

1.3 Vulnerability of Countries with Small Economy and Population:

It is obvious that the countries with small economy and population suffer more by even the occurrence of one small disaster. Following tables show the ranks of actual disasters in terms of number of killed, number of affected people and amount of damage and the situation, compared to the population and GNI (Gross National Income)² respectively.

Table 4 to 9 illustrate that an actual damage in terms of human or economic loss is small, while its effect on the population and economy is large, compared to the population and GNI of these countries. Accordingly this comparison reveals that countries with small economy and population bear heavy damage in terms of loss share to population and GNI. For example Table 4 shows the ranks of disaster events according to the number of people killed. Table 5 shows the ranks according to the share of killed to population. In Table 5, we can see that countries with small population have larger share of human loss. It can be seen that New Caledonia, ranked at 233 in the Table 4 according to actual number of killed, has moved up to the 20th rank in the Table 5 according to the share of human loss to population. Similar movements could be observed from other countries such as Fiji, American Samoa, Bermuda, Kyrgyzstan, Togo, Oman, Mali and Sri Lanka. Further, Iran stays at the 1st rank in both tables and this shows the huge human effect of the Bam Earthquake. Similar observations can be made from other Tables 6 & 7 and 8 & 9 in terms of affected people and economic damage respectively.

² Here we used the values from World Bank, 2002 data and definition.

Table 4: Top 25 Natural Disasters According to Number of People Killed (World) (2003)

Rank (Killed)	Country	Region	DisType	DisName	Month	Day	Killed	Injured	Homeless	Affected	TotAff	DamageUS ('000s)	Location
1	Iran Islam Rep	South Asia	Earthquake		12	26	43,200†	15,000	75,600		90,600	1,000,000	Bam (Kerran province)
2	France	European Union	Extreme Temperature		8	1	14,947				0	0	Paris region
3	Germany	European Union	Extreme Temperature		8		5,250				0	0	
4	Italy	European Union	Extreme Temperature		7	16	4,175				0	0	Milan, Turin (Piemont), Milan, Varese (Lombardie), Florence (Toscane), Lecce (Pouilles), Genoa
5	Algeria	North Africa	Earthquake		5	21	2,266	10,261	200,000		210,261	5,000,000	Thenia, Boumerdes, Zemmouri
6	United Kingdom	European Union	Extreme Temperature		8		2,045				0	0	
7	Portugal	European Union	Extreme Temperature		8		2,007				0	0	
8	India	South Asia	Extreme Temperature		5	14	1,210				0	0	Andhra Pradesh, Orissa, Tamil Nadu, Vidarbha, Chhattisgarh, Jharkhand, Uttar Pradesh, Rajasthan, Madhya Pradesh, Bihar
9	Netherlands	European Union	Extreme Temperature		7	31	1,200				0	0	
10	Burkina Faso	West Africa	Epidemic	Meningococcal disease	1	1	1,058			7,146	7,146		Ouagadougou, Manga, Bogande, Pama, Po, Bousla, Bousse, Zabre, Zorgho, Batié, Leo
11	China P Rep	East Asia	Flood		6	23	430	146,000		150,000,000	150,146,000	730,000	Zhejiang, Jiangsu, Shaanxi, Guangxi, Guizhou, Gansu, Sichuan, Guizhou, Hunan, Jiangxi, Hubei provinces
12	India	South Asia	Flood		6	11	425			4,550,000	4,550,000		Assam, Bihar, Tripura, West Bengal states
13	India	South Asia	Extreme Temperature		12	15	400				0	0	Uttar Pradesh, Himachal Pradesh, Haryana, Jammu
14	Zaire/Congo Dem Rep	Central Africa	Epidemic	Cholera	6		380			13,072	13,072		Sud Kivu, Katanga, Kasai Oriental
15	Peru	South America	Extreme Temperature		7		339			1,839,888	1,839,888		Ayacucho, Huancavelica, Tacna, Moquegua, Arequipa, Puno, Cusco, Apurimac, South part of Ayacucho departments
16	El Salvador	Central America	Epidemic	Pneumonia	6	21	304			50,000	50,000		Country wide
17	China P Rep	East Asia	Earthquake		2	24	262	2,055	50,000	200,000	252,055	145,035	Jiashi (Payzawat), Bachu, Yuesupu, Yingjisha, Maigati, Shule, Shufu, Kashi districts (Xinjiang region)
18	Philippines	South-east Asia	Slides		12	19	255	54		217,934	217,988	7,000	Liloan, San Francisco, Maasin, Punta, San Ricardo (Leyte province), Surigao, Mindana, Caraga, Misamis Oriental, Compostela Valley, Agusan del Sur, Agusan del Norte, Surigao del Sur, Surigao de Norte, South Cotabato, Bohol provinces
19	Indonesia	South-east Asia	Flood		11	2	241	30		1,468	1,498		Hahorok sub-district (Langkat district, North Sumatra), Banyumas, Cilacap, Kebumen districts (Central Java)
20	Nepal	South Asia	Flood		7	3	239	284	15,575	43,395	59,254		Baglung, Baitadi, Bajura, Banke, Bara, Bhojpur, Chitwan, Dang, Dhadang, Dhamusha, Dolakha, Gorkha, Gulmi, Humla, Ilam, Jajarkot, Jhapa, Kabbre, Kailali, Kanchanpur, Kapilvastu, Kaski, Khotang, Lamjung, Mahottari, Makwanpur, Morang, Myagdi, Nawalparasi, Nuwakot, Okhaldunda, Parsat, Parvat, Pyythan, Rasuwa, Rautahat, Rukum, Rupandehi, Sarlahi, Saptari, Sindhuli, Sindhupachowk, Siraha, Solukhumbu, Sunsari, Syanga, Tanahu, Taplejung, Terathum, Udayapur districts
21	Sri Lanka	South Asia	Flood		5	17	235			695,000	695,000	29,000	Ratnapura, Matara, Galle, Hambantota, Kulataru, Nuwara, Eliya districts
22	Pakistan	South Asia	Flood		7	22	230	456		1,265,767	1,266,223		Badin, Thatta, Larkana, Dado, Tharparkar, Shikarpur, Karachi, Hyderabad, Nawabshah (Sindh province), Zhob, Awaran, Harnai, Dahdar, Jafarabad, Jhal Magsi, Nascerabad, Bolan, Ziarat, Khuzdar, Lasbela, Turbat districts (Balochistan province), Sialkot, Narowal districts (Punjab province)
23	Pakistan	South Asia	Extreme Temperature		5	1	200				0	0	Pendjab province
24	Niger	West Africa	Epidemic		2		195			1,861	1,861		Matameye, Magaria, Aguié, Madarounia, Madaoua, Tahoua, Mirriah districts
25	Bangladesh	South Asia	Flood		6	11	187			50,000	50,000		

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

† Ministry of Interior in Iran estimates 26,200 of people killed

Table 5: Top 25 Natural Disasters According to the Ratio of Killed/Population (World) (2003)

Rank (Killed/Pop)	Rank (Killed)	Country	Region	DisType	DisName	Month	Day	Killed	Injured	Homeless	Affected	TotAff	Killed/Population (for 1 Mn people)	(2003) (World Fact Book)	GNI (Bn US\$) (World Bank)	Damage US (\$ '000s)	Location
1	1	Iran Islam Rep	South Asia	Earthquake		12	26	43,200†	15,000	75,600		90,600	63	68278826	112.941	1,000,000	Bam (Kerran province)
2	2	France	European Union	Extreme Temperature		8	1	14,947				0	25	60180529	1362.077		Paris region
3	7	Portugal	European Union	Extreme Temperature		8		2,007				0	20	10102022	109.116		
4	174	American Samoa	Oceania	Flood		5	18	6	3			3	9	70260	0.500	50,000	Pago pago, Fagatogo
5	10	Burkina Faso	West Africa	Epidemic	Meningococcal disease	1	1	1,058			7,146	7,146	8	13228460	2.914		Ouagadougou, Manga, Bogande, Pama, Po, Bousla, Bousse, Zabre, Zorgho, Batie, Leo
6	9	Netherlands	European Union	Extreme Temperature		7	31	1,200				0	7	16150511	377.603		
7	4	Italy	European Union	Extreme Temperature		7	16	4,175				0	7	57998353	1100.713		Milan, Turin (Piémont), Milan, Varese (Lombardie), Florence (Toscane), Lecce
8	5	Algeria	North Africa	Earthquake		5	21	2,266	10,261	200,000		210,261	7	32818500	53.814	5,000,000	Thenia, Boumerdes, Zemmouri
9	3	Germany	European Union	Extreme Temperature		8		5,250				0	6	82398326	1876.340		
10	187	Bermuda	North America	Wind Storm	Fabian	9	5	4				0	6	64482	2.250	300,000	
11	16	El Salvador	Central America	Epidemic	Pneumonia	6	21	304			50,000	50,000	5	6470379	13.558		Country wide
12	6	United Kingdom	European Union	Extreme Temperature		8		2,045				0	3	60094648	1510.771		
13	109	Fiji	Oceania	Wind Storm	Ami	1	14	17			30,000	30,000	2	868531	1.750	30,000	Draudna Isl., Vanua Levu Koro, Ovalau, Gau, Nayau, Vanuavatu, Kabara, Moala Islands
14	24	Niger	West Africa	Epidemic		2		195			1,861	1,861	2	11058590	2.012		Matameye, Magaria, Aguié, Madarounfa, Madaoua, Tahoua, Mirriah districts
15	26	Zambia	East Africa	Epidemic	Cholera	12	4	179			3,835	3,835	2	10307333	3.457		Lusaka, Southern, Copperbelt, Northern and Central provinces
16	29	Belgium	European Union	Extreme Temperature		8	1	150				0	1	10289088	237.058		
17	15	Peru	South America	Extreme Temperature		7		339			1,839,888	1,839,888	1	28409897	54.038		Ayacucho, Huancavelica, Tacna, Moquegua, Arequipa, Puno, Cuzco, Apurimac, South part of Ayacucho departments
18	21	Sri Lanka	South Asia	Flood		5	17	235			695,000	695,000	1	19742439	16.110	29,000	
19	78	Oman	West Asia	Wind Storm		4	14	30				0	1	2807125	19.877		Nizwa, Muscat, Wilayat
20	233	New Caledonia	Oceania	Wind Storm	Erica	3	13	2	100	1,000		1,100	1	210798	3.110	40,000	Noumea, Kone, Bourail north province
21	35	Mali	West Africa	Epidemic	Cholera	8	14	106			1,216	1,216	1	11626219	2.716		Koulikoro, Segou, Mopti, Bamako, Tombouctou, Sikasso regions (along Niger River)
22	20	Nepal	South Asia	Flood		7	3	239	284	15,575	43,395	59,254	1	26469569	5.538		Entire Nepal
23	41	Bolivia	South America	Slides		3	31	69	11	300	690	1,001	1	8586443	7.795		Chima (Tipuani, Larecacha province, La Paz department)
24	65	Kyrgyzstan	Russian Federation	Slides		4	20	38	2	53	156	211	1	4892808	1.442		Karataryk (Uzgen district)
25	68	Togo	West Africa	Epidemic	Cholera	12		37			661	661	1	5429299	1.280		Lome, Noepe

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

† Ministry of Interior in Iran estimates 26,200 of people killed

Table 6: Top 25 Natural Disasters According to the Number of Totally Affected People (World) (2003)

Rank (TotAff)	Country	Region	DisType	DisName	Month	Day	Killed	Injured	Homeless	Affected	TotAff	DamageUS ('000s)	Location
1	China P Rep	East Asia	Flood		6	23	430	146,000		150,000,000	150,146,000	730,000	Zhejiang, Jiangsu, Shaanxi, Guangxi, Guizhou, Gansu, Sichuan, Guizhou, Hunan, Jiangxi, Hubei provinces
2	China P Rep	East Asia	Drought		1					48,000,000	48,000,000		Inner Mongolia Autonomous region
3	Ethiopia	East Africa	Drought							13,200,000	13,200,000		
4	China P Rep	East Asia	Wind Storm	Imbudo	7	24	20	20		7,400,000	7,400,020		Guangxi, Guangdong provinces
5	India	South Asia	Flood		6	11	425			4,550,000	4,550,000		Assam, Bihar, Tripura, West Bengal states
6	China P Rep	East Asia	Drought		6					3,000,000	3,000,000		Hunan, Jiangxi, Zeijiang, Fujian provinces
7	India	South Asia	Flood		8	27	67			3,000,000	3,000,000	169,000	Cuttack, Jagatsinghpur, Kendrapara, Jajpur, Puri, Balangir, Sonepur, Kalahandi, Rayagada, Gajapati, Baragarh, Koraput, Nayagarh, Ganjam, Angul (Orissa state)
8	Tanzania Uni	East Africa	Drought							1,900,000	1,900,000		
9	Peru	South America	Extreme Temperature		7		339			1,839,888	1,839,888		Ayacucho, Huancavelica, Tacna, Moquegua, Arequipa, Puno, Cuzco, Apurimac, South part of Ayacucho departments
10	China P Rep	East Asia	Wind Storm	Nepartak	11	18				1,720,000	1,720,000	196,938	Hainan province
11	China P Rep	East Asia	Flood		7	1	18			1,600,000	1,600,000	4,830,000	Anhui, Jiangsu, Henan provinces
12	China P Rep	East Asia	Earthquake		7	21	16	584	45,000	1,250,000	1,295,584	75,000	Dayao district (Yunnan province)
13	Pakistan	South Asia	Flood		7	22	230	456		1,265,767	1,266,223		Badin, Thatta, Larkana, Dadu, Tharparkar, Shikarpur, Karachi, Hyderabad, Nawabshah (Sindh province), Zhob, Awaran, Harmai, Dahdar, Jafarabad, Jhal Magsi, Nasceraabad, Bolan, Ziarat, Khuzdar, Lasbela, Turbat districts (Balochistan province), Sialkot, Narowal districts (Punjab province)
14	Kenya	East Africa	Flood		4		72			1,000,000	1,000,000		Nyando, Kisumu, Rachuonyo, Migori (Nyanza region), Bussia region
15	Russia	Russian Fedet	Drought		9					1,000,000	1,000,000		Vladisvostok region (Pacific Far East)
16	China P Rep	East Asia	Flood		8	24	123			952,340	952,340	2,440,000	Shaanxi, Gansu, Henan, Hubei, Shandong provinces
17	Eritrea	East Africa	Drought							900,000	900,000		Debub, Gash Barka, Anseba regions
18	Sri Lanka	South Asia	Flood		5	17	235			695,000	695,000	29,000	Ratnapura, Matara, Galle, Hambantota, Kulatara, Nuwara, Eliya districts
19	Namibia	Southern Afri	Drought							642,539	642,539		
20	Madagascar	East Africa	Drought							600,000	600,000		South
21	Bangladesh	South Asia	Flood		6	19	65			500,000	500,000		Khagrachari, Chittagong, Bhola, Feni, Sylhet, Sunamganj, Moulvi bazar, Habiganj, Netrakona, Cox's Bazar, Jamalpur, Lakshimpur, Comilla
22	China P Rep	East Asia	Earthquake		11	15	4	65	3,000	490,000	493,065		Ludian (Zhaotong region, Yunnan province)
23	India	South Asia	Wind Storm		3	12	30	500	190,645	294,765	485,910	16,000	Bankura, Hooghly, Howrah districts (West Bengal)
24	China P Rep	East Asia	Earthquake		8	16	4	1,000	39,500	415,000	455,500	167,000	Lindong-Tianshan area (Inner Mongolia)
25	Mauritania	West Africa	Drought							420,000	420,000		

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

Table 7: Top 25 Natural Disasters According to the Ratio of Totally Affected People to Population (World) (2003)

Rank (TotAff/Pop.)	Rank (TotAff)	Country	Region	DisType	DisName	Month	Day	Killed	Injured	Homeless	Affected	TotAff	TotAffected/Population (for 1 Mn. People)	(2003) (World Fact Book)	GNI (Bn US\$) (World Bank)	Damage US ('000s)	Location
1	19	Namibia	Southern Africa	Drought							642,539	642,539	333,363	1927447	3.548		
2	17	Eritrea	East Africa	Drought							900,000	900,000	206,315	4362254	0.796		Dehub, Gash Barka, Anseba regions
3	3	Ethiopia	East Africa	Drought							13,200,000	13,200,000	198,325	6657553	6.516		
4	29	Lesotho	Southern Africa	Drought		4					270,000	270,000	145,009	1861959	0.973		
5	25	Mauritania	West Africa	Drought							420,000	420,000	144,202	2912584	0.791		
6	1	China P Rep	East Asia	Flood		6	23	430	146,000		150,000,000	150,146,000	116,666	1287E+09	1234.157	730,000	Zhejiang, Jiangsu, Shaanxi, Guangxi, Guizhou, Gansu, Sichuan, Guizhou, Hunan, Jiangxi, Hubei provinces
7	9	Peru	South America	Extreme Temperature		7			339		1,839,888	1,839,888	64,762	28409897	54.038		Ayacucho, Huancavelica, Tacna, Moquegua, Arequipa, Puno, Cuzco, Apurimac, South part of Ayacucho departments
8	8	Tanzania Uni Rep	East Africa	Drought							1,900,000	1,900,000	52,892	35922454	9.674		
9	2	China P Rep	East Asia	Drought		1					48,000,000	48,000,000	37,297	1287E+09	1234.157		Inner Mongolia Autonomous region
10	20	Madagascar	East Africa	Drought							600,000	600,000	35,336	16979744	3.844		South
11	18	Sri Lanka	South Asia	Flood		5	17	235			695,000	695,000	35,203	19742439	16.110	29,000	Southern, western, Sabaragamuwa Provinces
12	68	Fiji	Oceania	Wind Storm	Ami	1	14	17			30,000	30,000	34,541	868531	1.750	30,000	Onadua Isl., Vama Levu Koro, Ovalau, Gau, Nayau, Vanuavatu, Kabara, Moala Islands
13	14	Kenya	East Africa	Flood		4			72		1,000,000	1,000,000	31,606	31639091	11.160		Nyando, Kisumu, Rachuonyo, Migori (Nyanza region), Busia region
14	26	Mozambique	East Africa	Flood		2	4	32			400,000	400,000	22,884	17479266	3.645		Pemba-Metuge district (Cabo Delgado province), Nampula province
15	43	Haiti	Caribbean	Flood		12	20	38			150,000	150,000	19,926	7527817	3.614		Cap-Haitien, Port-De-Paix
16	52	Bosnia-Herzegovina	Rest of Europe	Drought		6	1				62,575	62,575	15,687	3989018	5.402	250,000	Srpska Republik, Posavina Canton, Neretva Canton
17	40	Mozambique	East Africa	Drought		1		9			175,000	175,000	10,012	17479266	3.645		Magoé, Zumbo, Cahora Bassa, Changara, Moatize, Chiuta, Mutarara districts (Tete province)
18	41	Madagascar	East Africa	Wind Storm	Manou	5	8	89	86	47,500	114,500	162,086	9,546	16979744	3.844		Vatomandry, Andevoranto districts (Toamasina province)
19	180	Micronesia Fed States	Oceania	Wind Storm	Lupit	11	21			1,000		1,000	9,247	108143	0.241		Ulithi Atoll, Woleai Atoll, Fais Island, Rumung Island, Yap Island
20	27	Sudan	North Africa	Flood		7	28	20	56		325,000	325,056	8,528	38114160	12.245	184,000	Kassala state
21	13	Pakistan	South Asia	Flood		7	22	230	456		1,265,767	1,266,223	8,403	150694740	60.896		Badin, Thatta, Larkana, Dadu, Tharparkur, Shikarpur, Karachi, Hyderabad, Nawabshah (Sindh province), Zhob, Awaran, Hama, Dabdar, Jafarabad, Jhal Magsi, Nasceraabad, Bolan, Ziarat, Khuzdar, Lasbela, Turbat districts (Balochistan province), Sialkot, Narowal districts (Punjab province)
22	59	El Salvador	Central America	Epidemic	Pneumonia	6	21	304			50,000	50,000	7,728	6470379	13.558		Country wide
23	78	Mauritania	West Africa	Flood		8	7	3		21,000		21,000	7,210	2912584	0.791		Assaba, Gorgol, Brakna, Adrar regions
24	15	Russia	Russian Federation	Drought		9					1,000,000	1,000,000	6,919	144526278	306.575		Vladivostok region (Pacific Far East)
25	36	Algeria	North Africa	Earthquake		5	21	2,266	10,261	200,000		210,261	6,407	32818500	53.814	5,000,000	Thenia, Boumerdes, Zemmouri

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

Table 8: Top 25 Natural Disasters According to Amount of Damage (World) (2003)

Rank (Amt. Damage)	Country	Region	DisType	DisName	Month	Day	Killed	Injured	Homeless	Affected	TotAff	DamageUS ('000s)	Location
1	Korea Rep	East Asia	Wind Storm	Maemi	9	12	130		15,000	65,000	80,000	5,500,000	Gyeongsang, Gangweon, South Kyongsang, North Kyongsang, Pusan, South Cholla provinces
2	Algeria	North Africa	Earthquake		5	21	2,266	10,261	200,000		210,261	5,000,000	Thenia, Boumerdes, Zemmouri
3	United States	North America	Wind Storm	Isabel	9	18	21			225,000	225,000	5,000,000	North Carolina, Maryland, Virginia, Washington, West Virginia
4	United States	North America	Wind Storm		3	20	6	200	186		386	5,000,000	Georgia state
5	China P Rep	East Asia	Flood		7	1	18			1,600,000	1,600,000	4,830,000	Anhui, Jiangsu, Henan provinces
6	China P Rep	East Asia	Flood		8	24	123			952,340	952,340	2,440,000	Shaanxi, Gansu, Henan, Hubei, Shandong provinces
7	Portugal	European Union	Wild Fires			27	20		1,500		1,500	1,730,000	Brabanca, Viseu, Viana do Castelo, Guarda, Castelo Branco, Portalegre, Santarem, Leira, Amlals de Cima (Pemes), Vale de Serra (Torres Novas), Porto, Guarda, Braga
8	France	European Union	Flood		12	2	9			27,000	27,000	1,500,000	Herault, Gard, Bouches-du-Rhone, Vaucluse (South and
9	Iran Islam Rep	South Asia	Earthquake		12	26	43,200 [†]	15,000	75,600		90,600	1,000,000	Bam (Kerran province)
10	Argentina	South America	Flood		4	28	23		20,000	140,000	160,000	982,000	La Capital (Sante Fe city), Garay, Vera, San Cristobal, San Justo, 9 de Julio, Las Colonias, Castellanos, San
11	Italy	European Union	Flood		1	25	1			1,000	1,000	839,000	Abuzzo, Puglia, Molise, Basilicata
12	China P Rep	East Asia	Flood		6	23	430	146,000		150,000,000	150,146,000	730,000	Zhejiang, Jiangsu, Shaanxi, Guangxi, Guizhou, Gansu, Sichuan, Guizhou, Hunan, Jiangxi, Hubei provinces
13	Germany	European Union	Flood		1	1	7	20		1,000	1,020	675,000	Bavière, Sarre, Rhénanie-Palatinat, Hesse, Rhénanie du Nord-Westphalie, Saxe, Saxe-Anhalt, Thuringe, Cologne, Coblenze, Hambourg
14	Greece	European Union	Flood		2	2					0	656,218	Achaia, Ileia prefectures (Peloponese)
15	Italy	European Union	Flood		8	29	2			350	350	655,000	Udine province, Frioul-Vénétié Julienne
16	Japan	East Asia	Earthquake		9	26	2	773			773	563,000	Hokkaido
17	Italy	European Union	Earthquake		4	11		2		230	232	561,352	Alessandria (Piemont)
18	Canada	North America	Wild Fires		8	1	1				0	545,000	British Colombia, Alberta, Saskatchewan, Manitoba
19	Japan	East Asia	Earthquake		7	26		569	219	17,403	18,191	411,000	Miyagi prefecture (Honshu)
20	United States	North America	Wind Storm		2	15	4	18			18	400,000	Connecticut, Delaware, Florida, Georgia, Kentucky, Massachusetts, Maryland, North Carolina, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Islands, South Carolina, Tennessee, West Virginia,
21	Croatia	Rest of Europe	Drought		1						0	330,000	
22	Australia	Oceania	Wild Fires		1	8	4	150		2,500	2,650	300,000	Canberra region
23	Bermuda	North America	Wind Storm	Fabian	9	5	4				0	300,000	
24	Bosnia-Herceg	Rest of Europe	Drought		6	1				62,575	62,575	250,000	Srpska Republik, Posavina Canton, Neretva Canton
25	China P Rep	East Asia	Wind Storm	Dujuan	9	3	38	1,000	68,925		69,925	241,000	Shenzhen, Guangdong province, Fujian province

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

[†] Ministry of Interior in Iran estimates 26,200 of people killed

Table 9: Top 25 Natural Disasters According to the Ratio of Amount of Damage to GNI (World) (2003)

Rank (Dam./GNI)	Rank (Damage)	Country	Region	DisType	DisName	Month	Day	Killed	Injured	Homeless	Affected	TotAff	(2003) (World Fact Book)	GNI (Bn US\$) (World Bank)	Dam/GNI (%)	DamageUS ('000s)	Location
1	23	Bermuda	North America	Wind Storm	Fabian	9	5		4			0	64482	2.250	13.333	300,000	
2	44	American Samoa	Oceania	Flood		5	18	6	3			3	70260	0.500	10.000	50,000	Pago pago, Fagatogo
3	2	Algeria	North Africa	Earthquake		5	21	2,266	10,261	200,000		210,261	32818500	53.814	9.291	5,000,000	Thenia, Boumerdes, Zemmouri
4	24	Bosnia-Herzegovina	Rest of Europe	Drought		6	1				62,575	62,575	3989018	5.402	4.628	250,000	Srpska Republik, Posavina Canton, Neretva Canton
5	33	Madagascar	East Africa	Flood		1	18	16		3,582	19,788	23,370	16979744	3.844	3.902	150,000	Antananarivo, Fianarantsoa, Antsirana, Mahajanga, Toamasina provinces
6	45	Tajikistan	Russian Federation	Slides		4	13	1			6,000	6,000	6863752	1.115	3.677	41,000	Lenin district
7	28	Zimbabwe	East Africa	Flood		2	25	2			18,000	18,000	12576742	6.457	3.097	200,000	Mashonaland central and West, Muzarabani, Guruwe
8	62	Tajikistan	Russian Federation	Flood		6	6	6		780	975	1,755	6863752	1.115	1.794	20,000	Sughd Oblast
9	53	Fiji	Oceania	Wind Storm	Ami	1	14	17			30,000	30,000	868531	1.750	1.714	30,000	Draudra Isl., Vanua Levu Koro, Ovalau, Gau, Nayau, Vanuavatu, Kabara, Moala Islands
10	21	Croatia	Rest of Europe	Drought		1						0	4422248	20.262	1.629	330,000	
11	7	Portugal	European Union	Wild Fires			27	20		1,500		1,500	10102022	109.116	1.585	1,730,000	Brabanca, Viseu, Viana do Castelo, Guarda, Castelo Branco, Portalegre, Santarem, Leiria, Amiala de Cima (Pernes), Vale de Serra (Torres Novas), Porto, Guarda, Braga
12	30	Sudan	North Africa	Flood		7	28	20	56		325,000	325,056	38114160	12.245	1.503	184,000	Kassala state
13	47	New Caledonia	Oceania	Wind Storm	Erica	3	13	2	100	1,000		1,100	210798	3.110	1.286	40,000	Noumea, Kone, Bourail north province
14	1	Korea Rep	East Asia	Wind Storm	Maemi	9	12	130		15,000	65,000	80,000	48289037	473.050	1.163	5,500,000	Gyeongsang, Gangweon, South Kyongsang, North Kyongsang, Pusan, South Cholla provinces
15	9	Iran Islam Rep	South Asia	Earthquake		12	26	43,200†	15,000	75,600		90,600	68278826	112.941	0.885	1,000,000	Bam (Kerran province)
16	10	Argentina	South America	Flood		4	28	23		20,000	140,000	160,000	38740807	153.959	0.638	982,000	La Capital (Sante Fe city), Garay, Vera, San Cristobal, San Justo, 9 de Julio, Las Colonias, Castellanos, San Jeronimo
17	14	Greece	European Union	Flood		2	2					0	10665989	123.915	0.530	656,218	Achaia, Ilea prefectures (Peloponese)
18	5	China P Rep	East Asia	Flood		7	1	18			1,600,000	1,600,000	1.287E+09	1234.157	0.391	4,830,000	Anhui, Jiangsu, Henan provinces
19	60	Honduras	Central America	Flood		11	28	7			3,000	3,000	6669789	6.316	0.317	20,000	Ceiba city region (Atlantida, Yoro provinces)
20	36	Hungary	Rest of Europe	Drought		7						0	10045407	53.707	0.242	130,000	
21	6	China P Rep	East Asia	Flood		8	24	123			952,340	952,340	1.287E+09	1234.157	0.198	2,440,000	Shaanxi, Gansu, Henan, Hubei, Shandong provinces
22	54	Sri Lanka	South Asia	Flood		5	17	235			695,000	695,000	19742439	16.110	0.180	29,000	
23	8	France	European Union	Flood		12	2	9			27,000	27,000	60180529	1362.077	0.110	1,500,000	Herault, Gard, Bouches-du-Rhone, Vaucluse (South and East)
24	48	Viet Nam	South-east Asia	Flood		9	10	15			1,000	1,000	81624716	34.840	0.109	38,000	Nghe An, Thai Binh, Nam Dinh, Lao Cai, Ha Tinh provinces
25	49	Viet Nam	South-east Asia	Flood		11	11	61	34	8,880	185,135	194,049	81624716	34.840	0.100	35,000	Ninh Thuan, Binh Dinh, Phu Yen, Khanh Hoa, Quang Nam, Dac Lac provinces

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

† Ministry of Interior in Iran estimates 26,200 of people killed

The above tables and figures clearly show the trend of the world's and Asia's natural disasters, their impacts, and characteristics for the year 2003. It is equally important to analyze disaster impact on economic development and efforts for sustainable development in order to stimulate effective disaster risk management approaches. The following chapters will illustrate these issues in detail with respect to human development and income levels.