Annual Report 2017

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

RESEARCH PROGRAM ON
Forests, Trees and Agroforestry

CGIAR

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1. Key Results

1.1 CRP Progress Towards Intermediate Outcomes and System Level Outcomes

FTA contributes to 9 Sustainable Development Goals (SDGs), to all CGIAR Intermediate Development Outcomes (IDOs) and to 31 sub-IDOs with different levels of investment. With efforts targeted respectively at 29%, 33%, 38% across System Level Outcomes (SLOs) 1, 2 and 3, FTA balanced its work across four main production systems (natural forests, plantations, pastures and cropping systems with trees) dealing with a number of globally traded and/or locally important tree-crop commodities (timber, oil palm, rubber, coffee, cocoa, coconut, wood fuel, fruits, etc.), that form the basis for the livelihoods of hundreds of millions of smallholders.[1] These commodities also represent an important share of the land area, including 13 million km^2 of forests and 9.5 million km^2 of agricultural lands (45% of the total agricultural area with >10% tree cover).

Progress towards IDOs in 2017 resulted from FTA work on technical innovations and tools, as well as on value chains, and institutional and policy processes. These innovations were taken up and diffused by different actors and along value chains, and all were suited to their particular context. As 2017 is the first year of FTA's six-year program, progress towards SLOs was aimed at the upstream level; in some cases there was already progress towards downstream uptake. Major contributions are described as follows:

- **Contributing to IDO 1.1 – Increased resilience of the poor to climate change and other shocks**, FTA produced guidelines for tree genetic resources safeguarding, and started work with the Food and Agriculture Organization of the United Nations (FAO) on a framework methodology for vulnerability assessments of forests and forest-dependent people to climate change, as well as on guidelines to integrate forests and trees into national adaptation plans.
- **Towards IDO 1.2 – Enhanced smallholder market access**, FP3 conducted, with the Finance Alliance for Sustainable Trade (FAST), an analysis on closing the financial gap between finance providers and small and medium enterprises (SMEs). FP2 published a cross-regional comparison analyzing how to overcome property rights issues as barriers to smallholder investment in trees across Ethiopia, Nepal and China; a new analysis of small patch size deforestation in the Peruvian Amazon that shows this is not necessarily driven by smallholder farming, requiring more nuanced policy responses if it is to be addressed; and contributory documents to inform national agroforestry initiatives in Rwanda and Uganda.
- **Contributing to IDO 1.3 – Increased incomes and employment**, FP3 fed debates at the Responsible Business Forum (RBF) and the Tropical Forest Alliance 2020 (TFA 2020), which are multi-stakeholder platforms gathering together all key civil society organizations (CSOs) and private sector actors on sustainable value chains. It also completed, with the Netherlands Development Organization (SNV), the design and assessment of business models' performance in Ghana and Indonesia with reference to the cocoa and palm oil value chains, respectively. FP4

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[1] An estimated 1.6 billion people depend in part or in full on resources from forests and trees outside forests for their livelihoods.

completed a diagnostic study on non-timber forest products (NTFPs) and gender-sensitive impact on poverty reduction.

- **Contributing to IDO 1.4 – Increased productivity**, FP1 produced decision-support tools, threat assessment maps and option value methods, including covering the assessment of key traits for production and positive agroecosystem interaction for the prioritization of tree genetic resources safeguarding and domestication. This was promoted through the FAO-coordinated tree genetic resources networks in Africa, Asia, Europe and Latin America. Also, FP1 produced improved material of three priority tree species (Shea tree, Sodom apple and African baobab) for food and non-food, demonstrating value for growers in comparative trials in Kenya and China, while also genotyping the germplasm. FP2 published a key paper validating the new tree-crop interaction module of the globally calibrated Agricultural Production Systems sIMulator (APSIM) crop modeling system for maize, emanating from FP2 partnership with Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO). A new analysis of wheat growth done in conjunction with CRP Wheat, as part of the FTA FP2 Trees4FoodSecurity project, was published, and the World Agroforestry Centre (ICRAF) and FAO released a practical manual on rice agroforestry while initiating a review of impacts of trees on rice yields. Fifteen parliamentarians visited FTA agroforestry sites as part of the 4th National Agroforestry Conference in Kampala, Uganda in June 2017, and set up a taskforce to scale up agroforestry nationally. FP2 published findings on how to overcome constraints to adoption of fodder trees in Malawi and initiated research on the development of climate-smart silvopastoral systems in Latin America and on bamboo as a fodder source as part of the International Network for Bamboo and Rattan (INBAR)'s South-South knowledge exchange. An impact assessment of tree fodder adoption in East Africa was completed and will be published in 2018.

- **Contributing to IDO 2.1 – Improved diets for poor and vulnerable people, and to IDO 2.2 – Improved food safety**, FTA produced briefs and articles, and conducted trainings on the importance and use of forest foods, on tree-based fruits and on bushmeat.

- **Towards IDO 3.1 – Natural capital enhanced and protected, especially from climate change,** FP3 provided support to the implementation of the Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreements (VPA) process and to the ISEAL Alliance on sustainability standards and on the social impact of timber certification, and to FSC on way to enhance audits. FP3 also contributed to strengthen the Indonesian Sustainable Palm Oil (ISPO) system, informing on options to improve sustainable supply. It did the same for sustainable cocoa supply in Ghana. FP5 published several articles on adaptation/mitigation synergies and implications for the design of national policies.

- **Contributing to IDO 3.2 – Enhanced benefits from ecosystem goods and services**, FP2 published a novel methodology for statistical analysis of farmer knowledge about tree attributes and specific studies on its application to improving smallholder coffee production systems in Rwanda and Uganda, and cocoa production systems across an agroecological gradient in Ghana. A training course in knowledge acquisition was held in Kenya with participants from the Democratic Republic of the Congo (DRC) and Comoros. Local knowledge was used to structure stakeholder engagement in a novel method to develop more diverse and inclusive agroforestry options that changed knowledge, attitudes and behavior of non-governmental organization (NGO) actors and farmers in DRC. The FTA public-private partnership with Natura in Brazil developed options for oil palm diversification (including setting up field trials to test them) and published a key article on agroforestry options for land restoration across contexts in the

country. In Peru, FP2 developed options for soil fertility enhancement in cocoa and climate change adaptation in coffee.

- **Contributing to IDO 3.3 – More sustainably managed agroecosystems**, FP4 devised and applied in three countries (Indonesia, the Philippines and Vietnam) a specific approach to implement a refined scheme for payments for environmental services (PES) called co-investment in landscape stewardship (CIS), whereby all actors contribute and co-invest in their provision. FP4 completed a study on solutions to address deforestation in the Kenya-Somalia cross border area. The Tropical Agricultural Research and Higher Education Centre (CATIE) released the ShadeMotion 4.0 software, which can calculate the amount of shade cast by trees on a plot or farm and is used as a tool for the optimal design of treed landscapes or agroecosystems. INBAR conducted trainings, attended by more than 340 people, on the sustainable management of bamboo and value addition.

- **Towards IDO A.1. – Climate change adaptation and mitigation achieved,** FP5 produced the CarboScen simulation tool to assess carbon implications of land-use scenarios. CarboScen is an open-access tool built to assess carbon implications of land-use scenarios in collaboration with stakeholders. It helps to develop future scenarios of landscape management and decision-making processes in collaborative work with stakeholders. FP5 published two scientific papers describing the tool: CarboScen: a tool to estimate carbon implications of land-use scenarios and Can conservation funding be left to carbon finance?, as well as a *Forests News* article.

- **Towards IDO B.1 – Equity and Inclusion achieved**, Research on gender and palm oil enhanced understanding of how different business models and value chains influence gender relations in rapidly expanding tree-crop landscapes. In Ecuador and Peru, FTA worked in partnership with NGOs and cocoa buyers to support the development of gender-inclusive cocoa value chains. In Zambia, work on the traditionally male-dominated charcoal value chain showed the barriers women continue to experience despite their increased participation. FTA findings on gender, climate change, and forest landscape restoration (FLR) were widely shared during three thematic events on gender-responsive climate policy and action that convened representatives from government and development agencies. This resulted in a request from the Government of Kenya for FTA to support its national FLR strategy. Debates around FP2's previously published research revealing negative impacts of REDD+ on equity in the pages of *Land Use Policy* highlight how, if equitable outcomes are to be defined and realized, social safeguards will need to take historical context and people's current entitlements and agency into account.

1.2 Progress by CRP Flagships (FPs)

1.2.1 Flagship 1 – Tree genetic resources to bridge production gaps and promote resilience

Given the objective to identify priorities within the framework of international action plans for conservation and sustainable management of tree genetic resources,[2] FP1 **(CoA 1)** developed map-based **decision-support tools** for tree genetic resource safeguarding and management. These tools are integrated in wider restoration and conservation programs. Among these, FTA developed

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[2] e.g. Convention on Biological Diversity (CBD), FAO

threat maps for food tree species in Burkina Faso, hotspots of diversity in two species of Northofagus in Patagonian Argentina, and an online platform that integrates climate modeling with functional trait analysis and consideration of genetic suitability of seed sources to support resilient forest restoration in Colombian tropical dry forest.[3] Such methods will be applied within other FTA projects to ensure that seed supply systems in restoration can deliver material suitably adapted to local conditions and resilient to future climate. In addition to web-based maps, **smartphone Apps** are available from the Google Play Store (e.g. Africa Tree Finder). The high-resolution baseline potential natural vegetation map that was developed by the project for East Africa has now been integrated in the Ecoregions 2017 map, an update to the 2001 WWF Terrestrial Ecoregions map. (Dinerstein et al.), with various FP1 scientists as co-authors, used the updated map to investigate the potential of allocating lands to conservation. The need to further explore and map the genepools of well-established exotic crops was highlighted by a study on East African tea, which emphasized that suitability mapping of exotics species should be expanded.

In **domestication (CoA 2)**, FP1 made progress with respect to the application of genomic tools to enhance international and national domestication approaches. **Genomic prediction** of breeding values has the potential to improve selection, reduce costs, and provide a platform that unifies breeding approaches, biological discovery, and tools and methods. A study published in *Nature Genetics* highlights a proposed strategy for the use of genomic selection as a unifying approach to deliver innovative 'step changes' in the rate of genetic gain at large scale. Other research found that multiple origins and a narrow gene pool characterize the African tea germplasm, which despite African tea's high economic value, remains largely unexplored. Results published in *Nature Scientific Reports* highlighted that Chinese Assam tea will be important for the enrichment of African tea gene pools.

In **delivery (CoA 3)** a major bottleneck for impact continues to be the lack of awareness and documentation on appropriate tree germplasm. Thus, a major focus of FP1 in 2017 was **documenting the lack of adoption** of quality tree germplasm in productive systems given large-scale climate mitigation and landscape restoration objectives, and suggesting approaches for change. Two studies, published in *Conservation Letters* and *Climate and Development*, are the first to verify and document that many plantings and regenerations for restoration and/or conservation do not pay adequate attention to the genetic quality of the reproductive material. This is likely to be one of the most important factors for success in the global agenda of forest landscape restoration, with very significant implications for biodiversity conservation. A third paper published in *Development Policy Review* goes on to analyze the reasons for this, suggesting measures to mitigate the lack of adoption of appropriate germplasm in productive systems and for landscape restoration.

1.2.2 Flagship 2 – Livelihood systems

FP2's proposal is now rated 'strong' by ISPC, which endorsed key elements of the FP2 approach.

The **'options by context' approach (CoA 2.1)** developed by FTA continued to challenge conventional research and development with vigorous debate in the journal *Experimental Agriculture*

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[3] Published in the 89th Technical series of the CBD as part of the Lima Declaration on Biodiversity and Climate Change.

about how best to measure the performance of agronomic options on farms, the publication of landmark articles on systems research at the scale of impact required to meet SDGs 1 and 2 to end world poverty and hunger, and how the use of structured stakeholder engagement leads to more diverse and inclusive agroforestry options. This was coupled with the release of practical guidelines on how to use planned comparisons in scaling up agroforestry, their use by over 5,000 farmers and 10,000 pastoralists across four countries in Africa (Ethiopia, Kenya, Mali and Niger) in collaboration with NGOs as part of the IFAD/EU dryland restoration project and the incorporation of a systems approach to scaling within the GEF-funded integrated program on resilient food security in twelve countries in sub-Saharan Africa (Burkina Faso, Burundi, Ethiopia, Ghana, Kenya, Malawi, Niger, Nigeria, Senegal, Swaziland, Tanzania and Uganda). The approach has also gained traction in Latin America around how agroforestry options for restoration can reconcile livelihood improvements with conservation goals in Brazil. FP2 also demonstrated how farmer-to-farmer communication can boost dissemination of agroforestry innovations in Sulawesi and how to overcome constraints to adoption of fodder trees in Malawi.

Progress continued to be made in designing and implementing **national and subnational policy reform (CoA 2.2)**. This is important because a lot of smallholders are constrained in access and use of tree resources because of forest legislation that excludes them, taxes their use, regulates markets in ways that make selling products more difficult. Agricultural policy that ignores trees or actively discourages their integration with agriculture also limits smallholders' livelihood options. In response to FTA research results on performance of agroforestry options, a national agroforestry scaling platform in Ethiopia was established that includes development of a national policy and a commitment to hand over 33,000 government nurseries to entrepreneur youth and women's groups following the success of the FTA Australian Centre for International Agricultural Research (ACIAR)-funded Trees for Food Security (T4FS) Rural Resource Centre (RRC) model for generating and promoting quality germplasm, farmer training and agroforestry knowledge. The model RRCs generated over USD 5,000 income per year from sales of trees and vegetables and supplied 55,000 tree seedlings to smallholder farmers over a two-year period, including high-value (economically and nutritionally) mango and avocado. The first steps in policy engagement were made in Rwanda through a contract from FAO, resulting in a draft national agroforestry strategy that builds on FTA research results showing increases in crop yield through integrating trees in agricultural systems by nearly 40% for beans, 33% for maize and 17% for potatoes, as well as a mean income of USD 20 per tree from tree tomato, creating transformational impacts for farmers who establish 20 or more trees. In Uganda, a national task force coordinated by the Uganda Farmer's Federation (UNFEE) and involving the parliamentary Food Security Forum and representatives from FTA (who, through ICRAF together with Vi Agroforestry, are trialing agroforestry options with over 20,000 smallholder farmers in the country) has been constituted to advise on steering an agroforestry strategy through parliamentary procedures. FP2 research in Peru revealed the need for forest legislation to take into account fine scale variation in agroforestry practice for it to be inclusive. These provisions have been incorporated into the 2017 Peruvian national legal guidelines to implement agroforestry concessions that formalize rights for smallholders to practice agroforestry on state land. The guidelines are being used by regional forest authorities implementing concessions with 120,000 eligible farming households.

As part of the work on tree-crop commodities (**CoA 2.3**), FP2 released a key report on the effect of climate change on the coffee value chain for Peru's National Coffee and Cocoa Chamber supported by the Swiss Agency for Development and Co-operation and done in collaboration with CCAFS. This

showed that primary production is the most impacted within the value chain, with the ability of 185,000 smallholder families who depend on coffee production for their livelihood to adapt to climate change hinging on their use of agroforestry practices. FP2 also published research results on more efficient use of light by shaded coffee maintaining productivity, how large sap-exuding trees can reduce black coffee twig borer infestation, and the use of local knowledge in shade tree selection. There were also advances in understanding the importance of species choice when integrating trees with cocoa where climate is drying, with contested perspectives on this. FP2 also published research on the role of local knowledge about tree-cocoa interaction across agroecological gradients, as well as on limits to the extent that agroforestry can mitigate soil degradation following forest conversion to cocoa farming.

FP2 research (**CoA 2.4**) in collaboration with CSIRO demonstrated that a new approach to tree-crop modeling can accurately predict staple crop yields, making it possible to incorporate agroforestry in global foresight studies using the International Food Policy Research Institute (IFPRI)'s IMPACT model. There was also key progress in understanding how farmers enhance maize production by managing competition with trees in Kenya, how tree diversity in crop fields sustains soil macrofauna and how charcoal making from trees influences soil macrofaunal populations. Together with FAO, FP2 launched a practical manual on how to incorporate trees in rice production landscapes and initiated a systematic review of impacts of trees on rice yields.

1.2.3 Flagship 3 – Sustainable value chains and investments

FP3's work on the **public and private institutional arrangements for enhancing the sustainability of commodity supply** (linked to **CoA 3.1**) has privileged engagement in debates for enhancing the implementation of FLEGT VPA processes, based on in-depth knowledge acquired from FTA Phase I studies on timber value chains and policy reforms, particularly in Central Africa. In addition, FP3 scientists delivered a keynote at an EU workshop and contributed to the discussion on new approaches to tackle illegal timber, including extending these approaches to forest-risk commodities (e.g. palm oil, soy, beef). FP3 also continued its engagement to ISEAL Alliance, contributing with inputs on the social impacts of timber certification, and supported the Forest Stewardship Council (FSC) on examining options to enhance audits and verification processes. FP3 provided substantive inputs to the debates on sustainable palm oil in Indonesia, in the context of attempts by the EU Parliament to increase import regulations from Indonesia and Malaysia, a process shaped by complex politics. FP3 also contributed to the development of a roadmap for sustainable palm oil development in Indonesia under the Indonesian Palm Oil Platform (InPoP)[4] and supported the process of strengthening the Indonesian Sustainable Palm Oil (ISPO) standard. This work highlights the likely implementation issues by drawing on extensive FP3 research on the social and environmental performance of the palm oil sector and emphasizes the importance of better connecting voluntary initiatives with regulatory systems to improve incentives to farmers. In addition, FP3 promoted debates involving the Brazilian Sustainable Working Group (GTPS) and

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[4] The Indonesian Palm Oil Platform (InPOP) brings together experts from business, government and politics, agriculture, academics, international development, NGOs and civil society. See complete list at https://www.foksbi.id/en/partner-member.

TFA 2020 regarding ongoing experiences to reduce deforestation while supporting production intensification by embracing territorial perspectives.

FP3's work on **business models** (linked to **CoA 3.2**), which is aimed at identifying models that deliver improved social, economic and environmental outcomes while contributing to gender equality, focused on the palm oil sector in Indonesia and Brazil. In Indonesia, the work has shed light on the diversity of independent smallholders and the challenges to improving their environmental performance and compliance with sustainability standards. FP3 participated in the discussions promoted by the Ministry of Agriculture and the coordinating Ministry of Economic Affairs on how to overcome smallholder barriers to uptake, mainly linked to incentives and land tenure legality. In addition, scientists supported sustainability processes for cacao production in Ghana, determining how certification may contribute to scale up improved practices, while attracting investments aimed at improving social and environmental outcomes. In order to learn from past and ongoing projects of development organizations, FP3 established a collaborative agreement with the Netherlands Development Organization (SNV) focusing on palm oil in Indonesia and cacao in Ghana. This partnership is conducive to drawing lessons about the most effective processes for developing smallholder-inclusive business models. In Tanzania, Mozambique and Uganda, multi-stakeholder inclusive business learning platforms were established with the objectives of improving cost and benefit distribution between smallholders and commercial processors, and of promoting dissemination and uptake of sustainable agricultural production practices. FP3 liaised with the RBF and the TFA 2020 in order to disseminate some of the findings.

FP3's work on **finance** (linked to **CoA 3.3**) is critical for linking inclusive business models within wider perspectives on transition to sustainability of smallholders and SMEs. This work is still in its infancy in FP3 due to limited bilateral and human resources, but it has benefited from collaboration with FAST. The main focus was on distilling lessons for closing the financial gaps between finance providers and SMEs by looking at AXiiS, an online financial matchmaking platform working on sustainable agriculture and forestry. This work has also built on Tropenbos' key proposed pointers to move from a 'do-no-harm' to a 'do-good' business and finance approach, to inform the Dutch Development Bank (FMO)'s sustainability strategies. In addition, FP3 helped organize the Finance Pavilion hosted by the Landscapes for People, Food and Nature Initiative (LPFN) at the December 2017 Global Landscapes Forum (GLF), where this perspective was widely shared.

1.2.4 Flagship 4 – landscape dynamics, productivity and resilience

FP4 continued to make progress towards attaining the vision of effective multifunctional landscapes with trees in 2017, focusing on a number of key research areas. Work on landscape **mosaics, biodiversity and ecosystems services (CoA 4.2)** focused on synthesizing 20 years of work (including Phase I of FTA) in a book titled *Co-investment in ecosystem services: Global lessons from payment and incentive schemes* covering ecological, economic, social and governance dimensions. It analyzes the efficiency of PES and its potential application in improving ecosystem management in the framework of sustainable development at different scales. FP4 also contributed to the global climate discourse by producing a policy brief on the potential of agroforestry to help countries meet their nationally determined contributions (NDCs), potential challenges and way forward, titled How Agroforestry Propels Achievement of Nationally Determined Contributions. The brief was acknowledged by the Minister for Environment of Peru at the United Nations Climate Change

Conference in Bonn. Finally, FP4 senior scientists are co-authors on the current International Panel on Biodiversity and Ecosystem Services (IPBES) assessments at global and regional (Asia) levels.

Within **landscape diversity for healthy diets (CoA 4.3),** work was done on sustainable forestry for food security and nutrition, where an FTA scientist led the project team of the High Level Panel of Experts on Food Security and Nutrition (HLPE) report on sustainable forestry for food security and nutrition. The report served as basis of the UN Committee on World Food Security (CFS) policy convergence discussion in October 2017 in Rome, and as a result the CFS adopted a series of policy recommendations. This process marked a novel kind of partnership for FTA, providing policy advice to global intergovernmental forums.

In the area of **adaptive landscape institutions (CoA 4.4)** emphasis has been on subnational level governance mechanisms, finalizing a synthesis on certification and on performance-based finance mechanisms for restoration:

- At the invitation of the South Sumatra Provincial Government in Indonesia, FTA scientists facilitated a process that established a Masterplan for Renewable Resources-Driven Green Growth 2017–2030 (LE00216-17) for the province. The scientists used LUMENS/LUWES – a low emission planning tool developed by FTA from 2010–2016. The success of this initiative has triggered interest from other provinces.
- The results of a global comparative study on sustainable standards and certification of commercially exported, tree-based agricultural commodities (tropical timber, rubber, oil palm, cacao, coffee) was published in a special issue of *International Journal of Biodiversity Science, Ecosystem Services and Management*. The study proposes a range of governance arrangements for making certification impactful.
- FTA provided technical support for community forestry enterprises and signed performance-based investment agreements with 10 local forest communities as part of the Department for International Development (DFID)-funded Dryad project in Cameroon in 2017. This will provide empirical evidence for REDD+ and other landscape restoration incentive mechanisms.

For **CoA1**, FP4 put its work on hold in 2017, pending the finalization of the internal review of the Sentinel Landscapes set-up launched in 2017.

1.2.5 Flagship 5 – Forests, trees and agroforestry for climate change adaptation and mitigation

In 2017 FP5 advanced its work on mitigation and adaptation (CoA 1 and CoA 2), expanded its bioenergy research (CoA 3), and continued work on impact assessment (CoA 4).

In **CoA 5.1**, research on Reducing Emissions from Deforestation and forest Degradation, plus the sustainable management of forests, and the conservation and enhancement of forest carbon stocks (**REDD+**) advanced with new funding for the Global Comparative Study on REDD+ made available by Norad (started October 2016). This has generated 51 journal articles, 11 briefs, and 38 blogs. FP5 held 2 side events at the United Nations Climate Change Conference, 8 training events, 11 national workshops and 4 international events. FP5 initiated new capacity development with three MSc students and three PhD students.

A particularly meaningful result relates to FP5 work in Vietnam which generated significant impact through a coordinated approach at national level:

- A study on financial incentive mechanisms (FIMs) in Vietnam looked at three FIMs in Vietnam's forestry sector: state budget (government funding), payment for forest environmental services (PFES, a market-based instrument) and a multi-donor trust Fund (Trust Fund for Forests [TFF] in Vietnam). Research on formal and informal incentives that influence financial distribution at different government levels – and whether these incentives have led to any behavior, environmental, and economic changes – revealed that although the three FIMs have different financial incentive structures and involve different actor groups, implementation is poor because stakeholders have limited understanding about the incentives and their distribution.

- FP5 continued to support Vietnam's Ministry of Agricultural Development (MARD) with a revision of the Forestry Law, demonstrating good influence at country level. Scientists provided technical inputs to MARD and co-organized national workshops sharing research findings with members of Parliament, high-ranking provincial leaders and MARD leaders.[5] FP5 also supported the review of the country's Forestry Development Strategy 2006–2020 that will be used to prepare the next strategy.

- Vietnam, with its national PFES scheme, is leading on PES in Asia. Since 2008, PFES has been implemented in more than 60 provinces in Vietnam and contributed to over 20% of total funding for the forestry sector. Yet, because there is no information to date on the scheme's effectiveness, the Government of Vietnam requested CIFOR to conduct research into this. Together with Winrock and a provincial fund, CIFOR undertook research in Son La, the leading province in PFES implementation. After intensive CIFOR-led training on research methods, monitoring and evaluation of PFES, Son La staff can now independently apply methods and activities. A jointly developed monitoring and evaluation framework will be published and shared widely in 2018 as a learning tool. Research was presented at a national conference in Vietnam chaired by the Parliament Committee on Science and Technology, and a documentary produced by CIFOR on forest valuation was broadcast three times on Vietnam National Television.

Another innovative product under **CoA 1** was the conclusion of the research and stakeholder involvement **tool CarboScen,** which estimates the carbon implications of land-use scenarios. It has been used in two analyses resulting in articles on carbon finance for conservation and on global variation in the cost of increasing ecosystem carbon.

In **CoA 5.2**, Milestone 5.2.1 (Concluding analysis of **synergies/trade-offs between mitigation and adaptation** published and applied) is now completed, with additional work on assessing trade-offs between ecosystem services for adaptation and mitigation, particularly in Peru. Key findings have been published on mechanisms that mediate the contribution of ecosystem services to human well-being and resilience, on risk-reduction through landscape transformation, and on characteristic trajectories of ecosystem services in mountains.

In **CoA 5.3**, FP5 worked on expanding the studies on **biomass grown on marginal lands in Indonesia**, and developing **public-private partnerships** with a variety of national and international companies. FP5 also intensified collaboration with South Korea's National Institute for Forestry Research

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[5] 7 national and 2 provincial workshops. FP5 provided evidence-based insights to 4 of 12 chapters the Forestry Law 2017, notably the one on forest valuation.

(NIFOS). The team further initiated a global assessment study of bioenergy projects in collaboration with Bonn University (Center for Development Research [ZEF]), and published findings on how woodfuel is represented in the NDCs of sub-Saharan African countries. INBAR initiated two studies related to the use of bamboo as bioenergy source (one on calorific values assessment, the other on water use). FP5 work on biofuels, particularly research on growing biofuels on marginal lands in Indonesia, is slowly but steadily expanding because of increasing engagement with the private sector. This will become more evident in 2018.

In **CoA 5.4**, FP5 started to develop work plans for the third round of data collection in the **assessment of REDD+ implementation** planned for 2018, done previously in 2010 and 2014. Data was collected from sites in Brazil, Indonesia and Peru following a protocol developed in earlier stages of the study. Training material was prepared and site selection anticipated (of the previous 23 sites, only 8 sites remain suitable for further data collection). This study is co-financed by FTA and Norad under GCS-REDD+ (see CoA 5.1).

FP5 work expanded into two areas: (i) transparent monitoring approaches, and (ii) REDD+ finance allocation. Work has begun in two EC-funded projects and will be followed up in 2018 with the aim to attract additional funding from BMU/IKI (Germany), with a possible launch in 2019.

FP5's analysis of allegations of indigenous peoples' rights abuse in REDD+ triggered much online debate, highlighting the important role of the program to bring to controversial debates sound evidence and facts often missing from such debates.

1.3 Cross-cutting Dimensions (at CRP level)

1.3.1 Gender

In 2017, **FTA continued to strengthen its position as a leading provider of knowledge on gender and forests**. An online platform, hosted on the revamped FTA gender webpage, brought together lessons from key gender resources on forest-related issues for use by policy-makers, practitioners, academics, and students worldwide. An FTA-edited volume – the *Earthscan Reader on Gender and Forests* (2017) – was launched on the sidelines of the 125th anniversary congress of International Union of Forestry Research Organizations (IUFRO) and at CIFOR. The book was widely acclaimed as the first of its kind to bring together an accessible collection of theory, analysis, methodologies and case studies from gender and forestry classics published over the last 40 years, laying out ongoing debates in the field. FTA underscored the importance of gender and forests during the Forty-fourth Session of the Committee on World Food Security (CFS-44) at a side event on 'Feminism, Forests, and Food Security' co-organized by FTA, the Swedish Ministry of Enterprise and Innovation, and several partners.

FTA gender research and outreach continued to enhance understanding of how social relations and structures shape forests and agroforests, and vice versa. Comparative research on migration showed that **migration** plays a key role in influencing the composition and use of forests. A series of short films on migration brought to life the links between migration, resource management and gender for policy-makers, practitioners, and the lay public. An FTA-WLE Social Science Baha public event in Nepal served as a platform to discuss the implications of migration for land and social change in the country.

Research on gender and palm oil enhanced understanding of how different **business models and value chains** influence gender relations in rapidly expanding tree-crop landscapes. In Ecuador and Peru, FTA worked in partnership with NGOs and cocoa buyers to support the development of gender-inclusive cocoa value chains. In Zambia, work on the traditionally male-dominated charcoal value chain showed the barriers women continue to experience despite their increased participation.

Findings from FTA's action research in Uganda were shared during a joint FTA-PIM policy dialogue, to highlight processes, institutions and practices that can help narrow or eliminate the gender gap in the use and management of community forests. In Latin America, FTA guest edited a Special Section of *Women's Studies International Forum*, which provided recommendations for policies that work to secure women's **forest tenure rights** in farms and communal forests.

FTA's influence in debates around **gender and climate change** gained traction as CIFOR researchers drew lessons from FTA research to offer recommendations to the Board of the Green Climate Fund (GCF) for updating the GCF's Gender Policy and Action Plan. Many of the recommendations were incorporated in a revised draft version of the Plan. In GCS-REDD+, CIFOR researchers found that women's subjective well-being declined at REDD+ project sites due to gender being inadequately mainstreamed throughout the REDD+ design and implementation process. Findings were presented during the annual meeting of the Forests and Livelihoods: Assessment, Research, and Engagement (FLARE) network, and to a Bangladeshi delegation from the Ministry of Finance and Ministry of Environment and Forest during a UNDP-CIFOR-hosted knowledge-sharing event on gender and climate finance. In Vietnam, a CIFOR documentary on gender equity in Vietnam's forestry sector was broadcasted six times on National Television, and in China, ICRAF launched its book *Gender Analysis of Climate Change Impacts and Adaptation in China with Focus on Yunnan* at a public event with 40 participants from Yunnan government agencies, research institutes, surveyed villages and the media.

FTA findings on gender, climate change and FLR were widely shared during three thematic events on gender-responsive climate policy and action that convened representatives from governments, development agencies, NGOs and research organizations (i) on the sidelines of the United Nations Climate Change Conference, (ii) at the Global Landscapes Forum in Bonn, and (iii) at a Policy Dialogue on Forest Landscape Restoration and Gender Equality in Nairobi. The latter resulted in a request from the Government of Kenya for CIFOR to support its national FLR strategy. Given the high demand for empirical evidence and guidance on gender-responsive FLR and the growth of FLR initiatives worldwide, FTA centers worked together on a framework for integrating gender considerations in FLR, and will expand this area of research in the coming years.

Building on the first edition of Bioversity International's **Gender Research Fellowship Programme**, (GRFP), which culminated in a 2017 Special Issue on participatory research for enhanced management of forest genetic resources, a new cohort of African Gender Fellows working with ICRAF and Bioversity came together in Nairobi to launch the second edition of the GRFP.

1.3.2 Youth

In 2017, **FTA sharpened its approach to engaging with youth** through an intersectionality and relational lens rooted in an analysis of the social relations and structures that shape rural people's capacities to lead the lives they wish to in – and often beyond – tree-based landscapes. An FTA webinar on youth, hosted by the CGIAR Collaborative Platform for Gender Research, convened four

prominent researchers and activists to discuss the challenges and prospects facing rural young women and men across the Global South. The webinar was the most watched among those hosted by the Platform in 2017.

1.3.3 Other Aspects of Equity / 'Leaving No-one Behind'[6]

FTA has been advancing nuanced understandings of how several axes of social discrimination – such as gender, age or generation, socioeconomic status, and caste or ethnicity – intersect to shape livelihood opportunities, constraints and experiences of marginalization. Work on engaging marginalized Scheduled Caste and Scheduled Tribe communities in India's Joint Forest Management Programme (JFMP) was presented at IUFRO's 125th Anniversary Congress (Freiburg, September 2017) and published as a brief to inform Forest Department officials and NGO staff involved in the JFMP. A presentation outlining an approach to engaging with intersectionality in the context of CGIAR research was delivered at the CGIAR Scientific Conference on Gender Research (Amsterdam, December 2017) and the CIFOR Annual Meeting (Bogor, October 2017).

Through filmmaking and a range of participatory methods, FTA scientists shed light on marginalization in value chains in the Southern Agricultural Growth Corridor (SAGCOT). To support social change, the films were brought to the national level to influence key decision-makers on critical issues such as large-scale land acquisitions that are a concern for smallholders across sub-Saharan Africa and beyond. This research is informing business models and institutional arrangements for various forest and agroforest commodities to ensure that no one is left behind.

1.3.4 Capacity Development

As shown in Table D-1, in 2017, FTA and its implementing research partners trained 319 long-term students (PhD, MSc, BSc), of whom 37% were women, and over 45,000 short-term trainees (32% women). The research topics for the MSc and PhD students were highly relevant to FTA issues. FTA partners ran several important initiatives for enhancing FTA-relevant research capacity, including: MS and PhD fellowship programs with the German Academic Exchange Service (DAAD) for East and Southern Africa and with the United States Agency for International Development (USAID) for Indonesia; curricula reforms in sub-Saharan Africa through CIFOR collaboration with the University of Kisangani (UNIKIS) in the Democratic Republic of the Congo, and with the African Plant Breeding Academy. The BSc students gained experience in FTA-relevant fields for their ongoing and future studies. Likewise, through the bilateral projects mapped to FTA, the short-term trainees gained knowledge, experience and field/on-the-job skills relevant to development programs and projects in Africa, Asia and Latin America. Although beneficiary training as such is not the focus of FTA, FTA partners work on different fields of capacity development (CapDev), such as carbon stock estimation; trainings on monitoring, reviewing and verification of carbon pools; ecosystem-based adaptation, and other skillsets for which alternate providers may not always exist in geographies relevant to FTA's bilateral projects.

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[6] https://unstats.un.org/sdgs/report/2016/leaving-no-one-behind

Important CapDev work also focused on gender. Seventeen FTA researchers participated in a three-day inception workshop of the GRFP, organized by ICRAF and Bioversity International to help scientists move 'beyond gender-disaggregated data: towards engaged research to exert change'. The GRFP is designed to strengthen the capacity of FTA researchers and partners to conduct research that can support greater gender equality; strengthen the knowledge base regarding gender and forest landscape restoration; and develop a community of practice around engaged gender research. The GRFP supports four young African women scholars (two Kenyan, two Burkinabé). In addition, FTA scientists mentored nine students and interns working on gender and forests.

CIFOR hosted a training event to discuss the FTA-edited *Earthscan Reader on Gender and Forests* and its relevance to the next generation of gender and forestry students and academics (43 participants from the International Forestry Students' Association – IFSA) and civil society organizations (4 participants) in Indonesia. CIFOR also offered a training session on intersectionality at its annual meeting (Bogor, October 2017), at which 100 people participated, and at the CGIAR Scientific Conference on Gender Research (Amsterdam, December 2017) for 20 participants.

ICRAF worked with partner NGOs developing capacities for addressing gender dimensions in the implementation of two important research in development projects (Reversing Land Degradation in Africa by Scaling-up Evergreen Agriculture and the Drylands Development Programme) through trainings and meetings aiming at identifying specific approaches and activities to improve the gender responsiveness of interventions.

FTA initiated work in 2017 to assess capacity needs at program and flagship levels, as well as of the capacity of FTA's strategic partners to deliver on their theories of change and impact pathways. This will inform a revised capacity development strategy to provide guidance to all FTA partners in aligning their CapDev efforts.

1.3.5 Open Data

FTA continued to implement CGIAR's Open Access and Data Management Policy in 2017. Meeting the FAIR principles (Findable, Accessible, Interoperable, Re-usable) has proven to be a challenge, particularly interoperability and reuse for data; this will require additional focus in terms of capacity building and also setting proper incentives.

In 2017, out of more than 520 publications of FTA (full list can be consulted here), 74% were open access, and 25% were in International Scientific Indexing (ISI) journals.

FTA's five most downloaded scientific publications in 2017 are:

- Carter, S., Manceur, A.M., Seppelt, R., Hermans-Neumann, K., Herold, M., Verchot, L.V. 2017. Large scale land acquisitions and REDD+: A synthesis of conflicts and opportunities. *Environmental Research Letters*, 12 (3): 035010. http://dx.doi.org/10.1088/1748-9326/aa6056. Downloaded 3,820 times.
- Elias M., Jalonen, R., Fernandez, M., Grosse, A. 2017. Gender-responsive participatory research for social learning and sustainable forest management. *Forests, Trees and Livelihoods*, 26 (1):1-12. doi: https://doi.org/10.1080/14728028.2016.1247753. Downloaded 1,136 times.
- Iiyama M., Derero, A., Kelemu, K., Muthuri, C., Kinuthia, R., Ayenkulu, E., Kiptot, E., Hadgu, K., Mowo, J., Sinclair, F.L. 2017. Understanding patterns of tree adoption on farms in semi-arid and

sub-humid Ethiopia. *Agroforestry Systems*, 91 (2):271-293. doi: https://doi.org/10.1007/s10457-016-9926-y. Downloaded 3,500 times.

- Makoudjou, A., Levang, P., Tieguhong, J.C. 2017. The role of forest resources in income inequality in Cameroon. *Forests, Trees and Livelihoods*, 26 (4): 271-285. http://dx.doi.org/10.1080/14728028.2017.1297258. Downloaded 1,064 times.
- Pacheco, P., Gnych, S., Dermawan, A., Komarudin, H., Okarda, B. 2017. The palm oil global value chain: Implications for economic growth and social and environmental sustainability. CIFOR Working Paper No. 220. Bogor, Indonesia: Center for International Forestry Research (CIFOR). http://dx.doi.org/10.17528/cifor/006405. Downloaded 5,123 times.

Another top-scoring publication to which FTA collaborated was the article 'Coupling of pollination services and coffee suitability under climate change', a collaborative work between CCAFS and FTA, CIAT, CIFOR and CIRAD. The article has been downloaded 9,120 times (5,609 times in 2017) and was picked up by 103 news outlets including *Newsweek*, blogged about 12 times, and Tweeted 179 times.

Currently, 15 datasets and 210 files are publicly available from the ICRAF Dataverse as part of the Sentinel Landscape Initiative; the data have been downloaded more than 680 times. In addition, 11 datasets are publicly accessible from the CIFOR Dataverse, downloaded 941 times.

A new partnership led by the International Bamboo and Rattan Organisation (INBAR) and researchers from the Tsinghua University, China, is formed to map bamboo resources. The data generated by INBAR's land cover mapping will help to enrich FTA's existing work on observing changes in forests, and will provide information for decision-making on international initiatives such as the Bonn Challenge and CBD Aichi Biodiversity Targets. The results will be uploaded to an online portal when it is ready.

During 2017, FTA developed the following online tools:

- The Agroforestry Species Switchboard, a 'one-stop-shop' for data about particular plant species across a wide range of information sources. The Switchboard documents more than 26,000 plant species across 24 web-based information sources. The tool is also link to other databases, including the African Orphan Crops Consortium website.
- FTA continues to develop the Terra-i Remote Sensing System. Implemented with limited hardware and financial resources, the tool has now powerful capabilities to predict a pattern of changes in greenness over time. The system will help improve forest management, reduce emissions from deforestation and forest degradation and contribute to climate-change adaptation and mitigation.
- FTA further improved the Borneo Atlas with a new feature called 'Analyze Land Use near Mills' that provides verified information on the location and ownership of 467 palm oil mills in Borneo as well as the deforested area within a 10-kilometer radius, as detected annually by satellites. The Atlas has been viewed 8,193 times since its launch.
- A new toolbox on wetland inventories and habitat mapping is also to be released. The toolbox will be linked to Global Wetlands map, the CarboScen land-use scenario simulator and the Indonesia Peatland Network Toolbox. This new tool will help to manage peatland in relation to climate change. The dataset of the Global Wetland itself is accessible at CIFOR dataverse.

- A new version of the vegetationmap4africa map (ver. 2.0), a collaborative work of ICRAF, the University of Copenhagen and other partners, will help users identify species more easily in the field and help scientists gain a deeper understanding of their natural environment.

1.3.6 Intellectual Assets

Summary

To ensure global access, intellectual assets (IA) produced under FTA have been managed in accordance with the CGIAR Principles on the Management of Intellectual Assets ('CGIAR IA principles') and the CIFOR Policy on the Management of Intellectual Assets ('IA management policy') in the following ways:

1. IP governance and oversight mechanisms

As the lead center of FTA, CIFOR ensures that the Intellectual Assets produced under FTA have been managed in compliance with the CGIAR IA principles and CIFOR's IA management policy. The following CGIAR IA principles have been adopted:
- The research results of FTA have been regarded as international public goods;
- CIFOR and its implementing partners have committed to the sound management of IA and intellectual property (IP) rights by ensuring all agreements and contracts (e.g. Program Participant Agreements [PPAs] and Letters of Agreement) contain appropriate IP clauses;
- CIFOR and its implementing partners have committed to maximizing global accessibility and impact by conducting prompt dissemination of FTA research results through Open Access.

2. Policies and guidelines

Intellectual assets under FTA have been managed in accordance with CGIAR IA Principles, CIFOR's IA Management Policy, CIFOR Institutional Agreements Policy and Guidelines, CIFOR Project Management Guidelines & Procedures, CIFOR Research Data Management Policy and Data Management Guidelines and Procedures, CGIAR Open Access Policy, CIFOR Open Access Policy, and CIFOR's Research Ethics Review (RER) Policy and Process.

3. Implementation modalities and tools (templates, procedures, project management systems)

- Partnership contracts
  Collaborations with CGIAR partners and non-CGIAR partners under FTA have been implemented through PPAs containing provisions on IA/IP management for global access, in compliance with CGIAR IA principles and CIFOR's IA management policy. Regarding ownership, all IP rights derived from resulting IAs in partnership collaborations have been jointly owned or CIFOR-owned. Where the ownership of IP rights lies with one party, the party granted a non-exclusive, worldwide, royalty-free, irrevocable license to use and sublicense the resulting IAs to the other party. The party introducing background IP granted the other party a license to use and sublicense the background IP for the purpose of the research project. All PPAs signed by the parties also contain an Open Access clause under the IA provisions. These arrangements allow CIFOR, CGIAR partners and non-CGIAR partners to promptly and broadly disseminate research results, ensuring global access.

- FTA program management system
  FTA outputs in 2017 have been recorded and maintained in the FTA Project Database system, which is managed by the FTA Management Support Unit (MSU). The system has been specifically designed for FTA so that accountability for outputs is transparent. Progress in meeting the outputs specified in the POWB is measured via the traffic light report, which has been run twice per calendar year. The system has been accessible to CIFOR and CGIAR partners, including non-CGIAR partners to the FTA. In 2018, FTA will move to the MARLO program management system, which will replace the FTA Project Database System.

- Tracking CIFOR IP/IA in CIFOR's Project Management System
  CIFOR has also been tracking the FTA IA results through the Project Management System (PMS) managed by CIFOR's Program Management and Coordination (PMC) unit, by recording the required reports as agreed in the signed PPAs with CGIAR partners. Project deliverables to be obtained from the MSU will also be tracked.

Published patents and/or plant variety right applications

There were no new patents and/or plant variety protections in 2017.

Critical issues or challenges

In the proposal, it was noted that there may be challenges when dealing with non-CGIAR partners, as they are not governed by the CGIAR IA principles. This concern has been addressed with the inclusion of appropriate IP clauses under the Implementing Provisions (Annex 3) in the PPAs signed at the beginning of 2017.

A particular challenge encountered when managing IA in FTA relates to the tracking of FTA background IP. CIFOR has developed a tracking system for background IP to ensure monitoring measures, but the feature has not been fully implemented due to a lack of background IP information obtained during project phase. Tracking background IP will be gradually implemented in FTA. As a first step, awareness will be raised in 2018 among the scientists and researchers involved in the project.

2. CRP Effectiveness and Efficiency

2.1 Variance from the Planned Program

- Given the W1/2 funding shortfall, the activities belonging to Tier 3 of the contingency plan that FTA introduced in 2017 were cancelled from the Program as per the decision of the Independent Steering Committee (ISC). The full list of these activities can be consulted here. The remaining activities of the POWB (belonging to Tiers 1 and 2, the highest priority levels) were largely implemented as planned (see the traffic light report). The part of Tier 3 funding that was actually disbursed by the SMO (USD 0.7 million) was carried over as program-level funds into 2018 and used for the 2018 POWB (see FTA 2018 POWB).

2.2 Use of W1/2 Funding

In 2017 W1/2 funds were divided between three categories, as per the 2017 POWB:

- **Program leadership, management and support**, including communication and outreach. This comprised planning and coordination within FPs, including inception workshops with relevant stakeholders, and program-level communication and outreach.
- **Supporting research**: This includes the support platform (SP) on delivering impact and inclusion,[7] with W1/2 supporting the integrative part of the activities and bilaterals funding case-study research.
- **Flagship research portfolio**: This is predominantly funded by bilaterals. Among the CGIAR programs, FTA receives the lowest ratio of W1/2 over its total budget.

Strategic use of W1/2 funds within FPs, given resource constraints, was decided as per a **priority-setting scheme** by the FTA Management Team (MT) that prioritized: (i) Cross-cutting work and Flagship works that feeds into other FPs; (ii) work that leads to the generation of IPGs; (iii) work promoting uptake and impact potential; (iv) work that can strengthen partnerships or generate new ones; (v) work that can generate additional development opportunities and resources; (vi) high-quality research that challenges the established theories, exploring early leads on potential new ideas.

The activities receiving W1/2 funding are summarized in the traffic light report.

2.3 Key External Partnerships

FTA has built successful partnerships with a wide array of external partners. FTA engaged with the International Institute for Applied Systems Analysis (IIASA) for the analysis of the likely scenarios of zero deforestation commitments in the palm oil sector in Indonesia, with the Netherlands Development Organization (SNV) for drawing lessons on the processes and attributes of promising

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[7] The SP has four cross-cutting themes (CCT): (i) Monitoring, Evaluation, Learning and Impact Assessment (MELIA); (ii) gender and youth; (iii) data for impact; and (iv) CapDev. Each CCT works across Flagships, with the MSU and with the other CCTs, as well as within each Flagship.

business models, and with the Shared Value Foundation (SVF) for developing learning platforms, based on past and existing development projects implemented by this organization. A partnership was also consolidated with the Finance Alliance for Sustainable Trade (FAST) for the analysis of the financial gaps between financial service providers, smallholders and SMEs in the agricultural and forestry sector. FTA advanced collaborative agreements with IDDRI[8] for assessing public and private sustainability commitments in producing and consuming countries. FTA developed a partnership with the Provincial Government of South Sumatra for the development of the Green Growth Masterplan. FTA partnered with 10 Community Forest Institutions in Cameroon regarding investments in community forest enterprises; the partnership is formalized in the form of an investment agreement between ICRAF and the forest communities for a particular enterprise, which was deemed to be potentially viable through a rigorous development and financial modeling tests and due diligence on the community forestry institution. Moreover, as part of FP4 work, ICRAF signed an agreement with Aqua Danone, a local water bottling company in Indonesia for hydrological modeling evidence as the basis for the development of a sustainable supply plan for water resources.

Key alliances have been developed with several partners, including an emerging collaboration among the Earth Innovation Institute (EII), Sustainable Tropics Alliance (STA), GCF Task Force and the Climate Community and Biodiversity Alliance (CCBA) to assess progress and performance towards jurisdictional sustainability. Subnational jurisdictions provide important testing grounds for innovative policies that can inform higher-level efforts for sustainability. The Governors' Climate and Forests (GCF) Task Force (not to be confused with the Green Climate Fund) is a collaborative partnership between 38 states and provinces from Brazil, Colombia, Côte d'Ivoire, Ecuador, Indonesia, Mexico, Nigeria, Peru, Spain and the United States. Together, they hold over one third of the world's tropical forests and have committed to reducing deforestation in their jurisdictions (Rio Branco Declaration of 2014), while aligning with sustainable supply chain initiatives, promoting the rights of indigenous people, and pursuing finance for low-emissions rural development (Balikpapan Challenge of 2017). As part of CIFOR's MoU with the GCF Task Force (developed after their 2016 annual meeting in Guadalajara, Mexico), FTA conducted a series of activities in 2017. First, researchers are interviewing representatives of GCF Task Force States to understand how this platform can promote or hinder subnational activities. Second, with EII, STA, and CCBA, FTA is assessing the progress of GCF Task Force member jurisdictions towards low-emissions rural development, using (and testing) a new Sustainable Landscapes Rating Tool that jurisdictions can use to assess progress at their scale. The progress and results of these activities were presented to the GCF Task Force members at their 2017 Annual Meeting in Balikpapan, Indonesia. This activity represents an opportunity to better understand the role of multi-stakeholder platforms as agents of transformational change, and it represents an entry point to directly support subnational jurisdictions (as well as national governments) in achieving long-lasting change faster. Thus the hope is that, over the next three years, this will provide FTA with an opportunity to support implementers to create enabling conditions (end-of-program outcome 3) and implement successful public and

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[8] IDDRI is an independent policy research institute and a multi-stakeholder dialogue platform that identifies the conditions and proposes tools to put sustainable development at the heart of international relations and public and private policies. https://www.iddri.org/en/about-iddri

private sector REDD+ activities (end-of-program outcomes 2 and 3). This new collaboration was also highlighted in a *Forests News* story.

2.4 Cross-CGIAR Partnerships (other CRPs and Platforms)

FTA continued expanding its collaboration with other CRPs, especially PIM, CCAFS, the Genebank Platform and the Gender Platform, with some significant achievements.

FTA and PIM implemented a joined study on regulatory reforms of input supply for vegetatively propagated food crops. The study examines the potential for improving input supply for fodder trees in milk value chains in Kenya. The two programs also collaborated on research and capacity building in the governance of natural resources, landscapes and ecosystem services. Moreover, FTA and PIM worked together to improve the representation of the cocoa sector into the IMPACT model.

FTA and CCAFS worked together in 2017 on joint products (e.g. policy briefs for the United Nations Climate Change Conference) and organized a workshop on emissions from soils that resulted in further joint fundraising. The position of the CCAFS focal point at CIFOR was re-filled in July 2017, further increasing cross-CRP interactions (e.g. joint research on NAMAs in Latin America initiated for 2018).

FTA and the Genebank Platform coordinated their efforts and shared resources for ex situ collections of TGR. They worked together on Germplasm Health Unit (GHU) priority tree health issues. The Genebank Platform and FTA also collaborated on the development of characterization data and the sharing of existing data.

FTA contributed research findings, tools and methodologies to the CGIAR Gender Platform. The Platform facilitated FTA's research collaboration with other CRPs, such as by supporting the global comparative study GENNOVATE and FTA-PIM-WLE work on gender and agribusiness expansion co-funded by the CGIAR's Gender Postdoctoral Fellowship Program.

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

In 2017, FTA conducted three qualitative outcome evaluations and three self-documented outcome stories, four impact assessment studies, and one Expected Return on Investment (EROI) study. The evaluations and case-studies examined work conducted under FTA Phase I (impact assessment studies) and FTA Phase II (EROI, outcome evaluations and outcome stories). The projects were selected based on a range of factors: appropriateness for the assessment methodology, maturity of the research in the issues attention cycle, credible evidence of influence at the IDO/SLO level, and representation across the FTA portfolio (institutionally and thematically). The outcome evaluations were sampled as success cases for learning purposes. By construction, they do not cover the whole of FTA research and impact, but only document a small sample.

Evidence from **existing outcome evaluations and outcome stories** concerning FTA contributions to IDOs and Sub-IDOs shows that FTA research is:
- making targeted contributions to enhanced evidence-based policies, for example:
  - FTA research provided a scientific basis for the technical guidance on rates of timber extraction from Brazil nut concessions in Peru. Stakeholders indicated that this was the first time that scientific evidence had been used in this way by the sector.

- o FTA research results influenced the development of three national and subnational fire prevention regulations in Indonesia in 2016/17. These policies aim to significantly reduce the instances of fires in Indonesia's carbon-rich peatland areas.
- enhancing the scientific grounding and inclusiveness of government regulations and technical guidance, for example:
  - o FTA research informed Peru's National Service for Forestry and Wildlife (SERFOR) strategies for meeting Initiative 20x20 restoration pledges via the forestry plantation sector.
  - o FTA research informed Peru's national agroforestry concession legislation that enables land and tree rights, underpinning livelihoods for 120,000 households at the Amazon forest frontier.
- influencing how forests are valued in international development agenda, for example:
  - o Poverty Environment Network (PEN, 2004–2017) research changed how influential actors in the forestry sector valued the contribution of forests to rural livelihoods.
- changing knowledge and household practices in ways that enhance the livelihoods of both women and men, for example:
  - o In Indonesia, 636,972 people (52% women) improved their income as a result of adopting tree domestication technologies promoted by the project: Agroforestry and Forestry in Sulawesi: Linking Knowledge with Action (AgFor, 2012–2017).

FTA has produced evidence of contribution to SLOs through directly managed technology transfer and policy influence on projects and innovations scaled by development implementation partners. **SPIA- and FTA-supported impact assessments** completed in 2017 found the following (see Table A-1 for further details):

- In Western Kenya, 61% of the 114,000 households targeted by the Swedish NGO Vi Agroforestry had adopted one or more of the dimensions of its agroforestry program (e.g. alley-cropping and the use of perennial legumes as fodder) as the result of training throughout the 1990s and early 2000s. The study demonstrates strong connections between the Vi Agroforestry program and ICRAF research, and establishes evidence that at least 69,540 households have adopted CGIAR-informed agroforestry innovations. Given that Vi Agroforestry is also scaling similar practices in neighboring countries (Rwanda, Tanzania, and Uganda), this figure is likely to be much higher. The assessment further found a positive effect of the program on asset accumulation over time, a key indicator used to assess impact on household wealth, particularly among households with female program participants. The households that Vi Agroforestry targeted cultivate 105,000 hectares (ha) of land. Assuming much of this land is at least partially degraded and the above adoption rate, it is estimated that this scaling effort could lead to the restoration of 64,050 ha of land.
- Adoption of the Fertilizer Tree Systems (FTS) promoted in Malawi through the Agroforestry Food Security Programme (AFSP II, 2012–2016) was found to be low (14%) among the 30,240 farming families targeted (Table H-1). Most of the participants reported practicing the promoted FTS on at least half of their fields, which are on average one ha in size. Hence, given the above adoption rate, 2,117 ha can be considered having benefited from restoration measures.
- Analysis of land use change over time shows that Forest Management Committees (FMCs) supported by the Landscape Management for Improved Livelihoods (LAMIL, 2005–2008) project improved forest conservation in four forest reserves in Guinea. Results suggest that during and after the project, at least through 2014, LAMIL reserves showed no aggregate loss in natural forest and few signs of increased human encroachment. This trend is in marked contrast to

control reserves, where the share of land in natural forest declined 4.5% relative to pre-project levels. The calculated area of natural forest retained within the four LAMIL forest reserves is 2,362 ha, with associated social benefits from sequestered carbon alone of between USD 7 million and USD 14 million, depending on the social cost of a ton of CO_2 employed in the calculation.[9]

- Evidence is more mixed for household impacts of LAMIL innovations (e.g. improved groundnut and maize seed, tree plantations and live fencing) designed to increase levels of economic well-being and to reduce economic pressure for households to access resources in the forest reserves. Results show that LAMIL increased the use of improved maize seed, the planting of trees and live fencing. There is also some evidence of higher levels of food security, arising through greater diversity in the consumption of food staples and fruits. However, there is no evidence of higher values of household production from maize, groundnuts, tree plantations and live fencing – areas of concentration of LAMIL household innovations. Equity concerns arise with respect to FMCs restricting access to the forest. Within LAMIL forest reserve areas, those households that are members of FMCs show significantly higher values of benefits from forest reserve products when combined with net receipts from FMC membership than do non-FMC-members. Thus FMCs, in using existing local social structures to restrict forest access, appear to make members better off and non-members worse off, relative to households in control reserves. The project ceased all activities due to security situations in 2010 and there have been no subsequent activities.

- Species crop diversity maintained by 160,000 households across Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan increased as a result of FTA *in situ* on-farm fruit species conservation interventions (UN Environment / Global Environment Facility [GEF]-funded program, 2005–2010). While higher and more reliable levels of consumption and/or marketing of these fruits were also observed, no significant impact was observed in broader livelihood outcomes (i.e. wealth indicators).

The following key lessons and insights derive from these studies:

- A consistent finding across formative, outcome and *ex post* impact evaluations is that, in order to increase the uptake of FTA knowledge innovations, there needs to be greater integration with intended users and a better understanding of their needs and preferences throughout the research process. This insight has been incorporated into ongoing MELIA project activities in one FTA project through a partnership with the Busara Center for Behavioural Economics and, where possible, into new project designs.

- FTA's portfolio of evaluation work also highlights the difficulty of generalizing from evaluation results, because aggregate results can mask issues with equity and diverse results across contexts. There are also continued methodological and timescale challenges in linking livelihoods outcomes to FTA interventions.

- In policy-focused knowledge translation projects, findings reinforce the fact that policy development processes are dynamic and relational. Findings also emphasize the importance of

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[9] In the simulations, a relatively conservative estimate range of USD 20–40, based on compilations of the Interagency Working Group on the Social Cost of Carbon (IWG-SCC), is employed.

strategic and socially legitimate intermediaries in influencing target audiences, as well as the importance of pursuing multiple impact pathways and engaging non-policy actors. Results also reveal the extent of the time-lags between agenda-setting research and any potential influence on development outcomes.

- The *ex-ante* and expected return on investment studies undertaken by FTA have brought to light some interesting process lessons. Coupled with the results on adoption and influence from FTA's impact and outcome evaluations, these studies have highlighted the challenges of identifying credible assumptions related to likely uptake and influence. Evaluations of inter-disciplinary and global comparative research also reveal that improvements can be made in designing for impact by ensuring policy-level coherence between research components, strategic co-location of research sites, and partnering for greater influence.

- FTA has also undertaken work that is aligned with recommendations from IEA evaluations of Capacity Development, RBM and CRP Governance and Management.

- Impact assessments studies, by construction, are conducted over a limited sample of FTA research. FTA will seek to devise methodologies to rigorously infer impact figures at scale, *inter alia* to consider FTA-supported research in development (RinD) approaches that are broader in scope and based on dedicated engagement with development initiatives that are designed to deliver impact (see also section 2.5).

2.6 Improving Efficiency

In 2017, FTA devised a new **priority-setting process** to prepare its 2018 POWB. It promotes focus, alignment and coherence of all proposed activities in the POWB by streamlining and improving transparency and inclusiveness of the planning process, and by providing a unified framework and a set of guidelines. This helped reduce transaction costs while enabling more in-depth collaborative, transparent and inclusive work on defining work plans and on the best use of W1/2 and bilateral resources under budget constraints. The process was crafted by FTA Senior Management (FTA Director, FP leaders, MEL leader), under the oversight of FTA ISC, which requested that FTA develop such a procedure, approved it and subsequently approved its results.

As a result, 22 operational priorities will address, within the framework of the proposal, important development demands and knowledge gaps. They are oriented towards the implementation of the SDGs and the Paris Agreement on climate change, and are aligned with the CGIAR Strategy and Results Framework. They build on the comparative advantages of FTA and its partners in order to maximize value for money, effectiveness and impact.

3. CRP Management

3.1 CRP Management and Governance

The ISC and the Board of Trustees (BoT) of CIFOR remain the two key components of the governance of FTA. Following a performance assessment of ISC conducted in 2017, the ISC Terms of Reference (ToRs) were revised.

From a management perspective, the description of the terms of reference of FTA FP leaders has been revisited in order to strengthen accountability and to clarify their responsibilities and those of their employers. The FP4 Leader retired, and a call was launched for a new FP4 Leader according to the new ToRs.

3.2 Management of Risks to the CRP

The continuing uncertainty in W1/2 funding and on the actual execution of the indicative financial plan poses significant risk, especially to non CGIAR partners that are not able to commit and execute work as long as financial resources are uncertain. As a result, in 2017, FTA's ISC requested that FTA put in place an innovative *ex ante* contingency procedure to address the risks of shortfalls in W1/2. The 2017 POWB was split into three tiers: Tier 1 (USD 4.9 million), Tier 2 (USD 2.3 million) and Tier 3 (USD 1.6 million), of decreased probability of funding. Each activity and corresponding output of the 2017 POWB was associated with one of the three tiers, reflecting their relative priority in the POWB. The tiers served as guide for the successive W1/2 installments from the Lead Center to FTA partners in 2017. They also served as broad indications for W1/2 funding risk management to partners (Tier 3 was more exposed than Tier 1 to funding risk, and therefore the MSU, at the stage of planning, did not recommend partners to pre-finance Tier 3 activities). The MSU also spent conservatively to avoid a risk of deficit, given the uncertainties over actual W1/2, this led to some program-level activities being stricken-out (e.g. a flagship publication on the achievement of the program in Phase I) as well as limiting management expenditures to the minimum and postponing recruitments.

The contingency planning scheme led the ISC and the BoT of the lead center to decide in November 2017, given the information from the SMO on likelihood of end-of-year allocations and level of funding shortfall, to remove all Tier 3 activities from the POWB, and to carry over the remaining funds for distribution in the 2018 POWB.

3.3 Financial Summary

For historical reasons (totally unrelated to FTA's performance, and despite FTA being a key element of the CGIAR research portfolio), FTA is the CRP receiving the lowest amount of W1/2 funds over its total budget. In 2017, FTA also needed to manage the ban from W1/2 funding applied by the CGIAR to FP2. This was lifted from 1 January 2018, following the successful resubmission of the FP in 2017. W1/2 resources are critical for achieving FTA's ambitious goals regarding the SDGs. FTA's 2017 and 2018 POWBs demonstrate the key strategic role played by W1/2 funds when applied to FTA's highest priorities in ensuring the overall coherence and value addition of its research portfolio, as well as facilitating the generation of international public goods and enabling the understanding of how contextual factors affect the performance of FTA's options.

FTA W1/2 expenditures in 2017 (USD 5.645 million) were lower than the finplan (USD 8.8 million) as showed in Table I, and to actual W1/2 received by the lead center (USD 7.192 million). This is explained by the fact that FTA complied at the inception of 2017 with the under-programming guidelines given by the SMO to all CRPs, adding another uncertainty component due to the fact that FTA is a program that is very much dependent on W1, and that W1 is more uncertain than W2 as it is only known at the end of the year given relinking rules that depend on the overall amount of W1 available and of the W2 funding situations of all CRPs. Also, non-CGIAR partners are not able to pre-finance the work, so actual expenditures can only follow and not precede W1/2 funding installments to the lead center. This led to FTA recommending partners not to engage with Tier 3 activities (USD 1.7 million) until there was certainty about actual disbursement to the program, which ultimately did not happen in 2017. As decided by the ISC of FTA in November 2017, and subsequently endorsed by the lead center board:

- Unspent Tier 2 resources (USD 0.763 million) in 2017, when the case, will be spent by the respective partners in 2018 to undertake the originally foreseen activities (see traffic light report).
- Tier 3 resources (USD 0.784 million) were taken out of the POWB 2017 (see 3.2 above) and carried over by the lead center for reallocation within the 2018 POWB (see related document).

Tables

Table A: Evidence on Progress towards SLOs

Table A-1: Evidence on progress towards the SLOs (sphere of interest)

SLO Target (2022)	Brief summary of new evidence of CGIAR contribution to relevant targets for this CRP (with citation)	Expected additional contribution before end of 2022 (if not already fully covered)
1.1. 100 million more farm households have adopted improved varieties, breeds, trees, and/or management practices	An impact assessment of a scaling project building on CGIAR agroforestry research in Kenya (Hughes et al. 2017) found that at least 69,540 households had adopted CGIAR-informed agroforestry innovations.	N/A
	Impact assessment of Fertilizer Tree Systems (FTS) promotion in Malawi showed that at least 4,234 farm households had adopted this CGIAR-informed agroforestry innovation (Hughes et al. 2017).	N/A
	Species crop diversity maintained by 160,000 households across Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan increased as a result of FTA *in situ*-on farm fruit species conservation interventions. While higher and more reliable levels of consumption and/or marketing of these fruits were also observed, no significant impact was observed in broader livelihood outcomes (i.e. wealth indicators) (Gotor, E., Bellon, M.R., Polar, M., Baymetov K., Nazarov F., Dorohova-Shreder E., Arzumanov V., Dzavakyants M., Abdurasulov A., Chernova G., Butkov E., Caracciolo F. 2017. Livelihood implications of *in situ*-on farm conservation strategies of fruit species in Uzbekistan, *Agroforestry* Systems).	N/A
1.2. 30 million people, of which 50% are women, assisted to exit poverty	No new evidence in 2017 (no specific outcome/impact assessment study conducted)	N/A
2.2. 30 million more people, of which 50% are women, meeting minimum dietary energy requirements	No new evidence in 2017 (no specific outcome/impact assessment study conducted)	N/A
2.3. 150 million more people, of which 50% are women, without deficiencies in one or more essential micronutrients	No new evidence in 2017 (no specific outcome/impact assessment study conducted)	N/A
3.1. 5% increase in water and nutrient efficiency in agroecosystems	No new evidence in 2017 (no specific outcome/impact assessment study conducted)	N/A
3.2. Reduction in 'agriculturally'-related greenhouse gas emissions by 5%	An expected return-on-investment study of the FTA contribution to fire prevention regulations in Indonesia's Riau Province estimates that if the new regulation achieves a 50% reduction in fires in the Province annually, given FTA's contribution to the policy	Up to 5.04 million tons of avoided emissions (based on the assumption that fires of a similar scale to 2015 fires in Riau

SLO Target (2022)	Brief summary of new evidence of CGIAR contribution to relevant targets for this CRP (with citation)	Expected additional contribution before end of 2022 (if not already fully covered)
	development process, there is an attributable contribution to avoided emissions through this reform process of up to 1.26 million tons annually. This is a 3% reduction based on World Bank estimates for 40.8 million tons emitted in 2015 (Reumann et al. 2017).	will be avoided during the annual dry season over the next four years)
3.3. 55 M ha degraded land area restored	From the impact studies in Kenya and Malawi, it can be estimated that improved agroforestry innovations are being practiced on at least 66,167 ha of partially degraded land (Hughes et al. 2017).	N/A
3.4. 2.5 M ha forest saved from deforestation	2,362 ha of natural forest across the four forest reserves retained within the LAMIL reserves (Mills et al. 2017).	N/A

Table A-2: List of New Outcome Case Studies from This Reporting Year (Sphere of Influence)

Title of outcome case study	No. of Sub-IDO	Links to evidence*	Space for additional, very brief details, including on cross-cutting issues
Optimizing multi-use land management practices in Peru	3.2.1	http://foreststreesagroforestry.org/optimizing-multi-use-land-management-practices-in-peru/	FTA research provided a scientific basis for the technical guidance on rates of timber extraction from Brazil Nut concessions.
Applying political economy analysis of fire and haze to policy development in Indonesia	A.1.1	http://foreststreesagroforestry.org/applying-political-economy-analysis-of-fire-and-haze-to-policy-development-in-indonesia/	FTA research influenced the development of three national and subnational fire prevention regulations in Indonesia.
Forest and livelihoods: tracing the influence of agenda setting research	D.1.1 C.1.3	http://foreststreesagroforestry.org/forest-and-livelihoods-tracing-the-influence-of-agenda-setting-research/	FTA research changed how influential actors in the forestry sector valued the contribution of forests to rural livelihoods and influenced the research agendas, career trajectories and professional networks of emerging researchers.
The adoption of agroforestry technologies by rural residents in Sulawesi	1.3.3 1.4.4	http://foreststreesagroforestry.org/the-adoption-of-agroforestry-technologies-enhances-incomes-of-630000-rural-residents-in-sulawesi/	636,972 people (52% women) improved their income as a result of adopting AgFor-promoted tree domestication technologies.
Using contextual information to address bottlenecks in restoration	3.1.1	http://foreststreesagroforestry.org/using-contextual-information-to-address-bottlenecks-in-restoration/	FTA research informed Peru's National Service for Forestry and Wildlife (SERFOR) strategies for meeting Initiative 20x20 restoration pledges via the use of the forestry plantation sector.
Enhancing decision-makers' understanding of policy implications for agroforestry concession holders	C.1.3 1.3.2	http://foreststreesagroforestry.org/enhancing-decision-makers-understanding-of-policy-implications-for-agroforestry-concession-holders/	National agroforestry concession legislation enables land and tree rights underpinning livelihoods for 120,000 households at the Amazon forest frontier.

Table B: Status of Planned Milestones

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
FP1 CoA 1	Sub-IDO 1.4.4 Increased conservation and use of genetic resources. Sub-IDO 3.1.2 Enhanced conservation of habitats and resources. Sub-IDO C.1.1 Increased capacity of beneficiaries to adopt research outputs.	Outcome 1.1 Managers and policy-makers adopt effective monitoring methods, tools and practices to mitigate threats to valuable TGR, 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 Cacao Genetic Resources	Milestone 1.1.1 Methods, tools and practices developed for at least two countries	Completed	12 articles, reports or communication tools on effective and affordable methods and decision-support tools, including status and threat assessment maps and appropriate option value methods for the prioritization of safeguarding actions, which consider TGR availability and the value of genetic diversity for products and ecosystem services.
			Milestone 1.1.2 Characterization methods and indicators for monitoring status and trends of TGR including access and benefit-sharing (ABS) applied in at least two cases	Completed	13 research outputs (peer-reviewed articles, research reports, and communication tools), covering user-friendly characterization methods and indicators with practical guidelines for their application in monitoring the status and trends of TGR and associated threats, with case study applications (including ABS).
			Milestone 1.1.3 Tree genetic resource networks provide strategies for safeguarding in at least one region	Completed	10 research outputs (peer review articles, research reports, and communication tools), covering national and regional strategies and guidelines for appropriate targeting and safeguarding of TGR in various political, socioeconomic and environmental contexts, at different scales, and based on the biology of the species concerned.
FP1 CoA 2	Sub-IDO 1.4.3 Enhanced genetic gain. Sub-IDO 3.3.2 Enhanced adaptive capacity to climate risks.	Outcome 1.2 Agricultural and horticultural research and development partners adopt cost-effective domestication approaches for priority tree species, based on impacts and maximizing	Milestone 1.2.1 Rank of priority species identified, evidence based toolkit (web portal) on tree genetic resources designed and actors participating in the construction with respect to gender-responsive guidelines, and decision-support and	Completed	7 research outputs (peer review articles, research reports, and communication tools), covering dynamic (producer- and consumer-sensitive) lists of priority tree species for domestication, with key traits for production, including those that support positive agroecosystem interactions, identified;

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
	Sub-IDO C.1.3 Conducive agricultural policy environment.	efficiency, and considering trade-offs involved in intensification, while paying attention to smallholder breeders' rights	practical tools for tree domestication in one major geographical region		including gender-responsive guidelines, and decision-support and practical tools, for tree domestication.
			Milestone 1.2.2 Business models and alliances including IP and ABS developed for up to 5 species in 1-2 countries	Completed	8 publications covering public-private consortia engaged in tree domestication; or appropriate ABS models for farmer-developed tree varieties.
			Milestone 1.2.3 Mobilization of tree genetic resources (including specific clones) and evaluation of at least 3 domesticated species from at least 2 countries and generation of genomic information for domestication for at least 5 species	Extended (in part transferred to POWB 2018 – Strategy for Orphan Crops)	13 research outputs (peer review articles, research reports, and communication tools), covering improved material (eventually 'varieties') of priority tree foods and for other tree products, with visible value for growers in comparative demonstration plots/trials; and genotyping of appropriately assembled germplasm. Collections, combined with public databases.
FP1 CoA 3	Sub-IDO 1.3.4 More efficient use of inputs. Sub-IDO A.1.3 Improved forecasting of impacts of climate change and targeted technology development Sub-IDO D.1.1 Enhanced institutional capacity of partner research organizations	Outcome 1.3 National governments, extension services and private partners adopt cost-effective and equitable tree-planting material delivery approaches, with attention to appropriate international and national policies governing material transfer/use agreements and using the most appropriate decision-support tools, to supply high-quality site-appropriate tree-planting material to smallholders and other growers	Milestone 1.3.1 Generic and case specific delivery pipeline models, and production and delivery enterprises developed in at least 2 countries.	Extended (in part transferred to POWB 2018 – Indicators associated with success of FLR)	9 research outputs (peer review articles, research reports, and communication tools), covering gender-responsive and socially inclusive delivery pipeline models for tree-planting material that support different users (including for landscape restoration); and community-based and entrepreneurial production and delivery enterprises e.g. seed orchards, rural resources centers, private tree nurseries, etc. Fellowship Program on gender and tree seed systems.
			Milestone 1.3.2 Quality standards identified, for later development and promotion to actors in the germplasm	Extended (in part transferred to POWB 2018 –	5 publications covering quality standards developed and promoted to actors in the germplasm production and delivery sector; and

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
			production and delivery sector; and measures suggested for subsequent provision for implementation by policy-makers, extension services and the private sector	Standards for monitoring delivery systems)	measures to ensure that appropriate quality standards are mainstreamed by policy-makers, extension services and the private sector.
			Milestone 1.3.3 Generic and case specific decision-support tools, and indicators being developed to monitor the performance of delivery pathways with regard to models, to standards including the performance and viability of planting, and to evaluate quality and the needs for management (including enrichment) of natural regeneration	Completed	14 publications covering user-friendly decision-support tools to inform planting choices, where relevant, in conjunction with market information services; and indicators to monitor the performance of delivery pathways with regard to models, to standards including the performance and viability of planting, and to evaluate quality and the needs for management (including enrichment) of natural regeneration.
FP2 CoA 1	Sub-IDOs 5.2, 3.2 and 9.1	Outcome 2.1 Improved food security and livelihood opportunities for 100 million people in smallholder households 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.	Milestone 2.1.1 Comparative analysis of local knowledge, gender roles and policy options across at least three countries and regions	Completed	FP2 published a novel methodology for statistical analysis of farmer knowledge about tree attributes (submitted in 2017, appeared in 2018) and specific studies on its application to improving smallholder coffee production systems in Rwanda and Uganda and cocoa production systems across an agroecological gradient in Ghana. A training course in knowledge acquisition was held in Kenya with participants from DRC and Comoros. Local knowledge was used to structure stakeholder engagement in a novel method to develop more diverse and inclusive agroforestry options that changed knowledge, attitudes and behavior of NGO actors and farmers in DRC.

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
FP2 CoA 2	Sub-IDOs 3.2 and 9.1	Outcome 1.2 Agricultural and horticultural research and development partners adopt cost-effective domestication approaches for priority tree species, based on impacts and maximizing efficiency, and considering trade-offs involved in intensification, while paying attention to smallholder breeders' rights	Milestone 2.2.1 Analysis of barriers to people benefiting from tree resources across at least six countries and three regions	Completed	FP2 published a cross-regional comparison analyzing how to overcome property rights issues as barriers to smallholder investment in trees across Ethiopia, Nepal and China; a new analysis of small patch size deforestation in the Peruvian Amazon that shows this is not necessarily driven by smallholder farming, requiring more nuanced policy responses if it is to be addressed; and contributory documents to inform national agroforestry initiatives in Rwanda and Uganda. Fifteen parliamentarians visited FTA agroforestry sites as part of the 4th National Agroforestry Conference in Kampala in June 2017, and set up a taskforce to scale up agroforestry nationally.
FP2 CoA 3	Sub-IDOs 3.2 and 9.2	Outcome 2.3 Diversified tree-crop production systems covering 5 million ha and improving diets and livelihood opportunities for 20 million people in smallholder producer households	Milestone 2.3.1 Options by context matrices for diversified cocoa and oil palm production practices in Peru and Brazil	Completed	The FTA public-private partnership with Natura in Brazil developed options for oil palm diversification (including setting up field trials to test them) and published a key article on agroforestry options for land restoration across contexts in the country. In Peru, FP2 developed options for soil fertility enhancement in cocoa and climate change adaptation in coffee.
FP2 CoA 4	Sub-IDOs 5.2, 8.1 and 3.1	Outcome 2.4 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	Milestone 2.4.1 Globally calibrated tree-crop interaction models that can reliably predict impacts of tree cover change on yields of at least three staple crops.	Completed	FP2 published a key paper validating the new tree-crop interaction module of the globally calibrated APSIM crop modeling system for maize, emanating from FP2 partnership with CSIRO was published in *Agricultural Systems*. A new analysis of wheat growth done in conjunction with CRP Wheat, as part of the

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
		interactions (fodder and woodfuel), directly contributing to production, reducing and reversing land degradation, and increasing the resilience of smallholder livelihood			FTA FP2 Trees4FoodSecurity project, was published (submitted in 2017, appeared in 2018). ICRAF and FAO released a practical manual on rice agroforestry and initiated a review of impacts of trees on rice yields.
FP2 CoA 5	Sub-IDO 8.1	Outcome 2.5 Closing yield gaps through 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	Milestone 2.5.1 Global systematic review of relationships between tree cover and pasture and animal productivity	Extended to 2018	The hiatus in W1/2 funding for FP2 in 2017 meant that there were no resources for a synthetic global review. However, bilateral projects did contribute important findings on how to overcome constraints to adoption of fodder trees in Malawi and initiated research on the development of climate-smart silvopastoral systems in Latin America and on bamboo as a source fodder as part of INBAR's South-South knowledge exchange. An impact assessment of tree fodder adoption in East Africa was done and will appear in 2018.
FP3	3.1.1 Land, water and forest degradation minimized	3.1 Public and private actors adopt effective governance arrangements, mechanisms and tools for ensuring sustainable and inclusive commodity supply in at least 3 major producer countries	3.1.1 Analysis of the governance of informal timber value chains inform transnational platforms and initiatives to enhance sustainable supply	Completed	Provided continued support to: (i) the debates on enhancing the implementation of the FLEGT VPA process; (ii) ISEAL Alliance on sustainability standards on the social impacts of timber certification; (iii) and FSC on ways to enhance audits. Participated in the European Commission Conference on Illegal Logging and Deforestation in Brussels, Belgium in June, 2017 (Summary) and contributed to ISEAL and FSC debates on timber certification, as well as

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
					to FSC improvements in the auditing systems (two working seminars with FSC stakeholders).
			3.1.2 Lessons from public-private governance arrangements inform debates for enhancing governance mechanisms in two commodity supply chains	Completed	Engaged (i) the Indonesian Palm Oil Platform (InPOP) and strengthening ISPO process to inform on options to improve sustainable palm oil supply, and (ii) the platform for sustainable cocoa supply in Ghana.

Participated in several meetings of InPOP and ISPO in Indonesia, and engaged the platform for sustainable cocoa supply in Ghana. |
| FP3 | 1.2.2 Reduce market barriers

1.3.1 Diversified enterprise opportunities

1.3.3 Increased value capture by producers | 3.2 5 business platforms and 20 businesses and service providers develop and implement business models that are more inclusive, economically viable and environmentally sustainable | 3.2.1 Engaged and informed two business platforms with options of business models | Completed | Engaged in debates at the Responsible Business Forum (RBF) and the Tropical Forest Alliance 2020 (TFA 2020) on sustainability and social inclusion, with focus on territorial approaches.

Session at the Responsible Business Forum on Food and Agriculture in Jakarta, Indonesia (March 2017)

Session at TFA 2020 in Sao Paulo, Brazil. |
| | | | 3.2.2 Established partnerships with programs and initiatives from development agencies to design and implement inclusive business models | Completed | Advanced collaboration agreements with the Netherlands Development Organization (SNV) in the design and assessment of business models' performance in two cases (i.e. Ghana and Indonesia).

(Link to announcement of strategic partnership with SNV/CIFOR) |
| FP3 | 1.2.1 improved access to financial and other services | 3.3 At least 30% of financial service providers lending to timber, tree and agricultural crops adopt ESG criteria, and | 3.3.1 Identification of the knowledge gaps from financial service providers and impact investors for advancing lending to smallholders and SMEs | Completed | Conducted analysis with FAST on lessons for closing the financial gaps between finance providers and SMEs, and contributed to debates at the GLF Finance Pavilion. |

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
		increase in 25% the lending to models that integrate smallholders and SMEs			Session organized by TFBI/FTA at the GLF Forest Pavilion Bonn, Germany (December 2017).
FP4	Sub-IDO c.1.3	Outcome 4.1: (Sub)national governance 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.	4.1.1 Dataset on socioeconomic and biophysical characterization with the map of vegetation cover and land use planning for 6 sentinel landscapes in explicit pantropical extrapolation domains.	60% completed, and the rest will be extended.	• Bioversity International: Dataset from 20 years of measurement of tropical forest regeneration is completed, but the data verse will be ready in 2018 or 2019. • ICRAF: The green-rubber project activities have delivered all promised outputs. In Latin America, land system analysis for the challenges and perspectives have been published. In the Philippines, formulation of comprehensive land use plans of local government units for the Biodiversity and Watersheds Stronger Economy and Ecosystem Resilience has been reported. • INBAR: Training for government and civil society from Ethiopia, Kenya, Rwanda and Uganda on bamboo remote sensing classification tool has been completed, while the map and paper on assessment and land cover classification will be extended to 2018. The rattan assessment report will be conducted in two phases: Biophysical analysis and value-chain analysis. • CATIE: The importance of ecosystem services provided by tank bromeliads in coffee and cocoa plantations in Nicaragua (PhD thesis) will be extended as the second

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
					round data has been collected and the insects are in the process of being identified.
			4.1.2 Protocols/guidelines on comprehensive land use plans of local government units are produced and disseminated in at least 3 languages.	50% completed, 25% extended, 25% cancelled	• ICRAF: Completed Output – guideline for Market Intervention for Agroforestry Commodity (MATRIC). The guidebook/manual on Conducting Vulnerability Assessments in the Philippines is cancelled due to changes on the project focus. • CATIE: Book of propagation protocols of trees from Colombian tropical dry forest: All sheets of plant species are nearly finished, and the book will be extended to 2018.
			4.1.3 Policy formulation is supported for low emission development and/or green growth from subnational level to national level in at least 3 countries	Completed	Output 4.1.3a Output 4.1.3b

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
FP4	Sub-IDO 2.1.2	Outcome 4.2: (Sub)national governance systems in landscapes covering 100M 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 policy-level synthesis and planning.	4.2.1 At least 3 Mha of degraded land under management using agroforestry, water harvesting and silvicultural approaches supported by FTA	80% completed	• ICRAF: Published maps assessing rainwater harvesting potential in Dar Sila region, Chad in liaison with Chad authorities, and held a training for rainwater harvesting and soil conservation attended by 100 farmers and 30 extension staff in June–July 2017. Published an article on farm types and farmer motivations to adopt sustainable agricultural interventions in rubber in Southwest China. In Indonesia, conducted a study on profitability analysis and value chain for main-commodities in Pasuruan, East Java. The profitability study will be used to further contract with farmers in the upstream and middle-stream areas of Pasuruan District. • CIFOR: Briefs and a paper for integrated research in development for improved livelihoods program in Northern Province Zambia are in progress.
			4.2.2 Tools and approaches towards sustainable landscapes through land use planning process that is integrative, inclusive and informed in improving livelihoods while increasing carbon storage, maintaining biodiversity, and water buffering technology are developed and tested in at least 5 countries.	85% completed 15% extended to 2018	• CIFOR: Poverty Environment Network (PEN) data and a website tool are available and being maintained, and blogs and policy briefs have been published on Forests News and the PEN website. • Bioversity: Published a good practices sheet on the management of non-timber forest products. Testing the effectiveness of different restoration interventions to accomplish the recovery of tropical dry forest in the Cauca River valley, Antioquia, Colombia. The experimental field design

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
FLR					setup across 26 ha has been installed and reported. Applications for the forest genetic resources (FGR) training guides used in capacity building in FGR for FLR, and using the Forest genetic resources (FORGEN) networks as a platform, are still under discussion with FAO and expected to be fully developed by mid-2018. • ICRAF: For the Indonesia land-use planning study, a report on development, test and distribution of tools and approaches towards sustainable landscapes through land use planning process and a brief on Value Chain And Effectiveness of Locally Appropriate Mitigation Actions (VAE-LAMA) have been produced. In China for the green rubber project, several papers have been published on Seasonal differences in soil respiration and methane uptake, Diversity and ecology of soil fungal communities, Soil respiration in sloping rubber plantations and Effectiveness of land sparing strategies in preventing rubber expansion and deforestation.
			4.2.3 Synthesis publication on the role of eco-certification, the conditions under which it is likely to emerge and the pressures to further evolve.	80% completed	• ICRAF: From the planned 10 articles to be published in the special issues of IJBSESM, 9 articles have been delivered as well as one title for a working paper. • Bioversity: All studies on Coffee Landscape in Central America and Gender study for forest innovation in India (blog, paper and info brief) have been completed.

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
FP4	Sub-IDO 3.3.1	Outcome 4.3: 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; 10M people)	4.3.1 Data and analysis on variation of nutrient is available, and the knowledge and industrialization of tree-based food productions is increased.	90% completed	• CIFOR: An article on the association of recent loss of closed with Ebola virus has been published; the report will be extended to April 2018. For the food security project, several blogs and articles have been published, and activities held at international events; the remaining 2 articles and 3 briefs will be extended to 2018. Further articles on Forest foods and healthy diets and bushmeat and human health have been published. Two booklets on wild food and traditional food ways in Kamashi, Ethiopia and Loba Province, Burkina Faso have been produced. • CATIE: A Brief on Importance of traditional fruit in conservation and livelihoods has been produced in Spanish. • Bioversity: paper on Protocol for the analysis of variation in nutrients in the seeds of the tree *Parkia biglobosa* and wild forest foods in timber concessions have been produced.
			4.3.2 Local Capacity and livelihood on food and trees diversification is developed integrating with gendered livelihood concerns.	90% completed, 10% cancelled	• CATIE: Tools and final documents of importance of diversification (fruit and trees) in livelihoods • Bioversity: Conducted training on household methodologies in Nairobi (28 Aug – 1 Sept, 2017) and initiated protocol development; however, because Tier 3 was not funded, the tool for mobilizing household methodologies for gender-

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
					equitable restoration was cancelled. However, an article on Motivations and Approaches for Socio-ecological Restoration to the Restoration Ecology was submitted. In the Congo Basin, a writeshop for was held to finalize publications of data collected in Gabon, Cameroon and DRC as part of the management and governance to produce food along with timber from forest landscapes.
			4.3.3 Synthesis on functional and nutritional diversity in agroforestry	Cancelled	The investigation of functional diversity in agroforestry systems was cancelled due to lack of funding.
FP4	Sub-IDO 3.3.1	Outcome 4.4: Adaptive landscape institutions 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 towards 6 million ha of shared landscapes under more productive and equitable management.	4.4.1 Agreed framework for assessing strengths and weakness of local resource governance in learning landscapes, as basis for prioritized actions	85% Completed	• ICRAF: Across the three countries (the Philippines, Indonesia and Vietnam), the Smart Tree-Invest project advocates mainstreaming the CIS concept as it provides a new way to involve stakeholders in environmental stewardship, not only through financial incentives but also through other measures that can benefit smallholders and maintain the quality of environment. The impact story is published on YouTube. • CATIE: Two workshops were organized to promote lessons learned of the Nicaragua-Honduras Sentinel Landscape, and product validation in use with participatory research under the MAP project was completed. • BIOVERSITY: Completed a diagnostic study on diversity assessment of NTFPs using four

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
					cell analysis and a report that was presented at Tropentag in September 2017 (ICRAF Blog) on using the 5-Capitals methodology to assess and create gender-sensitive baseline data on poverty status among NTFP collectors.
			4.4.2 Active website for supporting cross-learning between landscapes, and locally appropriate application of PES mechanisms	Completed	• ICRAF: Completed a study on trends, drivers of change and possible solutions to address deforestation and loss of forest habitat in the Kenya-Somalia cross border area and a report on The Biodiversity Management Programme in the horn of Africa (BMP). • CATIE: Shade Motion software, which can calculate the position, shape and accumulation of shadows of trees, is ready online. Organized an international workshop for strengthening capacities for the management of secondary forests in Nicaragua, and conducted two workshops on coffee adaptation for extensions and technicians from the Central American region. • INBAR: Conducted training on bamboo sustainable management and value addition, attended by 340 people (89 women and 251 men).
			4.4.3 Practitioner guide on PES lessons shared in Africa, Asia and Latin America	90% completed	• BIOVERSITY: A guide for community-based biodiversity monitoring was postponed due to limited FTA budget support, but the report of good practices for equitable Joint

FP	Mapped and contributing to Sub-IDO	2022 CRP outcomes (from proposal)	Milestone*	2017 milestones status (Complete, Extended or Cancelled)	Provide evidence for completed milestones** or explanation for extended or cancelled
					Forest Management has been completed. • ICRAF: Completed a program in the Tana-Kipini-Laga Badana Bush Land and Seascape. • INBAR: One guideline on bamboo resource management will be postponed to 2018.
FP5	A.1.4 Enhanced capacity to deal with climate extremes	Outcome 5.1 Efficient, effective and equitable national and international climate mitigation policies and funding, aligned with development objectives (3E+ goals)	Milestone 5.1.1 Comparative analysis of best, 3E+ options for policies and practices for emission reduction concluded and applied by decision-makers	Completed	The simulation tool CarboScen is an open-access tool built to assess carbon implications of land-use scenarios in collaboration with stakeholders. It helps to develop future scenarios of landscape management and decision-making processes in collaborative work with stakeholders. Published two scientific papers describing the tool: CarboScen: a tool to estimate carbon implications of land-use scenarios and Can conservation funding be left to carbon finance? as well as a blog.
		Outcome 5.2 Risk-assessed ecosystem-based adaptation (EbA) policy and practice in place including joint mitigation and adaptation approaches	Milestone 5.2.1 Concluding analysis of synergies/trade-offs between mitigation and adaptation published and applied	Completed	Published several publications on adaptation/mitigation synergies in local initiatives, national policies, policy networks, global funding and global science. Examples include: doi:10.1016/j.envsci.2016.11.004, doi:10.1007/s00267-015-0605-y, doi:10.1002/wcc.357, doi:10.17528/cifor/005624, doi:10.17528/cifor/005683, doi:: 10.3390/f5082016, doi: 10.11144/Javeriana.AyD18-35.msas, doi: 10.3390/f2010431

Table C: Cross-cutting Aspect of Outputs

Cross-cutting	Number (%) scored 2 (Principal)	Number (%) scored 1 (significant)	Number (%) scored 0	Total overall number of outputs
Gender	2%	19%	79%	94 outputs in FP1
Youth	0%	20%	80%	
CapDev	3%	29%	68%	
Gender	N/A	N/A	N/A	No outputs in FP2 (No W1/2 funding in 2017)
Youth	N/A	N/A	N/A	
CapDev	N/A	N/A	N/A	
Gender	9%	43%	48%	23 outputs inFP3
Youth	0%	39%	61%	
CapDev	9%	22%	70%	
Gender	40%	43%	17%	95 outputs in FP4
Youth	52%	31%	18%	
CapDev	17%	63%	20%	
Gender	30%	30%	40%	136 outputs in FP5
Youth	10%	10%	80%	
CapDev	60%	30%	10%	

Table D: Common Results Reporting Indicators

Table D-1: Key CRP Results from 2017, in Numbers

Sphere	Indicators	Data	Comments
Influence	I1/I2*. Projected uptake (women and men) / hectares from current CRP investments (<u>for innovations at user-ready or scaling stage only – see indicator C1</u>)	New indicator being introduced in 2018. • AgFor – 121,545 adopted technologies (33% women); 780,273 ha benefiting from the activities of the project • IRED2 – 148 adopters (44% women); 143 ha rehabilitated through IRED technologies • KANOPPI Project – 2,436 (42% women) have had their capacity enhanced; trials have been established; cross-visits to share experiences with farmer peers have been held, resulting in enhanced production systems and/or incomes; 1218 ha • Vietnam – mainly the ACIAR-funded project Agroforestry and Forest Rehabilitation Options for Northwest Vietnam (AFLI): 30 adopters (0% women, although the adopters represent family farms run by husbands and wives, therefore could consider it to be 60 adopters, 50% women) of exemplary farms designs; 70 ha • Mango project – technical support at Kubo, HongHe for climate-smart mango. Different cultivar varieties will be tested in 40 ha of plantation under experimentation. Total plantation of about 1,000 ha that will benefit directly from the output of the research. About 2,000 households comprising 40–45% women will benefit directly from technical support. • Calotropis project – supply seedling from various seed sources (Thailand, Myanmar, Kenya and local variety from HongHe) and technical support in plantation (10 ha) of Calotropis at Honghe. • At least 3,000 ha of land rehabilitated using Farmer Managed Natural Regeneration (FMNR) – Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) in Dar Sila Region. • In Mali, 7,615 ha of communal land were restored through enrichment planting of baobab, *Khaya senegalensis*, *Parkia biglobosa*, Shea, Moringa, *Acacia senegal*, *Faidherbia albida*, *Acacia nilotica* (Drylands Development Programme)	N/A

Sphere	Indicators	Data	Comments
		• In Niger 13,553 farmers implemented FMNR on 20,000 ha; this contributed to Trees on Farms for Biodiversity on farm through the protection of approximately 325,000 trees belonging to nine tree species (*Pilostigma reticulatum*, *Guiera senegalensis*, *Faidherba albida*, *Bauhinia rufescens*, *Acacia radiana*, *Combretum micranthum*, *Acacia nilotica*, *Acacia senegal* and *Zyziphus mauritiana*) Drylands Development Programme).	
	I3. Number of policies/investments (etc.) modified in 2017, informed by CGIAR research	1 major international policy 18 national policies 2 major investments 2 legal instruments	• Two national policies: Forestry Law (2017) and National Strategy for Forestry Research; 1 legal instrument on Payment for Forest Environmental Services in Vietnam • Revision of Fair trade standards around cocoa • Influenced discussions leading to the adoption of specific policy/procedures for Intact Forest Landscapes by FSC. • Facilitated the process of drafting a local regulation on sustainable plantations in East Kalimantan • 2 Subnational policies on fire prevention adopted by Riau Province Parliament and Bengkalis District Parliament to be part of their legislation program in 2017 and 2018 • 1 National policy on strengthening ISPO – Validated a monitoring system for informal timber in Cameroon • Curriculum reforms at UNIKIS using the two-year Masters courses on 'Law and governing access to natural resources in DRC' and 'Law and land governance in sub-Saharan Africa' • Working group established in Tanzania to implement road map for reforming Tanzanian policies on sustainability and upgrading of ASM mining • 2 involvements in local government planning:

Sphere	Indicators	Data	Comments
			working program for low-emission development in three districts in Papua and four mitigation action for local government in four-districts (Purbalingga, Banjarnegara, Jayapura and Jayawijaya) • 1 national policy involvement in Indonesia: LUMENS implementation • 1 major investment in the Cauca River valley, Antioquia, Colombia • 1 national policy: Strategy and action plan for forest landscape restoration in Sarawak on 8 Dec 2017 • 1 investment: CATIE-FTA through Luxdev project, facilitating the development of small and medium forest enterprises for the management of secondary forests in Guatemala, Nicaragua and Costa Rica • Legal instrument Reglamento de Semillas Forestales (Peru).
Control	C1. Number of innovations by phase – new in 2017	8 innovations at proof of concept 5 piloted successfully 15 available for uptake (includes policy recommendations) 4 taken up by next users (includes policy change)	See Table D-2 for details
	C2. Number of formal partnerships in 2017, by purpose (ongoing + new)	81 research partnerships 8 policy partnerships 22 delivery partnerships	See Table F for more details
	C3. Participants in CGIAR activities 2017 (new +ongoing)	AgFor: 59,760 (37% women) participated in nursery, agroforestry, NRM and marketing trainings, workshops or similar events Hanns R. Neumann Stiftung (HRNS) Coffee Agroforestry activities: 132 people (18% women) participated in baseline study or coffee agroforestry training IRED2 Sumba: 1,618 (40% women) participants in all agroforestry and landscape restoration activities	N/A

Sphere	Indicators	Data	Comments
		KANOPPI: 2,436 (42%) participants in training, trials, cross visits and surveys	
		Vietnam: 300 (10% women) participants in all activities	
		FP4: 1,820 (27% women). Participants in training, meetings and piloting	
		Global: 30 participants trained in targeted media trainings on climate change	
	C4. People trained in 2017	Long term (new and ongoing): 318 (39% women) – formal BSc, MSc and PhD Short term: 47,359 (31% women)	N/A
	C5. Number of peer-reviewed publications	FTA produced 524 publications in 2017, of which 388 (74%) are openly published. 253 of FTA publications are ISI.	N/A
	C6. Altmetrics	FTA Altmetric results can be found here.	N/A

*Please note: I = Sphere of Influence and C = Sphere of Control

Table D-2: List of CRP Innovations in 2017 (From indicator #C1 in Table D-1)

Title of innovation (minimum required for clarity)	Phase of research *PC – proof of concept, PIL – successful pilot, AV – available/ready for uptake, USE – uptake by next users	Novel or adaptive research	Contribution of CRP (sole, lead, contributor)	Geographic scope: for innovations in phases AV* or USE* only (one country, region, multi-country, global)
Use of filter to use moringa to improve potabilization of water from water harvesting ponds (proof of concept)	PC/PIL	Filter (MARAQUA) based on Moringa capable of completely clarified water, with a turbidity below 5 Nephelometric Turbidity Units	Contributor	Nicaragua
Shade motion, modeling the shading patterns of trees	AV	Designing appropriate planting designs to achieve a required shading level and pattern Using shade levels estimated by ShadeMotion as covariable in competition studies (e.g. in systematic spacing designs) Estimation of solar radiation by linking ShadeMotion estimations with radiation flux at particular locations, date and time of year	Contributor	Central America
Use of map-based decision-support tools for global conservation and restoration planning	AV	Online decision-support tools	Lead	Global
Online decision-support tool to help in the selection of tree species and seed sources for restoration of Dry Forests of Columbia	AV	Online decision-support tool for species selection and seed sourcing for restoration	Contributor	Dry forests of Columbia (http://www.restool.org)
Farmer-to-farmer communication approach	USE	Production and management	Very minor contributor	Developed in Indonesia, can scale globally
Coffee agroforestry production manual	AV	Production and management	Very minor contributor	Developed in Indonesia, can scale globally
Pedoman membangun kebun agroforestri kopi	AV	Production and management	Very minor contributor	Developed in Indonesia, can scale globally
Coffee agroforestry demonstration trials	PIL	Production and management	Very minor contributor	Developed in Indonesia, can scale globally
Impact of agricultural-extension booklets	PIL	Production and management	Very minor contributor	Developed in Indonesia, can scale globally
Volunteer farmer extensionist approach	USE	Production and management	Very minor contributor	Developed in Indonesia, can scale globally

Title of innovation (minimum required for clarity)	Phase of research *PC – proof of concept, PIL – successful pilot, AV – available/ready for uptake, USE – uptake by next users	Novel or adaptive research	Contribution of CRP (sole, lead, contributor)	Geographic scope: for innovations in phases AV* or USE* only (one country, region, multi-country, global)
Impacts of farmer group learning on gender equity in Sulawesi, Indonesia	PC	Production and management	Very minor contributor	Developed in Indonesia, can scale globally
Local knowledge of landscape restoration practices	PC	Production and management	Very minor contributor	Developed in Indonesia, can scale globally
Intercropping turmeric and peanuts in leucaena – enhances food security, income and landscape restoration	PC	Production and management	Very minor contributor	Developed in Indonesia, can scale globally
Identification and testing clones of son tra (*Docynia indica*)	PIL	Production and management	Contributor	Developed in Northwest Vietnam, can scale to neighboring parts of Laos and China
Identification and testing clones of tram den (*Canarium tramdenum*)	PIL	Production and management	Contributor	Developed in Northwest Vietnam, can scale to neighboring parts of Laos and China
Panduan teknik pembuatan minyak kelapa murni dan minyak kemiri (manual on the production of virgin coconut oil and candlenut oil)	AV	Production and management	Contributor	Southeast region, based on the availability of the species
Panduan teknik pembuatan dan pencelupan pasta indigo untuk skala rumah tangga (Manual on the production and dyeing of indigo paste at household scale)	AV	Production and management	Contributor	Indonesia, throughout the country
Borneo Atlas	PC, AV, USE	Through cleverly combining various available spatial data, this tool helps to show to what extent deforestation can be attributed to specific concession owners. Through this it can help monitor companies' commitments to zero deforestation. The tool is available online and is being used by NGOs and companies.	Lead	Kalimantan Indonesia

Title of innovation (minimum required for clarity)	Phase of research *PC – proof of concept, PIL – successful pilot, AV – available/ready for uptake, USE – uptake by next users	Novel or adaptive research	Contribution of CRP (sole, lead, contributor)	Geographic scope: for innovations in phases AV* or USE* only (one country, region, multi-country, global)
Simulateur d'exploitation forestière (http://www.dynaffor.org/produits/simulateur-d-exploitation)	PC	The DafSim simulator is based on the DafMod model. It presents certain forest characteristics related to the forest stand, the group of species or the species of interest. These are represented by a distribution of the numbers of trees in diameter classes, on a given surface (that of the inventory). The simulator reproduces the evolution of the forest stand with a fixed time step (for example annual) chosen by applying farms at a fixed periodicity (for example every 30 years). The simulator is composed of three modules: exploitation, damage of exploitation and natural dynamics. Each of the modules acts on the stand at the moment determined by the simulator: the 'exploitation' module is executed periodically (for example every 30 years), the 'exploitation damage' module is executed just after the exploitation and the module 'natural dynamics' is executed at all time steps.	Lead	Cameroon, CAF, Congo (Brazzaville), DRC, Gabon
Three learning platforms established to improve company-community relations and inclusive business strategies	PC	RinD approach of bringing together opposing stakeholders to learn jointly	Lead	Mozambique, Tanzania and Uganda
Version 4 of Shade Motion	AV	Novel	Contributor	Global
PEN global dataset	AV	Novel	Contributor	Global
LUMENS	USE	Novel	Contributor	Indonesia and Peru, but can be wider implementation

Title of innovation (minimum required for clarity)	Phase of research *PC – proof of concept, PIL – successful pilot, AV – available/ready for uptake, USE – uptake by next users	Novel or adaptive research	Contribution of CRP (sole, lead, contributor)	Geographic scope: for innovations in phases AV* or USE* only (one country, region, multi-country, global)
Remote sensing bamboo land cover classification system	AV	Novel	Contributor	Kenya, Uganda and Ethiopia
Seed supply systems for the implementation of landscape restoration under Initiative 20x20: An analysis of national seed supply systems in Mexico, Guatemala, Costa Rica, Colombia, Peru, Chile and Argentina	AV	Novel	Lead	Latin America
Transforming financing and community enterprise approaches in forestry/agroforestry	PC	Novel	Contributor	Cameroon
Bringing agroforestry into the NDC discourse in the United Nations Framework Convention on Climate Change (UNFCCC)	AV	Novel	Contributor	Global
Contributing to ecosystem services discourses and policies at global level	AV	Novel	Contributor	Asia, Africa
Changing perspectives in certification in tree commodities worldwide	AV	Novel	Contributor	Global

*Phases: PC – proof of concept, PIL – successful pilot, AV – available/ready for uptake, USE – uptake by next users.

Table E: Intellectual Assets

Year reported	Applicant(s)/owner(s) (Center or partner)	Patent or PVP Title	Additional information*	Link or PDF of published application/registration	Public communication relevant to the application/registration
None	N/A	N/A	N/A	N/A	N/A

*For patents, please indicate: (a) type of filling: provisional/non-provisional; national direct, national designated; multi-territory; (b) patent status: filled, pending, matured to non-provisional, discontinued, registered or lapsed; (c) application/registration; (d) date of filling; (e) Date of Registration; (f) Date of expiry/renewal

*For PVP, please indicate: (i) variety name, (ii) status, (iii) country; (iv) application/registration number, (v) date of filling, (vi) date of registration/grant; (vii) date of expiry/renewal, (viii) breeder and crop

Table F: List of Key External Partnerships

FP	Stage of research*	Name of partner	Partner type*	Main area of partnership*
FP1	Discovery and scaling (AOCC)	University of California, Davis and Mars	Academic, Private	CoA 2 Domestication
FP1	Discovery/piloting and scaling (PATSPO)	University of Copenhagen	Academic	CoA 3 Delivery Systems
FP1	Scaling (landscape restoration)	IUCN	International NGO	CoA 1 Safeguarding and CoA 3 Delivery Systems
FP1	Piloting and scaling	World Vision Indonesia	NGO development organization	Smallholder agroforestry systems for food security and livelihood enhancement; landscape restoration and Farmer Managed Natural Regeneration (FMNR)
FP1	Discovery and piloting	Forestry and Environment Research, Development, and Innovation Agency, Indonesia	NARS	Developing and promoting market-based agroforestry options and integrated landscape management for smallholder forestry
FP3	Piloting	Netherlands Development Organization (SNV)	Development Organization	Inclusive business / inclusive finance
FP3	Scaling out	Financial Alliance for Sustainable Trade (FAST)	Development organizations (Network)	Sustainable finance – engaging the financial sector
FP3	Discovery	USAID	Bilateral and Donor governments	Inclusive business and sustainable commodities
FP4	Scaling	Government of Indonesia	Government	Policy partnership in implementing LUMENS in 34 provinces in Indonesia
FP4	Scaling	PROCAGICA, Central America	Development organizations (NGOs, networks and regional organizations)	Coffee adaptation to roya and climatic change in Central America
FP4	Piloting	PT. Tirta Investama (Aqua Danone)	Private Sector	PES business case in Aqua-Danone site in Indonesia
FP4	Piloting	TMP Systems	Private Sector	Testing of performance-based finance in community forests (with 10 community forests)
FP4	Discovery	University of Kisangani (UNIKIS) (DRC)	Research Partnership	Forest ecology and resource use
FP4	Discovery	IRET (Gabon)	Research Partnership	Forest Ecology and Resource Use
FP5	Research	Laboratory of Geo-Information Science and Remote Sensing, Wageningen University & Research	Academic and Research	Part of CIFOR's Global Comparative Study on REDD+, partners contribute to research on Module 3 that focuses on measuring carbon emissions and determining forest and carbon reference levels, and works on the

FP	Stage of research*	Name of partner	Partner type*	Main area of partnership*
				Monitoring, Measurement, Reporting and Verification (MMRV) of forests and carbon.
FP5	Research	Ministry of Agriculture and Rural Development (MARD) – Vietnam	Government	Support for reviewing and evaluating the mobilization of financial resources for implementing the Vietnam Forestry Development Strategy period 2006–2020.
FP5	Research	Governors' Climate and Forests Task Force (GCF)	NGO	Research collaboration on opportunities and challenges of subnational REDD+ and low-emissions development implementation, in particular with regard to jurisdictional scale approaches undertaken by GCF members.
FP5	Research	Universitas Muhammadiyah Palangkaraya	Academic and Research	Assessing bioenergy plantation potential on degraded land
Gender CCT	Scaling	Vi Agroforestry	NGO	Knowledge sharing and advocacy: - Co-development and implementation of participatory-action research - Facilitation of co-learning and knowledge exchange - Knowledge dissemination and development of joint publications - Evidence-based advocacy on matters relating to governance of forest and tree-based landscapes - Sharing of best practices with regard to M&E.

*See instructions in the common results indicators manual (available early 2018).

Table G: Status of Internal (CGIAR) Collaborations among Programs and between the Program and Platforms

Name of CRP or Platform	Brief description of collaboration (give and take among CRPs) and value added*	Relevant FP
PIM	A joint initiative developing and field testing a methodology for gender-responsive value chain development gained traction. Data were collected in several countries (Guatemala, India, Mali, Peru) and Bioversity International and ICRAF co-organized a session on the 5-Capitals-G methodology for gender-responsive value chain development at Tropentag (Bonn, September 2017). Give and take: FTA brings expertise in case studies focused on forests and forest products, PIM will offer a home for the methodology on its Value Chains Knowledge Clearinghouse; co-funding enabled the validation of the methodology in a greater number of case studies and contexts.	Gender
WLE	An FTA-WLE Social Science Baha public event in Nepal served as a platform to discuss the implications of migration for land and social change in the country with Nepalese decision-makers, practitioners, academics, and citizens. WLE, through its country office in Katmandu, organized the logistics of the event; FTA, through its local networks, encouraged high participation in the event; the CRPs collaboratively developed the content for the event.	Gender
Gender Platform	FTA served on the advisory committee of the Gender Platform and participated in the Gender Conference organized by the Gender Platform, contributing to the first days dedicated to the Gender Research Coordinators' and Center Representatives' meeting and delivering several presentations, as well as a CapDev session sharing the GENNOVATE methodology (Amsterdam, 8 December 2017) and co-leading the GENNOVATE Community of Practice (Amsterdam, 9 December 2017).	Gender
PIM	FTA collaborated with PIM to improve the cocoa sector into the IMPACT model. This collaboration provided an opportunity to better understand the yield trend for cocoa in 2015 to improve the IMPACT model for further use under the Global Future program.	MELIA
Genebank Platform	Collaboration between FP1 and Genebank Platform included availing germplasm to research projects under FP1; facilitating acquisition from other sources, working together on the development of characterization data, and sharing existing data. Moreover, FP1 and the Platform worked together in GHU, to address priority tree health issues. This is a cost-saving partnership for FP1 to source resources and personnel from the Genebank Platform.	FP1
PIM	PIM is undertaking a study on regulatory reforms of input supply for vegetatively propagated food crops. The CoA 3 study is about the potential for improving input supply for fodder trees in milk value chains in Kenya. (PIM pulled in crops from different CRPs, which brought interesting comparison with trees).	FP1
RTB	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.)	FP1
PIM	Collaboration on research and capacity building in the governance of natural resources, landscapes and ecosystem services as part of work in PIM 5.2 and FTA 4.4	FP4

*e.g. scientific or efficiency benefits

Table H: Monitoring, Evaluation, Impact Assessment and Learning

Table H-1: Status of Evaluations, Impact Assessments and Other Learning Exercises Planned in the 2017 POWB

Studies/learning exercises in 2017 from POWB	Status	Comments
SPIA and FTA supported Impact Assessment: Assessing the Downstream Socio-economic and Land Health Impacts of Agroforestry in Kenya.	Final report produced and externally peer reviewed by SPIA in 2017 but publications under developed.	Positive effects identified for adoption of CG informed agroforestry germplasm and management practices, with modest effects on asset accumulation, particularly among female participant households. For greater impact to be realized, there is likely a need to intensify extension and the establishment of market linkages, combined with complementary efforts, e.g. nutrition education.
SPIA and FTA supported Impact Assessment: Into the Forest With or Without a Trace?: A Multi-Level Impact Analysis of Forest Co-Management in Guinea.	Completed and published	Positive effects on forest conservation over time. Mixed results in terms improved agricultural and non-timber forest product management practices. Minimal livelihood impacts and equity concerns raised.
SPIA and FTA supported Impact Assessment: An ex-ante impact assessment of the CIFOR Sustainable Wetlands Adaptation and Mitigation Project.	Draft report submitted progress stalled due to turn over in research partner staff	The study shows mixed results arising from the initial implementation of an FTA research informed peatland development moratorium in Indonesia. There were increases in deforestation in some areas and decreases in deforestation in others. Calculations based on the assumption of a successful moratorium show that an effective moratorium would decreased emissions from peat deforestation by 4.02 $MtCO_2$ (million tons of carbon dioxide) over a three year period and by up to 20.13 $MtCO_2$ over 15 years. Using social cost of carbon (SCC) estimates of $40/$tCO_2$ (IWG, 2015) and a 3% discount rate, the social value of avoided carbon emissions over the 15 years horizon is $805 million.
FTA supported impact and adoption study on fertilizer tree systems in Malawi.	Final report produced but publications under development.	Low uptake of promoted fertilizer tree systems reveals the limitations of simple, linear extension approaches when promoting complex agronomic and natural resource management innovations informed by research. For intended impacts to be realized, much more intensive participatory research, M&E, and technology adaptation and refinement likely needs to be built into the scaling process itself.
MELIA supported impact/adoption studies as part of the ACIAR and FTA supported Value Chain	Behavioral treatments and testing protocols developed for coffee, dairy shrub fodder, and	The project seeks to support the development of selected value chains. Key barriers have been identified affecting the development

Studies/learning exercises in 2017 from POWB	Status	Comments
Innovation Platform for Food Security Project (VIP4FS).	indigenous chicken value chain sub-projects, coupled with baseline data collection for the former two.	of these value chains, many of which are behavioral in nature. ICRAF's MELIA team has sought insights from the Busara Centre for Behavioural Economics on how to address such barriers and is working with other ICRAF scientists and partners to test the effectiveness of such approaches in promoting the adoption of research-informed innovations.
Intervention Exposure and Uptake Surveys in 5 African Countries for Ministry of Foreign Affairs (MoFA) of the Netherlands and FTA supported Drylands Development Programme.	Data successfully collected during the course of 2017 (n=2,467) on the uptake of improved agronomic and natural management practices promoted under the project. Analysis and report to be finalized in 2018.	Fair exposure and uptake of promoted practices revealed but with significant variation across the five participating countries and within the country defined scaling areas. Significant areas to strengthen the program are being identified to ensure maximum uptake and, in turn, impact before program closure.
International Initiative for Impact Evaluation (3ie) and FTA supported work on Crop Insurance.	Pilot study on the effectiveness of experiential insurance games in bolstering the uptake of crop insurance among farmers in Eastern Kenya implemented and finalized (n=487), leading to Phase II funding.	Some evidence that the experiential games increased Willingness to Pay (WTP) for crop insurance. However, actual purchase among the participating farmers was very low (with only seven purchases). It is hypothesized that higher crop insurance uptake will take place when bundled with other products, hence the focus of Phase II's work.
International Initiative for Impact Evaluation (3ie) and FTA supported Evidence Gap Map (EGM) and Systematic Review (SR) in the impacts of agroforestry.	Given the large number of potential studies to be reviewed, both the EGM and SR are taking longer to complete than expected. However, the EGM protocol was finalized and approved in 2017 and now under full implementation.	The EGM is due as a deliverable to 3ie by June 30th, 2018, which is then expected to lead into the full SR. About 15 people, mainly students for the University of Illinois Urbana-Champlain (UIUC), have been busy conducting literature searches to implement the agreed protocol.
The Political Economy of Fire and Haze: A participatory outcome assessment	Final report completed, undergoing review in preparation for publishing	FTA has identified and critically reflected on the value of positioning key scientists as timely, relevant and high profile experts and in appropriate, well-crafted early engagement around emerging knowledge on hot-topic issues.
The Poverty Environment Network: A participatory outcome assessment	Final report completed, undergoing review in preparation for publishing	PEN's success was facilitated by a number of factors: (i) the focus on addressing a high-demand niche knowledge gap; (ii) the highly participatory design and implementation of the research; and (iii) engagement with strategic 'amplifiers' for use of methods and tools. PEN's experience shows that even in a demand driven context, it took over 10 years for truly agenda setting research using these strategies to be mainstreamed into practices that have the potential to influence development outcomes.

Studies/learning exercises in 2017 from POWB	Status	Comments
Optimizing Brazil Nut Production in the Peruvian Amazon: A participatory outcome assessment	Final report completed, undergoing review in preparation for publishing	The project did not initially conceive of the intended outcome as requiring a multi-actor, multi-level process and focused exclusively on influencing national policy makers directly. Working through alternative trusted networks to reach concessionaires may have been more effective. This points to the value of more thorough social-ecological and political economy analysis of key sectors/thematic areas prior to project design in identifying appropriate influence and engagement strategies.
REDD+ Benefit Sharing Evaluation	Final report completed, undergoing review in preparation for publishing	Achievement of intended outcomes from global, multi-streamed, policy relevant interdisciplinary research would be strengthened by: - Aiming to influence fewer countries through more focused and coordinated engagement strategies - Ensuring projects are designed in such a way that synthesis of findings into coherent policy recommendations is possible - Clearly articulating a strategy for balancing project specific, national policy relevant research and longer term public good research to ensure both objectives are adequately addressed
Realist Outcome Evaluation of Gender Integration in FTA	An initial review of existing document report detailing the. Data collection with scientists has commenced	Initial reviews of existing information indicate that there is still very little information consistently collected in relation to gender integration and gender inclusive processes.
Global Comparative Study on Tenure: A participatory outcome assessment	The evaluation design has been completed and three country case-studies (Peru, Uganda, and Indonesia) scoped in collaboration with research and implementation partners. Peru study data collection underway.	Early indications show that the project has increased the awareness and understanding of land tenure issues at national and sub-national levels with community groups, CSOs and government actors.
Global Comparative Study on REDD+: A participatory, qualitative midterm review	The review design has been completed, data collection tools designed, informants identified.	

Table H-2: Update on Actions Taken in Response to Relevant Evaluations (IEA, CCEEs and Others)

Name of the evaluation	Recommendation	Management response – Action Plan	By whom	By when	Status
Evaluation of Capacity Development (CapDev) activities of CGIAR	Recommendation 2. Centers and CRPs should base their medium-term CapDev plans on clear CapDev strategies and incorporate CapDev more consistently into their theories of change.	Produce a revised CapDev strategy based on systematic CapDev Needs Assessment.	CapDev thematic lead	Aug 2018	CapDev needs assessment complete Draft strategy under discussion
	Recommendation 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	Being considered in the CapDev strategy review.	CapDev thematic lead	Aug 2018	CapDev needs assessment complete Draft strategy under discussion
	Recommendation 6 CGIAR Centers should, in collaboration with CRP management and through facilitation by the CapDev CoP, integrate adequate CapDev support into their management systems and approaches for ensuring that their CapDev activities are planned, implemented and followed-up in accordance with good CapDev practices and in alignment with CGIAR's Capacity Development Framework	Being considered in the CapDev strategy review.	CapDev thematic lead	Aug 2018	CapDev needs assessment complete Draft strategy under discussion
Evaluation of Partnerships in CGIAR	All CRPs should have a distinct partnership strategy and accompanying operational plan	FTA is currently revising its partnership strategy.	ISC, MT, PMU	Dec 2018	Under discussion
	Recommendation 6 Emerging and developing country NARS with strong capacity should be more closely involved in research management in CRPs.	FTA already works with NARS. Strengthening relations with NARS will be part of the operational plan of the revised partnership strategy.	MT	Dec 2018	Under discussion

Name of the evaluation	Recommendation	Management response – Action Plan	By whom	By when	Status
Evaluation of Gender in Research and in CGIAR workplace	Recommendation 5 CRPs should refresh and refocus their gender strategies and/or future work plans (as relevant) to maximize effectiveness and ensure alignment with priorities in the Gender in CGIAR Research Policy (see recommendation 2) taking account of the different comparative advantages of groups of CRPs.	FTA is refreshing its gender strategy to bring into focus attention on social inclusion that also emphasizes young men's and women's strategic interests. FTA has adopted in 2018 a new gender priority and will operationalize plans for 2019–2021.	MT, gender lead	Dec 2018	Underway and under implementation
	Recommendation 6 CRPs should protect minimum core capacities in specialist gender expertise, while further exploring innovative ways of sharing resources and bringing in gender expertise	Done as per the 2018 POWB, including sharing of gender expertise with WLE's Restoration of Degraded Lands Flagship.	MT, gender lead	Dec 2017	Done
	Recommendation 7 b) Centers and CRPs should strengthen institutional mechanisms for mainstreaming gender in research	Done as per the 2018 POWB under the priority on Gender.	MT, gender lead	Dec 2017	Done
	Recommendation 10 CRPs should individually and jointly invest in improving and institutionalizing systems for monitoring outputs, as well as effectiveness and outcomes of gender research.	Design and integrate new metrics as part of the implementation of the quality of research for development framework in FTA.	MT, MELIA, gender lead	Dec 2018	Underway
Evaluation of Results-Based Management	Recommendation 3 – Invest in CRP driven, system-relevant Management Information Systems	Ensure sustainability of FTA data management systems and interoperability with CGIAR systems.	FTA Director	July 2018	Joined the MARLO community and will have fully migrated to this system in time for 2019 POWB planning
	Recommendation 5 • Develop and implement annual RBM capacity building work plans • Identifying champions at CRP and Center level	Engage actively in forums that are shaping CGIAR thinking in relation to operationalizing RBM across the CGIAR.	FTA Director, MSU and MELIA	Ongoing	Participate to the ISPC work on quality of research for development (QoR4D) (FTA as a pilot case study) Active participation in the MEL CoP

Name of the evaluation	Recommendation	Management response – Action Plan	By whom	By when	Status
	• CGIAR monitoring, evaluation and learning community of practice • should continue to be supported, and be facilitated by the SMO.				– in discussions to host the next face-to-face MEL CoP meeting
CRP evaluation of Forests, Trees, and Agroforestry	Recommendation 1. The Evaluation Team recommends that FTA's program and component-level objectives continue to be pursued programmatically because of their high global relevance. Several adjustments must be made to address emerging research themes, ensure better integration of forestry issues into the broader development agendas, and better balance current research priorities geographically.	FTA has adopted a new prioritization process to devise its 2018 POWB. It will be further continued in for the 2019–2021 plans.	FTA Director, MT, ISC	Ongoing	Dec 2018
	Recommendation 2. The Evaluation Team recommends to better balance research priorities thematically, to adjust component coverage accordingly, and to establish 'tenure' as a cross-cutting activity.	FTA has adopted a new prioritization process to devise its 2018 POWB. It will be further continued in for the 2019–2021 plans.	FTA Director, MT, ISC	Ongoing	Dec 2021
	Recommendation 3. The Evaluation Team recommends that all FTA Participant Institutions safeguard their principal comparative advantage of being neutral, world class research institutions, and resist pressures to work outside their areas of comparative advantage. CIFOR and ICRAF must further intensify their already close collaboration to maximize synergies and minimize unnecessary competition.	As part of the prioritization process, comparative advantage and implication of non-CGIAR partners has been intensified. Also the prioritization process has reinforced cross-cutting work across the program, between Flagships, especially led by ICRAF and CIFOR, leading to de-siloing important parts of the work.	FTA Director, MT, ISC	Ongoing	Dec 2021
	Recommendation 4. The Evaluation Team recommends that FTA further develops its results framework and impact pathways into a comprehensive theory of change, and a	Done as part of the revised CRP proposal, and in 2017 as per the resubmission of FP2. Mapping of bilateral project is integrated into	FTA Director, MT	Ongoing	Dec 2021

Name of the evaluation	Recommendation	Management response – Action Plan	By whom	By when	Status
	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.	the priority setting process.			
	Recommendation 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 Landscapes, and adapt the entire approach to Sentinel Landscapes in the FTA Phase II Proposal accordingly.	Science workshop on Sentinel Landscapes was held in Dec 2017.	MT	Ongoing	In 2018 a special workshop will be held to decide the way forward for Sentinel Landscapes.
	Recommendation 6. The Evaluation Team recommends updating the FTA Gender strategy to better cover social diversity, scalability of findings, and earlier lessons learned. The FTA Steering Committee must monitor the degree to which gender-sensitive research is mainstreamed in FTA and take corrective action if Gender mainstreaming remains stagnant by year-end 2015.	Revised Social Inclusion Strategy drafted and presented to the Management Group in June 2018. Stock-take of gender integrated products undertaken in 2017.	FTA Director and FTA GIT	Done	Done

Name of the evaluation	Recommendation	Management response – Action Plan	By whom	By when	Status
	Recommendation 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.	FTA has strengthened institutional relations with key policy partners such as FAO, as well as with upstream research organizations such as IUFRO. This takes the form of joint scientific work and also joint engagement work.	FTA Director FP Leaders, ISC		Ongoing
	Recommendation 9. The Evaluation Team recommends that the quality and coherence of FTA data management be improved.	See response to Recommendation 3 of the RBM evaluation.			
Review of CRP Governance and Management	Recommendation 4 Strengthen the authority of the CRP leader to manage for results: • place the reporting line and accountability for performance with the CRP governing body included in Recommendation 1, • give CRP leaders the authority to establish appropriate management and program advisory arrangements, institute a formal role in the performance evaluation of CRP program managers and coordinators employed by centers.	Address remaining gaps and uncertainties in FTA appropriate management and program advisory arrangements: - New ToRs for the ISC and new selection process for FP leaders put in place.	FTA Director	Dec 2017	Done

Table I: CRP Financial Report (in USD '000)

	Planned budget 2017				Actual expenditure 2017*				Difference			
	W1/2	W3/bilateral	Center Fund	Total	W1/2	W3/bilateral	Center Fund	Total	W1/2	W3/ bilateral	Center Fund	Total
FP1	1,280	10,951	1,226	13,457	908	10,533	775	12,216	372	418	451	1,241
FP2	–	20,490	81	20,571	–	21,125	448	21,573	–	(635)	(367)	(1,002)
FP3	1,140	9,342	204	10,686	742	14,025	1,729	16,496	398	(4,683)	(1,525)	(5,810)
FP4	1,330	12,691	702	14,723	969	5,958	1,395	8,322	361	6,733	(693)	6,401
FP5	1,250	12,369	266	13,885	624	9,978	4,397	14,999	626	2,391	(4,131)	(1,114)
Strategic Competitive Research grant	–	–	–	–	–	–	–	–	–	–	–	–
CRP Management & Supporting research (**)	3,800	6,174	–	9,974	2,402	1,893	512	4,807	1,398	4,281	(512)	5,167
Less CGIAR Collaboration	–	–	–	–	–	2,065	–	2,065	–	(2,065)	–	(2,065)
CRP Total (see below for details)	**8,800**	**72,017**	**2,479**	**83,296**	**5,645**	**61,447**	**9,256**	**76,348**	**3,155**	**10,570**	**(6,777)**	**6,948**

*Source: CIFOR FTA_PTF Year end Report 2017 revised.xlsx, sent to Alex Muli (CGIAR SMO) on 14 May 2018.

**Program management unit, Communication, Outreach, Gender, MELIA, Capacity Development

CRP total budget – breakdown

Overall FTA planned budget	8,800
Tier 1 + 2 funds that have been distributed to centers	7,192

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