



RESEARCH
PROGRAM ON
Forests, Trees and
Agroforestry

Annual Report 2020

CGIAR Research Program
on Forests, Trees and
Agroforestry (FTA)

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FTA's managing partners: Center for International Forestry Research (CIFOR, lead center), World Agroforestry (ICRAF), The Alliance of Bioversity International and CIAT, the Tropical Agricultural Research and Higher Education Center (CATIE), the Agricultural Research Centre for International Development (CIRAD), the International Bamboo and Rattan Organisation (INBAR) and Tropenbos International (TBI).



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Executive summary

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 ICRAF, the Alliance of Bioversity International and CIAT, the Tropical Agricultural Research and Higher Education Center (CATIE), the French Agricultural Research Centre for International Development (CIRAD), the International Network for Bamboo and Rattan (INBAR) and Tropenbos International (TBI).

FTA has a set of [operational priorities](#) which structure its program of work. These priorities address key development demands and knowledge gaps concerning the implementation of the SDGs and the Paris Agreement on climate change. These operational priorities have each a 3-yr operational workplan 2019-2021, with a detailed list of activities and outputs, identifying clearly those funded by W1W2.

FTA mitigated the impact of the COVID-19 restrictions: field activities were generally conducted by local staff that could travel domestically, and some activities were significantly amended, in particular participation to international events for which engagement was mainly done virtually. Paradoxically, this led to an increase of engagement in some key areas, including participation to sectoral platforms, such as the International Rubber Study Group, the Global Landscapes Forum, or the Transformative Partnership Platform on Agroecology. Also, capacity development activities increased in 2020.

Some key 2020 results follow.

FTA produced 444 publications in 2020, of which 149 were open access, 216 peer-reviewed and 188 ISI. FTA outputs obtained an attention score of over 7,000 with almost 8,000 unique tweets, coverage in almost 350 news outlets, read by almost 7,000 Mendeley users and cited over 700 times. Importantly, FTA publications were used to inform or develop 14 policy documents.

FTA held a decadal Science Conference, a major 2 week-long fully digital event titled *Forest, trees and agroforestry science for transformational change*, from 14 to 25 September 2020. It drew more than 520 participants from 69 countries. All the material is available [here](#) and the videos of the keynote speeches [are available here](#), with close to 200 interventions, panel debates in 26 different sessions, and posters.

In 2020, FTA underwent, like all CRPs, an external review. The findings are available <https://cas.cgiar.org/evaluation/publications/crp-2020-review-fta>. The review report is a very solid endorsement of the program's achievements to date, from FTA's actions within its sphere of control (outputs) to its sphere of influence (outcomes and impact). The reviewers stress that *“FTA showed strong implementation performance in phase II and is likely to make significant progress toward most planned end-of-program targets.”* It further highlights that the *“close collaboration between FTA partners, its independent and efficient governance, and the effective prioritization and management of resources resulted in a high level of programmatic value-added”*.

Part A: Narrative section

1 Key results

1.1 Progress towards SDGs and SLOs (sphere of interest, with research results frequently predating the CRP)

a) Overall contribution of the CGIAR towards the SRF targets in the relevant area of work for the CRP, based on rigorous adoption and/or impact data.

FTA contributes to 9 Sustainable Development Goals (SDGs), all CGIAR Intermediate Development Outcomes (IDOs) and to 31 sub-IDOs. Progress towards IDOs in the areas of the CRP is often stepwise, starting with deployment of research activities in pilot areas, followed by support to the establishment of an enabling environment for adoption, before being adopted on a broader scale. This step often requires adoption of the set of practices by a strong partner that will then propagate it and/or support appropriate institutional and policy processes.

Evidence shows that the program is on the right path to meet its objectives as illustrated by examples in Table 1. These examples are varied, representing interventions from the piloting to the upscaling domains. For instance, the intervention on ecosystem-based adaptation in the Gambia has produced significant results in the pilot area. It was part of a broader intervention with data collection in a broader number of communities, with capacity building, and curriculum development support provided to the University of the Gambia. All these activities, are supported by construction of strong political will and societal ownership, as shown by the adoption of the Tree cover resolution of Banjul with the participation of three ministers and a hundred delegates. Conditions are thus in place for successful upscaling in The Gambia. The experience of this intervention can then be used for comparable interventions, allowing further expansion in an options by contexts approach. Tree growing, a concept that evolved out of the Gambia project, has now overtaken the tree planting narratives and is currently being drafted into strategies and plans of countries such as Kenya. This is a positive development because it implies the recognition that growing trees is a long-term investment as opposed to tree planting, which could be seen as “an event”. Elgeyo Marakwet, for example, became one of the first counties in Kenya to launch The Sustainable Forestry and Tree Growing Policy in 2020 as a framework to guide the restoration of degraded forests and agroforest.

b) Any areas of learning from impact assessments which have influenced the direction of the program.

In 2020, FTA’s work on Monitoring, Evaluation, Learning and Impact Assessment (MELIA) focused on documenting progress of FTA contribution in addressing key global challenges where FTA is expected to deliver results. It also focused on assessing FTA contribution to SRF relevant targets associated with these challenges. Studies to address progress made on two challenges (Protection of forests and reduction of deforestation, and the Rising demand and need for nutritious food) started in 2020 with an interim report presented to and discussed

with FTA's Independent Steering Committee in December. These preliminary results, along with the recommendations of the independent evaluation contributed to the framing of the POWB 2021.

1.2 CRP progress towards Outputs and Outcomes (spheres of control and influence)

1.2.1 Overall CRP progress

Early in 2020 FTA management adapted the orientations of the year to the pandemic context and to the upcoming closure of the CRP. They decided to put an emphasis on synthesis work, dissemination of results and strengthening partnerships, supported a development of capacities on the use of digital means. This led to an increase of engagement in some key areas, including participation to sectoral platforms, such as for example with the International Rubber Study Group, the Global Landscapes Forum, or the Transformative Partnership Platform on Agroecology.

Following the invitation of the CGIAR System Management Office to showcase innovations for the 50th anniversary of the CGIAR, FTA selected 11 innovations developed by the program and its partners, including new and improved management practices, knowledge and technologies, from farm to landscape, at various stages of development, having already proven impacts or being particularly promising to trigger transformative changes:

- Agroforestry Species Switchboard, “one-stop-shop” to retrieve data about a particular plant species across a wide range of information sources
- ShadeMotion software for tree shade modeling
- Options by context approach to agronomic innovation
- Agroforestry policies
- Integrated Landscape Approaches - conceptual and practical approaches to integrated landscape management
- Diversifying tree planting for current and future climates in Africa
- Improved son tra cultivar (*Docynia indica*) varieties and propagation techniques to increase production and income for households in Northwest Vietnam.
- Inclusive method for landscape analysis of financial flows (IMLAFF). An inclusive method analyzing investment flows informs multi-stakeholders action plans and investment decision-making for sustainable development and resilient landscapes
- Bamboo for community energy provision
- New innovative network monitoring tropical managed forests: TmFO, the Tropical managed Forests Observatory
- Mesoamerican Scientific Platform for Agroforestry (PCP)

As a follow up to its participation in the Asia-Pacific Forest Sector Outlook Study II, FTA engaged in a collaboration with FAO to develop two inter-related roadmaps for primary forest conservation, and for innovative forest technologies in the Asia-Pacific region with two very successful digital workshops in 2020 (<https://www.foreststreesagroforestry.org/asia-pacific-region-roadmaps-progress/>). The collaboration with the International Rubber Study Group was further deepened with the organization of an open digital workshop on Natural Rubber

Systems and Climate Change with 500 hundred participants (<https://www.foreststreesagroforestry.org/fta-event/natural-rubber-systems-and-climate-change/>) followed by a webinar on 'Digital and Financial Innovations for Climate Change Adaptation and Mitigation in NR Systems'. The objective of these events is to construct the evidence base and shared vision that will enable actors of the sector to jointly engage in international and national discussions on climate change and to trigger climate action in the rubber sector, including as part of the implementation of National Adaptations Plans and Nationally determined contributions.

The Transformative Partnership Platform on Agroecological approaches to building resilience of livelihoods and landscapes (TPP) was created to accelerate and co-ordinate work on agroecology across international, national and local scales, with the aim of fostering transitions to more sustainable agricultural and food systems. It will identify and address critical knowledge gaps about agroecological transitions, to provide evidence to underpin advocacy and inform policy makers and donors about the potential of agroecological approaches to foster innovation that can sustainably improve livelihood and landscape resilience. This involves working in new ways, bringing together: research and development; science and social movements and local and scientific knowledge through transdisciplinary science and the co-creation of knowledge. The first research priority to be addressed by the TPP is documenting and evaluating the socioeconomic viability of agroecological practices across Africa.

In September 2020, FTA ran its decadal [scientific conference](#) titled **Forest, trees and agroforestry science for transformational change**. More than 520 participants from 69 countries collaborated and exchanged findings and results, creating an incredibly lively and successful milestone in the program's lifetime. The event featured close to 200 interventions from scientists involved in FTA. From the original plan of an in-person conference, the event was completely re-designed in order to adapt to the Covid-19 situation and is one of the first examples of such an extensive virtual event, marking probably a new era for large scale scientific conferencing. Numerous innovative conferencing tools and methods were deployed, including live ("synchronous") online collaborative platforms such as Mural, virtual poster rooms, live polling, role-playing sessions, dragons' dens, etc. The results of the conference are now being shared with end users and the broad public through various means. A [book](#) containing the 179 abstracts submitted was published as proceedings of the event. A [web portal](#) has been created with all the outputs from the conference (presentations, videos abstracts). A series of thematic web events was initiated in 2020 and will continue in 2021.

The Independent External Review of FTA, carried out in 2020, stressed that "*FTA showed strong implementation performance in phase II and is likely to make significant progress toward most planned end-of-program targets.*"¹ The review team asked FTA leadership to also self-assess overall progress toward phase II targets to allow further triangulation. The review team "found these self-assessments credible and even somewhat conservative (at the program level)". Evidence provided in support of these assessments is summarized in Annex

¹ CAS Secretariat (CGIAR Advisory Services Shared Secretariat). (2020). CGIAR Research Program 2020 Reviews: Forests, Trees and Agroforestry. Rome: CAS Secretariat Evaluation Function. p.2
<https://cas.cgiar.org/sites/default/files/images/FTA%20CRP%20Review%202020%20Report.pdf>

5 of the Evaluation Report.² The review also highlights that the “*close collaboration between FTA partners, its independent and efficient governance, and the effective prioritization and management of resources resulted in a high level of programmatic value-added*”. The report emphasizes the important role played by partners, including universities and research institutions in strengthening FTA.

1.2.2 Progress by flagships

Detailed progress by Flagships is described in Annex 2

1.2.3 FP1 Tree genetic resources (TGR) to bridge production gaps and promote resilience

Among the achievements targeting the **outcome on adoption of methods, tools and practices** to mitigate threats to valuable TGR were a study in [Global Change Biology](#) and a hand book on [Agrobiodiversity, School Gardens and Healthy Diets](#) with studies cutting across five of the **FTA priorities; Restoration, Biodiversity, Orphan crops, Nutrition, and Seed Delivery**.

Focused specifically on the **outcome of implementing cost-effective domestication** and the **priorities of Orphan crops and Nutrition** were publications in [Nature Genetics](#) and [Global Food Security](#) covering [enhancing African orphan crops with genomics](#), mainstreaming nutritious orphan crops into African food systems and the [contribution of forests, trees and agroforestry to sustainable food security and nutrition in a time of crisis](#), as well as work on the impact of agrobiodiversity on [women and children’s diet](#).

For the outcome of **adopting cost-effective and equitable tree-planting material** delivery, outputs included a study on priorities and challenges of tree **seed supply** for **restoration** in [Unasylva](#); and the continued build-up of now at 30 stands of 18 species. Further, an array of tools for [Community Ecology and Suitability Analysis](#), the [WorldFlora](#) (with *i.a.* a [User Guide](#)), and [biodiversity analyses were published](#).

1.2.4 FP2 Livelihood systems

FP2 [published a consolidated set of agroecological principles](#) that have gained widespread acceptance³. A [transformative partnership platform](#) (TPP) on agroecological transitions was established attracting more than 20M USD of research funding. A specific workplan was established, funded by French W2, and is now progressively being rolled out, the Secretariat and working modalities of the Transformative Partnership Platform (TPP) have been put in place, with projects attached to it with first research results expected in 2021 (see also infra in section 1.2.3). As part of it, a common protocol for [socio-economic assessment of the impact of agroecological practices](#) was developed for a portfolio of 12 case studies across Africa. [Global analysis of social and environmental outcomes of community forestry management](#)

² CAS Secretariat (CGIAR Advisory Services Shared Secretariat). (2020). CGIAR Research Program 2020 Reviews: Forests, Trees and Agroforestry (FTA) Annexes. P. 9
<https://cas.cgiar.org/sites/default/files/images/FTA%20CRP%20Review%202020%20Annex.pdf>

³ The article, released in October 2020 was accessed 14,000 times and cited 20 times as of August 2021
<https://link.springer.com/article/10.1007%2Fs13593-020-00646-z/metrics>

identified conditions necessary for simultaneous gains in socio-economic and environmental outcomes. Analysis of [agroforestry policy status, gaps and opportunities for supporting landscape restoration](#) across 6 countries in West and East Africa, revealed a ‘missing middle’ between national commitments and restoration action and made context-specific recommendations to address implementation gaps. [Global synthesis of knowledge about coffee microbiota](#) concluded that use of microorganisms can improve the sustainability of coffee production, waste management and quality. [Oil palm diversification](#) options in Indonesia produced 40% higher yield than monocropping, while also replenishing more ground water and having a lower C footprint. Similarly in Vietnam [agroforestry options were more than twice as profitable on sloping land than the monocultures they were replacing](#), at the same time as controlling erosion but required incentives to get over the time lag between initial investment and return.

1.2.5 FP3 Sustainable value chains and investments

In partnership with 12 contract farming businesses, **inclusive finance and business models** were developed across Tanzania, Ghana and Peru, and published in a [synthesis article](#). A [related article](#) was also produced on COVID-19 recovery and transforming food systems through inclusive agribusiness scaling.

Work on **innovating finance for sustainable landscapes** included organizing the Stream on inclusive value chains, finance and Investments at the FTA Science Conference, during which a Landscape Analysis of Financial Flows tool (LAFF) was presented and discussed.

On **public and private commitments to zero deforestation** significant progress was made at several pilot sites, including in South Sumatra on green development and fighting deforestation; in the Amazon on launching the TerrAmaz project that builds upon FTA’s work with five pilot territories in Brazil, Colombia, Ecuador and Peru, on the fight against deforestation and the transition to sustainable development pathways.

FP3 work on **plantations and tree crop commodities** included regular contributors to [GPSNR working groups](#) on Capacity Building, and Strategy and Objectives, as well as to workshops on Natural Rubber Systems and Climate Change and EU Legislation on Imported Deforestation in the Rubber Industry. A study was completed on the potential of mixed timber plantations’ role in forest restoration.

As part of evaluating the **effectiveness of approaches to sustainable supply**, an FTA [Working Paper](#) reviewed initiatives to promote sustainable supply chains: the case of forest-risk commodities. At the Global Shea Alliance Virtual Shea Lab, [research findings](#) were presented on the challenges and opportunities to empower women shea producers in Burkina Faso.

1.2.6 FP4 Landscape dynamics, productivity and resilience

FP4 delivered two special issues [agroforestry-based ecosystem services](#) and [Impacts of Tropical Landscape Change on Human Diet and Local Food Systems](#) in the Land and Frontiers journals respectively. The [COLANDS](#) project also published a book titled [“Operationalizing Integrated Landscape Approaches in the Humid Tropics”](#). A couple of

noteworthy papers were published on restoration including an innovative [Agroforestry-based typology](#), a [stocktake paper on cost-benefit analysis](#) and an in-depth case study on [incentives for restoration](#). FP4 also published an innovative and comprehensive [framework for analyzing the pathways and impacts of COVID 19 on agroecosystems resilience, livelihoods and landscapes](#). Governance and national level policy impacts included supporting a Bioenergy strategy in Kenya ([see link](#)), agroforestry targets in the Vietnam and Myanmar NDCs and The Banjul Tree Cover Resolution. At sub-national level, FP4 also supported the completion and adoption of a green growth plan in Aceh Province in Indonesia as well as an [Elgeyo Marakwet County Sustainable Forest Management and Tree Growing Policy](#) in Kenya. The ecosystems-based adaptation project in the Gambia mentioned in section 1.1 above and carried out in collaboration with FP5, recorded great success and shows great potential for upscaling. Three sentinel landscape stock-take reports were published.

Three sentinel landscape stock-take reports were published.

1.2.7 FP5 Climate change mitigation and adaptation

The Global Comparative Study of REDD+ (GCS-REDD+) successfully concluded Phase 3, with six exemplary stories of change documented. SWAMP work on peatlands published its database with 100 datasets for over 25 countries and achieved official policy recognition for peatlands in Peru. Agroforestry-based biofuel production potential on degraded and abandoned land was demonstrated and is ready to scale up in Indonesia. Kenya's Bioenergy Strategy concluded with FTA support. FP5 successfully established a new Transformative Partnership Platform on Circular Bioeconomy. One important outcome was that FTA scientists were invited to write Green Climate Fund strategy papers for forests and land use, and for ecosystems and ecosystem services, respectively. Overall, almost 2,500 people were trained long-term and 383 short-term in FP5, in addition there were 11 PhDs and 12 interns (training to youth), with on average 39% women participating.

1.2.8 New COVID-19

The COVID 19 crisis, meaning the impacts of the infection itself and of the measures to contain and mitigate it, has far reaching consequences on economies, value chains and livelihoods. It highlights all vulnerabilities of our societies, economies and livelihoods, most of which are in fact vulnerabilities to many other types of risks and shocks, triggered or amplified by the crisis or the responses.

FTA, has organized an FTA COVID 19 Rapid Research Response in four steps:

1. Support our partners in understanding the impacts of the current crisis and underlying vulnerabilities;
2. Draw from our research on previous shocks and crisis, to propose adapted solutions;
3. Draw lessons from these two steps to:
 - a. address the original risks of such pandemic: zoonosis, interface with wildlife, wildlife trade and markets, etc. We are working on a white paper with the EC.
 - b. build resilience of livelihoods, landscapes, value chains to any type of crisis, of similar or different origin.
4. Contribute to "Build back better"

The objectives of the Rapid Research Response are to:

- Identify the impacts of the COVID 19 crisis on the sectors where FTA is engaged (countries, landscapes, value chains)
- To mobilize existing research on comparable impacts driven by other types of crisis to respond to the present crisis
- Build upon this work to better identify and address risks and vulnerabilities in agriculture and forestry and build resilience in landscapes, value chains and livelihoods of people depending on them, including to climate change, but not limited to it.

As part of FTA COVID 19 Rapid Research Response program for 2020 a range of studies have been initiated to assess the impacts of the crisis on selected value chains, representative of a diversity of situations and contexts. These studies concern:

- Woodfuel value chains and their actors in RDC,
- Actors of the shea value chains in Burkina Faso,
- Forestry enterprises and their actors in Cameroon,
- Analysis of the current situation and price crisis on natural rubber value chains and their actors in Indonesia,
- Smallholder agroforestry farmers in Honduras.

The studies were funded through budget revisions linked to COVID-19.

For each of these value chains the purpose of the study is to:

1. identify the short-term impacts of the crisis on the value chains and their actors
2. identify potential actions to address them.
3. Identify potential medium/long term impacts of the crisis
4. Identify potential actions to address them

There has been contribution from FP1 to the discussion “COVID-19 recovery is a chance to improve the African food system’ [link](#).

FP 3 developed detailed ToR for a joint study to assess the vulnerabilities of rural women producers in the shea value chain as well as opportunities available to them. Such vulnerabilities may encompass diverse factors such as new regulatory requirements to meet global market demand for Cocoa Butter Equivalents, new legal requirements for the recognition of women shea producers and their associations and/or federated structures, growing insecurity in the country, reduced densities of shea trees in the agroforestry parklands, and constraints associated with the collection, processing and marketing of shea nuts and/or shea butter. One key element of the research will be to focus on the recent impacts of the COVID-19 pandemic on shea producers and the shea value chain. The on-going study is based on virtual consultations (by phone and e-mail) to solicit the different perspectives of representatives of six actor groups, viz., women shea producers (shea nuts and shea butter); Trans-National Corporations; other traders including “agro-business men”; government; NGOs; and research organisations. A draft report is anticipated by end April 2021.

FP4 sought to contribute to the understanding of interactions between COVID 19 and integrated landscapes. FP4 published an innovative and comprehensive [framework for](#)

[analyzing the pathways and impacts of COVID 19 on agroecosystems resilience and the related livelihoods and landscapes](#). In addition, a study was started to estimate the impacts of COVID 19 on Community forest enterprises in Southern Cameroon. Data on economic, social and environmental impacts of COVID 19 was collected on a diverse set of 15 enterprises (in 15 communities) in November and December 2020. Enterprises studied include mainly non-timber forest products, maize with agroforestry and fishponds. In Indonesia, the team worked with the government of West Papua, Indonesia to study the impacts of COVID 19 on food and nutrition security and forest use. As a result, the Government of West Papua also joined the CGIAR COVID hub to better understand the potential impact of policies being considered in response to COVID on diets in countries where wildlife is an important part of local diets.

FP5 established a forward-looking Transformative Partnership Platform on [Circular Bioeconomy](#) that also responds to the objective of building back better.

A study conducted by the Gender Team in Burkina Faso on [rural women's lives amid the COVID-19](#) pandemic highlighted the broad-ranging economic, but also emotional and social repercussions that often fall under the radar in coverage of the pandemic.

1.2.9 Variance from Planned Program for this year

FTA did three times during 2021 an assessment of the impact of COVID-19 on W1-W2 funded activities and deliverables. A minor amount (approx. 0.5m) of activities and deliverables were replaced by new activities to ensure maximum output delivery and programmatic outcomes achievement in line with previously agreed FTA's priority objectives, prioritizing:

- desk studies (synthesis, papers, briefs, stocktaking reports, guides, training material etc),
- toolkits and datasets assembly.
- webinars instead of face-to-face conferences.

With this, there was no variance from planned POWB, except for the addition of the specific workplan on agroecology under FP2.

Please answer all sub-questions: (put "N/A" if not applicable) :

(a) Have any promising research areas been significantly **expanded**?

To support research beyond the CRPs, 2 Transformative partnership platforms: Transforming the quality of tree planting- **TQTP** and **Nutriscap**es to support the important roles that forests and agroforestry play for healthy nutrition in landscapes have been established with new areas of research and approaches to implementation. Two FP1 products: **Africa Tree Portal** for better decisions on what trees to plant where in Africa – and where to get the needed genetic resources from and **TREE-BREED-NET** an on-line web portal to facilitate tree breeding of prioritized trees from World Agroforestry (Africa, Latin America and Asia) have been initiated.

The work on climate appropriate portfolios of tree diversity for productive and resilient landscapes (CAPTD- PRL) is expanded for multiple GCF proposals for Burkina Faso, Tanzania and Rwanda. The work on ROI for PATSPO has been expanded to include benefits to adaptation to and mitigation of CC.

The agroecology research priority led by FP2 developed a novel Transformative Partnership Platform (TPP) on agroecological transitions and, within this, a French-funded 'Viability' research project on the socio-economic assessment of agroecological practices at household level implemented using a common protocol in 12 contrasting case studies across Africa (with six CG centers, CIRAD and a range of national partners). The demand stems from the HLPE (2019) report on agroecology and consequent policy convergence process at CFS in which many countries have expressed demand for greater evidence and understanding of the social and economic viability of agroecological approaches, especially in African contexts where farmers may be using relatively low levels of purchased inputs and need to intensify. Funding was through an additional 1.3 M EUR of W2 funds from France in 2020. An EU-funded TRANSITIONS programme (7.5 M Euro) with projects on developing holistic metrics of agricultural performance, digital agriculture and private sector engagement (with WLE and CCAFS) was also designed via the TPP and approved for funding (7.5 M Euro) that will be contracted through IFAD, due to start in 2021.

The 2019 fieldwork of the two pilot applications of [IMLAFF](#) (Integrated Method for Landscape Assessment of Financial Flows) in respectively Ghana and Indonesia led to the identification of two organisations that were at the center of financial flows with the potential to generate positive impacts on the socioecological environment in the landscapes: a cocoa company in Ghana and a Credit Union in Indonesia. When approached, they liked the IMLAFF and agreed to apply a modification of that approach to do a more detailed study of the financial mechanisms applied by them, in order to analyze how their mechanisms contribute to inclusive finance in support of sustainable landscapes by having overcome barriers to both access to finance and sustainable production, as identified in our innovative finance document. These case studies have been done in 2020 and their results are now under revision (2021).

(b) Have any research lines been dropped or significantly **cut back**?

Due to final funding being less than expected, FTA undertook only half of its third-tier (T3) workplan, the rest being cut back. T3 activities were those of the least probability of funding as per FTA contingency planning scheme that splits the W1/W2 income into three tiers of decreased probability of funding. The Program has activities based workplans, therefore, we can provide the list of all cut back activities. Below some examples of dropped activities by FPs due to T3 not materializing in full:

FP1: Nutritional composition of fruit trees in Turkana- Dataset with nutritional data

FP2: Policy and information briefs on fodder options in Colombia, agroforestry options in Indonesia and characterization of the coffee value chain in Vietnam;

FP3: A protocol to assess the impact of zero deforestation certification on the living conditions of producers, guidelines for the impact assessment at landscape scale of timber plantations; dissemination of work results in academic seminars and amongst policy makers and stakeholders.

FP4: Publication of threat analysis and priority setting for conservation of tree genetic resources in SE Asia, Incentive experiments in restoration in Kenya and the Gambia (dataset and report), capacity development for restoring degraded community forests (community and

civil society levels), policy brief on De-risking Landscape business cases: an emerging framework

FP5: Bioenergy production potential from degraded and underutilized land- Biofuel tree database, and Paper on bioenergy and ES trade-offs,

Analysis and consultation on low-hanging entry points for promoting ecosystem-based bioenergy options across the tropics- A manuscript for Journal submission on promoting ecosystem-based bioenergy.

c) Have any Flagships or specific research areas **changed direction**?

n/a

1.2.10 Altmetric and Publication highlight

CGIAR's independent evaluation ranked FTA first out of all 12 CRPs in terms of scientific collaboration and joint scientific publications, acknowledging the effort we put in developing cross-sectoral, transdisciplinary multi-stakeholder research.

Globally in 2020 FTA outputs gained an overall 7,060 attention score in Altmetric. Publications were tweeted 7,834 times, covered by 336 news outlets, read by 6,807 Mendeley users, cited 760 times and, most importantly, they have been directly influential to at least 14 policy documents (as per data gathered in April 2021).

[Asynchronous carbon sink saturation in African and Amazonian tropical forests](#), gained the highest Altmetric score of 2,023. The article, published in Nature, was covered in 140 news outlets, posted in 25 blogs, tweeted for 1,134 times, read by 580 readers on Mendeley and cited for 82 times. **It is in the top 5% of all research outputs scored by Altmetric.** This article scored higher than 99% of other Nature publications, making it an exceptional case.

FTA's other top Altmetric scoring publications for 2020 are:

- [Importance of Indigenous Peoples' lands for the conservation of Intact Forest Landscapes](#) (327 Altmetric score) was covered in 15 news outlets, mentioned in 9 blogs, tweeted 360 times, 170 Mendeley readers and was cited 17 times.
- [TRY plant trait database – enhanced coverage and open access](#) (213 Altmetric score) was cited 181 times on Dimension and 122 on Web of Science. It was tweeted 279 times. Compared to 4,693 research outputs from Global Change Biology journal, this publication scored higher than 98% of its peers.
- [Food for thought – The underutilized potential of tropical tree-sourced foods for 21st century sustainable food systems](#) (212 Altmetric score). Out of 193 outputs tracked from the same journal, this publication ranked no.11, scoring higher than 94% of its peers.
- [The importance of Indigenous Peoples' lands for the conservation of terrestrial mammals](#) (184 Altmetric score) was covered in 10 news outlets and tweeted 172 times.
- [Forest-linked livelihoods in a globalized world](#) (181 Altmetric score) was picked up by 13 news outlets and tweeted 100 times.

- [Human activities link fruit bat presence to Ebola virus disease outbreaks](#) (127 Altmetric score) is quoted in a FAO policy document and was covered in 10 news outlets.

Notably, [Addressing forestry and agroforestry in National Adaptation Plans](#), a co-publication with The Food and Agriculture Organization (FAO) (Altmetric score 76) was used to develop two policy documents, “[Public expenditure analysis for climate change adaptation and mitigation in the agriculture sector: a case study of Kenya published](#)” and “[Guatemala's progress in developing a national monitoring and evaluation system for adaptation in the agriculture sector](#)”.

1.3 Cross-cutting dimensions (at CRP level)

1.3.1 Gender

Gender integration and research have continued to occupy a central place in the FTA portfolio, across FTA FPs. Research spanning several thematic areas has advanced the evidence base on approaches that enhance gender equality and social inclusion in forest, tree and agroforestry landscapes, and contributed to closing the significant gender data gaps that exist in these sectors.

Gender integration

- A book [chapter](#) offers lessons for gender mainstreaming in development and environmental organizations based on FTA’s journey to integrate gender in its multi-disciplinary project portfolio and teams through experiential learning.

Methodological innovations

- In Ghana, an experimental study on the effects of Gender Transformative Approaches (GTAs) on household resilience and capacity to restore lands indicated behavioural changes towards a more equitable sharing of household chores, and an acceptance of GTAs as an opportunity to improve household wellbeing.
- A cross-CRP [article](#) argues for the need to adopt gender transformative approaches (GTAs) to challenge the norms that discriminate against women and limit their capacities to innovate in agriculture and natural resources management.
- A [book](#) co-financed by FTA on “Masculinities in Forests – Representations of Diversity” is praised across the gender in natural resources management and agriculture community.

Gender and restoration

- An FTA [study](#) shows the potential of land restoration to transform women’s lives and advance gender equality through group-based approaches that strengthen their collective rights to land, access to resources, and technical and financial capacities to engage in restoration activities.
- FTA’s submission on the proposed strategy for the UN Decade on Ecosystem Restoration called for more attention to gender and social inclusion in the UN Decade’s agenda.

- Under the auspices of the UN Decade on Ecosystem Restoration, FTA scientists presented FTA research in a [capacity building webinar](#) with UN Environment and UN Habitat staff on the relationship between gender, land and natural resources tenure, and ecosystem restoration.

Gender and rural transformation

- A cross-CRP collaborative study on the “feminization of agriculture” explored the gendered impacts of migration on small-scale farming in [Vietnam](#), Kenya, and Burkina Faso, including on decision-making patterns, labour, knowledge and capacities and on men and women’s livelihoods and wellbeing.
- [Research on aspirations](#) using an innovative methodology in rural Kenya showed that amid men’s outmigration and norms restricting women’s movement out of rural life, women are increasingly engaged in farm management and are becoming important catalysts of agricultural innovation and investment.
- A [chapter on tackling gender inequalities in forest-related policies and programmes](#) highlighted multi-scale innovations to enhance gender equality in forest settings, and the ways these (policy, programmatic, and market) innovations are implemented and experienced by local women and men.

Gender and value chains

- A chapter [reviewing guides for gender-responsive value-chain development](#) offered guidance to practitioners seeking to identify entry points for integrating gender concerns in their initiatives and to move towards increasingly gender-transformative interventions.
- The [FTA Science Conference](#) integrated issues related to social inclusion across its six technical workstreams, including in its ‘Inclusive value chains, finance and investments’ stream, wherein several presentations had an explicit gender focus.
- An FTA-led paper presents a review and [conceptual framework](#) to address gender equity considerations in the charcoal value chain in Sub-Saharan Africa.
- A comparative [study](#) co-funded by Fairtrade International and FTA in Indonesia, Kenya and Guatemala provides recommendations for better measuring gender-transformative change in the context of Fairtrade standards, strategies and projects.

Gender and climate change

- FTA contributed to strengthening the understanding of members of the Thematic Working Group (TWG) on Agriculture, Food Security and Land Use under the NDC Partnership (NDC-P) of key gender issues in relation to climate change and agriculture.
- Results (published in a set of briefs and a report) from a study on gender and climate finance in Indonesia, funded by FTA and UNDP, examined the possibility of leveraging climate finance for advancing gender equality and poverty reduction.
- FTA and UNDP organized a series of online capacity building workshops on gender and climate action at the jurisdictional level, in which 24 of the 38 members of the Governors’ Climate and Forests Task Force (GCFTF) participated.

Gender and biodiversity

- FTA's submissions through a gender lens to the Convention on Biological Diversity's (CBD) Post-2020 Draft Monitoring Framework and CBD Draft Outline for Gender Action Plan builds on ongoing engagement with the CBD to mainstream gender in its post-2020 Global Biodiversity Framework.
- An FTA contribution to the MS Swaminathan Research Foundation's virtual consultation on "Science for Resilient Food, Nutrition and Livelihoods" draws on FTA research to elucidate the links between gender and biodiversity and implications for biodiversity management.

Gender and tenure

- An FTA co-funded practitioner's guide on '[Forest Tenure Pathways to Gender Equality](#)' explained how to promote gender-responsive forest tenure reform in community-based forest regimes.
- Mention any **important findings** that have influenced the direction of the CRP's/Platform's work, and **how things have changed**. (max. 200 words)

The engagement of FTA gender researchers in high-level processes related to the Convention on Biological Diversity's (CBD) post-2020 Global Biodiversity Framework, the UN Decade on Ecosystem Restoration, and the Global Environment Facility's (GEF) expert group on gender has demonstrated the increasing emphasis on achieving synergies among different environmental targets as well as among environmental and gender equality goals. This has led to an emerging stream of FTA work focused on gender that explores synergies and trade-offs among such goals, and strategies and approaches that support the achievement of mutual benefits. Drawing on evidence gathered over years of FTA research, this work on synergies is feeding into ongoing processes to advance gender equality in environmental agendas. For instance, FTA has been invited to contribute to a UN Women-led paper on achieving synergies across the Rio Conventions from a gender perspective, and to the GEF-8 expert group on gender, which seeks to advance synergies across GEF programmatic areas through a gender lens.

- *Have any **problems arisen in relation to gender** issues or integrating gender into the CRP's /Platform's research? (max. 100 words)*

We have no problems to signal. Continued funding to FTA's gender cross-cutting theme has allowed it to integrate and deliver relevant research across all of FTA's Flagships, and to enhance the prospects of advancing gender equality and social inclusion through FTA innovations. FTA's gender research has maintained a high profile within CGIAR and among partners in the forestry and agroforestry sectors, as well as among key actors advancing climate, biodiversity, and land restoration agendas.

1.3.2 Youth and other aspects of Social inclusion / “Leaving No-one Behind⁴”

FTA takes an intersectional perspective to studying exclusion and advancing social inclusion in forest landscapes.

- FTA’s ‘[Gender Equality and Social Inclusion: A revised agenda for research and action](#)’ complemented the CRP’s original Gender Strategy and provided [guidance](#) for addressing ‘youth’ and generational issues as well as other intersecting factors of social inequality.
- The FTA Science Conference included a [technical workstream entirely dedicated to inclusive landscape governance](#), which encompassed several contributions focused on social exclusion and approaches, policies and programmatic strategies that can promote the inclusion of marginalized groups in landscape governance.
- Research in two Indian states revealed the [exclusions experienced in Joint Forest Management](#) (JFM) based on gender and other sources of inequality, such as caste or tribal affiliation. The study provided insights for enhancing the participation of marginalized groups in JFM.
- [A detailed mapping of rights](#) to néré (*P. biglobosa*), a valued tree species in West Africa, showed that rights to néré products and exclusions from these critical resources are dynamic and mediated by gender, lineage, marital status, and residence status.
- FTA supported [dialogues with youth](#) in Peru to motivate and provide resources for young people and women to pursue careers cultivating high-quality varieties of cacao. The dialogues addressed the critical issue of inter-generational succession in the fine flavor cacao value chain.
- Research in Cameroon highlighted the implications for equity and food security of [intra-village conflicts](#) around food-bearing timber trees, as some male interests seek a lump-sum income by felling these trees, whereas women and Baka pygmies rely on periodic harvests of foods.
- CIFOR/FTA delivered a capacity building session for International Fund for Agricultural Development (IFAD) staff based on FTA work on intersectionality and masculinities.
- As lead convening authors for a chapter in the [IUFRO Global Forest Expert Panel report](#), FTA scientists highlighted the interactions between forests and poverty to contribute to the implementation of the 2030 Agenda for Sustainable Development.
- By invitation by the Mesoamerican Alliance on People and Forests, FTA participated in the Global Landscapes Forum (GLF) on Biodiversity [webinar](#) on "Indigenous rights: The effective solution for protecting ecosystems vital for planetary health."
- FTA presented results of its work on “Assessing inclusion of women and indigenous peoples in Multi-stakeholder initiatives” at the [FLARE Conference](#).

⁴ Leaving no-one behind is a key facet of the SDGs: <https://unstats.un.org/sdgs/report/2016/leaving-no-one-behind>

1.3.3 Capacity Development

FTA continued its Capacity Development efforts during the current reporting period, primarily as part of other projects. FTA regrets the sad demise of CapDev Coordinator Muhammad Mehmood-UI-Hassan in March 2020.

Due to the COVID-19 pandemic many training courses were held virtually. For example, ICRAF held virtual trainings in India using the [Land Degradation Surveillance Framework](#) and the [Trees for food Security](#) project held virtual ODK data management, cleaning and analysis trainings with Ethiopia, Rwanda and Uganda teams. Bioversity (Alliance) held virtual training courses on forest genetic resources for Forest Landscape Restoration.

During 2020 both the [FTA Capacity Needs Assessment](#) and the [FTA Plan of Action for Capacity Development 2020-2021](#) were published.

23,699 people, of whom 34% were women, were trained through a wide range of short-term training efforts by FTA's partners, as summarized in Table 7. 855 people, of whom 35% were women, were undergoing long-term training including 91 PhDs (36% women). This is a significant increase in both long-term and short-term training numbers comparing to the previous year.

INBAR provided a large number of [training courses in East Africa](#), Cameroon, Madagascar and Latin America. Uganda adopted a new ten-year national [bamboo strategy](#).

The [African Plant Breeding Academy \(AfPBA\)](#) in partnership with CIFOR-ICRAF as part of the African Orphan Crops Consortium has benefited 150 scientists from 29 countries, 90% of whom are PhD holders and 40% women. A Community of Practice of alumni of the intensive and highly-interactive 6 week courses has been established, linked to the scaling up of national breeding programmes.

FTA continued to provide media training as well as technical training on REDD+, peatlands bioenergy, climate change adaptation and NAMAs, the latter notably in the Central American region.

FTA successfully completed the second cohort of the Gender Research Fellowships in sub-Saharan Africa, and continued to strengthen capacities in gender-responsive participatory research in many research projects including the IDRC/FTA-supported 'Globalizations in a nutshell – [Opportunities and risks for women shea producers in West Africa shea parklands](#)'.

1.3.4 Climate change

(max. 300 words)

Climate change mitigation and adaptation is a central part of FTA. FTA co-published with FAO [Addressing forestry and agroforestry in National Adaptation Plans – Supplementary guidelines](#) to support countries in the preparation and implementation of their national adaptation plans. FP1 continued [assessing](#) climate threats to tree species; developing climate resilient planting material in Ethiopia ([PATSP0](#)); and new software for [community suitability analysis](#). FP1 climate analysis supported several countries' proposals to GCF. (FP1, section 1.2.2).

FP3 contributed to the International Rubber Study Group and co-led an [FTA workshop on Natural Rubber Systems and Climate Change](#).

FP4 focused on ecosystems-based adaptation (EbA) in Gambia where EbA data collection was completed for 50 community forests and community-protected areas; capacity building on EbA was provided to more than 600 farmers and government staff, and curriculum development support provided to the University of The Gambia; two key papers on EbA, energy, water and food ([here](#) and [here](#)) were published. In Sri Lanka FP4 delivered an Operations Manual for GCF and a stakeholder engagement strategy for the NDA at Ministry of Environment. In Vietnam and Myanmar, FP4 supported evidence-based integration of agroforestry targets in the ongoing NDC revision.

In FP5, the Global Comparative Study of REDD+ concluded Phase 3; a major policy outcome being support to refining Peru's Forest Reference Emission Level (FREL) later submitted to the UNFCCC; another support to Vietnam's PFES program. Kenya's Bioenergy Strategy was concluded with FTA support. In Gambia, over 440 ha of agroforestry interventions were implemented. Agroforestry-based biofuel production potential on degraded and abandoned land is ready to scale up in Indonesia. FP5 concluded work on NAMAS in Latin America, developing tools to transform traditional livestock farming systems into sustainable ones. Bamboo research targets the inclusion of this crop in global climate change mitigation models. FP5 scientists authored GCF strategy papers for forests and land use, and for ecosystems and ecosystem services. And FP5 established a forward-looking Transformative Partnership Platform on Circular Bioeconomy.

2 Effectiveness and efficiency

2.1 Management and governance

The ISC, with the Board of Trustees (BoT) of the Lead Center CIFOR are the two key components of the **governance** of FTA. CIFOR BoT is now the same board as ICRAF BoT.

There has been no change in program management and governance in 2020.

Due to the COVID-crisis, and lockdown restrictions, all meetings have been held virtually. Prior to this, in FTA, there was already a well-established culture and practice of virtual meetings, with 90% of the management and half of ISC meetings being held virtually in pre-COVID times. Therefore, there was no impact of COVID-19 on the management and governance of FTA.

2.2 Partnerships

2.2.1 Highlights of External Partnerships

FTA was a regular contributor to working groups of the Global Platform on Sustainable Natural Rubber (GPSNR) on Capacity Building and Strategy and Objectives. FTA co-organized with the International Rubber Study Group (IRSG) a workshop on Natural Rubber Systems and Climate Change. Also, FP3 participated in a global working group of the Forest Stewardship Council (FSC) to develop a high-level conversion policy to address compensation for past conversion and development of a procedure for the operationalization of the FSC policy on conversion.

FTA established various partnerships related to tree commodities work with some private sector partners including Telcar Cocoa, Ferrero, Barry Calbaut, and others alongside WWF and IDH in the context of the Green Cocoa Landscapes Programme in Cameroon. FTA also engaged with S&D NedCoffee BV in South Sumatra Indonesia in a coffee improvement project.

FP4 partnered with the Governments in the Gambia and Benin on Ecosystems Based Adaptation, in Sri Lanka on GCF Readiness, in Kenya on Bioenergy strategy development, and in Vietnam and Myanmar on NDC revision. In addition to this, FTA worked with a variety of sub-national governments in Indonesia, Kenya and Cameroon.

GCS-REDD+ concluded phase 3 with a large number of active partnerships, e.g. with the Governors' Task Force for Forests and Climate and the Green Climate Fund.

SWAMP Peru developed Partnership with MINAM - the Ministry of Environment of Peru and with IIAP - the Instituto de Investigación de la Amazonia Peruana, on peatland protection.

The NIFOS-funded project on biofuel production on marginal land engaged a number of private sector actors such as Clean Power Indonesia. There was good progress on partnering with IUFRO, SER, FAO, UNEP for the upcoming launch of the Restoration TPP. The TPP Circular Bioeconomy was initiated with about 80 different partners in a virtual workshop held in December 2020.

NAMA work in Central America (Nicaragua) successfully developed partnerships with the livestock (the National Livestock Association) and academic sector (Universidad Nacional Agraria (UNA) Universidad Nacional Autónoma de León (UNAN-León), La Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense (URACCAN)).

2.2.2 Cross-CGIAR Partnerships

FTA continued expanding its collaboration with other CRPs, especially the Gender Platform, CCAFS, RTB, WLE, PIM, GLDC, A4NH and Breeding Platform with some significant achievements.

The new GENDER Platform's support to produce and curate knowledge products in a Resource Hub will raise the visibility of gender work from FTA and across CGIAR.

Collaboration with Genebank Platform provided scientific and efficiency benefits. FTA collaborated on availing germplasm to research projects; facilitating acquisition from other sources, working together on the development of characterization data, and sharing existing data.

The Circular Bioeconomy work was supported by FTA and CCAFS, in cross-CRP collaboration.

FTA collaborated with RTB CRP and several other CG Centers within the African Orphan Crops Consortium, collaboration with yam genomics. Value added is shared: IITA is the expert for yam and bringing this knowledge and germplasm collection into the objectives of AOCC.

FTA Director was nominated as member of the management team of the CGIAR [COVID-19 Hub](#), leading Working Group 4 of the hub on “addressing food systems fragility and build back better”, which is preparing a study on the impacts of COVID-19 on food systems and their actors, using available sources.

2.3 Intellectual Assets

For the reporting year of 2020, FTA has continued focusing on integrating existing and produced intellectual assets by FTA research projects.

FTA data management

The data management team has been working on the refinement of existing switchboard tools created by ICRAF for a better look and navigation, creating more user-friendly and informative tools. It is repackaging the information into a [thesaurus](#) feel and look.

With regards to improving germplasm and breeding program, multiple bi-parental breeding populations of *Dacryodes edulis* (African plum) were assembled in Cameroon to form a base for advanced breeding efforts. While no material has been filed or registered for PVP, no new process/technology filed for patent.

On genome data, germplasm collection and selection of re-sequencing lines, FTA continues to generate genome data under the African Orphan Crops Consortium (AOCC) which is publicly accessible and for open access. No new genome sequence was published in the year 2020, but we were able to assemble genomes for *Vitellaria paradoxa* (shea tree) and upgraded genome version for *Moringa oleifera*. There have been no specific issue or concern in making the above sequenced information publicly available

Handling sensitive data has continued to be challenging because of the broad scope. There needs to be an agreed scope of what constitutes sensitive data to minimize this risk.

2.4 Monitoring, Evaluation, Impact Assessment and Learning (MELIA)

In 2020, **FTA's work on Monitoring, Evaluation, Learning and Impact Assessment (MELIA)** focused on documenting progress of FTA contribution in addressing key global challenges where FTA is expected to deliver results and to assess FTA contribution to SRF relevant targets associated with these challenges. Studies to address progress made on two challenges (Protection of forests and reduction of deforestation, and the Rising demand and need for nutritious food) started in 2020 with a draft interim report produced and presented to FTA's Independent Steering Committee in December. Studies addressing the three remaining challenges (High prevalence of degraded land and ecosystem services, Unsustainable land use practices widespread, Persistent rural poverty with increasing levels of vulnerability) were launched at the beginning of 2021.

The MELIA cluster acted as focal point and supported the Independent Review of FTA.

Finally, FTA MELIA was also responsible for planning and delivering the session on "Science Quality and Effectiveness" at the FTA Scientific Conference which was held in September 2020. This Stream focused on the challenges related to evaluating and measuring research impact, and discussed the need for a complexity-aware approach to research evaluation that challenges researchers to broaden their scope and ensure societal relevance in their research.

2.5 Efficiency

FTA's priority-setting framework promotes focus, alignment, and coherence of the workplans. It has fostered cross FP work (on a set of joint operational priorities) while promoting transparency on constructing work plans. The investments made in 2018 on defining 3-year work-plans by priority (2019-2021) now being rolled out, led to a reduction of time spent and transaction costs for the preparation of the annual POWB. The activity-based work planning and budgeting for W1/2 funds within each operational priority also facilitates efficient monitoring of progress through a traffic light report. Output delivery at 31-12-2020 was 77%,

which shows the program has done well in adapting to the operational constraints under COVID-19.

The contingency planning scheme and the ex-ante separation of W1-W2 funded activities into three contingency tiers within the POWB of each operational priority also led to smooth decision making on the list of activities to remove from the 2020 POWB when the final 2020 W1-W2 resources were brought to the knowledge of the program (the final W1 instalment was received by 09 November 2020): it was then decided to engage only half of Tier 3 activities.

2.6 Management of Risks to your CRP

The major programmatic risk that FTA is facing continues to be the recurrent double ex-ante and ex-post uncertainty in W1-2 funding, and especially the fact that actual W1 resources to cover the POWB are known only very late in the year. This is annoying especially for non CGIAR partners that are not able to pre-finance work and so cannot start working as long as resources are not cashed in. To address this, FTA put in place in 2018 a contingency planning mechanism for W1-2 funds, now well established. Under this mechanism, the 2020 POWB was split into three tiers of decreased probability of funding, that are progressively implemented along the year, as uncertainties on actual funding resolves. This allows FTA to efficiently manage disbursements and partners to appropriately plan and adjust execution of the workplans along the year. This mechanism has been praised and cited as a model by the independent external review.

The non-delivery risk of FTA partners is managed by a quarterly traffic light output monitoring system overseen by the MSU and the MT. This enables program management to follow delivery very closely, and in case of delays to put corrective measures in place. In 2020, we also enabled workplan adjustments on course of the year because of COVID, with three revisions in March, June and September.

The programmatic risk of under-optimal positioning of the research portfolio towards outcomes is mitigated ex-ante by the prioritization process and annual work planning that aligns use of W1-2 and bilaterals to the program's theory of change and towards end of program outcomes. As a result of this, the positioning of W1-2 funded activities in relation to effectiveness towards outcomes and impact is optimized.

Institutional risks (as per the [CGIAR Risk Management Guidelines](#)) and their management falls under the remit of FTA partners.

2.7 Use of W1-2 Funding

W1-2 funded work result from (i) principles and criteria for prioritization agreed upon by the management team and the ISC (see Annex 1 for the criteria), (ii) strategic orientations considering end-of-program objectives discussed with the ISC, (iii) collective analysis by the MT of draft work plans submitted by FPs, and (iv) consideration of past delivery performance.

FTA is one of the few CRPs with activity/deliverable-level specification for all W1-2 funded research. This enhances accountability, delivery, performance monitoring, and management

effectiveness. The activities receiving W1-2 funding are summarized in a traffic light report available on request.

In FTA, W1-2 funds prioritize work that leads to the generation of IPGs, including those that can link up work on technological, social and institutional innovations to advice on a better enabling and policy environment at national and international level, to promote uptake and impact.

A small, targeted part of W1-W2 is used, within the priorities, to trigger/catalyse new work in areas where we see that R4D could increase in the future, for instance because of a key growing trend or an emerging demand of stakeholders, and where we should build capacities and increase our reach through new strategic partnerships. For instance, FTA used W1-W2 to initiate work with the rubber sector and the international rubber study group (IRSG) on natural rubber and climate change, with a joint stocktaking on scientific knowledge and the organization of a dedicated workshop. The results are now being brought to the rubber industry and may lead to promising developments going forward.

3 Financial summary

In 2020, as in previous years the innovative FTA contingency planning mechanism (see section 2.6) did help all partners to manage irregular W1-W2 cash flows and ex-ante uncertainty in W1-W2 funding. During the year, the MSU gave instructions to partners to engage in Tier 1 and 2 activities (priority activities), but not in Tier 3 activities, due to the likelihood of funding shortfalls as per the information available from the CGIAR System Management Office (SMO). In the end of 2020, when final W1 2020 allocations were known, it was decided that all FPs would undertake only half of their third tier (T3) workplan, the rest not being funded. Some of the related written-off activities in 2020 can be considered as part of the 2021 POWB, providing they are still relevant.

The program-level financial W1-W2 carry-forward into 2021 was limited to about 0.2k. Partners, however, did have a more sizeable internal financial carry-forward, mainly due to the fact that W1-W2 funding is received quite late (4.2m of W1 was cashed-in by November 2020 only). These resources are used by partners in 2021 to finalize the full delivery of the 2020 POWB (77% of the outputs were on time, with the remaining part delayed of a few weeks). In 2021, to complement the traffic light monitoring system to follow output delivery by FPs and partners, a specific additional mechanism will be put in place to monitor spending by FTA program participants.

Overall, 2020 disbursements of W1-2 funds by the lead center CIFOR to FTA program participants (including itself) amounted to USD 11,958,950. This is equal to the sum of USD 10,675,864 (2020 final allocations by the SMO), plus USD 1,485,000 of program-level carry-over from 2019, minus USD 201,914 program-level carried-over by the lead center into 2021.

Part B. Tables

Table 1. Evidence on Progress towards SLO targets (Sphere of interest)

SLO Target (2022)	Brief summary of new evidence of CGIAR contribution	Expected additional contribution before end of 2022	Geographic scope
1.1 ADOPTION: 100 million more farm households have adopted improved varieties, breeds, trees, and/or improved management practices.	250 Households in the Gambia adopt Agroforestry practices on 411 Ha of land across communities in the Gambia https://doi.org/10.3390/su13031142	1500 More farmers are expected to adopt Agroforestry practices in 2021 in the Gambia. It was part of a broader intervention with data collection in a broader number of communities, with capacity building, and curriculum development support provided to the University of the Gambia. All these activities, are supported by construction of strong political will and societal ownership, as shown by the adoption of the Tree cover resolution of Banjul with the participation of three ministers and a hundred delegates. Conditions are thus in place for successful upscaling in The Gambia. The experience of this intervention can then be used for comparable interventions, allowing further expansion in an options by contexts approach.	<ul style="list-style-type: none"> • Geographic Scope: National. • Countries: Gambia (the).
	3500 households adopt sustainable intensification of agroforestry in Cameroon by adopting and including various fruit trees. https://www.foreststreesagroforestry.org/publications/research-publication/?title=central-africa-humid-tropics-transect-sentinel-landscape-cafhut-a-stocktaking-pilot-study&id=11463_18898		<ul style="list-style-type: none"> • Geographic Scope: National. • Countries: Cameroon.
	At least 63,000 farming households supported to scale up food tree production in 10 Sub-Saharan African countries FTA Outcome Evidencing and Impact Estimation: Challenge 1 (Deforestation and Forest Degradation) and Challenge 5 (Food and Nutrition Security) Table 5 p.30		<ul style="list-style-type: none"> • Geographic Scope: Multi-national. • Countries: Kenya, Burkina Faso, Ethiopia,

SLO Target (2022)	Brief summary of new evidence of CGIAR contribution	Expected additional contribution before end of 2022	Geographic scope
			Ghana, Mali, Malawi, Niger (the), Rwanda, Senegal, Uganda.
	69,000 households supported to uptake Fertilizer Tree Technology (FTT) in Kenya, Uganda, & Malawi FTA Outcome Evidencing and Impact Estimation: Challenge 1 (Deforestation and Forest Degradation) and Challenge 5 (Food and Nutrition Security) Table 5, p.30 and 39 (Current evidence on achieved outcomes and impacts)	An additional 110,000 farmers will be supported to uptake Fertilizer Tree Technology (FTT) in Kenya, Uganda, & Malawi	<ul style="list-style-type: none"> • Geographic Scope: Multi-national. • Countries: Kenya, Malawi, Uganda.
	At least 500,000 farming households supported to integrate trees into cropping fields in at least 10 countries (Burkina Faso, Ethiopia, Ghana, Kenya, Malawi, Mali, Niger, Rwanda, Uganda, and Senegal FTA Outcome Evidencing and Impact Estimation: Challenge 1 (Deforestation and Forest Degradation) and Challenge 5 (Food and Nutrition Security) Table 5 p.30 and p.36 (Section on Current evidence on achieved outcomes and impacts)		<ul style="list-style-type: none"> • Geographic Scope: Multi-national. • Countries: Burkina Faso, Ethiopia, Ghana, Kenya, Mali, Malawi, Niger (the), Rwanda, Senegal, Uganda.
1.2 EXIT POVERTY: 30 million people, of which 50% are women, assisted to exit poverty	At least 63,000 farming households supported to scale up food tree production in 10 countries FTA Outcome Evidencing and Impact Estimation: Challenge 1 (Deforestation and Forest Degradation) and Challenge 5 (Food and Nutrition Security) Table 5 p.30 and 33 (Current evidence on achieved outcomes and impacts)		<ul style="list-style-type: none"> • Geographic Scope: Multi-national. • Countries: Burkina Faso, Ethiopia, Ghana, Kenya, Mali, Malawi, Niger (the), Rwanda, Senegal, Uganda.
2.2 MINIMUM DIETARY REQUIREMENTS: 30 million more people, of which 50% are women, meeting minimum dietary energy requirements	At least 63,000 farming households supported to scale up food tree production in 10 countries FTA Outcome Evidencing and Impact Estimation: Challenge 1 (Deforestation and Forest Degradation) and Challenge 5 (Food and Nutrition Security) Table 5 p.30 and 33 (Current evidence on achieved outcomes and impacts)		<ul style="list-style-type: none"> • Geographic Scope: Multi-national. • Countries: Burkina Faso, Ethiopia, Ghana, Kenya, Mali, Malawi, Niger (the), Rwanda, Senegal, Uganda.

SLO Target (2022)	Brief summary of new evidence of CGIAR contribution	Expected additional contribution before end of 2022	Geographic scope
<p>3.2 REDUCED GREENHOUSE GAS EMISSION: Reduce agriculturally-related greenhouse gas emissions by 0.2 Gt CO₂-e yr⁻¹ (5%) compared with business-as-usual scenario in 2022</p>	<p>CIFOR research as well as its support to the Government of Indonesia contributed to Indonesia reducing emissions by around 0.017 Gt of CO₂. As a result, Indonesia was able to benefit from Norway's first results-based payment (RBP) for reduced emissions from deforestation and forest degradation in the country in 2016-17 compared to those in the preceding decade. https://nettsteder.regjeringen.no/nicfi/files/2020/06/Emission-Reduction-Report-for-the-Indonesia-Norway-Partnership_15052019_cetak_FINALVERSION.pdf FTA Outcome Evidencing and Impact Estimation: Challenge 1 (Deforestation and Forest Degradation) and Challenge 5 (Food and Nutrition Security) Table 2, p.18</p>		<ul style="list-style-type: none"> • Geographic Scope: National. • Countries: Indonesia.
<p>3.3 ECOSYSTEM RESTORED: 55 million hectares (ha) degraded land area restored</p>	<p>4191 Ha of Degraded forests, agroforestry and school grounds restored in the Gambia. https://doi.org/10.3390/su13031142</p>	<p>4000 ha targeted in 2021- 2025 in Community forests and Community protected areas, and 1500 in agroforestry in the Gambia It was part of a broader intervention with data collection in a broader number of communities, with capacity building, and curriculum development support provided to the University of the Gambia. All these activities, are supported by construction of strong political will and societal ownership, as shown by the adoption of the Tree cover resolution of Banjul with the participation of three ministers and a hundred delegates. Conditions are thus in place for successful upscaling in The Gambia. The experience of this intervention can then be used for comparable interventions, allowing further expansion in an options by contexts approach.</p>	<ul style="list-style-type: none"> • Geographic Scope: National. • Countries: Gambia (the).

SLO Target (2022)	Brief summary of new evidence of CGIAR contribution	Expected additional contribution before end of 2022	Geographic scope
3.4 PREVENTION OF DEFORESTATION: 2.5 million ha of forest saved from deforestation	<p>CIFOR research and support to the Government of Indonesia contributes to 166 700 ha saved from deforestation between 2015 and 2019.</p> <p>https://foresthints.news/climate-partnership-bearing-fruit-rbp-to-do-list/ FTA Outcome Evidencing and Impact Estimation: Challenge 1 (Deforestation and Forest Degradation) and Challenge 5 (Food and Nutrition Security) Table 2, p.18</p>		<ul style="list-style-type: none"> • Geographic Scope: National. • Countries: Indonesia.
	<p>FTA research has been instrumental (and award-winning) in supporting the development of a national Payment for Forest Environmental Services (PFES) policy in Vietnam, which was approved by the government and is being adopted by all provinces in the country. Vietnam's PFES policy and new REDD+ policy protect 35 million ha area of national forest from deforestation</p> <p>FTA Outcome Evidencing and Impact Estimation: Challenge 1 (Deforestation and Forest Degradation) and Challenge 5 (Food and Nutrition Security) p. 11 and Table 2, p.15</p>		<ul style="list-style-type: none"> • Geographic Scope: National. • Countries: Viet Nam.
	<p>3718 Ha of Deforestation avoided in the Kiang West National Park in the Gambia through ANR.</p> <p>https://doi.org/10.3390/su13031142</p>	<p>2000 additional ha of protected forests targeted in the Gambia. It was part of a broader intervention with data collection in a broader number of communities, with capacity building, and curriculum development support provided to the University of the Gambia. All these activities, are supported by construction of strong political will and societal ownership, as shown by the adoption of the Tree cover resolution of Banjul with the participation of three ministers and a hundred delegates. Conditions are thus in place for successful upscaling in The Gambia. The experience of this intervention can then be used for comparable interventions, allowing further expansion in an options by contexts approach.</p>	<ul style="list-style-type: none"> • Geographic Scope: National. • Countries: Gambia (the).

Table 2. Condensed list of policy contributions in this reporting year (Sphere of Influence)

Title of policy, legal instrument, investment or curriculum to which CGIAR contributed (max 30 words)	Description of policy, legal instrument, investment or curriculum to which CGIAR contributed (30 words). See guidance for what to cover.	Level of Maturity	Link to sub-IDs (max. 2)	CGIAR cross-cutting marker score				Link to OICR (obligatory if Level of Maturity is 2 or 3) or link to evidence (e.g. PDF generated from MIS)
				Gender	Youth	Capdev	Climate change	
517 - Voluntary Guidelines on Food Systems and Nutrition endorsed by the United Nations Committee on World Food Security (CFS)	FTA contributes to the CFS Voluntary Guidelines of the Committee which are expected to counter the existing policy fragmentation between the food, agriculture and health sectors.	Level 2	<ul style="list-style-type: none"> • Conducive agricultural policy environment • Increased access to diverse nutrient-rich foods • Increased availability of diverse nutrient-rich foods 	1 - Significant	0 - Not Targeted	0 - Not Targeted	0 - Not Targeted	OICR4098
707 - Contribution to the development of the Forest Stewardship Council Policy on Conversion	FTA contributed to the development of the policy which provides FSC's general position and fundamental principles on conversion of natural forests and High Conservation Value	Level 1	<ul style="list-style-type: none"> • Land, water and forest degradation (Including deforestation) minimized and reversed • Enhanced conservation of habitats 	0 - Not Targeted	0 - Not Targeted	1 - Significant	1 - Significant	FP3 participated in the working group to develop a high-level conversion policy considering compensation for past conversion, in terms of: a. restoration and/or conservation for environmental values: and b. restitution for socio-economic values. FTA also had Main role in development of mechanism for the

Title of policy, legal instrument, investment or curriculum to which CGIAR contributed (max 30 words)	Description of policy, legal instrument, investment or curriculum to which CGIAR contributed (30 words). See guidance for what to cover.	Level of Maturity	Link to sub- IDOs (max. 2)	CGIAR cross-cutting marker score				Link to OICR (obligatory if Level of Maturity is 2 or 3) or link to evidence (e.g. PDF generated from MIS)
				Gender	Youth	Capdev	Climate change	
	areas to other land uses.		and resources <ul style="list-style-type: none"> • Conducive agricultural policy environment 					operationalization of the FSC policy on conversion. https://fsc.org/en/current-processes/fsc-policy-on-conversion https://fsc.org/en/current-processes/development-of-mechanism-for-the-operationalization-of-the-fsc-policy-on
710 - Contribution to the adoption of the Banjul Tree Cover Resolution in the Gambia	The Resolution aims to increase tree cover and calls for an agroforestry policy, the institutionalization of tree ownership and rights, and the prioritization of high value, locally adaptable tree species	Level 1	<ul style="list-style-type: none"> • Land, water and forest degradation (Including deforestation) minimized and reversed • Conducive agricultural policy environment • Increased resilience of agro-ecosystems and communities, especially those 	1 - Significant	1 - Significant	1 - Significant	2 - Principal	ICRAF facilitated and brought together 3 Ministries and 100 delegates to agree and sign up to The Banjul Tree Cover Resolution passed during the National Policy Discourse on Minimum Tree Cover on Farms https://www.worldagroforestry.org/blog/2020/03/30/meeting-gambia-delivers-banjul-tree-cover-resolution-every-day-we-delay-comes-cost

Title of policy, legal instrument, investment or curriculum to which CGIAR contributed (max 30 words)	Description of policy, legal instrument, investment or curriculum to which CGIAR contributed (30 words). See guidance for what to cover.	Level of Maturity	Link to sub- IDOs (max. 2)	CGIAR cross-cutting marker score				Link to OICR (obligatory if Level of Maturity is 2 or 3) or link to evidence (e.g. PDF generated from MIS)
				Gender	Youth	Capdev	Climate change	
			including smallholder					
711 - Support in the development of the Green Growth Plan for Indonesia's Aceh Province	ICRAF supported the development of a plan to achieve the sustainable development goals through green economic growth from land-based renewable resources and support nationally determined contributions.	Level 1	<ul style="list-style-type: none"> Conducive agricultural policy environment Enhanced capacity to deal with climatic risks and extremes (Mitigation and adaptation achieved) 	2 - Principal	2 - Principal	1 - Significant	2 - Principal	Green Growth Plan in Aceh is an initiative organized by Regional Planning and Development Agency Aceh with the support of IDH-Green Trade Initiative, World Agroforestry (ICRAF) and Hutan Alam dan Lingkungan (HAKA). The aim of the green growth Planning for Aceh is to achieve sustainable development goals through green economic growth from land-based renewable resources and support nationally determined contributions. https://www.worldagroforestry.org/project/greengrowthaceh/about
712 - FTA recommendation on Intersectoral cooperation among		Level 1	<ul style="list-style-type: none"> Enhanced conservation of habitats and resources 	1 - Significant	1 - Significant	1 - Significant	1 - Significant	As part of the Kanoppi Project, in West Nusa Tenggara, a recommendation on intersectoral cooperation among government agencies

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				Gender	Youth	Capdev	Climate change	
government agencies adopted in provincial regulation on forest management in Indonesia's West Nusa Tenggara			<ul style="list-style-type: none"> • Conducive agricultural policy environment • Land, water and forest degradation (Including deforestation) minimized and reverse 					was adopted in provincial regulation on forest management
714 - African Plant Breeding Academy (AfPBA) curriculum to train practicing African plant breeders in the most advanced theory and technologies for plant breeding in support of critical decisions for crop improvement.		Level 1	<ul style="list-style-type: none"> • Enhanced institutional capacity of partner research organizations 	1 - Significant	1 - Significant	2 - Principal	1 - Significant	The goal of the African Plant Breeding Academy, hosted by ICRAF, is to train practicing African plant breeders in the most advanced theory and technologies for plant breeding in support of critical decisions for crop improvement. This includes the latest concepts in plant breeding, quantitative genetics, statistics and experimental design. It also includes accurate and precise trait evaluations, development of appropriate strategies to integrate genomics into breeding programs, and experience in identifying and

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				Gender	Youth	Capdev	Climate change	
								utilizing genomic data and DNA-based markers in breeding programs. http://pba.ucdavis.edu/PBA_in_Africa/Africa_Plant_Breeding_Academy_Class_V/
715 - Strategy for application of genetics to enhance adoption of orphan crops to improve food and nutrition	The strategy considers how the production of new and orphan crops may support human and environmental health objectives, paying particular attention to the situation in tropical and subtropical low-income nations. The strategy has been taken up by next users through through the African Orphan Crops Consortium and African Plant Breeding Academy.	Level 1	<ul style="list-style-type: none"> • More efficient use of inputs • Increased conservation and use of genetic resources 	0 - Not Targeted	0 - Not Targeted	1 - Significant	1 - Significant	The strategy considers how the production of new and orphan crops may support human and environmental health objectives, paying particular attention to the situation in tropical and subtropical low-income nations. We illustrate an approach for defining appropriate genetic improvement pathways for a range of exemplar-requiring new and orphan crops, based on comparison with a panel of more widely understood crop models. The intention is to indicate genetics-based research avenues to support the mainstreaming of new and orphan crops in food production systems. Policy

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				Gender	Youth	Capdev	Climate change	
								issues related to the use of genetic technologies, such as the effective application of the Nagoya Protocol (on access to, and the fair and equitable sharing of the benefits arising from the utilization of, genetic resources), also need to be addressed for new and orphan crops. Jamnadass, R., Mumm, R.H., Hale, I. et al. Enhancing African orphan crops with genomics. Nat Genet 52, 356–360 (2020). https://doi.org/10.1038/s41588-020-0601-x
716 - Strategy to adopt diverse food trees in agriculture to improve food and nutrition	A fruit tree portfolio approach developed by ICRAF that can be scaled to inform policies for sustainable intensification of fruit production to meet food and nutrient gaps, based on national food-based dietary guidelines.	Level 1	<ul style="list-style-type: none"> • More efficient use of inputs • Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) 	1 - Significant	1 - Significant	1 - Significant	1 - Significant	To better incorporate fruits into local food systems while addressing the challenge of seasonal availability, ICRAF has developed a methodology based on “fruit tree portfolios” that selects socio-ecologically suitable and nutritionally important fruit tree species for farm production, to meet local consumption needs. The fruit tree portfolio approach can be

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				Gender	Youth	Capdev	Climate change	
	The strategy has been taken up by next users through the implementation of several development projects based on the food tree portfolio concept.							<p>scaled to inform policies for sustainable intensification of fruit production to meet food and nutrient gaps, based on national food-based dietary guidelines. The portfolio approach can be expanded to incorporate these other nutritious foods and starchy staples to address not only vitamin but protein, mineral and calorific/energy intake needs, for a wider, 'diversified diet' approach. The strategy is being piloted on several locations in East Africa.</p> <p>McMullin, S, Stadlmayr, B, Mausch, K, Revoredo-giha, C, Burnett, F, Guarino, L, Brouwer, ID, Jamnadass, R, Graudal, L, Powell, W & Dawson, IK 2021, 'Determining appropriate interventions to mainstream nutritious orphan crops into African food systems', Global Food Security, vol 28, 100465. https://doi.org/10.1016/j.gfs.2020.100465 Hunter, D.; Monville-Oro, E.;</p>

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				Gender	Youth	Capdev	Climate change	
								Burgos, B.; Rogel, C.N.; Calub, B.; Gonsalves, J.; Lauridsen, N.O. (2020) Agrobiodiversity, school gardens and healthy diets: Promoting biodiversity, food and sustainable nutrition. Issues in Agricultural Biodiversity. London (UK): Routledge 302 p. ISBN: 9780367148850. https://hdl.handle.net/10568/107465 .
717 - Strategy to emphasize the role of trees in the conservation and use of biodiversity	Scientists from ICRAF and Bioversity contributed to thematic studies on indicators of tree genetic diversity and livelihood benefits for the FAO State of the World's Forest Genetic Resources. The studies have contributed to the First FAO State of the World Forests Genetic Resources (SoW FGR) and the associated Global	Level 1	<ul style="list-style-type: none"> Increased conservation and use of genetic resources 	0 - Not Targeted	0 - Not Targeted	0 - Not Targeted	1 - Significant	Graudal, L., Loo, J., Fady, B., Vendramin, G., Aravanopoulos, F.A., Baldinelli, G., Bennadji, Z., Ramamonjisoa, L., Changtragoon, S., and Kjær, E.D. 2020. Indicators of the Genetic Diversity of Trees – State, Pressure, Benefit and Response. State of the World's Forest Genetic Resources – Thematic Study. Rome, FAO. http://www.fao.org/documents/card/en/c/cb2492en/ , https://doi.org/10.4060/cb2492en . Blog on 'Informing policy on

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				Gender	Youth	Capdev	Climate change	
	Plan of Action; and will contribute further to the Second SoW FGR in preparation for 2023.							tree biodiversity' https://worldagroforestry.org/blog/2020/10/29/informing-policy-tree-biodiversity
728 - Research from the International Network for Bamboo and Rattan (INBAR) enabled the development of the 2019-2030 Ethiopian Bamboo Development Strategy and Action Plan	Developing a National Bamboo Strategy and Action Plan, approved and ratified by the Ethiopian government, is a key step towards supporting a self-sufficient and thriving bamboo industry.	Level 1	<ul style="list-style-type: none"> Increased capacity for innovation in partner development organizations and in poor and vulnerable communities Conducive agricultural policy environment Increased capacity for innovations in partner research organizations 	0 - Not Targeted	0 - Not Targeted	0 - Not Targeted	1 - Significant	https://www.inbar.int/resources/inbar_publications/2019-2030-ethiopian-bamboo-development-strategy-and-action-plan/
729 - FTA shapes peatland	CIFOR worked and the government of	Level 1	<ul style="list-style-type: none"> Enhanced capacity to 	? - Too early to tell	? - Too early to tell	? - Too early to tell	1 - Significant	A main positive outcome in 2020 was the invitation of a

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				Gender	Youth	Capdev	Climate change	
conservation strategies in Peru	Peru produce a report evaluating CO ₂ emissions from peatlands deforestation and degradation, used and was cited in the FREL submitted by the government to the UNFCCC.		deal with climatic risks and extremes (Mitigation and adaptation achieved) <ul style="list-style-type: none"> Land, water and forest degradation (Including deforestation) minimized and reverse 					CIFOR scientist to the national technical team refining the Peruvian Forest Reference Emission Level (FREL) with the objective to include peatlands in the FREL. CIFOR worked with the government to produce a report evaluating CO ₂ emissions from peatlands deforestation and degradation. This report is used and was cited in the FREL submitted by the government to the UNFCCC.
730 - FTA supports the development of Green Climate Fund's Nature Based Solutions framework and sectoral guidance on forests and land use and ecosystem services		Level 1	<ul style="list-style-type: none"> Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems Conducive agricultural policy environment Land, water and forest 	1 - Significant	1 - Significant	0 - Not Targeted	1 - Significant	FTA Scientists invited to write the Sector Guidance for the Green Climate Fund on two Strategic Results Areas, to be published by GCF in 2021.

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				Gender	Youth	Capdev	Climate change	
			degradation (Including deforestation) minimized and reverse					
731 - FTA provides policy support on NAMA credits, governance and technical aspects in Latin America		Level 1	<ul style="list-style-type: none"> Enhanced capacity to deal with climatic risks and extremes (Mitigation and adaptation achieved) Reduced net greenhouse gas emissions from agriculture, forests and other forms of land-use (Mitigation and adaptation achieved) 	0 - Not Targeted	0 - Not Targeted	2 - Principal	1 - Significant	Three publication on NAMA credits, governance and technical aspects in Latin America have been published, providing policy support (https://wp.me/a9tzx8-w8 , https://wp.me/a9tzx8-w9 , https://wp.me/a9tzx8-wa).

Title of policy, legal instrument, investment or curriculum to which CGIAR contributed (max 30 words)	Description of policy, legal instrument, investment or curriculum to which CGIAR contributed (30 words). See guidance for what to cover.	Level of Maturity	Link to sub- IDOs (max. 2)	CGIAR cross-cutting marker score				Link to OICR (obligatory if Level of Maturity is 2 or 3) or link to evidence (e.g. PDF generated from MIS)
				Gender	Youth	Capdev	Climate change	
732 - FTA supports a better integration of bamboo into the current global climate change agenda.	The International Network for Bamboo and Rattan publishes policy brief on the integration of Bamboo Forestry into Carbon Markets for project developers and government actors, and a Policy synthesis report on Bamboo in the Circular Economy.	Level 1	<ul style="list-style-type: none"> • Conducive agricultural policy environment • Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) 	0 - Not Targeted	0 - Not Targeted	0 - Not Targeted	1 - Significant	OICR4095
735 - Kenya adopts a Bioenergy Strategy with support from ICRAF	ICRAF contributes to the development of Kenya's Bioenergy Strategy, which will provide a road map for the country to manage and sustainably harness its bioenergy resources during 2020-2027.	Level 2	<ul style="list-style-type: none"> • Conducive agricultural policy environment • Enhanced capacity to deal with climatic risks and extremes (Mitigation and adaptation achieved) 	1 - Significant	1 - Significant	1 - Significant	1 - Significant	OICR4111

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				Gender	Youth	Capdev	Climate change	
753 - FTA supports better integration of forestry and agroforestry in national adaptation plans	The guidelines, co-published with FAO are intended to be used by national planners and decision-makers working on climate change issues in developing countries and authorities and experts who are contributing to climate change adaptation and NAP formulation and implementation.	Level 1	<ul style="list-style-type: none"> • Conducive agricultural policy environment • Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) 	0 - Not Targeted	0 - Not Targeted	1 - Significant	2 - Principal	Co-publication with FAO of guidelines to support countries in the preparation and implementation of their national adaptation plans Addressing forestry and agroforestry in National Adaptation Plans – Supplementary guidelines. https://doi.org/10.4060/cb1203en
754 - FTA supports evidence-based integration of agroforestry targets in the ongoing Vietnam Nationally determined contributions (NDCs) revision		Level 1	<ul style="list-style-type: none"> • Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) • Conducive agricultural policy environment 	1 - Significant	1 - Significant	1 - Significant	2 - Principal	Land 2020, 9, 528; doi:10.3390/land9120528 The Nationally Determined Contributions (NDC) to the United Nations Framework Convention on Climate Change of several countries, including Viet Nam, mention agroforestry but mostly without associated targets. The absence of reliable data, especially of existing agroforestry practices and their ability to store carbon, is one of

Title of policy, legal instrument, investment or curriculum to which CGIAR contributed (max 30 words)	Description of policy, legal instrument, investment or curriculum to which CGIAR contributed (30 words). See guidance for what to cover.	Level of Maturity	Link to sub- IDOs (max. 2)	CGIAR cross-cutting marker score				Link to OICR (obligatory if Level of Maturity is 2 or 3) or link to evidence (e.g. PDF generated from MIS)
				Gender	Youth	Capdev	Climate change	
								the barriers to setting such targets. A team of researchers from World Agroforestry (ICRAF), Viet Nam Academy of Science and Technology and the Ministry of Agriculture and Rural Development have begun to dismantle this barrier by estimating the potential for carbon sequestration in agroforestry systems in Viet Nam using a nationwide agroforestry database and carbon data from other sources. The team highlighted that ways forward to foster agroforestry in Viet Nam's NDC include the development of a feasible monitoring, reporting and verification system to track progress towards associated targets. Technical, financial and institutional barriers for developing such a system need to be clearly identified and addressed.
755 - FTA supports		Level 1	<ul style="list-style-type: none"> Conducive agricultural 	1 - Significant	1 - Significant	1 - Significant	2 - Principal	https://www.mdpi.com/2073-445X/9/12/528

Title of policy, legal instrument, investment or curriculum to which CGIAR contributed (max 30 words)	Description of policy, legal instrument, investment or curriculum to which CGIAR contributed (30 words). See guidance for what to cover.	Level of Maturity	Link to sub-IDOs (max. 2)	CGIAR cross-cutting marker score				Link to OICR (obligatory if Level of Maturity is 2 or 3) or link to evidence (e.g. PDF generated from MIS)
				Gender	Youth	Capdev	Climate change	
evidence-based integration of agroforestry targets in the ongoing Myanmar NDC revision			policy environment <ul style="list-style-type: none"> Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) 					

Table 3. List of Outcome/ Impact Case Reports from this reporting year (Sphere of Influence)

Title of Outcome/ Impact Case Report (OICR)	Link to full OICR	Maturity level
OICR3974 - 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	Link	Level 1
OICR4051 - Landscape Analysis of Financial Flows (LAFF): An inclusive method analyzing investment flows informs multi-stakeholders action plans and investment decision-making for sustainable development and resilient landscapes	Link	Level 2
OICR4062 - 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	Link	Level 2
OICR4093 - 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.	Link	Level 1
OICR4095 - 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	Link	Level 2
OICR4096 - Use of global forests dynamics monitoring database and form recommendations for sustainable management by the Tropical Managed Forest Observatory Network	Link	Level 1
OICR4097 - Farmer-to-farmer training adopted by 86 organizations serving 352,000 farmers in Eastern Africa improves dairy farmers' knowledge, productivity and revenues	Link	Level 1
OICR4098 - 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)	Link	Level 2
OICR4099 - Improved Son tra (<i>Docynia indica</i>) varieties and propagation techniques to increase production and income for potentially 123,000-247,000 households in Northwest Vietnam.	Link	Level 2
OICR4111 - Kenya launches a Bioenergy Strategy supported by World Agroforestry	Link	Level 2

Table 4. Condensed list of innovations by stage for this reporting year

Title of innovation with link	Innovation Type	Stage of innovation	Geographic scope (with location)
1467 - Vegan Community Ecology Package	Research and Communication Methodologies and Tools	Stage 3: available/ ready for uptake (AV)	Global
1471 - New BiodiversityR package for Community Ecology and Suitability Analysis	Research and Communication Methodologies and Tools	Stage 3: available/ ready for uptake (AV)	Global
1473 - Landscape Analysis of Financial Flows (LAFF): An inclusive methodology to analyze investment flows in a landscape	Research and Communication Methodologies and Tools	Stage 3: available/ ready for uptake (AV)	Multi-national: Viet Nam
1516 - WorldFlora: R package to standardize Plant Names According to World Flora Online Taxonomic Backbone.	Research and Communication Methodologies and Tools	Stage 3: available/ ready for uptake (AV)	Global
2126 - Mechanism for the Operationalization of the Forest Stewardship Council Policy on Conversion	Research and Communication Methodologies and Tools	Stage 1: discovery/proof of concept (PC - end of research phase)	Global
2129 - Diversity for Restoration (D4R) decision support tool	Research and Communication Methodologies and Tools	Stage 3: available/ ready for uptake (AV)	Multi-national: Ecuador, Cameroon, Colombia, Peru
2130 - Shademotion software for tree shade modeling, Version 5.0	Research and Communication Methodologies and Tools	Stage 4: uptake by next user (USE)	Multi-national: Ecuador, Colombia, Costa Rica, Panama, Peru, Guatemala, Dominican Republic, Nicaragua
2172 - "How are we doing?", a tool for participatory monitoring and adaptive learning in multi-stakeholder fora	Social Science	Stage 4: uptake by next user (USE)	National: Peru

<u>2174 - Participatory Prospective Analysis to understand the implications of tenure reform scenarios for the forestry sector and communities in forested landscapes.</u>	Social Science	Stage 3: available/ ready for uptake (AV)	Multi-national: Indonesia, Nepal, Colombia, Peru, Uganda, Kenya
<u>2175 - Tool for enhancing social inclusion through local dialogues on natural resource management</u>	Social Science	Stage 3: available/ ready for uptake (AV)	Global
<u>2176 - Volunteer farmer trainer approach in Eastern Africa</u>	Production systems and Management practices	Stage 4: uptake by next user (USE)	Regional: Eastern Africa
<u>2177 - Diagnostic tool for collaborative monitoring of forest landscape restoration</u>	Social Science	Stage 1: discovery/proof of concept (PC - end of research phase)	National: United States of America
<u>2178 - Role-playing game to promote the participation of key stakeholders in the livestock sector and catalog of fodder trees in Mesoamerica</u>	Social Science	Stage 2: successful piloting (PIL - end of piloting phase)	Regional: Central America
<u>2179 - A typology for land restoration through agroforestry</u>	Research and Communication Methodologies and Tools	Stage 1: discovery/proof of concept (PC - end of research phase)	Global
<u>2180 - A Framework for COVID 19 and Agroecosystems resilience Management</u>	Social Science	Stage 1: discovery/proof of concept (PC - end of research phase)	Global
<u>2181 - Tool for assessing ecosystem services in Bamboo forests in Colombia</u>	Production systems and Management practices	Stage 2: successful piloting (PIL - end of piloting phase)	National: Colombia
<u>2182 - A framework for regenerative energy supply options for Africa</u>	Production systems and Management practices	Stage 1: discovery/proof of concept (PC - end of research phase)	Regional: Sub-Saharan Africa

Table 5. Summary of status of Planned Outcomes and Milestones (Sphere of Influence-Control)

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
<p>FP1 Outcome: Managers and policy makers adopt effective monitoring methods, tools and practices to mitigate threats to valuable tree genetic resources, and implement suitable safeguarding strategies in line with international initiatives, such as the Global Plan of Action for Forest Genetic Resources and the Global Strategy on Conservation and Use of</p>	<ul style="list-style-type: none"> Increased conservation and use of genetic resources Adoption of CGIAR materials with enhanced genetic gains More efficient use of inputs 	<p>Achievements targeting this outcome were threat assessments of Brazil nut, Sandalwood, Dipterocarps, medicinal and aromatic plants in Nepal; safeguarding of threatened Rosewood species in SE Asia implemented; vulnerability assessment of tree species from tropical dry forest in Peru and Ecuador; Boswellia papyrifera in Ethiopia; baseline analyses of genetic resource collections of cocoa in Central America and of coffee and cocoa in El Salvador and Peru; Bamboo seed sourcing in Ethiopia</p>	<p>2020 - Tools and approaches for reducing the impacts of threats such as illegal logging and over-grazing in place in three key countries; support for circa situ safeguarding of TGR of 5-10 globally-important and 50 regionally-important food or income-generating tree species</p>	<p>Complete</p>	<p>Threat assessment of Brazil nut (habitat degradation and genetic diversity), Sandalwood, Dipterocarps, medicinal and aromatic plants in Nepal; safeguarding of threatened Rosewood species in SE Asia implemented; vulnerability assessment of tree species from tropical dry forest in Peru and Ecuador; Boswellia papyrifera in Ethiopia; baseline analyses of genetic resource collections of cocoa in Central America and of coffee and cocoa in El Salvador and Peru; Bamboo seed sourcing in Ethiopia undertaken; and growth potential of Rattan in Cameroon mapped. Studies of school gardens to conserve agrobiodiversity and promote healthy diets were published, as was work on the impact of agrobiodiversity on women and children's diet; two thematic studies on FAO State of the Worlds Forest Genetic</p>	<p>https://doi.org/10.1002/pp.p3.10166; https://doi.org/10.1002/pp.p3.10166 https://www.sciencedirect.com/science/article/pii/S1470160X20303721 https://cgiar-my.sharepoint.com/:p/g/personal/r_jalonen_cgiar_org/EZbN57b5KmRLtE38HDeNfU4BZr8M5poPgZVLmpxERRAD1w?e=mdKyXH https://doi.org/10.1111/gcb.15028 https://cgiar-my.sharepoint.com/:f/g/personal/d_zavaleta_cgiar_org/EvtgK1kl4NxPr4BHakQg69wBvuFKl1DwHbXcOIGOe2-KdA?e=v4PW3g https://www.routledge.com/Agrobiodiversity-School-Gardens-and-</p>

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Cacao Genetic Resources		undertaken; and growth potential of Rattan in Cameroon mapped. Thematic studies linking up to different aspects of the work on biodiversity by FP1, were published.			Resources published, one on indicators of genetic diversity of trees (state, pressure, benefit and response), and one on trees, TGR and the livelihoods of rural communities .	Healthy-Diets-Promoting-Biodiversity/Hunter-Monville-Oro-Burgos-Roel-Calub-Gonsalves-Lauridsen/p/book/9780429053788 https://doi.org/10.3389/fnut.2020.00129 https://doi.org/10.4060/cb2492en https://doi.org/10.4060/cb2488en
FP1 Outcome: Agricultural and horticultural research partners adopt cost-effective domestication approaches for priority tree species, based on impacts and maximizing efficiency, and considering trade-offs	<ul style="list-style-type: none"> • Increased conservation and use of genetic resources • Enhanced conservation of habitats and resources • Enrichment of plant and animal biodiversity for multiple goods and services • Adoption of CGIAR 	Deliverables from collaborations between AOCC, the Gene Bank Platform and the Nutrition and Orphan crops priorities of FTA have contributed to knowledge that supports diversification of food systems through integrating nutrient rich orphan crops into current food systems with a range of	2020 - Guidelines, methodologies and decision-support tools on domestication approaches adopted by national research partners in at least 5 countries, with national and private sector breeders, on	Complete	Characterisation of genotypes and phenotypes, and cultivar development of trees and crops, including African Orphan Crops with enhancement using genomics and business model development focusing on food trees but also including other functional uses. Domestication studies of 20 species in 10 countries with a diversity of partners (links), including Castor bean, Shea, Trichoscypha acuminata, Giant milkweed, Boswellia papyrifera, Teak, Allanblackia floribunda, Baobab, Bos frontalis, Manglietia conifera,	https://doi.org/10.1016/j.incrop.2020.112779 https://doi.org/10.21203/rs.3.rs-35471/v1 https://doi.org/10.1016/j.sciag.2019.e00235 https://doi.org/10.1016/j.scienv.2020.140665 https://doi.org/10.1016/j.jaridenv.2020.104176 https://asianjournalofmycology.org/pdf/AJOM_3_1_12.pdf https://revue.riffeac.org/index.php?journal=RSTBC&page=article&op=view&

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
involved in intensification	<p>materials with enhanced genetic gains</p> <ul style="list-style-type: none"> • Increased access to diverse nutrient-rich foods • More productive and equitable management of natural resources • Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) • More efficient use of inputs • Increased access to productive assets, including natural resources • Increased genetic diversity of agricultural and associated landscapes 	<p>outputs. Domestication studies were carried out in over 20 species in more than 10 countries with a diversity of partners and high level publications were published in Nature Genetics and Global Food Security.</p>	user-prioritized species		<p>Guava, Eucalyptus camaldulensis, Rubber, Ganoderma spp, Allanblackia stuhlmannii, trees in Wag-Lasta (Ethiopia), Cocoa, medicinal plants in Cameroon (16), coffee, A. senegal woodland, Jernang, Canarium schweinfurthii, Bitter Kola, Water Yam, Moringa oleifera, Artocarpus spp, Parkia biglobosa (in Burkina Faso and a systematic review. High level publications in Nature Genetics and Global Food Security covered enhancing African orphan crops with genomics, mainstreaming nutritious orphan crops into African food systems and the contribution of forests, trees and agroforestry to sustainable food security and nutrition in a time of crisis.</p>	<p>path%5B%5D=80&path%5B%5D=0 https://doi.org/10.1007/s00267-020-01311-7 https://doi.org/10.1016/j.pld.2020.09.007 https://doi.org/10.3390/f10090756 https://doi.org/10.20372/s.v4i1.74 https://doi.org/10.1007/s12042-020-09262-3 https://bit.ly/2VH3Fpj https://doi.org/10.1007/s10457-019-00429-w https://www.researchgate.net/profile/Melkamu_Kassaye/publication/344611401_Selection_of_Different_TreesShrubs_Species_for_Rehabilitation_of_Degraded_Lands_in_Wag-Lasta_Area_Northeastern_Ethiopia/links/5f84594092851c14bcc176b1/Selection-of-Different-Trees-Shrubs-Species-for-Rehabilitation-of-Degraded-Lands-in-Wag-Lasta-Area-Northeastern-Ethiopia.pdf https://doi.org/10.9734/ejmp/2019/v27i330115</p>

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
	<ul style="list-style-type: none"> • Improved forecasting of impacts of climate change and targeted technology development • Enhanced capacity to deal with climatic risks and extremes (Mitigation and adaptation achieved) • Technologies that reduce women`s labor and energy expenditure adopted • Improved capacity of women and young people to participate in decision-making • Increase capacity of beneficiaries to adopt research outputs 					https://doi.org/10.1007/s10457-018-0285-8 https://doi.org/10.7747/JFES.2020.36.2.91 https://doi.org/10.1016/j.jas.2020.100325 https://doi.org/10.4314/jab.v135i1.7 https://doi.org/10.1007/s12231-020-09508-x https://pag.confex.com/pag/xxviii/meetingapp.cgi/Paper/42330 https://pag.confex.com/pag/xxviii/meetingapp.cgi/Paper/40776 https://doi.org/10.3390/genes11010027 https://academicjournals.org/journal/AJFS/how-to-cite-article/77721C163567 https://www.tandfonline.com/doi/full/10.1080/10408398.2020.1813072 https://doi.org/10.1038/s41588-020-0601-x https://doi.org/10.1016/j.gfs.2020.100465 http://africanorphancrops.org/enhancing-african-orphan-crops-with-genomics/

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
	<ul style="list-style-type: none"> • Conducive agricultural policy environment • Enhanced institutional capacity of partner research organizations • Increased capacity for innovation in partner development organizations and in poor and vulnerable communities 					https://a4nh.cgiar.org/2020/07/07/contribution-of-forests-trees-and-agroforestry-to-sustainable-food-security-and-nutrition-in-a-time-of-crisis/
<p>FP1 Outcome: National governments, extension services and private partners adopt cost-effective and equitable tree planting material delivery pipelines, with appropriate</p>		<p>Various outputs have been produced within the frame of the FTA priorities on Restoration and Tree Seed Delivery. A study on priorities and challenges of tree seed supply was published in Unasylva and a contribution was made to germplasm</p>	<p>2020 - National extension partners have determined and adopted improved context-specific delivery approaches for priority tree species in 2-3 countries, with the roles of the</p>	<p>Complete</p>	<p>A study on priorities and challenges of tree seed supply was published in Unasylva and a contribution was made to germplasm acquisition and distribution by CGIAR in Plants. Contributions were made to the GLF Conference 'Can Tree Planting Save the Planet', with associated Tree Planting Outcome Statement. An integrated tree seed program in Ethiopia is well established (PATSP0) including more than 30 seed and multiplication production</p>	<p>http://www.fao.org/3/cb1600en/CB1600EN.pdf https://doi.org/10.3390/plants9101296 https://www.globallandscapeforum.org/publication/event-report-digital-forum-can-tree-planting-save-our-planet/ https://glfmaincdn.azureedge.net/wp-content/uploads/2020/10/</p>

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decision-support tools, to supply high quality site-appropriate tree planting material to smallholders and other growers		acquisition and distribution by CGIAR in Plants. Contributions were made to the GLF Conference 'Can Tree Planting Save the Planet', with associated blogs and a Tree Planting Outcome Statement. An integrated tree seed program in Ethiopia is well established and similar programs are being prepared for Rwanda, Burkina Faso, Tanzania and Central Asia.	various actors involved properly aligned.		areas of 18 species established 2018-2020, with documentation of the mass breeding approaches applied on its way. Work on habitat and suitability modelling for 153 African tree species continued, including the preparation of new programming software for Community Ecology and Suitability Analysis. Base-line climate analyses for Tanzania, Kenya and Mauritania in support of applying climate appropriate portfolios of tree diversity for restoration were also prepared in connection with preparation of proposals for the Green Climate Fund. New and updated support tools for the work have been provided for the WorldFlora with R Commander Plug-in, Standardize Plant Names - module, and User Guide, for biodiversity analyses (8 new tools in 2020), and the Seed-IT app.	Tree-planting-Outcome-statement.pdf https://cran.r-project.org/package=BiodiversityR https://bsapubs.onlinelibrary.wiley.com/doi/full/10.1002/aps3.11388 https://cran.r-project.org/package=RcmdrPlugin.WorldFlora https://cran.r-project.org/package=WorldFlora https://www.researchgate.net/publication/342657019_WORLDFLORA_User_Guide_for_Graphical_User_Interface https://rpubs.com/Roeland-KINDT/ https://seedit.io/home
FP2 Outcome: Improved food security and livelihood opportunities for 20 million smallholder	<ul style="list-style-type: none"> Increased livelihood opportunities Increased access to diverse nutrient-rich foods 	It has become evident as the program matures that co-learning, beyond developing locally appropriate options, accelerates scaling	2020 - Impact analyses of the establishment of co-learning communities of practice in terms of effecting	On Going	Impact of adopting a co-learning approach on greening outcomes across seven countries in Africa showed increased integration of trees on farmland resulting in improved soil health, productivity and income. Co-learning in Vietnam	https://doi.org/10.1007/s13593-020-00624-5 https://www.foreststreesagroforestry.org/wp-content/uploads/fta-2020-science-conf/stream1/T1-

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households (100 million people) and more productive and equitable management of natural resources over an area of at least 50 million ha. This outcome integrates some outputs from other research clusters through their scaling.	<ul style="list-style-type: none"> More productive and equitable management of natural resources 	through spontaneous spread of options being trialed in communities of practice. In Vietnam farmer co-operatives neighboring exemplar landscapes have sought and replicated successes, in Kenya farmers not directly involved in projects have started using innovations such as planting basins because of the interest generated by groups of farmers adapting basin designs to their local circumstances. We are now directing effort to document spontaneous spread and understand what enables or constrains it.	sustainable intensification for at least three countries in Africa, Asia and Latin America		led to development of multistrata options preferred by farmers that provide greater and more reliable returns while co-learning led to viable oil palm diversification strategies in Brazil.	S1-58-FTA%20-%20Andrew%20Miccolis Scaling%20up%20Oil%20Palm%20Agroforestry%20in%20the%20Brazilian%20Amazon.ppsx
FP2 Outcome: Improved livelihood opportunities	<ul style="list-style-type: none"> Increased livelihood opportunities 	The quantification of benefits far exceeding 25% increased income from market	2020 - Quantification of tree and forest contributions to	On Going	Livelihood and environmental benefits from community forestry were analysed across 643 cases in 51 countries and augmented by	https://doi.org/10.1038/s41893-020-00633-y

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<p>involving timber, fruit and NTFPs contributing a 25% increase in income for over 5 million people and more equitable management of natural resources, including a 25% increase in women's participation in decisions involving tree and forest management and utilization and improvement in substantive representation of women in community forest management institutions.</p>	<ul style="list-style-type: none"> • More productive and equitable management of natural resources 	<p>based agroforestry options in Vietnam coupled with farmer preferences for more diverse and hence resilient options and the critical need for strategies to cover the time lag between investment and return; have shifted our emphasis from comparative evaluation of different options to holistic assessment of what combinations of options (technology, market and policy) lead to rapid uptake and impact.</p>	<p>livelihood improvement across at least six countries and three regions</p>		<p>detailed analysis of impacts on farm income for different agroforestry options quantified across three provinces in Vietnam.</p>	<p>https://doi.org/10.1007/s13593-020-00624-5</p>
<p>FP2 Outcome: Diversified tree-crop production systems covering</p>	<ul style="list-style-type: none"> • Increased livelihood opportunities 	<p>Combining local knowledge of tree attributes with scientific advances</p>	<p>2020 - A global system for diversification of cocoa</p>	<p>On Going</p>	<p>Understanding of effects of trees and other management factors on soil fertility and tools for selecting companion tree species to sustain</p>	<p>https://doi.org/10.1111/1365-2664.13560 https://doi.org/10.1007/s11104-018-03921-x</p>

FP Outcomes 2022	Sub-DOs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
5 million ha and improving diets and livelihood opportunities for 20 million people in smallholder producer households.	<ul style="list-style-type: none"> <li data-bbox="450 491 658 679">Agricultural systems diversified and intensified in ways that protect soils and water 	has allowed development of practically useful tools for selecting companion trees for both cocoa and coffee production systems that are now freely available and being taken up and enhanced by growing community of users who access tree selection tools online. Farmers rarely select companion trees for the sole purpose of improving soil fertility, and so embedding impacts on soil fertility within the overall basket of goods and services provided by different tree species in varying contexts matches advice about impacts of trees on soil fertility to farmer needs.	production systems in relation to site types and management regimes		soil fertility (amongst other utilities) developed for both cocoa and coffee.	https://www.sciencedirect.com/science/article/abs/pii/S0308521X19312673 https://doi.org/10.1007/s11104-019-04004-1 https://www.shadetreeadvise.org/

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<p>FP2 Outcome: Increased access to diverse, nutrient-rich food for 20 million people by closing yield gaps by trees in agricultural systems, improving and maintaining soil health, intensifying system interactions (fodder and fuelwood), directly contributing to production, reducing and reversing land degradation, and increasing the resilience of smallholder livelihoods.</p>	<ul style="list-style-type: none"> • Increased livelihood opportunities • Increased access to diverse nutrient-rich foods • Land, water and forest degradation (Including deforestation) minimized and reversed 	<p>Understanding how trees influence soil micro and macro fauna is critical for both productivity and product quality, recent breakthroughs in metagenomics facilitate making faster progress in understanding what practices can influence microbial diversity and abundance as well as understanding their implications for yield and product quality.</p>	<p>2020 - Approaches to matching tree-species to sites and farmer circumstances available to development partners implementing agroforestry options</p>	<p>On Going</p>	<p>Duong B, Marraccini P, Maeght J-L, Vaast P, Lebrun M and Duponnois R (2020) Coffee Microbiota and Its Potential Use in Sustainable Crop Management. A Review. Front. Sustain. Food Syst. 4:607935.</p>	<p>https://www.frontiersin.org/articles/10.3389/fsufs.2020.607935/full</p>
<p>FP2 Outcome: Reducing yield gaps through</p>	<ul style="list-style-type: none"> • Land, water and forest degradation 	<p>The program has taken a key step forward in quantifying</p>	<p>2020 - Quantitative synthesis of the</p>	<p>On Going</p>	<p>Effects of heat stress on dairy cattle and their productivity were quantified in China identifying areas</p>	<p>https://doi.org/10.1007/s10584-020-02688-4</p>

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
improved pasture management and animal husbandry on over 15 million ha and 1 million animals and contributing to reducing and reversing land degradation on over 5 million ha.	(Including deforestation) minimized and reversed	effects of heat stress on productivity of dairy cattle in China and identifying where, given climate change predictions, interventions are most needed to protect animals from heat stress. The emphasis of research has now shifted to comparative analysis of different options of reducing heat stress, and particularly the difference between living shade from trees in fields (that may also provide a seasonal fodder) and options that involve housing animals in buildings or other providing shade from other artificial structures.	role of trees in reducing heat stress in cattle and contributing to animal productivity and welfare		where climate change is predicted to exacerbate this and management interventions to reduce heat stress, including tree shade, are therefore important.	
FP3 Outcome: Public and private actors adopt effective	<ul style="list-style-type: none"> Improved access to financial and other services 	On public and private commitments to zero deforestation significant progress	2020 - Completed knowledge products and		Contributions and outputs in working groups on Capacity Building, Strategy and Objectives, and Climate Change in the Rubber	http://www.rubberstudy.org/reports https://www.foreststreesagroforestry.org/fta-

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governance arrangements, mechanisms and tools for ensuring sustainable, inclusive, equitable commodity supply in at least three countries.	<ul style="list-style-type: none"> • Reduced market barriers • Diversified enterprise opportunities • Increased value capture by producers • Land, water and forest degradation (Including deforestation) minimized and reversed • Gender-equitable control of productive assets and resources • Increased capacity for innovation in partner development organizations and in poor and vulnerable communities 	was made at several pilot sites, including in South Sumatra on green development and zeroing deforestation; in the Amazon on launching the TerrAmaz project with five pilot territories in Brazil, Colombia, Ecuador and Peru, on the fight against deforestation and the transition to sustainable development pathways. On plantations and tree crop commodities progress on governance of natural rubber sustainability by advancing Capacity Building, Strategy and Objectives, and Climate Change in the Rubber Industry. On mixed timber plantations, a study identified their potential role in forest restoration.	engagements on innovative solutions for addressing implementation gaps to improving sustainability and social outcomes through changes in incentive structures, supply chain management, and business processes		Industry. The mixed timber plantation study identified important role in forest restoration. Evaluated effectiveness of approaches to sustainable supply Shea.	event/natural-rubber-systems-and-climate-change/ http://events.globallandscapesforum.org/wp-content/uploads/sites/2/2019/11/White-paper-4-Powering-the-Indonesian-Archipelago_web.pdf

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
		Effectiveness of approaches to sustainable supply Shea were evaluated and presented to the Global Shea Alliance with a focus on empowering women shea producers in Burkina Faso.				
			2020 - Key sustainability initiatives at the international and national level informed by tools and guidelines to adjust interventions at the value chain and jurisdictional level across at least five select commodities in three countries	Complete	Tools and guidelines available in two jurisdiction of two countries, Colombia and Guaviare. ToR for a study were developed to assess the vulnerabilities of rural women producers in the shea value chain as well as opportunities available to them. Such vulnerabilities may encompass diverse factors such as new regulatory requirements to meet global market demand for Cocoa Butter Equivalents, new legal requirements for the recognition of women shea producers and their associations and/or federated structures, growing insecurity in the country, reduced densities of shea trees in the agroforestry parklands, and constraints associated with the collection, processing and marketing of shea nuts and/or shea butter.	https://www.cirad.fr/en/news/all-news-items/press-releases/2020/spatial-planning-for-stakeholders

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					One key element of the research will be to focus on the recent impacts of the COVID-19 pandemic on shea producers and the shea value chain.	
FP3 Outcome: Five business platforms and 20 businesses and service providers develop and implement business models that are more inclusive, economically viable and environmentally sustainable.		Reconceptualized inclusive business models with implications for sustainable development policy. Assessed the sustainability impacts of 12 contract farming businesses using econometric estimation strategies to address heterogeneous impacts of contract farming in perennial agriculture. Three welfare-enhancing accumulation pathways were identified. Assessed COVID-19 recovery and transforming food systems through inclusive agribusiness scaling, and critically reviewed policies and	2020 - Finalized a typology of business models for timber and tree crop commodities, based on their economic, environmental, social performance and related trade-offs, looking across situations in four high-value tree crops		George C. Schoneveld 2020. Review. Sustainable business models for inclusive growth: Towards a conceptual foundation of inclusive business. Journal of Cleaner Production. Volume 277, 20 December 2020, 124062 Reconceptualizing inclusive business and inclusive business models. Journal of Cleaner Production:	https://cgiar-my.sharepoint.com/:f/g/personal/g_schoneveld_cgiiar_org/EvDWfS7in11NmKKTDU427vEB8l8BDZWPgMCmqBCPaBj9fA?e=YJuGyoSchoneveld https://www.sciencedirect.com/science/article/pii/S095965262034107X

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		strategies. The research offers practically relevant solutions for the convergence of the climate, COVID-19 and food crises. Developed a conceptual framework for understanding how smallholders derive value from agrifood chains, and applied this to the case studies developed earlier in Mozambique and Tanzania.				
			2020 - Available metrics and tools that enable FSPs to better evaluate the social and environmental performance of their financial portfolios	Complete	The Integrated Method for Landscape Analysis of Financial Flows tool was piloted in a second landscape, lessons have been documented and the report for a third landscape is in preparation.	https://www.tropenbos.org/resources/publications/report-on-implementation-of-the-landscape-assessment-of-financial-flows+(laff)+in-the-juabeso%E2%80%93bia+and-sefwi%E2%80%93wiawso-landscape
FP4 Outcome: (Sub)national governance	<ul style="list-style-type: none"> Increased livelihood opportunities 	A Bioenergy strategy was supported for Kenya and awaiting	2020 - Second round surveys of conditions and		The team completed three stock take reports of the sentinel landscapes with full references to	http://dx.doi.org/10.5716/WP20001.PDF

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
<p>systems in at least 10 countries use contextualized theories of change to guide transitions to integral achievement of sustainable development goals through restoration, conservation and management of landscape multifunctionality, using similarity domains based on patterns and intensities of forest and tree cover change in space and time in sentinel landscapes understood on the basis of 'drivers' that operate at larger scales.</p>	<ul style="list-style-type: none"> • Increased access to productive assets, including natural resources • Gender-equitable control of productive assets and resources • Increased access to diverse nutrient-rich foods • Enhanced institutional capacity of partner research organizations • Land, water and forest degradation (Including deforestation) minimized and reversed • Improved capacity of women and young people to participate in decision-making 	<p>roll out. Three regions in The Gambia (Central River Region, Lower River Region and Upper River Region) have already began implementing the Tree growing paradigm including around schools whereby we managed to establish close to 400 ha of agroforestry and tree growing around 40 schools. In Kenya, Elegeyo Marakwet County (one of the 47 counties of Kenya) using our tree growing narrative has developed a Sustainable Forest management Tree growing policy that has been approved and is already being implemented.</p>	<p>trends in sentinel landscapes completed, changes documented, interpreted, and linked to national SDG reporting systems.</p>		<p>several surveys and results of multiple project portfolios in the landscapes including linkages to results in the reports: 1. Duguma L, Minang P, Aynekulu E, Carsan S, Nzyoka J, Bah A, Jamnadass R. 2020. From Tree Planting to Tree Growing: Rethinking Ecosystem Restoration Through Trees. ICRAF Working Paper No 304. World Agroforestry 2. Laumonier Y, Simamora T, Manurung A, Narulita S, Pribadi U, Simarangkir A, Kharisma S and Shantiko B. 2020. Sentinel Landscapes initiative: Stocktake and baseline data analysis for future landscape management and monitoring in West Kalimantan. Working Paper 5. Bogor, Indonesia: The CGIAR Research Program on Forests, Trees and Agroforestry (FTA). 3. Sepúlveda N, Vágen T-G, Winowiecki LA, Ordoñez J, Chiputwa B, Makui P, Somarriba E and López-Sampson, A. 2020. Sentinel Landscape stocktaking pilot study: Report Nicaragua-Honduras. Working Paper 2. Bogor, Indonesia: The CGIAR Research Program on Forests, Trees and Agroforestry (FTA). 4. Planting trees or growing them, do the words matter for</p>	<p>https://doi.org/10.17528/ci-for/007680 https://doi.org/10.17528/ci-for/007537 https://www.worldagroforestry.org/blog/2020/02/17/planting-trees-or-growing-them-do-words-matter-restoring-land https://info.undp.org/docs/pdc/Documents/KEN/EMC%20Forest%20Management%20and%20Tree%20Growing%20Policy.pdf</p>

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
	<ul style="list-style-type: none"> Increased resilience of agro-ecosystems and communities, especially those including smallholders Improved water quality 				restoring land? 5. County Government of Elgeyo Marakwet (2020), Forest Conservation and Management Policy, Iten, County Department for Land, Water, Environment and Natural Resources.	
FP4 Outcome: (Sub)national governance systems in landscapes covering 100 M ha and inhabited by 70 M people use quantified and valued functions of FT&A for biodiversity, full hydrological cycle and ecosystem services analyzed across knowledge domains and available for		Aceh Province in Indonesia was the most recent to complete a Green Growth Strategy. Two Green Cocoa Landscapes strategies have been completed in the Mbagassina and Mintom in Southern Cameroon. Three Provinces in Sri Lanka (Uwa, Sabaragamuwa and Central) have adopted and are engaged in the development of green growth strategies.	2020 - Reevaluation of cobenefit relations among global conventions (CBD, UNCCD, UNFCCC) at landscape scale, utilized in international discourse	Complete	Several papers re-evaluated contributions at national and sub-national levels with a full special issue devoted to this with work across the humid tropics and addressing all three conventions. Including modelling agroforestry targets for NDCs in Vietnam and Myanmar, Green Growth planning in Aceh Province in Indonesia with ecosystem services targets.	https://www.mdpi.com/journal/land/special_issues/agroforestry_ES https://doi.org/10.3390/land9120528 https://apps.worldagroforestry.org/region/sea/publications/detail?pubID=4589 Agroforestry-Based Ecosystem Services” in Land https://www.mdpi.com/journal/land/special_issues/agroforestry_ES https://hdl.handle.net/10568/108054 https://doi.org/10.3390/land9090323 https://doi.org/10.1016/j.agee.2020.106879

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
policy-level synthesis and planning.						https://apps.worldagroforestry.org/region/sea/publications/detail?pubID=4631 https://doi.org/10.3390/land9080240
FP4 Outcome: Diverse diets from tree cover in mosaic landscapes recognized and enhanced as contributions to balanced diets through Increase of availability, and access to, nutrient-rich wild and cultivated food products from these landscapes (10 sentinel landscapes 10 M people).		Impact analysis and nutrient values capture in Nigeria, Ethiopia, Unnan Province in China and many lower Mekong countries were published. A Special Issue on the Impacts of Tropical Landscape Change on Human Diet and Local Food Systems was published in Frontiers - looking at how land use change affects the diets of local communities living in landscapes where change is taking place.	2020 - In at least 5 countries: Increased value capture by producers/collectors of nutrient-rich food reduced post-harvest losses of wild and cultivated nutrient-rich food increased incomes and employment	Complete	Impact analysis and nutrient values capture in Nigeria, Ethiopia, Unnan Province in China and many lower Mekong countries. A Special Issue on the Impacts of Tropical Landscape Change on Human Diet and Local Food Systems published in Frontiers	https://doi.org/10.1016/j.pld.2020.09.007 https://doi.org/10.3389/fsu.2021.645241
FP4 Outcome: Adaptive landscape institutions		Institutions empowered and strengthened at various levels in	2020 - Impact study of the further development	Complete	Multiple iMpaact analysis completed	https://doi.org/10.1016/j.jenvman.2020.111831 https://doi.org/10.3390/su130311

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
empowered and supported on 6 M ha inhabited by 4 M people to manage changing landscape mosaics towards more balanced and adaptive multifunctionality and successful 'forest landscape restoration' through 'action research' and inclusive, participatory learning. This is aligned with efforts in PIM.5.2 -oe6 million hectares of shared landscapes under more productive and equitable management.		Vietnam and supported the development of agroforestry targets in the Vietnam and Myanmar NDCs.	and use of the LUMENS tool for participatory planning of land uses providing multiple environmental services. Cost-effective, multiscale and participatory protocols for monitoring viability of restored forests developed and adopted by key countries and other stakeholders.			https://doi.org/10.1002/fee.2265 https://www.thecommonsjournal.org/articles/10.5334/ijc.1061/ https://doi.org/10.3390/land9120528
FP5 Outcome: Efficient,	<ul style="list-style-type: none"> Reduced net greenhouse gas 	The Forest Reference Emission Level	2020 - Analysis available to	On Going	GCS REDD research and policy support has indirectly contributed to	

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
<p>effective and equitable climate national and international mitigation policies and funding, aligned with development objectives (3E+ goals).</p>	<p>emissions from agriculture, forests and other forms of land-use (Mitigation and adaptation achieved)</p> <ul style="list-style-type: none"> • Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) • Increased livelihood opportunities • Gender-equitable control of productive assets and resources • Enhanced individual capacity in partner research organizations through training and exchange 	<p>(FREL) later submitted to the UNFCCC; another support to Vietnam's PFES program</p>	<p>increase effectiveness and efficiency of results-based climate finance and used (e.g. by Green Climate Fund)</p>		<p>realization of REDD+ results-based payments (RBP): Projects in six countries approved by the GCF are totalling 0.08 Gt CO₂eq emissions reductions; 20 countries are entering the RBP phase in the Forest Carbon Partnership Facility; there is the Norway-Indonesia REDD+ agreement; and over 400 REDD+ projects exist globally. Work will continue to further up- and outscale results</p>	

FP Outcomes 2022	Sub-IDs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
FP5 Outcome: Risk-assessed ecosystem-based adaptation (EbA) policy and practice in place including joint mitigation and adaptation approaches.		Ecosystem-based adaptation implementation in The Gambia: Over 440 ha of agroforestry interventions as part of the EbA interventions were implemented. The Banjul Tree Cover Resolution was passed by over 100 delegates during the National Policy Discourse on Minimum Tree Cover on Farms in The Gambia led and facilitated by ICRAF with Ministry of Environment, Climate Change and Natural Resources:	2020 - Mechanisms to strengthen local capacity to respond with EbA comparatively assessed across scales and used in case studies	On Going	Ecosystem-based adaptation implementation in The Gambia: Over 440 ha of agroforestry interventions as part of the EbA interventions were implemented. The Banjul Tree Cover Resolution was passed by over 100 delegates during the National Policy Discourse on Minimum Tree Cover on Farms in The Gambia led and facilitated by ICRAF with Ministry of Environment, Climate Change and Natural Resources:	https://www.worldagroforestry.org/blog/2020/03/30/meeting-gambia-delivers-banjul-tree-cover-resolution-every-day-we-delay-comes-cost
FP5 Outcome: Food and bioenergy production policy and practice integrated more visibly in the	<ul style="list-style-type: none"> Reduced net greenhouse gas emissions from agriculture, forests and other forms of land-use (Mitigation and 	Work to address this outcome included the conclusion of the CIFOR project Socio-economic and environmental outcomes of bioenergy	2020 - Analysis of impact of bioenergy on social and environmental outcomes available to countries and	On Going	The joint NIFOS-CIFOR project Socio-economic and environmental outcomes of bioenergy production on degraded land in Indonesia concluded its 5-year duration end of 2020. In the 5-year lifetime, this project determined availability of and potential for sustainable biofuel	https://www.worldagroforestry.org/blog/2020/12/18/kenyas-bioenergy-strategy-supported-world-agroforestry

FP Outcomes 2022	Sub-DOs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
intervention areas.	adaptation achieved) <ul style="list-style-type: none"> • Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) • Increased livelihood opportunities • Gender-equitable control of productive assets and resources <ul style="list-style-type: none"> • Enhanced individual capacity in partner research organizations through training and exchange 	production on degraded land in Indonesia. The project could demonstrate that using Indonesia's degraded lands for bioenergy production with mixed species brings back profitable landscapes while providing significant amounts of bioenergy, employment, and ecosystem services in remote rural locations.	supporting policy making for sustainable bioenergy production		production on degraded and marginal land, identifying suitable tree species for different land types and associated bioenergy potential, and integrating forest landscape restoration for bioenergy production - all policy relevant findings demonstrating that if bioenergy production is integrated into sustainable agriculture, it can help to fulfil national targets on energy, food security and greenhouse gas emission reduction. Next steps will be formulating sustainable business models for private sector investments for upscaling in partnership with smallholder farmers. ICRAF has provided support to the Kenya Bioenergy strategy development	
FP5 Outcome: Performance assessment of mitigation and adaptation policy and practice	<ul style="list-style-type: none"> • Reduced net greenhouse gas emissions from agriculture, forests and other forms of 		2020 - First round of impact assessment of REDD+ policy and practice concluded	Extended	Performance assessment work is under way.	

FP Outcomes 2022	Sub-IDOs	Summary narrative on progress against each FP outcome this year.	Milestone	2020 milestones status	Brief Explanation Provide evidence for completed milestones (refer back to means of verification, and link to evidence wherever possible) or explanation for extended, cancelled or changed	Link to evidence
widely implemented following good evaluation practice.	land-use (Mitigation and adaptation achieved) <ul style="list-style-type: none"> • Enhanced adaptive capacity to climate risks (More sustainably managed agro-ecosystems) • Increased livelihood opportunities • Gender-equitable control of productive assets and resources • Enhanced individual capacity in partner research organizations through training and exchange 					

Table 6. Numbers of peer-reviewed publications from current reporting period (Sphere of control)

	Number	Percent
Peer-Reviewed publications	216	100%
Open Access	149	68.98%
ISI	188	87.04%

Table 7. Participants in CapDev Activities

Number of trainees	Female	Male
In short-term programs facilitated by CRP/PTF	8080	15619
In long-term programs facilitated by CRP/PTF	300	555
PhDs	33	58

Evidence Link: <https://www.dropbox.com/s/twrpwac7q8p4wmu/FTA%20Cap%20Dev%20evidence.docx?dl=0>

Training Topic	Country
Impact evaluation study – training for enumerators	Kenya, Rwanda
Soil processing (virtual)	India
Training on infrared spectroscopy techniques	Côte d'Ivoire
Soil spectroscopy (webinar) jointly organized with ICAR	India (participant data not gender-segregated)
LDSF data analysis workshop	Eswatini
Training on data management, cleaning, and analysis	Rwanda
Trees for Food Security training workshop (virtual)	Rwanda, Ethiopia, and Uganda
LegumeSELECT Project (virtual)	DRC, Ethiopia
Training on planned comparisons data collection	n.p. provided
Media training and technical training on REDD+ and peatlands	Global, Peru and other target countries

Training Topic	Country
Bioenergy	Indonesia
Adaptation and work on NAMAs*	Peru and Central America
Ecosystem-based Adaptation	The Gambia
ToT and Bamboo-FFS	Peru, Colombia, Ecuador
Training on supply-chain development, market linkages, cooperatives	Cameroon, Ethiopia, Ghana, Madagascar
Training on bamboo agroforestry	Cameroon, Ghana, Madagascar
Training on Bamboo silvo-pastoral Agronomy	Ghana
Training on bamboo site-species matching	Cameroon
Training on bamboo nursery and micro-planting	Madagascar
Training on Skill development	Ethiopia, Kenya, Uganda
Training on Business Development	Ethiopia, Kenya, Uganda
ToT on Bamboo Vegetative Propagation and Nursery Management	Ethiopia, Kenya, Uganda
Training on bamboo sustainable harvesting and resource management	Ethiopia, Kenya, Uganda
CFM training on Lung bamboo management	Viet Nam
Multiple training courses on cocoa	Peru
Multiple virtual training courses on forest genetic resources for FLR	Virtual

*NAMAs training topics included water harvesting, adaptation to climate change, Artificial insemination to improve livestock and lower greenhouse gas emissions, ARC-GIS, Integrated management of water resources for sustainability of water harvesting, Training on establishment and management of fruit trees, training for producers, installation of meteorological stations and the reading of climate data.

Table 8. Key external partnerships

Lead FP	Brief description of partnership aims (30 words)	List of key partners in partnership. Do not use acronyms.	Main area of partnership (may choose multiple)
FP1	Food and Nutrition Security. Partner in new project: Piloting incentive-based agricultural portfolios for nutrition and resilience in Zambia	<ul style="list-style-type: none"> Humboldt University - Berlin 	<ul style="list-style-type: none"> Research Capacity Development
FP1	Strengthening rural-urban linkages for fruit and vegetable consumption in new proposal development.	<ul style="list-style-type: none"> TMG - ThinkTank for Sustainability GmbH 	<ul style="list-style-type: none"> Capacity Development Policy
FP1	Transforming the Quality of Tree Planting (TQTP). BGCI and KG will be important partners in the development of a Transformative Partnership Platform (TPP) on TQTP.	<ul style="list-style-type: none"> Royal Botanic Gardens/Kew BGCI - Botanic Gardens Conservation International 	<ul style="list-style-type: none"> Research Policy Capacity Development Delivery
FP1	Food and Nutrition Security. Analysis and generation of new data around rural-urban linkages for fruit and vegetable consumption	<ul style="list-style-type: none"> BOKU - University of Natural Resources and Life Sciences 	<ul style="list-style-type: none"> Research Policy Capacity Development
FP1	Sequencing for African Orphan Crops Consortium. The collaboration will introduce new infrastructure and methods of sequencing genomes of the AOCC priority species	<ul style="list-style-type: none"> Oxford Nanopore Technologies 	<ul style="list-style-type: none"> Delivery Policy Capacity Development Research
FP3	Elaboration of case studies on existing strategies to overcome risk and barriers for access to finance for SMEs	<ul style="list-style-type: none"> IIX - Impact Investment Exchange IDH - IDH Sustainable Trade Initiative Touton 	<ul style="list-style-type: none"> Research Capacity Development
FP3	CIRAD and CIFOR were regular contributors to working groups of GPSNR on Capacity Building and Strategy and Objectives. FTA, CIFOR and CIRAD co-organized with the International Rubber Study Group (IRSG) a workshop on Natural Rubber Systems and Climate Change	<ul style="list-style-type: none"> GPSNR - Global Platform for Sustainable Natural Rubber IRSG - International Rubber Study Group 	<ul style="list-style-type: none"> Capacity Development Delivery Policy Research

Lead FP	Brief description of partnership aims (30 words)	List of key partners in partnership. Do not use acronyms.	Main area of partnership (may choose multiple)
FP3	Participating in a global working group to develop a high-level conversion policy to address compensation for past forest conversion, and development of a procedure for the operationalization of the FSC policy on conversion.	<ul style="list-style-type: none"> • FSC - Forest Stewardship Council 	<ul style="list-style-type: none"> • Delivery • Policy
FP3	Collaborated with the Global Shea Alliance, a non-profit industry association with members from 35 countries, to address the challenges and opportunities to empower women shea producers in Burkina Faso.	<ul style="list-style-type: none"> • Global Shea Alliance 	<ul style="list-style-type: none"> • Research • Capacity Development
FP3	FTA co-funded a study assessing gender equality in Fairtrade. Recommendations from the study have been published by Fairtrade.	<ul style="list-style-type: none"> • Fairtrade International 	<ul style="list-style-type: none"> • Capacity Development • Policy • Capacity Development • Policy
FP4	Partnerships with Governments on GCF Project implementation at national and landscape levels. Including Readiness, Ecosystem Based Adaptation Implementation and also Project development.	<ul style="list-style-type: none"> • Government of The Republic of The Gambia • Government of Sri Lanka • Government of Benin • Government of Cameroon 	<ul style="list-style-type: none"> • Policy
FP4	IDH - Green Growth Plans in Three sub-national level entities in 2 countries. And also supporting one national Level strategy in Cameroon	<ul style="list-style-type: none"> • Government of Indonesia • Government of Cameroon 	<ul style="list-style-type: none"> • Policy
FP4	FTA has continued to engage with the CBD post-2020 process, including through targeted submissions on the draft outline of the gender action plan and the draft monitoring framework, as well as participation in expert groups.	<ul style="list-style-type: none"> • UN Women - UN Women • CBD - Convention on Biological Diversity 	<ul style="list-style-type: none"> • Policy • Policy
FP4	Implementing Women in Fisheries project in the Gambia and Ghana	<ul style="list-style-type: none"> • University of Rhode Island 	<ul style="list-style-type: none"> • Research • Capacity Development
FP4	Building on longstanding engagement on gender and restoration with partners including UN Environment, FTA recommendations on gender, tenure and restoration were presented at a capacity building workshop with UN Habitat and UN Environment	<ul style="list-style-type: none"> • UN Environment - United Nations Environment Programme 	<ul style="list-style-type: none"> • Policy • Capacity Development • Policy • Capacity Development

Lead FP	Brief description of partnership aims (30 words)	List of key partners in partnership. Do not use acronyms.	Main area of partnership (may choose multiple)
FP4	Drawing in large part on FTA methods and tools, FTA-led consortium won a 2m USD bid to develop and pilot gender-transformative approaches to strengthen women's land rights. FTA and IFAD also co-organized a capacity building workshop for IFAD on intersectionality and masculinities.	<ul style="list-style-type: none"> • IFAD - International Fund for Agricultural Development 	<ul style="list-style-type: none"> • Research • Policy • Capacity Development • Research • Policy • Capacity Development
FP5	Co-publication with FAO of guidelines to support countries in the preparation and implementation of their national adaptation plans Addressing forestry and agroforestry in National Adaptation Plans – Supplementary guidelines. https://doi.org/10.4060/cb1203en	<ul style="list-style-type: none"> • FAO - Food and Agriculture Organization of the United Nations 	<ul style="list-style-type: none"> • Policy • Other • Policy • Other
FP5	Co-funded work on gender and climate finance in Indonesia; co-funded partnership on capacity building on gender and low emissions development with delegates to the Governors Climate and Forests Task Force	<ul style="list-style-type: none"> • UNDP - United Nations Development Programme • UN - United Nations 	<ul style="list-style-type: none"> • Research • Capacity Development • Research • Capacity Development
FP5	Based on earlier engagement under an FTA co-financed side-event at COP 26, FTA financed a study on gender in GEF-7. This partnership resulted in an invitation and request to present at an expert group meeting on gender in GEF-8	<ul style="list-style-type: none"> • GEF - Global Environment Facility 	<ul style="list-style-type: none"> • Policy • Policy
FP5	SDC: Financially supports to CATIE's project of water harvesting, which provides new methodologies to adaptation of agriculture to climate change through water harvesting in Nicaragua. Also, providing transportation and personal to work together with FTA personal in Nicaragua, and capacity building to technicians and producers	<ul style="list-style-type: none"> • CATIE - Centro Agronómico Tropical de Investigación y Enseñanza • SDC - Swiss Development Cooperation 	<ul style="list-style-type: none"> • Capacity Development • Research
FP5	Writing the Sectoral Guidance Documents for GCF on (1) Land and Land Use, (2) Ecosystems and Ecosystem Services	<ul style="list-style-type: none"> • GCF - Green Climate Fund 	<ul style="list-style-type: none"> • Policy
FP5	Refining the Peruvian Forest Reference Emission Level (FREL) with the objective to include peatlands in the FREL. FTA worked with the government of Peru to produce a report evaluating CO ₂ emissions from peatlands deforestation and degradation. This	<ul style="list-style-type: none"> • Government of Peru 	<ul style="list-style-type: none"> • Policy

Lead FP	Brief description of partnership aims (30 words)	List of key partners in partnership. Do not use acronyms.	Main area of partnership (may choose multiple)
	report is used and was cited in the FREL submitted by the government to the UNFCCC (United Nations Framework Convention on Climate Change).		
FP5	The Banjul Tree Cover Resolution was passed by over 100 delegates during the National Policy Discourse on Minimum Tree Cover on Farms in The Gambia led and facilitated by ICRAF with Ministry of Environment, Climate Change and Natural Resources: https://www.worldagroforestry.org/blog/2020/03/30/meeting-gambia-delivers-banjul-tree-cover-resolution-every-day-we-delay-comes-cost	<ul style="list-style-type: none"> • MECCNAR - Ministry of Environment, Climate Change and Natural Resources (Gambia) 	<ul style="list-style-type: none"> • Other • Other • Policy
FP5	On 18 November 2020, the Government of Kenya through the Ministry of Energy, together with partners, launched the Kenya Bioenergy Strategy 2020–2027. https://www.worldagroforestry.org/blog/2020/12/18/kenyas-bioenergy-strategy-supported-world-agroforestry	<ul style="list-style-type: none"> • Ministry of Energy (Kenya) 	<ul style="list-style-type: none"> • Other • Other

Table 9. Internal Cross-CGIAR Collaborations

Brief description of the collaboration	Name(s) of collaborating CRP(s), Platform(s) or Center(s)	Optional: Value added, in a few words
Within the African Orphan Crops Consortium, collaboration with yam genomics (value added is shared: IITA is the expert for yam and bringing this knowledge and germplasm collection into the objectives of AOCC	RTB, IITA	Scientific and efficiency benefits
Engaged as part of the writing team for the UNFSS position paper on fruits and vegetables. This paper titled 'fruits and vegetables in food systems for healthy diets' was commissioned by the Scientific Committee of the UNFSS (Food System Summit). The writing team comprises people from the AIRCA and CGIAR groups, and from Wageningen University and A4NH (February/March 2021). A short Brief will be developed based on the above paper to outline priority research areas for fruits and vegetables within the frame of the One CG. There is an upcoming expert or "peer-input" webinar to further refine and agree on critical research areas.	A4NH	Scientific and efficiency benefits. FTA part of these emerging collaborations in the important area of fruits and vegetables to not only bring greater visibility to the research we do but also contribute to framing future research agenda and intervention areas for high level outputs, and proposal development.
FTA Director was nominated as member of the management team of the CGIAR COVID-19 Hub leading Working Group 4 of the hub on "addressing food systems fragility and build back better", which is preparing a study on the impacts of COVID-19 on food systems and their actors, using available sources.	A4NH, IFPRI, ILRI	
Contributions to Resource Center of the CGIAR Gender Platform	Gender	Enhancing visibility of FTA research
Journal article on the changing aspirations and opportunities of women in rural Kenya	GLDC, PIM	Scientific benefits and efficiency of resource use
IFAD-funded project on developing and piloting gender-transformative approaches to strengthen women's land rights	IFPRI, PIM	Scientific benefits and efficiency of resource use
Joint work with Flagship 5, PIM on a guide on social inclusion in Multi-stakeholder Forums	PIM, Gender	Efficiency of resource use

Brief description of the collaboration	Name(s) of collaborating CRP(s), Platform(s) or Center(s)	Optional: Value added, in a few words
Joint work on comparative study on gender in restoration	WLE	Efficiency of resource use
Submission of special issue on social inclusion in restoration	WLE, PIM, IWMI, IFPRI	Scientific benefits and increased visibility of work
Joint study on the feminization of agriculture in Kenya and Burkina Faso	Gender, WLE	Efficiency of resource use
Launching the Circular Bioeconomy TPP	CIFOR, ICRAF, CCAFS	Providing funds for background papers strengthening the TPP proposition with scientific information
Collaboration on availing germplasm to research projects; facilitating acquisition from other sources, working together on the development of characterization data, and sharing existing data. Joint work in the Global Health Unit (GHU) to address priority tree health issues. Genebank Platform Scientific and efficiency benefits	Genebank	Scientific and efficiency benefits

Table 10. Monitoring, Evaluation, Learning and Impact Assessment (MELIA)

Studies/learning exercises planned for this year (from POWB)	Status	Type of study or activity	Description of activity / study	Links to MELIA publications
S4061 - An assessment of the Diversity for Restoration (D4R) Tool.	Completed	Program/project evaluation/review	The Diversity for Restoration (D4R) is a decision support tool which helps in species selection and seed sourcing after restoration objectives and site conditions are determined. It integrates different methods to provide suggestions on the best combination of species to use for a given restoration objective and the site conditions, as well as recommendations on where to collect seeds. The present independent assessment aims to evaluate the real potential of the tool via 1) the interest and perception of the tool; 2) the role it can play in strengthening the decision-making process and knowledge transfer of species selection and seed sourcing; and 3) the current impact in knowledge transfer through webinars and workshops.	https://hdl.handle.net/10568/111078
S4100 - Mid-Term Review of the Provision of Adequate Tree Seed Portfolios Projects	Completed	Program/project evaluation/review	The purpose of this Mid-Term Review (MTR) is to assess the project's progress and provide recommendations on how performance issues and challenges encountered so far could be addressed to deliver the desired outcomes and for the continuation of implementation of the project. The scope of the MTR mission focuses on the subjects of relevance, effectiveness, efficiency, potential impact, sustainability, and risk management, including cross-cutting issues. The MTR methodology comprises a combination of desk review, collection of primary data through meetings and semi- structured interviews with project stakeholders, and field visits to the implementation sites.	https://www.worldagroforestry.org/output/mid-term-review-report
S4101 - Integration Study to assess the contribution	On Going	Qualitative Outcome Study: (mainly to	This study synthesizes the work of projects operating under the umbrella of the Forests Trees and	A draft interim report was presented to the FTA ISC in December 2020. The final Report

Studies/learning exercises planned for this year (from POWB)	Status	Type of study or activity	Description of activity / study	Links to MELIA publications
of the Forests, Trees and Agroforestry CGIAR Research Program to improving food and nutritional security		substantiate contribution to policy or similar)	Agroforestry (FTA) CGIAR Research Program in improving food and nutritional security, building on existing studies and other information sources evidencing outcomes and impacts. A 'deep dive' is being undertaken to interrogate resource efforts on developing and scaling 'Tree and Crop Portfolios'. This involves primary data collection to better evidence outcomes and modeling efforts to estimate potential impacts on nutrition-related outcomes. A draft interim report was presented to the Independent Steering Committee of FTA in December 2020. The final Report should be available in June 2021.	should be available in June 2021. https://www.foreststreesagroforestry.org/wp-content/uploads/2021/02/FTA-ISC16-Item-3-Doc-2-FTA_CH1_5_ISC_Report.pdf
S4102 - An Outcome Evaluation of FTA's Research Portfolio on Oil Palm	Completed	Qualitative Outcome Study: (mainly to substantiate contribution to policy or similar)	This study assesses the project design, implementation, and outcome realization of FTA's research portfolio on oil palm in Indonesia. Four projects from the portfolio were selected for in-depth assessment: Supporting Local Regulations for Sustainable Oil Palm in East Kalimantan (EK), Governing Oil Palm Landscapes for Sustainability (GOLS), Oil Palm Adaptive Landscapes (OPAL), and Engendering RSPO Standards (ERS). The report documents and empirically tests whether and how intended portfolio outcomes were realized, with specific attention to the characteristics of projects' design and implementation that contributed to changes in policy and practice within Indonesia's oil palm sector.	https://doi.org/10.17528/cifor/007936
S4103 - Global Comparative Study of REDD+ (GCS REDD+) Endterm Review	On Going	Program/project evaluation/review	Efeca is conducting a final evaluation of the 5-year Phase 3 project 'A Global Comparative Study for achieving effective, efficient and equitable Reducing Emissions from Deforestation and Forest Degradation (REDD+) results'. Phase 3 began in 2016 and was extended into the first half of 2021. This review is expected to be completed in April 2021. The main body of the report focuses on the analysis of the findings, structured around Key Evaluation Questions.	

Studies/learning exercises planned for this year (from POWB)	Status	Type of study or activity	Description of activity / study	Links to MELIA publications
S4104 - Integration Study to assess FTA Contribution to the protection of forests and reduction of deforestation	On Going	Qualitative Outcome Study: (mainly to substantiate contribution to policy or similar)	This study is part of a set of studies that aim to assess the extent to which FTA has contributed to solving key global challenges since its inception in 2011. A comprehensive mapping of projects to frame FTA contributions to the challenge was conducted, then a composite Theory of Change (ToC) was developed and documented. Available evidence was collected and organized to test each element in the ToC. While critical data and knowledge gaps were identified. The team is now collecting additional data to assess outcomes, estimating impacts using projections from available documentation and evidence.	A draft interim report was presented to the FTA ISC in December 2020. The final Report should be available in June 2021. https://www.foreststreesagroforestry.org/wp-content/uploads/2021/02/FTA-ISC16-Item-3-Doc-2-FTA_CH1_5_ISC_Report.pdf
S4105 - Understanding and evaluating the impact of integrated problem-oriented research programmes: Concepts and considerations	Completed	Synthesis (secondary) study	Traditionally, research impact assessment in CGIAR was developed in a technology-centric context where counterfactual approaches of causal inference predominate. This is not well suited to assess a program like FTA. This study proposes a multifaceted, multi-scale, theory-based evaluation approach. This includes nested project- and programme-scale theories of change (ToCs); research quality assessment; theory-based outcome evaluations to empirically test ToCs and assess policy, institutional, and practice influence; experimental and quasi-experimental impact of FTA-informed 'large n' innovations; ex ante impact assessment to estimate potential impacts at scale; and logically and plausibly linking programme-level outcomes to secondary data on development and conservation status.	https://doi.org/10.1093/reseval/rvaa024

Table 11. Update on Actions Taken in Response to Relevant Evaluations

Name of the evaluation	Rec N.	Recommendation	Status of response	Concrete actions taken	By whom	By when	Evidence
Evaluation of Capacity Development (CapDev) activities of CGIAR	4	Centers and CRPs should build on successful partnership approaches, such as the facilitation of collaborative multi-stakeholder networks and multi-donor programs and platforms, to ensure that CapDev has the required long-term perspective and is relevant to and owned by the stakeholders and entities that strengthen their capacities	Ongoing	Being considered in the implementation of CapDev activities.	CapDev thematic lead	Dec 2021	
Evaluation of Gender in Research and in CGIAR workplace	10	CRPs should individually and jointly invest in improving and institutionalizing systems for monitoring outputs, as well as effectiveness and outcomes of gender research.	Ongoing	FTA has commissioned an evaluation of its gender research which is currently being finalized. This recommendation is being addressed in that context.	MT, MELIA, gender lead	Dec 2021	
CRP evaluation of Forests, Trees, and Agroforestry	4	The Evaluation Team recommends that FTA further develops its results framework and impact pathways into a comprehensive theory of change, and a framework for results-based management that explicitly acknowledges windows for opportunistic and blue-sky research. Based on this framework, FTA must then initiate active management of its entire research portfolio, including increased selectivity with regard to mapping bilaterally funded projects to the program.	Ongoing	FTA is currently revisiting its impact pathways and end of program outcomes. A workshop on impact assessment was organized with the ISC reviewing impact pathways and end of program outcomes. The results of the workshop have been taken into account in the preparation of the POWB.	FTA Director, MT	Dec 2021	
	5	As part of the preparations for FTA's second phase proposal, the Evaluation Team recommends that the FTA Steering Committee re-assesses the relevance and the financial sustainability of the current set of Sentinel	Ongoing	Science workshop on Sentinel Landscapes was held in Dec 2017. In 2018 a special workshop was held to decide the way	MT	Dec 2021	

Name of the evaluation	Rec N.	Recommendation	Status of response	Concrete actions taken	By whom	By when	Evidence
		Landscapes, and adapt the entire approach to Sentinel Landscapes in the FTA Phase II Proposal accordingly.		forward for Sentinel Landscapes. Three stocktake studies have been finalized. Their results are being integrated in the adaptation of the Sentinel Landscapes towards collocation of research.			
	7	The Evaluation Team recommends that FTA increases and makes more systematic its efforts to reach out to and involve partners on all levels: program donors, relevant actors of strategic importance for FTA, and boundary partners. FTA must further increase its efforts to include boundary partners into research priority setting, design, and implementation, develop their capacity, and ensure that FTA results targets respond to concrete needs of development partners.	Ongoing	FTA has strengthened institutional relations with key policy partners such as FAO, key international NGOs such as WWF, as well as with upstream research organizations such as IUFRO. This takes the form of joint scientific work and also joint engagement work. Examples include joint organization of events, co-publications, etc. FTA will seek to engage strategic national partners and consult them on options for post 2021	FTA Director FP Leaders, ISC	Dec 2021	

Table 12. Examples of W1/2 Use in this reporting period (2020)

FTA has activity based workplan, tracking all W1/W2 funded activities and their expenditures. This table is available on request. Below there are some examples of W1/W2 use.

Please give specific examples, one per row (including through set aside strategic research funds or partner funds)	Select broad area of use of W1/2 from the categories below - (drop down) Select only one category.
Synthesizing evidence on gender and producing tailored research products that draw from the various FPs and participating centers, in order to plug FTA research into ongoing policy processes. This funding has also allowed CGIAR centers participating in FTA to pursue joint work, leveraging their respective strengths, networks and partnerships.	Other cross-cutting issues
Conceptual framework on framework for analyzing the pathways and impacts of COVID 19 on agroecosystems resilience, livelihoods and landscapes	Pre-start up
Study on the impacts of COVID 19 on community-based forest enterprises in Cameroon	Research
Global stock take framework for agroforestry (towards UNFCCC tracking progress on NDCs)	Policy
Safeguarding of priority trees genetic resources in SE Asia Training reports on (1) in situ and ex situ conservation, (2) farmer seed sources available at: http://www.apforgen.org/resources/apforgen-publications Manuscript on the results of the project APFORGIS that develops distribution and threat maps for native Asian tree species link	Capacity development
Review of state and economy of the global TGR resource	Other: Foresight
Data collection and analyses of selected orphan crops. Data collation and analysis on characterisation of genotypes and phenotypes of priority species, including highly nutritious food trees and opportunities for new value chains, in collaboration with the Genebank Platform and the African Plant Breeding Academy. 17 articles published https://doi.org/10.1016/j.indcrop.2020.112779 . DOI: 10.21203/rs.3.rs-35471/v1 https://doi.org/10.1016/j.sciaf.2019.e00235 . https://doi.org/10.1016/j.scitotenv.2020.140665 . https://doi.org/10.1016/j.jaridenv.2020.104176 . Doi 10.5943/ajom/3/1/12. https://doi.org/10.1007/s00267-020-01311-7 . https://doi.org/10.1016/j.pld.2020.09.007 , https://doi.org/10.3390/f10090756 (not reported in 2019) DOI: 10.1080/14728028.2020.1752312. https://doi.org/10.20372/s.v4i1.74 . https://doi.org/10.1080/23311932.2019.1711297 .	Partnerships

Please give specific examples, one per row (including through set aside strategic research funds or partner funds)	Select broad area of use of W1/2 from the categories below - (drop down) Select only one category.
https://doi.org/10.1080/15715124.2019.1593183 https://doi.org/10.1007/s12042-020-09262-3 . https://bit.ly/2VH3Fpj [https://doi.org/10.1007/s10457-019-00429-w .]	
Development of silvopastoral systems options and their documentation for Colombia /Africa / central America Fodder data compilation	Research
Development of market-based agroforestry options (Performance of market based agroforestry options in Indonesia and in Africa	Research
Consolidating the role of agroecological innovation approaches in delivering food and nutrition security- Journal paper on agroecological principles	Research
TOR for global comparative analysis of the smallholder rubber chains	Research
SBM innovation and scaling research in Tanzania. Dataset with results from SBM innovation and scaling research activities in Tanzania	Research
Evaluating merits of different approaches to Jurisdictional performance monitoring systems. Survey of existing proposals in each country, assessing their strength and limits	Policy
Stocktake paper on the cost-benefit analysis of restoration that features 19 papers across a range of ecosystem services from agroforestry-based restoration across Africa, Asia and Latin America	Research

Table 13. CRP Financial Report

* Source: Audited lead Center financial report

** CRP management and support include FTA management, communication, data, MELIA and integrative activities (e.g. cross-FP, cross CRP)

Flagship/Cross cutting	Planned budget 2020 (in USD '000)				Actual expenditure 2020 (in USD '000)				Difference			
	W1/2	W3/B	Center Own Funds	Total	W1/2	W3/B	Center Own Funds	Total	W1/2	W3/B	Center Own Funds	Total
FP1	1.085	8.380	1.164	10.629	1.037	6.348	674	8.059	48	2.032	490	2.570
FP2	2.911	15.226	-	18.137	1.409	12.075	10	13.494	1.502	3.151	(10)	4.643
FP3	1.293	13.078	-	14.371	1.063	6.906	143	8.112	230	6.172	(143)	6.259
FP4	1.203	11.298	30	12.531	1.010	10.775	396	12.181	193	523	(366)	350
FP5	1.062	13.510	-	14.572	842	12.156	534	13.532	220	1.354	(534)	1.040
CRP Management & Support Cost**	4.405	785	-	5.190	3.347	164	58	3.569	1.058	621	(58)	1.621
CRP Total	11.959	62.277	1.194	75.430	8.708	48.424	1.815	58.947	3.251	13.853	(621)	16.483

Annex 1. Criteria for W1+2 prioritization and adjustments

Compulsory criteria (Quality of research for development), critical for integration of bilateral projects and for W1+2 funds:

1. **Relevance:** The proposed work is aligned to the priorities of the CRP as defined in the priority setting process. It addresses one/several key research gaps as identified in the priority setting process. The proposed work targets one or several specific development demand(s) or goal(s) fulfilling stakeholder's needs
2. **Scientific credibility:** The proposed work clearly explains the scientific rationale, research question(s) and methods, giving confidence that research findings will be novel, robust and scientifically trustworthy.
3. **Legitimacy:** The proposed work clearly explains how the work will take account of and reflect stakeholders' perspectives and values. Research is done in contact with beneficiaries and stakeholders are involved from the framing of questions to the design of research and solutions.
4. **Comparative advantage:** The partner has a comparative advantage in undertaking the work proposal, with available internal competencies. Data is available and the proposed work appropriately leverages and builds upon on previous work etc.

Prioritization criteria specific to W1-2 funded research

5. **Past delivery performance:** Delayed delivery of W1+2 funded outputs in 2019 is considered negatively in the priorities' adjustments. This is based on a check of the FTA "traffic light report" and end-of-year delivery estimates by priorities.
6. **Gender:** A specific attention to gender is warranted and the overall gender CCT budget is ring fenced in 2019 at a minimum of the 2018 level USD 700,000. This envelope includes a range of gender activities integrated in the operational priorities, as well as the operational priority on gender priority.
7. **Promising areas of work:** The importance of W1+2 funding was considered to support some promising areas of work.
8. **Effectiveness and contribution to impact: The proposed work contributes to FTA ToC in a catalytic way. The work is deliberately and convincingly positioned to contribute to significant outcomes, with high potential to contribute to development objectives and impact.**
9. **Contribution to IPGs:** The proposed work has high potential to develop methods and/or new knowledge that will have international public goods value.
10. **Strategic value:** The proposed work has high potential to add value at the FTA Program-level and contributes to strategically orient research, including bilaterally funded work, to help realize the FTA ToC.
11. **Program growth:** The proposed work has high potential to contribute to the growth of FTA through developing and strengthening partnerships, generating additional program development opportunities.

12. **Vertical, horizontal and/or temporal Integration.** The proposed work (i) feeds or has potential to feed into other flagships and research areas and for bringing coherence in methodological approaches, such as enabling the creation of extrapolation domains; and/or (ii) promotes continuity of action along the research to development continuum in FTA's impact pathways; and/or (iii) *contains* programmatic learning, extends projects' scientific and development relevance beyond their completion.

Annex 2. Detailed description of FPs progress.

FP1 Tree genetic resources (TGR) to bridge production gaps and promote resilience

Also in 2020, FP 1 produced well over 100 outputs thereby progressing significantly towards the program outcomes. The outputs produced contribute to one or more of the FTA priorities (Restoration, Biodiversity and Safe-guarding Diversity, Orphan crops, Nutrition, and Seed Delivery).

Among the achievement targeting the **outcome on adoption of methods, tools and practices** to mitigate threats to valuable TGR and a primary focus on the **FTA priorities of Biodiversity and Restoration** but also **Nutrition** were: Threat assessment of Brazil nut ([habitat degradation](#) and [genetic diversity](#)), [Sandalwood](#), [Dipterocarps](#), [medicinal and aromatic plants in Nepal](#); safeguarding of threatened [Rosewood](#) species in SE Asia implemented; vulnerability assessment of tree species from [tropical dry forest](#) in Peru and Ecuador; [Boswellia papyrifera](#) in Ethiopia; baseline analyses of genetic resource collections of cocoa in Central America and of [coffee and cocoa](#) in El Salvador and Peru; [Bamboo](#) seed sourcing in Ethiopia undertaken; and growth potential of [Rattan](#) in Cameroon mapped. Studies of school gardens to conserve [agrobiodiversity](#) and promote healthy diets were published, as was work on the impact of agrobiodiversity on [women and children's diet](#); two thematic studies on FAO State of the Worlds Forest Genetic Resources published, one on (state, pressure, benefit and response), and one on [trees, TGR and the livelihoods of rural communities](#). These thematic studies link up to different aspects of the work on biodiversity by FP1, as published in a series of blogs covering [Tree biodiversity: research in development](#), [Practical resources to support biodiversity of trees](#) , [Contributing to international conservation of tree biodiversity](#), and [Informing policy on tree biodiversity](#); and also link up to the [post-2020 global biodiversity framework](#).

To address the **outcome of implementing cost-effective domestication** approaches for priority tree species for agriculture and horticulture, deliverables from collaborations between AOCC, the Gene Bank Platform and the **Nutrition and Orphan crops priorities** of FTA have contributed to knowledge that supports diversification of food systems through integrating nutrient rich orphan crops into current food systems with a range of outputs: Characterisation of genotypes and phenotypes, and cultivar development of trees and crops, including African Orphan Crops with enhancement using genomics and business model development focusing on food trees but also including other functional uses. Domestication studies of > 20 species in > 10 countries with a diversity of partners (links), including [Castor bean](#), [Shea](#), [Trichoscypha acuminata](#) , [Giant milkweed](#), [Boswellia papyrifera](#), [Teak](#), [Allanblackia floribunda](#), [Baobab](#), [Bos frontalis](#), [Manglietia conifera](#), [Guava](#), [Eucalyptus camaldulensis](#), [Rubber](#), [Ganoderma spp](#), [Allanblackia stuhlmannii](#), [trees in Wag-Lasta \(Ethiopia\)](#), [Cocoa](#), [medicinal plants in Cameroon](#), [coffee](#), [A. senegal woodland](#), [Jernang](#), [Canarium schweinfurthii](#), [Bitter Kola](#), [Water Yam](#), [Moringa oleifera](#), [Artocarpus spp](#), [Parkia biglobosa](#) (in [Burkina Faso](#) and a [systematic review](#)). High level publications in [Nature Genetics](#) and [Global Food Security](#) covered [enhancing African orphan crops with genomics](#), mainstreaming nutritious orphan crops into African food systems and the [contribution of forests, trees and agroforestry to sustainable food security and nutrition in a time of crisis](#).

To support national governments, extension services and private partners with the **outcome of adopting cost-effective and equitable tree-planting material delivery** approaches various outputs have been produced within the frame of the **FTA priorities on Restoration and Tree Seed**

Delivery. A study on priorities and challenges of tree seed supply was published in [Unasylva](#) and a contribution was made to germplasm acquisition and distribution by CGIAR in [Plants](#). Contributions were made to a well-attended GLF Conference '[Can Tree Planting Save the Planet](#)', with associated blogs and a [Tree Planting Outcome Statement](#). An integrated tree seed programme in Ethiopia is well established ([PATSPPO](#)) including more than 30 seed and multiplication production areas of 18 species established 2018-2020, with documentation of the mass breeding approaches applied on its way. Other similar programmes are being prepared for Rwanda, Burkina Faso, Tanzania and Central Asia. Work on habitat and suitability modelling for 153 African tree species continued, including the preparation of new programming software for [Community Ecology and Suitability Analysis](#). Base-line climate analyses for Tanzania, Kenya and Mauritania in support of applying climate appropriate portfolios of tree diversity for restoration were also prepared in connection with preparation of proposals for the Green Climate Fund. New and updated support tools for the work have been provided for the [WorldFlora](#) (with [R Commander Plug-in](#), [Standardize Plant Names - module](#), and [User Guide](#)), for biodiversity analyses (8 new tools in 2020, see <https://rpubs.com/Roeland-KINDT/>), and the [Seed-IT app](#).

FP2 Livelihood systems

In the agroecology priority, FP2 [published a consolidated set of agroecological principles](#). These have gained widespread acceptance and are already been used by SDC and Biovision to evaluate funding portfolios and farm performance, respectively. A [transformative partnership platform](#) (TPP) on agroecological transitions has been established with FAO, UNEP, SDC, Biovision, TMG, the French Research Institutes, six CGIAR centres and the EU International Partnerships Directorate and attracted over 20M USD of new research funding. Under its auspices a common protocol for [socio-economic assessment of the impact of agroecological practices at household level](#) has been developed for implementation across a portfolio of 12 contrasting case studies established with partners across Africa. Alongside this, a [global trial of agroecological control of fall army worm](#) has been established as well as novel research on agricultural performance metrics and responsible land investment.

In the forest-farm interface policy priority, FP2 published a [global analysis of social and environmental outcomes of community forestry management](#) (CFM) initiatives in *Nature Sustainability* synthesizing 643 cases across 51 countries. This flagged that there were often negative consequences for forest access and natural resource rights for many already marginalized rural people where policies formalizing CFM were put in place and identified the conditions necessary for gains in both socio-economic and environmental outcomes leading to policy recommendations. Focusing on Africa, an analysis of [agroforestry policy status, gaps and opportunities for supporting landscape restoration](#) across six countries in West and East Africa, revealed a 'missing middle' between national and international commitments and restoration action on the ground. Lessons from progress in addressing this implementation gap through horizontal (across sectors) and vertical (cross scale) integration were identified and guidelines for their context-specific application in other countries developed.

In the diversification of tree-crop commodity production systems priority, FP2 published a [global synthesis of knowledge about how the microbiota associated with coffee](#) plants promotes productivity and pest and disease resistance. This concluded that microorganisms represent a promising alternative to environmentally disruptive inputs to improve the sustainability not only of coffee

production but also waste management and the quality of the final product. Recommendations for applying the most recent advances in metagenomics to develop coffee agroforestry in real world field situations are now being put into practice as a result. Generalizable findings from research on the role of shade trees in [closing yield gaps in cocoa across a climate gradient in Ghana](#), complemented understanding of the linkages between [soil fertility, growth and productivity of cocoa under common shade tree species in Sulawesi](#), Indonesia. With respect to [oil palm diversification](#), oil palm with a cocoa intercrop provided an overall yield 40% higher than monocropping, while also replenishing more ground water and having a lower C footprint.

In the market based agroforestry priority, [agroforestry options for sloping land in Northwest Vietnam were more profitable than the maize monocultures](#) they were replacing, but had an average time lag of between four and seven years after establishment to break even, consolidating the provincial government incentives for establishment that were set up when policy makers saw the early performance of agroforestry options in participatory trials. Comparing mid-points of the range of net present values (NPV) for different options, agroforestry was more than twice as profitable (9,627 USD ha⁻¹ for maize with acacia and mango; 14,731 USD ha⁻¹ for maize with longan) than monoculture (4,006 USD ha⁻¹) with the high value local son tra fruit tree (*Docynia indica*) highly profitable with an NPV of 30,144 USD ha⁻¹. The profitability comes on top of [environmental benefits of reduced surface run-off and soil erosion](#) that farmers perceived as important to sustain agriculture on the steeply sloping terrain that prevails in the region.

In the livelihood trajectory modelling priority, [understanding intrahousehold dynamics](#) amongst men and women was identified as critical for uptake of restoration options in Kenya. Adoption of planting basins shifted labour from men to women and although most men and women reported that they increased the time taken to prepare land, many also said they reduced the overall time spent working on their farm, because less weeding was required. Basins spread labour demand more evenly throughout the year and made maize more productive because of their ability to capture run-off, control erosion and increase soil fertility. In Ethiopia, understanding farmers' preferences for tree diversity and the survival and growth of a range of tree species in real farm conditions has led to a policy shift to support [farmer-led approaches to increasing tree cover in agricultural landscapes](#).

In the silvopastoral systems priority, analysis of new data from the Sahel (Burkina Faso and northern Ghana) published in *Nature Scientific Reports* revealed [grazing pressure as a key determinant of the functional composition of farmer managed natural regeneration](#) (FMNR), leading to context specific recommendations about grazing control and the need for enrichment planting where there is not sufficient tree material in the vicinity of the FMNR site to avoid dispersal limitation. This complemented a [pan African synthesis of knowledge about FMNR](#) that highlighted its potential as a low-cost restoration option and identified research priorities that can be addressed through planned comparisons built into the scaling activity of development initiatives to understand what FMNR options work where and for whom. Key findings on nutritional value of bamboo as a ruminant fodder in Colombia and pruning strategies for fodder species in the Sahel were also produced.

FP3 Sustainable value chains and investments

P16: Inclusive finance and business models

There were several key achievements by P16 in 2020, including publication of an article on reconceptualizing inclusive business and inclusive business models with implications for sustainable development policy. P16 work on the sustainability impacts of 12 contract farming businesses using econometric estimation strategies (covering tea, coffee, cocoa and oil palm in Ghana, Tanzania and Peru) were synthesized in an article on heterogeneous impacts of contract farming in perennial agriculture. The article identifies 3 welfare-enhancing accumulation pathways: intensification, consolidation and commercialization. A related article was also produced on COVID-19 recovery and transforming food systems through inclusive agribusiness scaling, which presents FTA results and critically reviews literature, policies and strategies. By challenging mainstream policies, the paper offers practically relevant solutions for the convergence of the climate, COVID-19 and food crises. Finally, P16 published a conceptual framework for understanding how smallholders derive value from agrifood chains using an integrated livelihoods - value network perspective. Applying it to the case studies developed earlier in Mozambique and Tanzania, P16 highlights the complexity of smallholder-inclusive value networks and calls attention to the importance of cross-sectoral partnerships, network governance, resource and capability distribution and value flows.

P17: Innovating finance for sustainable landscapes

During 2020 collaboration between partners (ICRAF, CIFOR and TBI) intensified. 2020 work build on 2019 results, finalizing a working paper on innovative finance, which was launched in a November webinar and helped to connect to private sector actors in the field of finance (Impact investment Exchange and Financial Access), starting a longer term collaboration. Further work was done on the Landscape Analysis of Financial Flows tool and a preliminary report on lessons learned was prepared as well as a poster for the science conference. Both topics were discussed in the FTA Science conference, in which P17 had a prominent role as co-coordinator of the two sessions in Stream 1 on Inclusive Value Chains, Finance and Investments. Furthermore, a strategy for enhancing financial literacy was published together with Financial Access and the draft framework to assess smallholder farmer risks and their influence on investments served as basis for four case studies, of which draft reports have been completed and are under revision, while four more are planned for 2021. These case studies address some of the barriers identified in the innovative finance document and will help create the enabling environment for reaching the end of program outcomes of the Flagship and helps establish the role of the FTA in a field where it previously had not been active.

P18: Public and private commitments to zero deforestation

In 2020, the COVID pandemic caused a postponement of most field activities planned by P18. However, significant progress was made, particularly with regard to the commitments and impacts of some P18 pilot sites. In South Sumatra, the P18 case study team held an innovative online focus group discussion (FGD) in November 2020 on green development and zeroing deforestation. Key participants included business associations, private sector and government regulatory agencies. In the Amazon, the TerrAmaz project was officially launched in September 2020. This project supports Amazonian communities, starting with five pilot territories in Brazil, Colombia, Ecuador and Peru, in

the fight against deforestation and the transition to sustainable development pathways. The project, coordinated by CIRAD, in partnership with ONF-International and AVSF is receiving 9.5 million euros of financial support from AFD over four years. Two of the pilot sites are P18 case studies, namely Guaviare in Colombia and Paragominas in Brazil. Despite the resumption of deforestation in the Brazilian Amazon in recent years, Paragominas confirmed its commitment to control deforestation in its territory and records a very low rate of deforestation. The TerrAmaz project also works in Madre de Dios, Peru, and builds on knowledge produced by P18 in San Martin Province. P18 co-ordinated a special issue on “Jurisdictional Approaches to Sustainability in the Tropics” that included two of its papers. P18 also submitted a special issue to Land Use Policy Review, titled “Landscape and supply chain approaches to zero deforestation: Lessons for land use policies in tropical countries” aimed at highlighting the work of P18 team.

P02: Plantations and tree crop commodities

The COVID epidemic largely prevented the implementation of the planned research on palm oil and rubber. However, CIRAD and CIFOR were regular contributors to GPSNR working groups on Capacity Building and Strategy and Objectives. CIFOR and CIRAD contributed to an IRSG workshop on Natural Rubber Systems and Climate Change in June 2020. CIRAD then contributed to a workshop on "EU Legislation on Imported Deforestation: Implications for the Rubber Industry" in October 2020. Likewise, relations have been strengthened with Michelin to conduct a study on the robustness of their Rubberway system for managing geographic risk, which will be conducted in 2021.

With regard to large-scale timber plantations, two publications are being reviewed. On the one hand, the report "Mixed timber plantations and their potential role in innovative production systems for forest restoration: Lessons from Latin America, Sub-Saharan Africa and Asia/Pacific" is being considered as an FTA report. In addition, a paper entitled "Large-scale timber plantations in the Global South: what are the options for forest restoration?" was submitted to Bois et Forêt des Tropiques.

P20: Effectiveness of approaches to sustainable supply

P20 prepared a synthesis review of the multiple initiatives to promote sustainable supplies of some forest-risk commodities and aims to make it easier to understand the vast and rapidly expanding literature. By drawing on the published literature and recent discussions, the review highlights some of the outstanding challenges that urgently needs to be addressed to achieve the targeted impacts. Six reports (on palm oil, cocoa, soy, beef, timber and rubber) were also written for AFD-CSTF on the possibility of using certification standards to comply with France's policy to combat imported deforestation. Another report was submitted on options for the overall implementation of this policy. Specifically on timber sustainability, P20 in Cameroon published two articles on national demand for legal timber and on the influence of FSC certification on forest governance. Also, FP3 participated in a FSC global working group to develop a high-level conversion policy considering compensation for past conversion and development of a procedure for the operationalization of the FSC policy on conversion. P20's work has motivated the decision of 3 ministries to publish a joint decree imposing legal wood in public procurement. On cocoa sustainability, P20 produced a study on the Cameroon national market to determine consumer awareness of sustainability-certified chocolate products, the results of which will be used to launch an awareness campaign in 2021. On supply chain sustainability, P20 published an FTA Working Paper on reviewing initiatives to promote sustainable

supply chains: the case of forest-risk commodities. On shea value chains, P20 presented during the Global Shea Alliance Virtual Shea Lab, 02 July 2020 on the challenges and opportunities to empower women shea producers in Burkina Faso. A ToR for a study was developed in 2020 to assess the vulnerabilities of rural women producers in the shea value chain, including the recent impacts of the COVID-19 pandemic. A presentation at the FTA Science Conference discussed P20 research on continuity and change in the governance of shea value chains in Burkina Faso, 1895-2020. Finally, co-authorship of a poster entitled 'Improve the Legal and Institutional Framework for Sustainable Wildlife Management' was accepted for the upcoming World Forestry Congress.

FP4 Landscape dynamics, productivity and resilience

FP4 continued to make progress towards attaining the vision of effective multifunctional landscapes with trees in 2020, focusing on a number of key research areas. Work on landscape **restoration (priority 1)** delivered a number of interesting landmark knowledge products. First a special issue on [agroforestry-based ecosystem services](#) in Land Journal featured an innovative [Agroforestry-based typology](#) for restoration and an interesting [stocktake paper on the cost-benefit analysis](#) of restoration. It features 19 papers across a range of ecosystem services from agroforestry-based restoration across Africa, Asia and Latin America. Another note-worthy article was published on [incentives for restoration](#). FP4 also published an innovative and comprehensive framework for analyzing the pathways and impacts of COVID 19 on agroecosystems resilience, livelihoods and landscapes (see [Duguma et al.](#)).

The ecosystems-based adaptation project in the Gambia recorded great success in fires prevention following deployment of assisted natural regeneration in 1400ha of protected area in the Kiang West national Park. Fires breaks also generated benefits of serving as access roads to villages and shortening school travel times for children (See [Muthee et al. 2020](#)). The project also recorded success in adoption of zai pit techniques in planting of trees and restoration. 233 farmers and 24 EbA focal points were trained and enabled to deploy the technique in restoration of 400ha degraded farms and 61 ha of school land in 40 schools. Both ANR and Zai practices are being scaled up in the next 2 years of the project and in a new EbA project in Benin.

In terms of **tree commodities (priority 2)** work continued on landscapes and ecosystems services in FP4. Baseline study reports were completed for the Mintom and Mbangassina municipalities in Southern Cameroon in Partnership with IDH and WWF Cameroon as part of the Green Commodity Landscapes Programme. Work towards sustainable coffee enterprises was done in South Sumatra through a partnership between ICRAF and S&D NedCoffee BV enabling training of more than 421 farmers during 68 events and also supported several nursery enterprises. Work has also advanced significantly on a book on tree commodities in Africa with 18 chapter manuscripts currently at various stages in the publication process. The book addresses agronomic, economic, environmental and social dimensions for a select group of major tree commodities on the continent, including cocoa, coffee, oil palm, timber, shea and cashew mainly.

Within **the nutrition and food security priority (priority 3)**, a special issue titled [Impacts of Tropical Landscape Change on Human Diet and Local Food Systems](#) was published in Frontiers-Sustainable Food Systems. The team worked with partners to analyze the nutritional composition of key wild food species in Cameroon which will be part of a Congo Basin Food Composition Table to be released in 2021. COVID 19 related work was done with the government

of West Papua, Indonesia to study the impacts of COVID19 on food and nutrition security and forest use. They also joined the CGIAR COVID hub to better understand the potential impact of policies being considered in response to COVID on diets in countries where wildlife is an important part of local diets.

In the area of **landscape governance (priority 9)** emphasis has been on policy support and subnational level landscape governance mechanisms. We supported the development of strategies at national level in many countries including a Bioenergy strategy in Kenya ([see link](#)); and agroforestry targets in the Vietnam and Myanmar NDCs. The Banjul Tree Cover Resolution was passed by over 100 delegates during the National Policy Discourse on Minimum Tree Cover on Farms ([See Link](#))- initiating work towards a national agroforestry policy. At sub-national level a couple of successes were recorded in Indonesia. First a Green Growth Plan was completed and approved for Aceh Province. Secondly, as part of the Kanoppi Project, in West Nusa Tenggara, a recommendation on intersectoral cooperation among government agencies was adopted in provincial regulation on forest management, while in Gunungkidul, integrated watershed baseline using participatory process was adopted by local planning agency. Lastly the COLANDS project published a book titled '[Operationalizing Integrated Landscapes Approaches in the Humid Tropics](#)'. The book explores implementation theory as well as case studies from Indonesia, Zambia, Ghana and elsewhere. It also showcases a toolbox for integrated landscapes including especially monitoring.

For **Sentinel Landscapes work (priority 22)** the stock-take reports for the [Nicaragua-Honduras](#), Cameroon (CAFHUT) and [Borneo, Indonesia](#) were finalized and published. The synthesis of the three stocktake reports is currently being finalized. At the same time, an emerging portfolio approach through engagement landscapes is also in final write-up stages. This emergent approach is expected to guide future sentinel landscapes type work.

Significant **capacity building** was undertaken in 2020. 2695 individuals (1958M / 737F) were trained through short courses / workshops in various disciplines, practices and subjects including: sustainable coffee practices, restoration (Assisted Natural Regeneration, Zai Pits), Gender in community enterprises, and value chains. Over 80 fellows, interns, MSc and PhD research students were also engaged.

FP5 Climate change mitigation and adaptation

The Global Comparative Study on REDD+ (GCS-REDD+) successfully concluded its third phase in 2020 (phase 4 will start in 2021). The project website - <https://www.cifor.org/gcs/> - and CIFOR's social media channels continued to serve as the main communication and outreach tools communicating the project outputs and outcomes in the final year of phase 3. Several national method trainings and media training workshops were held, and national and sub-national workshops for partner engagement and information were held in Indonesia, Vietnam, Peru and Brazil. GCS REDD+ concluded its policy network analysis (PNA) databases in these 4 countries as the basis of analysis for technical and scientific papers. CIFOR continues to host and regularly update the International Database of REDD+ Programs and Projects (ID-RECCO: <http://www.reddprojectsdatabase.org>) and, in partnership with Wageningen University and Research, maintains and updated the LUCID (Land Use, Carbon and Emission data) portal - lucid.wur.nl - with published spatial datasets.

The **Sustainable Wetlands Adaptation and Mitigation Program (SWAMP)** concluded the now fully operational SWAMP Database hosted in the Harvard Dataverse, with over 100 datasets covering a wide range of variables (vegetation, soil carbon GHG emissions) and geographical locations associated with SWAMP. The database can be accessed at <https://www.cifor.org/swamp/database/database-management> and <https://data.cifor.org/dataverse/swamp>. SWAMP is continuing research and capacity development in 25 tropical countries of Asia-Pacific, Africa and Latin America. SWAMP has been testing macroecological patterns and drivers of mangrove forest structure and carbon stocks across biogeographic regions and coastal morphologies and contributed to establishing peat GHG emission factors (EF) for the tropics as part of the 2013 Wetland Supplement to the 2006 Intergovernmental Panel on Climate Change (IPCC) guidelines.

SWAMP work in Peru has been laying foundations for the political recognition of peatlands as high-carbon ecosystem reservoirs by providing new Monitoring, Reporting and Verification (MRV) data illustrating the relevance of peatlands, enhancing local MRV capacities, and supporting the establishment of a Peruvian peatland community supporting peatland protection.

The joint NIFOS-CIFOR project **Socio-economic and environmental outcomes of bioenergy production on degraded land in Indonesia** concluded its 5-year duration end of 2020. The project could demonstrate that using Indonesia's degraded lands for bioenergy production with mixed species brings back profitable landscapes while providing significant amounts of bioenergy, employment, and ecosystem services in remote rural locations. In the 5-year lifetime, this project determined availability of and potential for sustainable biofuel production on degraded and marginal land, identifying suitable tree species for different land types and associated bioenergy potential, and integrating forest landscape restoration for bioenergy production - all policy relevant findings demonstrating that if bioenergy production is integrated into sustainable agriculture, it can help to fulfil national targets on energy, food security and greenhouse gas emission reduction. Next steps will be formulating sustainable business models for private sector investments for upscaling in partnership with smallholder farmers.

Ecosystem-based adaptation implementation in The Gambia: Over 440 ha of agroforestry interventions as part of the EbA interventions were implemented. The Banjul Tree Cover Resolution was passed by over 100 delegates during the National Policy Discourse on Minimum Tree Cover on Farms in The Gambia led and facilitated by ICRAF with Ministry of Environment, Climate Change and Natural Resources: <https://www.worldagroforestry.org/blog/2020/03/30/meeting-gambia-delivers-banjul-tree-cover-resolution-every-day-we-delay-comes-cost>

ICRAF has provided support to the Kenya Bioenergy strategy development (cf. <https://www.worldagroforestry.org/blog/2020/12/18/kenyas-bioenergy-strategy-supported-world-agroforestry>)

An important outcome of FP5 work was to have been invited to write (jointly with COWI, a Danish consultancy) the Strategic (Sectoral) Guidance for the Green Climate Fund on two Strategic Results Areas: Forests and Land Use, and Ecosystem and Ecosystem Services, to be published in 2021 by the GCF.

FP5 also concluded pioneer research (jointly with FAO) on Transformational Change processes (reports and papers to be published in 2021), and a draft report "One decade of FTA restoration" (review concluded, to be finalized in 2021). A policy brief "[Integration of Bamboo Forestry into Carbon](#)

Markets” was published for project developers and government actors, along with a Policy synthesis report “Bamboo in the Circular Economy: The potential of bamboo in a zero-waste, low-carbon future”, supporting a better integration of bamboo into the current global climate change agenda. Three publication on NAMA credits, governance and technical aspects in Latin America have been published, providing policy support (<https://wp.me/a9tzxB-w8>, <https://wp.me/a9tzxB-w9>, <https://wp.me/a9tzxB-wa>). FP5 completed a series of publications on equity and power in relation to ecosystem services in a context of climate change in the Peruvian Andes: a paper on power asymmetries in social networks, another one on equity, power and stakeholders' roles, two briefs on ecosystem services and social equity (in English and Spanish), and two blogs on ecosystem services in English and Spanish).

FP5 successfully established the Transformative Partnership Platform ‘Bioeconomy Landscapes’, merging three efforts (Circular Bioeconomy, Greening Tree based value chains, and Biofuels). Website: <https://www.cifor.org/cbe/>


Cover photo by Ricky Martin/CIFOR. Forest of Gede Pangrango, Indonesia.


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 ICRAF, the Alliance of Bioversity International and CIAT, CATIE, CIRAD, INBAR and TBI.


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