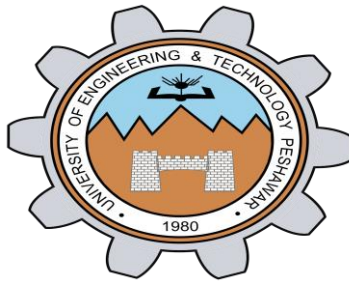


March 24, 2018

Report on Disaster statistics of Nepal

Submitted by Altaf Rehman

Submitted to Dr. Naveed Ahmed



University of engineering and technology Peshawar

Assignment 01

Section A

Registration id 14PWCIV4056

Table of contents

Introduction: 4

Summary: 4

Country background: 4

Disaster synopsis:..... 4

Major disasters 5

 Earthquake..... 5

 Flood and landslides 5

 Fire 5

 Epidemic..... 6

 Avalanche..... 6

 Glacier lake outburst flood 6

 Windstorm, thunderbolt and hailstorm..... 6

 Drought 6

List of figures

Figure 1: Nepal in a map 4

List of graphs

Graph 1 Natural disaster statistics of Nepal 8

Graph 2 Technological disaster statistics of Nepal 9

Graph 3 Natural disasters 9

Graph 4 Total deaths..... 10

Graph 5 Total injured 10

Graph 6 Affected 11

Graph 7 Homeless 11

Graph 8 Total affected 12

Graph 9 Total damaged 12

Graph 10 Technological disasters in Nepal 13

Graph 11 Event count 13

Graph 12 Total deaths..... 14

Graph 13 Total affected 14
Graph 14 Total damaged 15

List of Tables

Table 1 Details of major earthquake events in Nepal..... 5
Table 2 Details of flood in Nepal 5
Table 3 Details of Avalanche events in Nepal 6
Table 4 Natural disasters in Nepal 7
Table 5 Technological disasters in Nepal 7

Introduction:

This report describes the natural and technological disaster statistics of Nepal, occurring from 1900 up to 2018. Casualties, economic losses and number of people affected because of natural and technological disaster are the main focus of the document.

Summary:

Nepal is one of the prone country for the disasters because of the lack of resources, technical skill deficiency, locality of the country, active tectonics, absence of modern technology and many other factors that make the country even more fragile towards natural and technological disasters taking place in the country. Among the natural hazards flood and landslides are far more serious and other natural hazards that take place in Nepal are earthquakes, windstorms, hailstorms, thunderbolts, forest fires and glacier outburst flood events.

Country background: (Statistical year book of Nepal, 2015, 2016)

Nepal is a small country in South Asia. It is situated between the two large and densely populated countries of Asia - China in the North and India in the South, East and West. The shape of Nepal is rectangular and it has an area of 147, 181 sq. kms. The length (East to West) is 885 kms and the width (North to South) is non-uniform, approximately 193 kms. It is situated between longitudes 80°4'E to 88°12'E and latitudes 26°22'N to 30°27'N, along the Southern slopes of the Himalayas (snow peaks). The lowest altitude starts from 60 meters above the sea level in the Southern plain to 8, 848 meters in the Northern part. Mt. Everest the highest peak in the world with an altitude of 8,848 meters lies in Nepal. Ecologically, the country is divided into three regions namely; *the Tarai*, *the Hills* and *the Mountains*.



Figure 1: Nepal in a map

Disaster synopsis:

Nepal is one of the many vulnerable countries that is tormented by natural disasters in the past centuries. Nepal has a very complex geology when it comes to geophysical structure, slope of the hills,

climatic conditions and tectonic plate's movement. Economically the country is poor and the literacy rate of the country is low. It is a very challenging task for this country to tackle these disasters to protect their infrastructure and human lives. Each year the country is facing causality of thousands of people and economic loss of billions of rupees due to the destruction of infrastructures.

Major disasters (Chhetri 1999)

Earthquake

The high mountains of Nepal and Himalayan range stretch almost 2500 kms in the east-west direction and they fall under seismically active zone which is considered as the result of subduction of Indian plate under the Tibetan plate. In Nepal a series of devastating earthquake events happened in 1408, 1681, 1810, 1833 and 1866 was the major one. The following table shows some of the major events of earthquake that happened in Nepal.

Year	Magnitude	Epicenter	Deaths	House destroyed
1934	8.4	Kathmandu	16,875	3,18,139
1980	6.5	Bajhang	178	40,000
1988	6.6	Udayapur	721	64,467
2015	7.8	Kathmandu	8857	3500000

Table 1 Details of major earthquake events in Nepal

Flood and landslides

The landslides and flood are most devastating type of disasters in Nepal. There are 6000 rivers and streams in Nepal and they flow with high velocity from north towards the south. The landslides and flood events are caused because of the high intensity of rain, steep slopes and snow lying on the Himalayan range that fed the rivers throughout the year.

(Nepal flood-2017 Situation report 2017) *

Flood	Deaths	People injured
Tarai region (1993)	1336	487,534
1998	273	33,549
1999	193	8844
2017*	128	1150000

Table 2 Details of flood in Nepal

Fire

Fire disaster takes place in Tarai and middle hill region of Nepal. The temperature in Tarai region between April and June rises to 35 degree Celsius and it rains very seldom. The houses in the Tarai region are very close to each other and they are made up of straw and timber which can easily catch fire.

Epidemic

Epidemic is a disaster which mostly occur because of the lack of proper health care and sanitation. Mostly epidemic of cholera, gastro interitis, encephalitis, meningitis, typhoid, jaundice, malaria and so on occur during the summer and rainy season.

Avalanche

Avalanche is very common in Nepal because the northern part is covered with snow peaks and it also becomes one of the reason for the death of human beings.

Avalanche	People killed	Year
Khumbu	43	1995
Kanchanjungha	5	1999
Pumori	19	2015

Table 3 Details of Avalanche events in Nepal

Glacier lake outburst flood

There are 159 glacial lakes in Koshi basin and 229 in Tibetan Arun basin. Among them 24 are very dangerous. They have huge volume of water and remain in unstable condition, as a result, they can burst any time and a natural disaster can take human lives and destroy houses. Between 1935 and 1991 a total of 14 glacier lake outburst flood have taken place.

Windstorm, thunderbolt and hailstorm

The dry season in Nepal is between March to May and this is the season where windstorm mainly take place while thunderbolt occur during monsoon and hailstorm takes place during the beginning and end of the monsoon. Windstorm, thunderbolt and hailstorm causes the loss of human life and physical property.

Drought

Some part of the country face the problem of drought. Drought is due to the uneven and irregular monsoonic rainfall. Drought causes the main problem for the water availability for irrigation purpose and thus agriculture production of the country is affected.

Disaster type	Disaster subtype	Events count	Total deaths	Total affected	Total damage ('000 US\$)
Drought	Drought	6	0	4903000	10000
Earthquake	Ground movement	8	18905	6372100	5480000
Epidemic	--	4	2019	95583	0
Epidemic	Bacterial disease	6	554	69545	0
Epidemic	Viral disease	10	1995	9669	0
Extreme temperature	Cold wave	6	217	25200	123
Extreme temperature	Heat wave	1	0	10	0

Report on Disaster statistics of Nepal

March 24, 2018

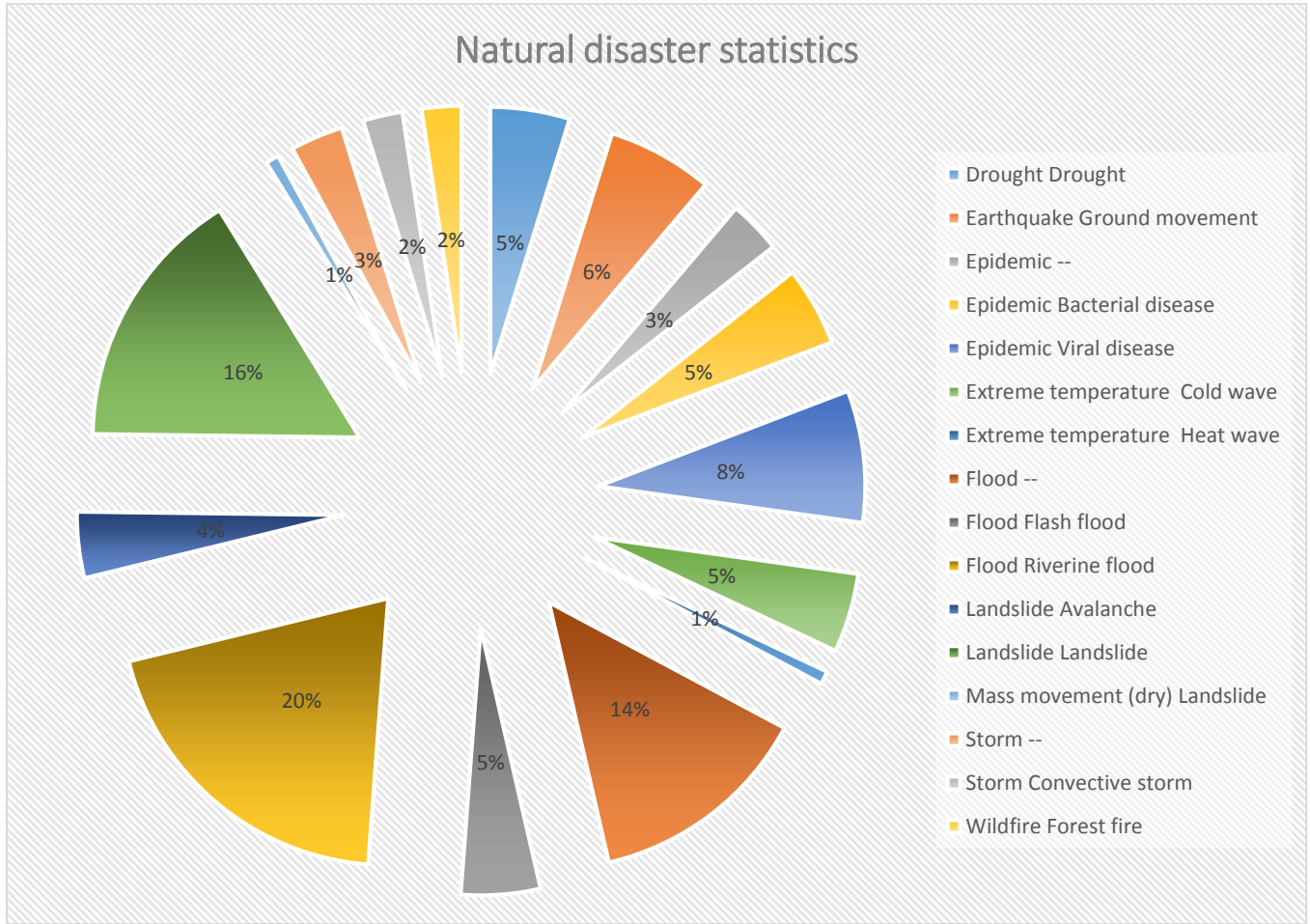
Flood	--	17	2235	2682958	134839
Flood	Flash flood	6	2823	729521	215000
Flood	Riverine flood	25	2060	2099698	71929
Landslide	Avalanche	5	246	0	0
Landslide	Landslide	20	1648	450630	15000
Mass movement (dry)	Landslide	1	150	0	0
Storm	--	4	27	184	3600
Storm	Convective storm	3	153	175	0
Wildfire	Forest fire	3	99	54000	6200

Table 4 Natural disasters in Nepal

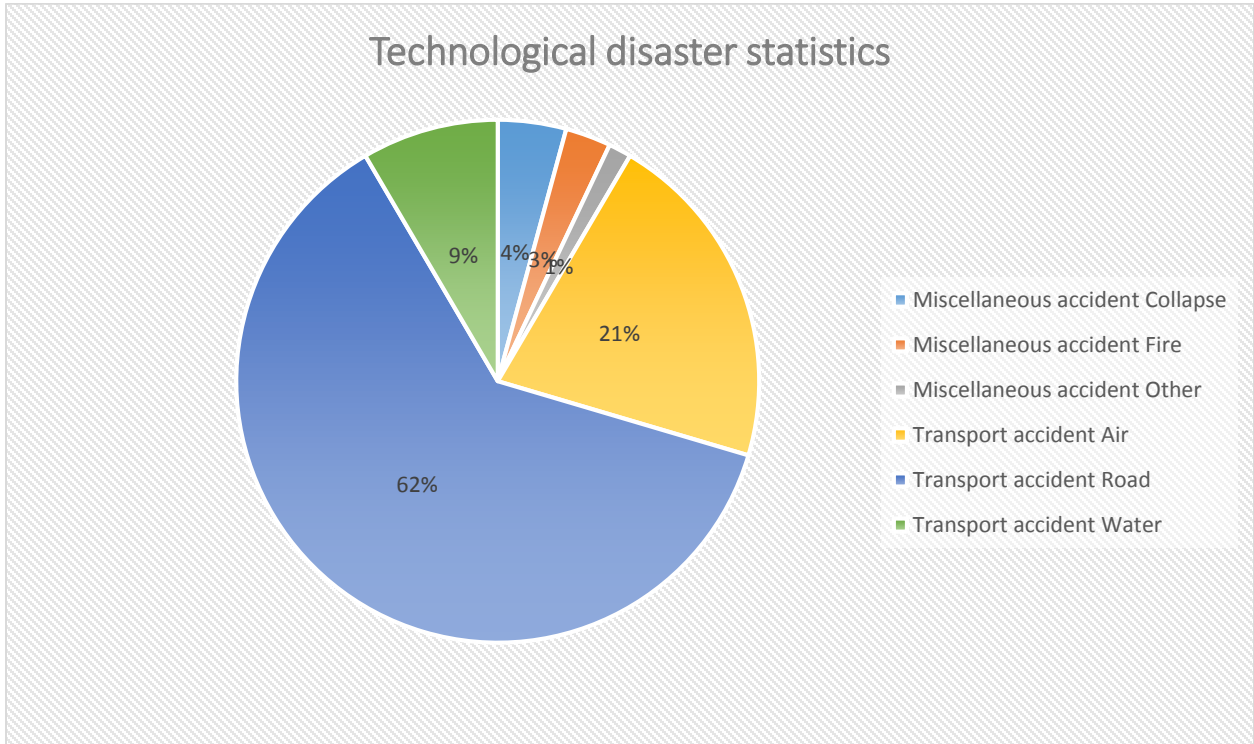
Disaster type	Disaster subtype	Events count	Total deaths	Total affected	Total damage ('000 US\$)
Miscellaneous accident	Collapse	3	80	99	0
Miscellaneous accident	Fire	2	42	2344	1260
Miscellaneous accident	Other	1	72	0	0
Transport accident	Air	15	517	1	0
Transport accident	Road	44	1267	761	0
Transport accident	Water	6	295	17	0

Table 5 Technological disasters in Nepal

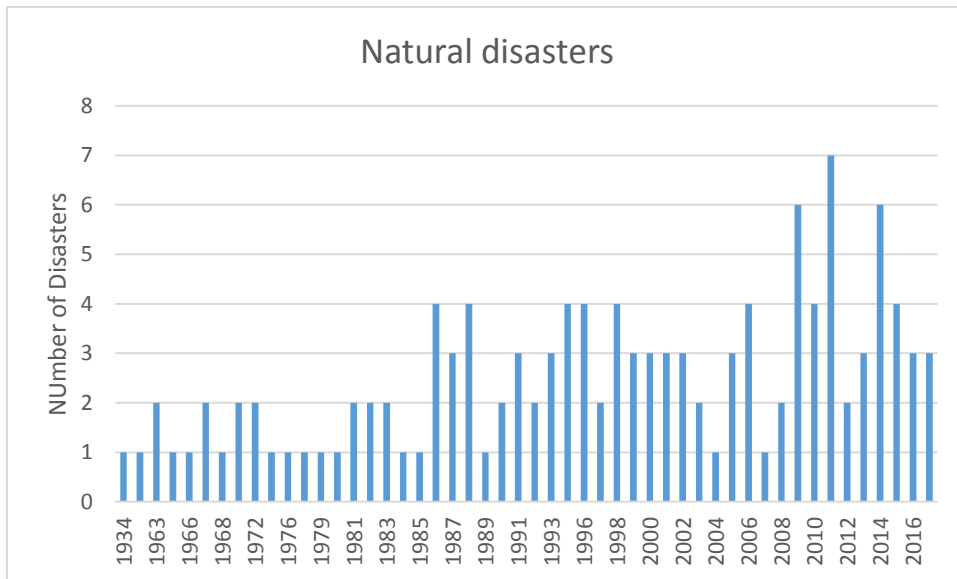
(The international disaster database n.d.)



Graph 1 Natural disaster statistics of Nepal

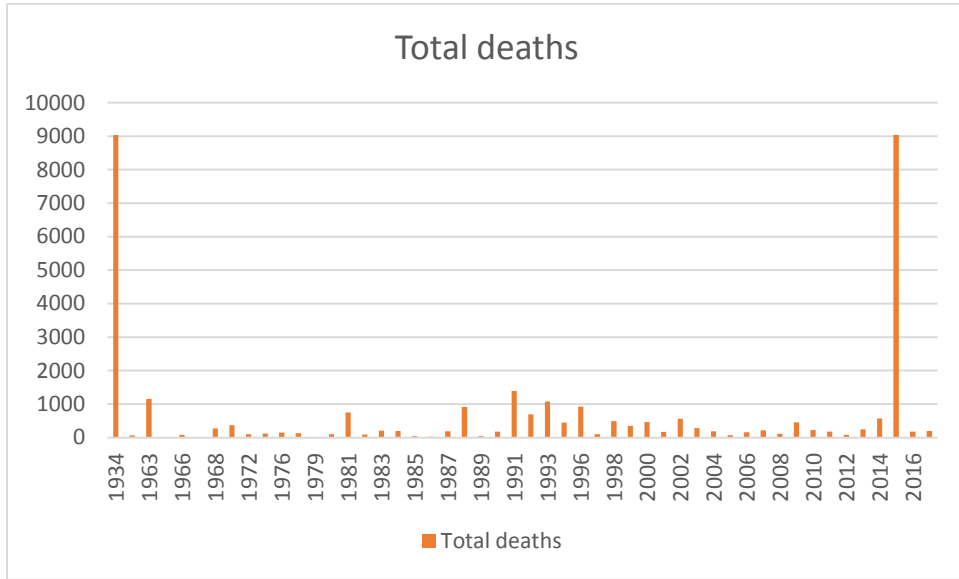


Graph 2 Technological disaster statistics of Nepal

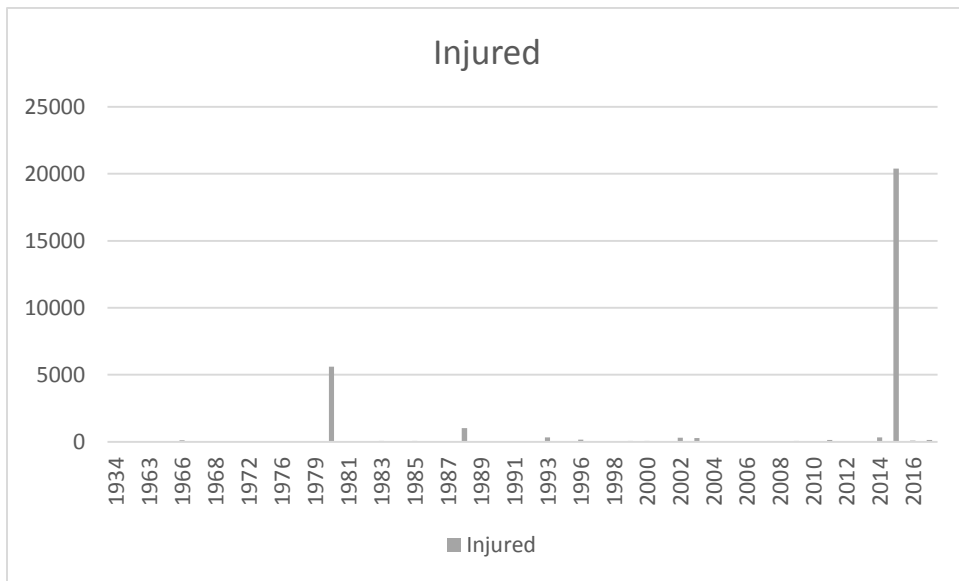


Graph 3 Natural disasters

March 24, 2018

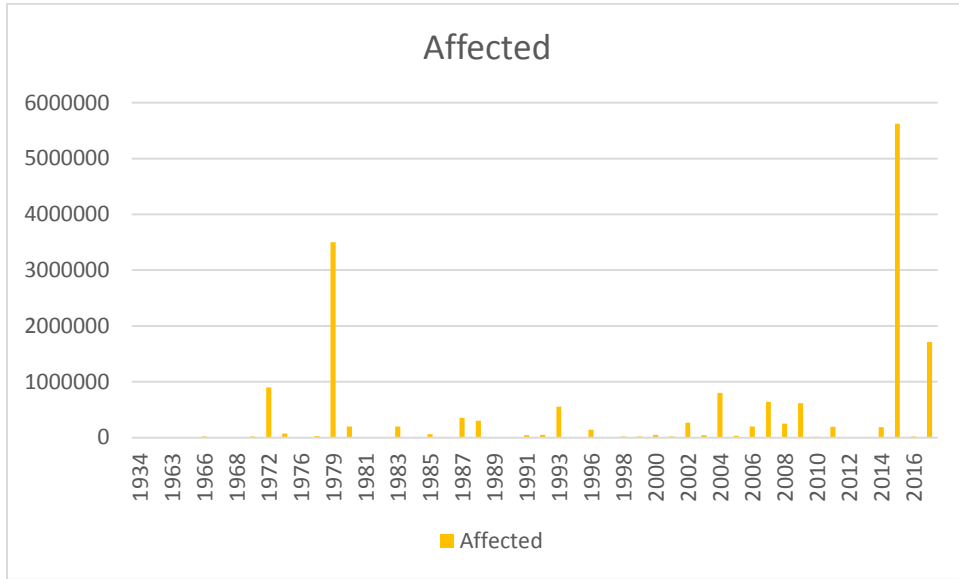


Graph 4 Total deaths

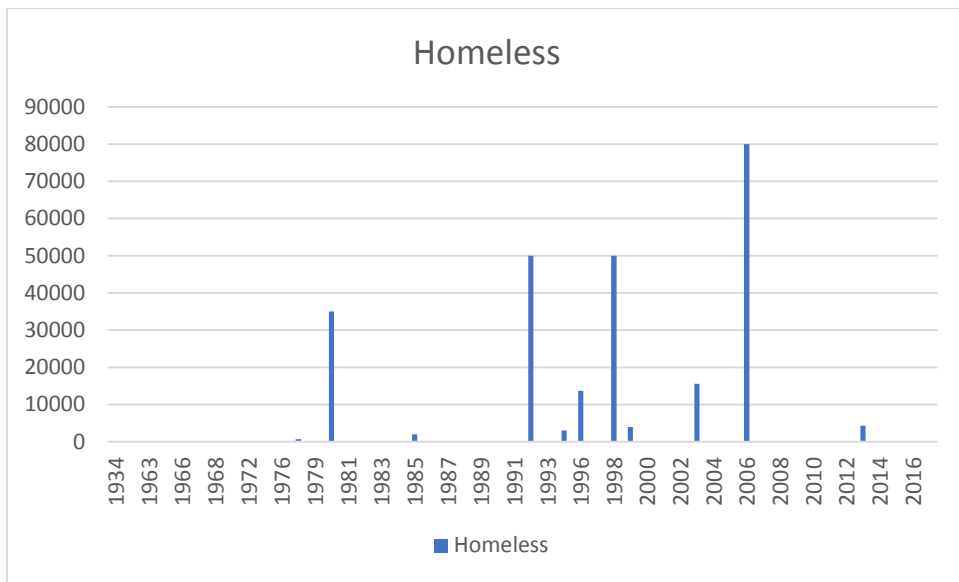


Graph 5 Total injured

March 24, 2018

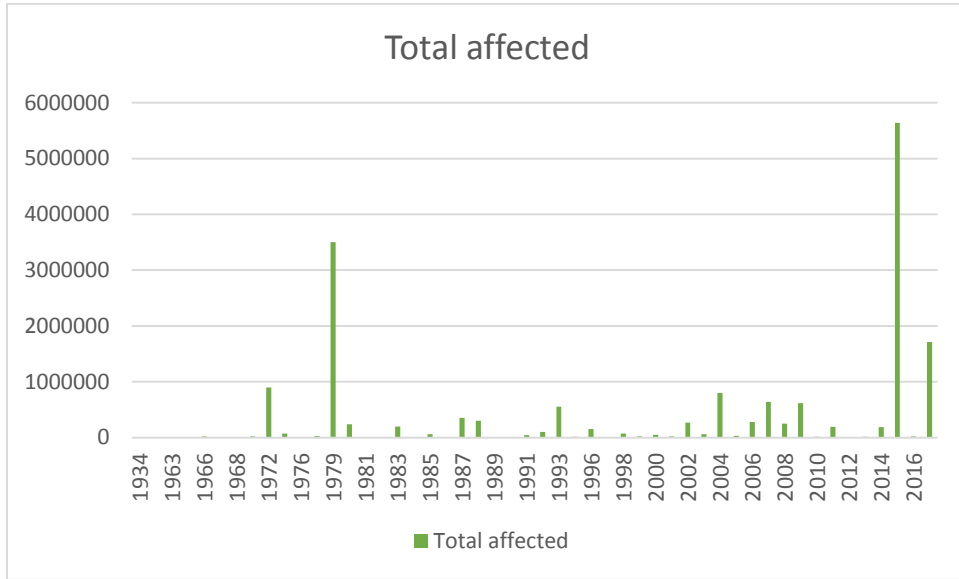


Graph 6 Affected

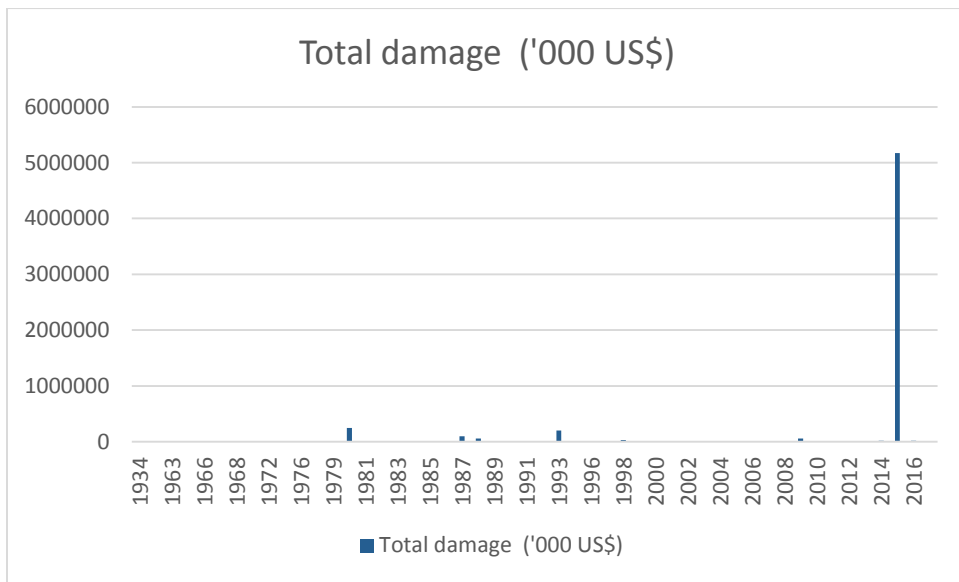


Graph 7 Homeless

March 24, 2018



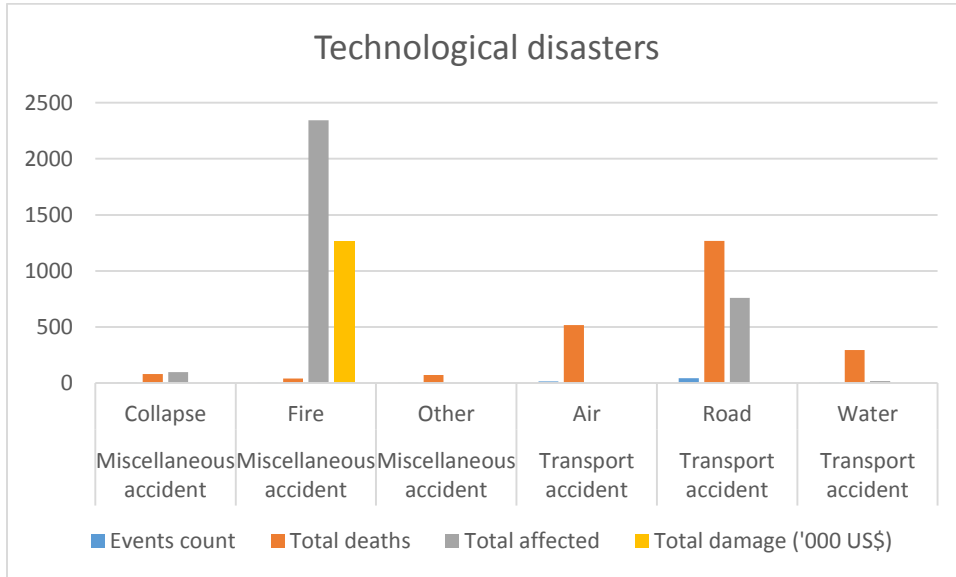
Graph 8 Total affected



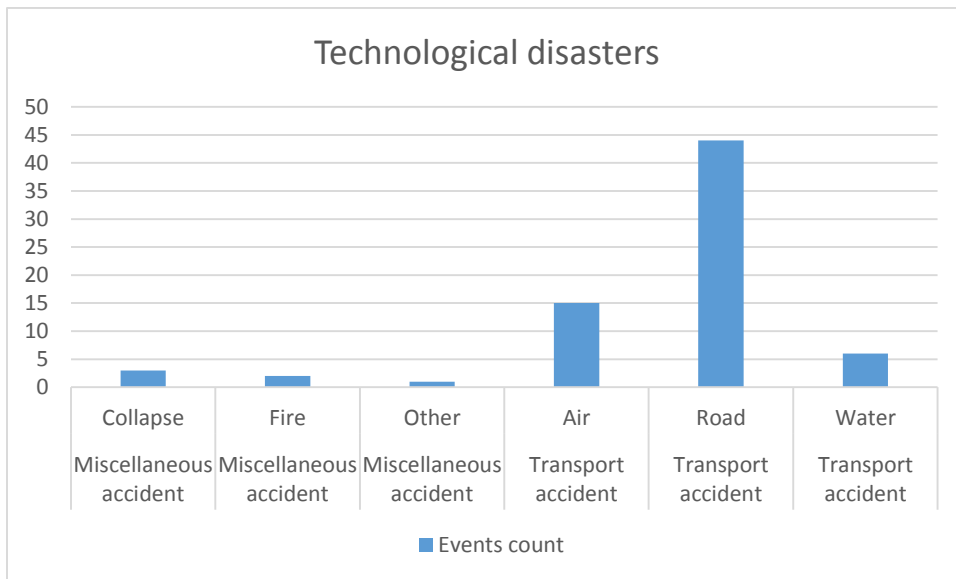
Graph 9 Total damaged

Technological disasters

March 24, 2018

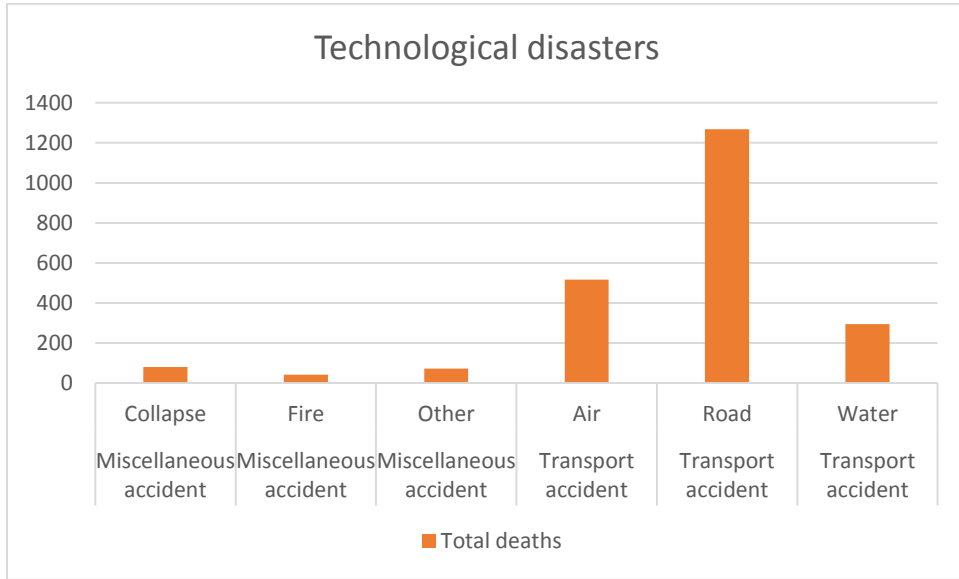


Graph 10 Technological disasters in Nepal

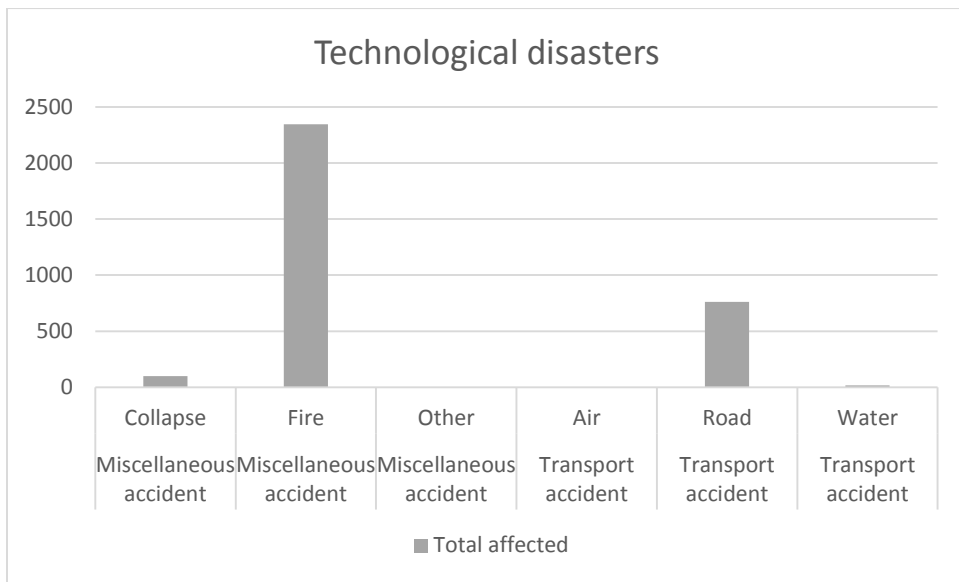


Graph 11 Event count

March 24, 2018

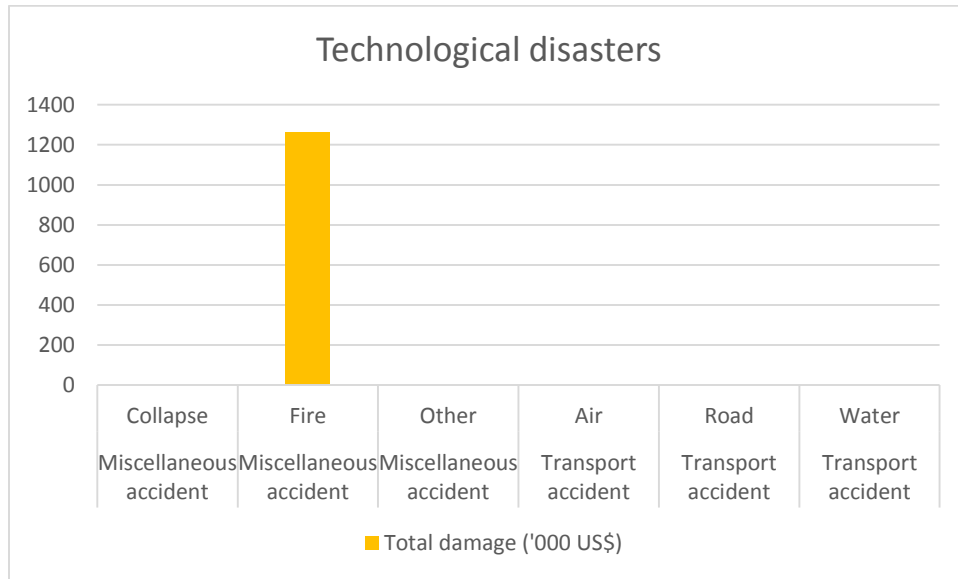


Graph 12 Total deaths



Graph 13 Total affected

March 24, 2018



Graph 14 Total damaged

Bibliography

In *Statistical year book of Nepal, 2015*. Government of Nepal, National planning commission secretariat, 2016.

Chhetri, Dr. Meen B. Paudyal. *Nepal Country Report*. Ministry of home affair, 1999.

"Nepal flood-2017 Situation report." 2017.

The international disaster database. n.d. <http://emdat.be/database> (accessed 3 2018, 22).