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Disasters and Trade**

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Impact of Disasters on Agriculture and Food Security



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The impact of disasters
on agriculture and food security



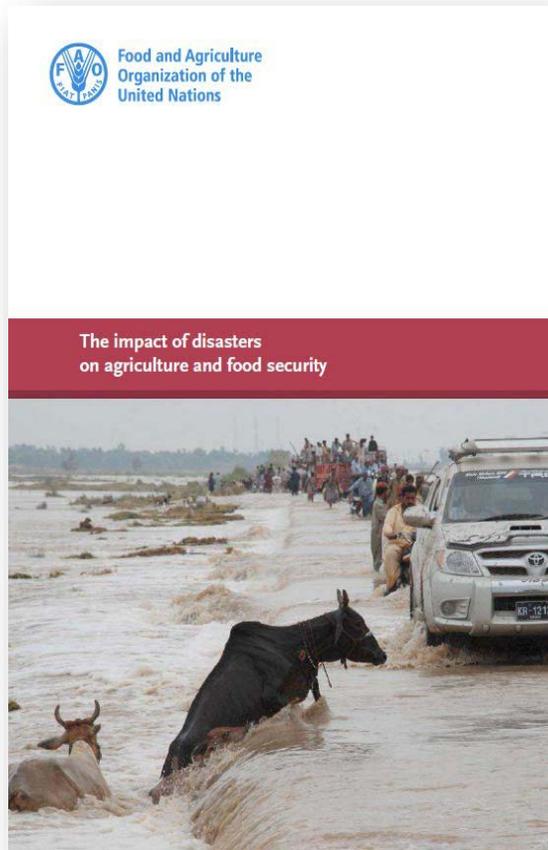
2017 The impact of disasters and crises
on agriculture and food security



Why these studies?

- A clear understanding of disaster impact on the sector is crucial for effective DRR policy, investment and resilience.
- Fill knowledge gaps: the impact of disasters on agriculture remains poorly documented and under-analyzed.
- Lack of evidence in building economic cases for DRR investment in agriculture.
- Constraints in directing financial resources to the agriculture sector.
- FAO seeks to continue providing updated and systematic data and analysis.

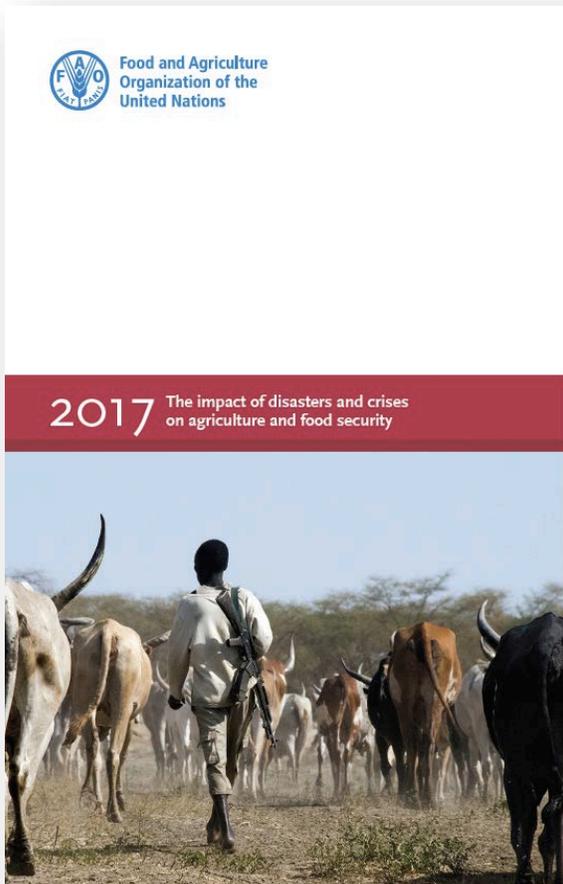
Financial resource flows to the agriculture sector and to DRR



FAO 2015 report found that :

- Only 4.2 percent of total official development assistance was spent on agriculture between 2003 and 2012;
- Between 2003 and 2013, roughly USD 121 billion was spent on humanitarian assistance for all types of disasters and crises;
- About 3.4 percent was directed to the agriculture sector, averaging about USD 374 million annually;
- The economic impact of disasters on agriculture is not well documented and analysed (lack of data and methodologies).

Highlights of the 2017 Report



- A clear understating of disaster impact on the sector is crucial for effective DRR policy, investment and resilience;
- 2017 Report contributes to bridging persistent knowledge gaps & presents the FAO D&L Methodology;
- An improved assessment of damage and loss from natural hazards in crops and livestock: a hefty share for agriculture and its subsectors;
- A scope beyond natural hazards: food chain crises & conflict and protracted crises (Syria chapter);
- A holistic view of agriculture: first look into forestry, fisheries & aquaculture.

Highlight 1: Improved Analysis on Disaster impact on Agriculture

The Analysis:

- includes both large as well as medium- to smaller-scale disasters;
- macroeconomic analysis based on trend analysis of crop and livestock production yields (FAOSTAT and EM DAT CRED);
- relative share of agriculture in damage and loss analysis - based on a review of 74 Post Disaster Need Assessments (PDNAs) conducted in 53 developing countries from 2006 – 2016.



Figure 2. Economic loss from disasters in developing countries: geophysical vs. climate- and weather-related disasters, 1980–2014

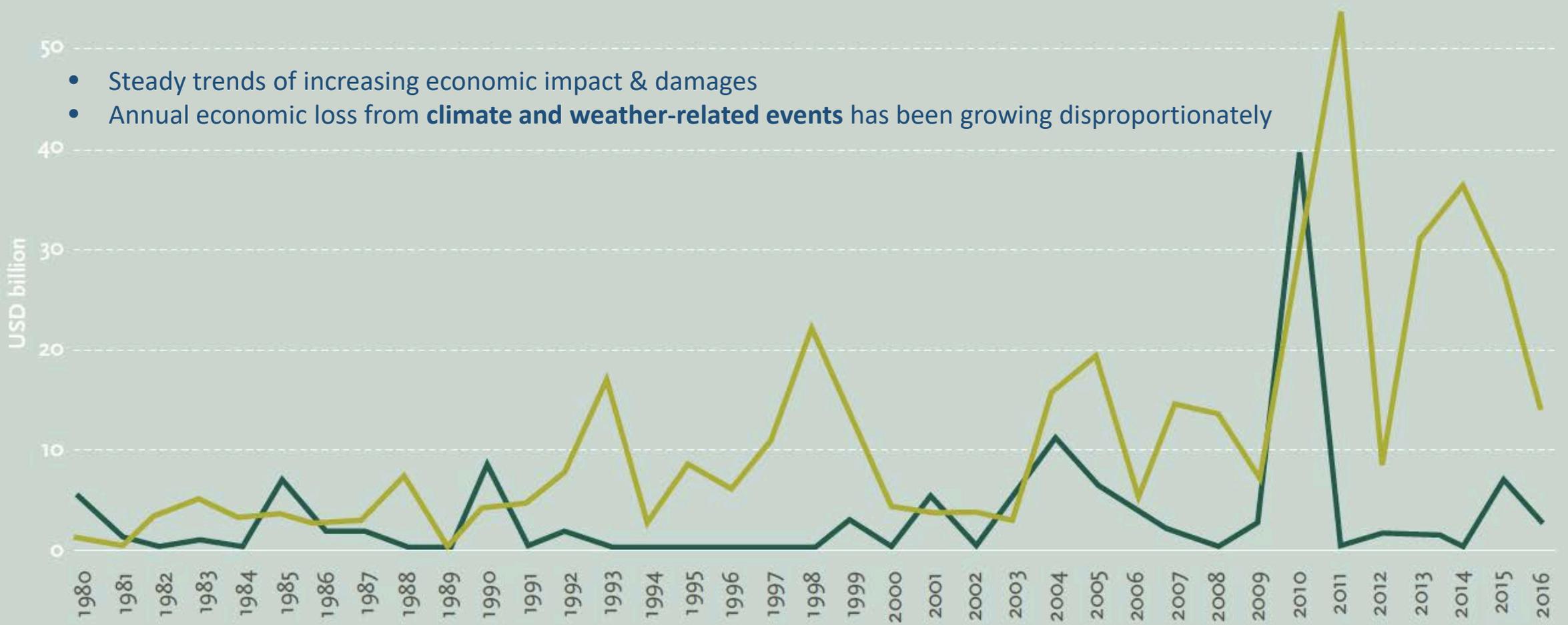
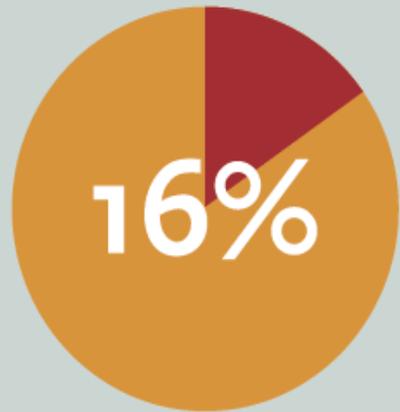
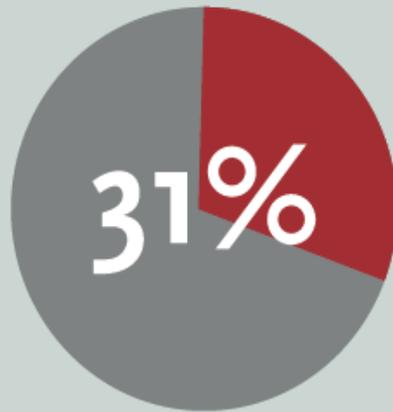


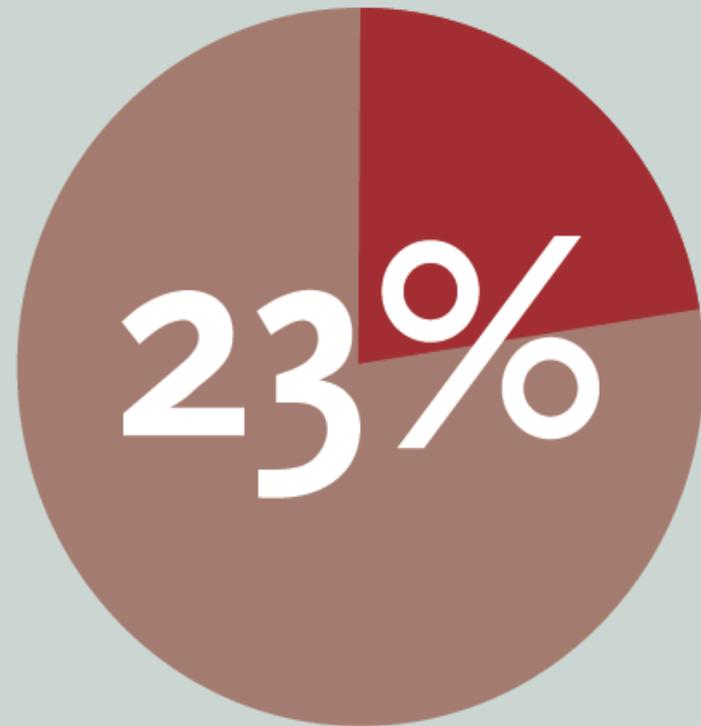
Figure 1. Damage and loss in agriculture as share of total damage and loss in all sectors (2006-2016)



Disaster **damage** in agriculture, share of total



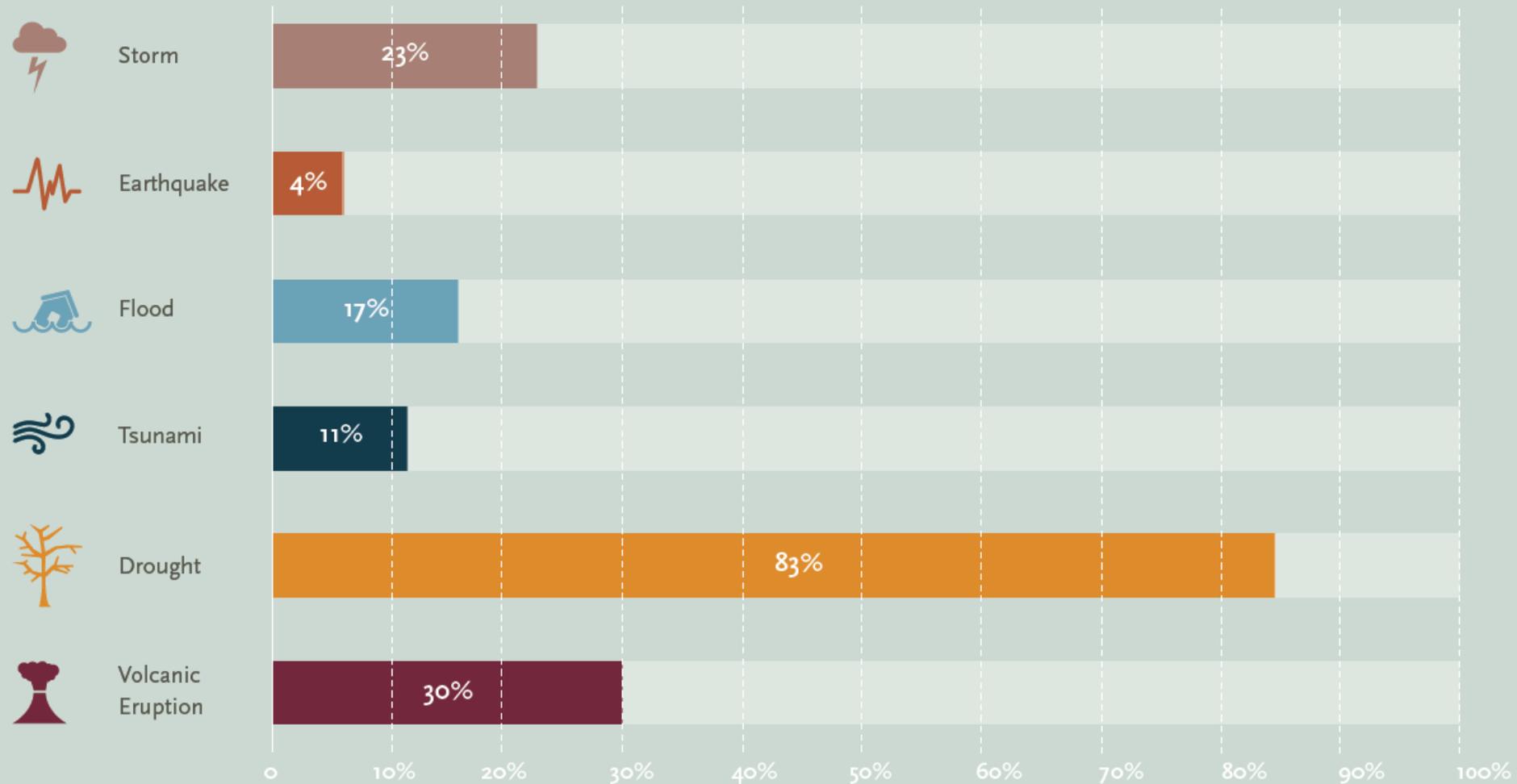
Disaster **loss** in agriculture, share of total



Disaster **damage and loss** in agriculture, share of total



Figure 2. Damage and loss in agriculture as share of total damage and loss in all sectors (2006-2016), by type of hazard



Source: PDNA Analysis



Total production loss, 2005-2015 (in USD billion)



Source: FAOSTAT



Figure 2. Production loss due to natural disasters as percentage of potential production, by region, 2005-2015

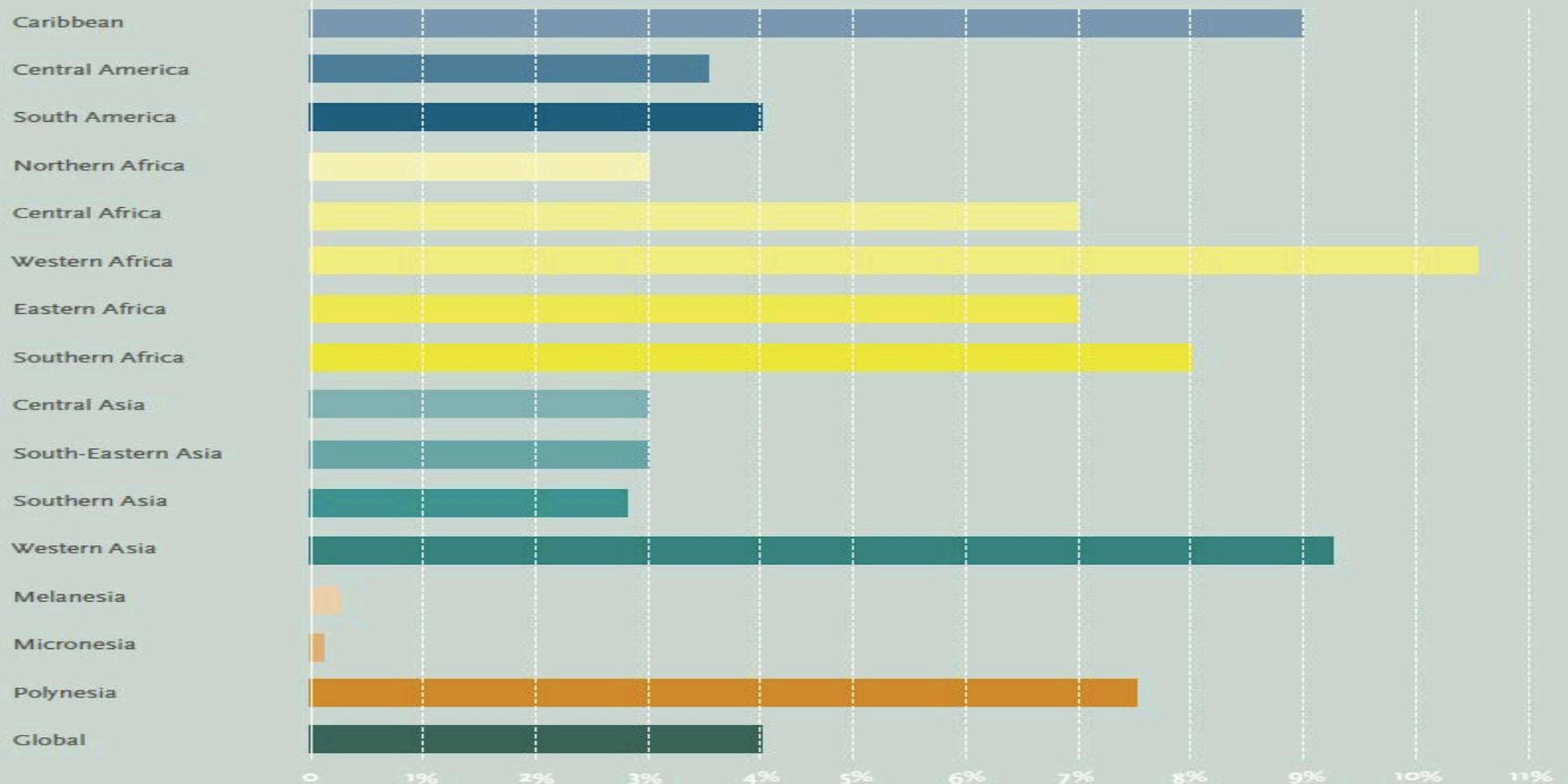




Figure 3. Total production loss per disaster type, 2005-2015

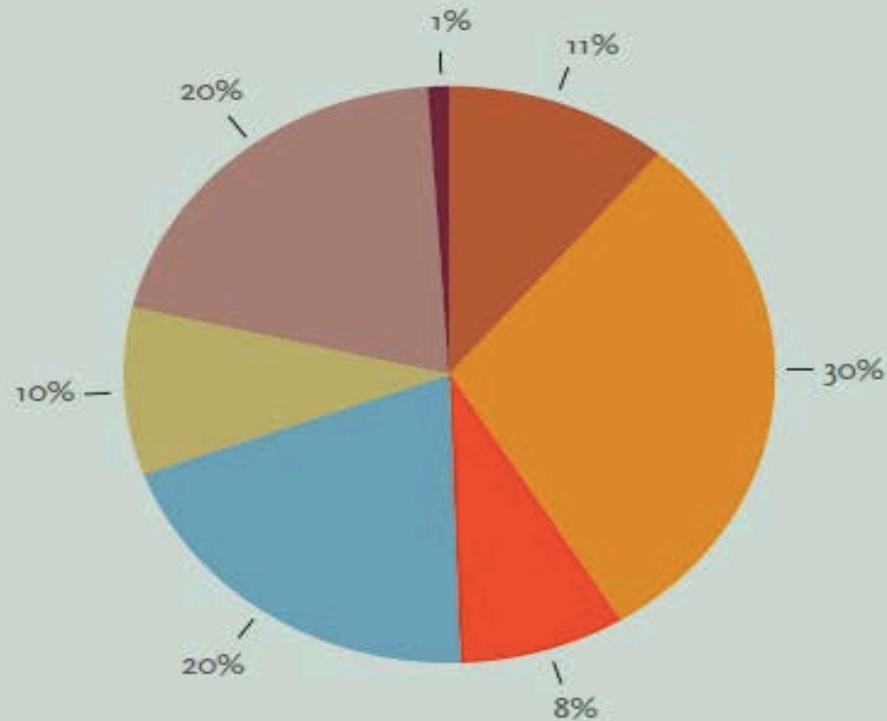
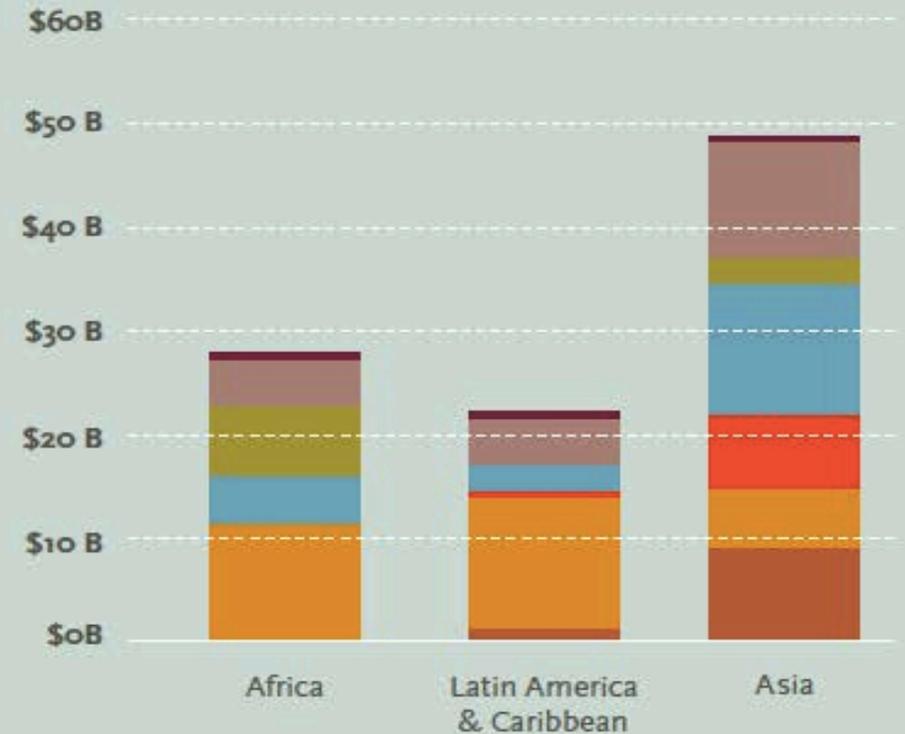


Figure 4. Production loss by region and per disaster, 2005-2015 (in USD billion)



Legend: Earthquakes/landslides/mass movements, Drought, Extreme temperature, Floods, Crop pests/animal disease/infestations, Storms, Wildfires.

Source: FAOSTAT



Figure 9. Production loss by commodity group, 2005–2015 (in USD billion)

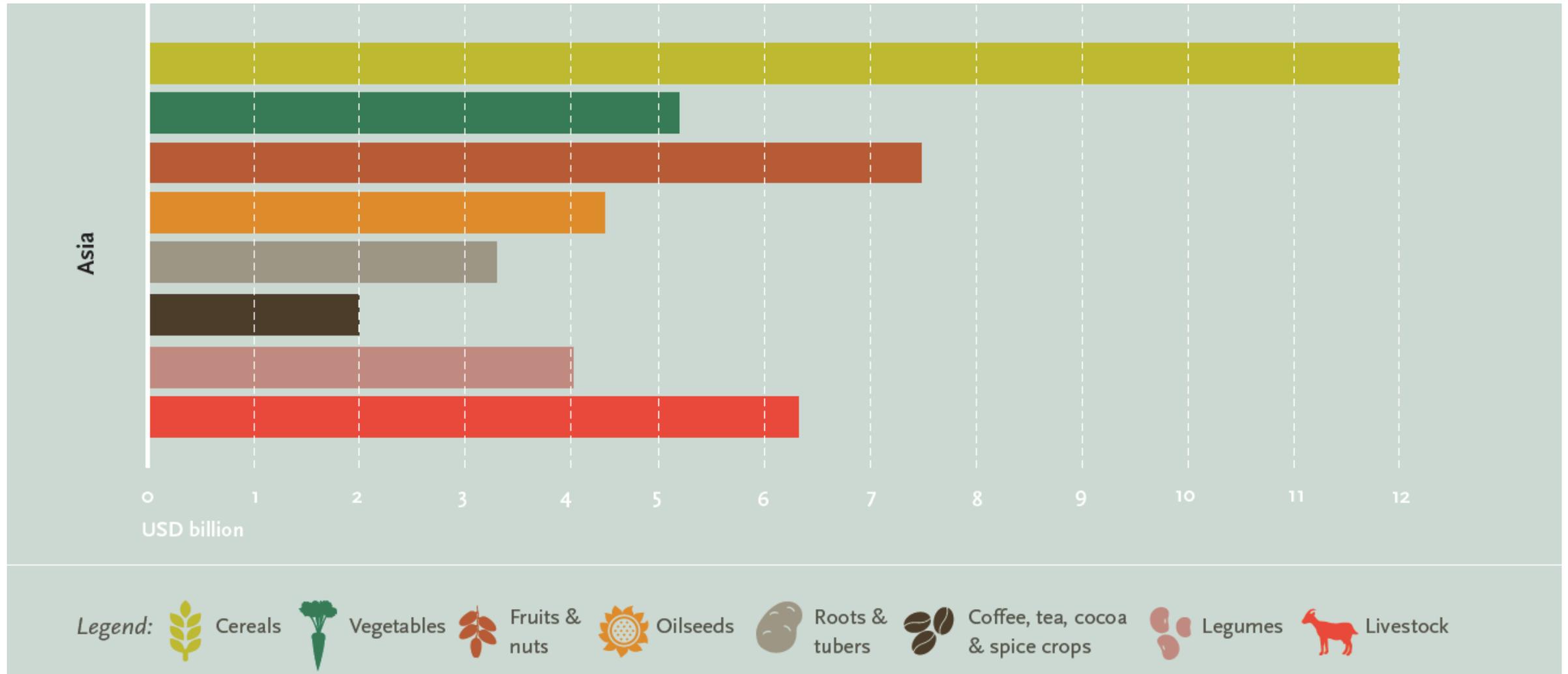
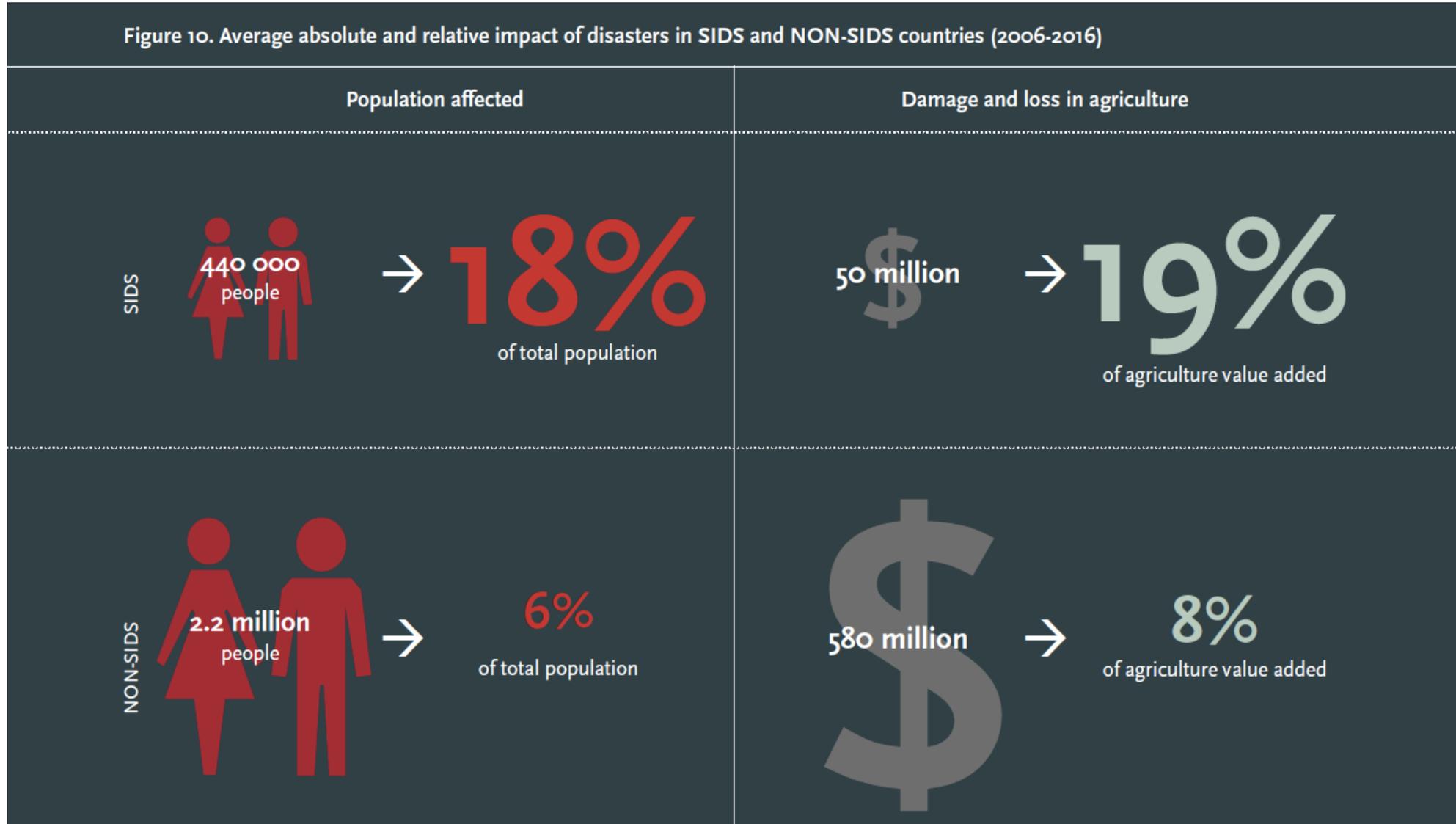




Figure 10. Average absolute and relative impact of disasters in SIDS and NON-SIDS countries (2006-2016)



Highlight 2: FAO's Holistic Approach to Agriculture in the D&L Context



- Leveraging in-depth FAO expertise in each sector
- Bringing Forestry into the picture
- Bringing Fisheries and Aquaculture into the picture
- Knowledge gaps to be addressed – critical requirements for applying FAO's methodology to fisheries and forestry

Highlight 3: Covering new ground – Food Chain Crises and Conflict

- **Transboundary animal diseases:**

- PPR alone costs an estimated USD 1.45 to 2 billion each year
- Wheat rust can cause up to 80% yield loss, putting worldwide wheat production at risk

FAO Report looks at RVF outbreaks and their impacts as well as the interplay between climatic events, natural hazards and disease outbreaks

- **Conflict and Protracted Crises:**

- Half a billion people live in 19 countries with protracted crises, mostly in Africa
- Of the 815 million people suffering from chronic hunger, 489 million live in conflict areas
- 30% : mean prevalence of undernourishment in protracted crisis in 2016

FAO report is measuring damage and loss in the agricultural sector in Syria: adapting a specific methodology for D&L assessment in conflict and using innovative methods of data collection

Highlight 4: FAO's Methodology for D&L Assessment

- Integrated into the Sendai and SDG monitoring framework
 - FAO – UNISDR cooperation
- Holistic representation of the ag-sector
 - Covers crops, livestock, fisheries, forestry and aquaculture
- Case study-based application:
 - Ethiopia drought, 2008-2011
 - Typhoon Haiyan in the Philippines, 2015
- Country pilots and trainings:
 - CD trainings in Latin America & Caribbean and Eastern Africa
 - Country pilots: Chile, Colombia, Dominica, Tanzania

Indicator C-2 Direct agricultural loss from disasters

$$C_2 = C_{2C} + C_{2L} + C_{2FO} + C_{2A} + C_{2FI} + C_{2La} + C_{2Lb}$$

C-2C: Direct crop loss

C-2L: Direct livestock loss

C-2FO: Direct forestry loss

C-2A: Direct aquaculture loss

C-2FI: Direct fisheries loss

C-2La: Direct damage to agricultural assets

C-2Lb: Direct damage to stored inputs and outputs



- DRR/M must be systematically embedded into agriculture sectoral and sub-sectoral development plans and investments.
- Increased financial resources should be directed to the agriculture sectors.
- DRR/M strategies should be fully integrated into post-disaster recovery efforts in the sector.
- National governments and the international community should establish targets for financing DRR in the agriculture sector.



- Improving data and building knowledge on disaster impact on agriculture – including forestry, fisheries and aquaculture – is essential
 - Improvement of local-level data in national databases and information systems
 - Improvements of D&L data collection and analysis at country-level
- Giving voice to “silent” disasters
 - Localized disasters are often un-reported, yet have grave consequences for rural livelihoods
- Strengthening capacity, building partnerships
 - Improved mechanisms and resources for data collection, management and analysis
 - Supporting National Statistical Offices, National DRM Agencies and Bureaus of Agriculture
 - Enabling a coordinated and coherent application of FAO’s assessment methodology
 - Strengthening cross-institutional partnerships, responsibility sharing and information flow
- Streamlining damage and loss assessment efforts for better DRR policy, improved resilience and higher investment in agriculture



Thank you!

