Disaster Loss Data and Climate Change Impacts in the Arab Region

Fadi Jannan
Deputy Chief of Office
United Nations Office for Disaster Risk Reduction
Regional Office for Arab States

High Level Conference on Climate Change Assessment and Adaptation in the Arab Region – Beirut, Lebanon – 26-28 September 2017
Why Account for Disaster Loss?

• To Measure and understand disaster risk in all its dimensions: vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.

• To Identify changing and emerging trends in the frequency and losses of disasters (loss of life, livelihood, economic assets, or cultural heritage), especially when it comes to extensive risk.

• To observe and identify extreme weather events within the context of climate-change.

• To Inform decision-making, financing, and implementation of DRR, and CCA policies and strategies across the region.
• New data allows to have a more complete picture of disaster losses.

• Direct losses are at least 60% more than the ones registered internationally.

• Small-scale disasters hamper local development and countries’ competitiveness.
Disaster loss data collection is now standardized and rolled out in more than 90 countries worldwide.

In 2010 UNISDR’s Regional Office for Arab States (ROAS) rolled-out the Global Initiative in the region. To date, ten of the twenty-two Arab countries established their national disaster damage and loss databases.

10 disaster loss databases in the Arab Region (Comoros, Djibouti, Egypt, Jordan, Lebanon, Morocco, Palestine, Syria, Tunisia and Yemen).
The 2017 RICCAR report on disaster loss data and climate change impacts is a collaborative effort undertaken by UNISDR and UN-ESCWA and the RICCAR framework is jointly implemented by the UN and LAS.
Disaster Loss Data

- Disaster frequency, mortality, and economic losses are measured for all 6 countries.
- The overall trend of disaster frequency is clearly increasing across the region.
- The overall trend of disaster mortality is decreasing in all of the assessed countries.
- Although disaster related deaths have decreased, economic losses due to disasters have mainly increased with some exceptions to the trend.

Tunisia:
Disaster Frequency (1982-2013)

Jordan:
Disaster Mortality: (1982-2012)

Lebanon:
Economic Losses (1980-2013)
Floods cause the overwhelming majority of fatalities followed by flash floods; however, other hazards are also responsible such as snowstorms in Lebanon.
Hazards which cause Economic losses can be quite different from those responsible for the highest levels of mortality (for example, in Morocco forest fires cause 42% of economic losses but only 9% of disaster-related deaths)
1981 – 2012 Jordan

593 records
145 deaths
29 million US$ estimated losses
83 houses destroyed
594 houses damaged
840 ha of crops damaged

Hydro-meteorological related impacts:
97% of all records
97% of mortalities.
95% of economic losses.
1980 – 2011

Lebanon

2527 records
156 deaths
48 million US$ estimated losses
181 houses destroyed
1366 houses damaged
17700 ha of crops damaged

Frequency

- EROSION, 102, 4%
- STORM, 70, 3%
- LANDSLIDE, 69, 3%
- RAIN, 66, 3%
- FLOOD, 115, 4%
- FOREST FIRE, 1392, 55%
- SNOWSTORM, 429, 17%
- FLASH FLOOD, 168, 7%
- OTHERS, 116, 4%

Frequency Spatial footprint of frequency

Hydro-meteorological related impacts:

- 75% of all records
- 100% of mortalities.
- 86% of economic losses.
713 records  
2165 deaths  
530 million US$ estimated losses  
5109 houses destroyed  
21915 houses damaged  
281000 ha of crops damaged  

Hydro-meteorological related impacts:  
88% of all records  
70% of mortalities  
75% of economic losses.
1918 records
330 deaths
684 million US$ estimated losses
17821 houses destroyed
24728 houses damaged
837000 ha of crops damaged

Frequency

DROUGHT, 1121, 59%
FIRE, 85, 4%
HAILSTORM, 94, 5%
FOREST FIRE, 121, 6%
FLOOD, 384, 20%
OTHERS, 113, 6%

Hydro-meteorological related impacts:
99% of all records
100% of mortalities!
98% of economic losses.

Spatial footprint of frequency
Palestine

1980 – 2013

388 records
45 deaths
11 million US$ estimated losses
65 houses destroyed
798 houses damaged

Frequency

Hydro-meteorological related impacts:
99.23% of all records
69% of total mortality
92% of total economic losses
1637 records
4126 deaths
3 billion US$ estimated losses
22392 houses destroyed
37311 houses damaged
20200 ha of crops damaged

Frequency

Hydro-meteorological related impacts:
95% of all records (out of which 51% of records refer to flash flood)
Flash flood is the deadliest disaster.
97% of 3 billion USD due to flash and flash floods events.
• Disaster loss data can be used for the Sendai Framework Monitor starting January 2018

• Establishes baselines for measurements against the Sendai Framework’s targets:
  • Target (a): ‘reduce disaster mortality’
  • Target (c): ‘reduce economic loss/GDP’

• Disaster loss data will lead to risk-informed planning, which in turn will lead to the achievement of target (e): ‘increase the number of countries with national/local DRR strategies by 2020’
Challenges

• Data is limited (all loss databases in the region are only up to 2012/2013)

• Further investments and efforts are needed to update, enhance, and harmonize the national loss databases

• Better understanding of past losses, and risk levels including climate change impact is needed to empower policy making.
1. **Invest**
   - Historical loss databases
   - High quality data on hazard, exposure, and vulnerability

2. **Share**
   - Data is more valuable with more stakeholders
   - Widespread, understandable, easy to access, ideally open to public, and using online platforms.
   - Enable the general public to understand disaster risk and climate change

3. **Build Capacities (to use and understand)**
   - Availability for decision makers, public and private sectors
   - Education and training in understanding risk data
   - Further analysis to provide more accurate maps
Thank You!