



11 game-changing solutions

A contribution from the CGIAR Research Program on Forests, Trees and Agroforestry (FTA) and its partners to the public consultations of the Action Tracks

12 February 2021

The CGIAR Research Program on Forests, Trees and Agroforestry (FTA) is, since 2011, the world's largest research for development program focused on the role of forests, trees and agroforestry in sustainable development, food security and land degradation and addressing climate change. FTA is a partnership led by the Center for International Forestry Research (CIFOR) with World Agroforestry (ICRAF), the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT), the Tropical Agricultural Research and Higher Education Center (CATIE), Agricultural Research for Development (CIRAD), the International Network for Bamboo and Rattan (INBAR), and Tropenbos International (TBI). It involves more than 250 scientists worldwide.

This document gathers the core set of 11 evidence-based game changing solutions elaborated by the program as proposals to the summit.

At the heart of FTA is the fact that forests, trees and agroforestry, when adequately used, managed and governed, can play a central role in sustainable development by improving production systems, ensuring food security and nutrition, enhancing people's livelihoods and addressing climate change.

Tree crops provide many key food commodities such as fruits, nuts, coffee, cocoa, tea, etc. The related systems and value chains support millions of people. Trees on farm (agroforestry) can deliver multiple ecosystem benefits increasing the environmental, economic and social sustainability of farming systems. Productive landscapes depend on the interplay of a healthy mix of forested and agricultural environments providing essential ecosystem services such as temperature and water regulation, and the preservation of precious biodiversity. Tropical forests are particularly important in recycling atmospheric water, that can travel far and provide the rain over key "breadbasket" areas. According to the IPCC, growing more trees in landscapes is also a key solution to the pressing problems of climate change.¹ If the right trees are planted, they add to a permanent vegetation cover and makes the land more resilient to global warming while contributing to mitigate it.

Building upon ten years of research in partnership with actors on the ground, FTA proposes to the Summit a selection of emblematic solutions, based on evidence and best-practice, that are actionable, sustainable and game-changing.

The Summit's 5 Action Tracks

- 1) Ensure access to safe and nutritious food for all
- 2) Shift to sustainable consumption patterns
- 3) Boost nature-positive production
- 4) Advance equitable livelihoods
- 5) Build resilience to vulnerabilities, shocks and stress

¹ IPCC (2018). Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments. <https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/>



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1) Promote agroecological transformation

Agroecological approaches can make a key contribution to transitioning to sustainable food systems but have been underinvested in. They are based on the principles of: input reduction, renewable inputs, better use of ecological processes and the biodiversity underpinning them, preservation of plant, animal and soil health, diversification, synergy, co-creation of knowledge, social values, better connectivity between farmers and consumers, equitable governance and participation.

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2) Recognize and promote the benefits of diversity from field and landscape to systems and diets

Diversity in production systems, from plot to landscape, contributes to the preservation of biodiversity, allows for better, more adaptive use of natural resources and provides livelihood opportunities including for women and vulnerable social groups. It is an essential component of resilience of landscapes, farming systems and households to shocks whatever their origin, climatic, biological (pests and diseases) or economic (price volatility). Diversity is one of the main ways to ensure a balanced and healthy diet. The considerable pressure for simplification, driven by economies of scale and facility from production to transformation and distribution, needs to be counteracted by efficient measures that preserve and foster diversity all over food systems, from production to consumption.

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3) Promote fruits, nuts and vegetables consumption and production

Fruits, nuts and vegetables are among the most nutrient-dense foods but they are under-consumed in most countries. Their production can allow to increase income per hectare with improved income particularly for small holders. All nuts and the majority of fruits are grown on trees. Agricultural and food policies that are often focused on staple crops need to be reoriented to integrate the specificities of and benefits provided by the production of fruits, nuts and vegetables.

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4) Place gender equality and social inclusion at the heart of food system transformation

Gender equality and social inclusion are a necessary foundation for achieving sustainable food systems and all related Sustainable Development Goals. Sectoral policies and programmes as well as cross-sector collaboration should promote synergies among equality, food security, livelihood, and environmental goals to ensure that marginalized members of society can benefit from and contribute to food system transformations. Gender-responsive policies should support women's control over land and other assets, capacities and networks, and leadership, voice and influence across scales. Rights-based approaches can enable rural women, indigenous peoples, and other marginalized groups to be agents of change in food system transformation.

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5) Recognize and promote inclusive and sustainable value chains from producers to consumers to drive transformation of food systems

Food production, transformation and distribution are the biggest providers of livelihoods at global level. The food sector is also where the majority of the poor and, paradoxically, of food insecure people, are to be found. Inclusive models of value chains that ensure participation and equity, including for women, youth and vulnerable groups and recognition of the value of natural resources and ecosystem services can drive the transformation of food systems towards more sustainability.

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6) Understand, recognize, support and draw lessons from indigenous food systems and traditional diets

Indigenous food systems, including the knowledge and values embedded in them, are a model of sustainable use of natural resources. Their preservation is essential to protect and sustainably manage forests, biodiversity and other natural resources. They can provide a source of inspiration to bring a global transformation of food systems towards more sustainability in terms of values (sustainable management of resources, reduced waste, social values, sharing, link to health...), responsibility (towards land and biodiversity, society, future generations), and practices. The contributions of traditional diets, rich in diverse nutritious foods, to health and sustainable food systems, need to be better understood and promoted.

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7) Support Forest and Landscape Restoration

It is estimated that, at the global level, up to 25 percent of all land (forests, cropland, rangelands and grassland) is highly degraded and 36 percent is slightly or moderately degraded. Degraded land provides less ecosystem services, contribute to climate change and biodiversity loss, is less productive, causing hunger, poverty and conflicts and driving further deforestation and land degradation in an effort to compensate for lost productivity. Restoring and sustainably manage land is a major way to improve the environmental, economic and social sustainability of food systems. Fast growing species like bamboo can provide bioenergy and biomaterials for renewable food packaging. Forest and landscape restoration requires long term action, with multiple actors including the government and private sector, driven by the needs and priorities of local actors that depend on and manage the land to be restored.

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8) Protect forests and acknowledge their direct and indirect roles in sustainable food systems

Forests are an important source of food for many communities all over the world. Not only do they provide wild fruits, leaves, nuts, and mushrooms – they also provide homes for game animals, insects, and fish that contribute key sources of nutrients for vulnerable populations. They are a main source of energy for cooking as well as for the provision of renewable packaging materials. Their indirect role in food production is equally important; forests provide important ecosystem services for agriculture – pest control, pollination services, water regulation, flood prevention, and soil enrichment. These important benefits of forests need to be better understood and appreciated so that forests are no longer seen as barriers to food production, but as key components of sustainable food systems.

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9) Develop national agroforestry policies

Agroforestry, defined as land-use systems and practices in which woody perennials are deliberately integrated with crops and/or animals, is widely recognized as providing numerous sustainability benefits, including for land restoration, adaptation and mitigation of climate change. Agricultural policies that are often focused on staple crops need to better integrate the specificities of tree crops and the multiple benefits provided by the integration of trees in farming systems for agroecosystems, livelihoods and diets. A particularly promising development is the adoption of agroforestry policies in India and Nepal with others in preparation in several countries.

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10) Mainstream orphan crops into cultivation

Many tree foods found in forests are 'orphan crops' that have been neglected by researchers and industry but have great potential to diversify farming systems to support both human and environmental health. The application of new methods provides opportunities for modest investments to transform the status of these species under cultivation, when supported by policies that encourage their production and consumption. Broad gene pools, with new selection methods, provide for rapid productivity gains, while consumer-based interventions, when handled properly, support local use and integration into domestic and global markets.

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11) Harness the potential of food systems to transition to a circular bio-economy

Food systems are major producers of waste: food losses and waste, non-edible waste, and also food packaging that is increasingly non-renewable, one of the main sources of plastic waste. Circular bioeconomy is more reliant on the cycling and recycling of bio-based natural products and residues, optimizes material fluxes, storage and processing, reduces post-harvest losses and waste. It calls for enlarging the notion of value chains to value webs, where multi-cropping systems give rise to several products. A holistic approach to all material fluxes optimizes input/output flows in agriculture, forestry and fisheries, and diversifies farm and forest revenues, thus reducing risks. These developments require supportive regulations, public procurement, incentives and consumer engagement.

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Websites

- Forests, trees and agroforestry research program of the CGIAR: <https://www.foreststreesagroforestry.org/>
- African Orphan Crops Consortium (AOCC) <http://africanorphancrops.org/>
<https://www.who.int/en/news-room/fact-sheets/detail/healthy-diet>
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