

## 4.2 Member Countries and their Disaster Characteristics:

Table 5:

<b>Natural Disasters in Member Countries (2002 Summary)</b>					
<b>(Country/Disaster Type/Disaster Characteristics)</b>					
		Data			
Country	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
Bangladesh	Epidemic	1	96	49,904	
	Extreme temp	1	700	50,000	
	Flood	1	10	1,500,000	
	Wind storm	4	122	101,400	
<b>Bangladesh Total</b>		<b>7</b>	<b>928</b>	<b>1,701,304</b>	
Cambodia	Drought	1	0	650,000	38,000
	Flood	1	29	1,470,000	
<b>Cambodia Total</b>		<b>2</b>	<b>29</b>	<b>2,120,000</b>	<b>38,000</b>
China, P Rep	Drought	2	0	1,218,000	
	Earthquake	2	2	65,870	
	Epidemic	1	5	300	
	Extreme temp	1	7	3,500	
	Flood	10	1,228	113,255,696	5,236,680
	Slide	4	63	11	
	Wind storm	6	98	107,403,084	256,500
<b>China, P Rep Total</b>		<b>26</b>	<b>1,403</b>	<b>221,946,461</b>	<b>5,493,180</b>
India	Drought	1		300,000,000	910,721
	Earthquake	1	2	200	
	Epidemic	2	50	5,150	
	Extreme temp	2	1,930		
	Flood	6	732	42,005,250	30,772
	Wind storm	4	144	15,250	416
<b>India Total</b>		<b>16</b>	<b>2,858</b>	<b>342,025,850</b>	<b>941,909</b>
Indonesia	Earthquake	4	11	11,847	

	Epidemic	1	17	757	
	Flood	7	230	133,180	16,000
	Slide	1	32	5	
	Volcano	1	0	5,000	
Country	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
	Wild fire	1	0	200	
<b>Indonesia Total</b>		<b>15</b>	<b>290</b>	<b>150,989</b>	<b>16,000</b>
Japan	Wild fire	1	0	222	
	Wind storm	3	5	100,825	
<b>Japan Total</b>		<b>4</b>	<b>5</b>	<b>101,047</b>	
Korea, Rep	Flood	1	20	27,507	173,224
	Wind storm	2	96	91,429	215,000
<b>Korea, Rep Total</b>		<b>3</b>	<b>116</b>	<b>118,936</b>	<b>388,224</b>
Kyrgyzstan	Slide	1	0	1,002	1,500
<b>Kyrgyzstan Total</b>		<b>1</b>	<b>0</b>	<b>1,002</b>	<b>1,500</b>
Lao, P Dem Rep	Flood	1	2	74,500	
<b>Lao, P Dem Rep Total</b>		<b>1</b>	<b>2</b>	<b>74,500</b>	
Malaysia	Slide	1	10		
	Wind storm	1	2	155	
<b>Malaysia Total</b>		<b>2</b>	<b>12</b>	<b>155</b>	
Mongolia	Drought	1			
	Wind storm	2	3	665,000	
<b>Mongolia Total</b>		<b>3</b>	<b>3</b>	<b>665,000</b>	
Myanmar	Flood	1	21	50,000	
<b>Myanmar Total</b>		<b>1</b>	<b>21</b>	<b>50,000</b>	
Nepal	Extreme temp	1	60	200	
	Slide	1	472	265,865	
<b>Nepal Total</b>		<b>2</b>	<b>532</b>	<b>266,065</b>	
Papua New Guinea	Earthquake	2	5	5,470	
	Epidemic	2	142	2,215	
	Slide	1	36	174	

	Volcano	1	0	13,000	
<b>Papua New Guinea Total</b>		<b>6</b>	<b>183</b>	<b>20,859</b>	
Philippines	Drought	1			453
	Earthquake	1	7	73,390	1,714
	Flood	4	85	150,567	392
	Wind storm	3	102	714,041	6,914
<b>Philippines Total</b>		<b>9</b>	<b>194</b>	<b>937,998</b>	<b>9,473</b>
Country	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
Russia	Extreme temp	1	242	25,062	
	Flood	4	174	336,313	507,970
	Slide	1	111		
	Wild fire	3		120	
	Wind storm	2	17		
<b>Russia Total</b>		<b>11</b>	<b>544</b>	<b>361,495</b>	<b>507,970</b>
Sri Lanka	Drought	1	0	557,000	
	Flood	1		500,000	
<b>Sri Lanka Total</b>		<b>2</b>	<b>0</b>	<b>1,057,000</b>	
Tajikistan	Earthquake	2	3	2,054	
	Flood	4	32	4,251	2,836
<b>Tajikistan Total</b>		<b>6</b>	<b>35</b>	<b>6,305</b>	<b>2,836</b>
Thailand	Drought	1	0	5,000,000	2,300
	Flood	2	154	3,290,920	35,827
	Slide	1	39	500,000	
	Wind storm	2	0	27,500	
<b>Thailand Total</b>		<b>6</b>	<b>193</b>	<b>8,818,420</b>	<b>38,127</b>
Viet Nam	Drought	1	0	1,000,000	
	Flood	3	207	1,514,816	43,500
	Wild fire	1			
	Wind storm	1	0	1,800	100
<b>Viet Nam Total</b>		<b>6</b>	<b>207</b>	<b>2,516,616</b>	<b>43,600</b>

<b>Grand Total</b>	<b>129</b>	<b>7,555</b>	<b>582,940,002</b>	<b>7,480,819</b>
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Table 4 showed the effect of various types of natural disasters according to member country and Table 5 showed the make up of natural disasters within each member country.

In **Bangladesh**, epidemics, extreme temperatures, floods, and windstorms occurred and almost all of these disasters caused considerable human suffering and loss of life. The most severe disaster was the flood in 2002. It is known that Bangladesh is a path for cyclones spawned in the Bay of Bengal, making the country prone to hydro-meteorological disasters.

In **China**, almost every type of disaster was recorded, as China encompasses a vast land with a population. The most severe disasters in China in the year 2002 were floods and windstorms followed by droughts. Also, earthquakes considerably affected the population. For 2002, the second largest natural disaster in China in terms of affected population was flood.

The year 2002 brought the most disaster to **India**, where the most severe drought in the world occurred and affected about 300 million people. This was the most serious disaster in the year 2002. Floods also seriously affected the people. India is geographically located in a natural disaster prone area that is affected by windstorms spawned in the Bay of Bengal and the Arabian Sea, earthquakes caused by active crustal activity in the Himalayan Mountains, floods brought by monsoons, and drought happening in arid and semi arid areas.

Floods, earthquakes, and volcanic activity were the disasters that most affected **Indonesia** in the year 2002. These were found to be the most serious disasters in terms of affected population. Since there are seismic belts running through the country, Indonesia is an earthquake prone country. Moreover there are 129 active volcanoes and volcanic eruptions often happen in the country. Floods tend to occur along with windstorms in the rainy season

in Indonesia.

In **Japan** year 2002 is not as bad as previous years in terms of damage but there was significant amount of affected population due to windstorms.

Most of the natural disasters that occur in **Korea** are characterized as floods in the rainy season and windstorms. The year 2002 also recorded floods and windstorms in Korea, and the human suffering and economic loss caused by them were also quite high.

**Kyrgyz** is the newest ADRC member country and almost 90% of the land is covered with mountains that are above 1,000 meters above sea level, and about 40% of the mountains are in alpine areas over 3,000 meters high. The distinctive natural disasters of Kyrgyz are earthquakes accompanied by active crustal deformation; floods caused by snowmelt and landslides. In 2002, Kyrgyz also recorded slide disasters causing human sufferings.

**Laos** is 95% covered by mountains and it owns environmentally sound natural forest compared to other areas of Asian region. Further about 35% of the Mekong River also runs through Laos. Consequently, the country is prone to floods during the rainy season. As such, in 2002, floods in Laos caused large amount of human suffering.

In **Malaysia**, Floods and landslides caused by rainfall during the monsoon season, and rainstorms triggered by tropical low pressure often recorded. Year 2002 also recorded windstorms and landslides but the human loss and economic damage caused by these disasters was relatively small.

**Mongolia** is a land locked country in Asia between Russia and China and major disasters are Zud, heavy snowfalls, sandstorms, floods, and so on. In the year 2002, Mongolia recorded drought and windstorms and the latter caused heavy human suffering, as the affected population was high.

**Myanmar** is often hit by cyclones spawned in the Bay of Bengal, floods in the monsoon season, and landslides triggered by rainfall. In the year 2002, Myanmar's floods had caused reasonably large amounts of human suffering.

**Nepal** is located in the Himalayan region where the Indian plate is wedging under the Tibetan plate and depending upon the crustal formation earthquakes frequently occur. Floods, slides, and extreme temperatures also often pose a threat to Nepal. It can be seen from the Table 5 that in the year 2002, Nepal suffered significantly under extreme temperatures and slides, which caused heavy human loss and made many families *totally* affected which includes homeless, injured and affected.

**Papua New Guinea** is also highly vulnerable to many kinds of natural disasters like earthquakes, tsunamis, volcanic activities, floods, and windstorms. The majority of the natural disasters that occurred in the year 2002 were geo-physical disasters and these disasters caused reasonably higher numbers of *totally* affected people.

**The Philippines** is located on the Pacific Rim of Fire, making it vulnerable to natural disasters of both kind hydro meteorological and geo-physical type. As in the previous years, the damage caused by hydro-meteorological disasters grew in 2002, with quite large populations affected by floods and windstorms followed by population affected by earthquakes. Economic damage by windstorms was also noticeable.

**Russia** has a vast area of land and the disaster affected population and the economic losses are also quite large. Extreme temperatures, floods, slides and windstorms caused considerable human loss and large affected populations in the year 2002. Also, these types of disasters caused great economic losses.

**Sri Lanka** is located in the Indian ocean just south of India and droughts in the dry

seasons and windstorms and floods in the rainy seasons due to cyclones from the Bay of Bengal are the prime concerns of Sri Lanka. In 2002, Sri Lanka was hit severely by drought and floods, and the affected population by these disasters was quite high.

**Tajikistan's** prime concerns are earthquakes and floods as mountains cover a majority of the land in Tajikistan. As such earthquakes and floods are the major threats to the country. In 2002, earthquakes and floods occurred in Tajikistan causing human suffering.

**Thailand** is highly prone to natural disasters because of its location and terrain. The northeastern area is prone to floods and droughts and the south has storms, floods and slides. Thailand was severely hit by these disasters in the year 2002, and the percentage of population affected by hydro meteorological disasters was quite high for the Asian region.

**Vietnam** is located in the southeast monsoon climate area and the majority of the annual rainfall is in the rainy season, which causes heavy human and economic loss every year. Drought, floods and windstorms caused severe human suffering and loss in Vietnam in 2002 as well.

It can be concluded according to the above tables that the majority of ADRC member countries in the Asian region suffered from hydro-meteorological disasters, which inflicted heavy human and economic loss on society and hinder economic development. Further, the heavy effects of disasters on the population deprived people of socio-economic advancement thus slowing national and regional development. The most severe disasters in the world in 2002 were in the Asian region (India, China, Bangladesh, and Thailand), affecting great number of people in the region. Hence, it is imperative to design and implement proper disaster mitigation and preparedness plans to reduce human and economic loss and human suffering, thus contributing positively to global sustainable development.