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# Natural Disasters in 2003: An Analytical Overview

## Chapter 1: Impact of Natural Disasters

This Chapter deals with the overall trend and impact of natural disasters in the year 2003. It also addresses regional perspectives on disasters based on disaster types and discusses the vulnerability of natural disasters in the Asian region.

### 1.1 Trend of Natural Disaster Damage and Characteristics:

According to the following figures (Figures 1 & 2) and the summary table (Tables 1, 2 & 3), there is a trend towards increasing occurrence of natural disasters for various reasons, such as global climate changes, environmental and ecological imbalance, increasing population density, improper urbanization, deforestation and desertification. Due to the compounding effect of these factors, human suffering, loss of life, and economic losses caused by natural disasters have also been increasing. It is noteworthy to mention that the *totally*<sup>1</sup> affected population in the year 2003 is almost 4% of the world population and the worldwide total economic damages in the year exceeded the GDP (Purchasing Power Parity) of certain developing countries in Asia and Africa, thus underlying the importance of natural disaster mitigation strategies. For instance, the total amount of damage in the world caused by natural disasters in the year 2003 exceeds the annual GDP (2002 estimate) of Mongolia by 8 times, Laos by 4 times, Tajikistan by 5 times, Armenia by 3.5 times, Kyrgyz by 2.5

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<sup>1</sup> According to CRED, Belgium, the *totally* affected population includes the number of people injured, number of people became homeless and number of people affected by various other means due to disasters.

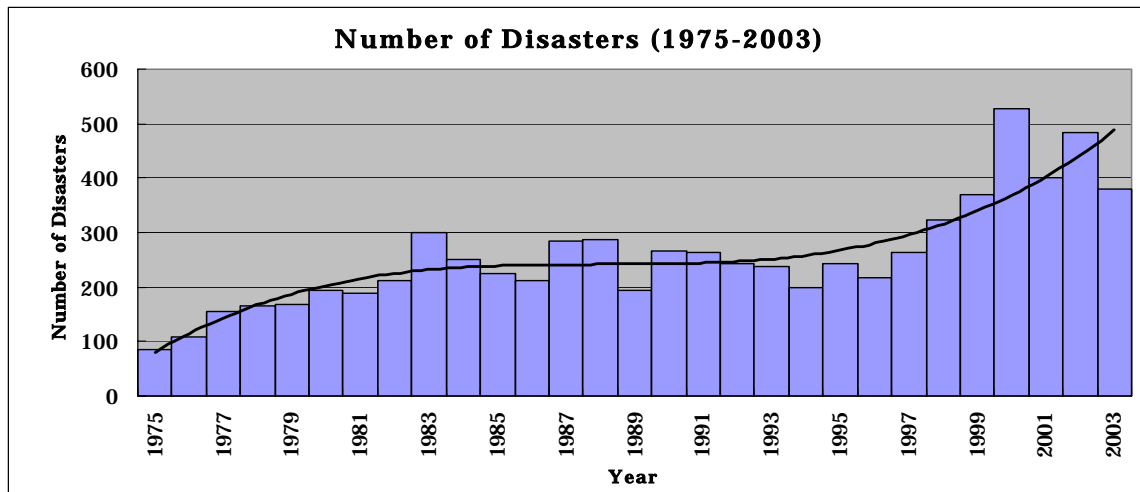
times, and Papua New Guinea by 4 times respectively. In comparison to 2002 statistics, there is an increase in number of people killed and the amount of economic damage. This trend is quite alarming and a great obstacle to any development activity of affected countries within the purview of sustainable development. Human suffering and economic losses undeniably create a development-vacuum that will be hard to fill in the near future.

**Table 1:**

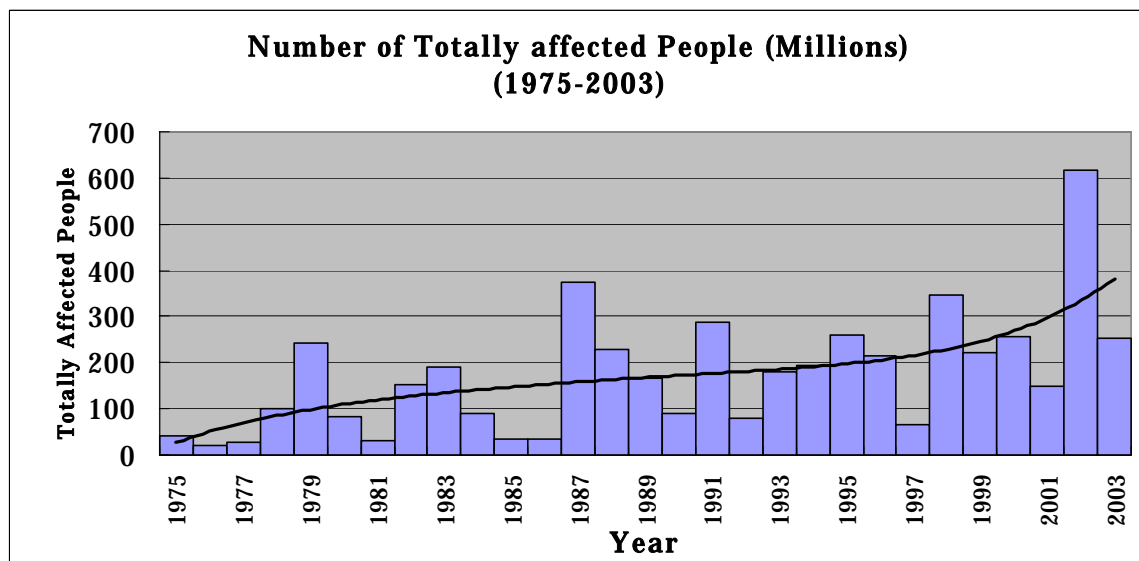
<b>Summary of Natural Disasters (2003)</b>				
	<b>Number of Disasters</b>	<b>Sum of Killed</b>	<b>Sum of Totally Affected</b>	<b>Sum of Damage US\$(000's)</b>
<b>Asia (Share)</b>	136 (36%)	49,779 (57%)	228,402,420 (90%)	17,283,486 (40%)
<b>World</b>	380	86,862	253,635,421	43,672,375

**Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2003**

The following figures show the increasing trend in the occurrence of natural disasters and the number of totally affected people from 1975 to 2003.

**Figure 1:**

Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2003

**Figure 2:**

Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2003

The following tables show regional disaster characteristics in relation to various disaster types.

Table2:

<b>Summary of Natural Disasters (2003)</b> <b>(Region/Disaster Type/Disaster Characteristics)</b>					
		Data			
Continent	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of DamageUS\$ ('000s)
Africa	Drought	11	9	18,142,539	
	Earthquake	2	2,275	210,461	5,000,000
	Epidemic	23	2,362	66,891	
	Extreme Temperature	1	40	0	
	Flood	40	439	2,367,460	536,570
	Slides	1	20	100	
	Wind Storm	11	152	217,252	
<b>Africa Total</b>		<b>89</b>	<b>5,297</b>	<b>21,004,703</b>	<b>5,536,570</b>
Americas	Drought	2		0	
	Earthquake	6	26	13,825	200,000
	Epidemic	2	344	50,200	
	Extreme Temperature	2	360	1,839,888	
	Flood	41	519	873,424	1,193,600
	Slides	5	151	2,196	
	Volcano	2		25,000	
	Wild Fires	6	19	1,179	545,000
	Wind Storm	20	197	263,848	10,952,600
<b>Americas Total</b>		<b>86</b>	<b>1,616</b>	<b>3,069,560</b>	<b>12,891,200</b>
Asia	Drought	4		51,069,000	
	Earthquake	25	43,521	3,059,832	2,717,634
	Epidemic	4	15	2,448	
	Extreme Temperature	6	2,073	0	
	Flood	55	3,052	163,549,522	8,502,148
	Slides	13	516	455,712	51,298
	Wild Fires	1		300	
	Wind Storm	28	602	10,265,606	6,012,406
<b>Asia Total</b>		<b>136</b>	<b>49,779</b>	<b>228,402,420</b>	<b>17,283,486</b>
Europe	Drought	4		1,062,575	710,000
	Earthquake	7	109	16,134	571,952
	Extreme Temperature	9	29,930	20	

Continent	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of DamageUS\$ ('000s)
	Flood	17	33	36,406	4,325,218
	Wild Fires	6	30	4,704	1,750,000
	Wind Storm	6	22	107	2,949
<b>Europe Total</b>		<b>49</b>	<b>30,124</b>	<b>1,119,946</b>	<b>7,360,119</b>
Oceania	Epidemic	1		437	
	Flood	5	7	489	135,000
	Slides	2	13	621	
	Wild Fires	1	4	2,650	300,000
	Wind Storm	11	22	34,595	166,000
<b>Oceania Total</b>		<b>20</b>	<b>46</b>	<b>38,792</b>	<b>601,000</b>
<b>Grand Total</b>		<b>380</b>	<b>86,862</b>	<b>253,635,421</b>	<b>43,672,375</b>

Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2003

Table 3:

<b>Summary of Natural Disasters (2003)</b> <b>(Disaster Type/Region/Disaster Characteristics)</b>					
		Data			
DisType	Continent	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of DamageUS\$ ('000s)
Drought	Africa	11	9	18,142,539	
	Americas	2		0	
	Asia	4		51,069,000	
	Europe	4		1,062,575	710,000
<b>Drought Total</b>		<b>21</b>	<b>9</b>	<b>70,274,114</b>	<b>710,000</b>
Earthquake	Africa	2	2,275	210,461	5,000,000
	Americas	6	26	13,825	200,000
	Asia	25	43,521	3,059,832	2,717,634
	Europe	7	109	16,134	571,952
<b>Earthquake Total</b>		<b>40</b>	<b>45,931</b>	<b>3,300,252</b>	<b>8,489,586</b>
Epidemic	Africa	23	2,362	66,891	
	Americas	2	344	50,200	
	Asia	4	15	2,448	

DisType	Continent	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of DamageUS\$ ('000s)
	Oceania	1		437	
<b>Epidemic Total</b>		<b>30</b>	<b>2,721</b>	<b>119,976</b>	
Extreme Temperature	Africa	1	40	0	
	Americas	2	360	1,839,888	
	Asia	6	2,073	0	
	Europe	9	29,930	20	
<b>Extreme Temperature Total</b>		<b>18</b>	<b>32,403</b>	<b>1,839,908</b>	
Flood	Africa	40	439	2,367,460	536,570
	Americas	41	519	873,424	1,193,600
	Asia	55	3,052	163,549,522	8,502,148
	Europe	17	33	36,406	4,325,218
	Oceania	5	7	489	135,000
<b>Flood Total</b>		<b>158</b>	<b>4,050</b>	<b>166,827,301</b>	<b>14,692,536</b>
Slides	Africa	1	20	100	
	Americas	5	151	2,196	
	Asia	13	516	455,712	51,298
	Oceania	2	13	621	
<b>Slides Total</b>		<b>21</b>	<b>700</b>	<b>458,629</b>	<b>51,298</b>
Volcano	Americas	2		25,000	
<b>Volcano Total</b>		<b>2</b>		<b>25,000</b>	
Wild Fires	Americas	6	19	1,179	545,000
	Asia	1		300	
	Europe	6	30	4,704	1,750,000
	Oceania	1	4	2,650	300,000
<b>Wild Fires Total</b>		<b>14</b>	<b>53</b>	<b>8,833</b>	<b>2,595,000</b>
Wind Storm	Africa	11	152	217,252	
	Americas	20	197	263,848	10,952,600
	Asia	28	602	10,265,606	6,012,406
	Europe	6	22	107	2,949
	Oceania	11	22	34,595	166,000
<b>Wind Storm Total</b>		<b>76</b>	<b>995</b>	<b>10,781,408</b>	<b>17,133,955</b>
<b>Grand Total</b>		<b>380</b>	<b>86,862</b>	<b>253,635,421</b>	<b>43,672,375</b>

Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2003