

Natural Disasters in 2002: An Analytical Overview

Chapter 1: Impact of Natural Disasters

This Chapter deals with the overall trend and impact of Natural Disasters in the year 2002. It also addresses regional perspectives on disasters based on disaster types and discusses the vulnerability of the Asian region to natural disasters.

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 due to various reasons, such as global environmental changes, environmental and ecological imbalance, increasing population and population density, improper urbanization, deforestation and desertification. Due to the compounding effect of these factors, human suffering, loss of life, and economic losses from natural disasters have also been increasing. It is noteworthy to mention that the *totally*¹ affected population in the year 2002 is almost one tenth 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 world caused by natural disasters in the year 2002 exceeds the annual GDP (2001 estimate) of Mongolia by 7 times, Laos by 3 times, Tajikistan by 3 times, Armenia by 2 times, Kyrgyz by 2

¹ 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 2 times respectively. This trend is quite alarming and is a great obstacle to any development activity by the respective Governments 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.

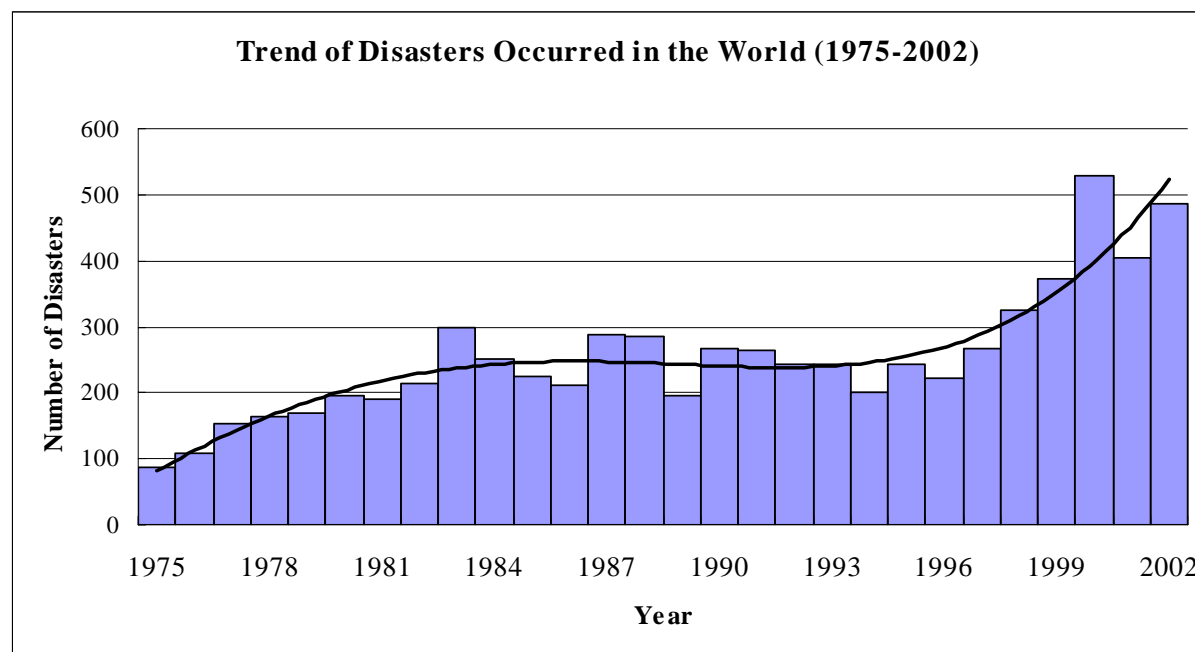
Table 1:

Summary of Natural Disasters (2002)				
	Number of Disasters	Sum of Killed	Sum of Totally Affected	Sum of Damage US\$(000's)
Asia	157 (32%)	36,390 (78%)	586,144,707 (94%)	7,122,784 (28%)
World	487	46,527	621,331,512	25,092,688

Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2002

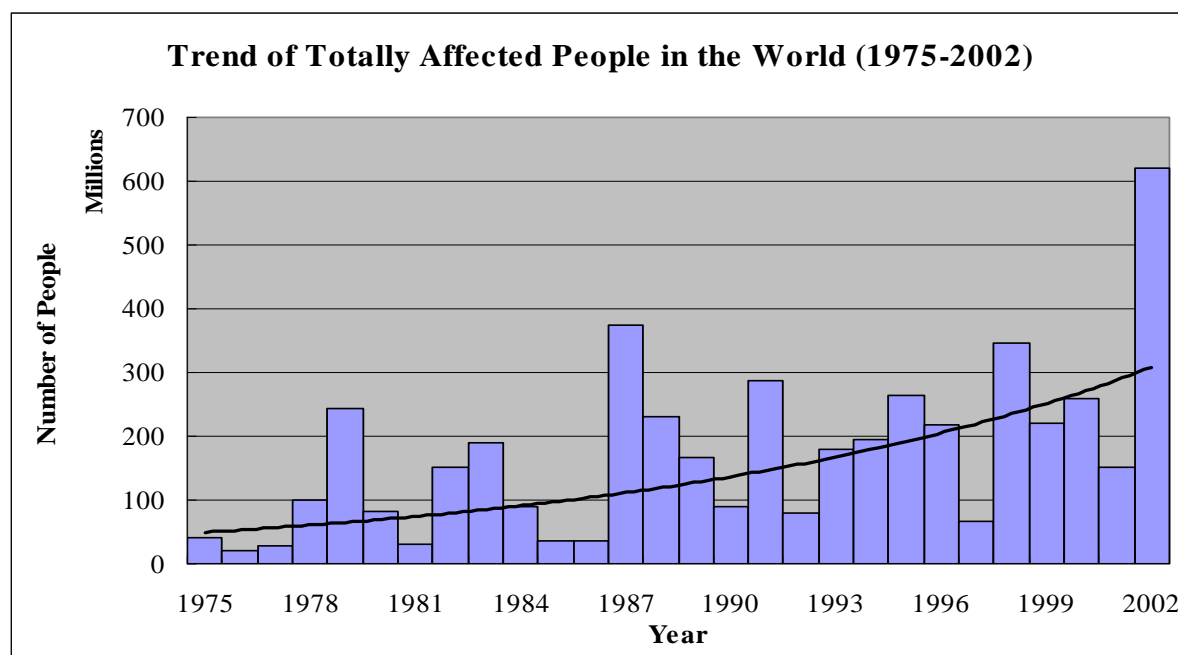
The following figures show the increasing trend in the occurrence of natural disasters and the number of totally affected people from 1975 to 2002.

Figure 1:



Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2002

Figure 2:



Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2002

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

Table 2:

Summary Of Disasters (2002) (Region/Disaster Type/Disaster Characteristics)					
		Data			
Continent	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
Africa	Drought	15	521	28,884,435	
	Earthquake	3	11	9,858	
	Epidemic	45	6,258	570,486	
	Extreme temp	1	60		
	Famine	4	0	580,000	
	Flood	33	444	961,510	128,003
	Slide	1	16		

Continent	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
	Volcano	1	254	130,000	
	Wild fire	2	4	2,250	
	Wind storm	13	83	645,570	222
Africa Total		118	7,651	31,784,109	128,225
Americas	Drought	6	17	128,340	210,000
	Earthquake	1	0	227	
	Epidemic	6	50	107,437	
	Extreme temp	4	64	25,200	
	Famine	1	0	3,000	
	Flood	40	589	928,976	1,218,350
	Slide	5	246	2,274	
	Volcano	4	0	149,650	
	Wave/surge	1	0	1,720	
	Wild fire	12	0	23,088	71,600
	Wind storm	34	259	776,674	556,000
Americas Total		114	1,225	2,146,586	2,055,950
Asia	Drought	11	0	308,440,300	951,474
	Earthquake	22	1,515	519,766	92,589
	Epidemic	8	266	62,799	
	Extreme temp	7	2,810	53,724	
	Famine	1	27,500	2,900,000	
	Flood	58	2,990	164,266,885	5,598,291
	Slide	11	701	767,306	1,500
	Volcano	1	0	5,000	
	Wild fire	4	0	422	
	Wind storm	34	608	109,128,505	478,930
Asia Total		157	36,390	586,144,707	7,122,784
Europe	Drought	1			
	Earthquake	5	75	11,832	
	Epidemic	3	3	10,947	
	Extreme temp	3	435	25,062	
	Flood	39	309	1,024,247	15,287,864

Continent	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
	Slide	1	111		
	Wild fire	3		120	
	Wind storm	23	95	140,579	177,365
Europe Total		78	1,028	1,212,787	15,465,229
Oceania	Drought	1			300,000
	Earthquake	4	5	5,973	
	Epidemic	2	142	2,215	
	Flood	2	0	3,301	500
	Slide	1	36	174	
	Volcano	1	0	13,000	
	Wild fire	1	2	244	20,000
	Wind storm	8	48	18,416	
Oceania Total		20	233	43,323	320,500
Grand Total		487	46,527	621,331,512	25,092,688

Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2002

Table 3:

Summary Of Disasters (2002) (Disaster Type/Region/Disaster Characteristics)					
		Data			
DisType	Continent	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
Drought	Africa	15	521	28,884,435	
	Americas	6	17	128,340	210,000
	Asia	11	0	308,440,300	951,474
	Europe	1			
	Oceania	1			300,000
Drought Total		34	538	337,453,075	1,461,474
Earthquake	Africa	3	11	9,858	
	Americas	1	0	227	
	Asia	22	1,515	519,766	92,589

DisType	Continent	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
	Europe	5	75	11,832	
	Oceania	4	5	5,973	
Earthquake Total		35	1,606	547,656	92,589
Epidemic	Africa	45	6,258	570,486	
	Americas	6	50	107,437	
	Asia	8	266	62,799	
	Europe	3	3	10,947	
	Oceania	2	142	2,215	
Epidemic Total		64	6,719	753,884	
Extreme temp	Africa	1	60		
	Americas	4	64	25,200	
	Asia	7	2,810	53,724	
	Europe	3	435	25,062	
Extreme temp Total		15	3,369	103,986	
Famine	Africa	4	0	580,000	
	Americas	1	0	3,000	
	Asia	1	27,500	2,900,000	
Famine Total		6	27,500	3,483,000	
Flood	Africa	33	444	961,510	128,003
	Americas	40	589	928,976	1,218,350
	Asia	58	2,990	164,266,885	5,598,291
	Europe	39	309	1,024,247	15,287,864
	Oceania	2	0	3,301	500
Flood Total		172	4,332	167,184,919	22,233,008
Slide	Africa	1	16		
	Americas	5	246	2,274	
	Asia	11	701	767,306	1,500
	Europe	1	111		
	Oceania	1	36	174	
Slide Total		19	1,110	769,754	1,500
Volcano	Africa	1	254	130,000	

DisType	Continent	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$(000's)
	Americas	4	0	149,650	
	Asia	1	0	5,000	
	Oceania	1	0	13,000	
Volcano Total		7	254	297,650	
Wave/surge	Americas	1	0	1,720	
Wave/surge Total		1	0	1,720	
Wild fire	Africa	2	4	2,250	
	Americas	12	0	23,088	71,600
	Asia	4	0	422	
	Europe	3		120	
	Oceania	1	2	244	20,000
Wild fire Total		22	6	26,124	91,600
Wind storm	Africa	13	83	645,570	222
	Americas	34	259	776,674	556,000
	Asia	34	608	109,128,505	478,930
	Europe	23	95	140,579	177,365
	Oceania	8	48	18,416	
Wind storm Total		112	1,093	110,709,744	1,212,517
Grand Total		487	46,527	621,331,512	25,092,688

Source: ADRC, Japan and CRED-EMDAT, Universite Catholique de Louvain, Brussels, Belgium, 2002