

Natural and Man-Made Disasters in OIC Countries

SESRIC



STATISTICAL, ECONOMIC AND SOCIAL RESEARCH AND TRAINING CENTRE FOR ISLAMIC COUNTRIES
ORGANIZATION OF ISLAMIC COOPERATION

In OIC countries in the last 50 years (1960-2009):

- More than 2,600 natural disasters
 - And many man-made disasters including failed states and conflicts
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Disasters' Impacts:

- Major obstacles in the way of sustainable development
- Lost lives and assets

1.5+ million dead & \$133+ billion damage in the last 50 years

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What are we doing about it at SESRIC?

- Assessing Risks and Risk Regions
- Identifying risk drivers (vulnerabilities)
- Preparing fact-driven guidelines for disaster risk management
- Creating awareness

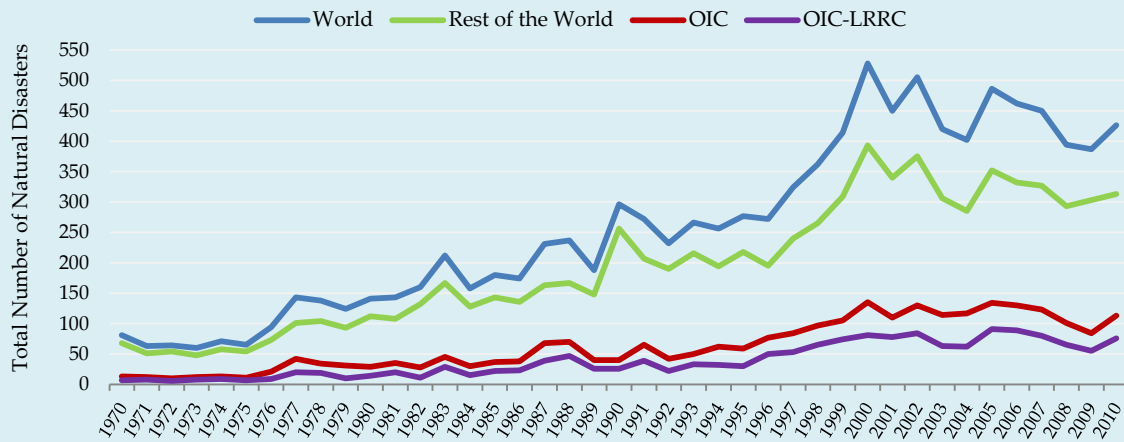
Natural Disasters in OIC Countries

- Trends
- Impacts
- Risk Regions
- Assessments

Natural Disasters in OIC Countries

Natural Disaster Trends – All Types

Total Number of Natural Disasters Over Time



OIC-LRRC: OIC Countries with Low Risk Reduction Capacity.

* **OIC-LRRC** indicates OIC countries with low risk reduction capacity (30/57):

Afghanistan, Bangladesh, Benin, Burkina Faso, Cameroon, Chad, Comoros, Côte d'Ivoire, Djibouti, Guinea, Guinea-Bissau, Iraq, Libya, Mali, Mauritania, Mozambique, Niger, Nigeria, Pakistan, Senegal, Sierra Leone, Somalia, Sudan, Tajikistan, Gabon, Gambia, Togo, Turkmenistan, Uganda, Yemen.

** **OIC-LI** indicates OIC countries with low income (18/57):

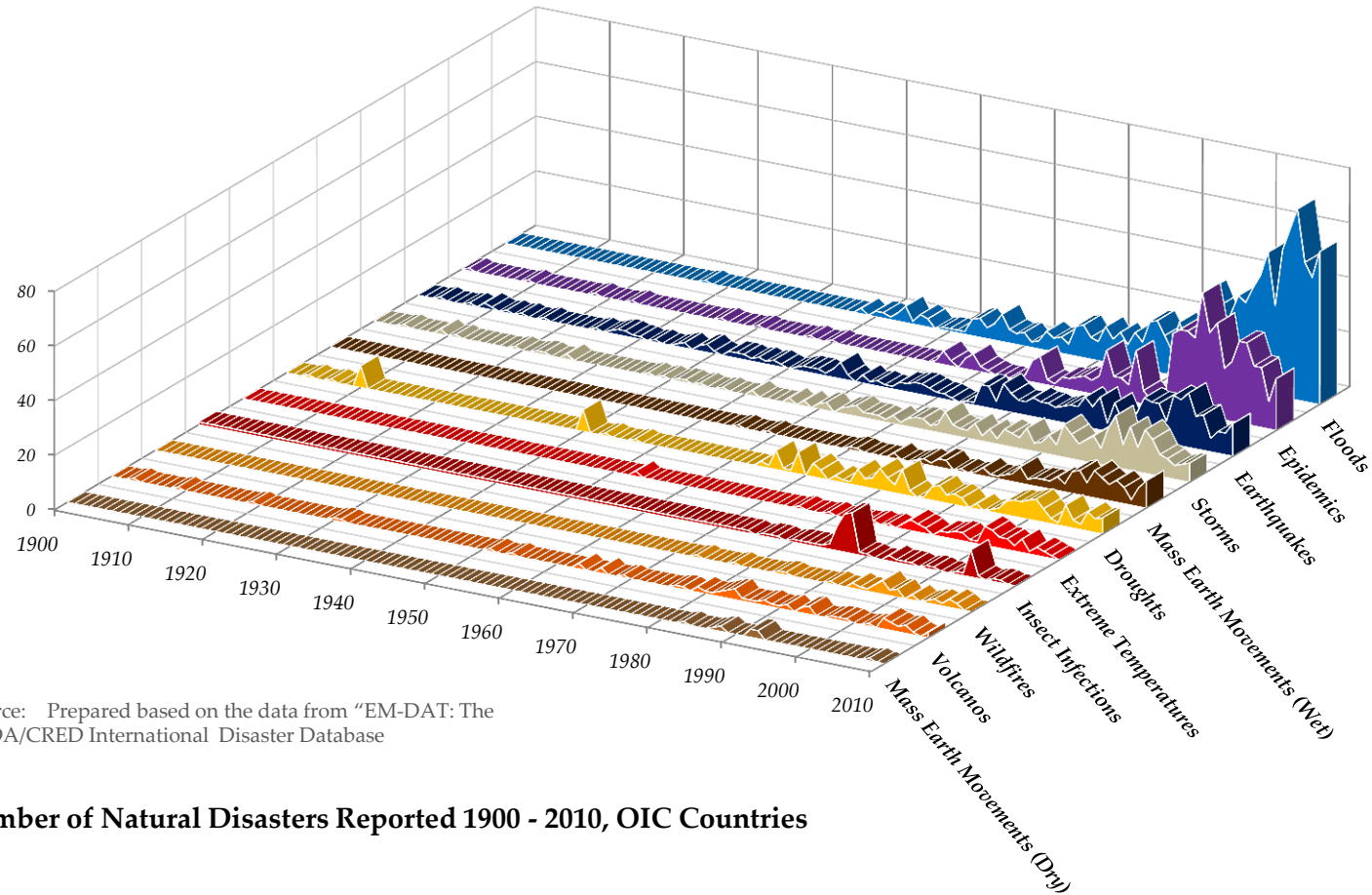
Afghanistan, Bangladesh, Benin, Burkina Faso, Chad, Comoros, Gambia, Guinea, Guinea-Bissau, Kyrgyzstan, Mali, Mozambique, Niger, Sierra Leone, Somalia, Tajikistan, Togo, Uganda.

Natural Disaster Trends & Distributions

	1980-1989	1990-1999	2000-2009
[A] Total number of natural disasters			
World	1,829	2,964	4,493
Non-OIC countries	1,409	2,283	3,315
OIC countries	420	681	1,178
OIC % of world	23%	23%	26%
OIC-LRRC % of OIC*	59%	62%	64%
OIC-LI % of OIC**	38%	42%	43%
[A-1] Distribution within OIC (per country per year)			
Average	0.76	1.24	2.14
Standard deviation	1.57	2.11	3.09
[min , max]	[0 , 12]	[0 , 15]	[0 , 19]

Source: Prepared based on the data from "EM-DAT: The OFDA/CRED International Disaster Database

- The share of OIC in total number of disasters in the world reached to 26%.
- The share of OIC-LRRC countries increased from 59% to 64% over last two decades
- Equivalently, the share of OIC-LI countries increased from 38% to 43% over the last two decades



Source: Prepared based on the data from "EM-DAT: The OFDA/CRED International Disaster Database"

Number of Natural Disasters Reported 1900 - 2010, OIC Countries

- Floods, Epidemics and Earthquakes are the most frequent types of disasters in OIC countries

Impacts of Natural Disasters

	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009
[A] Population non-fatally affected (millions)					
<i>World</i>	200	544	1,242	2,023	2,279
<i>OIC countries</i>	50	94	220	193	175
<i>OIC % of World</i>	25%	17%	18%	10%	8%
<i>OIC-LRRC % of OIC</i>	92%	92%	96%	71%	88%
<i>OIC-LI % of OIC</i>	79%	70%	85%	53%	73%
[B] Population fatally affected (thousands)					
<i>World</i>	1,750	987	794	525	838
<i>OIC countries</i>	169	414	316	296	340
<i>OIC % of World</i>	10%	42%	40%	56%	41%
<i>OIC-LRRC % of OIC</i>	69%	89%	96%	75%	37%
<i>OIC-LI % of OIC</i>	62%	87%	45%	65%	11%
[C] Cost of damages (current prices, million dollars)					
<i>World</i>	18,446	53,847	187,980	699,539	891,227
<i>OIC countries</i>	1,118	3,277	15,963	67,003	45,363
<i>OIC % World</i>	6%	6%	9%	10%	5%
<i>OIC-LRRC % of OIC</i>	64%	80%	44%	17%	36%
<i>OIC-LI % of OIC</i>	52%	30%	24%	13%	17%

- Majority of non-fatally affected population in OIC countries live in countries with low risk reduction capacity.
- The share of OIC countries in total fatally affected population in the world is over 40%

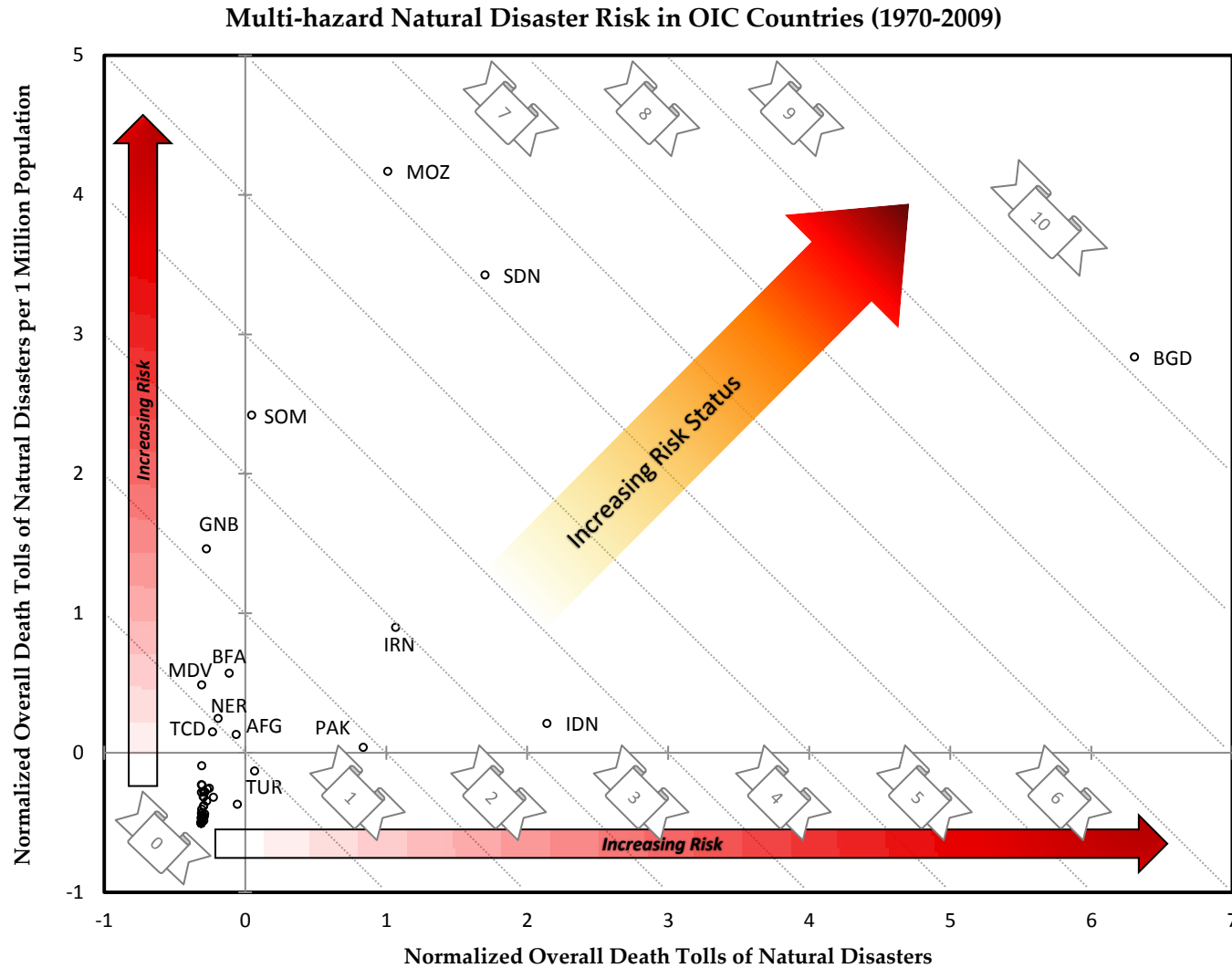
Natural Disasters in OIC Countries

Natural Disaster Impacts

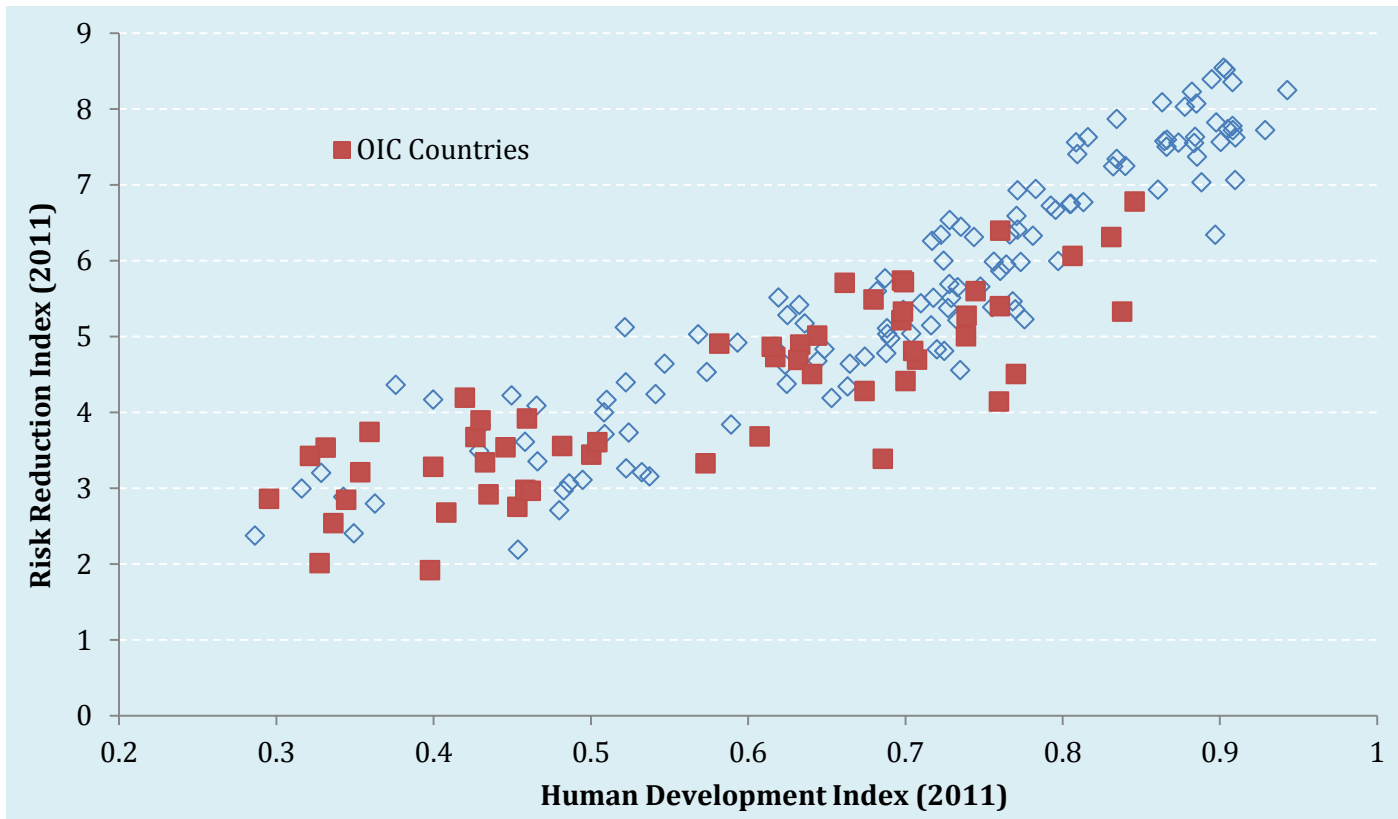
	Drought	Earthquake	Epidemic	Extreme temp.	Flood	Insect infestation	Mass mov. Dry	Mass mov. wet	Storm	Volcano	Wildfire	Total
WORLD	467	783	1,163	388	3,365	76	36	469	2,647	152	312	9,861
OIC Member Countries	125	294	497	61	909	50	10	121	240	44	31	2,382
East Asia & Pacific	7	79	40	0	154	0	2	45	11	36	14	388
Europe & Central Asia	6	61	17	14	81	1	3	31	13	0	7	234
LAC	3	0	0	0	7	0	0	1	0	0	0	11
MENA	20	90	23	7	187	8	3	7	36	1	4	386
South Asia	8	55	57	38	188	2	2	29	132	0	1	512
Sub-Saharan Africa	81	9	360	2	292	39	0	8	48	7	5	851

Source: "EM-DAT: The OFDA/CRED International Disaster Database

- Member countries in the sub-saharan Africa are most exposed to hazards, mostly endemic and flood.
- Flood is the most frequent hazard in OIC countries and affects mostly South Asia, MENA and East Asia & Pacific regions.



- Bangladesh, Mozambique, Sudan, Somalia, Indonesia, Iran and Guine-Bissau are the major risk regions in OIC countries



DARA is an independent organization committed to improving the quality and effectiveness of aid for vulnerable populations suffering from conflict, disasters and climate change. This index assesses capacities and conditions for effective risk management policies, strategies and activities for reducing the impact of hazards on vulnerable local communities.

A simple cross-section graph of countries' state of human development measured by the United Nations' Human Development Index and their capacities and conditions for effective disaster risk management measured by DARA's Risk Reduction Index (RRI) indicates that the majority of the member countries with highest vulnerability to disasters (such as Bangladesh, Pakistan, Afghanistan, Nigeria, Sudan, Somalia, Uganda, and Niger) also suffer from low levels of human development.

Natural Disaster Risk = *Physical Exposure* × *Vulnerability*

Physical Exposure = Hazard Frequency × Hazard Energy × *Exposed Population*

We at SESRIC are interested in:

- Understanding vulnerabilities
- Setting guidelines for how to reduce vulnerabilities and, therefore, disaster risks.

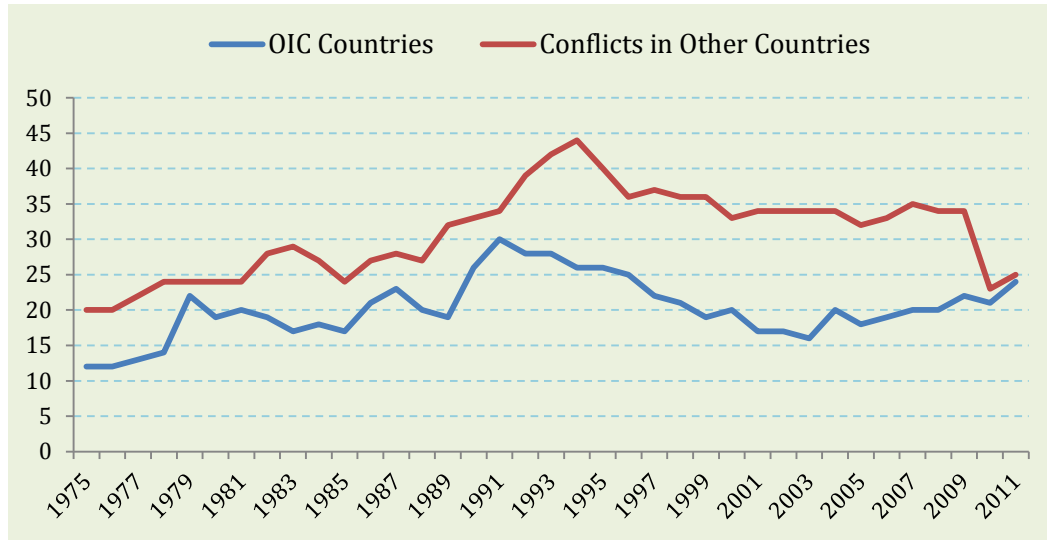
Working on a New Vision for Managing Natural and Man-made Disaster Risk Management

Man-Made Disasters in OIC Countries

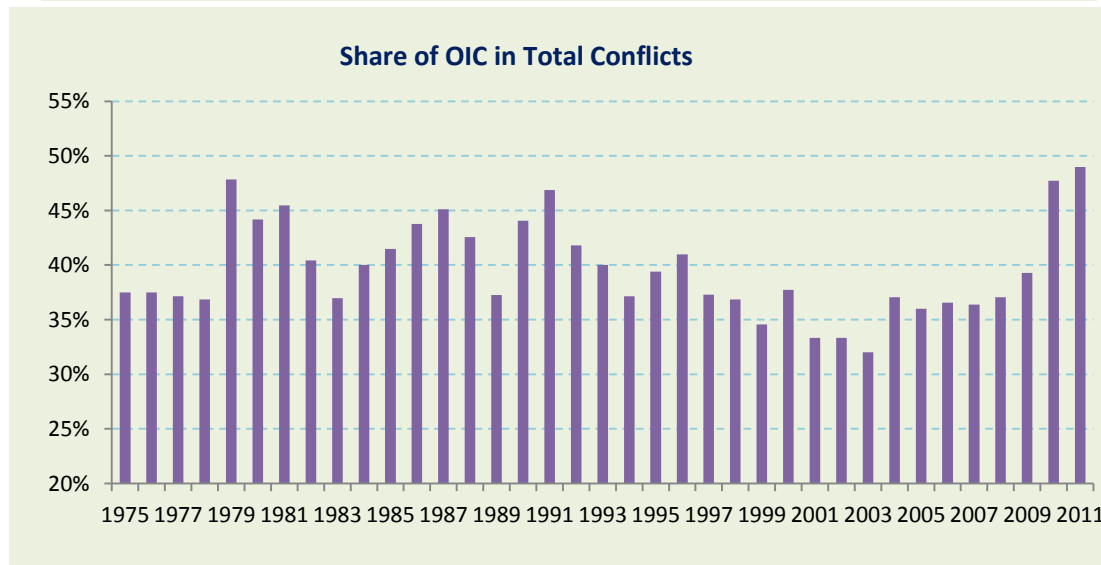
- **Armed Conflicts**
- **Failed States**

Man-Made Disasters in OIC Countries

Armed Conflicts



The number of conflicts in OIC countries was falling during 1990s but we observe an upward trend during the last decade

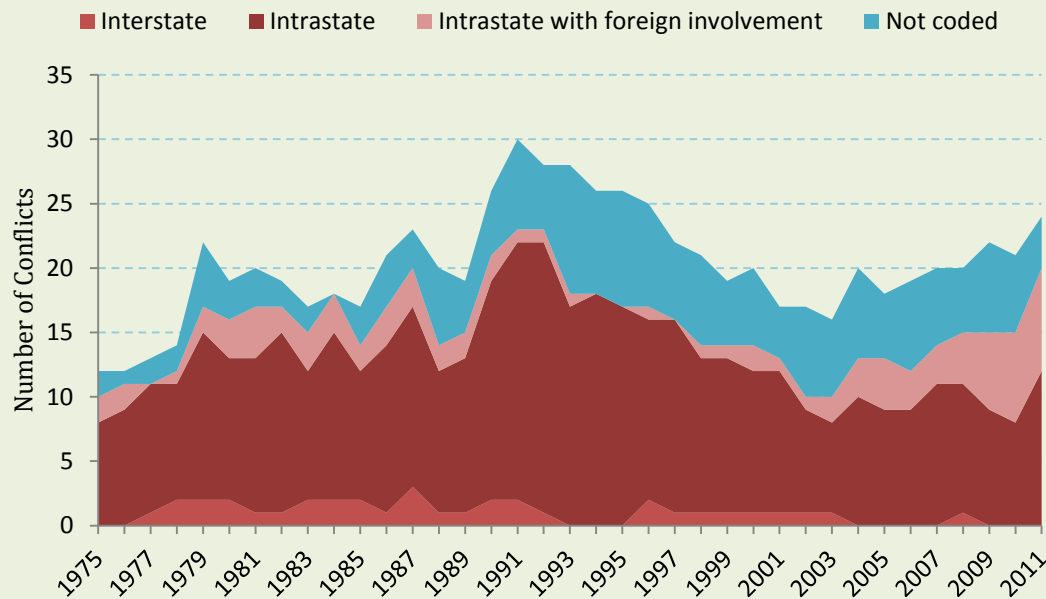
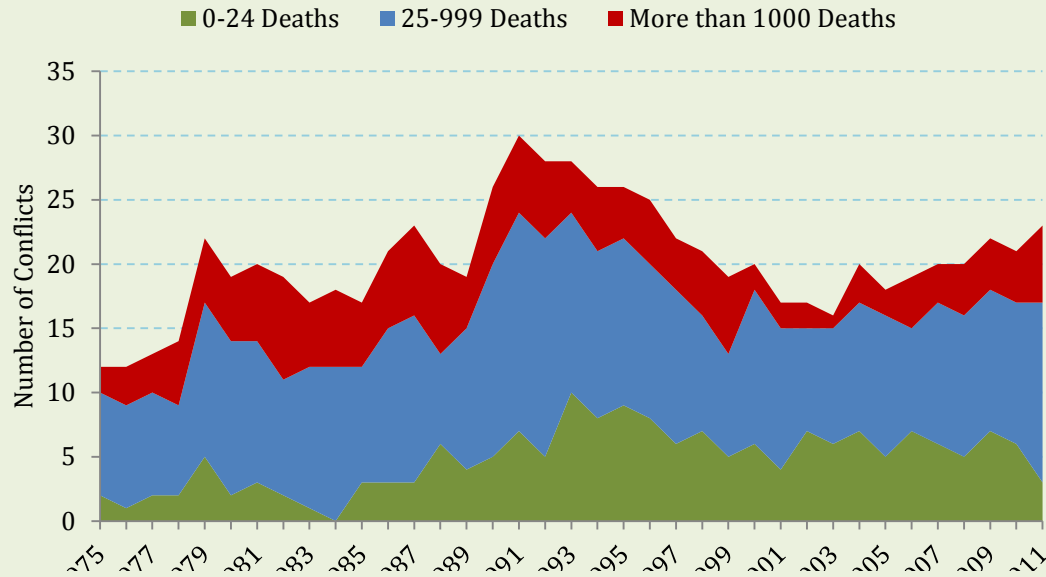


Therefore, the share of OIC in total armed conflicts approached to 50% as of 2011.

Source: The Uppsala Conflict Database

Man-Made Disasters in OIC Countries

Armed Conflicts



Source: The Uppsala Conflict Database

➤ In 2011, more than half of the conflicts caused casualties between 25-999.

➤ One fourth of the conflicts caused more than 1000 deaths.

➤ In 2011, half of the conflicts were intrastate and one third of the conflicts were intrastate with foreign involvement.

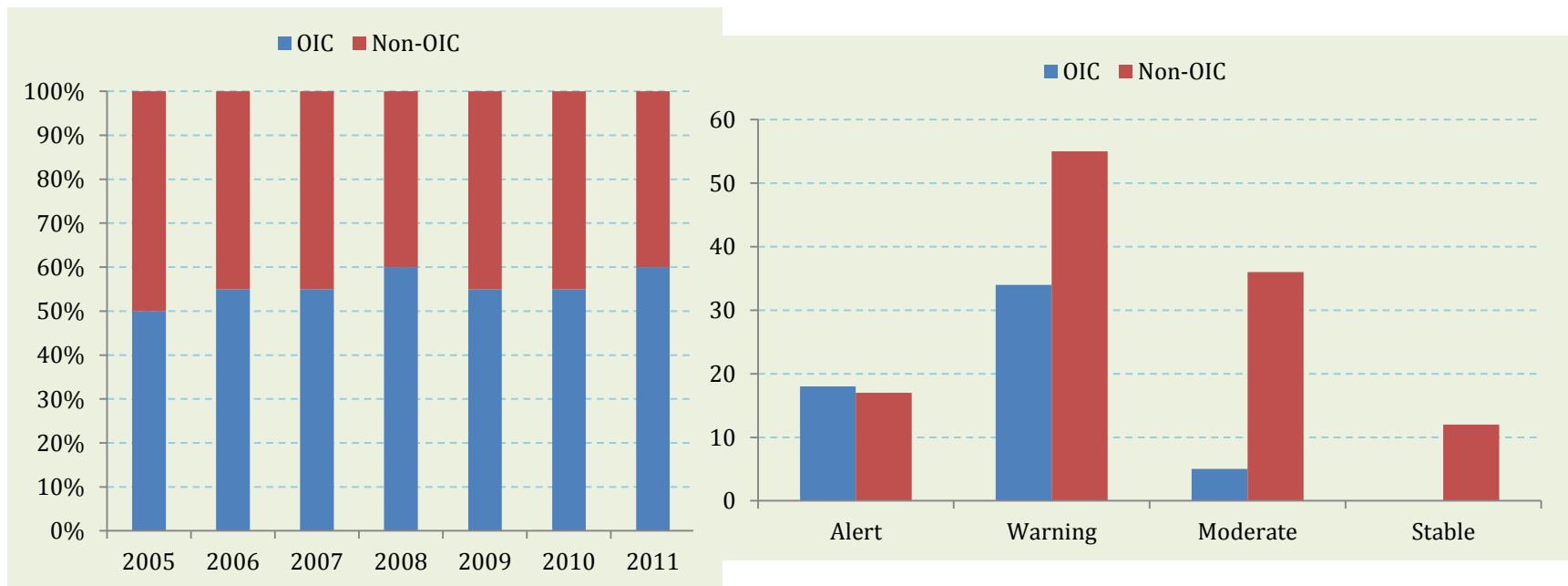
➤ The number of intrastate conflicts with foreign involvement (12) reached to its highest level in 2011.

➤ No interstate conflict in 2011

Man-Made Disasters in OIC Countries Failed States

A **failed state** is a state perceived as having failed at some of the basic conditions and responsibilities of a sovereign government. The following attributes, proposed by the Fund for Peace, are often used to characterize a failed state:

- loss of control of its territory, or of the monopoly on the legitimate use of physical force therein,
- erosion of legitimate authority to make collective decisions,
- an inability to provide public services, and
- an inability to interact with other states as a full member of the international community.



Of the top 20 states in the list, OIC countries constitute 50-60% of all failed states over the last 7 years.

There is no OIC state among the stable states. Majority of the countries are classified at 'alert' or 'warning' level.

Natural Disasters:

- Member countries are exposed to different types of disasters
- Associated vulnerabilities are high in most member countries
- Risk reduction capacity of the member countries are generally low

Violent Conflicts and Governance:

- Share of OIC member countries in armed conflicts are increasing
- Majority of the conflicts are intrastate conflicts

Therefore,

OIC countries have to take immediate actions to increase their resilience to disaster risks and develop strategies to prevent the disasters.

Thank you for your attention!



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