



Food and Agriculture
Organization of the
United Nations

Forests for resilience to natural, climate and human-induced disasters and crises

Forests and trees outside forests play important roles in protecting and supporting livelihoods and serving as vital safety nets during disasters and crises.

They provide food, energy, water and shelter materials and act as buffers to reduce the impact of climate variability, extreme weather events and other shocks.



Introduction

More than 70 percent of poor and food-insecure people rely on agriculture (crops, livestock, fisheries and aquaculture, and forestry) for their lives and livelihoods in terms of income, employment, food, nutrition, and well-being. These people – around one-third of the world's population – are the most vulnerable to, and the most affected by, climate change and/or environmental, political or social calamities, including complex and protracted crises. At the same time, they play a vital role in our food supply and as custodians of the natural resources on which all life depends.

Agricultural sectors face many risks, such as climate and market volatility, pests and diseases, extreme weather events, and an ever-increasing number of protracted crises and conflicts. Natural disasters have cost billions of dollars in lost production, income and natural habitat. The human food chain is under continuous threat from an alarming increase in the number of outbreaks of transboundary animal and plant pests and diseases. Conflict and protracted crises are forcing more and more people into conditions of poverty, food insecurity and displacement. The impact of climate change will further exacerbate these threats and challenges. Disaster-risk reduction and management must therefore become an integral part of modern agriculture.

Resilience building is the enhancement of system capacities to anticipate and absorb disasters and crises, and to recover and adapt from shocks. It can operate at landscape, institutional, community, household or other levels. Such enhancement enables households, communities and countries to better protect, restore and improve livelihood systems in the face of these threats that impact agriculture, nutrition, food security and food safety.

Helping countries to build the resilience of people and their livelihood systems to these threats is at the core of FAO's work to end hunger, malnutrition and poverty. FAO's Strategic Programme 5 (SP5) aims to increase the resilience of livelihoods to disasters and crises, coordinating efforts at different levels of the food system and, by extension, across all sectors of agriculture.

Increasing the resilience of livelihood systems is also an essential part of delivering on the United Nations (UN) **2030 Agenda for Sustainable Development and its 17 sustainable development goals (SDGs)**, the Framework for Action for Food Security and Nutrition in Protracted Crises endorsed by the Committee on World Food Security in 2015 and, more recently, the nature-based solutions promoted in 2019 by the **UN Climate Action Summit** to tackle the growing climate crisis, environmental degradation and food security. Building livelihood resilience and managing natural resources sustainably have emerged as imperatives for the humanitarian, development and peace nexus, with short-term humanitarian interventions being linked to longer-term development initiatives.



Forests and trees crucial for resilience

An estimated 1 to 1.7 billion people are considered as being forest-dependent, or in communities that rely on forest resources for their livelihood. An even larger number of people – some 2.4 billion people – rely on wood specifically as their main source of energy for cooking, with an additional 764 million using woodfuel to boil and sterilize water. In addition, about 80 percent of an unprecedented 70.8 million displaced people around the world rely on traditional biomass fuels, mainly firewood and charcoal, for cooking and heating.

Forests and trees outside forests already contribute, in multiple ways, to the resilience of communities and livelihoods to threats and crises and to resolving the underlying causes of food insecurity, undernutrition and poverty. They are a source of woodfuel for cooking, wild food and fodder, and material for shelter; they conserve water resources and provide other ecosystem services; and they buffer extreme weather conditions. Wood, for instance, is expected to remain a primary source of energy for cooking in the foreseeable future, especially in poor countries and in displacement settings. In these contexts, alternative sources of energy are, so far, associated with higher costs and it can be a lengthy process to change user behaviour. Wood is an environmentally friendly and renewable source of energy – but only if it is produced sustainably and used in clean and efficient ways.

Increasing evidence suggests that maintaining the diversity of foods available from forests and trees (such as fruits, nuts, leaves and fodder, mushrooms, seeds, honey, fish and wild meat, including insects) is an important vulnerability-reduction measure and as such is crucial for the resilience of food systems. Maintaining this diversity thus makes a significant contribution to food stability – the fourth dimension of food and nutrition security.

In periods of acute emergencies or protracted crises, forests and trees fill an important safety-net role for vulnerable segments of society, with forest foods, fodder and woodfuel being important in enabling people to cope in times of shocks. In addition, when managed sustainably, forests, trees outside forests and their ecosystems underpin core environmental services such as fresh water, inland fisheries, fertile soil, pollination, agrobiodiversity and wildlife.

The contribution of forests to the resilience of livelihoods to threats and crises depends very much on the way they are managed. A landscape approach to conservation and restoration of ecosystems is required, combining natural-resource management, food production, disaster-risk reduction and climate-change adaptation. For example, forests and trees outside forests play a vital role in preventing, protecting against and reducing the impacts of natural disasters such as avalanches and landslides in mountain areas, and tsunamis and cyclones in coastal areas. They are essential for resilience building, which in turn is an essential prerequisite for sustainable development. Any intervention or investment should tap into the multiple functions played by trees and forests for reducing and managing risks and adapting to a changing climate.



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The table shows the multiple functions of forests and trees in supporting livelihood resilience by preventing, absorbing and mitigating diverse types of shocks and stressors.

Type of shocks and specific functions of forests and trees

<p>Natural hazards and disasters, including climate extremes</p>	<p>Protecting communities and livelihoods by preventing and absorbing the effects of natural hazards and disasters, such as avalanches, landslides, tsunamis, floods, drought and cyclones.</p> <p>Contributing to recovery from the negative impacts of drought.</p> <p>Maintaining ecosystem services for food production and other livelihoods, before, during and after shocks.</p> <p>Building resilience of communities to extreme climate events, and their capacity to adapt to and mitigate climate variability.</p>
<p>Food chain crises</p>	<p>Contributing to forest-dependent communities and agriculture by, among other things, protecting soil and water, maintaining soil fertility, regulating the climate, and providing habitat for wild pollinators and the predators of agricultural pests.</p> <p>Maintaining biodiversity to secure the diversity of food needed for an adequate quality of diet, and to provide a safety net of income and wild foods in times of food shortages and shocks.</p>
<p>Protracted crises, including violent conflicts</p>	<p>Providing forest products, such as woodfuel, building material, wild food and fodder, to help absorb, accommodate and recover from protracted crises and conflicts. Forest products are versatile and can occupy diverse roles – from vital safety nets to life-supporting assets – to meet immediate needs in times of emergency as well as providing longer-term livelihood opportunities.</p> <p>Preserving ecosystem services and building resilience of households through the goods and services trees and forests provide.</p>

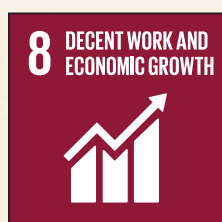
Promoting sustainable forest management to build the resilience of livelihoods to multiple threats

Building the resilience of forest-dependent people is a crucial part of FAO's efforts to improve food and nutritional security, alleviate poverty to secure development gains, and achieve the universal 2030 Agenda for Sustainable Development. By strengthening the sustainable management of forests and trees outside forests, FAO – together with its partners – aims to build resilient livelihoods in areas with recurrent disasters and crises and minimize the environmental and social impacts that can result from deforestation, forest degradation and the overexploitation of natural resources. Forest-resource management may include conservation, afforestation, reforestation or restoration interventions, and needs to be tailored to the type of shocks experienced and the specific needs of the livelihoods concerned. Moving towards an integrated system approach, which is informed by the various risks and delivered through a range of forest products and services, can enable all actors to address both immediate humanitarian objectives and longer-term development efforts simultaneously, especially in crises-affected areas.

Planning and achieving resilient and sustainable forest-resource management ahead of and during disasters and crises helps the people in affected areas to reduce environmental impact, enhance the supply of forest products and other services, and mitigate against and adapt to climate change. It also reduces local conflicts and displacement. These benefits, in turn, will contribute to more resilient livelihood opportunities, bridging the humanitarian, development and peace nexus through a practical, integrated approach for sustainable development. Therefore, to build resilient livelihoods, sustainable forest resource management is an imperative not an option.



Related SDGs contribution



SUSTAINABLE DEVELOPMENT GOALS

Contacts

Forestry Department | Rome, Italy | FOA-Director@fao.org
Food and Agriculture Organization of the United Nations
www.fao.org/forestry
www.fao.org/resilience

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