



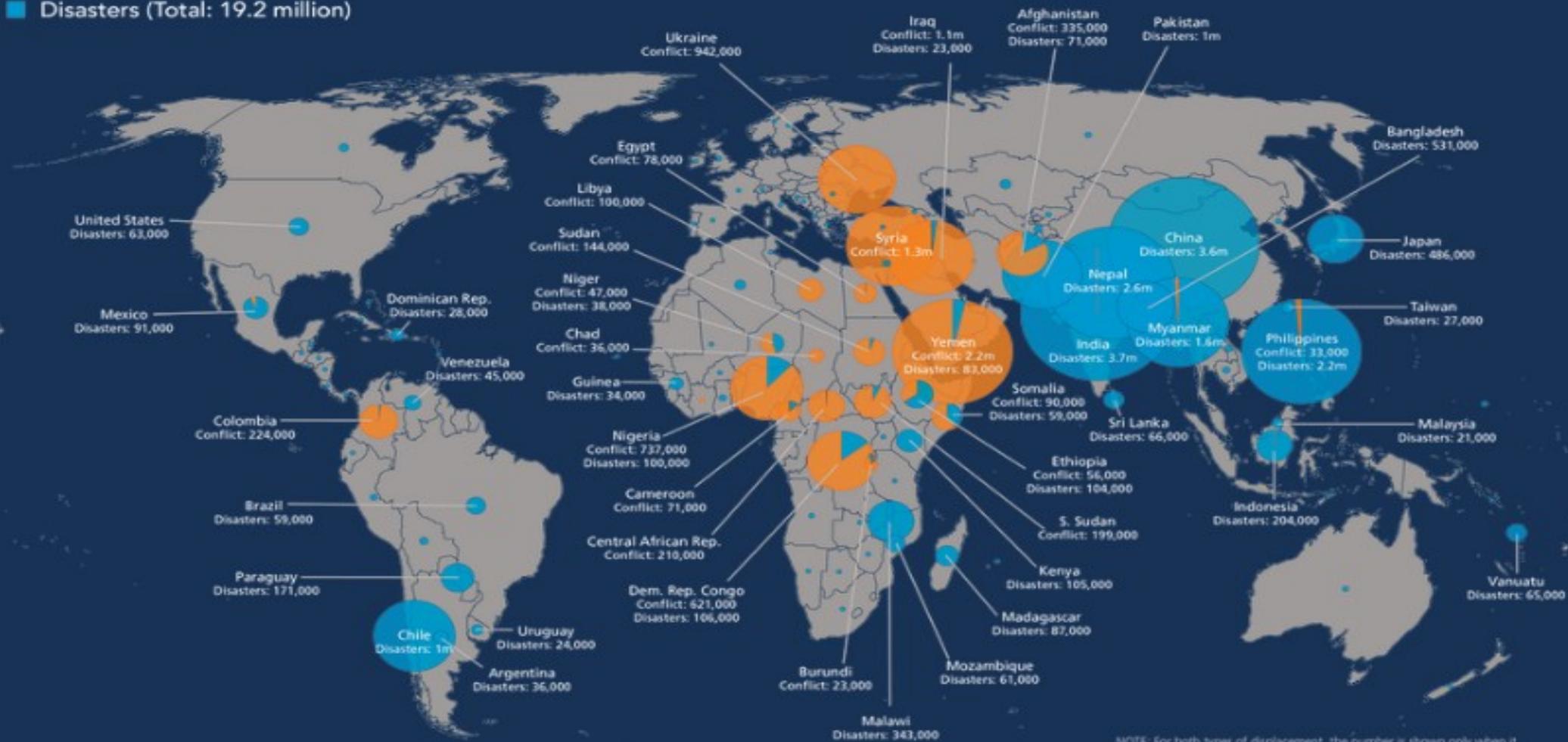
# UNISDR

The United Nations Office for Disaster Risk Reduction

## **Reducing Disaster Risk in a Changing Climate - *Human Settlements***

# New displacements associated with conflict and disasters in 2015

- Conflict and violence (Total: 8.6 million)
- Disasters (Total: 19.2 million)



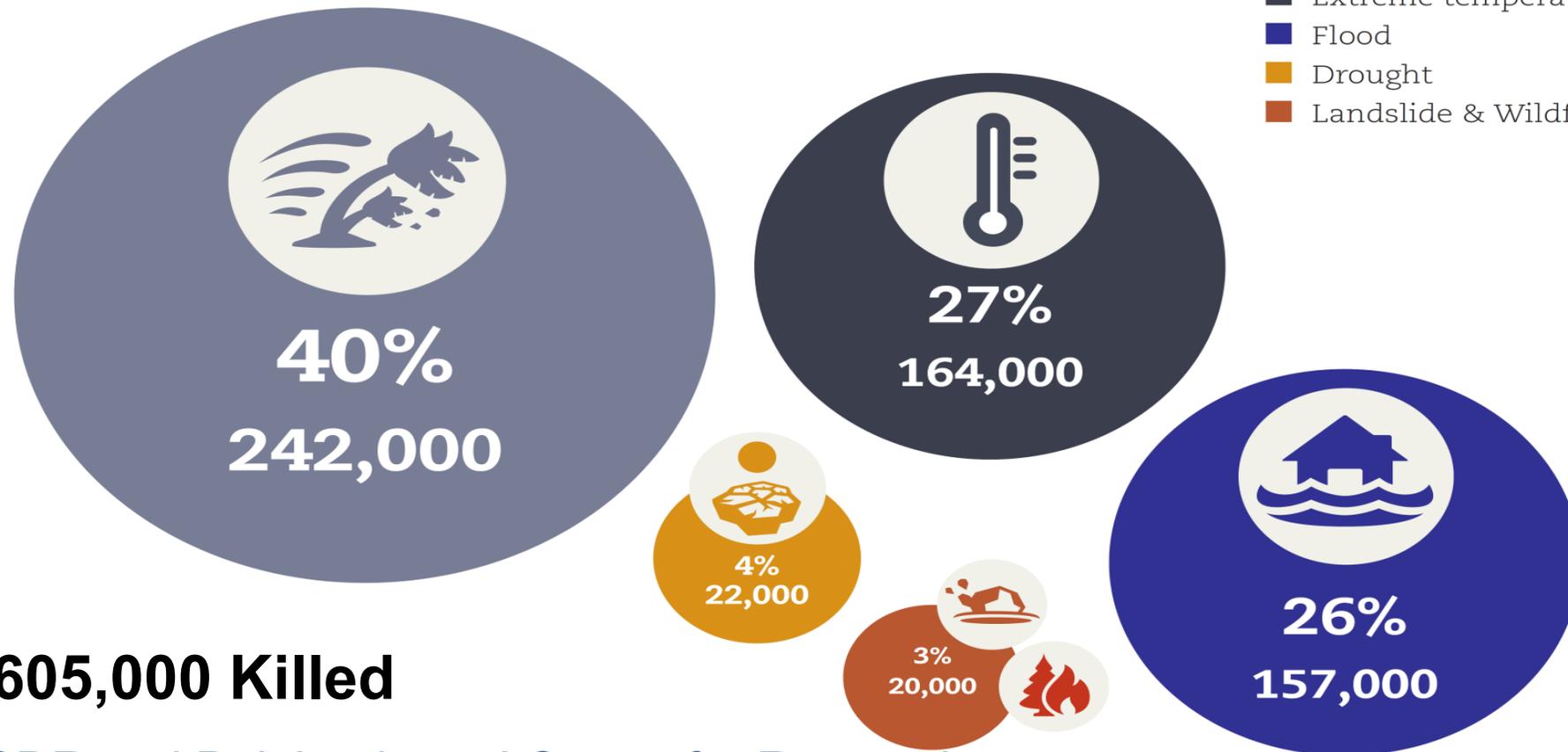
NOTE: For both types of displacement, the number is shown only when it exceeds 20,000. The size of the pie charts is fixed for estimates of 5,000 or less. In a few cases, the same person may be displaced more than once.

**19.2 MILLION PEOPLE IN 113 COUNTRIES DISPLACED BY DISASTERS IN 2015; 8.6 MILLION DISPLACED BY CONFLICT AND VIOLENCE – Internal Displacement Monitoring Centre (IDMC), report published May 2016**

# The Human Cost of Weather Related Disasters 1995 to 2015

Numbers of people killed by disaster type (1995-2015)

- Storm
- Extreme temperature
- Flood
- Drought
- Landslide & Wildfire

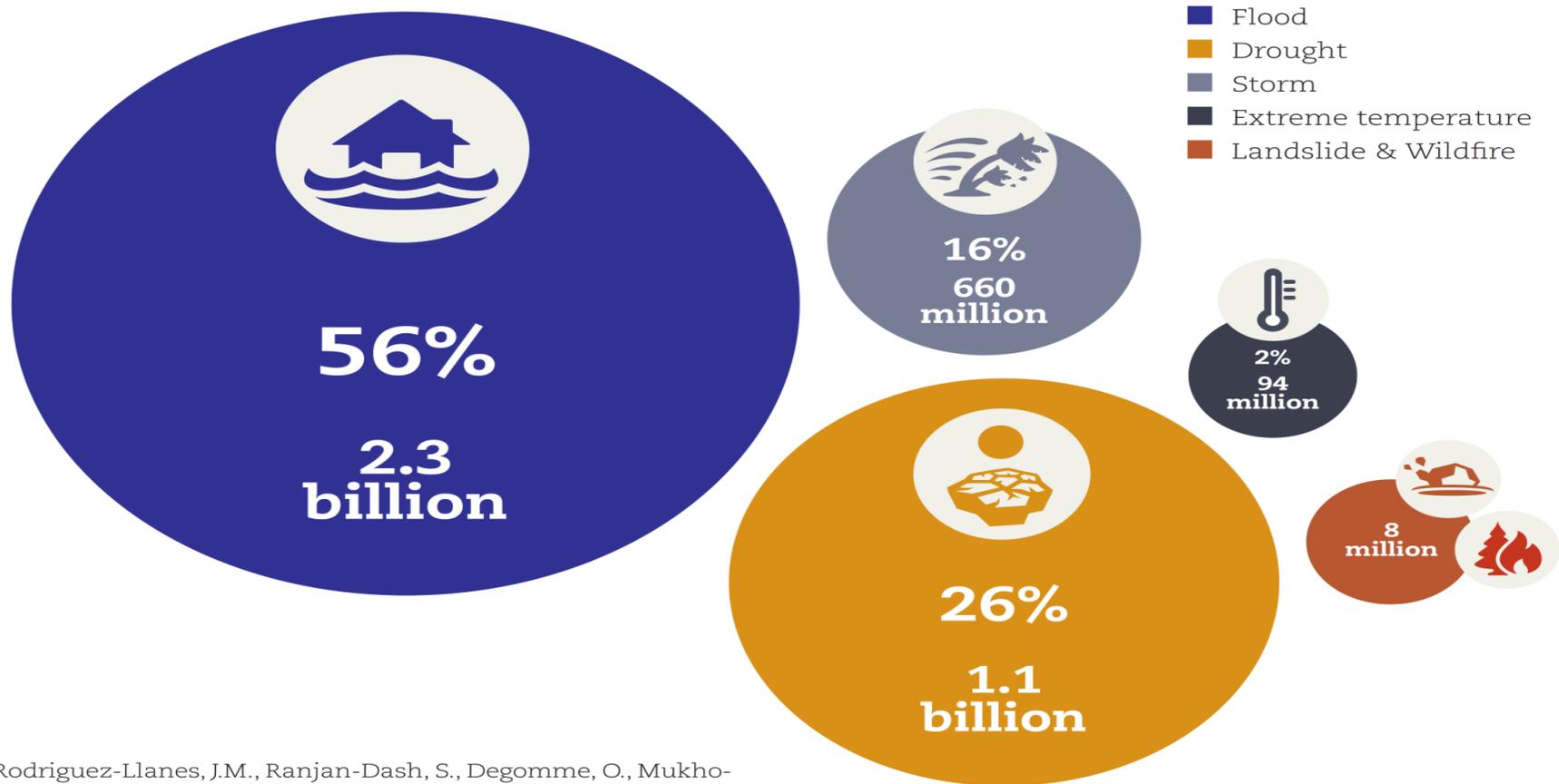


**605,000 Killed**

UNISDR and Belgian-based Centre for Research on the Epidemiology of Disasters (CRED) report (2015) shows that since 1995, 90% of major disasters have been caused by 6,457 recorded floods, storms, heatwaves, droughts & other weather events.

# The Human Cost of Weather Related Disasters 1995 to 2015

Numbers of people affected by weather-related disasters (1995-2015)  
(NB: deaths are excluded from the total affected.)



<sup>3</sup> Rodriguez-Llanes, J.M., Ranjan-Dash, S., Degomme, O., Mukhopadhyay, A., Guha-Sapir, D. (2011). "Child malnutrition and recurrent flooding in rural eastern India: a community-based survey". BMJ Open 2011;1: e000109.

**4.1 Billion Affected**

1980 – 2011

# Lebanon

**2527 records**

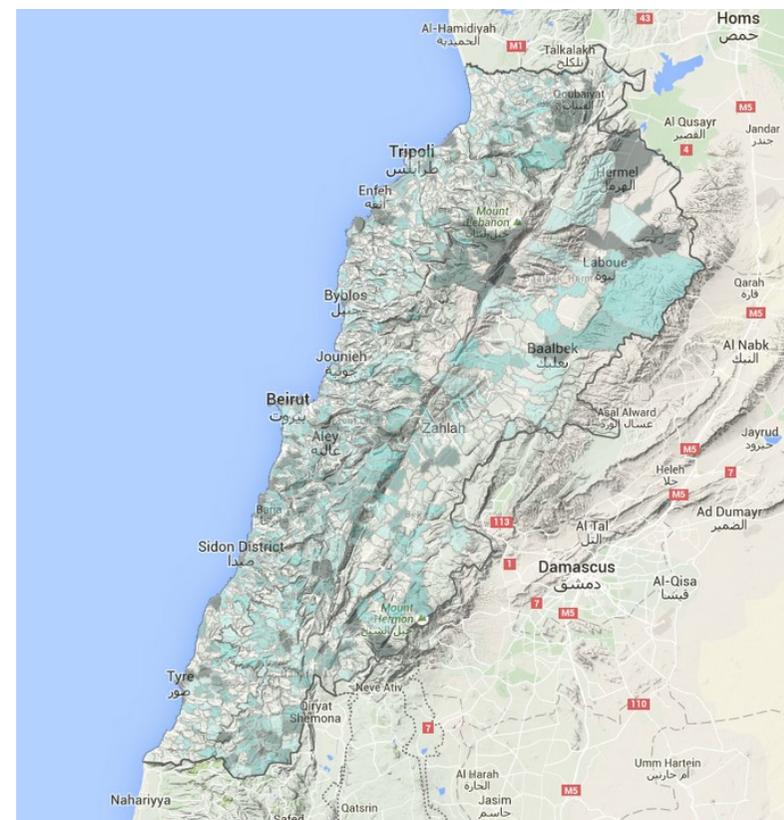
**156 deaths**

**48 million US\$ estimated losses**

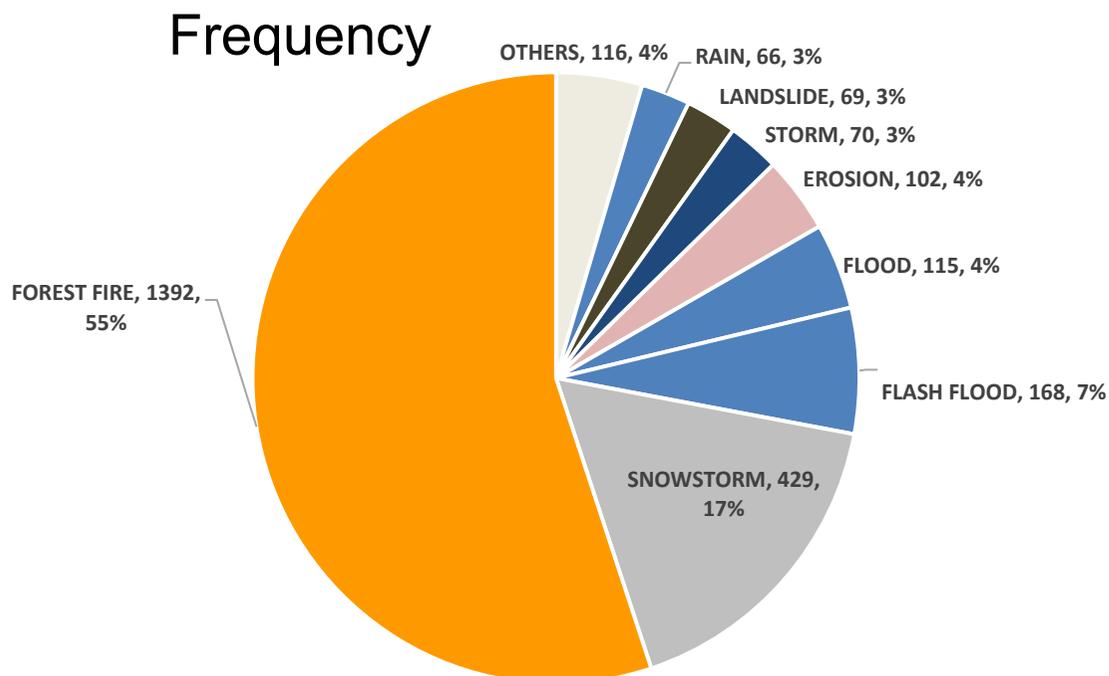
**181 houses destroyed**

**1366 houses damaged**

**17700 ha of crops damaged**

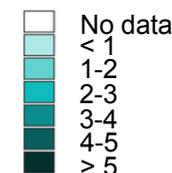


Spatial footprint of frequency



**Hydro-meteorological related impacts:**

**75% of all records**  
**100% of mortalities.**  
**86% of economic losses.**



1982 – 2013

# Tunisia

**1918 records**

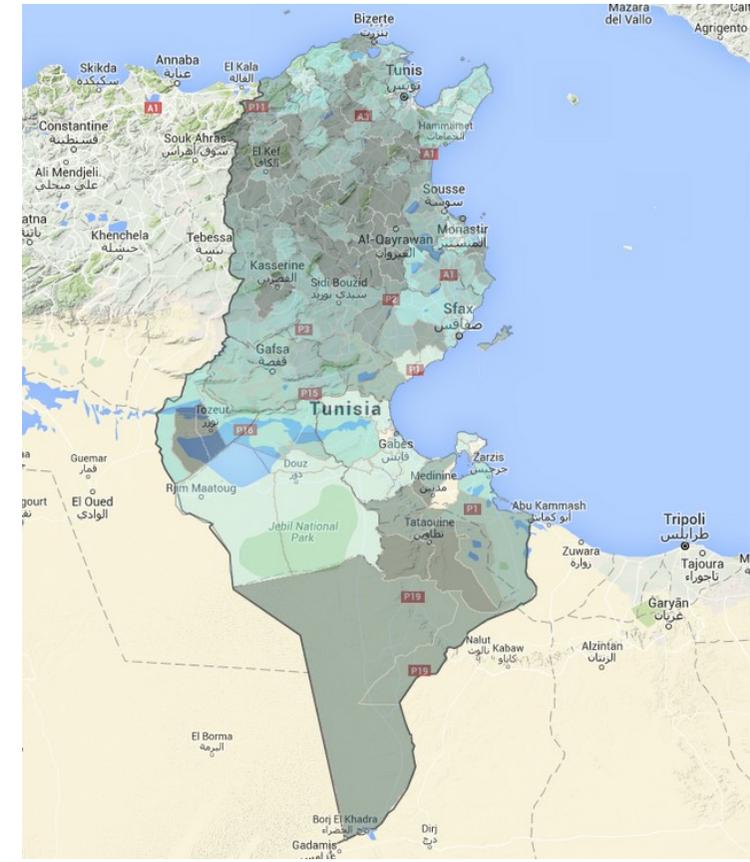
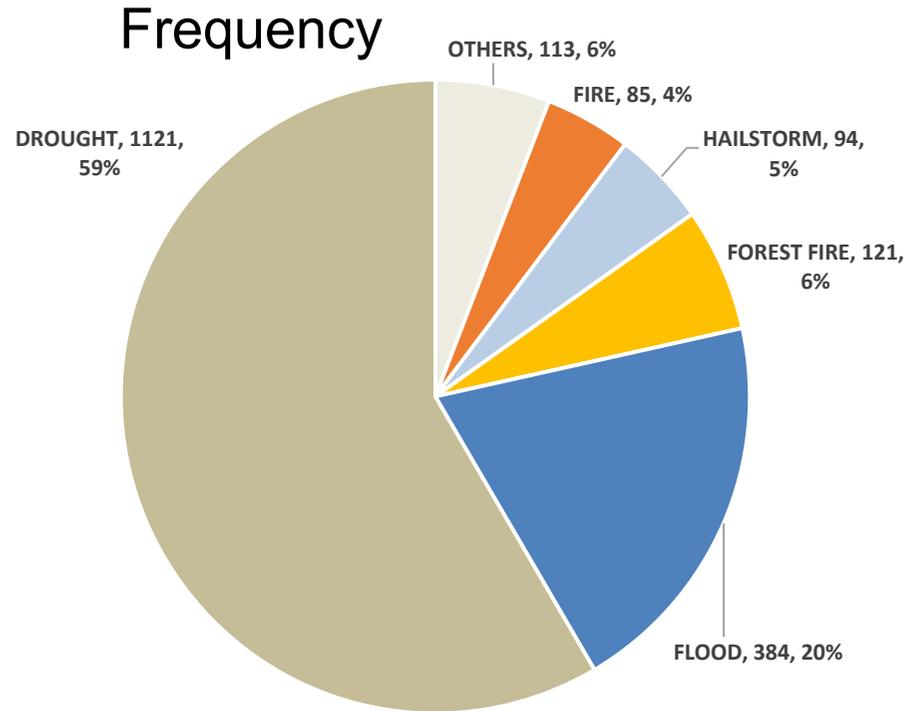
**330 deaths**

**684 million US\$ estimated losses**

**17821 houses destroyed**

**24728 houses damaged**

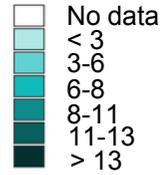
**837000 ha of crops damaged**



Spatial footprint of frequency

**Hydro-meteorological related impacts:**

**99% of all records  
100% of mortalities!  
98% of economic losses.**



# 1990 – 2013 Morocco

**713 records**

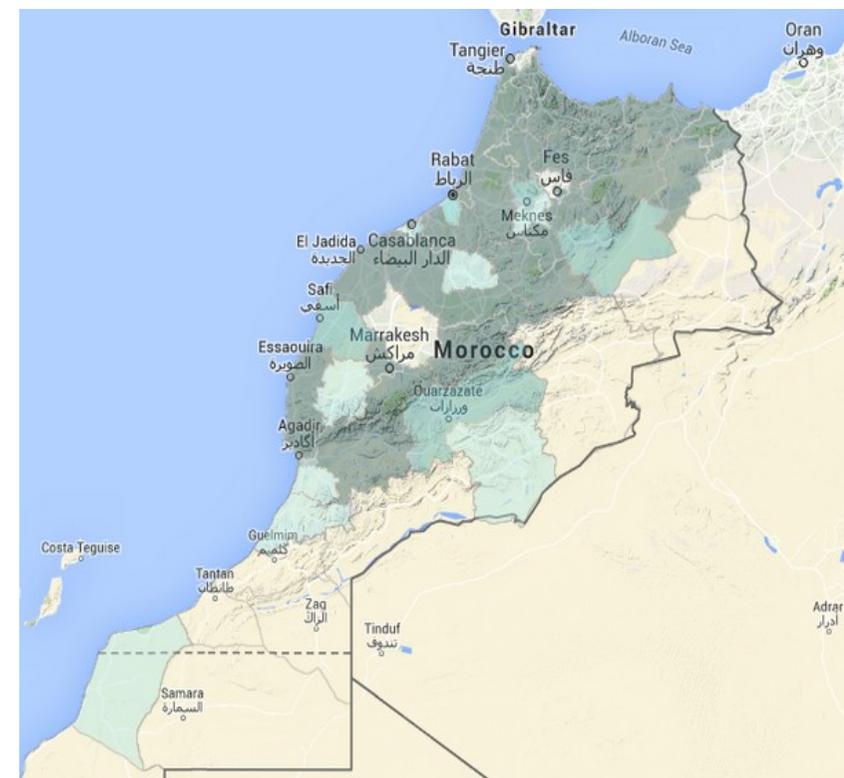
**2165 deaths**

**530 million US\$ estimated losses**

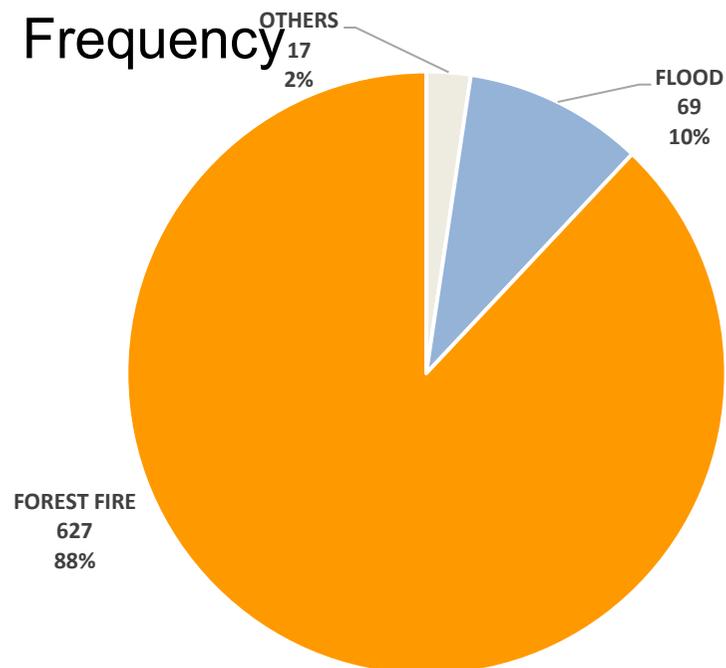
**5109 houses destroyed**

**21915 houses damaged**

**281000 ha of Crops damaged**

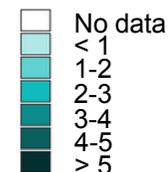


Spatial footprint of frequency



**Hydro-meteorological related impacts:**

**88% of all records  
70% of mortalities  
75% of economic losses.**



# 1981 – 2012 Jordan

**593** records

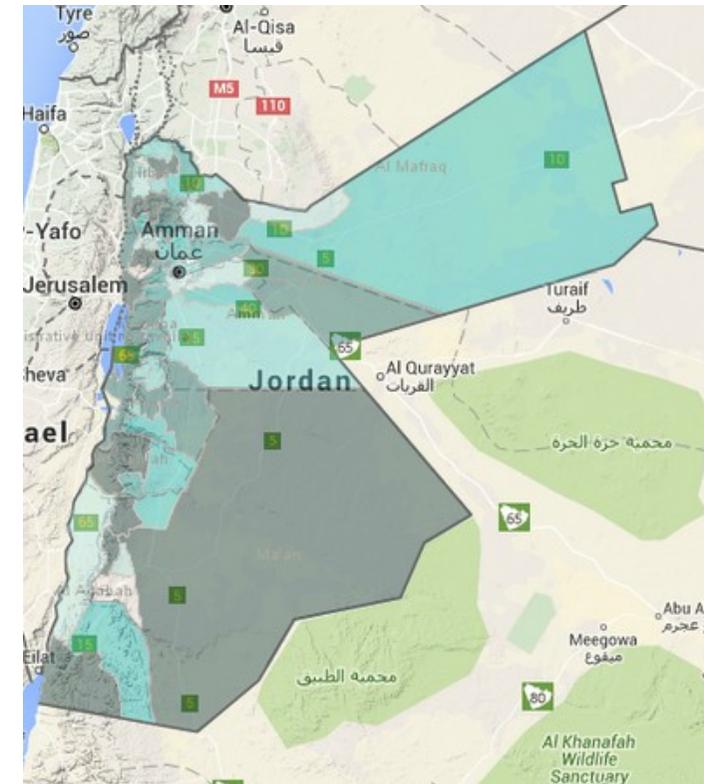
**145** deaths

**29** million US\$ estimated losses

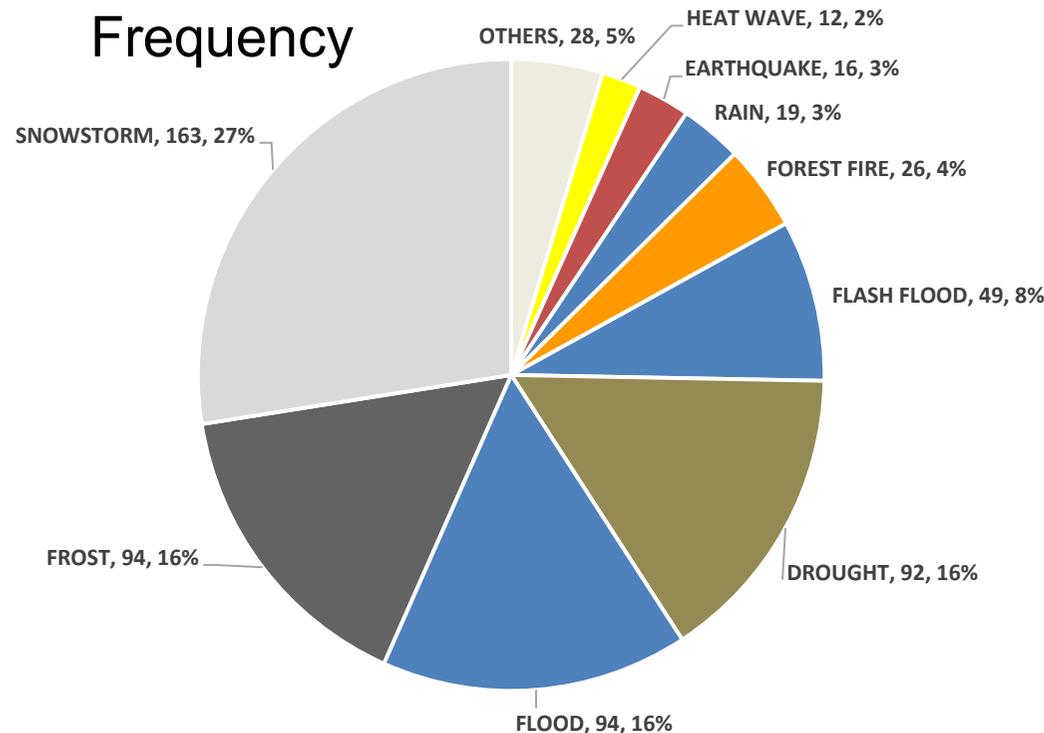
**83** houses destroyed

**594** houses damaged

**840** ha of crops damaged

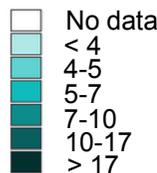


Spatial footprint of frequency



**Hydro-meteorological related impacts:**

**97%** of all records  
**97%** of mortalities.  
**95%** of economic losses.



**388 records**

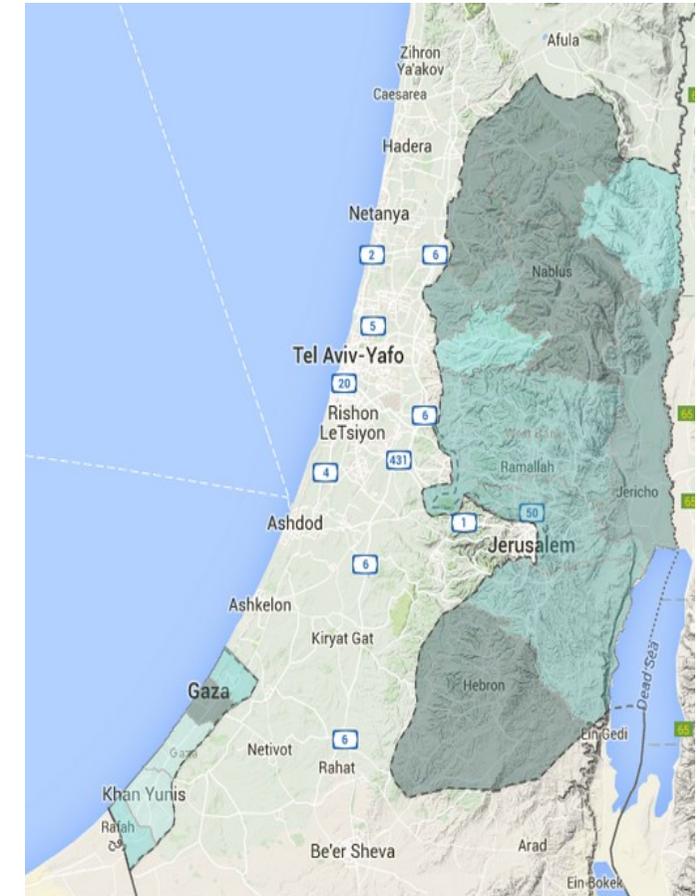
**45 deaths**

**11 million US\$ estimated losses**

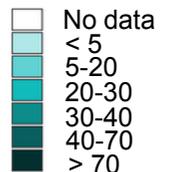
**65 houses destroyed**

**798 houses damaged**

# 1980 – 2013 Palestine



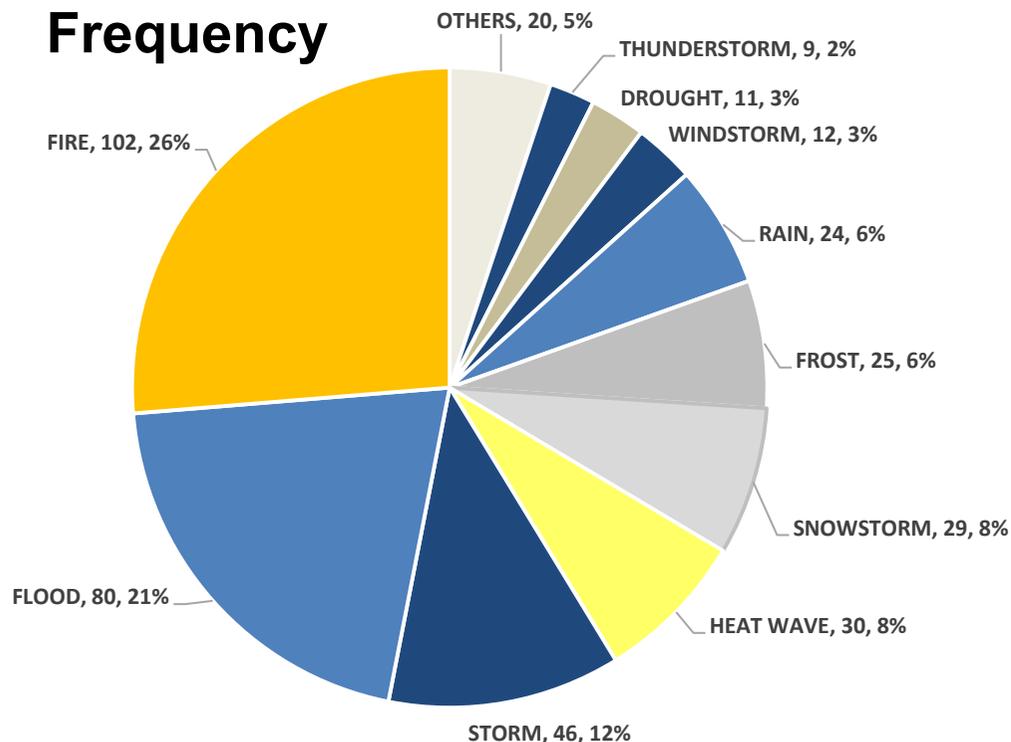
Spatial footprint of frequency



**Hydro-meteorological related impacts:**

**99.23% of all records**  
**69% of total mortality**  
**92% of total economic losses**

## Frequency



# 1971 – 2013 Yemen

**1637 records**

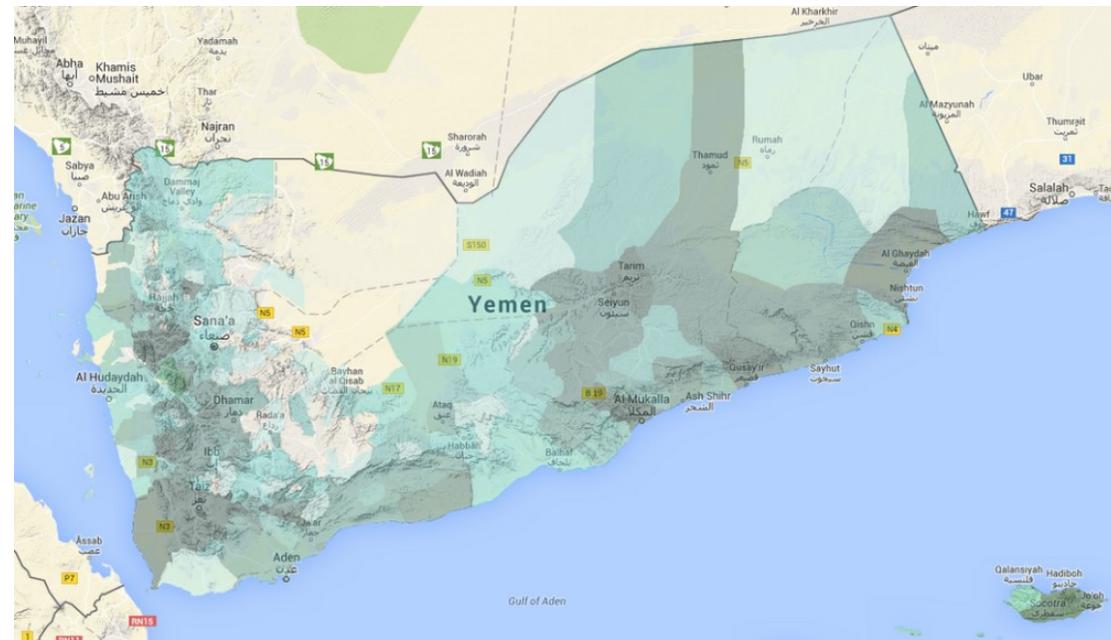
**4126 deaths**

**3 billion US\$ estimated losses**

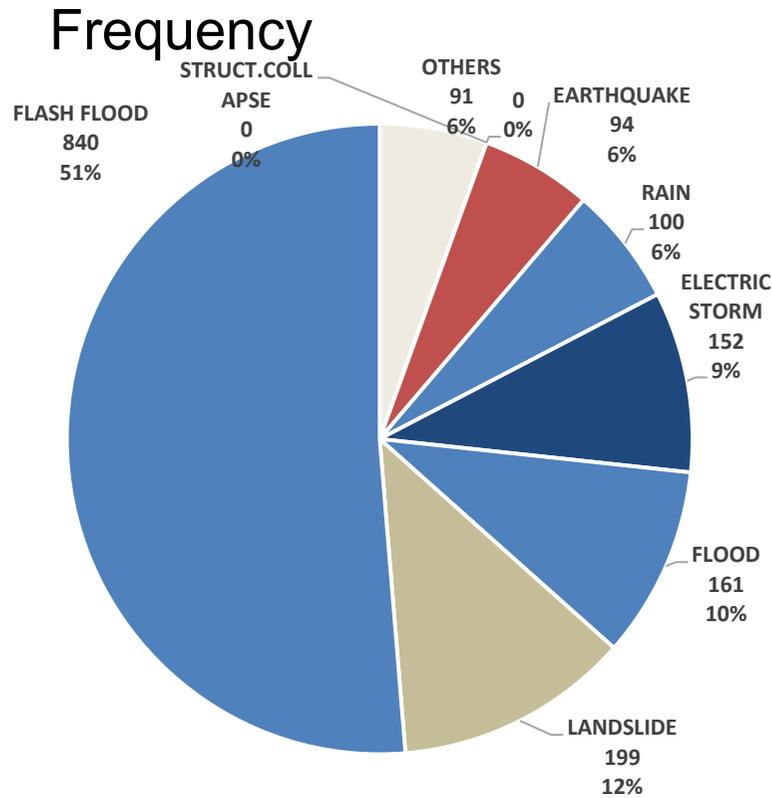
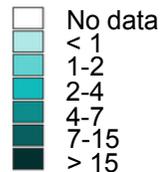
**22392 houses destroyed**

**37311 houses damaged**

**20200 ha of Crops damaged**



Spatial footprint of 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.**

# Changing Risk Environment !

- *Intensifying **disasters trends** & more frequent events*
- ***Resource scarcity** and degradation (land, water, food, energy, biodiversity)*
- *Climate change [extreme events, slow onset disasters (drought)]*
- *Increasing risk of «unchecked» urbanization coupled with high exposure of population and assets in high risk areas.*
- ***Increasing governance** challenges, coordination, accountability, legislations, institutional mechanisms, migration, conflict, all affecting human security*
- *Equity, poverty, inclusion – all being fundamental development challenges contributing to vulnerability*
- *Inter-dependency and **complexity of risk drivers***



SPECIAL REPRESENTATIVE  
OF THE SECRETARY-GENERAL

PRESIDENT

# Sendai Framework for Disaster Risk Reduction 2015-2030

WCDRR Sendai

WCDRR Sendai

WCDRR Sendai

**7 GLOBAL TARGETS**

**Reduce**

**Mortality/  
global population**

2020-2030 Average << 2005-2015 Average

**Affected people/  
global population**

2020-2030 Average << 2005-2015 Average

**Economic loss/  
global GDP**

2030 Ratio << 2015 Ratio

**Damage to critical infrastructure  
& disruption of basic services**

2030 Values << 2015 Values

**Increase**

**Countries with national  
& local DRR strategies**

**2020** Value >> 2015 Value

**International  
cooperation**

**to developing countries**

2030 Value >> 2015 Value

**Availability and access  
to multi-hazard early warning  
systems & disaster risk  
information and assessments**

2030 Values >> 2015 Values

# 4 PRIORITIES FOR ACTION

## Priority 1 Understanding disaster risk

*Policies and practices for DRR should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.*

## Priority 2 Strengthening disaster risk governance to manage disaster risk

*Disaster risk governance at the national, regional and global levels is of great importance for an effective and efficient management of disaster risk.*

## Priority 3 Investing in disaster risk reduction for resilience

*Public and private investment in DRR are essential to enhance the economic, social, health & cultural resilience of persons, communities, countries, their assets, as well as environment*

## Priority 4 Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction

*Strengthened disaster preparedness for response, recovery, rehabilitation and reconstruction are critical to build back better*

National and local dimensions

Regional and global dimensions

# Sendai Framework and Human Settlements

## Priority 2: Strengthening disaster risk governance to manage disaster risk

To formulate public policies, where applicable, aimed at addressing the issues of prevention or relocation, where possible, of human settlements in disaster risk-prone zones, subject to national law and legal systems.

## Priority 3: Investing in disaster risk reduction for resilience

To encourage the revision of existing or the development of new building codes and standards and rehabilitation and reconstruction practices at the national or local levels, as appropriate, with the aim of making them more applicable within the local context, particularly in informal and marginal human settlements, and reinforce the capacity to implement, survey and enforce such codes through an appropriate approach, with a view to fostering disaster-resistant structures.

# Sendai Framework and Human Settlements

**Priority 4: Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction.**

To promote the incorporation of disaster risk management into post disaster recovery and rehabilitation processes, facilitate the link between relief, rehabilitation and development, use opportunities during the recovery phase to develop capacities that reduce disaster risk in the short, medium and long term, including through the development of measures such as land-use planning, structural standards improvement and the sharing of expertise, knowledge, post disaster reviews and lessons learned and integrate post-disaster reconstruction into the economic and social sustainable development of affected areas. This should also apply to temporary settlements for persons displaced by disasters

# Disaster Risk in Human Settlements in the Arab Region

- **Flash floods:** growing urban hazard due to poor infrastructure lacks adaptability to climate change impacts, population growth and risk scenarios.
- **Landslides:** Heavy rains or seismic activity are a danger to residents living in homes on/below steep slopes or cliffs.
- **Earthquakes:** No building codes in high risk seismic zones, law enforcements is poor, lack of risk-sensitive planning, highly vulnerable slum areas
- **Tsunami:** long coastlines exposed to tsunami hazards with concentrated investments in tourism, service sector, and urban development though early warning systems, preparedness plans and minimum risk management standards are not in place.
- **Droughts:** These can endanger food supply and often result in migration to urban areas, putting pressure on housing, services and employment opportunities.
- **Sandstorms:** These are among the most severe and unpredictable natural hazards. High winds lift sand into the air - releasing a turbulent, suffocating cloud of particulates and heavily decreasing visibility in a few of seconds.
- **Tropical cyclones:** Urban areas might be exposed to cyclones, strong winds and heavy rains.

# Disaster Risk in Human Settlements in the Arab Region

- The total population of the Arab region is more than 357 million
- Over **55 %** of the Arab population lives in **large cities and small towns**
- In some Arab countries the percentage of people living **in urban areas is as high as 80% of the total population.** The urban population is also growing at a faster rate than the overall growth in population.
- The overall **population growth rate is amongst the highest** in the world
- Between 1970 and 2010, the urban population of the Arab region increased by more than four times and will probably double again over the next 40 years
- Arab urban areas are a major source of economic and human development due to the opportunities they provide in the form of employment, education, health, communications facilities, transportation, trade and tourism
- A number of Arab cities and towns hold major world cultural heritage sites and are a source of cultural identity
- **Human settlements Urban population**, as a percentage of total population, registers very high values for many countries in the region (e.g. it reaches **79, 88 and 90%** in **Saudi Arabia, Libya and Lebanon** respectively).
- **Slum to urban ratios** registers at **40, 50, 57, 86, 92 and 94 %** in **Egypt, Iraq, Lebanon, Sudan, Mauritania and Somalia** respectively.

# Main trends and challenges in DRR practices related to human settlements

- Rapid urbanization has pushed people to settle in high risk and vulnerable human settlements developed on unstable hills, flood-prone lowlands or coastal territories. **Due to a lack of appropriate housing, people move into unsafe buildings, which do not withstand earthquakes or strong storms.**
- Increasing extensive risk corresponding to **high frequency and low severity hazardous events** such as yearly **floods and storms**, thus affecting the infrastructure in poor neighborhoods ( i.e. Slums and informal settlements), in both rural and urban areas
- These communities are also highly vulnerable to intensive risk corresponding **to low frequency and high severity hazardous events such as earthquakes and tsunamis.**
- **Limited investment** in urban risk reduction practices including enforcement of building codes, drainage infrastructure, etc.

# Sendai Framework: an Instrument for Making Cities Resilient & Sustainable

Following the adoption of Sendai Framework at the 3<sup>rd</sup> United Nations World Conference on DRR, the [Ten Essentials](#) for making cities resilient have now been updated to align with the Sendai Framework, with inputs of more than 2000 cities and 50 global agencies. The new indicators of the Ten Essentials being developed will support the implementation of the Sendai Framework at the local level, as well as contribute significantly to the implementation of [Sustainable Development Goal 11](#), the [Paris Agreement](#), and the to be adopted [New Urban Agenda](#). These new essentials and their indicators will support the development of a new ISO [37121](#).

# Ten Essentials for Making Cities Resilient (revised in 2015)

## Enabling Essentials

- 1 Organize for disaster resilience
- 2 Identify, understand and use current and future risk scenarios
- 3 Strengthen financial capacity for resilience

## Build back better Essentials

- 9 Ensure effective preparedness and disaster response
- 10 Expedite recovery and build back better

## Operational Essentials

- 4 Pursue resilient urban development and design
- 5 Safeguard natural buffers to enhance the protective functions offered by natural ecosystems
- 6 Strengthen institutional capacity for resilience
- 7 Understand and strengthen societal capacity for resilience
- 8 Increase infrastructure resilience

# Way forward...

- UNISDR will continue to advocate and strengthen commitment to DRR by encouraging municipalities **to commit to the Ten Essentials and implementation of the Sendai Framework.**
- The focus of the campaign will continue but with **transition from advocacy and awareness, to greater emphasis on supporting implementation of DRR at local level.**
- With the overall goal to **create resilient cities and communities, by 2020**, UNISDR in collaboration with partners will **support local governments in understanding their risks** through risk assessments and capacity building, based on which risk-sensitive investments can be mobilized.
- Through the **Resilient Cities Connect platform** launched March 2016, the campaign will support the implementation of the plans by assisting cities in discovering potential services providers, acting as a conduit to scale up resilience solutions to the thousands of cities in need worldwide.

[www.wcdrr.org](http://www.wcdrr.org) [www.unisdr.org](http://www.unisdr.org)



# GAR

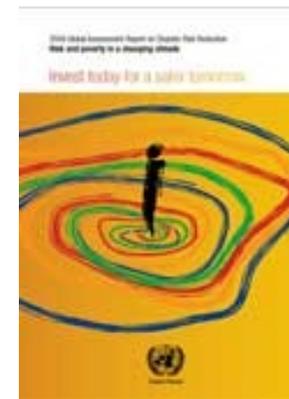
Global Assessment Report  
on Disaster Risk Reduction

2015

# GAR

Global Assessment Report  
on Disaster Risk Reduction

2013



<http://www.preventionweb.net/gar>

<http://www.wcdrr.org/>

Sendai Framework  
for Disaster Risk Reduction  
2015 - 2030



<http://www.preventionweb.net/rcc/>