



Food and Agriculture
Organization of the
United Nations

Damage and losses from climate-related disasters in agricultural sectors



NATURAL DISASTERS AND AGRICULTURE

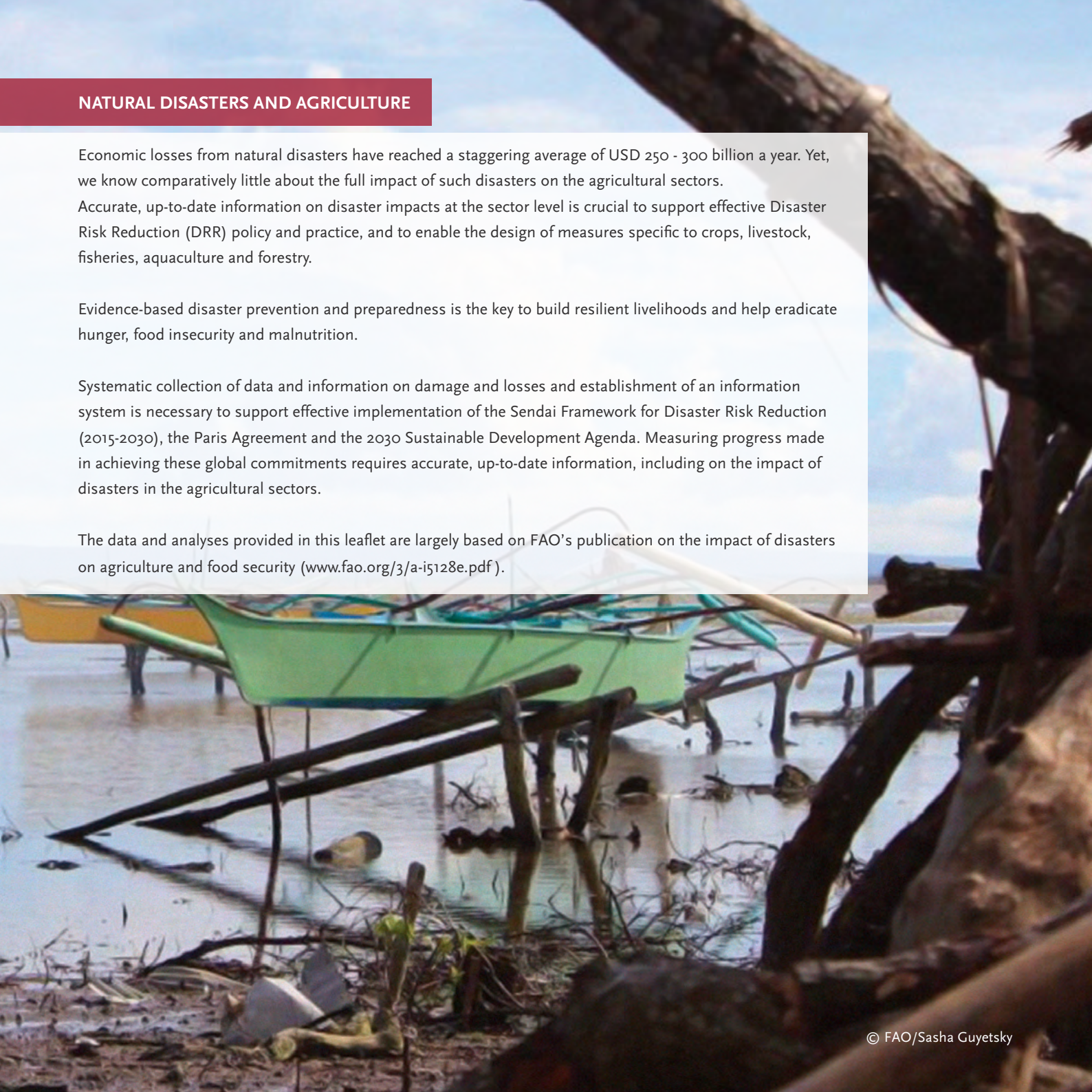
Economic losses from natural disasters have reached a staggering average of USD 250 - 300 billion a year. Yet, we know comparatively little about the full impact of such disasters on the agricultural sectors.

Accurate, up-to-date information on disaster impacts at the sector level is crucial to support effective Disaster Risk Reduction (DRR) policy and practice, and to enable the design of measures specific to crops, livestock, fisheries, aquaculture and forestry.

Evidence-based disaster prevention and preparedness is the key to build resilient livelihoods and help eradicate hunger, food insecurity and malnutrition.

Systematic collection of data and information on damage and losses and establishment of an information system is necessary to support effective implementation of the Sendai Framework for Disaster Risk Reduction (2015-2030), the Paris Agreement and the 2030 Sustainable Development Agenda. Measuring progress made in achieving these global commitments requires accurate, up-to-date information, including on the impact of disasters in the agricultural sectors.

The data and analyses provided in this leaflet are largely based on FAO's publication on the impact of disasters on agriculture and food security (www.fao.org/3/a-i5128e.pdf).



INCREASING CLIMATE-RELATED DISASTERS

The last three decades have witnessed a notable rise in disasters worldwide - especially climate-related events such as droughts, floods and storms - and with this rise there have been associated economic losses. The increase in climate-related events is of significant concern to the particularly vulnerable agricultural sectors.

Annual occurrence of climate-related disasters



Annual economic damage of climate-related disasters



SYSTEMATIZED DATA AND INFORMATION ARE NEEDED FOR ADAPTATION PLANNING

Effective policy and practice requires sector-specific damage and loss data for the agricultural sectors. In order to fill the knowledge gap about disaster impacts on agriculture, FAO provides systematized data, analysis and information for decision-making related to disaster risk reduction and adaptation.

FARMERS BEAR THE BRUNT

An analysis of 78 post-disaster needs assessments reveals that agriculture absorbed 25 percent of the total impact of climate-related disasters in developing countries between 2003 and 2013. These figures are much higher than previously reported and call for strengthening sectoral planning and increasing investments in disaster risk reduction in agriculture. The situation is likely to worsen unless measures are taken to strengthen the resilience of the agriculture sector and increase investments to boost food security and productivity and curb the impacts of climate change.

Share of climate-related disasters' damage and losses absorbed by agriculture in developing countries (2003-2013)

Damage

17%

Losses

31%

D&L

25%

● Agriculture

● All Other Sectors

DAMAGE AND LOSSES

“Damage” refers to the total or partial destruction of physical assets and infrastructure in disaster-affected areas, expressed as replacement or repair costs.

“Losses” refer to the changes in economic flows arising from the disaster.

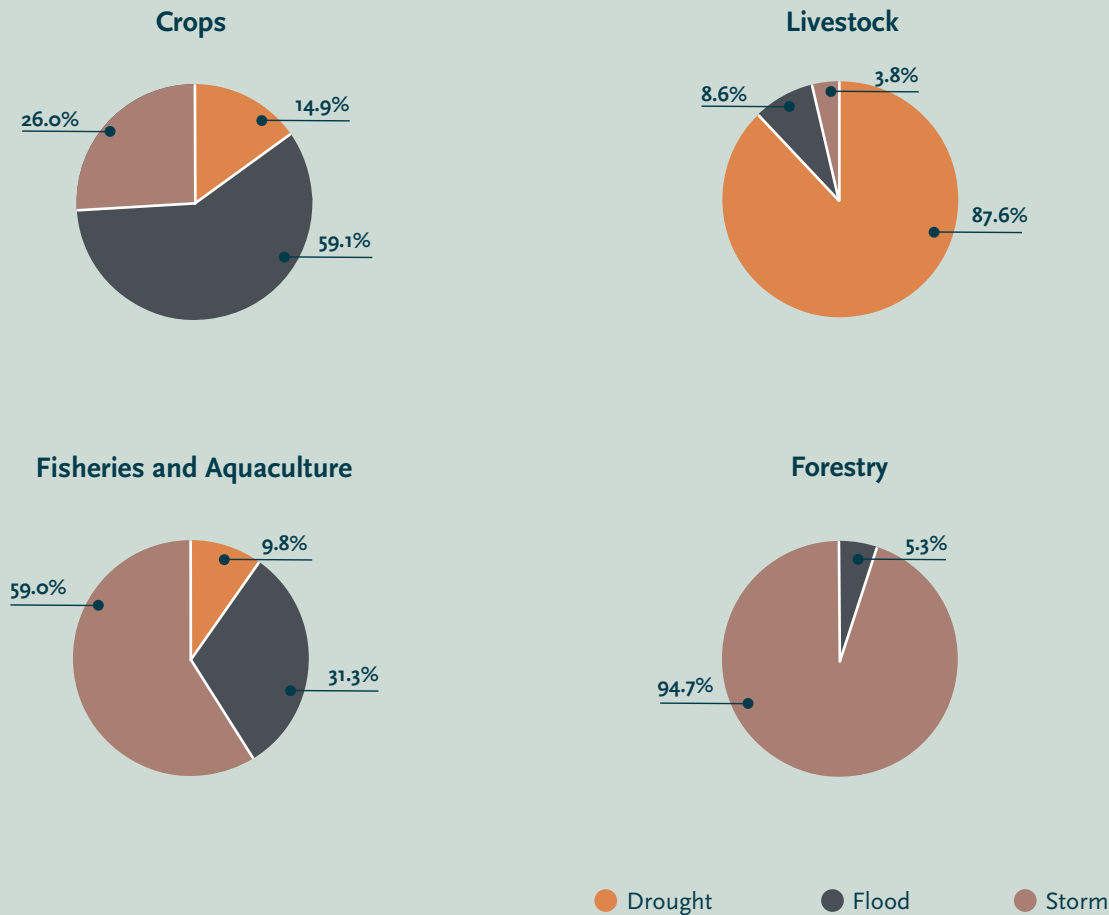
INDIRECT LOSSES HIGHER THAN DIRECT DAMAGES

Losses experienced by the agricultural sectors in the aftermath of a disaster are twice as high as the direct damage to agricultural assets and infrastructure. The methodologies for assessing damage and losses must also consider the cascading impacts on agricultural livelihoods and food security.

DIFFERENT DISASTERS CALL FOR DIFFERENT ACTIONS

Agricultural sectors are affected differently by climate-related disasters. Crops tend to be most affected by floods and storms; livestock is overwhelmingly affected by droughts; the fisheries and aquaculture sector is most affected by storms, hurricanes and cyclones; and most of the economic impact to forestry is caused by floods and storms (excluding wild fires). Understanding these differences is critical to formulate appropriate policy and practices for focused actions.

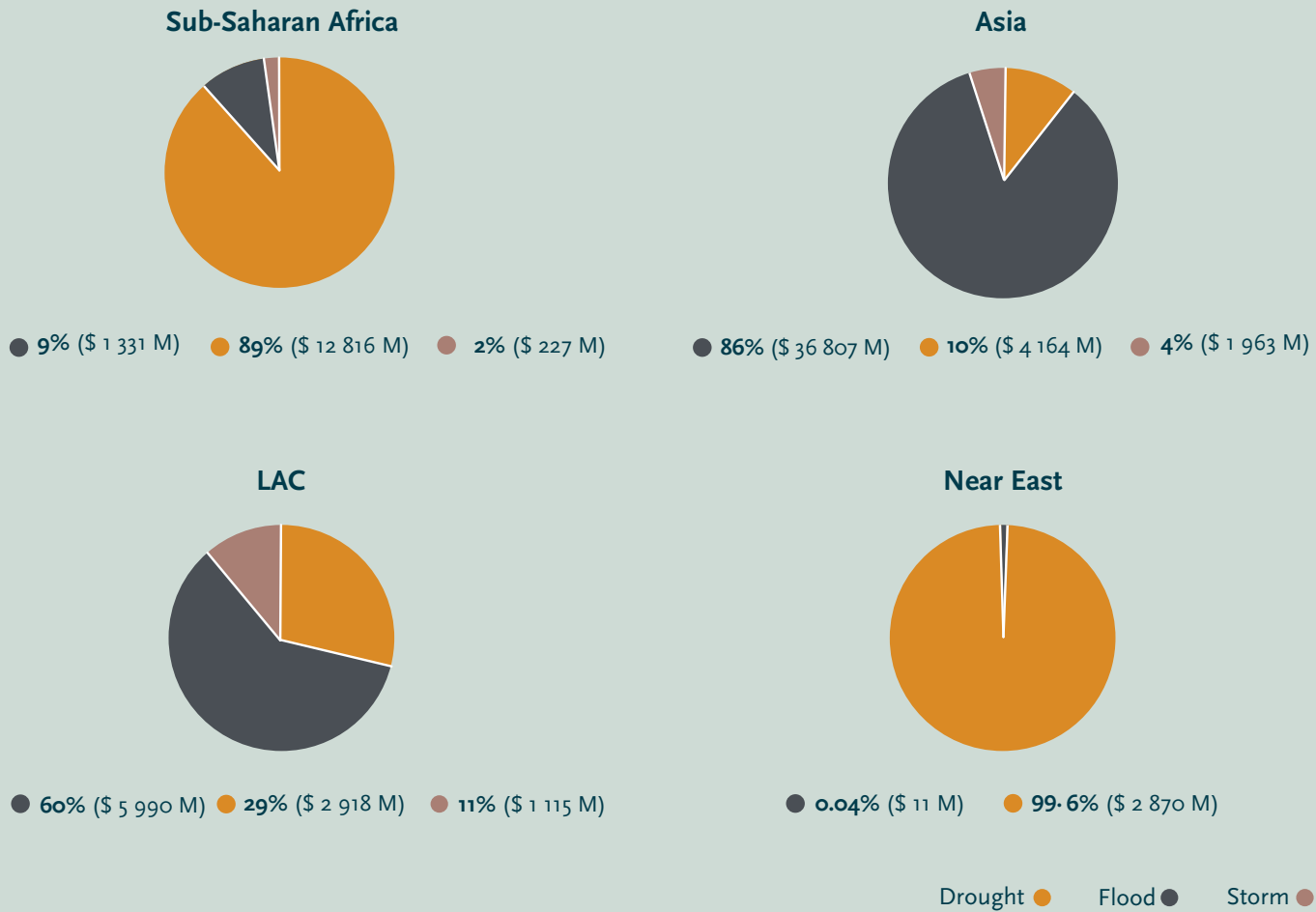
Damage and Losses to agricultural sectors by climate-related disasters



RISK EXPOSURE AND DISASTER IMPACTS DIFFER BY REGION

At regional level, the impact of disasters reflects varying climate risks and vulnerabilities. Statistical analyses on medium-to-large scale climate-related disasters in developing countries between 2003 and 2013 indicate that crop and livestock production losses largely differ across regions. In particular, drought was the most harmful disaster for agriculture in sub-Saharan Africa and the Near East; Asia was mainly affected by floods; and Latin America and Caribbean countries mostly by floods. In particular, drought was the most harmful disaster for agriculture in Sub-Saharan Africa and the Near; Asia was mainly affected by floods; and Latin America and Caribbean (LAC) countries were affected mostly by floods, and to a lesser extent by drought and storms.

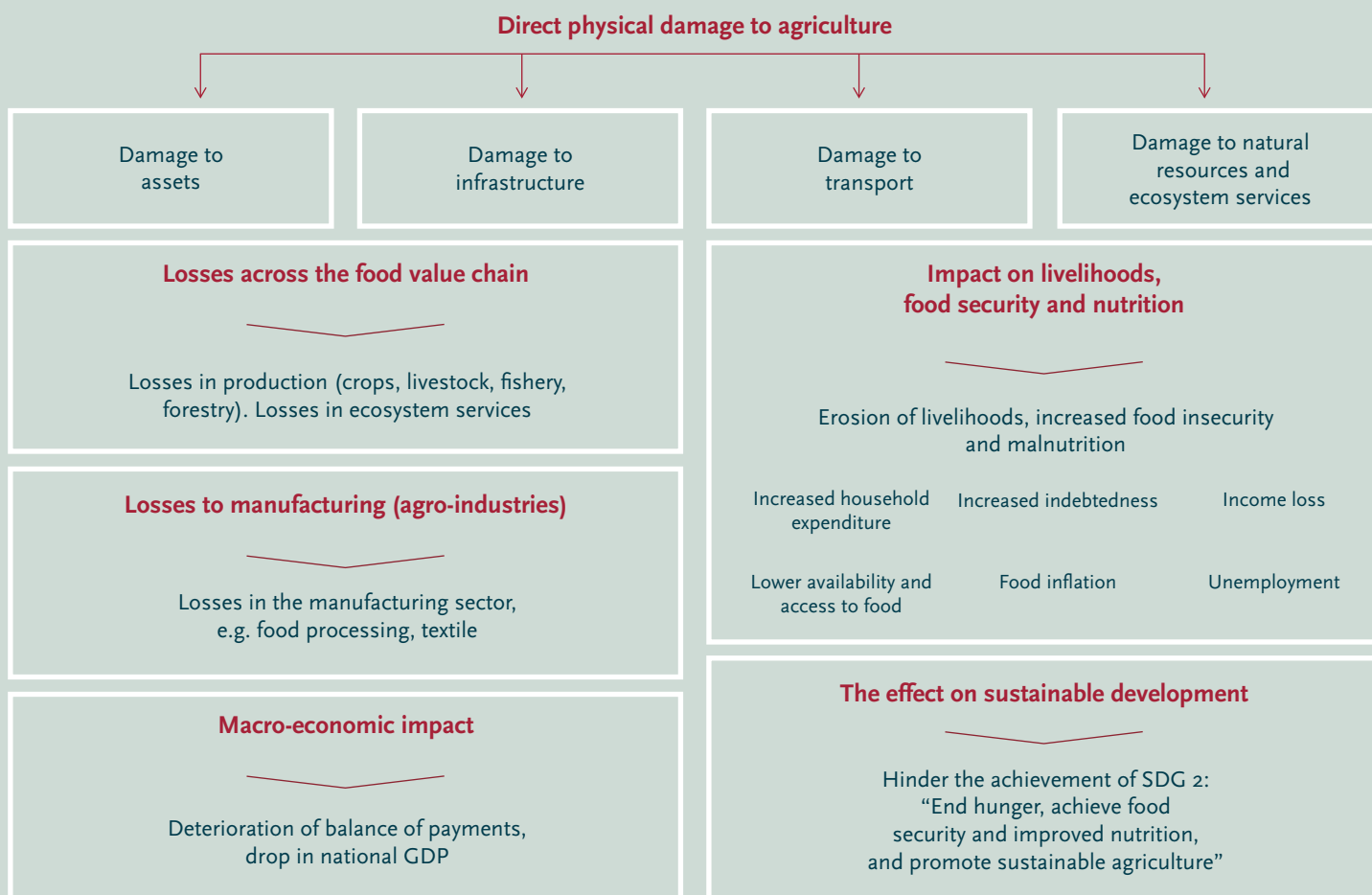
Crops and livestock production losses due to climate-related disasters, by region (2003-2013)



DISASTERS HAVE CASCADING NEGATIVE EFFECTS ON AGRICULTURAL PRODUCTION, LIVELIHOODS AND FOOD SECURITY

Disasters have negative effects beyond physical damage in agriculture. They disrupt agricultural production and productivity, with potential negative cascading effects along the value chain, including on industrial output in sectors that depend on agriculture. In medium- and large-scale disasters, high production losses can have negative consequences for the balance of payment, and affect sectoral and national economic growth. As a consequence, disasters undermine efforts to eradicate hunger and food insecurity, achieve sustainable agricultural development and build resilience.

The impact of disasters on agriculture and their wider potential consequences



THE WAY AHEAD

FAO is working with Member Nations, experts and relevant stakeholders to establish an information system on damage and losses in crops, livestock, fisheries, aquaculture and forestry. This includes strengthening capacities of countries to systematically collect, archive and report damage and losses in agricultural sectors.

Systematic information on disaster impact would provide policy-makers and stakeholders the standardized data needed for evidence-based decision-making and targeted investments in disaster risk reduction and adaptation for the sector, ultimately contributing to achieving zero hunger and the 2030 Sustainable Development Agenda.

