

Chapter 4: Overview of Natural Disasters in the ADRC-Member and Other Asian Countries

4.1 Types of Disasters and Their Effects on the ADRC-Member and Other Asian Countries

This section discusses the disaster patterns in the ADRC-member and other Asian countries,⁴ using the 2007 disaster data from 20 of the ADRC's 27 member countries (excluding Armenia, Bhutan, Kazakhstan, Lao PDR, Mongolia, Singapore, and Uzbekistan). There were no significant 2007 disasters recorded for the excluded countries in the CRED-EM-DAT database.⁵ It also discusses other non-member Asian countries that reported disasters in 2007. All the ADRC-member countries are located in Asia except for Papua New Guinea (in Oceania) and Russia (in Europe). Table 16 shows the disasters that occurred in each member country, by disaster type.

Drought was reported from Philippines only and none of the other countries of Asia, suffered droughts in 2007. This drought did not cause any human or economic damages. In previous years drought inflicted heavy damages, especially, in Asian countries.

Earthquakes had a strong impact on countries like China, Indonesia, Japan, Russia, and Tajikistan in terms of both the number of people affected and the economic ramifications in 2007. The earthquake that hit Indonesia inflicted heavy human sufferings in 2007 while the economic damage caused by the earthquake (Japan-Niigata earthquake) was high in Japan. Apart from Indonesia and Japan, China, Russia and Tajikistan also sustained considerable loss of life and economic damage due to earthquakes. The earthquakes that hit Japan produced some of the highest levels of economic damage in the world and accounted for nearly 44% of the total economic damage sustained by the ADRC-member and other Asian countries in 2007. But the human losses sustained by earthquake are considerably low in 2007 in contrast to the previous years.

Epidemics occurred in Bangladesh, Cambodia, Indonesia, Iraq, Malaysia, Myanmar and Viet Nam and had a significant impact in terms of total numbers of people affected. Also, a large number of those affected by epidemics were concentrated in Bangladesh.

Extreme temperatures caused human losses and affected many people in Bangladesh, India and Japan. No economic damages were reported by this disaster in Asia but economic damages were particularly serious in Europe.

As in previous years, the most frequent disasters in member countries in 2007 were **floods** and

⁴ The ADRC consists of 27 member countries, five advisory countries (Australia, France, New Zealand, Switzerland and the US) and one observer organization (ADPC). (Visit <http://www.adrc.asia> for further details.) The member countries considered here were Bangladesh, Cambodia, China, India, Indonesia, Japan, Korea (South), Kyrgyz, Malaysia, Myanmar, Nepal, Pakistan, Papua New Guinea, the Philippines, Russia, Sri Lanka, Tajikistan, Thailand, Viet Nam, and Yemen

⁵ See Note 1 on page ii.

wind storms. In the year 2007, this figure rose to nearly 61% of total human losses in the world, and about 91% of the total affected people also from Asia-ADRC member countries in 2007. When we look at the previous year trends, while the ADRC member countries accounted for more than 80% of the total human losses in 2003, they accounted for only 2% of human losses in 2004. In 2005, however, this figure increased to about 7%. But in 2006 the death toll skyrocketed, with the Asian and ADRC member countries accounting for nearly 46% of all human losses.

Furthermore, floods and wind storms accounted for about 99% of the disaster-affected population in the Asian and ADRC member countries in 2007, much as they did about 90% in 2005 and 80% in 2006. These figures in years 2007, 2006 and 2005 stand in contrast to 2004 when that figure was only 21%.

The data also shows that nearly 56% of the total economic losses in member countries were due to floods and wind storms in 2007, and this is slightly less when compared to the 2006 figure of 67% and 71% in 2005. Though the entire Asian region was severely affected by windstorms and floods in 2007, the most severe damage in terms of human casualties and economic losses occurred in Bangladesh, China, India, Indonesia, the Philippines and Sri Lanka. It is noteworthy to mention that most member countries were impacted to some degree by floods and wind storms.

Landslides caused considerable human sufferings in Indonesia in 2007 while China, Pakistan and Tajikistan were also affected by landslides. In previous years, landslides caused considerable human suffering in Afghanistan, Nepal and Philippines. It is also noteworthy to mention that impact of slides in Philippines was one of the worst in the world and recorded one of the highest human losses in the world in 2006.

Volcanic eruptions in the Philippines, and Indonesia affected large numbers of people, but the CRED-EMDAT data show that they caused relatively smaller amount of human loss and did not cause any economic losses. In previous year, volcanic eruptions occurred in Indonesia, Philippines and Papua New Guinea, causing extensive human suffering in terms of the total affected population.

Wild fires were not reported in Asia and ADRC member countries in 2007. In 2006, wildfires caused moderate human sufferings in Indonesia.

Wave/Surge also inflicted considerable human sufferings in Philippines in 2007. In 2006, earthquake that hit Indonesia and the consequent **tsunami (wave/surge)** was one of the world's worst disasters in 2006 in terms of human losses and economic damage. Wave/surge (tsunami) haunted South Asia in 2004 and inflicted heavy economic and human losses.

Table 16: Natural Disasters in the ADRC-member and other Asian Countries by Disaster Type (2007)

DisType	Country	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$ ('000s)
Drought	Philippines	1			
Drought Total		1			
Earthquake	China, P Rep	1	3	329	310,000
	Indonesia	4	95	619,477	164,000
	Japan	3	10	74,228	12,500,000
	Tajikistan	1	11	7,000	
	Russia	1	2	167	
Earthquake Total		10	121	701,201	12,974,000
Epidemic	Bangladesh	2	86	284,910	
	Cambodia	1	182	17,000	
	Indonesia	3	403	669	
	Iraq	1	14	30,000	
	Malaysia	1	56		
	Myanmar	1	30		
	Viet Nam	1	27		
Epidemic Total		10	798	332,579	
Flood	Afghanistan	7	297	29,955	
	Bangladesh	2	1,230	13,851,440	100,000
	Cambodia	1	2	19,000	1,000
	China, P Rep	12	996	111,106,600	4,887,785
	India	15	2,011	27,043,000	376,151
	Indonesia	7	429	560,411	879,000
	Japan	1	2	10,000	
	Kyrgyzstan	1		845	200
	Malaysia	2	46	166,533	385,568
	Myanmar	4	5	166,664	
	Nepal	1	214	640,706	80,000
	Pakistan	5	439	2,500	327,118
	Philippines	4	40	53,176	6,600
	Sri Lanka	3	33	406,000	50
	Tajikistan	2	22	17,309	
	Thailand	5	53	183,000	1,500
	Viet Nam	4	214	682,130	502,451
	Yemen	3	93	2,600	
	Iran Islam Rep	1	12		22,000
	Korea Dem P Rep	1	610	1,170,518	
	Maldives	1		1,649	
Timor-Leste	1	1	947		
Russia	1		14,000	25,752	
Flood Total		84	6,749	156,128,983	7,595,175

DisType	Country	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$ ('000s)
Slide	China, P Rep	1	29	1	
	Indonesia	2	43	3,990	
	Pakistan	3	140	2	
	Tajikistan	1	16		
Slide Total		7	228	3,993	
Volcano	Indonesia	2		31,912	
	Philippines	1		14,036	
	Yemen	1	6	15	
Volcano Total		4	6	45,963	
Wild fire	Lebanon	1	1	50	
Wild fire Total		1	1	50	
Wind storm	Bangladesh	2	4,275	8,978,766	2,300,000
	China, P Rep	6	95	9,005,154	1,561,755
	India	1			
	Japan	3	13	40,994	1,000,000
	Pakistan	1	242	1,650,000	
	Philippines	9	72	1,922,303	8,225
	Taiwan (China)	2	18	2,879	60,000
	Viet Nam	1	96	685,430	191,000
	Iran Islam Rep	1	12	160,009	
	Korea Dem P Rep	1		1,649	
	Korea Rep	1	19	740	70,000
	Oman	1	76	20,000	3,900,000
	Papua New Guinea	1	164	143,000	
Russia	1				
Wind storm Total		31	5,082	22,610,924	9,090,980
Extreme temp	Bangladesh	1	130	100,000	
	India	2	119		
	Japan	1	62	3,000	
Extreme temp Total		4	311	103,000	
Wave / Surge	Philippines	1		33,571	
Wave / Surge Total		1		33,571	
Grand Total		153	13,296	179,960,264	29,660,155

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2007

4.2 Disaster Profiles of the ADRC-Member and Other Asian Countries

Table 17: Natural Disasters in the ADRC-Member and Other Asian Countries by Country (2007)

Country	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$ ('000s)
Afghanistan	Flood	7	297	29,955	
Afghanistan Total		7	297	29,955	
Bangladesh	Epidemic	2	86	284,910	
	Flood	2	1,230	13,851,440	100,000
	Wind storm	2	4,275	8,978,766	2,300,000
	Extreme temp	1	130	100,000	
Bangladesh Total		7	5,721	23,215,116	2,400,000
Cambodia	Epidemic	1	182	17,000	
	Flood	1	2	19,000	1,000
Cambodia Total		2	184	36,000	1,000
China, P Rep	Earthquake	1	3	329	310,000
	Flood	12	996	111,106,600	4,887,785
	Slide	1	29	1	
	Wind storm	6	95	9,005,154	1,561,755
China, P Rep Total		20	1,123	120,112,084	6,759,540
India	Flood	15	2,011	27,043,000	376,151
	Wind storm	1	0		
	Extreme temp	2	119		
India Total		18	2,130	27,043,000	376,151
Indonesia	Earthquake	4	95	619,477	164,000
	Epidemic	3	403	669	
	Flood	7	429	560,411	879,000
	Slide	2	43	3,990	
	Volcano	2		31,912	
Indonesia Total		18	970	1,216,459	1,043,000
Iraq	Epidemic	1	14	30,000	
Iraq Total		1	14	30,000	
Japan	Earthquake	3	10	74,228	12,500,000
	Flood	1	2	10,000	
	Wind storm	3	13	40,994	1,000,000
	Extreme temp	1	62	3,000	
Japan Total		8	87	128,222	13,500,000
Kyrgyzstan	Flood	1		845	200
Kyrgyzstan Total		1		845	200

Country	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$ ('000s)
Malaysia	Epidemic	1	56		
	Flood	2	46	166,533	385,568
Malaysia Total		3	102	166,533	385,568
Myanmar	Epidemic	1	30		
	Flood	4	5	166,664	
Myanmar Total		5	35	166,664	
Nepal	Flood	1	214	640,706	80,000
Nepal Total		1	214	640,706	80,000
Pakistan	Flood	5	439	2,500	327,118
	Slide	3	140	2	
	Wind storm	1	242	1,650,000	
Pakistan Total		9	821	1,652,502	327,118
Philippines	Drought	1			
	Flood	4	40	53,176	6,600
	Volcano	1		14,036	
	Wind storm	9	72	1,922,303	8,225
	Wave / Surge	1		33,571	
Philippines Total		16	112	2,023,086	14,825
Sri Lanka	Flood	3	33	406,000	50
Sri Lanka Total		3	33	406,000	50
Taiwan (China)	Wind storm	2	18	2,879	60,000
Taiwan (China) Total		2	18	2,879	60,000
Tajikistan	Earthquake	1	11	7,000	
	Flood	2	22	17,309	
	Slide	1	16		
Tajikistan Total		4	49	24,309	
Thailand	Flood	5	53	183,000	1,500
Thailand Total		5	53	183,000	1,500
Viet Nam	Epidemic	1	27		
	Flood	4	214	682,130	502,451
	Wind storm	1	96	685,430	191,000
Viet Nam Total		6	337	1,367,560	693,451
Yemen	Flood	3	93	2,600	
	Volcano	1	6	15	
Yemen Total		4	99	2,615	
Iran Islam Rep	Flood	1	12		22,000
	Wind storm	1	12	160,009	
Iran Islam Rep Total		2	24	160,009	22,000

Country	DisType	Count of DisNo	Sum of Killed	Sum of TotAff	Sum of Damage US\$ ('000s)
Korea Dem P Rep	Flood	1	610	1,170,518	
	Wind storm	1		1,649	
Korea Dem P Rep Total		2	610	1,172,167	
Korea Rep	Wind storm	1	19	740	70,000
Korea Rep Total		1	19	740	70,000
Lebanon	Wild fire	1	1	50	
Lebanon Total		1	1	50	
Maldives	Flood	1		1,649	
Maldives Total		1		1,649	
Oman	Wind storm	1	76	20,000	3,900,000
Oman Total		1	76	20,000	3,900,000
Timor-Leste	Flood	1	1	947	
Timor-Leste Total		1	1	947	
Papua New Guinea	Wind storm	1	164	143,000	
Papua New Guinea Total		1	164	143,000	
Russia	Earthquake	1	2	167	
	Flood	1		14,000	25,752
	Wind storm	1			
Russia Total		3	2	14,167	25,752
Grand Total		153	13,296	179,960,264	29,660,155

Source: CRED-EMDAT, Université Catholique de Louvain, Brussels, Belgium, 2007.

Table 17 shows the types of natural disasters that occurred by country. The following country-specific discussions are based on Table 17.

In **Afghanistan**, floods caused considerable human sufferings with moderate human losses in 2007.

In **Bangladesh**, floods and wind storms caused considerable casualties. The affected population in Bangladesh by these disasters was one of the highest in 2007. Particularly Bangladesh was hard hit by the Cyclone Sidr and consequently the human loss, sufferings and economic impact and loss were severe in 2007. Epidemic also affected many people in Bangladesh. Bangladesh lies along the path of cyclones generated in the Bay of Bengal, making the country particularly prone to hydro-meteorological disasters.

Cambodia recorded human casualties, including some fatalities, due to epidemic and floods and left many people affected in 2007.

China experiences almost every type of disaster through out the year, as the country covers a vast area and has a large population. The most severe disasters in China in 2007 were floods and wind storms. Floods and windstorms proved to be the largest natural disasters in China in 2007 in terms of both the affected population and economic damage. These disasters were also among the 25 worst disasters in

the world in 2007 in terms of human casualties and economic losses.

India experienced some severe disasters in 2007. In 2007 the flooding that resulted in particularly heavy human casualties made this one of world's 25 worst disasters in the year. In previous years, the massive Indian Ocean Tsunami struck in 2004, heavy floods and wind storms, and the South Asian Earthquake in 2005 had tremendous impacts on India. Located in a natural disaster-prone area, India is vulnerable to wind storms spawned in the Bay of Bengal and the Arabian Sea, earthquakes caused by active crustal movement in the Himalayan Mountains, floods brought about by monsoons, and droughts in the country's arid and semi-arid areas. India has also become much more vulnerable to tsunamis in the Indian Ocean since the 2004 Indian Ocean Tsunami struck the coastal areas of Andaman and the Nicobar Islands.

As in the previous years, **Indonesia** also became as one of badly hit countries in 2007, though the damage in terms of human and economic factors seem to be lower to previous years. In previous years, Indonesia was badly affected by almost every type of disaster in the world. In 2004, Indonesia was significantly affected by tsunamis, earthquakes, floods, wind storms, volcanic eruptions, and epidemics. The year 2005 brought more disasters, including earthquakes, volcanic eruptions, and floods. In 2006, the country experienced one of the world's 25 worst disasters, an earthquake and subsequent tsunami that inflicted heavy casualties and economic damage. This caused the world's highest death toll due to a natural disaster in 2006, and also resulted in the greatest economic damage that year. Comparatively, though the year 2007 damage was relatively lower to previous year, still earthquake and floods badly affected the population and caused considerable economic damage in the country. With seismic belts running throughout the country, Indonesia is prone to earthquakes. It has 129 active volcanoes and regularly experiences volcanic eruptions. As the world's largest archipelago, Indonesia is also prone to seismic upheaval because of its location along the Pacific "Ring of Fire," an arc of volcanoes and fault lines encircling the Pacific Basin. The year 2007 was also no exception in terms of disasters related to volcanic activity. Floods and wind storms also tend to occur during the country's rainy season.

The year 2007 disaster statistics show that flood and windstorms caused human sufferings and economic damages in **Iran**. When we look at the previous years, the year 2006, like 2004 and 2005, was devastating for Iran, which experienced earthquakes and floods. In 2003, the historic Bam Earthquake destroyed almost the entire historical town of Bam and accounted for the highest number of human lives claimed in a single disaster that year. 2007 was comparatively disaster free year for disaster prone Iran.

Epidemic inflicted considerable human sufferings in 2007 in **Iraq** but there were no economic damage.

In **Japan**, year 2007 was a disaster year as Niigata earthquake caused the highest economic damage (12.5 billion US\$) in the world in 2007. Affected population was also considerably high due to the 2007 earthquake in Japan. Windstorms also inflicted heavy human sufferings and caused considerably high economic damages. In addition, floods and extreme temperatures also affected Japan in 2007. When we look at previous years, the 2004 Niigata earthquake caused about US\$28 billion in damage and affected more than 62,000 people. Some major wind storms and floods also had a considerable impact on the

population in 2005. However, the year 2006 was not as bad a year as 2004 in terms of natural disaster damage and human casualties. Since Japan's geographical position makes it highly prone to earthquakes, wind storms, floods, landslides, and tsunamis, it has some of the best disaster management systems and countermeasures in the world. Though these countermeasures have proven to be highly effective in reducing human casualties and losses, the recent disasters like Niigata earthquake that created the largest economic damage in the year 2007 warranted more pro-active and damage reduction system.

Most of the natural disasters that occur in **Korea (North and South)** consist of floods in the rainy season, as well as wind storms. In 2007 there were also floods and windstorms affected these countries but, similar to the year 2006, there were also floods but the related human casualties and economic losses were not as high as in 2005 or 2004.

Almost 90% of **Kyrgyzstan** is covered with mountains that are more than 1,000 meters above sea level, and about 40% of those are situated in alpine areas higher than 3,000 meters in elevation. The distinctive natural disasters of Kyrgyzstan are earthquakes accompanied by active crustal deformations, and floods caused by snowmelt and landslides. In 2006, unlike previous years, Kyrgyzstan reported an earthquake and wind storm that caused moderate human casualties. But in 2007 Kyrgyzstan reported only a flood and the human sufferings and economic damage caused by this disaster was considerably low.

Lebanon, in the middle-east Asia, experienced a wildfire disaster but the human sufferings were relatively low in 2007.

Malaysia often experiences floods and landslides caused by rainfall during the monsoon season and rainstorms triggered by tropical low pressure systems. In 2007, the country experienced floods that resulted in little loss of life and economic damage, in spite of high numbers of affected population. This situation was almost similar to the previous year 2006.

Maldives, an island country in the India Ocean, also experienced a flood in 2007 and the affected population was relatively low. But Maldives faced huge disaster damages in 2004 Indian ocean tsunami and it is still in the recovery phase.

Though flood hit in **Myanmar** in 2007, they produced very little human and no economic losses reported. But there were considerable amount of affected people.

Nepal is located in the Himalayan region where the Indian plate is subsiding under the Eurasian plate. This crustal formation causes frequent earthquakes. Floods, landslides, and extreme temperatures also often pose a threat to Nepal. In 2007, Nepal experienced a flood that caused considerable human losses and a high total affected population.

Oman, another middle-east Asian nation, recorded windstorms in 2007 and the damages, both human and economic, caused by this disaster was relatively high. In fact the economic damage of 3.9 billion US\$ was one of the highest in the world in 2007.

Pakistan is often hit by drought, extreme temperatures, floods, landslides, earthquakes, and wind storms. The year 2007 was also comparatively disaster affected year as windstorms struck the country and caused considerable human losses and affected many. Though floods affected relatively less people, their economic impact was considerably high. In recent years, the 2005, the South Asian earthquake caused

significant human casualties, with more than 73,000 dead and about three million people affected. This disaster produced the highest death toll in the world in 2005. The year 2006 was not as bad a year as 2005, but floods and extreme temperatures still had a significant impact on the population.

Papua New Guinea is highly vulnerable to all kinds of natural disasters, both hydro-meteorological and geo-physical, such as earthquakes, tsunamis, volcanic activity, floods, and wind storms. A windstorm was the main natural disasters that reported in 2007. This affected considerable numbers of people, but caused relatively little loss of life. The affected population figure from the disaster was some of the highest in Oceania in 2007.

The Philippines is located along the Pacific "Ring of Fire," making it vulnerable to both hydro-meteorological and geo-physical natural disasters. As in previous years, the damage caused by hydro-meteorological disasters grew in 2007, with very large populations were affected by floods and wind storms. Wind storms and floods once again caused relatively high economic damage in 2007. Wave/surge and Volcanic activities also significantly affected the population and inflicted human losses and economic damages in 2007.

Russia is a vast land where the disaster-affected population and economic losses are relatively large. The disasters reported for the year 2007 in Russia were earthquake, flood and wind storm. The flood brought about some affected population and economic damages though the damages were relatively small. But previous years experienced different types of disasters that caused considerable human losses and economic damages. Floods, landslides, extreme temperatures, and wind storms affected large numbers of people in 2005. In 2006, however, an unusual cold wave occurred in Russia, and it was ranked among the worst disasters in Europe. Floods and earthquakes also caused considerable economic losses and affected many people in Russia in 2006.

Sri Lanka, located in the Indian Ocean just south of India, frequently experiences droughts during its dry seasons, and wind storms, floods and subsequent landslides during its rainy seasons due to cyclones from the Bay of Bengal. However, the year 2007 was not nearly as disastrous with floods causing affected people. When we look at the previous years, in the year 2004, Sri Lanka was devastated by the record-breaking Indian Ocean Tsunami, which caused tremendous human losses and affected untold numbers of people. The economic damage caused by this tsunami was so huge as to have severely affected the country's economic progress.

In the year 2007, the most significant economic damage was caused by windstorms which also affected many people in **Taiwan (China)**. Wind storms, a flood, and an earthquake also occurred in Taiwan (China) in 2006, yielding relatively high numbers of affected people and economic damage.

Tajikistan's prime concerns are earthquakes and floods, as much of its terrain is mountainous. In 2007, earthquakes, floods and landslides were reported from Tajikistan and these disasters affected considerably many people though the fatalities were relatively low. According to the CRED-EMDAT data figures, no economic damage was reported from these disasters in 2007. In recent years, landslides and floods in 2005 resulted in human casualties and economic damage. In 2006, an earthquake caused considerable economic losses, but fewer fatalities than the landslides.

Similar to previous years, **Thailand** suffered flooding but the impacts were relatively low. Thailand is highly prone to natural disasters because of its location and terrain. The northeastern area is prone to floods and drought, while the south is vulnerable to storms, floods, and landslides.

Timor-Leste experienced human sufferings due to floods.

Viet Nam is located in the southeast monsoon climate area, where the majority of annual rainfall occurs during the rainy season and regularly causes heavy human and economic losses. Floods and wind storms caused severe human casualties and economic losses in Viet Nam in 2007. These disasters caused significant affected people and economic damages.

Human casualties in **Yemen** in 2007 were caused primarily by floods followed by volcanic activity.

The tables above show that the majority of ADRC-member and other Asian countries experienced either hydro-meteorological disasters and/or geo-physical disasters that inflicted heavy human and economic losses on society and created additional hurdles for economic development efforts. Furthermore, the severe impact of these disasters deprived people of opportunities for socio-economic advancement, thereby slowing down the pace of national and regional development. The most severe disasters in 2007 occurred in Asia (China, Bangladesh, India, the Philippines, Indonesia, Japan, and Pakistan) and affected large numbers of people. The earthquake in Japan and Indonesia, floods in India, China, and Bangladesh, and wind storms and floods in the Philippines were particularly damaging, causing destruction at home and hindering economic and development progress region-wide. As in the previous years, Southeast Asia sustained heavy human and economic damage due to both hydro-meteorological and geo-physical disasters in 2007, once again exposing it as the most disaster-prone region in the world. It is imperative that efforts be made to design and implement proper disaster mitigation and preparedness plans to reduce loss of life, human casualties, and economic losses, and to contribute to sustainable development on a global scale.

4.3 Conclusions

As previous years, the year 2007 brought severe natural disasters all over the world. The highest death toll resulted from the windstorms and floods in Bangladesh, the highest affected population from the floods in China and the countries of South Asia, and the highest level of economic damage from the earthquake and in Japan. The year 2007 was one of the most devastating for the Asian region in recent years. Africa also suffered droughts, floods, and epidemics. Europe, especially UK experienced extreme temperatures and floods which claimed many lives and caused casualties throughout the region. Oceania sustained floods and wind storms, and was moderately impacted by earthquake and tsunami in Solomon Islands. Solomon Island, Australia and Papua New Guinea were the most severely affected countries of Oceania. The earthquake in Japan caused the highest economic damage in 2007. The UK, European region and China were also hit by intense floods, which caused relatively high levels of economic damage.

An analysis of the long-term disaster data shows that low-income countries and less developed countries were significantly affected in terms of their ratio of human losses to population, and their ratio of damage to gross national income (GNI). The disaster figures and data for 2007 were consistent with patterns from previous years, but the ratio of damage to the economy was higher in the upper-middle and high-income countries this year. This reinforces the lesson that even the developed countries cannot be complacent about disaster reduction strategies and countermeasures. It also highlights the need for continuous review and monitoring of disaster reduction strategies, and underscores the need for effective, practical regional cooperation, and investments in disaster reduction measures. Although many initiatives have been launched and investments made in developing countries in regions vulnerable to disasters, the increasing frequency and magnitude of natural catastrophes that result in economic loss and human casualties have hindered those initiatives. This book has sought to derive conclusions from the analytical evidence that can be used to integrate disaster risk management initiatives with development objectives. The preceding chapters show that the human development and income levels of a country are crucial determinants of the effective implementation of risk management approaches and post-disaster management initiatives. In addition, the active and effective participation of women in the risk management process has been shown to be a crucial factor for any meaningful disaster countermeasures, especially in the least developed countries.

These general phenomena can be seen not only in the ADRC-member countries, but also throughout Asia in 2007 as in the previous years. The obvious vulnerability of this region to geo-physical and hydro-meteorological disasters given its demographic, socio-economic, and geo-physical factors justifies the need for prudent development policies and proactive risk management practices, as well as further investments in disaster reduction. This book also advocates the effective integration of disaster management perspectives into national and regional sustainable development efforts. Disasters have a negative impact on every aspect of a country. To reduce the damage caused by natural disasters, it is essential to promote country-appropriate disaster prevention measures that take advantage of domestic personnel and material resources as well as foreign assistance. The 2007 disaster data lends further support for this argument.

**Natural Disaster Data Book-2007
(An Analytical Overview)**

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