected very badly. The deviations in the weather of Baluchistan's province manifest in some of its most vigorous sectors and have far-reaching influences. As the province with the lowest Human Development Index (HDI) in Pakistan, climate change is expected to aggravate overall weaknesses.

Vulnerability to Nature

Earthquakes, droughts and floods are the three types of natural climates that Balochistan has been facing for the last three decades. It continues to be vulnerable to all three. The risks of cyclones are the most significant risk in coastal areas. The province faced the most critical challenge of recurring droughts with severe implications for livelihoods. On the Indus River, only 5% of the region has a dependency. There is a high reliance on groundwater and ethnic water channels. Groundwater has been under threat since the 1980s for agricultural use due to excessive tube well installation. Droughts occur due to a pause in rainfall for a more extended period every time resultantly. When the rain pattern changes, the province sees excessive flash floods additionally.

Agriculture and Livestock

67% of the population depends upon agriculture and livestock, a large portion of the province, contributing to more than half of the GDP. Due to the large number and variety of cultivated lands, the country's livestock supply has been the backbone of the province. The water shortage produced a loss for the farmers and government that caused threads in the farming trend. This excessive demand and shrinkage in supply have been the primary force due to extreme weather conditions. This sector has been considered damaged and dead because the crops are not well enough to be exported; this useless loss has accumulated in the past years.

The region presently gets forlorn precipitation, and the section is incredibly feeble with development climate impacts such as exceptional climate events, dry spells, and scourges. More than half of the created zone of Baluchistan, 53%, is underneath 'Sailaba (Floodwater) and Khushkhaba (precipitation and localized runoff) developing systems. While 47% of the arrival is overflowed, the non-irrigated developing systems cater to the livelihoods of the poorest strata of the masses. Without a doubt, minor changes in the hydrology and climate can have pulverizing impacts.

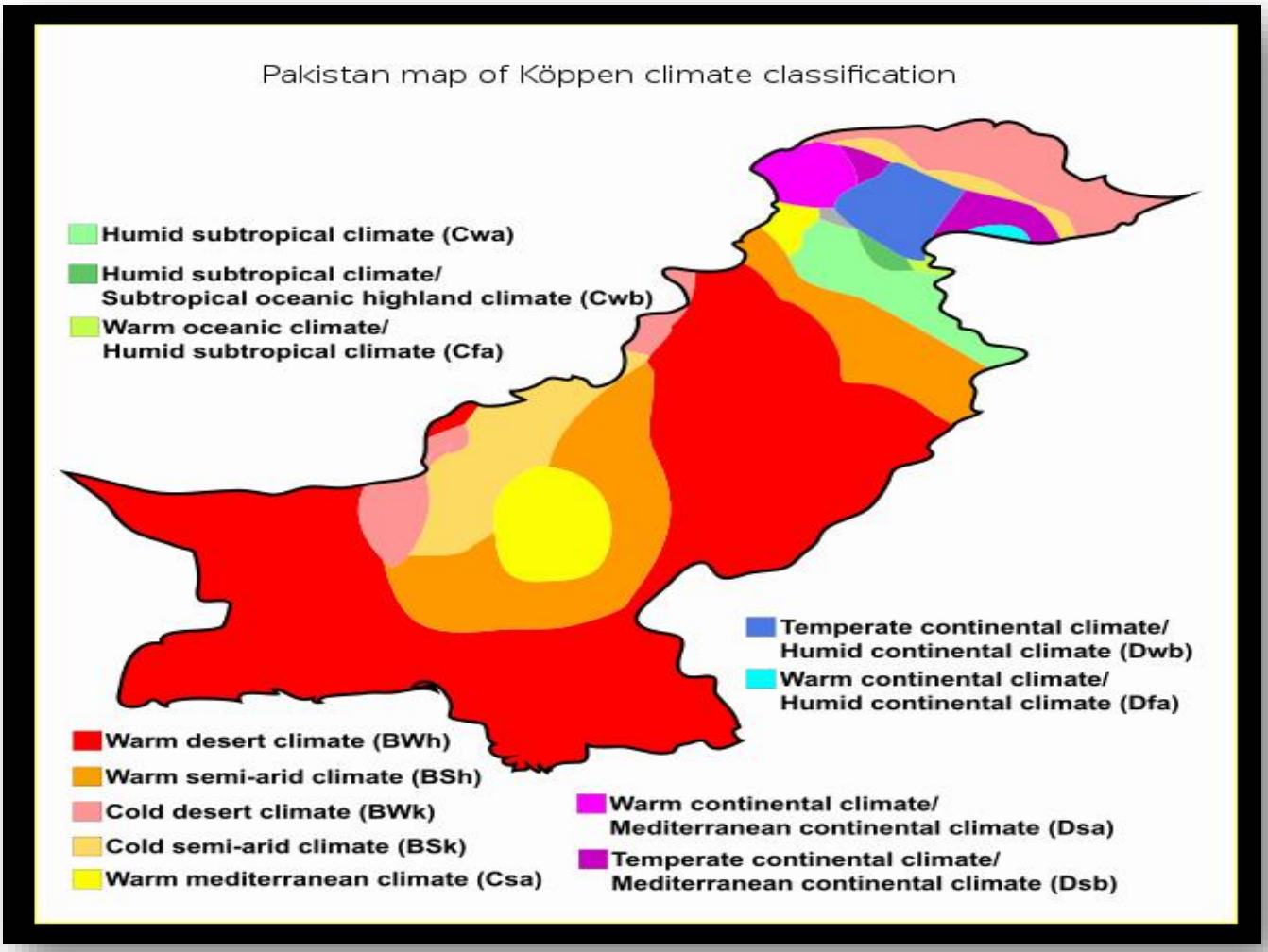


Figure: Köppen–Geiger climate classification map for Pakistan

Source: Timer, CP (2002). "Agriculture and Economic Development in BL gardener & GC Rausser (ed)

Chapter Four

VULNERABILITY PROFILE OF DISTRICTS OF BALOCHISTAN

DISTRICT QUETTA

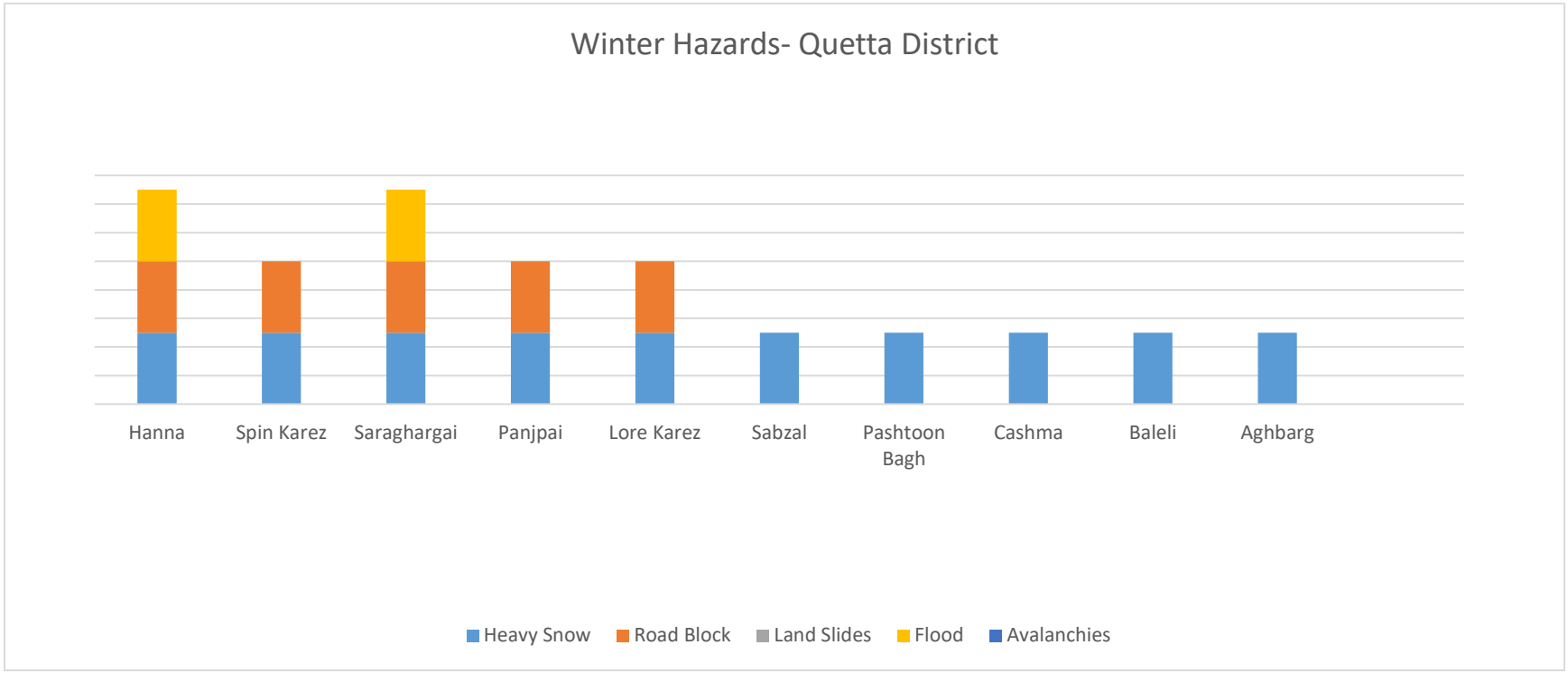
Quetta is a district northwest of the Balochistan province of Pakistan, on the border with Kandahar province, Afghanistan. It is part of the Quetta Division. The district is famous for its agricultural produce, most notably fruit orchards but also including apples and grapes. The population of Quetta, according to the 2017 census, is 2,275,699. Quetta is the capital city of Balochistan province, neighboured by Districts Pishin, Mastung, Ziarat, and Kachi. Mountains surround the town – Zarghoon to the northeast, Mehrdar to the southeast, Chilten to the southwest, and Takatu to the North. The city has freezing winters with moderate summers. The city often receives heavy snow in the winter. Significant sources of livelihood included services, mining, agriculture, livestock, and business

Total Area	**2623 sq.km**
Total Population	As per 2017 census 2,275,699
Population (women, Kids, old)	Male (1,190,476) Female (1,078,718)
Tehsil Name and number	Tehsil Quetta City. Tehsil Quetta Saddar. Sub-Tehsil Panjpai.
UC Name and number	Kechi Baig, Shadenzai, Sara Ghurgai, Hanna, Baleli, Kuchlak, Aghbarg, Panjpai, Zarkho
Neighbor Districts name and number	Qilla Abdullah, Pashin, Ziarat, Harnai, Mastung
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
GPS Coordinates	30.1799° N, 67.0941° E
Altitude	1,680 meters (5,500 ft) above sea level,
Number of Schools	572
Number of Colleges	7
Number of Universities	6
Number of BHUs	6
Number of Hospitals	10

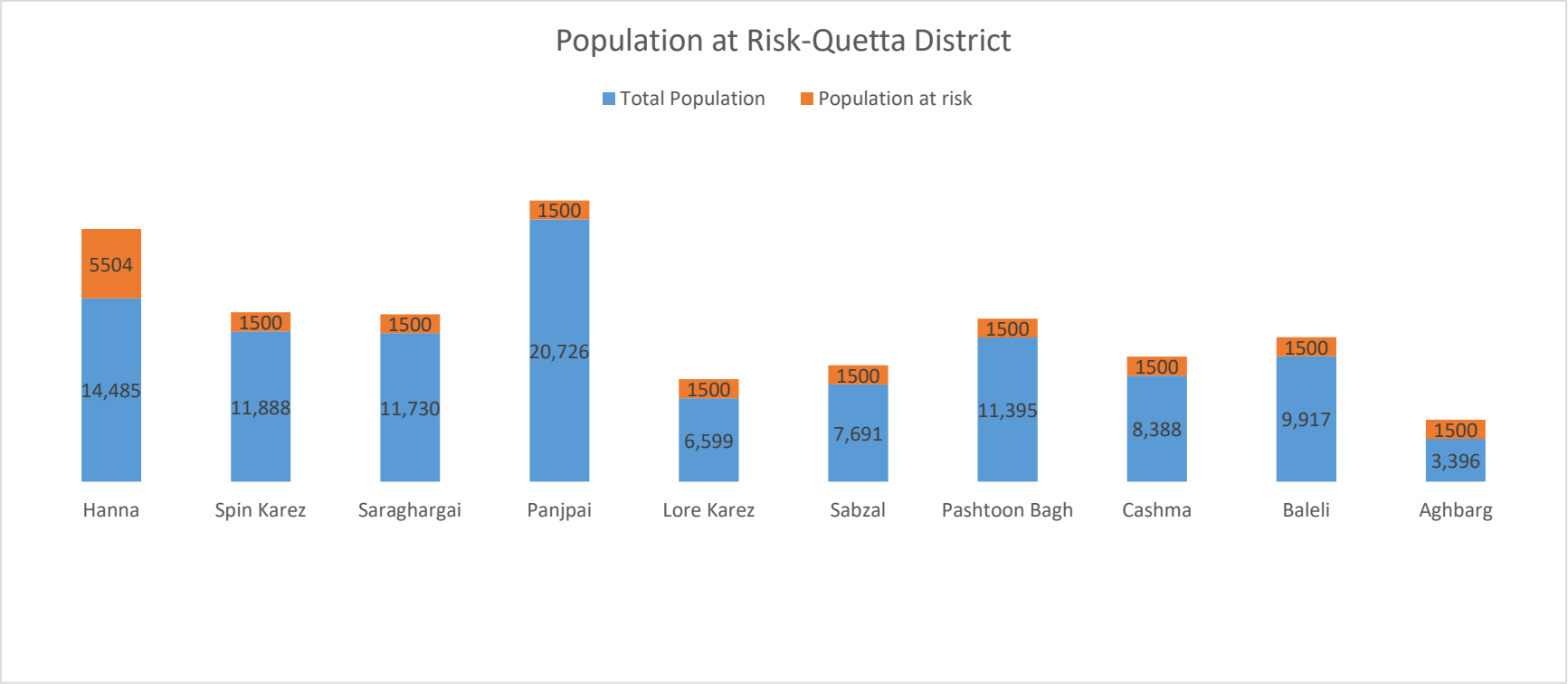
Major Crops	Wheat, Barlay, Masoor, Vegetable, Rice, Potato, Chillies, Cotton, Onion, Mash, Moong
Intensity of Poverty	0.53
Literacy Rate	58.76%
Distance from Highway	38 min (14.7 km)

Winter hazards

The figure shows that Heavy snow is present in all sampled districts of Quetta. The consequences of snowfall vary among different union councils. For instance, roadblock and flood are current in Hill areas such as Hanna and Saraghargai, whereas only roadblock is present in Spin Karez, Panjpai and Lore Karez.



The consequences of heavy snowfall are worse for populations vulnerable to meeting the challenges of heavy snow. Data shows that Hanna 38%, Spin Karez 13%, Saraghargai 13%, Panjpai 7%, Lore Karez 22%, Sabzal 19%, Pashtoon Bagh 13%, Chashma 17%, Bali 15% and Aghbarg 44%. The higher percentage of the population at Risk is in Aghbargh, which leads to Hanna, followed by Lore Karez and Sabzal. Thereby, union councils where winter hazards and the population at Risk are higher must give more priorities like Hanna.



DISTRICT MASTUNG

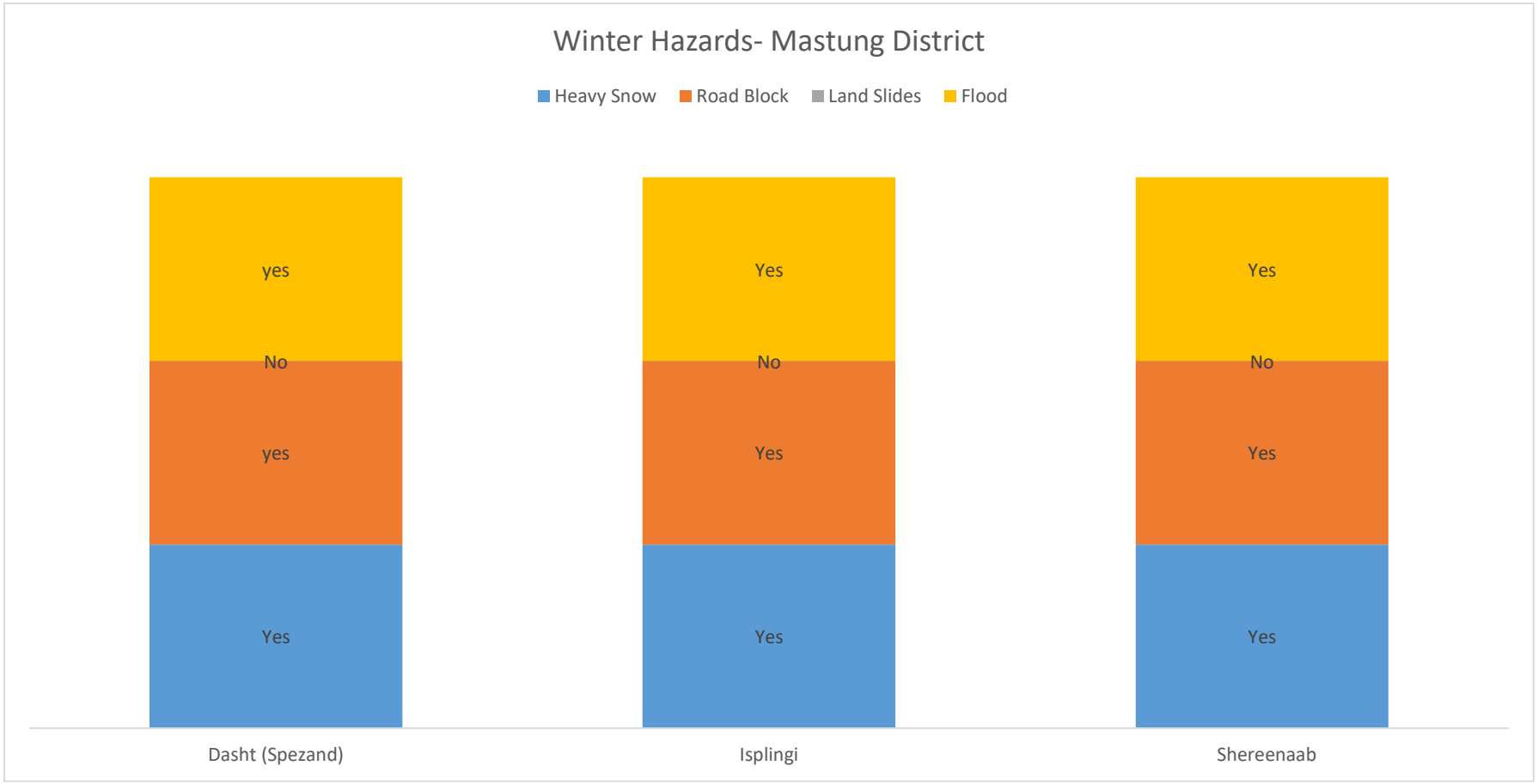
The total geographical area of the district is 5,896 square kilometers, and administratively divided into four tehsils and 13 union councils. The climate is characterized by dry, hot summers and mild to cool winters. Rainfall is scanty. During winter, snow falls in the valleys of Mastung and Dasht. The people's livelihoods in Mastung are highly dependent on agriculture, livestock and government services.

Total Area	**5,896 km2**
Total Population	As per 2017 census 266,461
Population (women, Kids, old)	M(51.8%) F(48.2%)
Tehsil Name and number	Mastung, Dasht, Kirdagap, Khadkoocha
UC Name and number	Spezand, Mastung, Umar Dohr, Isplinji, Khad Kocha, Sarparah, Nawazabad, Sorgaz, Soro, and Alizai
Neighbor Districts name and number	Kalat, Bolan, Sibi, Harnai, Quetta, Nushki
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
GPS Coordinates	29° 20' 13" to 30° 15' 8" north latitudes, and 66° 11' 34" to 67° 25' 59" east longitudes
Altitude	13200ft
Number of Schools	378
Number of Colleges	3
Number of Universities	1
Number of BHUs	24
Number of Hospitals	01
Major Crops	Wheat, barley, cumin, masoor, moong, and sunflower, Almonds, apples, apricots, grapes, pomegranate, peach, plum, cherry, watermelon, and musk melon
Livestock	Sheep, Goat, Cow, Buffalo
Poverty	0.51 low intensity

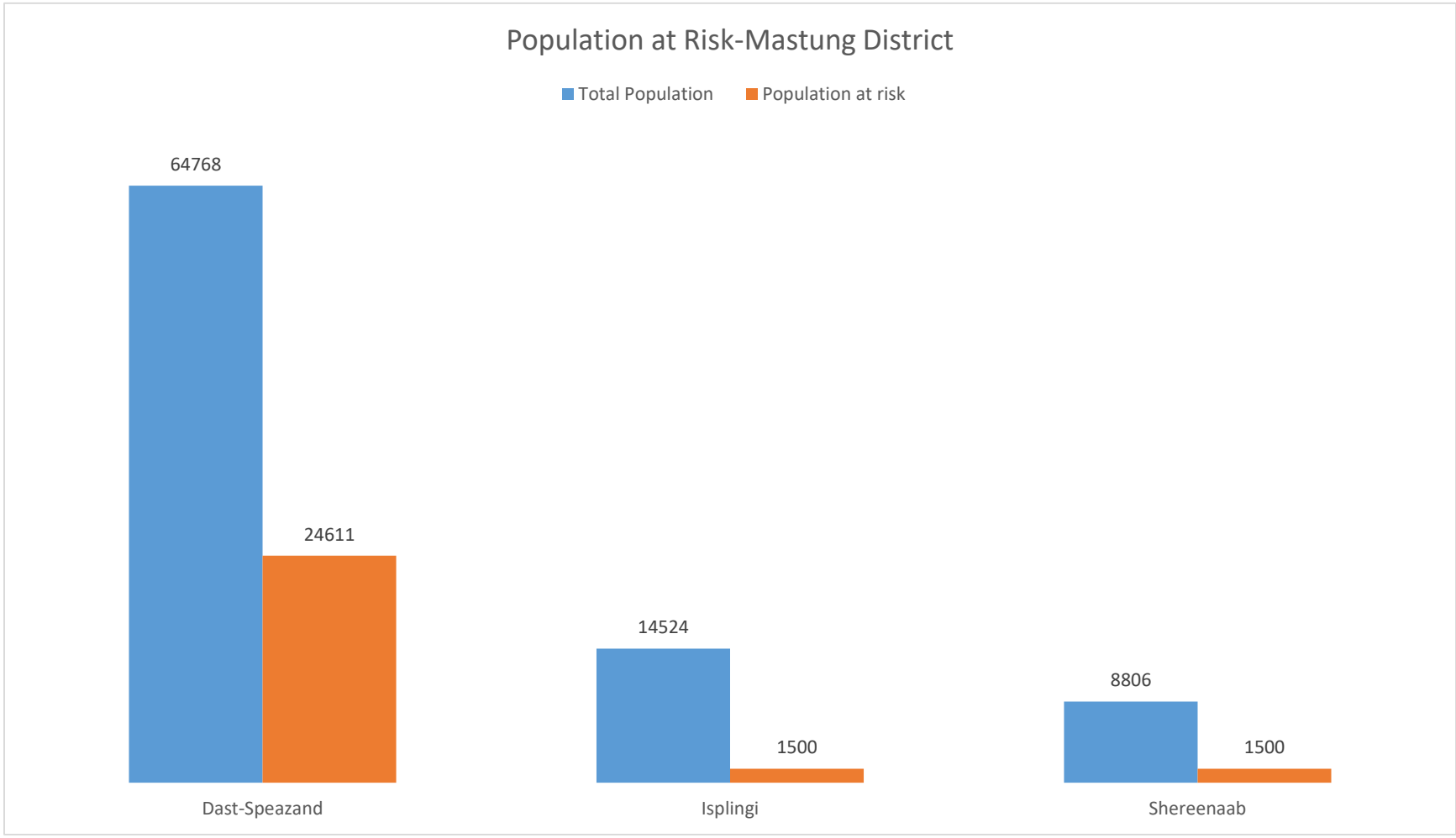
Literacy	59%
Distance from Highway	1 hr 21 min (53.4 km)

Winter hazards

The figure shows that Heavy snow is present in sampled union councils of Mastung. The consequences of snowfall i,e, he road block and floods, are present.



The most vulnerable population is at Dasht-Speazent, 38%, leads to Sheerenab at 17% and Spilingi at 10%.



DISTRICT KALAT

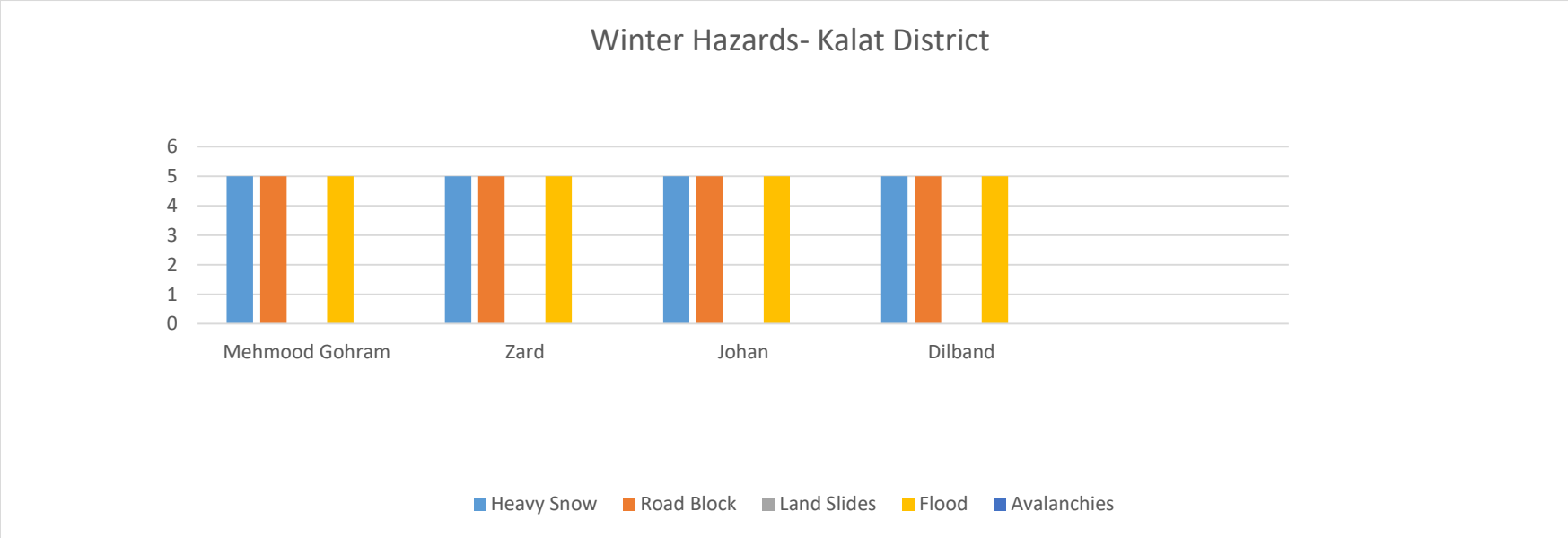
Kalat encompasses an area of 6,621 km2 (2,556 sq mi). The district's population is estimated to be over 412,232 per the 2017 census. Kalat district consists of two sub-divisions, i.e. Kalat and Manguchar, and four tehsils: Kalat, Mangochar, Johan, and Gazgz. The climate is arid, hot in summer and cold in winter, with most rainfall occurring in the winter. The terrain is mountainous with several valleys, and one main river, mount Harbour in Kalat, is known for Juniper's old trees, the Moro River. The main economic activities are agriculture and livestock farming.

Total Area	**6,622km2**
Total Population	As per 2017 census 412,232
Population (women, Kids, old)	M(51.4%) F(48.6%)
Tehsil Name and number	Kalat, Mugachar, Surab
UC Name and number	Kalat City, Shahdadzai, Surab, Kalat Sadr, Zard, Nichara, Chappar, Mehmood Gohram, Hathyari, Mangochar, Gazgz, Hajike, Mal Sohrai, and Ali Abad (Shana)
Neighbor Districts name and number	Kharan, Nushki, Khuzdar, Mastung, Kachhi, Surab
Weather (Average Snow Fall)	Winter (November, Feburary)
Major Rivers, source of water	Tube well
GPS Coordinates	28.9184° N, 66.4271° E
Altitude	2,007 m (6,585 ft)
Number of Schools	477
Number of Colleges	05
Number of Universities	0
Number of BHUs	16

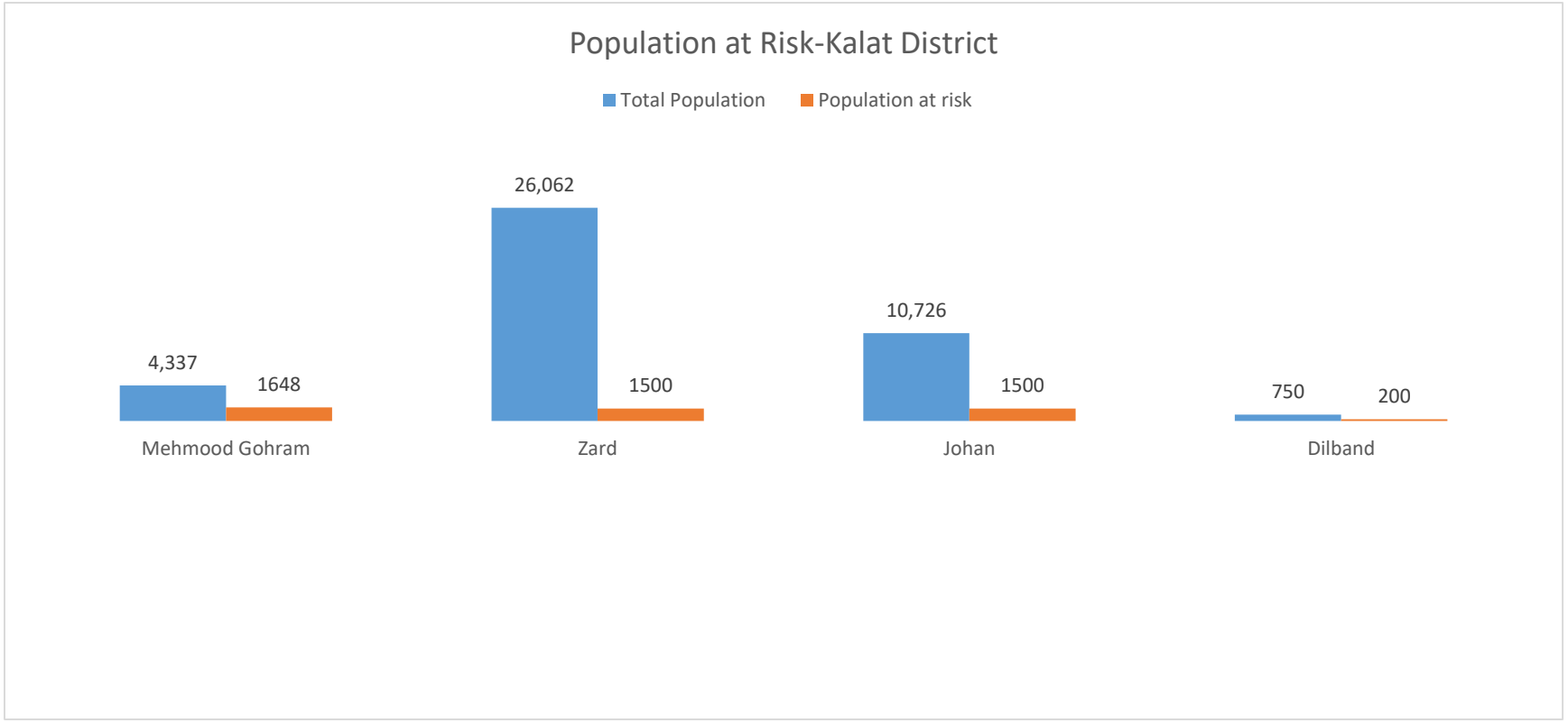
Number of Hospitals	01
Major Crops	Wheat, barley, moong, maash, masoor, sunflower, and fodder, Almonds, apples, apricots, grapes, pomegranate, peach, plums, cherries, watermelon, and strawberry
Major Trades	Apple,
Livestock	Cow, goat, sheep
Poverty	0.50 low intensity
Literacy	54%
Distance from Highway	100m

Winter hazards

The figure shows that Heavy snow is present in sampled union councils of Kalat. The consequences of snowfall i,e, the roadblock and flood, are present.



The most vulnerable population is at Mehmood Gohram at 38%, leading to Dilband at 26%, Johan 13%, and Zard at 5%.



DISTRICT ZIARAT

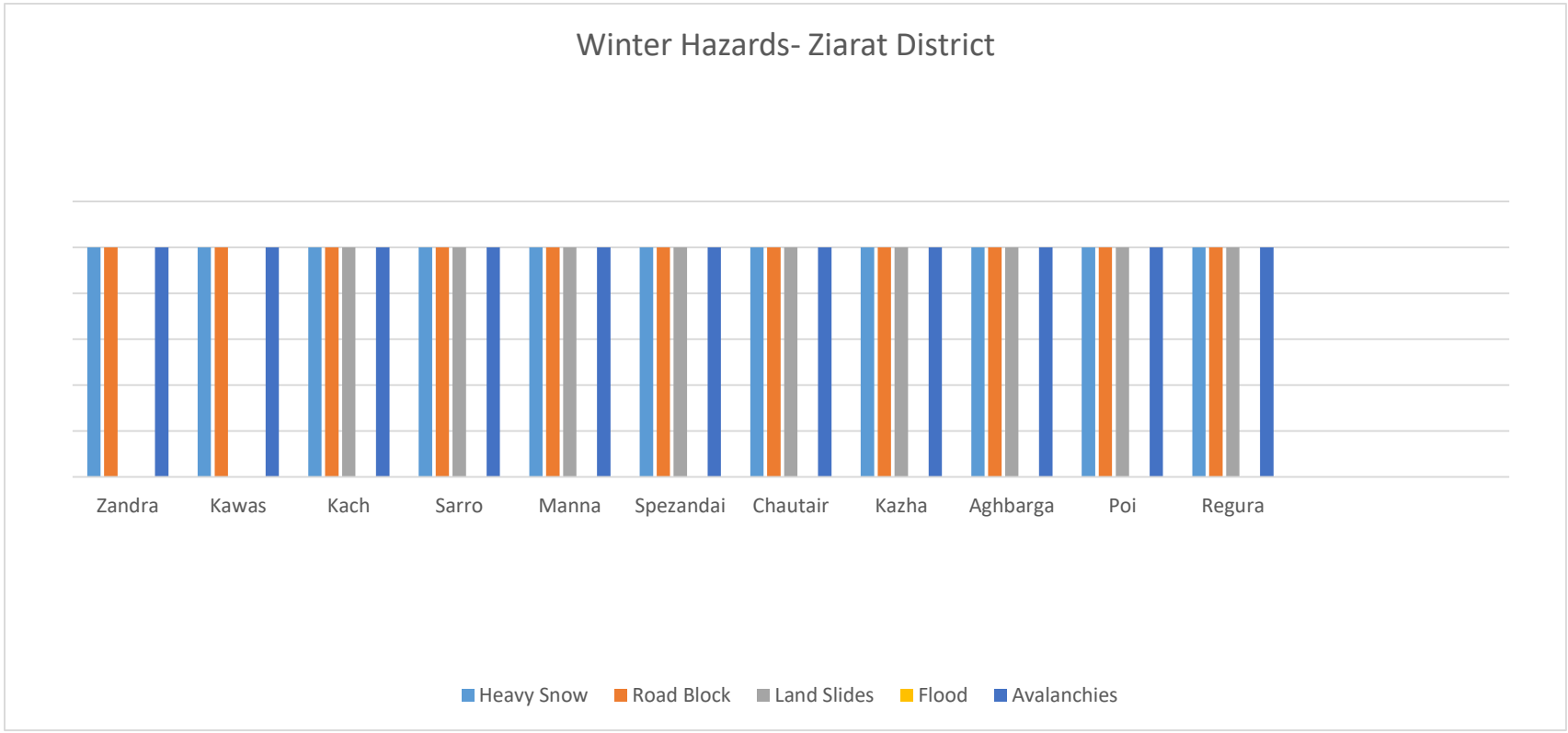
Ziarat is a district in the north of Balochistan province of Pakistan. Ziarat town (situated at an altitude of about 2,400 meters) is headquarters of the district of the Sub division, and also of the tehsil. Khalifat Hills have the highest peak with an altitude of 11,400 feet (3,500 m) in Ziarat district. Ziarat District was established in July 1986, previously being part of Sibi District. The district, with a population of 52855, is subdivided into two tehsils Ziarat and Sanjawi the latter is the most densely populated having a population of 32,456, while Ziarat Tehsil has a population of 18,000. The district contain a total of ten Union Councils.

Total Area	**3,670 km2**
Total Population	As per 2017 census 160,422
Population (women, Kids, old)	M(51.3%) F(48.7%)
Tehsil Name and number	Sanjawi, Ziarat
UC Name and number	Ziarat, Kawas, Zandra, Spezandi, Choom, Zargi, Sanjawi, Tand Wani, Khaza, Uchwani, Smallan, and Aghbarg
Neighbor Districts name and number	Pishin, Quetta, Harnai, Loralai, Killa Saifullah
Major Rivers, source of water	Nari River
GPS Coordinates	67° 11′ 18″ to 68° 36′ 0″ east longitudes, and 30° 09′ 46″ to 30° 35′ 56″ north latitudes
Altitude	2,400 meters
Number of Schools	264
Number of Colleges	1
Number of Universities	0
Number of BHUs	10
Number of Hospitals	1
Major Crops	Wheat, barley, rapeseed & mustard, jowar, bajra, moong, and maash

Major Trades	Tourism
Livestock	Cattle Buffalos Sheep
Poverty	0.50
Literacy	39%
Distance from Highway	2 hr 45 min (123.2 km)

Winter hazards

The figure shows that Heavy snow is present in sampled union councils of Ziarat. The consequences of snowfall i,e, the roadblock, Land Slide and Avalanches is, present.



The most vulnerable population is Saro 60%, which leads to Regular 50%, Zandara and Spezandai 40%, and Manna and Kazha 30%. The remaining union councils (Kawas, Kach, Chautair, Aghbarga and Poi) fall within 20%.



DISTRICT HARNAI

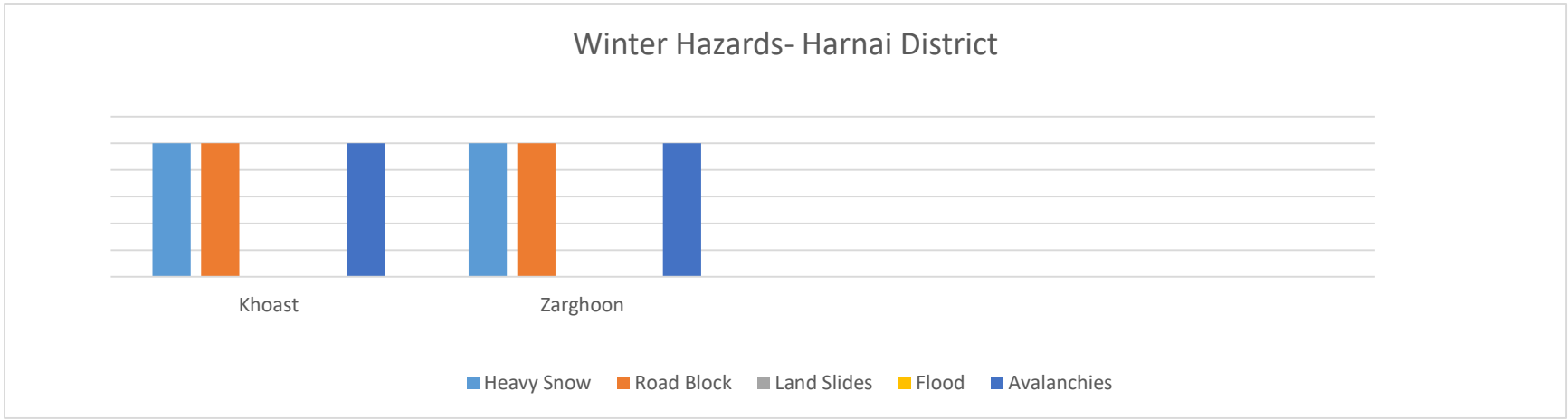
Harnai is a district in the northeast of the Balochistan province of Pakistan. Harnai is the principal town of this district and serves as its capital. Mountainous ranges surround Harnai. The area's minimum and maximum winter temperatures are −2˚C to 20˚C. The summer is extreme in the area, and the minimum and maximum temperatures fall between 20˚C to 48˚C. Harnai has a fertile rainy season during monsoon time. In general, Harnai has pleasant weather in the winter season. Harnai is one of the most beautiful cities in the Balochistan Province, with plenty of water in the streams. It is the only production area of fresh vegetables and fruits with fresh and clean water in Balochistan. Significant sources of livelihood are agriculture, mining, and livestock.

Total Area	**2492km2**
Total Population	As per 2017 census 97,017
Population (women, Kids, old)	M(53.5%) F(46.5%)
Tehsil Name and number	Harni, Shahring
UC Name and number	Harni, Shahring, Khost, Timur, Spin Tangi, Trikh Tangi, Gachina, Badra, Tangi
Neighbor Districts name and number	Sibi, Ziarat, Mastung, Quetta, Duki
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
Major Rivers, source of water	ELECTRIC/HAND PUMP
GPS Coordinates	30.1069° N, 67.9047° E
Altitude	3,000 ft
Number of Schools	165
Number of Colleges	01
Number of Universities	00
Number of BHUs	07

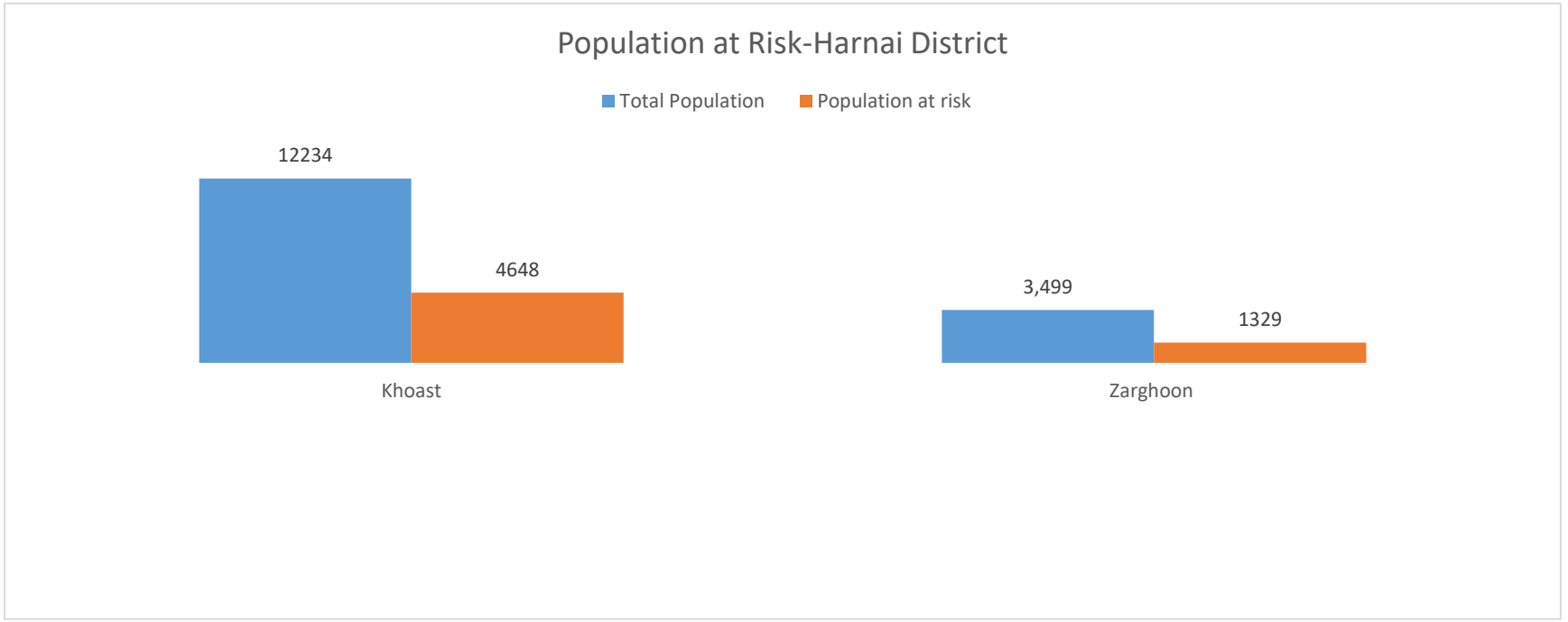
Number of Hospitals	01
Major Crops	wheat, barley, rapeseed & mustard, masoor, rice, jowar, bajra, maize, sesanum, moong, maash, moath, sugarcane, gram, cotton, sunflower, sugar beet, guarseed, and linseed.
Major Trades	TOURIST SITE
Livestock	Cattle Buffalo Sheep. Goats Camels Horses Mules Asses
Poverty	0.50
Literacy	36.24%
Distance from Highway	459.12 km

Winter hazards

The figure shows that Heavy snow is present in sampled union councils of Harnai. The consequences of snowfall i,e, roadblock and avalanches, are present.



The most vulnerable population is 37% for both Khoast and Zarghoon.



DISTRICT KACHHI

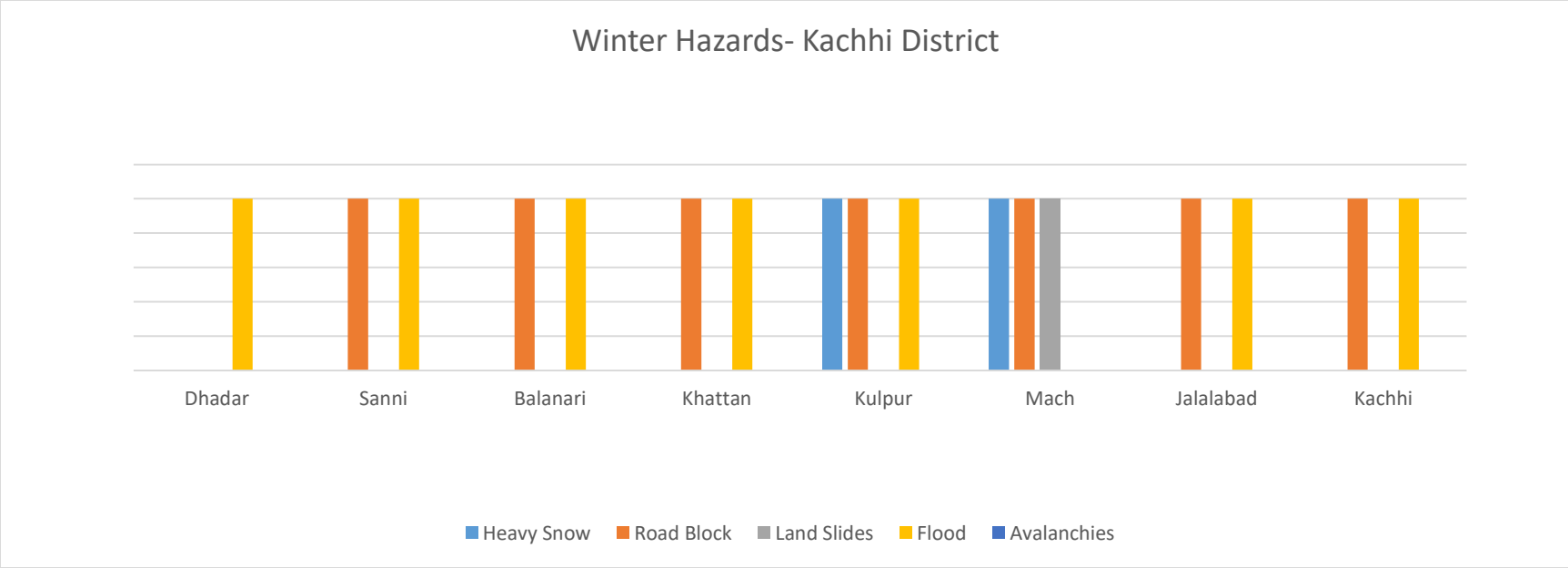
Kachh**i,** known until 2008 as Bolan, is a district in central Balochistan. The Bolan area remained under one district Kachhi until 31 December 1991. The climate of the district is moderate with considerable rainfall at times. The district is prone to flash floods. Majority of the population belongs to agriculture and livestock. The district has some tourist attractions like Peer Ghaib.

Total Area	**5,682 km²**
Total Population	As per 2017 census 237,030
Population (women, Kids, old)	M(54.3%) F(49.2%)
Tehsil Name and number	Dhadar, Mach, Sanni,. Bhag, Balanary and Khattan
UC Name and number	Noushera, Mehram, Machh, Jalal Khan, Chalgari, Sanni, Chander, Gazai.
Neighbor Districts name and number	Sibi, Mastung, Kalat, Lahri
Weather	Winter (November, April), Summer (May, October)
Major Rivers, source of water	Bolan River channels and drains
GPS Coordinates	29.2293° N, 67.6662° E
Altitude	66 meters above sea level
Number of Schools	423
Number of Colleges	1
Number of Universities	0
Number of BHUs	12
Number of Hospitals	1
Major Crops	Wheat is Rabi major season major crop followed by Jhambha (oilseeds) and chickpea are grown cases.

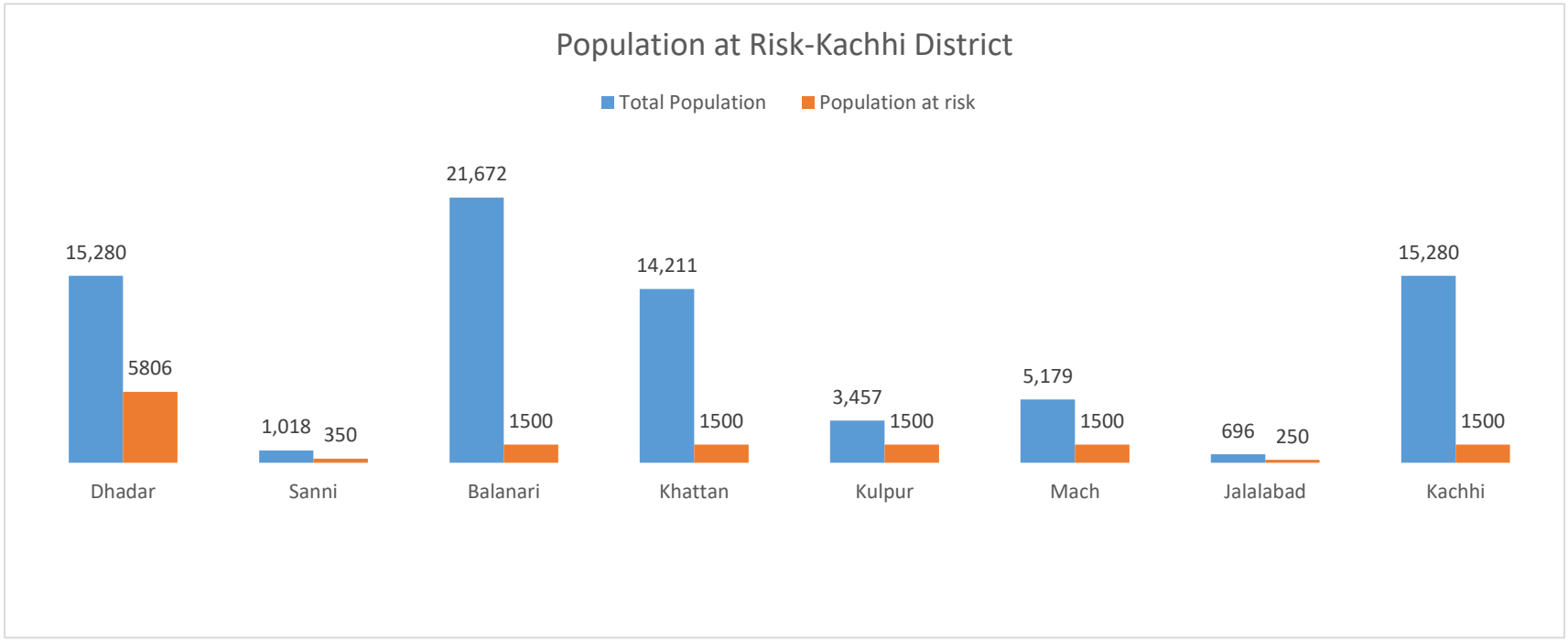
Livestock	Goat, Sheep, Buffalo, Camel
Poverty	0.50
Literacy	33%
Distance from Highway	1 hr 2 min (47.5 km) via N-65

Winter hazards

The figure shows that during winter, the flood is more expected in District Harnai except in Kulpur and Mach, where heavy snow is reported. The consequences of flood and heavy snow are the roadblock and in Mach only are the Land Slides.



The most vulnerable population is Kulpur 43%, which leads to Dhadhar, Sanni, Jalalabad 35%, and Mach 29%. The remaining union councils (Balanari, Khattan, and Kachhi) fall within 10%.



DISTRICT PISHIN

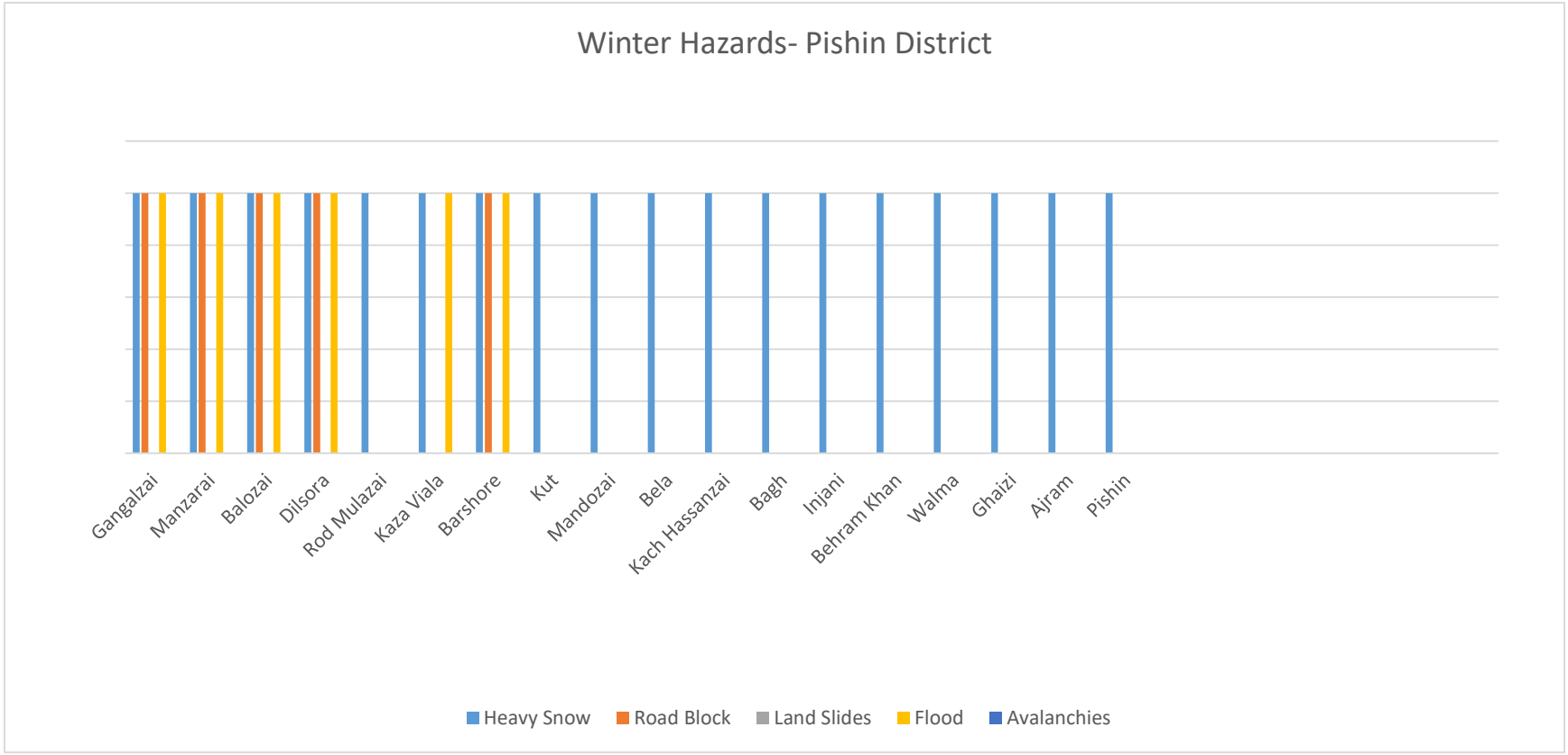
Pishin district consists of a 5,000 square kilometers geographical area. The district's climate is pleasant in summer and very cold in winter. District Pishin is administratively divided into four tehsils and 38 union councils. The district headquarters is "Pishin" town. It shares its boundaries with Quetta (the provincial capital) in the south, Killa Abdullah in the west, Killa Saifullah in the east and Afghanistan in the northeast. The people's livelihoods in Pishin are highly dependent on agriculture, livestock and government services.

Total Area	**7,819 km2**
Total Population	As per 2017 census 736,481
Population (women, Kids, old)	M(51.5%) F(48.5%)
Tehsil Name and number	Pishin, Karezat, Barshore, Huramzai
UC Name and number	Huramzai, Pishin, Khanozai, Qila Haji Khan, Behram Khan, Karezat, Barshore, Karbala,[8] Walma, Bazar-e-Kona, Yaro, and Saranan
Neighbor Districts name and number	Ziarat, Quetta, Killi Abdullah, Killi Saifullah
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
GPS Coordinates	66° 46′ 01” to 67° 49′ 19” east longitudes, and 30° 44′ 02” to 31° 14′ 02” north latitudes
Altitude	1370m
Number of Schools	986
Number of Colleges	7
Number of Universities	0
Number of BHUs	34
Number of Hospitals	1
Major Crops	Wheat, maize, barley, tobacco, and cumin
Major Trades	Agriculture

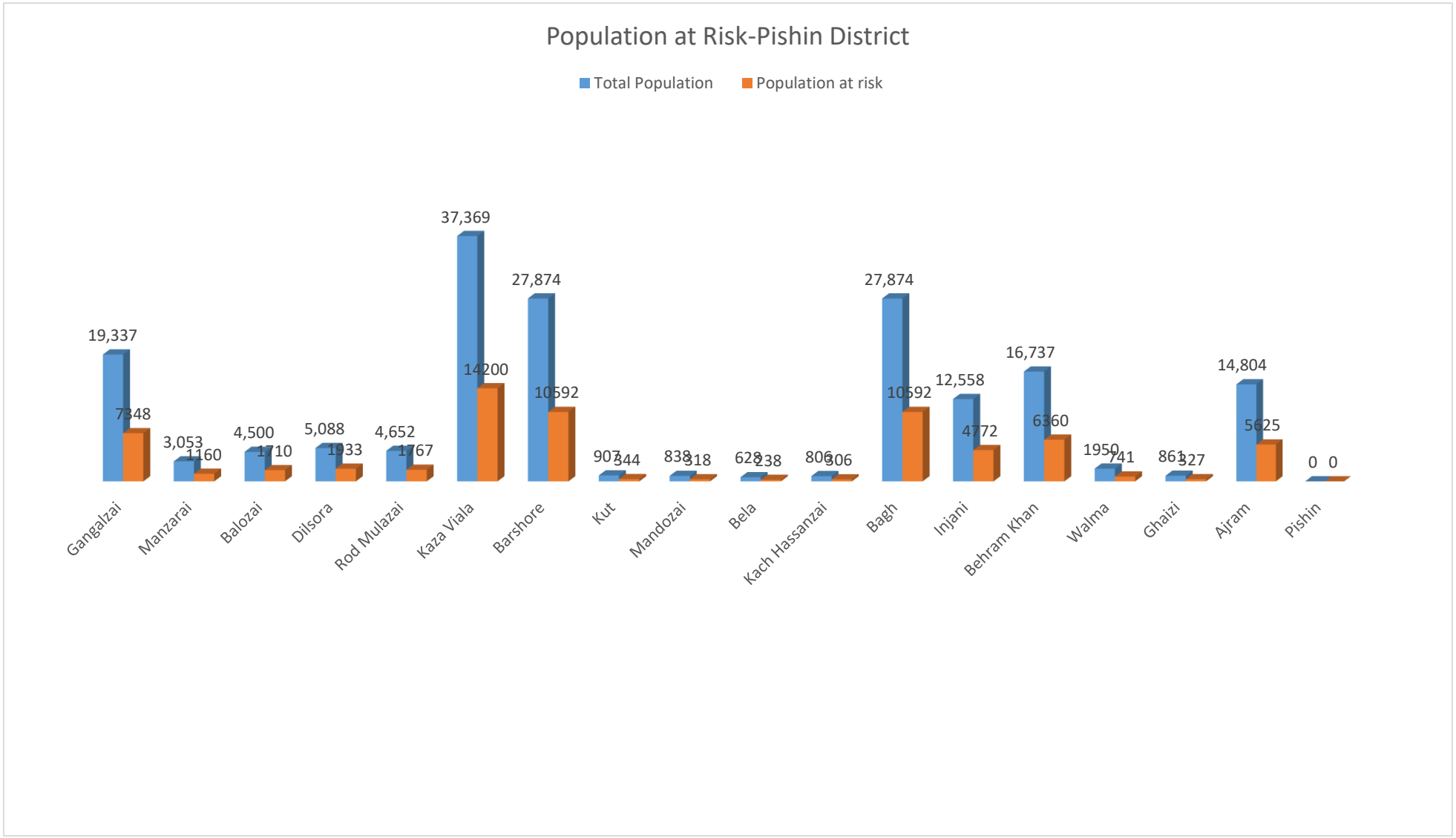
Livestock	Sheep, Goat
Poverty	0.50
Literacy	49%
Distance from Highway	2 hr 20 min (110.3 km) via Kuchlak

Winter hazards

The figure shows that during winter, heavy snow is present in District Pishin. Heavy snow and rain consequences are roadblocks and floods in the few union councils, i.e. Gangalzai, Manzarai, Balozai, Dilsora, Kaza Vala, and Barshore.



The most vulnerable population is 38% of the total population, estimated similar in all union councils of district Pishin.



DISTRICT KILLA ABDULLAH

Killa Abdullah is a district in northwest Balochistan. Killa Abdullah was separated from Pishin District and made a new district in June 1993. Killa Abdullah district lies between 30–04' to 31–17' North Longitude in the foothills of the Shela Bagh Mountain range. It is bordered by Pishin District in the east, Quetta District in the South, and Afghanistan in the west. The geographical area of the district is 5,264 km. It is composed of two sub-divisions; Gulistan and Chaman. The general character of the district is mountainous. The Toba Plateau covers its northern area. Killa Abdullah is a small valley bordered by mountains. The valley floor is covered with unconsolidated alluvial sediments mainly composed of clay, silt, silty clay and clayey silt. All these sediments were deposited in the valley by the seasonal streams that flow across the valley (generally north to south). The scarcity of water in the area and the semi-desert climatic conditions have limited trees and shrubs to grow.

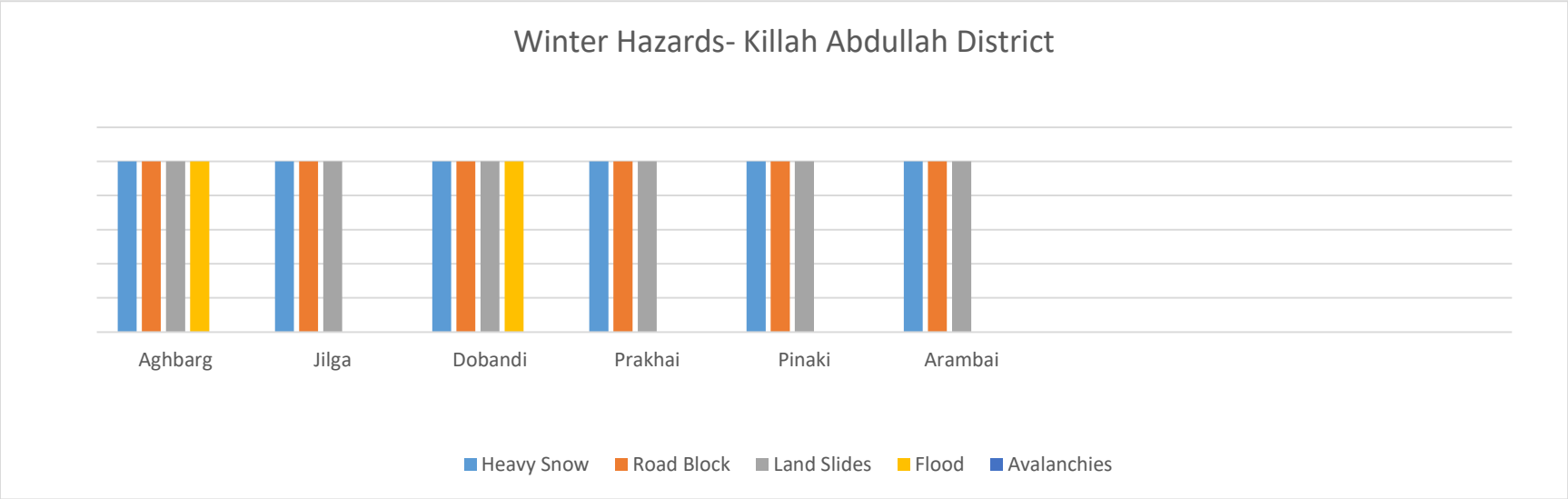
The climate of the district Killa Abdullah is generally dry and temperate. The adjoining districts have somewhat deviating temperatures owing to different elevations. The climatic conditions of the district are particularly suitable for horticulture/ agriculture. The climate is especially ideal for the growth of fruits, e.g. apples, apricots, peaches, plums, grapes, cherries and vegetables such as potatoes, onions, and tomatoes. The population of the Killa Abdullah district is 757, 578 according to the 2017 census. The Khojak pass usually receives heavy snow in winter, which often causes highway blockades. This blockade cuts off the district with the provincial capital in heavy snow

Total Area	**3,293 km2**
Total Population	As per 2017 census 757,578
Population (women, Kids, old)	M(53.5%) F(47.5%)
Tehsil Name and number	Chaman, Gulistan,Killa Abdullah, Dobandi
UC Name and number	Chaman, Gulistan, Habibzai, Killa Abdullah, Dobundi, Shela Bagh, Segi, Kachh Abdur Rehmanzai, and Sirki Talari

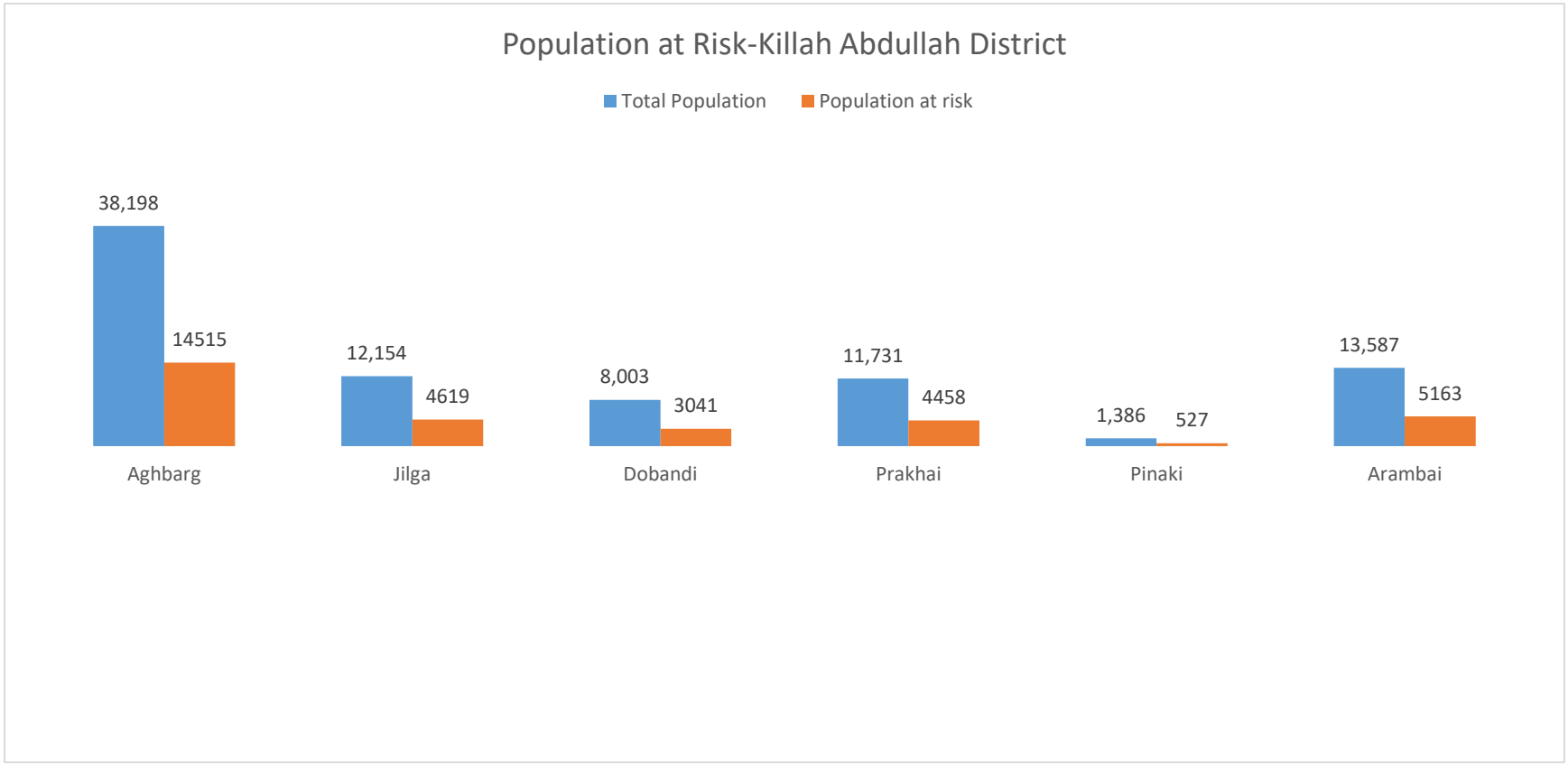
Neighbor Districts name and number	Pishin
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
Major Rivers, source of water	Makha Nadi, Karori, Arambi Nadi, and Isa Dar Chur
GPS Coordinates	30.8055° N, 66.7129° E
Altitude	1,205-2,675 meter above sea level
Number of Schools	511
Number of Colleges	4
Number of Universities	0
Number of BHUs	38
Number of Hospitals	2
Major Crops	Wheat, barley, cumin, tobacco, sunflower, alfalfa, and fodder
Major Trades	retail trades being theeconomic activity, wholesale, and semi-manufacturing units
Livestock	Sheep and Goat
Poverty	0.56 High intensity
Literacy	27%
Distance from Highway	2 hr 23 min (100.5 km) via Quetta Rd

Winter hazards

The figure shows that heavy snow and rain are reported in all sampled union councils of district Killa Abdullah during winter. The consequences of heavy snow are roadblocks and flooding in Aghbarg Deobandi, whereas landslides and roadblocks are present in Jilga, Dobandi, Prakhai, Pinaki and Arambai.



The most vulnerable population is 38% of the total population equally in all districts of Killa Abdullah union councils.



DISTRICT KILLA SAIFULLAH

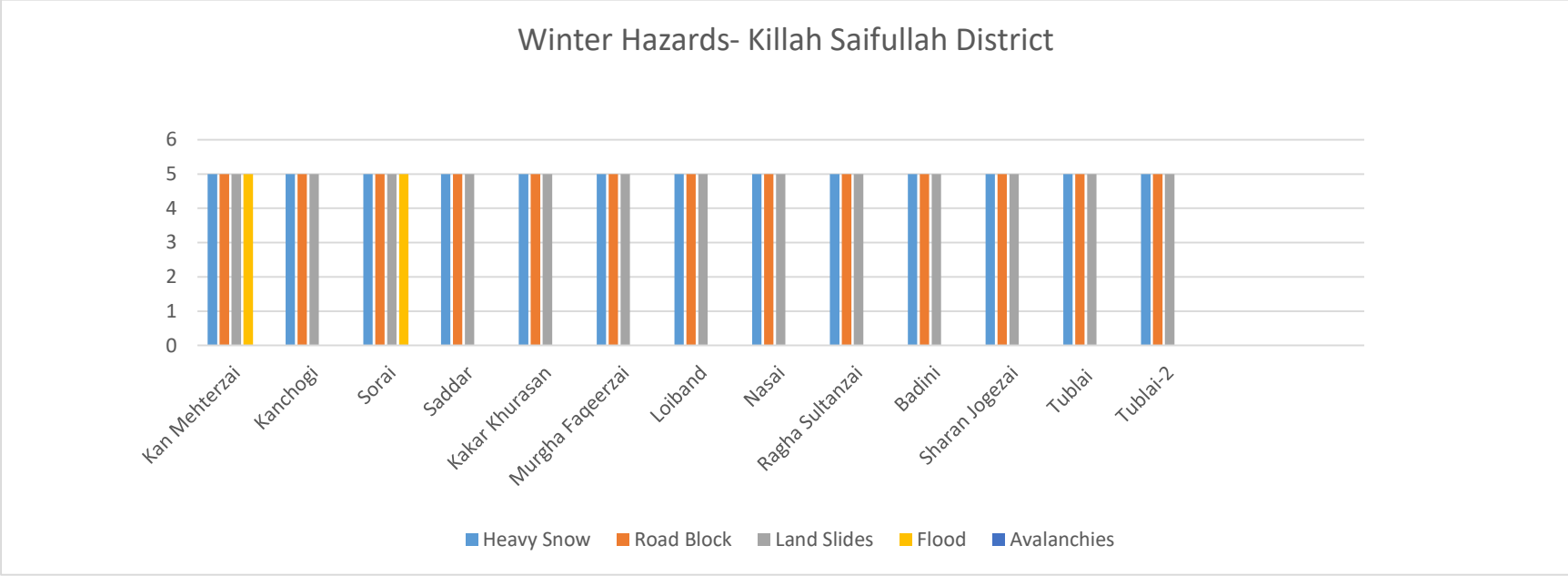
The total geographical area of Saifullah district is 6,831 square kilometres and is administratively divided into three tehsils and 15 union councils. The district is located in northeastern Balochistan. The total mean rainfall is 279.1 mm in Killa Saifullah. Most of the precipitation occurs in the winter season as snowfall. Monsoon rainfall also occurs occasionally. The livelihood of the people of Killa Saifullah is highly dependent on agriculture and livestock. A large proportion of the population is dependent on the livestock sector. Moreover, a significant part of the labour force is involved in agriculture.

Total Area	**6,831 km2**
Total Population	As per 2017 census 342,814
Population (women, Kids, old)	M(53.1%) F(46.9%)
Tehsil Name and number	Killa Saifullah, muslim Bagh, Loi Band
UC Name and number	Killa Saifullah Town, Akhtarzai, Muslim Bagh Town, Khan Mehtarzai, Loi Band, Sadar Batozai, and Murgha Faqirzai
Neighbor Districts name and number	Pishin, Ziarat, Loralai, Zhob
Weather (Average Snow Fall)	Winter (November, April)
GPS Coordinates	30° 31ˈ to 31° 22ˈ north latitudes, and from 67° 29ˈ 37” to 69° 20ˈ east longitudes
Number of Schools	606
Number of Colleges	3
Number of Universities	0
Number of BHUs	38
Number of Hospitals	01

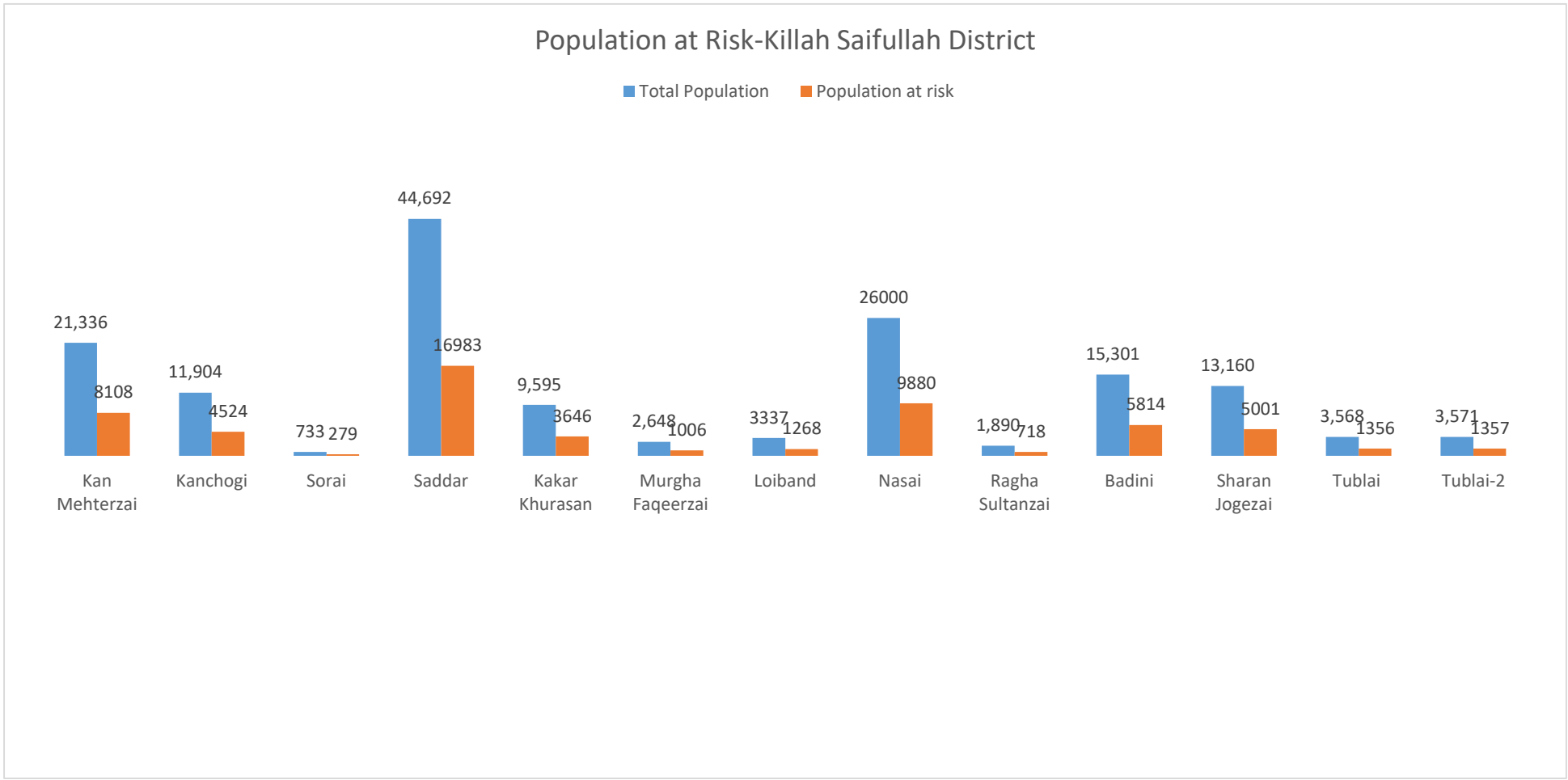
Major Crops	Cauliflower, peas, brinjal, luffa, cucumber, chilies, spinach, maash, sunflower, cotton, Wheat, barley, cumin, tobacco, maize, moong
Major Trades	furniture making units in Muslim Bagh, agriculture/horticulture and livestock holdings. Vegetables
Livestock	Sheep, Goat
Poverty	0.55 high intensity
Literacy	40%
Distance from Highway	157km from Qta

Winter hazards

The figure shows that Heavy snow is present in sampled union councils of Killa Saifullah. The consequences of snowfall i,e, the roadblock and Land Slide present; whereas the flood is present in Kan Mehterzai and Sorai.



The most vulnerable population is 38% of the total population equally in all union councils of Killa Saifullah.



DISTRICT ZHOB

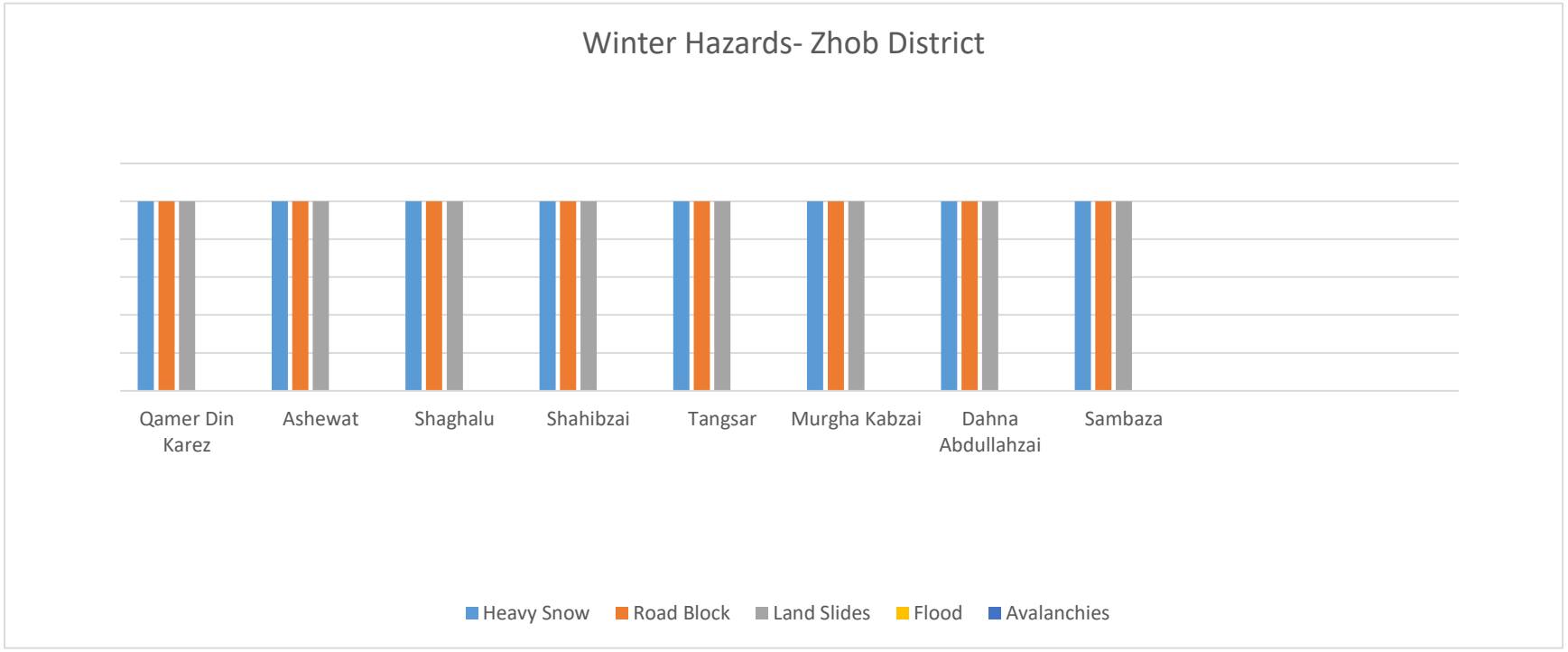
Zhob is a district in the northwest of the Balochistan province of Pakistan. Zhob District is a Provincially Administered Tribal Area. The population of Zhob District is estimated to be 310,544 in 2017. Zhob River is used for irrigation in the Zhob District. Zhob district has two sub-divisions: Lower Zhob (comprising Zhob tehsil and Sambaza sub-tehsil) and Kakar Khurasan (encompassing the tehsil of Qamar Din Karez and the sub tehsil of Ashewat). The climate of Zhob is generally moderate, whereas extreme cold in winter in some areas like Qamrdin Karez. The sources of Livelihood are agriculture, livestock, and services.

Total Area	**15,497 km2**
Total Population	As per 2017 census 310,544
Population (women, Kids, old)	M(54.2%) F(45.8%)
Tehsil Name and number	Zhob, Kakar
UC Name and number	Islamyar, Zhob, Nasirabad, Ganj Mohallah, Sheikhan, Apozai, Mina Bazar, Babar, Qamardin, Shaghalo, and Mughalkot
Neighbor Districts name and number	Killi Saifullah, loralai,
Weather	Winter (November, April), Summer (May, October)
Major Rivers, source of water	Zhob River, Gomal river
GPS Coordinates	67° 48′ 41″ to 69° 44′ 43″ east longitudes, and 30° 26′ 54″ to 31° 57′ 8″ north latitudes
Altitude	4,678 ft (1,426 m).
Number of Schools	349
Number of Colleges	1
Number of Universities	0
Number of BHUs	22
Number of Hospitals	1

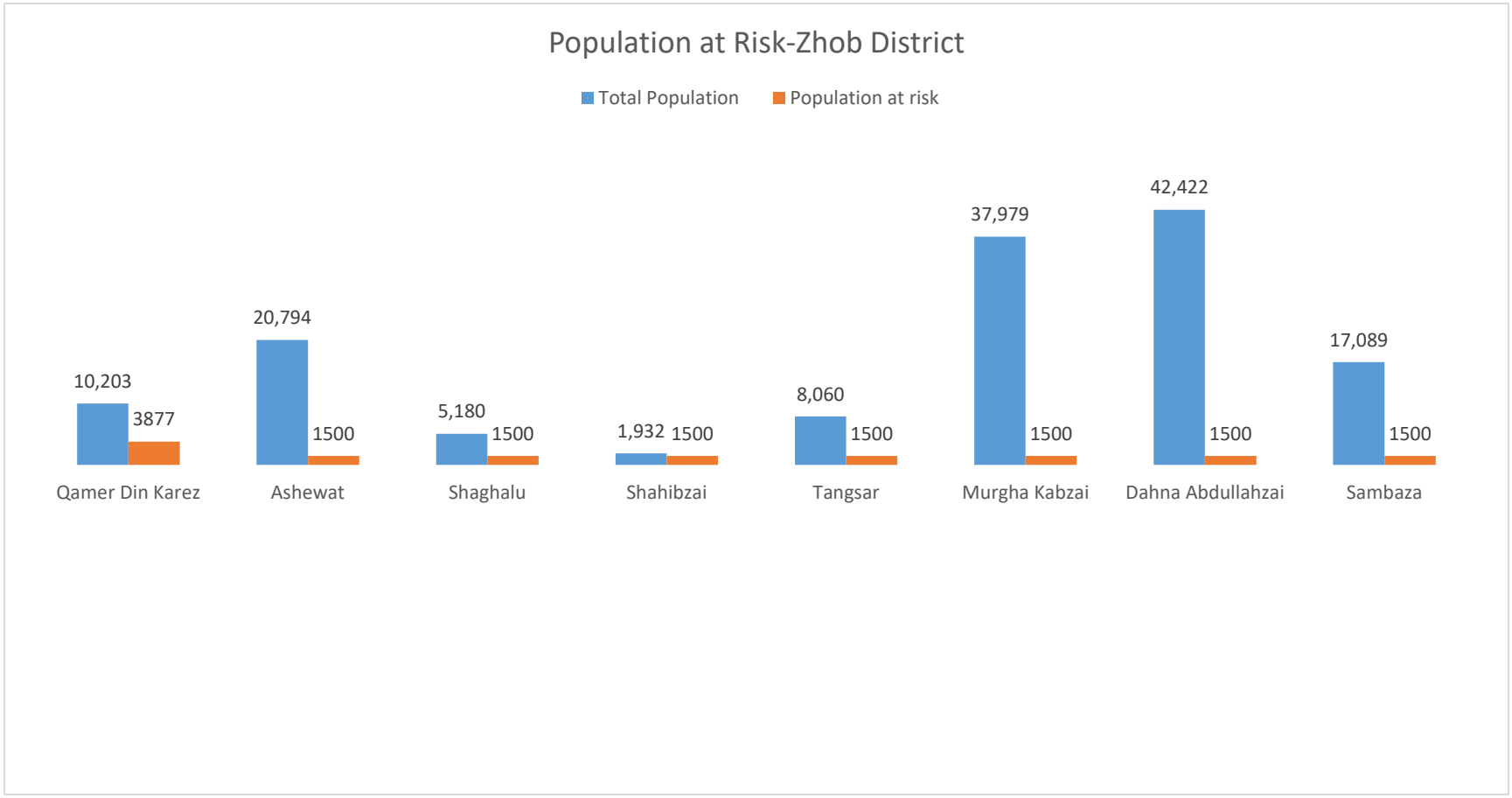
Major Crops	Wheat, barley, rapeseed & mustard, jowar, maize, moong, maash, cumin, tobacco, and fodder
Major Trades	Livestock, C&W, PHE and Mines & minerals
Livestock	Sheep. Goats. Camels Horses
Poverty	0.50
Literacy	43%
Distance from Highway	4 hr 35 min (336.8 km) via Kuchlak - Zhob Hwy/N-50

Winter hazards

The figure shows that Heavy snow is present in sampled union councils of Zhob. The consequences of snow fall i,e, the road block and Land Slide is, present.



The most vulnerable population is Shahilbzai 78%, which leads to Qamer Din Karez 38%, followed by Shaghalu 29%. The remaining union councils (Ashewat, Tangsar, Murgha Kabzai, Dahna Abdullahzai, Sambaza) fall within 10%.



DISTRICT LORALAI

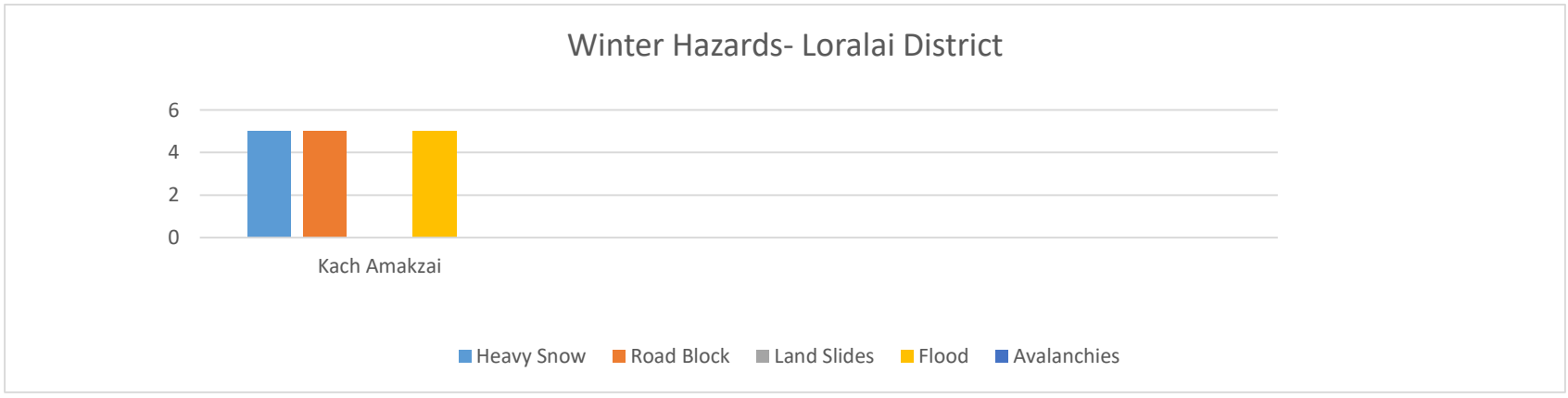
The area of the Loralai district is 8,155 square kilometres and is administratively divided into three tehsils and 20 union councils. The district headquarters is "Loralai" town. It is in the northeast of Balochistan and shares its boundaries with Musakhel, Barkhan, Kohlu, Sibi, Ziarat, Killa Saifullah and Zhob districts. The district's climate is semi-arid; however, it varies with the altitude at different locations. The mean precipitation is 279 mm. The people's livelihoods in Loralai are highly dependent on agriculture and livestock. Government services are also an essential source of livelihood.

Total Area	**7,199 km2**
Total Population	As per 2017 census 397,400
Population (women, Kids, old)	M(53.3%) F(46.5%)
Tehsil Name and number	Bori, Duki, Mekhtar
UC Name and number	Loralai, Mekhtar, Bori, Duki, Chamalang, Alif Mirjanzai, Zikria, Wahvi, Poonga, and Kili Lahore
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
GPS Coordinates	67° 41′ 18″ to 69° 44′ 22″ east longitudes and 29° 54′ 50″ to 30° 41′ 28″ north latitudes
Altitude	4700ft
Number of Schools	456
Number of Colleges	4

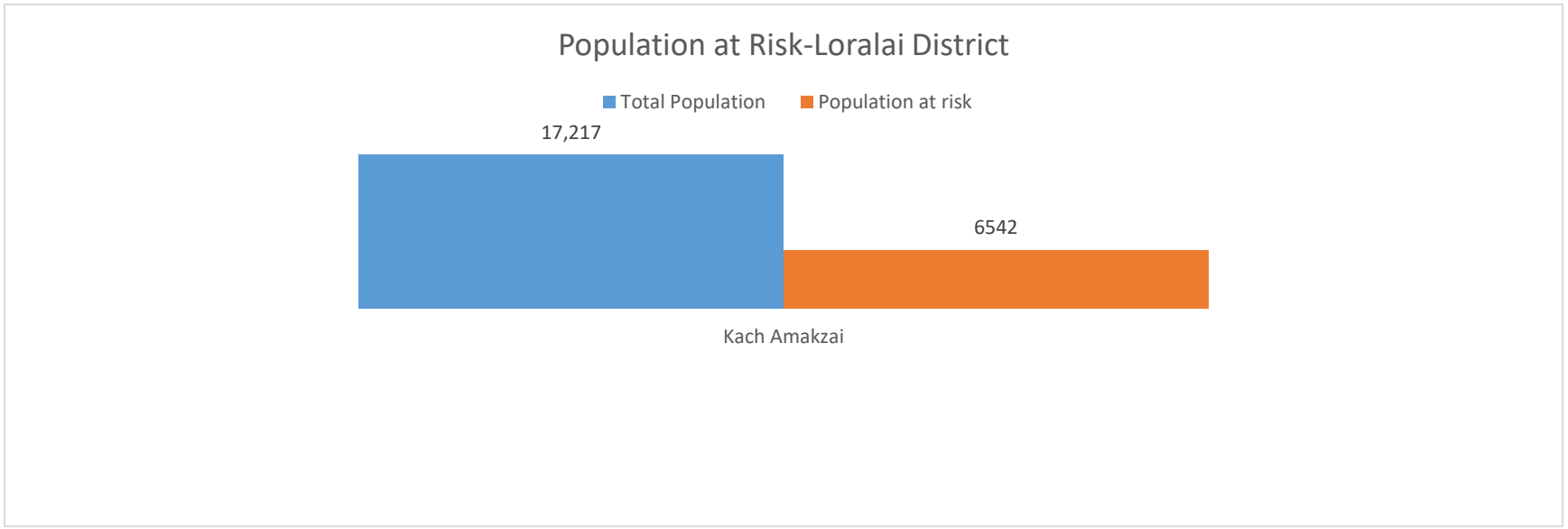
Number of Universities	01
Number of BHUs	38
Number of Hospitals	01
Major Crops	Wheat, barley, maize, jowar, moong, maash, masoor, gram, bajra, cotton, and tobacco
Major Trades	services, mining, petty trades and the informal sector
Livestock	Sheep, Goat, Lamb
Poverty	0.55
Literacy	44%
Distance from Highway	154km for Qta

Winter hazards

The figure shows that Heavy snow is present in Kach Amakzai of District Loralai. The consequences of snow fall i,e, the road block and flood are present.



The most vulnerable population is 38% in Kach Amakzai.



DISTRICT CHAGAI

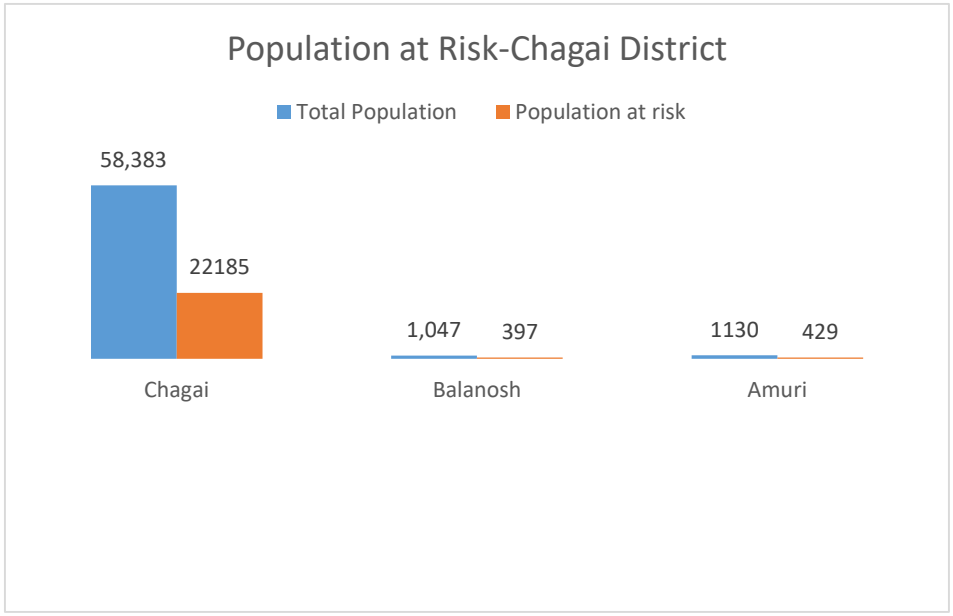
Chagai District is the largest district of Pakistan and is located in the northwest corner of Balochistan Pakistan. Chagai District is administratively subdivided into the following tehsils and union councils.

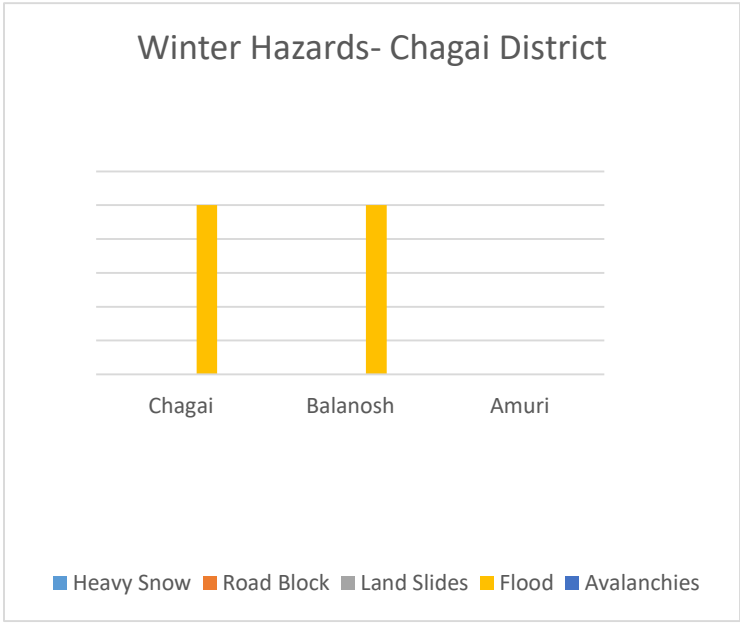
Total Area	**44748km2**
Total Population	As per 2017 census 226008
Population (women, Kids, old)	M (52.4%) F (47.8%)
Tehsil Name and number	Dalbandin, Nukundi
UC Name and number	Amuri, Chagai, Taftan, Nok Kundi, Chilgazi, Dalbandin
Neighbor Districts name and number	Nushki, Kharan, Washuk
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
Major Rivers, source of water	tube wells and dug wells
GPS Coordinates	28.9804° N, 62.4504° E
Altitude	2640 m above sea level.
Number of Schools	258
Number of Colleges	02
Number of Universities	00
Number of BHUs	13
Number of Hospitals	01

Major Crops	Wheat, barley, cumin, jowar, bajra, maash, masoor, moong, cotton, rapeseed, mustard & canola, maize, sunflower, and fodder
Major Trades	Irani products from Taftan boarder
Livestock	Cattle Buffalo Sheep. Goats Camels Horses Mules Asses Total Poultry
Poverty	0.56 High Intensity
Literacy	36.91%
Distance from Highway	7 hr 56 min (556.0 km)

Winter hazards

The figure shows that only flood is present in District Chagai.The most vulnerable population is 38% in all sampled union councils of District Chagai.





DISTRICT PANJGUR

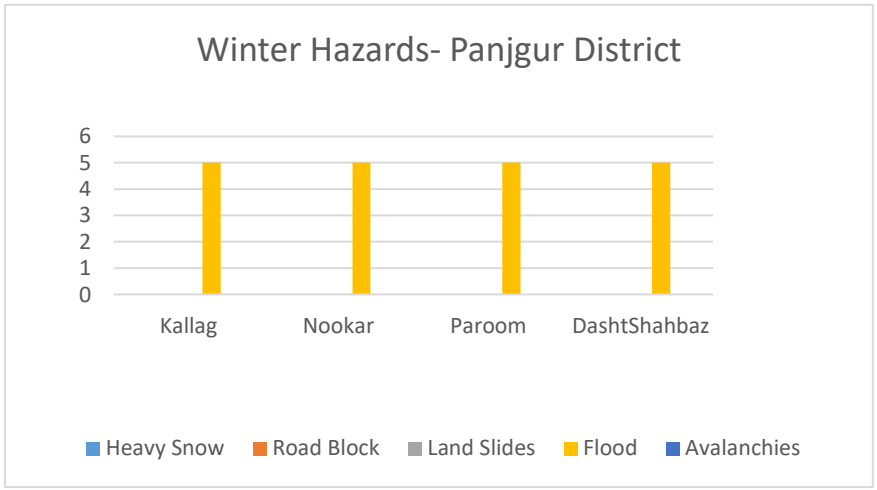
Panjgur is a district in the west Balochistan province of Pakistan. Panjgur was one of three districts of Makran District until 1 July 1977, when the district became a part of the Makran Division. The other two districts of Makran Division are Kech (Turbat) and Gwadar. Chitkan is the district headquarter. Panjgur has sixteen (16) Union Councils. Panjgur (literally: Five Graves) is home to several archaeological sites, including centuries-old tombs and an old dam called Band-e-Gillar. The seasonal Rakshan River flows right in the middle of Panjgur, dividing it into two parts, the northern and southern Panjgur. The district is administratively subdivided into three tehsils which contain a total of 16 Union Councils. The total population of the Panjgur district, according to the 2017 census, is 316.

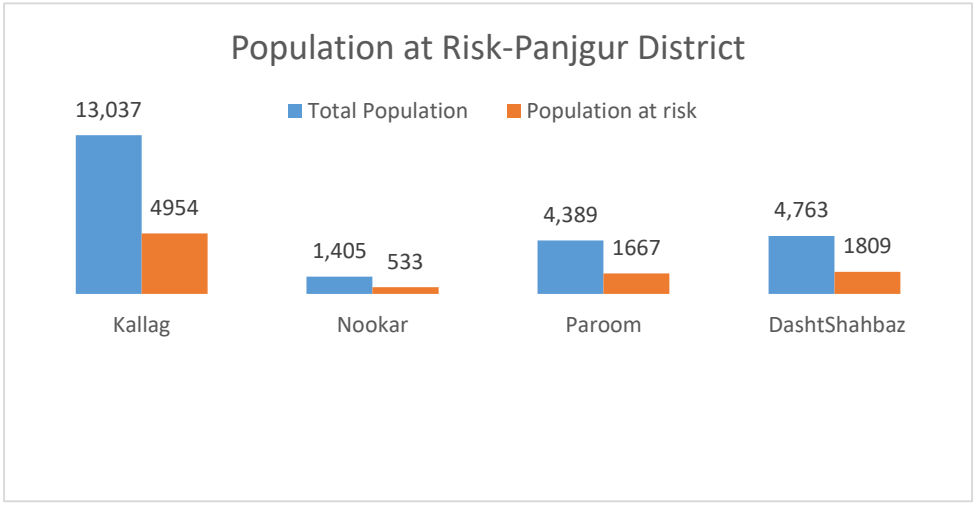
Total Area	**16,891 km2**
Total Population	As per 2017 census 316,385
Population (women, Kids, old)	M(52.7%) F(47.3%)
Tehsil Name and number	Panjgur, Gowargo, Parom,
UC Name and number	Tasp, Paroom, Washbood, Gramkhan, Kudabadan, Surdoo, Chitkan, Taroffice, Sarikoran, Bonistan, Ihrap, Sarekalat, Isaai, and Surdhoo
Neighbor Districts name and number	Kech, Awaran, Kharan, Washuk
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
Major Rivers, source of water	Rakshan River, Newan River
GPS Coordinates	26° 08ˈ 54” to 27° 17ˈ 55” north latitudes, and 63° 04ˈ 50” to 65° 20ˈ 11” east longitudes
Altitude	3220ft
Number of Schools	380
Number of Colleges	5

Number of Universities	1
Number of BHUs	30
Number of Hospitals	2
Major Crops	Wheat, barley, cumin, masoor, jowar, bajra, maize, moong, moath, cotton, rice, and fodder
Major Trades	Dates, and utilities from iran boarder
Livestock	Cow, Sheep, Goat, Buffalo, Camel
Poverty	0.50 low intensity
Literacy	49%
Distance from Highway	42 min

Winter hazards

The figure shows that flood is present in sampled union councils of Panjgur. The most vulnerable population is 38% in all sampled union councils of District Panjgur





DISTRICT KECH (TURBAT)

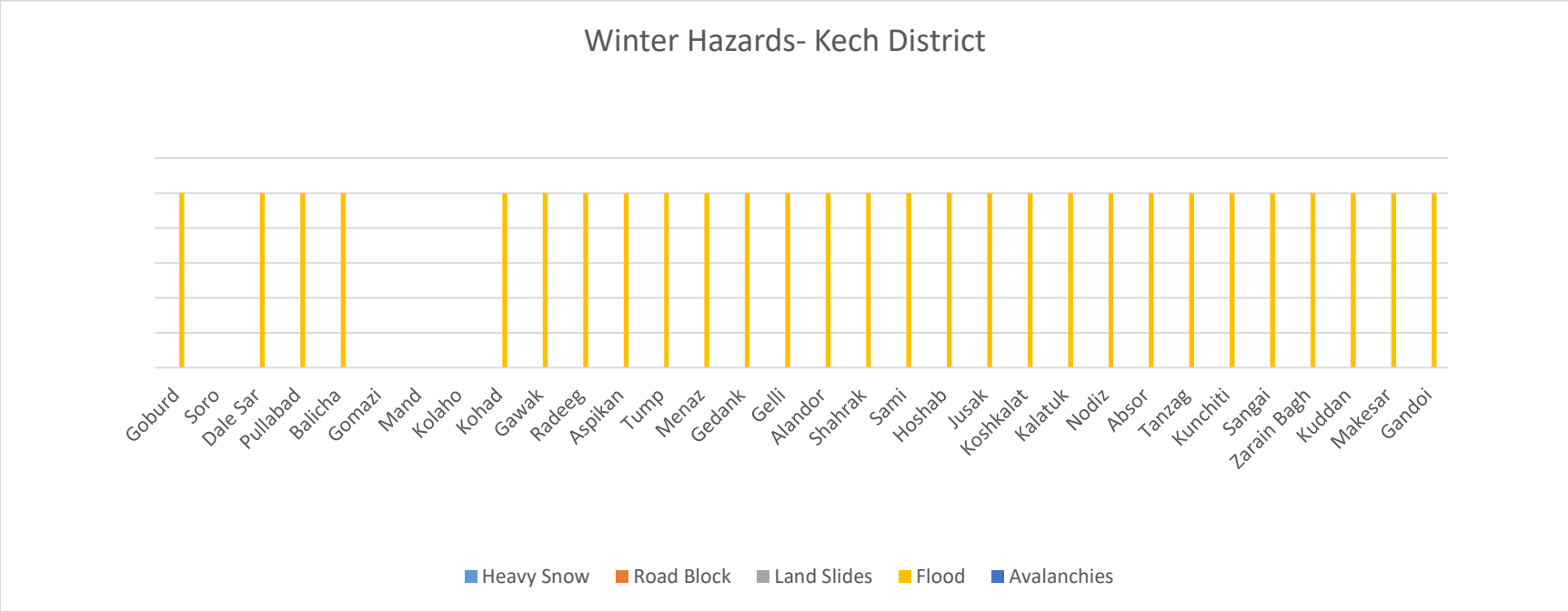
Kech is bounded on the north by the Panjgur district, on the east by the Awaran district, on the south by the Gwadar district, and on the west by Iran. The total area of the district is 22,539 square kilometres. The district is mountainous, and the direction of the mountain ranges is from northeast to southwest. The climate is placed in a "hot summer and mild winter" temperature region. The land generally is arid. The total population is 909, 116 according to the 2017 census. Kech district has 31 union councils.

Total Area	**22,539km2**
Total Population	As per 2017 census 909,116
Population (women, Kids, old)	M(54.4%) F(45.6%)
Tehsil Name and number	Turbat, Tump, Bulada, Dasht
UC Name and number	Turbat, Mand, Kech, Tump, Buleda, Dasht Kuddan, Niwano, Hothabad, Balicha, Asiabad, Balore, Nasirabad, Hoshab, Absor, and Kombail
Neighbor Districts name and number	Gwadar, Panjgur, Awaran
Weather (Average Snow Fall)	Winter (November, April), Summer (May, October)
Major Rivers, source of water	Mirani dam, tube well
GPS Coordinates	26.1561° N, 63.0148° E
Altitude	188m
Number of Schools	664
Number of Colleges	6
Number of Universities	1
Number of BHUs	40
Number of Hospitals	2

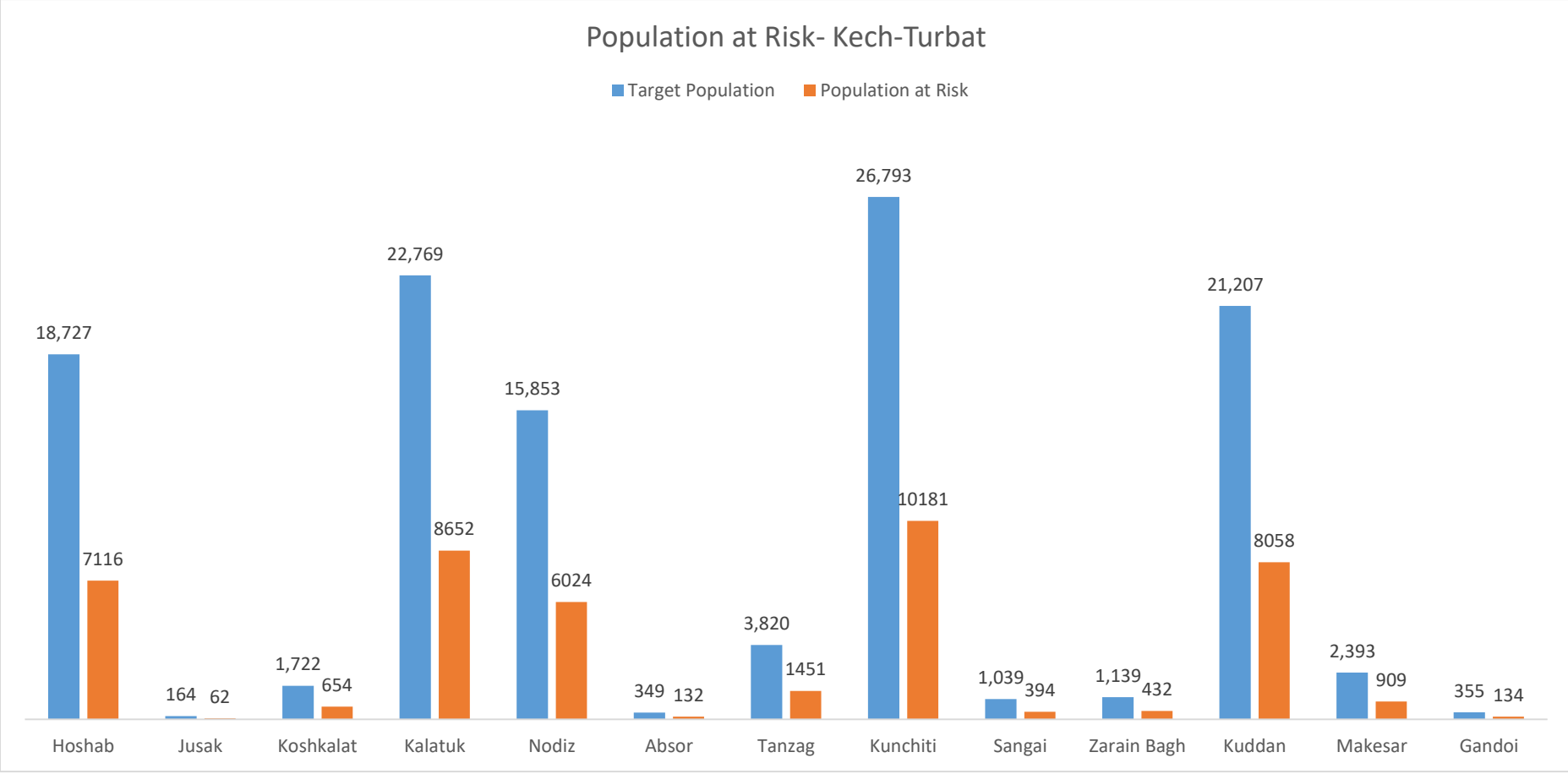
Major Crops	Wheat, barley, moong, maash, moath, jowar, maize, rice, cotton, guar seed, dates, and fodder
Major Trades	Crafts and dates, Agriculture with its allied livestock breeding etc
Livestock	Goat, Cow, portray
Poverty	0.52 low intensity
Literacy	48%
Distance from Highway	10km

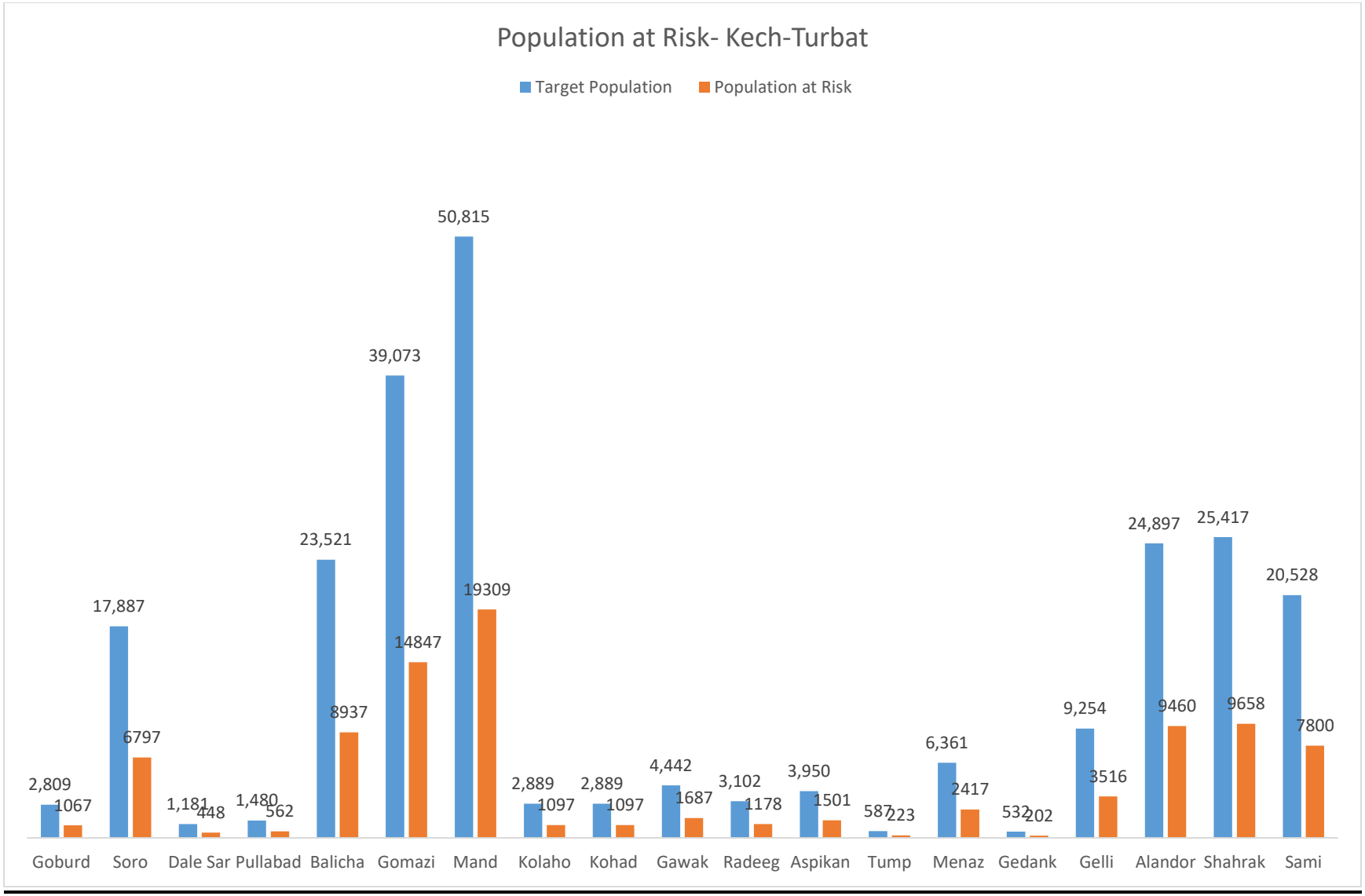
Winter hazards

The figure shows that flood is present in sampled union councils of Kech.



The most vulnerable population is 38% in all sampled union councils of District Kech.




Population at Risk- Kech-Turbat
Target Population
Population at Risk
2,809
1067
17,887
6797
1,181
448
1,480
562
23,521
8937
39,073
14847
50,815
19309
2,889
1097
2,889
1097
4,442
1687
3,102
1178
3,950
1501
587
223
6,361
2417
532
202
9,254
3516
24,897
9460
25,417
9658
20,528
7800
Goburd
Soro
Dale Sar
Pullabad
Balicha
Gomazi
Mand
Kolaho
Kohad
Gawak
Radeeg
Aspikan
Tump
Menaz
Gedank
Gelli
Alandor
Shahrak
Sami

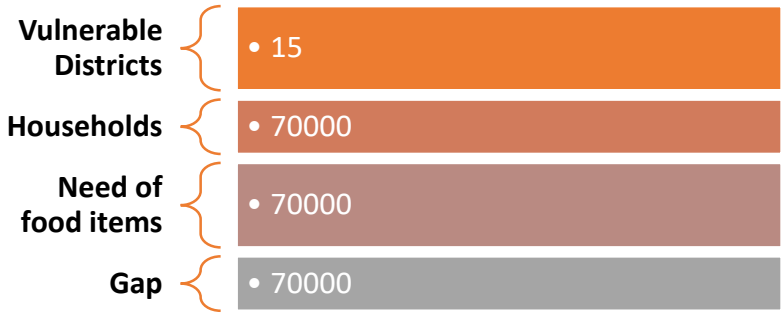
Chapter Five

Winter Contingency Plan

RESOURCE MAPPING

The resource mapping provides a capacity assessment of resources, i.e. demand and supply. The PDMA and other stockholders are responsible for managing the food and non-food items for the affected population in post-disaster situations. In emergency preparedness, resource mapping is developed based on high-risk winter areas, their households, the need for food and non-food items and gaps.

Mapping Food Items



Food and Non Food items

Food Items				
		Available Quantity	Demanded	**Gap**
1	**Flour (40kg)**	120 Bags		
2	**Dates**	24980 Packets		
3	**Food Packet**	0	70000	**70000**
Non-Food Items				
		Available Quantity	Demanded	**Gap**
1	**Tent**	14425	70000	**55575**
2	**Shelter Tent**	75		
3	**Canopy Tent**	130		
4	**School Tent**	330		
5	**Camping Tent**	270		
6	**Tarpaulin Small**	14231	70000	**55769**
7	**Plastic Mat**	15995	70000	**54005**

8	**Quilts**	8190	70000	**61810**
9	**Pillow**	2445	70000	**67555**
10	**Blanket**	14780	70000	**55220**
11	**Jerry Can**	15062	70000	**54938**
12	**Water Cooler**	2812	70000	**67188**
13	**Plastic Bucket**	3950	70000	**66050**
14	**Gas Cylinder (10kg)**	7708	70000	**62292**
15	**Charpoy**	2850	70000	**67150**
16	**Mosquito Net**	27067	70000	**42933**
17	**Solar Light**	11500	70000	**58500**
18	**Kitchen Set**	2396	70000	**67604**
19	**Soap**	9904.5 kg	70000	
20	**Hygiene Kit**	300	70000	**69700**
21	**Room Cooler**	13	70000	**69987**
22	**Bracket Fan**	417	70000	**69583**
23	**Mist Fan**	235	70000	**69765**
25	**Water Tank (400 Gln)**	1254	70000	**68746**
26	**Wheel Chair**	54	70000	**69946**
27	**Walker**	476	70000	**69524**
28	**Blind Stick**	400	70000	**69600**
29	**Life Saving Jackets**	645	70000	**69355**

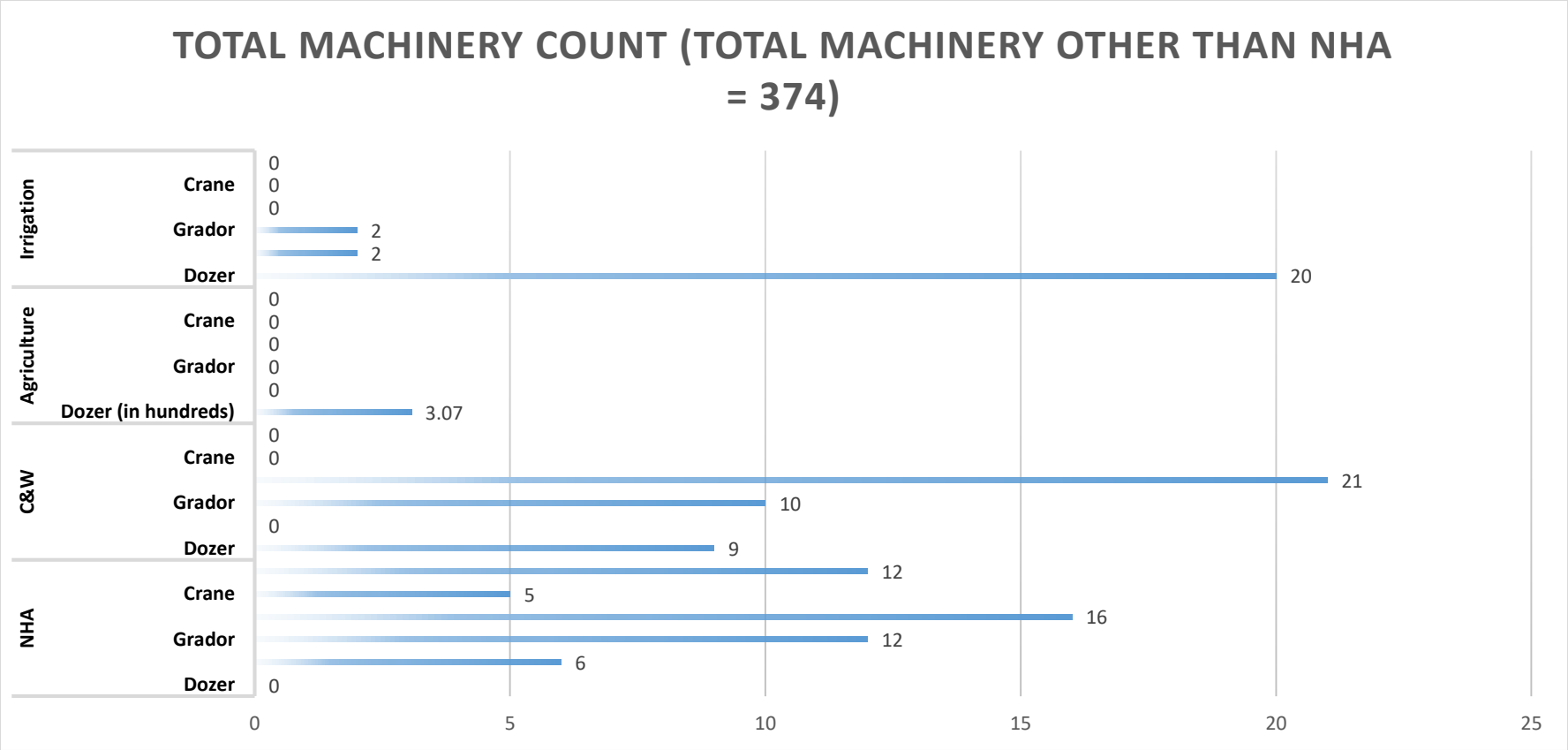
Available Machinery with PDMA

Recently PDMA purchased heavy machinery that include 10 snow removing machine, 11 snow clearing heavy duty machine, 12 snow clearing machine, 13 snow blower, and 15 snow removing machine with attached blower. PDMA will utilise their machinery for road clearance as contingency arrangement to support district administration when and where required in case of short comings or problems faced by other line departments like C&W, MMD, irrigation and NHA which are primarily the first responders for Main Highways clearance.

Hand Snow Remover	15
Logistic Trucks	23 (05 MT)
Heavy Logistic Trucks	07 (50 MT)
Dewatering Pumps	57
Motorboats	20
Operational Vehicles	59
Ambulances	10
Motorbike Ambulances	05
Mobile Support Units Bus	02
Fire Fighting Trucks	05
Rescue Vehicle	01
Fire Fighting Motorcycle	03
Water Bowsers	03
Snowfall removing heavy machinery	08
V-loader	08
Tractors	12

EQUIPMENT'S REQUIRED FOR HIGH RISK DISTRICT

Hand Snow Remover	**14**
Logistic Trucks	**14 (05 MT)**
Dewatering Pumps	14
Operational Vehicles	14
Motorbike Ambulances	14
Rescue Vehicle	15
Water Bowsers	**14**
Snowfall removing heavy machinery	**06**
V-loader	06
Tractors	06


TOTAL MACHINERY COUNT (TOTAL MACHINERY OTHER THAN NHA = 374)
Irrigation
Crane
Grador
Dozer
Agriculture
Crane
Grador
Dozer (in hundreds)
C&W
Crane
Grador
Dozer
NHA
Crane
Grador
Dozer
0
0
0
2
2
20
0
0
0
0
3.07
0
0
21
10
0
9
12
5
16
12
6
0
0
5
10
15
20
25

S. No	District	Departments															
		NHA							C&W				Agriculture Eng (MMD)	Irrigation			
		Loader	Grador	Tractor	Salt	Crane	Labour (Men Days)	Pick up	Dozer	Loader	Grador	Tractor	Dozer	Dozer	Loader	Grador	Tractor
1	Quetta												14	2	0	0	0
2	K. Abdullah	2	2	4		2		2	0	0	3	4	15				
3	Pishin	2	3	3	41600	2	1010	3	0	0	1	2	16	5	1	1	0
4	Killa Saifullah	2	2	2	30200		630	2	1	0	1	1	10				
5	Harnai												4				
6	Sheerani												5				
7	Loralai												11	2	0	1	0
8	Zaiarat								0	0	0	3	4				
9	Zhob												10	1	0	0	0

10	**Rakhni / Barkhan**												7				
11	**Musa Khail**								4	0	3	0	6				
12	**Kohlu**												9	1	0	0	0
13	**Sibi**		3	3	4700		450	3	1	0	0	1	12	2	0	0	0
14	**Kachi**													2	0	0	0
15	**Dera Bugti**												4				
16	**Nasirabad**												7				
17	**Jaffarabad**												7				
18	**Mastung**		1	2		1		1	0	0	1	3	9				
19	**Kalat**		1	2				1	1	0	0	3	12	1	0	0	0
20	**Khuzdar**												25				
21	**Awaran**												7				
22	**Kharan**								0	0	0	0	7				

23	**Washuk**												7				
24	**Noshki**												7	1	0	0	0
25	**Dalbandin**												5				
26	**Lasbella**												15	3	1	0	0
27	**Pangjur**								1	0	0	3	15				
28	**Gawadar**												9				
29	**Turbat**												23				
30	**Bolan**												15				
31	**Jhal Magasi**								1	0	1	1	10				

OPERATIONAL MECHANISM

Emergency Work Group-EWG

The EWG will be formed after the declaration of emergency. The Director General PDMA will Chair the EWG and will be responsible for daily updates, including the impact of disaster and current situation, review of field progress reports, and coordination between various agencies. The EWG will also maintain close liaison with concerned offices of NDMA and Southern Command and resource mobilization. The followings will be the core members of the group, and they will be meeting on a daily basis during emergency: -

1. DG PDMA	Chairperson
2. Representative from NDMA	Member
3. Representative from Home Department	Member
4. Representative from Health Department	Member
5. Representative from Irrigation Department	Member
6. Representative from C&W	Member
7. Representative from Public Health	Member
8. Representative from PMD	Member
9. Representative from WAPDA	Member
10. Representative from Red Crescent	Member
11. Representative from Army or Ministry of Defence	Member
12. Representative from 1122/PPHI	Member
13. Representative from selected I-NGOs or National NGOs and UN Agencies	Member
14. Another Department/organization	Member

Emergency Control Center-ECC

DG PDMA, in consultation with the Additional Chief Secretary Home Department and Chief Secretary, will be responsible for winter weather Response & Relief Operations. The PDMA will establish ECC in the PDMA office and each ECC in the high-risk Districts of Balochistan. The Director of Relief Operation PDMA will head the ECC, and in the District, the ECC will be governed by Assistant Commission. The ECC will be responsible for the followings: -

1. Operating ECC 24/7 after declaration of emergency.
2. Issue early warning to all the quarter concerned.
3. Monitor and review disaster reporting and share the briefs with DG PDMA for decision making.
4. Conduct the meeting of Core Working Group (CWG) with first four (4) hours of declaration of emergency as per guidance given in SOPs
5. Liaise with NDMA and Southern Command Office for updates and planning.
6. Media coordination and reporting.
7. Take update of the situation from District ECC, TDMC and UCEC regularly and update the DG PDMA-Balochistan and CWG.s
8. Finalize the report of damages, human causality and livestock's in coordination with DDMAs

Tehsil Disaster Management Cell (TDMC):

In any disaster, the expeditious response is critical but crucial. For the efficient and effective emergency response management for the population at risk in winter zones Districts of Balochistan, the PDMA will establish Tehsil Disaster Management Cell (TDMC) in each winter zones Districts that include but is not limited to this; Ziarat, Loralia, Killa Saifullah, Zhob, Chaman, Mustang, Kalat, Harani, Killa Abdullah, and Pishin. The TDMC will function as a subsidiary unit of DDMAs and will be responsible for the: -

Task	**Responsibility**	**Frequency**
Monitor weather forecasts;	The TDMC office will nominate the focal person to coordinate with the MET office to obtain the weekly weather forecast.	Regularly (based on the situation weekly or bi-weekly)
Issue early warning alters	The TDMC office will map out the community based on the early warning points (mosque, madrassa, shop, or any nearby place) and identify/responsible community focal persons to disseminate alters in the area. The TDMC will also conduct drill exercises based on early warning alters.	Bi-monthly

Coordinate and communicate with DDMAs and community based organizations	The TDMC office will coordinate and conduct meetings with all community-based organizations, community elders, local people in business, and Union councils for pre- and post-disaster management planning and implementation. All the stakeholders will be responsible for sharing the post-disaster data via phone of TDMC centre, email, or direct contact to any office.	Need based
Ware House Management	The TDMC office will establish and maintain emergency warehouse units in the most vulnerable and high-risk areas of the District for easy access and timely supply of NFIs and FIs to the population at risk during the post disasters.	Daily
Monitor and report emergency activities;	The TDMC office will closely monitor and report the pre and post-disaster activities, including community-based preparedness, early warning system, resource mobilization and relief operations. The DDMA will provide the M&R formats to all TDMC offices, wherein the office keeps a backup of all data.	Regularly

Establishment of Union Council based Emergency Center

The UCEC will be a transitional centre that will be functional in the post-disaster phase for expedition emergency response and relief operations. The Deputy Commission will notify the UC as Emergency Center and focal persons to manage the centre 24/7 during emergencies and post-disaster. The DC will ensure the UCEC will have essential facilities: phone, wireless system, first aid box, food & nonfood items and shelter according to the population at risk of the selected districts. The UCEC will be responsible for the following: -

1. Collect and share basic information of damages, deaths, and injuries in the post disaster phase with DDMAs and PDMA.
2. Update and share daily situational report all the quarter concerned.

3. Coordinate with community resource person for emergency support and resource mobilization.
4. Identify and manage transitional shelters for the most vulnerable person in the safe and secure location with support of DDMAs and TDMC.
5. Support in the distribution of foods and non-foods items for population at risk or affected.

Planning and Coordination Meetings

Natural disasters are occurring more frequently and with greater intensity, straining resources and challenging community resilience in Balochistan. The overall risk mitigation depends on the plan to alleviate risks and hazards and manage the response and recovery efforts in the pre and post-disaster phases.

The PDMA, in collaboration with all stakeholders (Southern Command Office, Government line departments, DDMAs, UN Agencies, INGOs, NGOs and philanthropists), will conduct regular planning and coordination meetings to share the overall progress of emergency preparedness, post-disaster situations, flash apple in case of massive catastrophe in the winter high alter Districts.

The Planning and Coordination Department PDMA will use the 4Ws format, What-Who-Where-and When, for developing a consolidated operational plan for the approval of the Director General (DG) PDMA.

Community Youth First Aid Providers-(CYFAP):

The CYFAP will play a key role in pre and post-disaster activities. The DDMAs and TDMC will engage community-based organizations, students, journalists and union council members consisting of 15 members (male and female separately) having minimum qualification of Intermediate or higher education. Each group will manage 50 HH (family size according to sphere standards) in the Union Councils. The TDMC focal person will notify the groups that will be responsible for the following:

1. coordinate and support Union Council Emergency Centers in post disaster management.
2. ensure support in rescue & relief operations,
3. mobilization and information dissemination
4. support in shelter management.

Communication and Works Department

1. Establishment of Provincial Emergency Cell
2. Formulate and execute winter emergency response plan
3. Identification of vulnerable infrastructure in case of heavy rainfall and snow (buildings, roads and bridges)
4. Preposition available machinery/ plants at vulnerable areas
5. Restore severed land communication
6. Liaison with local Army Authorities

Health Department

1. Establish a Health Emergency Preparedness and Response Cell- HEPR
2. Carry out detailed planning with district officials (EDOs) and formulate district level health plans for execution.
3. Carry out need and gap analysis for medicines and required stocks
4. Availability of segregated health staff figures (No of female and no of male doctors)
5. Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls

Information Department

1. Establishment of an emergency control room/unit for winter weather
2. Broadcast advance warnings and forecast to sensitize the public
3. Guide the public about the nearby safer places, routes and other precautionary measures
4. Publication of the snowfall and heavy rainfall related reports on daily-basis in the local, regional and national newspapers
5. Advocating for responsible and ethical reporting
6. Arrange press briefings/press conferences for any officer/official
7. Awareness raising on the needs of vulnerable groups in disasters

Municipalities

1. Chief Municipal Officers (CMO) to be declared as focal person.
2. Removal of encroachments through close coordination with Revenue, Irrigation and other relevant departments •
3. Keep close liaison and coordination with respective DC‟s and DDMU‟s round the clock during the emergency

4. TMOs and their staff should be trained/sensitized by the respective DC‟s/ DDMU for winter weather emergency response and role and responsibilities
5. Cleanliness of roads in close liaison with C & W department by the respective municipalities.

Provincial Police and Levies Force.

1. Maintain law and order situation in the districts and assist district administration for an orderly evacuation if such situation arises.
2. Facilitate DCs through Police Wireless network in case of communication failure of other networks.
3. Facilitate the district administration in discharge of information to the people through loudspeakers of local mosque.

Pakistan Meteorological Department

1. Establishment of Emergency Control Cell
2. Provide reliable and in-time weather forecasts for Khyber Pakhtunkhwa and its catchment areas
3. Coordinate, liaison and exchange (credible and comprehendible) information with PDMA for early warning as agreed

Humanitarian Community UN Agencies, Pakistan Red Crescent Society PRCS, INGO's & NGO's

1. Formulate their organizational winter Contingency and Response Plans consistent with provincial and national policies, to cater for the unmet response needs.
2. Ensure that contingency plans are meeting the needs of vulnerable segment of the population in a more targeted manner
3. Coordination of Contingency and Response Plans with PDMA.
4. Deployment of humanitarian assistance and quick response consistent with provincial plan. Special attention shall be given to:
5. The immediate relief needs of the affected communities such as food & water, shelter, health and NFIs during and after the winter season.
6. Follow-up relief measures should preferably include support for repair of houses, repair/replacement of health infrastructure, repair/replacement of community

damaged infrastructure and to immediately recover main source of income to support in meeting their needs.

7. Special emphasis will be placed on the identification of the weaker and vulnerable groups in society that suffer worst from winter weather harshness, especially, the young and the very old, women, the disabled and certain occupational groups. Identification and extension of appropriate relief packages for such groups will also be a priority. The humanitarian community will report progress on a regular basis.

SOPs and Administrative Arrangements.

As part of the Winter Contingency Plan (WCP), PDMA will coordinate with DDMAs for the identified vulnerable districts/tehsils/UCs that are usually affected by heavy snow, landslides and avalanches. DDMAs at the district level shall;

a. List the teams that shall work for (i) search and rescue and (ii) clearing of the affected people from location of disaster area, if an emergency situation arises.
b. Coordinate with other district level government departments to get their assistance. Like for heavy snow, landslides and avalanches following departments shall be taken on board for district level planning:
    i. NHA (for clearance of the highways)
    ii. C&W department (provision of heavy machinery for rescue and relief and clearance of the link roads to the vulnerable settlements)
    iii. Health Department (for first aid, provision of ambulances and control of diseases)
    iv. Public Health (for provision of clean drinking water to affected people)
    v. Police (in case telephone lines and mobile communication is disrupted, then to use their wireless loop for communication)
c. List all the areas, communities and installations that are most vulnerable to heavy snow, landslides and avalanches
d. List all the government buildings that can be used as alternative living space for the affected people. The government buildings must have all the amenities like clean drinking water, etc.
e. List all the staff and volunteers at District, Tehsil and UC level
f. List all the materials required for the relief and rescue operations present in the district

g. Run awareness programs in the communities on "how to tackle emergency like situation" and especially in the most vulnerable areas.
h. Prepare list of all necessary materials and equipment required for Winter emergencies and if anything is not available in district
i. Support all the community and non-profit organizations at districts in preparation for disasters and volunteerism
j. Arrange training programs for Government Employees, Elected politicians, communities, NGOs and volunteers in the districts to make them ready for dealing with winter emergency situations
k. Disburse the list of contact numbers which the communities can use if they face disaster like situation

2. The procedures shall be part of the Winter Contingency Plan (WCP). The document shall have:
    a. List of vulnerable districts
    b. Evacuation Plans
    c. Emergency control centers
    d. Provincial contacts of federal departments like (NHA, WAPDA, PTCL, etc.)
    e. Forecasting for damage assessment (High risk, medium risk and low risk)
    f. Budgets based on all three scenarios i.e. High, medium and low risk.
3. The WCP for heavy snow, land sliding, and avalanches shall be based on the lessons learnt during previous winter disasters/emergencies.

Early Warning System

Suppose there is an early warning regarding heavy Snow/rains/floods. In that case, the government departments must share the information with PDMA through its Emergency Control Center (ECC). ECC shall adopt the following system: Upon receiving the information through phone, email or post of early warning on NDMA or PMD websites, or through national media, the ECC shall promptly inform:

a. Director General (DG) PDMA-Balochistan;
b. Relief Section of PDMA-Balochistan;
c. DDMAs of all vulnerable districts;
d. All line departments in that will be required during rescue operations;
e. Also create an Alert in Web-based Management Dashboard (Disaster Reporting System) for communication with stakeholders / general Public;

2. DDMAs shall also be asked to activate the District Emergency Control Centers (DECCs)/District Level Emergency Control Centre
3. ECC shall file complete information about the early warnings.
4. DG PDMA-Balochistan shall promptly inform PDMC about the upcoming disaster.
5. DG PDMA-Balochistan shall quickly send a media briefing, so that people of vulnerable districts have prior information to prepare against the disaster.
6. In addition, media section of the PDMA-Balochistan in collaboration with PEOC shall send messages of early warning system on the national media that can:
   a. Inform the communities about precautionary measures to be taken for prevention against loss of life and property from the impending disaster.
   b. Inform the public about the risks / hazards associated with the disaster.
   c. Inform public about actions being taken by authorities to save lives & property.
   d. Advice public on actions to be taken during emergency period; e.g. evacuation from vulnerable areas, establishment of camps & healthcare arrangements.
   e. Make arrangements to meet needs of affected people to ensure that all groups of people affected by disaster receive appropriate aid, without any discrimination.
7. ECC shall make sure that concerned departments initiate requisite precautionary measures to minimize effects of the disaster.

ECC and relevant DECC will start working 24/7 upon receipt of early warning. There is a senior officer working at night shift in ECC round the year, while in emergency situation ECC works full scale 24/7. The ECC and DECC teams, will also keep a vigilantly eye on the Disaster Management Dashboard (as part of the newly proposed Disaster Reporting System) to check and analyse the received number of disaster reports from vulnerable districts and share their findings with DG PDMA for timely actions and emergency;

OPERATIONAL PLAN

Provincial Disaster Management Authority (PDMA) Winter Contingency Plan 22-23								
S.No	Tasks	Lead	Support	Nov 22	Dec 22	Jan 23	Feb 23	March 23
1	Collect, organize and analyze sex-disaggregated data for developing effective measures in emergency preparedness and response management	PDMA	DDMA					
2	Prepare an exhaustive checklist of gender-based relief items keeping in view the requirements of the vulnerable segment (women, girls, boys, disabilities, transgender and elders) according to district profiling.	PDMA	DDMA					
3	Develop Budgeting strategy/tools for the allocation of financial, human and technical resources to support gender mainstreaming efforts in emergency preparedness and response management	PDMA	DDMA					
4	Prepare extensive gender-based community activities, including orientations, workshops and seminars on winter safeguarding and protection.	PDMA	DDMA and stakeholders					
5	Form Emergency Work Group-EWG	PDMA	DDMA and stakeholders					
6	Establish Emergency Control Center-ECC	PDMA	DDMA					
7	Establish Tehsil Disaster Management Cell (TDMC)	PDMA	DDMA					
8	Establishment of Union Council based Emergency Center	PDMA	DDMA					
9	Conduct Planning and Coordination Meetings with all emergency clusters and CWG	PDMA	DDMA and stakeholders					
10	Community Youth First Aid Providers-(CYFAP):	PDMA	DDMA and stakeholders					
11	Early Warning	PDMA	DDMA					
12	Monitoring and Reporting	PDMA	DDMA					

13	Ware House Management	PDMA	DDMA					
14	Awareness and education	PDMA	DDMA					
15	Media Reporting	PDMA	DDMA					
16	Procurement of goods and machinery	PDMA	DDMA					