

# Disasters take heavy toll on agri-food systems as new threats emerge

The Food and Agriculture Organization of the United Nations' latest report has revealed that agricultural losses from natural hazards continue to soar, inflicting economic damage and undermining nutrition.



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The report further reveals that agriculture absorbs the bulk of the financial losses and damages wrought by disasters which have grown in frequency, intensity, and complexity; and that no other point in history has agri-food systems confronted with such an array of new and unprecedented threats, including megafires, extreme weather, unusually large desert locust swarms, and emerging biological threats like the Covid-19 pandemic.

These hazards not only take lives but also devastate agricultural livelihoods and inflict cascading negative economic consequences at the household, community, national and regional levels that can endure for generations, the report says.

According to the report, annual occurrence of disasters is now more than three times that of the 1970s and 1980s. Relative to agriculture, industry, commerce and tourism taken as a whole, on its own agriculture absorbs the disproportionate share of 63% of impact from disasters, with the least developed countries (LDCs) and low- and middle-income countries (LMICs) bearing the major brunt of these scourges.

Thus, between 2008 and 2018, the impacts of natural disasters cost the agricultural sectors of developing country

economies over \$108bn in damaged or lost crop and livestock production. Such damage can be particularly detrimental to livelihoods of smallholder and subsistence farmers, pastoralists, and fishers.

Over the analysed period, Asia was the most hard-hit region, with overall economic losses adding up to a staggering \$49 billion, followed by Africa at \$30bn, and Latin America and Caribbean at \$29bn.

"The upheaval set in motion by Covid-19 may push even more families and communities into deeper distress," said QU Dongyu, FAO director-general in the foreword to the report. "Disaster impact is pervasive and requires immediate efforts to better assess and understand its dynamics, so that it may be reduced and managed in integrated and innovative ways. The urgency and importance of doing so have never been greater".

## **Major threats**

The report identifies drought as the single greatest culprit of agricultural production loss, followed by floods, storms, pests and diseases, and wildfires. Over 34% of crop and livestock production loss in LDCs and LMICs is traced to drought, costing the sector \$37bn overall. Drought impacts agriculture almost exclusively. The sector sustains 82% of all drought impact, compared to 18% in all other sectors.

Crop and livestock pests, diseases and infestations have also become an important stressor for the sector. Such biological disasters caused 9% of all crop and livestock production loss in the period from 2008 to 2018. The potential threat of disasters of this category was rendered evident in 2020 when huge swarms of desert locusts ravaged across the Greater Horn of Africa, the Arabian Peninsula, and Southwest Asia destroying crops and jeopardising food security.

Meanwhile, the Covid-19 pandemic is placing an additional burden on agri-food systems exacerbating existing, systemic risks with cascading effects on lives, livelihoods, and economies worldwide.

## **Disaster impacts on food security and nutrition**

Disasters extend beyond the economic realm having deleterious consequences for food security and nutrition. For the first time ever, this edition of the FAO report converts economic losses into caloric and nutrition equivalents.

For example, it estimates that crop and livestock production loss in LDCs and LMICs between 2008 and 2018 were equivalent to a loss of 6.9 trillion kilocalories per year. This equals the annual calorie intake of seven million adults.

In Latin America and the Caribbean, disaster impacts during that same time frame convert to a loss of 975 calories per capita per day, accounting for 40 percent of recommended daily allowance, followed by Africa (559 calories) and Asia (283 calories).

## **A disaster resilient future is possible**

Investing in resilience and disaster risk reduction, especially data gathering and analysis for evidence-informed action, is of paramount importance to ensure agriculture's crucial role in achieving sustainable future, FAO's report argues.

Holistic responses and cross-sectoral collaboration are key in the disaster response. Countries must adopt a multi-hazard and multi-sectoral systemic risk management approach to anticipate, prevent, prepare for and respond to disaster risk in agriculture. Strategies need to integrate not only natural hazards but also anthropogenic and biological threats, such as the Covid-19 pandemic and must be based on an understanding of the systemic nature and interdependencies of risks.

Innovations such as remote sensing, geospatial information gathering, drones and disaster robotics, and machine learning are powerful new assessment and data gathering tools that have much to offer in the quest to reduce disaster risks in agriculture.

In addition to efficient governance, it is crucial to promote public-private partnerships to address the urgent need for investment in reducing agriculture's susceptibility to disasters and climate change.

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