



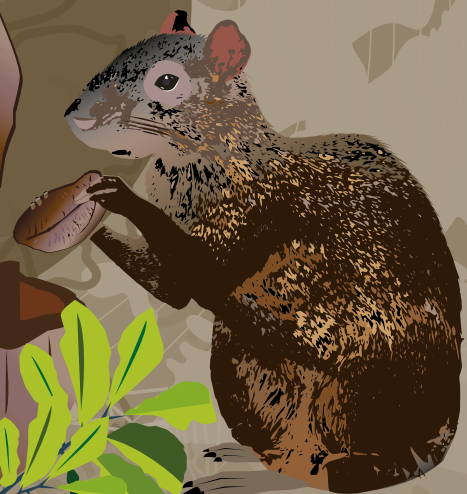
RESEARCH
PROGRAM ON
Forests, Trees and
Agroforestry

FTA in a Nutshell

Cracking issues, spreading solutions

2011-2021

Ten years of forests, trees
and agroforestry research in
partnership for sustainable
development



FTA IN A NUTSHELL

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FTA in a Nutshell

Cracking issues, spreading solutions

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FTA's objectives and priorities

The CGIAR Research Program on Forests, Trees and Agroforestry (FTA), created in 2011, is the world's largest research for development program focused on the role of forests, trees and agroforestry for sustainable development, food security and climate action. At the heart of the program is the vision that forests, trees and agroforestry, when adequately used, managed and governed, in an evidence-based and inclusive way, 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.



FTA's activities focus on 25 operational priorities, which are articulated in the following way: the ultimate **outcomes at household** level of enhanced nutrition and food security and improved livelihoods, including gender, women and men empowerment, and social inclusion are supported by **action in farming systems**: silvo-pastoral systems, market-based agroforestry and forestry, farm-forest policy interface, agroecology, plantations and tree crop commodities and by **coordinated action along value chains**: inclusive finance and business models, innovating finance for sustainable landscapes, public and private commitments to zero deforestation, effectiveness of approaches to sustainable supply like certification and *Forest Law Enforcement, Governance and Trade (FLEGT)*. They rely on the provision of **appropriate genetic material at scale with support to tree seeds and seedlings delivery systems**, and on **sustainable management of natural resources**:

land and forest restoration, biodiversity, safeguarding and conservation of genetic resources, orphan crops, landscape governance. They fully **address climate change** and **implementation of the nationally determined contributions (NDCs)** both for adaptation and mitigation, including zero deforestation, bioenergy and blue carbon and peatlands. Three operational priorities **ensure the quality of FTA research for development**, monitor a set of sentinel landscapes, and on **foresight** aim to identify emerging trends and possible futures for forests, trees and agroforestry systems, and their roles for broader sustainable development objectives.

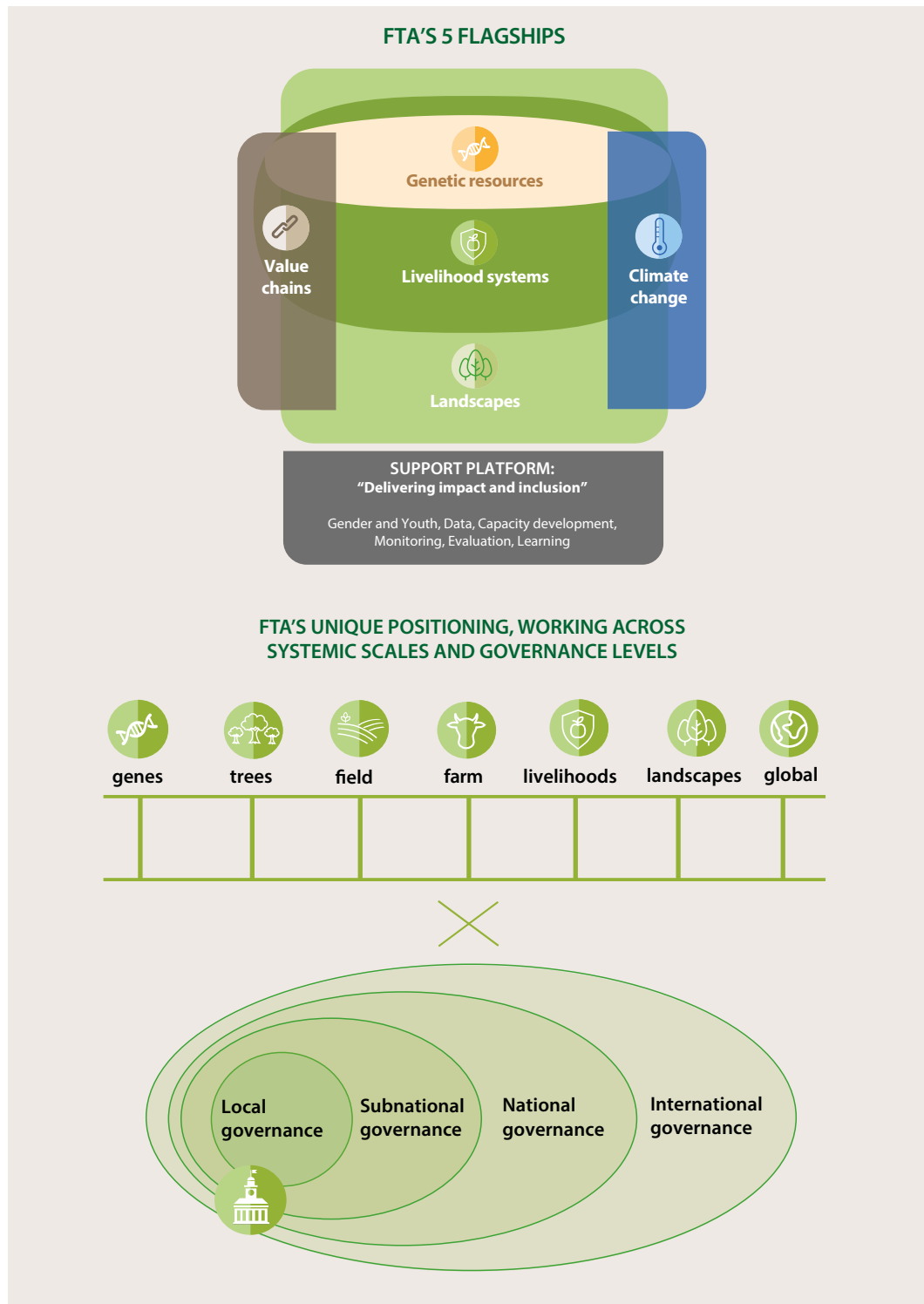


A woman carrying firewood.

Photo by Sande Murunga/CIFOR

These priorities are articulated around 5 flagship programs addressing scales from genes to the planet and governance levels from local to global (see figure below).

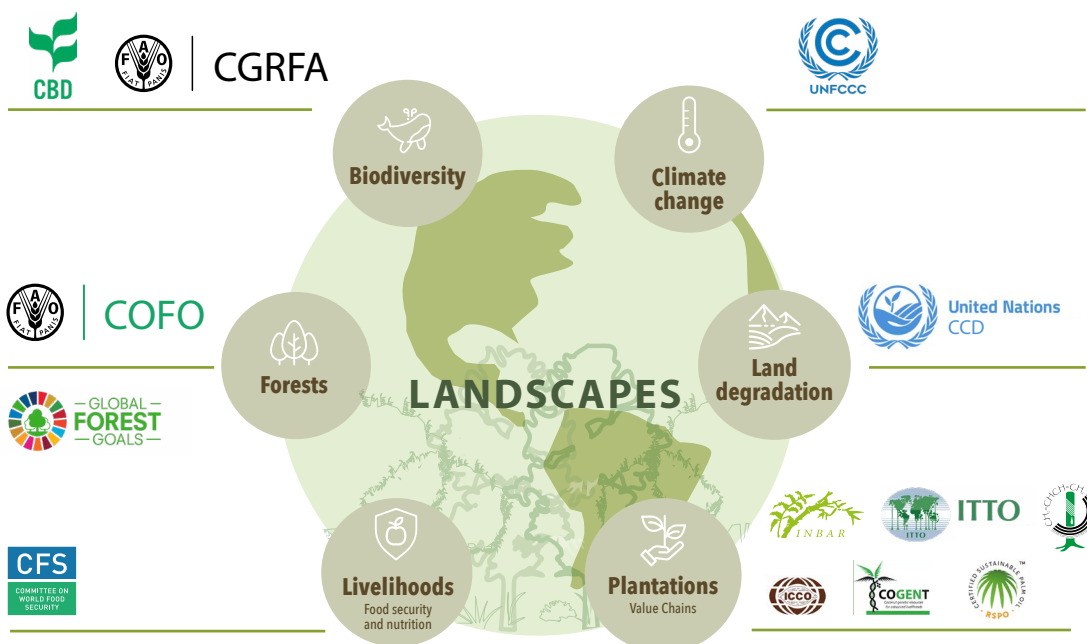
FTA's 5 Flagships, working across scales and level



Addressing interconnected issues, from landscapes to the world

Over 10 years FTA has contributed to all major international conferences, as well as technical and policy coordination platforms related to the key areas of work of the program (see figure below).

A key impact pathway of FTA is to inform decision making from local to international levels, both providing countries and stakeholders with technical options, and making evidence-based policy-relevant recommendations. International bodies are strongly segmented as per their mandates, with each key issue having its own governing instruments: forests, biodiversity, climate change, land degradation, sustainable production of key commodities, food security and livelihoods. The multiplicity of international governing bodies is replicated at national level with different ministerial departments leading each on different issues. But, in each landscape and along each value chains, all objectives need to be confronted, stakeholders need to be provided with options to navigate tradeoffs and leverage synergies. A key role of FTA is to provide knowledge, solutions, options and recommendations for technical, policy, and implementation progress that is at the same time, coherent and integrated, cognizant of the implications of actions in one dimension on other dimensions, and relevant to the specificities of each objective and area. This way of doing is for instance exemplified by the FTA-Kunming recommendations crafted in 2021.¹



CBD: Convention on Biological Diversity; CGRFA: Commission on Genetic Resources for Food and Agriculture; CFS: Committee on World Food Security; CGREL: Coconut Genetic Resources for Enhanced Livelihoods; COFO: Committee on Forestry; FAO: Food and Agriculture Organization of the United Nations; GFG: Global Forest Goals; ICOCO: International Cocoa Organization; INBAR: International Bamboo and Rattan Organization; IRSG: International Rubber Study Group; ITTO: International Tropical Timber Organization, RSPO: Roundtable on Sustainable Palm Oil; UNCCD: United Nations Convention to Combat Desertification; UNFCCC: United Nations Framework Convention on Climate Change.

¹ See: www.foreststreesagroforestry.org/proceedings-from-the-fta-kunming-scientific-conference

FTA Highlights of the decade

Volume 1

Introduction: Ten Years of Forests, Trees and Agroforestry Research in Partnership for Sustainable Development

Volume 3

Conservation of Tree Biodiversity and Sustainable Forest Management

Volume 5

Food Security and Nutrition

Volume 7

Trees on Farms to Improve Livelihoods and the Environment

Volume 9

Improving Rural Livelihoods through Supporting Local Innovation at Scale

Volume 11

REDD+: Combating Climate Change with Forest Science

Volume 13

Multifunctional Landscapes for Sustainable Development

Volume 15

Advancing Gender Equality and Social Inclusion

Volume 17

Monitoring, Evaluation, Learning and Impact Assessment

Volume 2

Tree Seed and Seedling Systems for Resilience and Productivity

Volume 4

Forest and Landscape Restoration

Volume 6

Wild Meat

Volume 8

Biomass, Bioenergy and Biomaterials

Volume 10

Sustainable Value Chains, Finance and Investment in Forestry and Tree Commodities

Volume 12

Adaptation to Climate Change with Forests, Trees and Agroforestry

Volume 14

Governing Forests, Trees and Agroforestry for Delivering on the SDGs

Volume 16

Capacity Development

Volume 18

The Way Forward



2011-2021 10 Years of FTA in Numbers



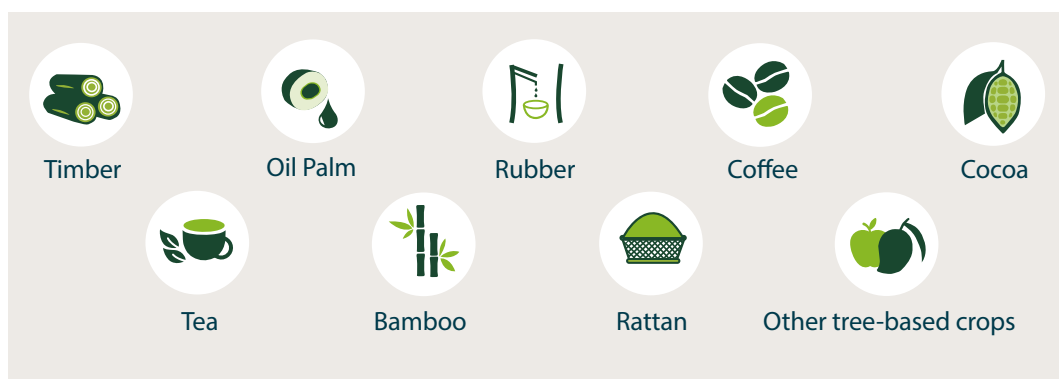
² <https://www.foreststreesagroforestry.org/publications/>

³ Based on expenditures for the period 2011-2020 and on planned budget for the year 2021.

FTA's partnerships



FTA's Tree-based commodities value chains



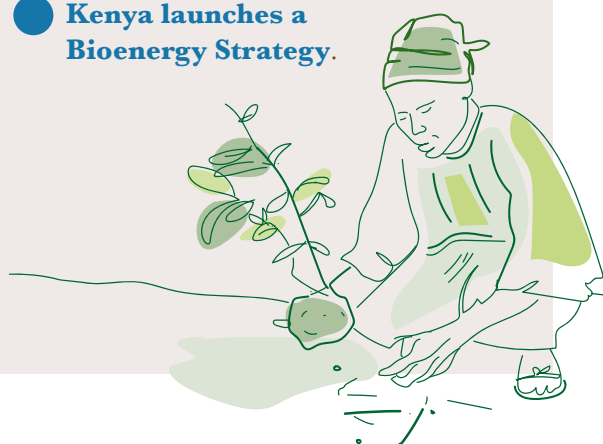
Illustrative outcomes: Innovations and policies

FTA is working on technical, social and institutional innovations (blue) and on the enabling environment and policies for uptake, change and transformation (green). These are two mutually reinforcing impact pathways. A list of illustrative innovations and policies is mapped in Figure **Research-to-Impact Pathways** against the three spheres of **control, influence, interest**. Over time, an innovation can shift from the sphere of control towards the sphere of influence and interest, as it gets progressively used in various context and impacts materialize.

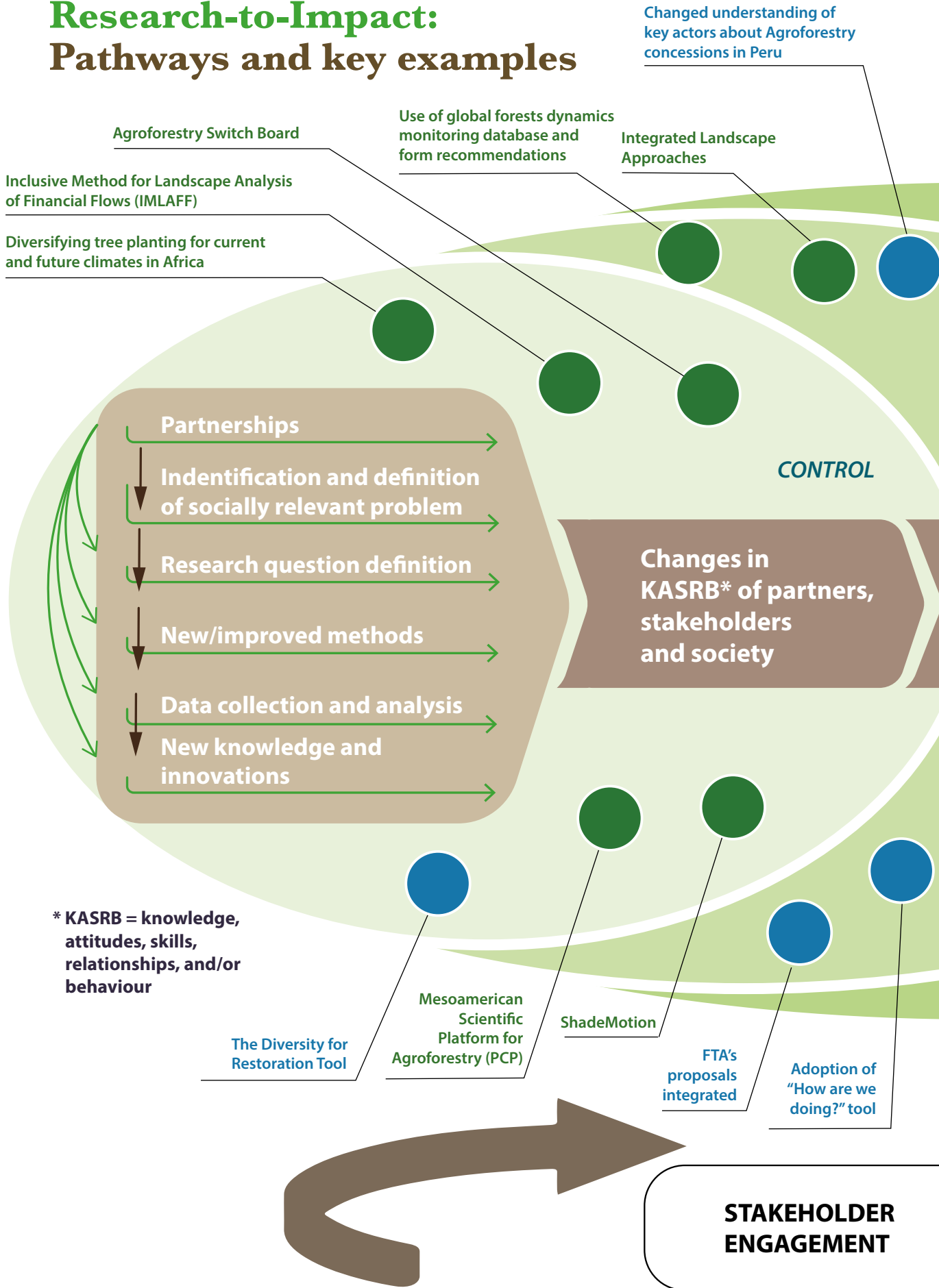
- **Cocoa of Excellence Programme** provided visibility and improved processing techniques and final quality.
- **Agroforestry Switch Board** allows to retrieve data about 172,395 plant species, 3,979 taxa at infraspecific level, across 38 web-based information sources.
- **FTA Research informs the development of a Monitoring and Evaluation System** for Vietnam's national Payment for Forest Environmental Services (PFES) system.
- **Engagement strategy** has seen FTA's research and recommendations inform the gender-responsive design and implementation of global policy processes.
- **Agroforestry policies** adopted in countries such as India (2014) and Nepal (2019) are policy milestones for institutional-driven transformation.
- **ASEAN Guidelines for Agroforestry Development** set to revolutionize land use in Southeast Asia.
- **Changed understanding of key actors** from governments, NGOs, academia, and international agencies. and more informed policy, governance, and implementation of Agroforestry concessions in Peru.
- **Inclusive Method for Landscape Analysis of Financial Flows (IMLAFF)** An inclusive method analyzing investment flows informs multistakeholders action plans and investment decision-making for sustainable development and resilient landscapes from TBI.
- **Diversifying tree planting for current and future climates in Africa** is now made simpler through FTA's alternative approaches based on data mining and species selection tools.
- **Adoption of "How are we doing?" tool** by the Peruvian Service for Natural Protected Areas to enable more equitable co-management of 76 protected areas covering 15% of Peru's territory.
- **Use of global forests dynamics monitoring database and form recommendations** for sustainable

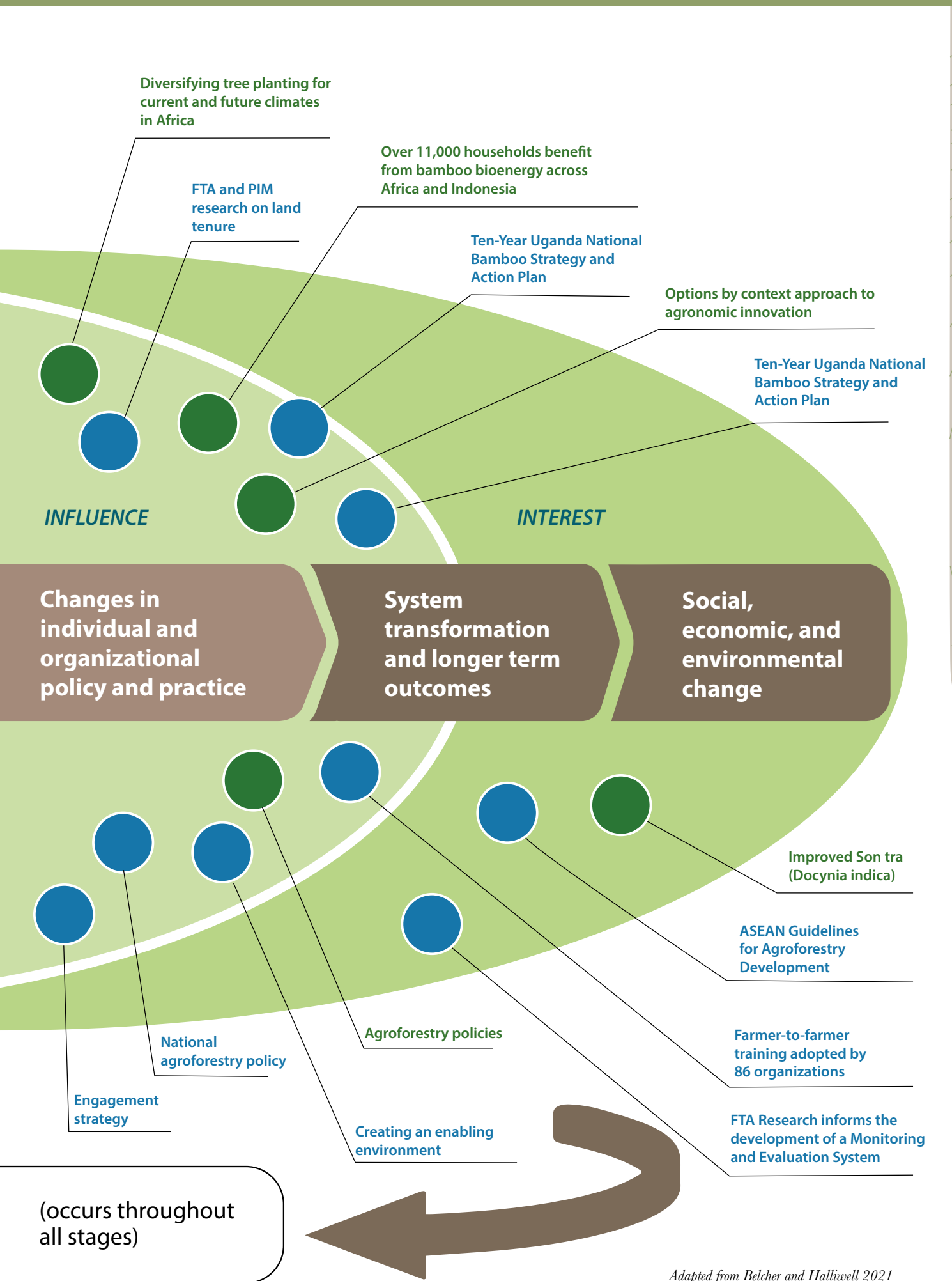
management by the Tropical Managed Forest Observatory Network.

- **FTA's proposals integrated** in the newly endorsed Voluntary Guidelines on Food Systems and Nutrition of the United Nations Committee on World Food Security (CFS).
- **Improved Son tra (*Docynia indica*)** varieties and propagation techniques to increase production and income for potentially 123,000-247,000 households in Northwest Vietnam.
- **Creating an enabling environment** for improved land tenure reform in Uganda.
- **Ten-Year Uganda National Bamboo Strategy and Action Plan** enabled research by INBAR.
- **Options by context approach to agronomic innovation** profoundly changed International, Government, NGO and private sector policy and practice across 14 countries.
- **Nepal** becomes the second country in the world to have a **national agroforestry policy**, with support from ICRAF.
- **FTA and PIM research** informs the renewal of community forest concessions in the Maya Biosphere Reserve in Guatemala.
- **Integrated Landscape Approaches** facilitate governance strategies to reconcile conflicting land-use claims while harmonizing the needs of people with the environment.
- **ShadeMotion** Applications of an open-source canopy shade-modelling software in post-secondary curricula, short-term training workshops, and demonstration farms across Latin America for climate-resilient agroforestry practice by CATIE.
- **The Diversity for Restoration Tool** is perceived as pivotal for strengthening decision-making on native tree species and seed sources among restoration stakeholders in Latin America.
- **Over 11,000 households benefit from bamboo bioenergy across Africa and Indonesia**, via support from the International Network for Bamboo and Rattan (INBAR) for women-led bamboo enterprises, sustainable livelihoods, and land restoration.
- **Farmer-to-farmer training adopted by 86 organizations** serving 352,000 farmers in Eastern Africa improves dairy farmers' knowledge, productivity and revenues.
- **Mesoamerican Scientific Platform for Agroforestry (PCP)** develops cutting-edge applied research for innovative agroforestry systems and has already brought benefits to more than 300k families.
- **Kenya launches a Bioenergy Strategy.**



Research-to-Impact: Pathways and key examples

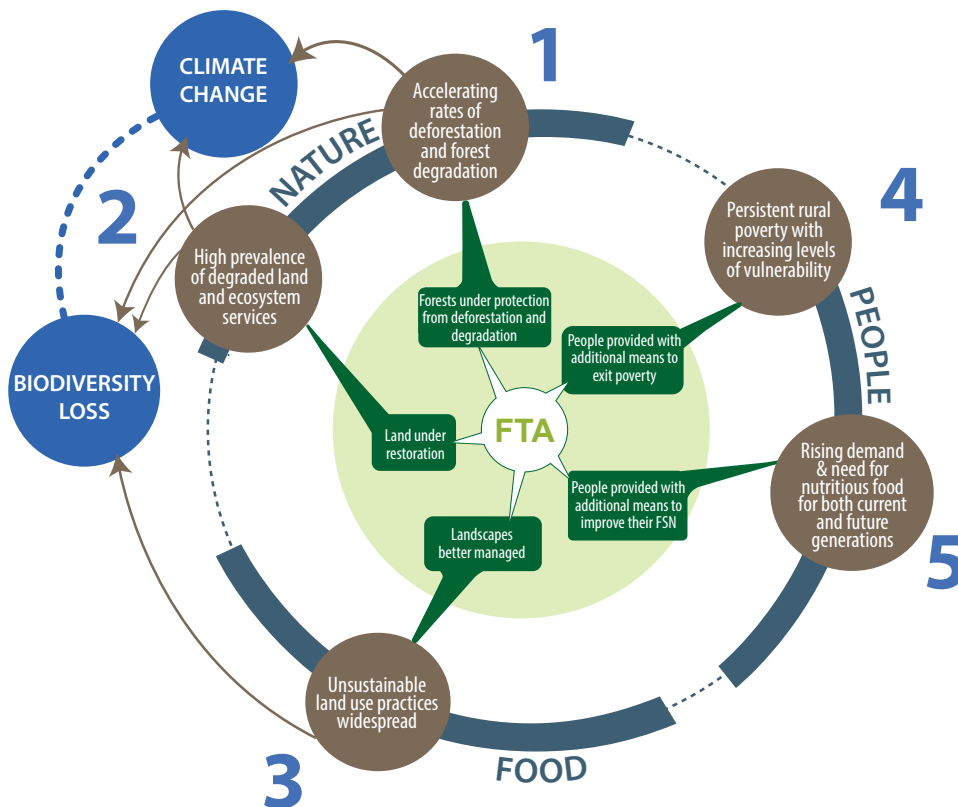




Adapted from Belcher and Halliwell 2021

Impact of FTA Research: positive change for millions of people and millions of hectares on the planet

Nearing the end of the program, FTA launched a series of studies aiming at assessing the extent to which the program has contributed to solving key global challenges since its inception in 2011. In 2016, FTA set aspirational impact targets to which it aimed to contribute by 2021. The studies devised an innovative method to assess the impact of whole bodies of FTA research and interventions, gathering evidence on FTA's concrete roles and contributions within aggregated theories of change, in order to estimate the contribution over time of FTA to five high level challenges. This was grounded on the outcome evaluation approach, and on an extensive review of existing evidence in project reports, internal and external evaluations, policy documents, research papers for hundreds of FTA projects addressing these challenges, as well as interviews with key scientists, government officials, donors, and other knowledgeable sources to fill gaps and validate early findings. The impacts were estimated for a subset of projects in a selection of countries where FTA conducted research and engagement on topics relevant to the challenges, together with uncertainties/error margins (low or high value of impacts), and by explicating the key assumptions that support these estimates. These integrative studies, while not covering the full extent of the FTA portfolio, showed the following results of the collective FTA research and engagement work, in the countries assessed so far (Coccia et al. 2022).



Challenge 1: Combating rates of deforestation and forest degradation

Deforestation is a global challenge negatively affecting biodiversity, ecosystems, and the climate. By 2050, an additional area of tropical forest over a million square miles large, or the size of the country of India, could be deforested. Poor forest management and lack of transparency have been key drivers of deforestation.

★ *As a result of the work done by FTA...*

...overall, between

26 million ha (lower limit)
and **133 million ha**
(upper limit) of forests are under enhanced protection from deforestation and degradation.



This represents between⁴
24 and 125 Gt of sequestered CO₂



Challenge 2: High prevalence of degraded land and ecosystem services

Approximately 25 percent of the global land area was degraded by 2016 and the trend is worsening. It is estimated that 95 percent of Earth's land mass could be degraded by 2050, with incredible adverse impacts to yields (provision services), and ecosystem functioning (regulating, supporting services).

★ *As a result of the work done by FTA...*

... overall, between

2 million ha (lower limit)
and **35 million ha**
(upper limit) of land is under restoration.



As a result up to
0.5 Gt of CO₂
have been sequestered



⁴Equivalent CO₂ amounts were calculated using standardized equations for tropical forests. For a detailed explanation of the potential impact estimation method, please refer to Ch.3, section 6, p.13 and tables 3-11, pp. 26-49 (FTA 2021).

Challenge 3: Unsustainable land use practices widespread

Poor governance and oversight, weak institutions, informal and unregulated agricultural expansion, and unsustainable land use practices at the large- (e.g., industrial) and small-scale (e.g., households) drive widespread mismanagement of landscapes.

★ *As a result of the work done by FTA...*

... overall, between **60 million ha** (lower limit) and **204 million ha** (upper limit) of landscapes in the countries assessed to date are better managed via policy mechanisms, monitoring systems, and adopted management practices on-the-ground.



Challenge 4: Persistent rural poverty with increasing levels of vulnerability

689 million people live in extreme poverty worldwide, surviving on less than \$1.90 per day. Deforestation, land degradation and climate change are increasing the vulnerability of forest and agriculture dependent livelihoods.

★ *As a result of the work done by FTA...*

... overall, between **5.1 million** (lower limit) and **19 million people** (upper limit) have directly or indirectly benefited, or have the potential to benefit from additional means to exit poverty or to reduce vulnerability of falling into poverty.

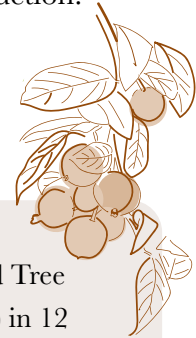


Challenge 5: Rising demand and need for nutritious food

Agricultural production needs to increase by 60-70 percent by 2050 to meet demands of a larger, more urbanized population of the Global South.

Rising income levels and urbanization are leading to changes in diets and increased demand for energy, thereby intensifying food and non-food crop production.

'Prevalence of Undernourishment' has been on the rise since 2014, standing globally at 8.9% and 19.1% for Africa in 2019 and is accelerating rapidly in the wake of COVID-19.



As a result of the work done by FTA...

... overall, between **1.1 million** (lower limit) & **3.5 million** (upper limit) people were provided with additional means to improve their food and nutritional.



Scaling up the FTA Food Tree Crops Portfolios (FTCPs) in 12 African countries could save **2.2 million disability-adjusted life years (DALYs)** resulting from deficiencies in dietary iron and vitamin A.

In

summary

	Up to 133 million ha of forests are under enhanced protection.	Up to 35 million ha of land is under restoration.
Up to 204 million ha of landscapes in the countries assessed to date are better managed.	Up to 19 million people have the potential to benefit to exit poverty.	Up to 3.5 million people were provided with additional means to improve their food security and nutrition.

NOTE: The numbers provided above are estimates that have emerged from the studies carried out by the FTA MELIA team. As part of the studies, theories of change were developed for each of the five challenges, available evidence collected and linked to these TOCs, and selected remaining evidence gaps filled with additional M&E activities, including some fieldwork. Identified evidence was used to estimate and extrapolate plausible ranges of the impact of FTA activities. More information is available at: www.foreststreesagroforestry.org/fta-integrative-studies/.

FTA project countries

FTA work with partners
projects in
78 countries

 Countries with
FTA project sites





Refugee women carrying wood for cooking near refugee camp Gado-Badzere, East Cameroon.

Photo by Emily Pinna/CIFOR

“We worked with partners who share the same objectives, but who are very diverse; with complementary skills to cover the whole research-for-development continuum, to achieve large-scale impacts. Some partners are big, some are small, some are global, some are local, and having inclusive and transparent decision-making processes was absolutely essential for FTA’s success.”



Anne-Marie Izac

Chair of FTA’s Independent Steering Committee

“Often, it is difficult to see annual incremental impact of our work. But when we look back 10 years, we see the huge magnitude on the progress made for our planetary environment and for people. Not all is solved, of course, but our experience and our trusted partnership gives us hope, to be even more effective for the future.”

Vincent Gitz

Director of FTA Phase II (2017-2021)

“This is a springboard... We don’t want to stop here, as there is much more work to do in light of the recent Glasgow COP26, the CBD and the news you see every day. We have a good team; we have a good set of partners. I see no reason why we should stop here.”

Robert Nasi

*Director-General of CIFOR
Managing Director of CIFOR-ICRAF
Director of FTA Phase I (2011-2016)*

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FTA in a Nutshell

The CGIAR Research Program on Forests, Trees and Agroforestry (FTA) is the world's largest research for development program to enhance the role of forests, trees and agroforestry in sustainable development and food security and to address climate change. CIFOR leads FTA in partnership with Bioversity International, CATIE, CIRAD, ICRAF, INBAR and TBI.

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