

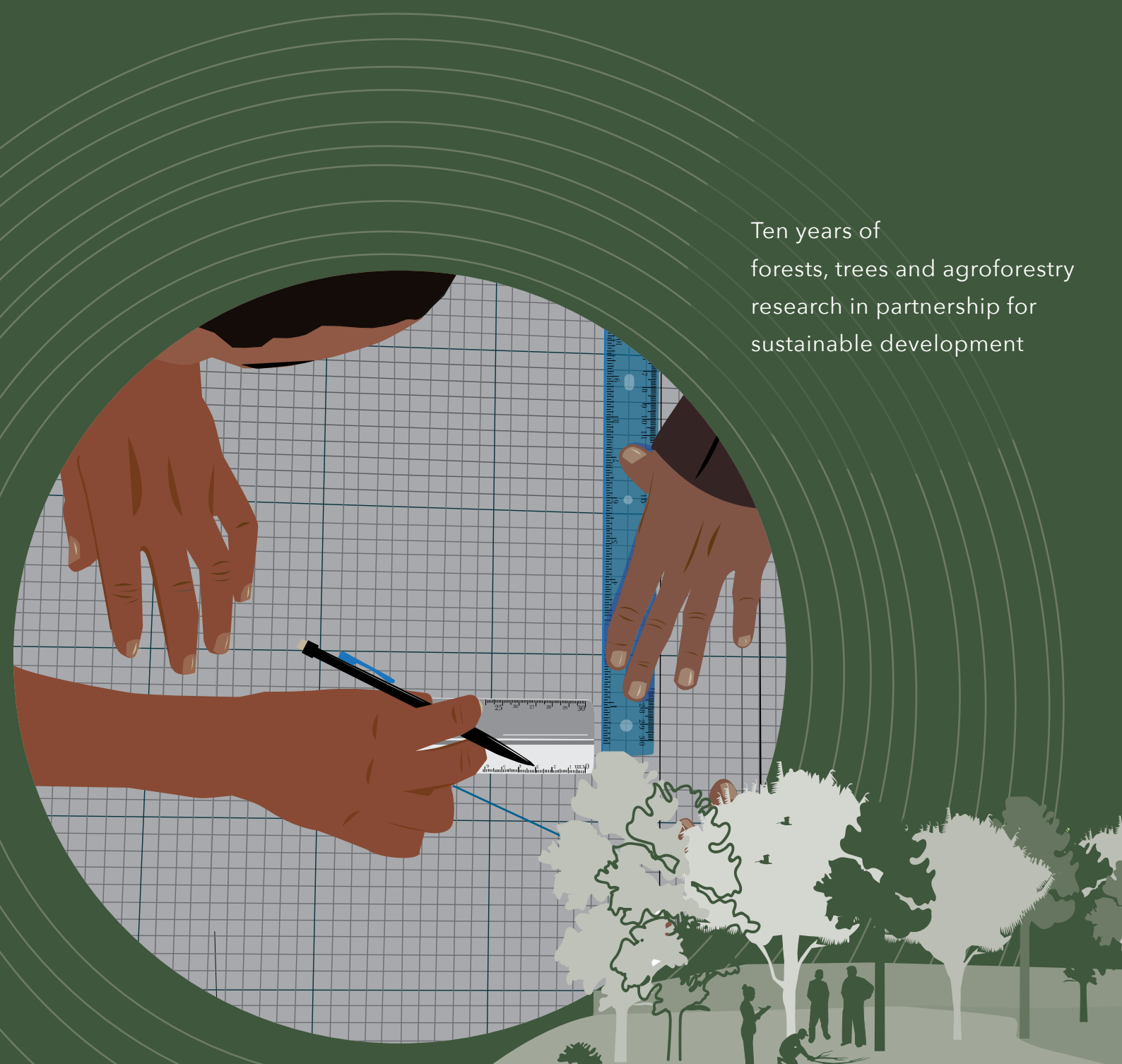


RESEARCH
PROGRAM ON
Forests, Trees and
Agroforestry

FTA HIGHLIGHTS OF A DECADE
2011-2021

Capacity Development

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



About the FTA Highlights series

This publication is part of a series that highlights the main findings, results and achievements of the CGIAR Research Program on Forests, Trees and Agroforestry (FTA), from 2011 to 2021 (see full list of chapters on the last page).

FTA, the world's largest research for development partnership on forests, trees and agroforestry, started in 2011. FTA gathers partners that work across a range of projects and initiatives, organized around a set of operational priorities. Such research was funded by multiple sources: CGIAR funders through program-level funding, and funders of bilateral projects attached to the programme, undertaken by one or several of its partners. Overall this represented an effort of about 850 million USD over a decade.

The ambition of this series is, on each topic, to show the actual contributions of FTA to research and development challenges and solutions over a decade. It features the work undertaken as part of the FTA program, by the strategic partners of FTA (CIFOR-ICRAF, The Alliance of Bioversity and CIAT, CATIE, CIRAD, Tropenbos and INBAR) and/or with other international and national partners. Such work is presented indifferently in the text as work "from FTA" and/or from the particular partner/organization that led it. Most of the references cited are from the FTA program.

This series was elaborated under the leadership of the FTA Director, overall guidance of an Editorial Committee constituted by the Management Team of FTA, support from the FTA Senior Technical Advisor, and oversight of the FTA Independent Steering Committee whose independent members acted as peer-reviewers of all the volumes in the series.

FTA HIGHLIGHTS OF A DECADE 2011-2021

Capacity Development

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2011-2021

Capacity Development

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List of acronyms

AFOLU	Agriculture, Forestry and Other Land Use
AfPBA	African Plant Breeding Academy
AOCC	African Orphan Crops Consortium
CATIE	Tropical Agricultural Research & Higher Education Center
CF	Community Forest
CGIAR	Consultative Group on International Agricultural Research
CIAT	International Center for Tropical Agriculture
CIFOR	Center for International Forestry Research
CIRAD	French Agricultural Research Centre for International Development
CPA	Community Protected Area
CRP	CGIAR Research Programme
DRC	Democratic Republic of Congo
FCCC	Forests and Climate Change in the Congo project
FLR	Forest landscape restoration
FTA	Forests, Trees and Agroforestry
GHG	Greenhouse gas
ICRAF	World Agroforestry Centre
IDRC	International Development Research Centre
IFAD	International Fund for Agricultural Development
INBAR	International Bamboo and Rattan Organisation
MRV	Measuring, reporting and verification
NARS	National Agricultural Research Systems
SDG	Sustainable development goal
TOC	Theory of change
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
WWF	World Wide Fund for Nature



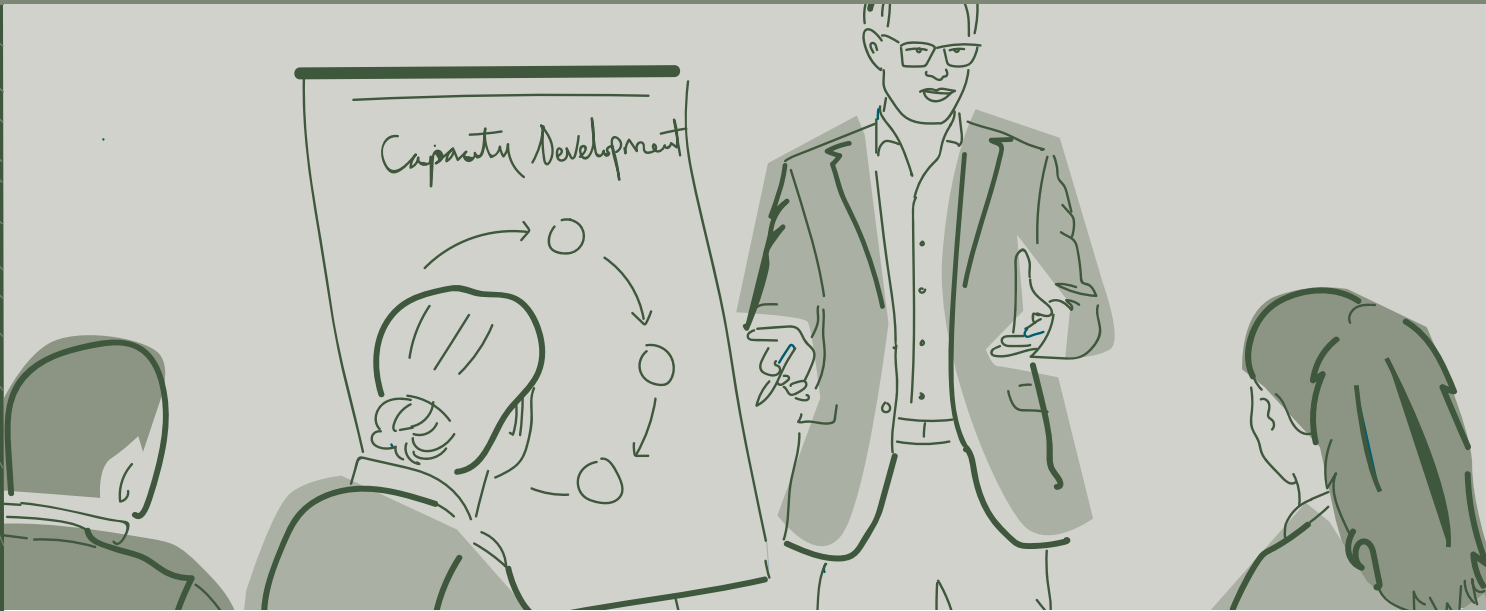
Executive summary

Capacity development is a key component of the pathways from research to impact, from upstream research to downstream outcomes. The term covers a typology of different activities to increase the capacities of various ranges of actors, in order to enable them to act for positive, sustained change. In the CGIAR Research Program on Forest, Trees and Agroforestry (FTA), capacity development was mainstreamed into the 25 operational priorities, and supported by a central coordination component. This FTA highlight summarizes the evolution of the concept of capacity development (CapDev), from the inception of the programme in 2011 through the FTA Capacity Needs Assessment (2018–2019) to the final FTA CapDev Plan of Action 2020–2021 (FTA 2020a). It provides an overview of the key activities undertaken in FTA and reflects on the relevant findings from related CGIAR and FTA evaluations.

This highlight, through 12 examples (Table 1), provides a snapshot of key CapDev action in FTA, alongside a typology developed by the former CGIAR Community of Practice on CapDev in 2015 (see Table 1 and 2). These examples illustrate the diversity of impactful CapDev initiatives at the individual, organizational and institutional levels across FTA, including, importantly, on gender. One key way to develop capacity is through training. FTA trained close to 230,000 men and women as part of short-term training, and on the scientific side, 2,750 people received long-term training and 293 completed PhDs, most of which were funded by bilateral projects/funds. The highlight also addresses the key challenges faced, notably the significant underfunding of CapDev. Finally, the highlight lays the groundwork for future perspectives to strengthen CapDev activities through new partnerships and transformative pathways.


Table 1. Examples of CapDev success stories

Number No.	Example	CGIAR CapDev Element	Relevant Flagship(s)
1	Capacity needs assessment of FTA	Element 1	All
2	Development of a portfolio of climate change mitigation and adaptation and peatland restoration tools	Element 2	5
3	Moving from best-practice guidelines to strengthening agricultural extension services through rural resource centres	Elements 3 and 6	2
4	Innovative finance for sustainable landscapes: Changing the way we learn	Elements 2 and 3	3
5	African Plant Breeding Academy (AfPBA): Development of future research leaders through fellowships	Elements 4 and 6	1
6	FTA's Gender Research Fellowship Programme	Elements 4 and 5	All
7	Building research and community capacities on ecosystem-based adaptation (EbA) in The Gambia	Elements 1, 3 and 9	4
8	Organizational development of the University of Kisangani, Democratic Republic of Congo	Element 8	All
9	Ex-post impact and sustainability monitoring of capacity development	Element 7	All
10	Linking initial training, professional training and local development platforms: a key role of CATIE with Latin American partners within FTA	Elements 6 and 8	All
11	INBAR training of trainers for incubating NGO-community-private partnership (NCPP) model enterprises for household charcoal (HHC) production	Elements 6 and 8	All
12	New open access e-learning course: Gender and Inclusion in Forest Landscape Restoration	Elements 4 and 5	All



1. Introduction

When it comes to progressing towards sustainable development objectives and the Sustainable Development Goals (SDGs), many low- and middle-income countries continue to be confronted by a complex of serious social, economic and environmental challenges and widespread capacity constraints. Limited organizational capacity remains one of the most common bottlenecks in the development process. This is true in all sectors, but particularly important in the rural sectors, including forests, trees and agroforestry. In addition, developing countries often lag behind in terms of research and analysis capacity, face uneven competition from the developed world, and are confronted by the conundrum of how to optimize the use of existing scarce capacities. This is why capacity development (CapDev) is a crucial part of FTA's impact pathways and a central component of its theory of change, or TOC, because upgraded capacities (from individuals to institutions) are a key condition in order for change and impact to happen. For more information about work on theory of change conducted within FTA, please see Highlight 17 in this series (Belcher et al. 2021).

CapDev must be considered as a long-term national-level process whereby individuals, organizations and their networks improve their systems, resources, skills and knowledge, as reflected in their capabilities to perform functions and solve problems to better address national and subnational development objectives. While capacity itself is internal to individuals, organizations and to their enabling environment, external actors can support it through appropriate interventions.

The CapDev roles of a research-for-development programme such as FTA are to support, facilitate, feed into and help catalyze and/or facilitate this process. Capacity development therefore covers a wide spectrum of activities, including informal training, formal (basic and higher) education and distance learning, internships, advisory and extension services, partnerships, knowledge networks and leadership development for individuals and organizations. These activities effect change and strengthen capabilities for innovation, scientific discovery and delivery. Capacity development may also encompass supporting, facilitating or catalyzing access to knowledge, overcoming bottlenecks in change processes and creating spaces for learning by doing. CapDev enables research and development organizations, individuals and their networks to achieve impact. These interventions form only a small part of change processes, however, and they must constantly adapt to internal and external contextual changes (Vallejo and When 2016; and Callo-Concho et al. 2017).

The CGIAR Research Program on Forests, Trees and Agroforestry (FTA), led by the Center for International Forestry Research (CIFOR) in partnership with the World Agroforestry Centre (ICRAF), the Bioversity International-International Center for Tropical Agriculture (CIAT) Alliance, The Tropical Agricultural Research & Higher Education Center (CATIE), the French Agricultural Research Centre for International Development (CIRAD), International Bamboo and Rattan Organisation (INBAR) and Tropenbos International, focuses on the sustainable management of forests, trees and agroforestry systems. It contributes to the CGIAR Strategy and Results Framework and to the 17 Sustainable Development Goals (SDGs).

FTA was organized into interrelated flagship programmes (FPs),¹ each with specific thematic



Participatory 3-dimensional mapping of Kwaebibirem municipality in the Eastern Region of Ghana.

Photo by Yvonne Baraza /CIFOR-ICRAF

¹ There were six FPs in Phase I, from 2011 to 2016; and five in Phase 2, from 2017 to 2021.

foci, theory of change (TOC), targets, indicators and intended outcomes. The TOCs of the flagship programmes within the FTA Phase 2 proposal (FTA 2016a) explain the impact pathways between research outputs (specific targets and deliverables) and research outcomes. Outcomes are intended to be achieved through close collaboration and engagement with partners, and include specific intermediate development outcomes (IDOs) and sub-IDOs, end of programme outcomes, and system-level outcomes; they contribute to the sustainable development goals (SDGs). Capacity development acts along FTA's impact pathways to enable the achievement of outcomes. Strengthening the capacity of forestry, agroforestry and biodiversity research partners, policymakers and implementing institutions and their staff has been critical to FTA's mission.

This FTA highlight does not aim to provide a full comprehensive report of all FTA capacity development activities. Bettering the capacities of actors to understand and tackle issues is a key operational objective of the work of all the FTA flagship programmes. Therefore, much of the content of the other FTA highlights includes capacity development actions. This highlight provides an overview of CapDev in FTA and a snapshot of qualitative information about key CapDev activities undertaken in FTA, while reflecting on the relevant findings from related CGIAR and FTA evaluations.

This highlight is organized as follows. Section 2 presents ways in which concepts of CapDev have evolved, and a typology of key elements of CapDev developed by the CGIAR Community of Practice on CapDev in 2015. Section 3 summarizes the key findings of FTA Phase 1 (2014), CGIAR CapDev (CGIAR-IEA 2017) and FTA Phase 2 (CGIAR Advisory Services 2020) evaluations. Section 4 describes how many men and women were trained as part of informal short-term and formal long-term (MSc and PhD) training courses provided by CIFOR, ICRAF, Bioversity International-CIAT Alliance, CATIE, CIRAD, INBAR and Tropenbos International. Section 5 provides an overview of the approaches to CapDev adopted by FTA. Section 6 presents 12 examples of FTA's CapDev success stories to illustrate the diversity of these initiatives at the individual, organizational and institutional levels, across all FTA flagships and the cross-cutting gender team. Section 6 also includes a summary of key challenges faced, notably the significant underfunding of CapDev. Section 7 summarizes the legacy of FTA and future perspectives to strengthen CapDev activities through new partnerships and transformative pathways. All references cited are included in Section 8.



2. Scope and typology of capacity development activities in FTA

2.1 The evolution of the concept of capacity development

Current understanding of capacity development embraces broad definitions that stress its importance on several levels: individual, organizational and the enabling environment (in this report referred to as institutional capacity; also see Figure 1). Individual CapDev focuses on investing in human capital. Traditionally, this level was the focus of CGIAR activities, and was evaluated in the past (CGIAR TAC 1986; CGIAR Science Council 2006; Staiger et al. 2013; Kuyvenhoven 2014; Birner and Byerlee 2016; and Lowder 2018).



Figure 1. Dimensions of capacity development
Source: FAO 2015. See also Kalas 2013

CGIAR defined some of its individual CapDev (short-term efforts) as taking place through interactions that are intentional, structured and purposed for imparting knowledge of skills (CGIAR Science Council 2006). In addition, individual CapDev in CGIAR includes degree training and postdoctoral studies, where it is often tied to higher education institutions of agriculture and forestry in developing countries (ANAFE 2015). This is clearly illustrated in FTA through the long-term support provided to the University of Kisangani in the Democratic Republic of Congo (DRC) presented in Box 1 and Example 8. Importantly, individual CapDev also happens through on-the-job mentoring and learning in scientific collaboration; it has been estimated to occupy about 12 percent of a CGIAR scientist's time (CGIAR Science Council 2006).

Organizational capacity refers to internal policies, arrangements, procedures, frameworks and culture, and effective enforcement and adherence to these measures within the organization. It characterizes a high-performing organization that delivers according to its mandate, and that enables individual capacities to thrive and goals to be achieved. Capacity related to the enabling institutional environment is the collective ability of a network of entities, together with supporting rules and policies, to bring existing or new products, processes and forms of organization into social and economic use (Tropical Agricultural Platform 2016).



MSc student Gisele Dalu at UNIKIS, Kisangani, DRC.

Photo by Axel Fassio/CIFOR

2.2 Adopting a typology (key elements) of CapDev

CapDev is a long-term multifaceted process, rather than a one-off, specifically defined intervention. There is a need for pluralistic and harmonized approaches that blend various CapDev elements at different levels (CIFOR 2017a; and FTA 2020a). CapDev has become such an all-encompassing term that its usefulness from an analytical and practical point of view can be hindered (Potter and Brough 2004). It is important for a programme such as FTA to use a good, well understood CapDev typology. This was not initially fully defined in FTA, but was progressively set out in more detail throughout the rollout of the programme and following evolutions in CGIAR.

The literature on CapDev includes a number of definitions, terminology interpretations, approaches and practices, including variance between those who fund CapDev and those whose CapDev activities are funded (Lusthaus et al. 1999). The United Nations Development Program (UNDP) has noted that “Confusion around the term CapDev seems to have grown along with its popularity” (UNDP 2009, 5). The International Development Research Centre (IDRC) found that “several recent reports have shown [that] terminology for capacity development is often vague and inconsistent, and related concepts are cloudy and ill-defined” (Taylor and Ortiz 2008, 1). There is no specific language to refer to the many different types of CapDev clearly and unambiguously. A specific typology for CapDev in environment was developed for the OECD Development Assistance Committee to address environmental concerns as a sectoral and a cross-cutting issue (Wardell 2000). Several CapDev evaluations call for developing a CapDev typology to allow more effective planning, implementation and reporting (Staiger et al. 2013; Emmens and Green 2014). Some useful tools have been developed; see, for example, European Centre for Development Policy Management (ECDPM), 2008; Otoo et al. 2009; EuropeAid 2010; FAO 2015; Sarapura Escobar and Puskur 2014; and Posthumus et al. 2013).

The CGIAR Capacity Development Community of Practice (CapDev CoP) made significant contributions to establishing a common understanding, synthesizing good practices, and enabling knowledge exchange between all the CGIAR centres and programmes. It initiated a process in October 2013, including a request for new funding (CGIAR 2013) that led, in 2015, to the definition of 10 key elements (Table 2; see also Table 1) as applied to CGIAR research.

Table 2. Typology (key elements) of capacity development in the CGIAR context

Number	Element
1	Capacity needs assessment
2	Design and delivery of innovative learning materials and methods
3	Development of CGIAR research programmes' capacities to partner
4	Development of future research leaders through fellowships
5	Gender-sensitive approaches throughout capacity development
6	Institutional strengthening
7	Monitoring and evaluation of capacity development
8	Organizational development
9	Research on capacity development
10	Quality control

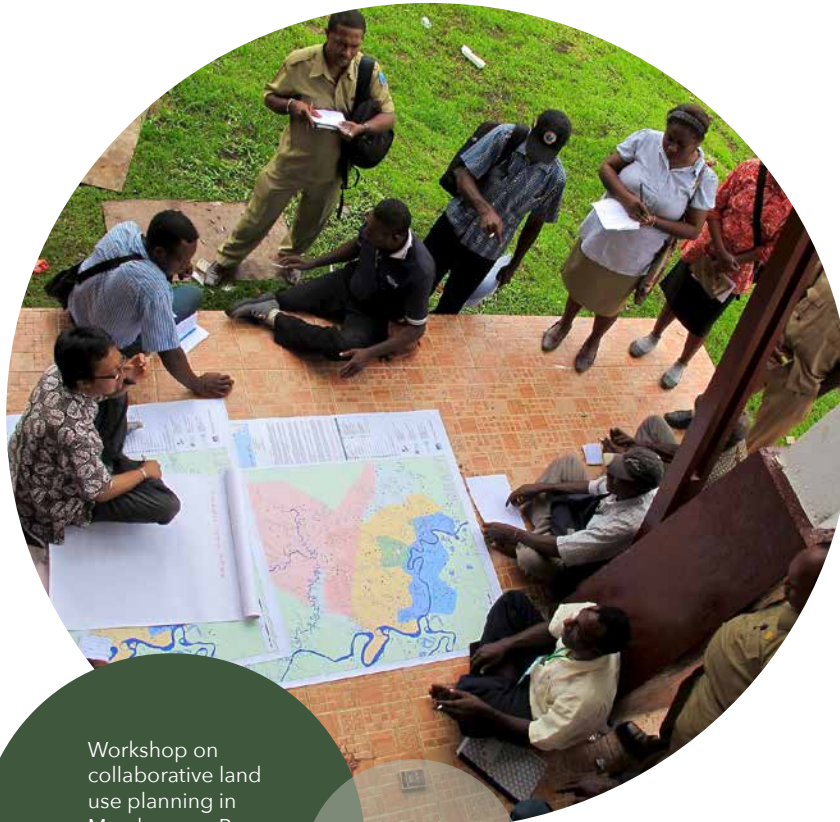
Source: CGIAR 2015a.

During FTA Phase I (2011–2016) much of the CapDev focus was on developing best practice frameworks and tools, including guidelines (see Example 3 and Element 2).

In Phase 2, FTA adopted the CGIAR CoP typology, applying it broadly to the research-for-development spectrum (not only to research), and developed capacity development indicators (CGIAR 2015b). FTA's priorities and final CapDev workplan were further guided by the results of a capacity needs assessment (Bourne et al. 2020), lessons learned from earlier evaluations (Staiger et al. 2013; Leeuwis et al. 2017; and CGIAR-IEA 2017), and the CGIAR Strategy and Results Framework (CGIAR 2015c). This is why in Phase 2, FTA prioritized Elements 2, 4, 5, 6 and 8 of the CGIAR typology.

Also, the different elements of CapDev relate in different ways to the core functions and scopes of participating centres as institutions, versus the core functions and scopes of FTA as a programme. For instance, CATIE, a strategic partner of FTA, sees education and training as part of the fundamental mandate of the organization. Some of the main roles of CapDev in FTA were to enable appropriate linkages between functions at

the institutional level/mandate, and to support these linkages so they best contributed to joint programme and development outcomes within FTA. This is exemplified by CATIE linking a significant number of theses from students in its master's programmes with the development of the FTA sentinel landscape² in Nicaragua and Honduras (Example 10).



Workshop on collaborative land use planning in Mamberamo Raya Regency, Papua, March 2012.

Photo by Mokhamad Edliadi/CIFOR

² <https://www1.cifor.org/sentinel-landscapes/home.html>.



3. Learning from CGIAR-level, program-level and project-level evaluations

FTA's evolution in capacity development was also grounded in the external evaluations at the CGIAR and FTA programme level, and in important project-level evaluations.

3.1 The CGIAR evaluation of capacity development

The CGIAR CapDev evaluation (CGIAR-IEA 2016 and CGIAR-IEA 2017) highlighted two principal challenges for capacity development in CGIAR. First was a lack of funding for CapDev expert positions and support units with the mandate to effectively support the integration of capacity development with project management cycles at the centre level. Second was a lack of a clear general understanding of the respective functions of centres versus CGIAR Research Programmes (CRPs) when it comes to capacity development.

Several CGIAR centres established research support units for capacity development and/or attempted to integrate it into appraisal and project cycle management, but there was often a lack of dedicated institutional support functions for assisting research staff with planning, implementing and following up on CapDev interventions (CGIAR System Organization 2017).



Multigenerational workshop on REDD+ safeguards and benefit sharing in San Martin, Peru.

Photo by Marlon del Aguila Guerrero/CIFOR

It is not the responsibility of a programme such as FTA to fill a void within an institution (or to fulfil otherwise unfulfilled core CapDev functions). In turn, a programme such as FTA needs to be aware of context, and how to build on existing institutional strengths and create and/or orient partnerships to ensure that any CapDev gaps along its impact pathways are addressed. FTA focused on building capacities in a broad array of various professional and technical actor groups. Particularly during Phase 2, it also strengthened partnerships with organizations such as CATIE and INBAR through strong CapDev programmes.

3.2 FTA Phase 1 Evaluation

The evaluation of FTA Phase 1 (July 2014) noted that capacity development played an important role throughout FTA, and that capacity constraints and gaps were widespread among FTA's partners. Among the three CGIAR centres most invested in FTA, ICRAF demonstrated the most advanced and established approach to capacity development; this was summarized in a comprehensive strategy (ICRAF 2013). ICRAF's earlier technical capacity building efforts were spun off in the 1990s as a self-sustaining NGO (African Network for Agriculture, AgroForestry and Natural Resources Education) that continues to be housed at ICRAF (ANAFE 2015). Among other tasks, the network is contracted by ICRAF projects to provide CapDev

services to ICRAF staff and projects (Fones-Sundell and Teklehaimanot 2006). In contrast, in 2014, CIFOR was only just starting the process of operationalizing a clear approach to CapDev.

Overall, the FTA Phase 1 evaluation observed that CapDev was managed strictly centre by centre, and suggested there was significant unexplored potential for cross-centre fertilization regarding CapDev approaches and support procedures, and for generating significant programme synergies for delivering CapDev support to projects, especially to important boundary partners with critical capacity gaps (FTA evaluation 2014, 34–35 and Recommendation #7).

3.3 FTA 2020 external review

The CGIAR CapDev evaluation (CGIAR-IEA 2017) questioned the validity of CGIAR's CapDev programmes when they try to assume the role of national extension agencies; i.e. catering to the CapDev needs of primary producers and rural groups. It suggested this did not represent CGIAR's comparative advantage (Christoplos 2016; CGIAR-IEA 2017). However, this was not the case in FTA, which was instead positioned to support — and not substitute for — such rural institutions and extension agencies. For instance, during Phase 2 (2017–21), FTA focused on strengthening agricultural extension services through initiatives such as multipurpose rural resource centres (Example 3). This encompassed adapting its training approach to virtual courses during the COVID-19 pandemic. Several FTA partners also adapted to include virtual training programmes in response to the pandemic (Examples 10 and 11). A new e-learning course, Gender and Inclusion in Forest Landscape Restoration, was launched in December 2021 (Example 12).



4. FTA's short- and long-term training courses, 2011–21

While there is much evidence that many of the elements of capacity development were important and were widely used across the CGIAR, there was no effort to systematically track or report on them, with the exception of short-term and long-term training (Table 3).



Youth media training
in Jakarta, Indonesia.

Photo by Lynsey Grosfield/CIFOR

Table 3. Short-term and long-term training in FTA, 2011–21

Year	Short-term, Women	Short-term, Men	Long-term, Women	Long-term, Men	PhDs, Women	PhDs, Men	Notes
2011	38	105	n/a	n/a	5	3	CapDev not reported except by FP 5
2012	1,560	1,440	60 Masters and PhDs + 350 interns (47% women)				FTA Gender Strategy developed first media training in Viet Nam with IUCN and Transparency International
2013	4,118	2,633	85	128	n/a	n/a	ICRAF CapDev Strategy 2013–18 Start of gender-disaggregated data (CGIAR-IEA 2017)
2014	2,513	4,279	120	203	n/a	n/a	
2015	13,944	35,856	37	85	n/a	n/a	
2016	14,535	22,586	78	114	n/a	n/a	
2017	14,774	32,585	123	195	94 (assumed 47 women and 47 men)		PhDs were not reported separately before 2017
2018	4,514	5,627	140	153	15	13	
2019	7,842	6,361	45	39	24	23	
2020	8,080	15,619	300	555	33	58	Virtual training course due to COVID-19 pandemic
2021	21,455	9,441	267	83	13	12	
Subtotal	93,373 (41%)	136,532 (59%)	1,195 (43%)	1,555 (57%)	137 (47%)	156 (53%)	2011–21 inclusive
Total	229,905		2,750 *		293 *		

*These totals exclude data for 2012.

Note: This table includes training courses offered by CIFOR, ICRAF, Bioversity International-CIAT Alliance, CATIE, CIRA and INBAR

Sources: FTA Annual Reports 2011–2021;³ CGIAR Results Dashboard⁴

³ <https://www.foreststreesagroforestry.org/what-is-fta/>.

⁴ <https://www.cgiar.org/food-security-impact/results-dashboard/>.



5. Overview of approaches to CapDev adopted by FTA

This section provides a broad overview of the approaches to CapDev adopted by FTA during both phases.

5.1 Capacity development through fellowships

Substantial investments were made in setting up various types of fellowship programmes. These are exemplified by the African Plant Breeding Academy, supported by FTA Flagship Programme 1, to develop future research leaders (Example 5), and by FTA's Gender Research Fellowship Programme (Example 6).

5.2 Mentoring and on-the-job learning

Another form of capacity development at the individual level is on-the-job learning for FTA collaborators and stakeholders. It involves considerable investments in terms of mentoring and coaching by scientists. This contributes to CapDev Elements 4 and 6. This type of co-learning capacity development is critical; however, it is not systematically reported or documented, even when mentoring is a key component of the institutional capacity building carried out by FTA. This was the case, for instance, in DR Congo through FTA's many projects and through EU support to the University of Kisangani (Box 1).

Box 1. Mentoring in DR Congo: a cross-cutting objective across projects

The Forests and Climate Change in the Congo (FCCC) project⁵ facilitated a four-speaker panel discussion, Improving Governance by Building Capacity in the Democratic Republic of Congo, at the World Forestry Congress in Durban, South Africa in September 2015 (Kahindo 2015). This enabled both the (former) Rector of the University of Kisangani (UNIKIS) and a PhD candidate supervised by CIFOR/UNIKIS to present preliminary research findings at an international English-speaking conference for the first time. The PhD candidate went on to successfully defend his thesis with a distinction after publishing four articles in international peer-reviewed journals.



⁵ cifor.org/knowledge/project/PMO-00060.



Mapping workshop
in Gwenia, Kassena
Nankana District -
Ghana.

Photo by Axel Fassio/CIFOR

5.3 Organizational development

In addition to its strategic partners, FTA partnered with a broad array of organizations during both Phases 1 and 2. In some cases, CapDev constituted an integral part of project-based initiatives. This is exemplified by the work of FTA's Flagship 4 to build research and community capacities in ecosystem-based adaptation (EbA) in The Gambia (Example 7). CapDev also constituted the overarching objective of CIFOR's FCCC project in the Democratic Republic of Congo (Example 8).

The effectiveness of CapDev at the organizational and institutional levels in the SUCCESS project in Peru was assessed by an external impact evaluation (Claus et al. 2019). Through the project, agroforestry community networks and stakeholder coalitions supported individual-level capacity development and enabled the uptake and use of new methods and of research findings.

The Outcome Impact Case Report (OICR) on ICRAF's contribution to Nepal's agroforestry policy highlighted the role of a high-level study visit to India by the Nepalese Inter-Ministerial Coordinating Committee, in addition to conferences, several rounds of training, and informal on-the-job capacity development. In Viet Nam, an OICR assessed more than 150 stakeholders who received training through CIFOR's Global Comparative Study on REDD+.

In Indonesia, in an example of organizational capacity development, the development phase of the Indonesian National Carbon Accounting System (INCAS) was supported by the Australian Government through a partnership with CIFOR (previously through the Indonesia-Australia Forest Carbon Partnership). INCAS is a systematic approach for measuring, reporting and verifying (MRV) greenhouse gas (GHG) emissions, supporting REDD+ and Indonesia's broader requirements under the United Nations Framework Convention on Climate Change (UNFCCC). This includes GHG reporting for the Agriculture, Forestry and Other Land Use (AFOLU) sectors, and tracking progress against the country's emission reduction targets.

Another evolution in co-learning occurred in relation to earlier work by CRP Flagship 5 (trade and investment) and later by FTA Phase 2 Flagship Programme 3 (Sustainable value chains and investments). The former contributed to CapDev by sharing research results through publications, conferences and targeted outreach in workshops and training courses. In 2017 Flagship 3 decided to change the way people learn by exploring the relatively new research field of finance for sustainable landscapes. This required learning within landscapes, as well as a learning process along the finance value chain, from landscape to final source. These two types of learning processes were implemented simultaneously. To implement the first one, Tropenbos International and EcoAgriculture Partners jointly developed the Landscape Assessment of Financial Flows (LAFF) methodology in 2018. Pilots were implemented with stakeholders in 2019 and 2020.

For the second learning process, it was known that much empirical experience existed among a broad group of practitioners with a wide range of perspectives, but this was poorly documented, and it was therefore necessary for practitioners to learn together (Example 4).

5.4 Toolboxes as key learning materials

Toolboxes are part of FTA's overall efforts and activities to achieve impact. Impact is typically achieved on the boundary partner side; i.e. by the actions of and behavioural changes by the project's partners. These are usually beyond the project's influence, but tailoring the toolboxes to user needs can increase the impact of a project activity. For example, FTA's Flagship 5 invested considerable resources to develop a suite of innovative online climate change learning materials and toolboxes. During a five-year period (2016–20), these were downloaded more than 70,000 times, equivalent to more than 14,000 downloads per year (Example 2).

5.5 Monitoring and evaluation of capacity development

At the CGIAR and programme level, CapDev was the object of several evaluations and reviews (see Sections 3.1, 3.2 and 3.3 above). FTA assembled some project-level learning data relevant to CapDev. For instance, an ex-post impact and sustainability study (GCCA+ 2021) highlighted several factors that led to the success of the FCCC capacity development project, including the sustainability of many of the project's interventions (Examples 8 and 9). Many such project-level lessons were gathered into a special issue of the journal *Agroforestry Systems* that FTA co-edited (Callo-Concha et al. 2017).



Downloading and analysing emissions data, Kibera, Nairobi, Kenya.

Photo by Axel Fassio/CIFOR



6. Examples of FTA capacity development success stories

These examples illustrate how FTA developed and tested CapDev approaches and initiatives and how these contributed to successful outcomes and impacts throughout Phases 1 and 2.

Example 1

Capacity needs assessment of FTA (CGIAR CapDev Element 1)

No capacity needs assessment (CNA) was conducted for FTA Phase 1. ICRAF, however, did publish a Capacity Development Strategy for 2013–18 (ICRAF 2013). This was based on an analysis of ICRAF’s context, and on a synthesis of recommendations from ICRAF’s centre-commissioned external reviews and external programme and management reviews. The results of strengths, weaknesses, opportunities and threats (SWOT) analyses of capacity development at ICRAF, and of consultations with ICRAF’s research staff in early 2012 and with ICRAF’s partners in East Africa and South Asia regions in 2012 and 2013, were also incorporated in the strategy.

An assessment of FTA was conducted in 2018–19 to identify the capacity needs of ICRAF and CIFOR prior to the two organizations merging (Bourne et al. 2020). The assessment was framed by the research objectives and targets

specified in the FTA Phase 2 proposal (FTA 2016a and FTA 2016b), including the amended Flagship Programme 2 proposal. The assessment focused on four key capacity areas: partnerships, networking, resource mobilization, and human resources. Its analysis and recommendations were based on data collated from more than 70 interviews conducted with flagship scientists and leaders and key actors within the FTA Phase 2 management teams and with partner organizations.

The assessment employed a two-part method in order to understand if FTA's cluster and flagship teams (together with their networked partners) had sufficient capacity to deliver on their respective theories of change and impact pathways. First, a review of the theories of change was undertaken within each of the flagships. Second, semi-structured interviews were conducted, based on an analytical framework that focused on the four key capacity areas. Findings and recommendations were presented for each of these key areas, in addition to some cross-cutting insights and recommendations.

The assessment led to the preparation of the FTA CapDev Plan of Action for 2020–21 (FTA 2020a), which specifies a set of objectives and activities that are aligned with CIFOR, ICRAF, Bioversity International and FTA CapDev strategies (FTA 2020a).

The FTA Phase 2 evaluation team noted, however, that “...it is questionable what tangible effects the assessment of FTA capacity needs for Phase II and the FTA capacity development action plan, both published in 2020 in response to the recommendations of earlier evaluations, can still have on the program, given its expected sunset in 2021, and with the limited amount of W1/W2⁶ funding and staff capacity” (CGIAR Advisory Services 2020, 32).

⁶ Window 1 (W1) funding represents portfolio investments that support CGIAR as a whole; Window 2 (W2) funding represents program investments (funding that is given to a specific team or project). See <https://www.cgiar.org/annual-report/performance-report-2020/financial-highlights/>.

Example 2

Development of a portfolio of tools for climate change mitigation and adaptation and peatland restoration (CGIAR CapDev Element 2)

Source: FTA Flagship 5

CIFOR's Global Comparative Study on REDD+ has developed a number of toolboxes,⁷ notably the Global Database on REDD+ Projects and Programs (ID-RECCO),⁸ in collaboration with the Climate Economics Chair (Paris-Dauphine University, France), CIRAD and International Forestry Resources and Institutions (IFRI) (University of Michigan, USA). More than 450 REDD+ projects are listed in the database, each with up to 110 variables of data.

Supporting ID-RECCO, the REDD+ Cost Model⁹ standardizes the collection, categorization and analysis of budget data on REDD+ initiatives. This tool is helpful to researchers and analysts who want to estimate the costs of implementing REDD+ projects.

CarboScen is a relatively simple bookkeeping tool to compute carbon stocks under different scenarios and to compare their values in landscapes with forests and other land-use types. This tool can be used in working with communities to draw their attention to carbon in the landscape, and to understand their priorities and demands.¹⁰

The REDD+ Benefit Sharing Knowledge Tree¹¹ was developed as part of the work on opportunities and challenges to developing REDD+ benefit-sharing mechanisms in developing countries.

In terms of organizational CapDev, the Indonesian National Carbon Accounting System (INCAS) is a systematic approach for measuring, reporting and verifying GHG emissions, supporting REDD+ and Indonesia's broader requirements under the UNFCCC.

Three more toolboxes are collections of lecture materials for self-study: (i) the Indonesian Peatland Network (IPN) toolbox,¹² which helps users to understand the challenges and opportunities of peatlands in Indonesia in relation to climate change mitigation and adaptation); (ii) the Sustainable

⁷ <https://www2.cifor.org/gcs/toolboxes/>.

⁸ <http://www.reddprojectsdatabase.org/>.

⁹ <https://www2.cifor.org/redd-benefit-sharing/resources/tools/redd-cost-model/>.

¹⁰ <https://www2.cifor.org/gcs/toolboxes/carboscen/>.

¹¹ <https://www2.cifor.org/knowledge-tree/>.

¹² <https://www2.cifor.org/ipn-toolbox/>.

Wetlands for Mitigation and Adaptation Program (SWAMP) toolbox,¹³ which guides understanding of the importance of wetland ecosystems as carbon reservoirs for climate change adaptation and mitigation strategies; and (iii) the Forests Climate Change toolbox,¹⁴ which builds understanding of and technical proficiency in issues of climate change and forests, including mitigation, adaptation, carbon accounting, markets and biofuels.

The toolboxes were downloaded by almost 80,000 users during 2014–20 (Table 4), with a peak of more than 16,000 downloads in 2019. The Indonesian Peatland Network and SWAMP were downloaded most often. A GOPA assessment of the Global Comparative Assessment of REDD+, of which an IKI-funded project on multi-level governance of REDD+ was part, concluded that sufficient evidence was available (through project databases, toolboxes for policy learning, scientific publications and policy briefs) to enhance policies and improve the policy learning processes of REDD+ decision-makers, practitioners and key global, national and subnational agencies that promote REDD+ such as UN REDD (Ducenne et al. 2019).

Researcher from PT Rimba explains how to use sophisticated tools to measure carbon levels in Central Kalimantan, Indonesia.

Photo by Aulia Erlangga/CIFOR



¹³ <https://www2.cifor.org/swamp-toolbox/>.

¹⁴ <https://www2.cifor.org/fcctoolbox/>.

Table 4. Annual downloads of climate-change-related toolboxes, 2014-20

Link to tool	Starting date	2014	2015	2016	2017	2018	2019	2020	2021	Total
http://www.reddprojectsdatabase.org/	February 2018	—	—	—	—	12,320	19,214	33,630	60,418	125,582
https://www.cifor.org/gcs/toolboxes/carboscen/	November 2016	—	—	53	1,732	487	273	322	345	2,867
https://www.cifor.org/redd-benefit-sharing/resources/tools/redd-cost-model/	April 2016	—	—	291	231	131	117	909	94	1,679
https://www.cifor.org/knowledge-tree/	January 2016	—	—	2,386	836	495	523	312	345	4,552
https://www.cifor.org/gcs/redd-map/	July 2015	—	640	1417	843	1,036	1,254	966	397	6,156
https://www.cifor.org/ipn-toolbox/	May 2015	—	2,580	4,208	4,132	4,199	3,303	1,599	535	19,981
https://www.cifor.org/swamp-toolbox/	February 2015	—	3,067	640	448	252	828	299	323	5,534
https://www.cifor.org/fctoolbox/	January 2014	1,572	843	586	621	588	501	201	261	4,912
https://www2.cifor.org/global-wetlands/	August 2016	—	—	3,989	5,940	7,442	9,458	6,710	5,922	33,539
Total		1,572	7,130	13,570	14,783	26,950	35,471	44,948	68,640	204,802

Source: (FTA Flagship 5); Data provided by the FTA Flagship 5 team, 18 May 2022



Two men engage in the Participatory action Research to Community-Based Fire Prevention and Peatland Restoration project in Riau, Indonesia.

Photo by Aris Sanjaya/CIFOR

Example 3

Moving from best practice guidelines to strengthening agricultural extension services through rural resource centres (CGIAR CapDev Elements 3 and 6)

During FTA Phase 1 (2011–16) the focus was on developing best-practice frameworks and tools, including guidelines. These included best-practice guidelines for enhancing tree cover on coffee farms in Kenya, Uganda and Rwanda (CAFNET project);¹⁵ Vegetation and climate change in Eastern Africa (VECEA)¹⁶ maps for selecting site-appropriate tree species; local knowledge of tree management in Ethiopia under the CPWF project;¹⁷ tools that target degradation hotspots by combining satellite imagery, natural vegetation mapping and local knowledge of tree attributes to promote tree diversity for improved lives and landscapes, which were developed as part of a CIFOR-ICRAF collaboration by the Forests and Climate Change in the Congo (FCCC) project in 2015 (Dumont et al. 2015); participatory tree domestication, including development of propagation protocols for priority tree species such as *Allanblackia* spp., *Dacryodes mycrophylla* and *Chrysophyllum albidum*, and characterization of tree genotypes in West Africa; development of the Agroforestry Species Switchboard 1.1;¹⁸ a farmer-to-farmer extension approach in Malawi (Kundhlande et al. 2014) and a Farmer Training Entrepreneurship Manual on Conservation Agriculture with Trees (CAWT) (Luyayi et al. 2014; Muriuki et al. 2012); and establishing nested communities of practice through the land restoration project¹⁹ with tools, methods and guidelines for taking land restoration to scale in Ethiopia, Kenya, Mali and Niger. During Phase 2 (2017–21) FTA undertook multiple project-based CapDev initiatives:

- ▶ oil palm agroforestry options were developed in Brazil through co-designed workshops under the NATURA project²⁰ — **43 farmers and local technicians were trained;**
- ▶ a **capacity development workshop** was held for national partners in Ghana on social and gender dynamics to inform research by the WAFFI project (CIFOR 2017c);

¹⁵ <https://agris.fao.org/agris-search/search.do?recordID=FR2019126394>.

¹⁶ <https://vegetationmap4africa.org/>.

¹⁷ <https://cgspace.cgiar.org/handle/10568/2983>.

¹⁸ http://apps.worldagroforestry.org/products/switchboard/index.php/name_like/Acacia/.

¹⁹ <https://www.worldagroforestry.org/project/restoration-degraded-land-food-security-and-poverty-reduction-east-africa-and-sahel-taking>.

²⁰ <http://blog.worldagroforestry.org/index.php/2014/04/07/evidence-mounts-for-oil-palm-under-agroforestry-in-brazil/>.



- ▶ **local capacities were developed** to generate and deploy improved timber and NTFP germplasm and identify priority species through the Kanoppi 2 project;²¹
- ▶ **2,148 people received short-term training** to co-develop “Best-Bet” options for ISFM using the InPaC-S Methodology in Uganda and Tanzania by the EMBRAPA project (Fungo et al. 2019);
- ▶ Trees for Food Security 2²² provided training in sustainable grazing management, agroforestry curriculum, participatory trials, agroforestry technologies and training of trainers — **9,523 people received short-term training** through SHARED workshops in Ethiopia/Tanzania under the SAIRLA project,²³ and **long-term training included 16 PhD and master’s students**;
- ▶ institutional governance, mapping, soil and water conservation and rural **resource centres** (RRCs) were established under the Trees for Food Security 2 project;
- ▶ extension approaches promoted the effective adoption of agroforestry practices in the Kanoppi 2 project, and **agroforestry technical manuals for 14 species** and **ASEAN guidelines in five languages** were produced as part of the AFLI2 project;

²¹ <https://www.worldagroforestry.org/project/kanoppi2>.

²² <https://www.worldagroforestry.org/project/trees-food-security-2-developing-integrated-options-and-accelerating-scaling-agroforestry/>.

²³ <https://www.worldagroforestry.org/project/bringing-evidence-bear-negotiating-ecosystem-service-and-livelihood-trade-offs-sustainable>.

- ▶ a **manual** for community organizing and facilitating was developed under the Triple A Project,²⁴ while capacity building under the Resilient Food Systems (RFS) programme²⁵ involved outcome mapping, monitoring and evaluation tools, and resilient food systems knowledge products through the RFS Knowledge Centre;²⁶
- ▶ a **guide** and **video**²⁷ on the use of the monitoring, evaluation and learning (MEL) platform were developed under the restoration of degraded land for food security and poverty reduction project²⁸ in East Africa;
- ▶ **farmers' capacity** was developed for resilience to climate change impacts on cocoa in Ghana, and local researchers applied state-of-the-art modelling tools to assess climate change impacts under the CLIMCOCOA²⁹ project;
- ▶ In 2020, due to the COVID-19 pandemic, most training was virtual. For example, ICRAF held **virtual training** for India on the Land Degradation Surveillance Framework,³⁰ and the Trees for Food Security 2 project held virtual training in data management, cleaning and analysis with Ethiopian, Rwandan and Ugandan teams.



Teacher Kim Spencer of Sand Creek Secondary School talks with students about the new environmental education curriculum.

Photo by Barbara Fraser/CIFOR

²⁴ <https://www.worldagroforestry.org/project/bringing-evidence-bear-negotiating-ecosystem-service-and-livelihood-trade-offs-sustainable>.

²⁵ <https://www.resilientfoodsystems.co/>.

²⁶ http://knowledgecentre.resilientfoodsystems.co/kc/resource_library.

²⁷ https://www.youtube.com/channel/UCIe4a86Rp-hcTt5C_x4YkHg/videos.

²⁸ <https://www.worldagroforestry.org/project/restoration-degraded-land-food-security-and-poverty-reduction-east-africa-and-sahel-taking>.

²⁹ <http://drp.dfccentre.com/project/climate-smart-cocoa-systems-ghana-climcocoa/>.

³⁰ <https://www.worldagroforestry.org/blog/2020/07/17/improving-health-indias-soil-doesnt-stop-covid-19>.

Example 4

Innovative finance for sustainable landscapes: changing the way people learn (CGIAR CapDev Elements 2 and 3) Sources: FTA Flagship 3 and Louman et al. 2020.

An exploratory research process started with a literature review of sustainable landscape investments, and with defining the concept and identifying potential applications. Actors along the value chain of finance (from source to final consumer) were asked to discuss their experiences of investments related to tree-related land use that had led to positive and negative environmental and/or socio-economic impacts on landscapes and their inhabitants. These interviews were shared and discussed with panelists and online participants during an online webinar. The results of the literature search and interviews were combined into a draft document that identified barriers to scaling up finance for sustainable landscapes. This document was used as the basis for an online dialogue and panel discussion during the Global Landscapes Forum Investment Case Symposium in Luxemburg in December 2019.

This work led to the identification of **four principal barriers** to investments in landscapes:

1. risks are considered to be too high by both sources and recipients of finance;
2. financial literacy is low, resulting in few investable cases being presented to investors;
3. little is known about the impacts of financial flows within specific landscapes, beyond their contribution to local incomes;
4. few documented cases exist of successful financial mechanisms that link sources of finance to small and medium enterprise (SME) business cases that contribute to sustainable landscapes.

As these barriers were identified relatively early during the learning process, it was possible to start designing pathways at an early stage that would contribute to resolving the barriers with the same stakeholders. By combining an assessment of the finance value chain process with landscape analysis, participants learned that large amounts of money flow into tropical landscapes and that some of these investments have a positive impact on the landscapes. However, it is difficult to identify which financial flows have positive impacts, and there is a need to document more cases of mechanisms that have successfully achieved inclusive investments in sustainable land use.

In response to the lessons learned participants carried out three tasks:

i) jointly designed a **financial literacy strategy**;

ii) implemented participatory assessments of the impacts of financial flows in two pilot landscapes: an oil-palm-dominated landscape in West Kalimantan, Indonesia (Rossanda et al. 2020) and a cocoa-dominated landscape in Ghana (Pamerneckyte et al. 2020). The results of these assessments indicated that most private finance in the oil palm landscape contributed to income, but not to other landscape objectives. In contrast, cocoa landscape investments were better distributed, albeit with some negative impacts, and contributed to other landscape objectives. This understanding contributed to modifying the approaches of stakeholders to their landscape plan designs;

iii) implemented four case studies of innovative financial mechanisms and the way they addressed barriers and risks: (i) the flows from an impact investor in Singapore that aimed to benefit women in business in Indonesia; (ii) a cocoa company in Ghana; (iii) a Ugandan NGO that used carbon credits to strengthen the business capacities of farmers and their associations; and (iv) a credit union in Indonesia. In the fourth case study, one of the participating financial institutions modified its lending criteria to include zero deforestation in its ESG criteria. This was proposed to the institution's board for inclusion and will potentially affect all of its 50,000 members.



Teacher Kim Spencer of Sand Creek Secondary School talks with students about the new environmental education curriculum.

Photo by Barbara Fraser/CIFOR

Example 5

African Plant Breeding Academy (AfPBA): development of future research leaders through fellowships (CGIAR CapDev Elements 4 and 6) Source: FTA Flagship 1

The African Orphan Crops Consortium (AOCC)³¹ is facilitating and fueling the development of locally adapted, climate-resilient varieties of 101 diverse crops important to African diets, including a significant number of tree food crop species. The goal is to support food and nutritional security for Africa and promote economic growth. An important part of its work is capacity building for African plant breeders to help them utilize genomic information in order to expedite the development of improved varieties with traits preferred by farmers and consumers.

The African Plant Breeding Academy (AfPBA) at University of California, Davis (UC Davis) was established in 2006 with the help of the consortium's 28 partners, which represent public, governmental, NGO and private institutions. This includes the African Union Development Agency. The academy is a product of the partnership of UC Davis and CIFOR-ICRAF in Nairobi, Kenya. It empowers African plant breeders with knowledge, skills and tools.

AfPBA targets active early- and mid-career African plant breeders, preferentially PhD holders, and primarily from National Agricultural Research Systems (NARS), balancing representation by gender, region and crop diversity. To date, the academy has benefited 150 scientists from 29 countries, 90 percent of whom are PhDs and 40 percent of whom are women. Collectively, these scientists work to improve more than 101 crop species, including 55 African orphan crops, and manage more than 185 breeding programmes. The academy is vital in providing critical updates to African scientists in the area of plant breeding. Instruction, coordinated by UC Davis, is designed to optimize uptake, and focuses on practical application; lessons from the private and academic sector emphasize innovation, efficiency and dependable and measurable outcomes.


The intensive and highly interactive six-week training programme builds confidence in plant breeders to develop and implement innovative approaches and proven technologies to achieve self-defined goals, product targets and outcomes. Guest speakers share real-world examples of success stories. The course culminates in participants developing a proposal to implement

³¹ Orphan crops are so called because they were under-researched in the past in terms of their genetic improvement and the marketing of their use. The orphan crops studied include the leafy vegetable, *Gynandropsis gynandra*.

what they have learned to improve their breeding programme and home institution; they receive feedback from both instructors and peers. Participants in turn provide feedback on course content, quality and delivery style in real time and after the course ends to support continuous improvement.

AfPBA alumni help provide information for assessing the ongoing impacts of the programme at the individual and institutional level and across the community of practice (CoP) developed by this dynamic and ever-expanding group. As educators, together they “pay it forward” by training the next generation of plant breeders in their home institutions and by garnering additional funding for their programmes, which to date totals more than USD 40 million. Graduates have expanded their CoP by forming the African Plant Breeding Association, a continental-level organization to share advancements, provide ongoing education and foster collaborations among African breeders to deliver nutritious and productive varieties and food to Africans.

ICRAF has been a great partner in making the AfPBA and AOCC impactful by offering logistical support, world-class genomics lab facilities, access to germplasm, and an outstanding learning environment. AfPBA, in partnership with CIFOR-ICRAF, upholds the ideals of dignity, respect and inclusiveness for effective learning.



The Sindri village
(Kongoussi area) Baobab
fruit called Monkey Bread
and by the locals theodo,
Burkina Faso.

Photo by Ollivier Girard/CIFOR

Example 6

FTA's Gender Research Fellowship Programme

(CGIAR CapDev Elements 4 and 5) Source: FTA Gender Team

Agricultural and forest research organizations often lack capacities in the social sciences, including gender research (Elias et al. 2016). FTA's Gender Strategy (CIFOR 2013) and its Revised Agenda and Action Plan 2020–2021 (FTA 2020b) emphasize the need to strengthen capacities in gender-responsive and strategic gender research among FTA scientists and partners, in order to increase the volume and quality of this work. To this end, Bioversity International launched the first phase of a Gender Research Fellowship Programme (GRFP) in 2013 (Thull et al. 2015). The programme focused on enhancing scientists' capacities to conduct participatory, gender-responsive research that gives voice to rural women and men from a range of socio-economic, caste, generational, etc. groups and places their realities and priorities at the centre of FTA research. Recognizing the value of experiential learning on gender, the programme embedded five Gender Research Fellows (GRFs) in large collaborative projects led by Bioversity International that had a focus on forest and/or tree biodiversity management.

The five Fellows (three women and two men) came from partner institutes in Burkina Faso, Cameroon, India, the Kyrgyz Republic and Malaysia, and were new to gender research. They worked closely with their project teams, which were composed primarily of biophysical scientists, and were hosted by the partner institutes participating in the projects. They worked with a Gender Specialist from GRFP to develop relevant gender-focused research questions and a robust methodology for addressing them. The Gender Specialist provided support throughout the programme, including during fieldwork with each Fellow as he or she applied the participatory methods learned.

The cohort of Fellows met face to face and interacted several times virtually throughout the programme, including during an inception workshop that brought together several members from each participating project (Bioversity International and University of Freiburg 2013). The Fellows were reunited during a closing WriteShop session³² that allowed them to collectively reflect on their learnings and eventually publish (e.g. Elias et al. 2016) in a peer-reviewed issue on gender-responsive research. The programme organized a session where the Fellows presented their issue papers at an international conference.³³ Both the publication and the conference participation were first-time experiences for the Fellows.

³² <https://www.bioversityinternational.org/news/detail/a-year-of-gender-responsive-participatory-research/>. WriteShop is a writing curriculum that assists writing instructors.

³³ <https://www.bioversityinternational.org/news/detail/case-studies-from-around-the-globe-show-that-gender-responsive-participatory-research-is-the-way-to/>.

The Fellows found that the programme positively affected their professional development (Thull et al. 2015). The programme's approach allowed them to gain capacities in gender-responsive participatory research, to integrate gender in projects that were previously gender-blind, and to strengthen the understanding and capacities of the project teams in gender-integrated research. The programme thus influenced the gender responsiveness of Bioversity International's overall FTA project portfolio. The social learning that took place among the Fellows, made possible by their moving through the programme as a cohort, was critical to the programme's success.³⁴ The Fellows did, however, express the need for clearer and expanded roles from their supervisors at partner institutes, and for more extensive training and practice in order to gain experience in selecting and using various participatory research tools.³⁵ These lessons were incorporated in the next phase of the programme, between Bioversity International and World Agroforestry in support of four African women Fellows and their project colleagues from 2016 to 2018.³⁶



Woman demonstrates weaving technique to a group of journalists learning about integrated landscapes, peatlands and bioenergy in Indonesia.

Photo by Icaro Cooke Vieira/CIFOR

³⁴ <https://www.youtube.com/watch?v=Psq-vb7WvCY>.

³⁵ <https://www.bioversityinternational.org/news/detail/listening-to-different-voices-revealing-local-knowledge-through-research/>.

³⁶ <https://www.bioversityinternational.org/news/detail/round-two-of-the-gender-research-fellowship-programme-takes-off-in-nairobi/>.

See also Clendenning, Elias and Basnett. 2019 and FTA Gender Team 2022

Example 7

Building research and community capacities in ecosystem-based adaptation in The Gambia (CGIAR CapDev Elements 1, 3 and 9)

Source: FTA Flagship 4

Since 2018 the ecosystem-based adaptation (EbA) project in The Gambia has been financed by the Green Climate Fund, with technical support from ICRAF and additional FTA assistance for research. The project aims to enhance adaptation benefits to communities through restoring degraded ecosystems, especially community forests, community protected areas and farmlands. There are three major components, each with CapDev aspects: (i) large-scale EbA development; (ii) establishing and strengthening natural-resource-based businesses; and (iii) policy support and institutional strengthening. ICRAF has provided capacity building of various sorts to more than 750 individuals in EbA planning, implementation and monitoring in forested areas, protected areas and agricultural fields:

- ▶ **45 community forests** (CFs) and **5 community protected areas** (CPAs) have fully developed ecosystem-based adaptation protocols that they will implement over the next 5 to 10 years;
- ▶ the capacity-building exercises have also aided the communities, through guidance by ICRAF, to develop restoration protocols for a range of landscapes, including **250 farms** and **40 schools** that wanted to plant trees in agroforestry models;
- ▶ **tree “growing,”** a concept that evolved out of the EbA project, has now replaced the conventional tree “planting” concept and is currently being drafted into the strategies and forest landscape restoration (FLR) plans of countries such as Kenya. Elgeyo Marakwet, for example, became one of the first counties in Kenya to launch a Sustainable Forestry and Tree Growing Policy in 2020³⁷ as a framework to guide the restoration of degraded forests and agroforests;
- ▶ widespread adoption of restoration techniques such as zai pits³⁸ has taken place on degraded farmlands — **250 degraded farms** (an estimated 400 ha) and **40 schools** (61 ha) were restored, with **more than 25,000 different trees planted** based on farmers’ preferences and ICRAF guidance;

³⁷ <https://info.undp.org/docs/pdc/Documents/KEN/EMC%20Forest%20Management%20and%20Tree%20Growing%20Policy.pdf>.

³⁸ A zai pit is a traditional method of collecting surface runoff water. Seeds are planted in the pit, which is lined with crop residue or mulch, allowing it to retain moisture for a long time.

- ▶ technology adoption was promoted through an information platform and geospatial portals;
- ▶ a range of **assisted natural regeneration** (ANR) and **farmer-managed natural regeneration** (FMNR) **exercises** followed initial project CapDev initiatives. More than 3,719 ha of degraded CFs and CPAs are under various ANR/FMNR interventions. The focus is on improving fire management in and around Kiang West National Park, The Gambia. There is already evidence in the country that fire belts can yield multiple benefits beyond curbing fire intensity, including connecting villages and improving their access (Muthee et al. 2021). Local communities began constructing firebreaks around their farms and plantations after learning from the project experiences;
- ▶ **Capacity building** for three specialists in GIS and remote sensing was provided through ICRAF training — they are now serving at various levels within line ministries in The Gambia.



School awareness campaign on forest preservation in Yangambi, DRC.

Photo by Axel Fassio/CIFOR



Example 8

Organizational development of the University of Kisangani, Democratic Republic of Congo (CGIAR CapDev Element 8)

Source: FCCC Project Reports³⁹

The Democratic Republic of Congo (DRC) has the world's second largest area of contiguous tropical forests, and they are distinguished by their rich biodiversity. University education suffered greatly during periods of civil war, a loss exacerbated by underfunding of the sector. This context changed a decade ago as the government-initiated reforms and developed a clear vision of its strategic research priorities.

In 2005 the country's entire forestry research cadre boasted just six people with a master's degree. Since then a long-term capacity-building programme with the Faculty of Sciences at the University of Kisangani (UNIKIS) in Tshopo Province — supported by the European Commission, with CIFOR as the key implementing partner — has since successfully trained more than 300 master's students in biodiversity and forestry management, with an additional cohort of 20 master's students underway. In addition, 20 PhDs have been completed, with an additional 5 new doctoral candidates contracted in 2018. More than 40 peer-reviewed scientific publications have been published by doctoral candidates after CIFOR introduced a new course, *How to Write A Scientific Article*, for doctoral candidates in 2014.⁴⁰

CIFOR's strategy to improve governance by building capacity in DRC involved developing an innovative master's curriculum and an international PhD programme aligned with national capacity-building research priorities and with the national License, Master and Doctorate (BSc-MSc-PhD) programme. This was complemented by innovations in terms of novel teaching methods, development of an electronic library, joint local and international supervision and performance-based contracting of master's and PhD students, a local accompanying committee to track the progress of all students, organizing seminars and developing scientific writing skills and confidence in terms of public presentations, and critically, ensuring an effective exit strategy to ensure that courses will be sustained after donor funding ends. UNIKIS-CIFOR Science Week, introduced in 2014, continues as an annual event to provide extracurricular support for access to new scientific findings and to build the capacities of Congolese environmental journalists. Additional support was provided by CIFOR with EC funding

³⁹ <https://www2.cifor.org/fccc>.

⁴⁰ The course was subsequently adapted to assist young scientists from CIFOR, ICRAF, Bioversity International and ILRI, based in Nairobi.

to strengthen the infrastructural, administrative and financial management capacities of UNIKIS.

CIFOR led the development of a new two-year master's course, History, Law and Land Governance in the DRC and sub-Saharan Africa, in partnership with the University of Cambridge and the Centre for International Sustainable Development Law. The course was subsequently taught to 40 master's students and 10 PhD candidates at UNIKIS during the Forests and Climate Change in the Congo (FCCC) project period, from 2013 to 2017. The course included modules on customary law and customary land law. All course materials (36 modules, multiple legal briefs and bibliographic materials) were formally handed over to UNIKIS in March 2019.

Since then, two Congolese professors (one a PhD candidate during the FCCC project) have continued to teach the course to more master's students under the auspices of the current EC-financed FORETS project in DRC. One of them recently established a Laboratory of Research on Land Law and Customary Law at UNIKIS. The laboratory is contributing to the ongoing national process associated with the revision of the country's 1973 land law (modified slightly in 1980).⁴¹ In addition, the long-term commitment to the capacity development of UNIKIS helped to provide the foundation for the creation of the Yangambi Engagement Landscape.⁴²



Melissa Rousseau with MSc students Chalay Azenge Bokoy and Muyisa Mbusa Wasukundi at the wood biology laboratory in Yangambi, DRC.

Photo by Axel Fassio/CIFOR

⁴¹ <https://forestsnews.cifor.org/70094/les-droits-coutumiers-doivent-etre-au-centre-de-la-reforme-fonciere-de-la-rdc?fnl=fi>.

⁴² <https://www.cifor.org/knowledge/video/VeiAwPrbARk/>.

Example 9

Ex-post impact and sustainability monitoring of capacity development of the University of Kisangani (CGIAR CapDev Element 7) Source: GCCA+ 2021

The University of Kisangani (UNIKIS) has emerged as the leading higher education institution in sustainable natural resource management in the Democratic Republic of Congo. The continuity of EC-financed projects (REAFOR, REFORCO, FCCC, and FORETS) constitutes a driver that boosts and structures the UNIKIS capacity-building agenda over the long term. This driving force will continue if UNIKIS maintains its academic care in the selection of students and the rigour of their supervision.

The quality of the coordination of the Forests and Climate Change in the Congo (FCCC) project also appears to be a key factor in its success, and thus has reinforced its sustainability.

Training of academics and researchers who can disseminate knowledge related to climate change to other universities and areas such the Universities of Kinshasa and Bukavu is important.

UNIKIS benefited from the long-term rehabilitation of its buildings, including investments in “smart” infrastructure with a limited carbon footprint in construction and operation. This will have positive impacts for decades to come.

The capacity to replicate technical training for plantation establishment by participants trained in nursery- and plantation-related activities enabled them to pass on this knowledge elsewhere.

Partnership with organizations with long-term operational bases in the region and the ability to raise funds from several sources were also important. The World Wide Fund for Nature (WWF) EcoMakala project was a driving force for reforestation in the region because it received funding from several projects (including the FCCC), and continues to support afforestation to the present day.

WWF has issued 20-year contracts with tree planters to engage in monitoring and maintaining plantations. A mechanism was set up by the EcoMakala project whereby the farmers return 20% of the sale of their first harvest to the NGO that supervises them. In this way, the NGO becomes independent

and its activities can be sustained beyond the 20 years that the WWF contract guarantees in technical support.

The plantation activity proposed by the FCCC project is profitable; the profit generated through afforestation is about twice that per hectare of agriculture (cassava).

Income generation is guaranteed and planting is flexible. The planters can adjust their income by deciding on the number of trees to be cut at different sizes. This helps them to manage their capital by selling a range of products (sticks, fuelwood, poles and timber).

Using a participatory approach to set up planting activities involved customary and administrative authorities. This helped ensure that the land was legally available and useable, and thus reduced the risk of possible land conflicts.

Effective and sustainable practices were promoted through support for non-eucalyptus plantations, as eucalyptus tends to degrade soils in North Kivu Province.

An ongoing dialogue with local communities implicated in encroachment of the Virunga National Park was an important component in achieving sustainable actions in the park. In addition, electricity sales in the park through subsidized investments in hydro-electricity were characterized by very low prices, and generated sustainable employment opportunities and improved socio-economic conditions in the area.

Lesson at UNIKIS,
Kisangani, DRC.

Photo by Axel Fassio/CIFOR



Example 10

Linking initial training, professional training and local development platforms: a key role of CATIE with Latin American partners within FTA (CGIAR CapDev Elements 6 and 8)

During Phase 1 of FTA, an outstanding aspect was the collaboration between CGIAR centres such as CIAT, CIRAD and ICRAF to train technicians from local organizations to carry out basic studies in order to obtain data from socioeconomic and biophysical issues in the sentinel landscapes of Nicaragua-Honduras and Western Amazonia (Brazil, Bolivia and Peru). In addition, through the collaboration of internal CATIE projects and FTA, it was possible to train technicians and producers in issues such as agroforestry, forest management, soil conservation, silvopastoral systems, agro-ecological management of coffee and cocoa, and adaptation to and mitigation of climate change. Although there was no defined plan for capacity development, CATIE developed a training strategy through its projects.

One important activity in capacity development was the creation of a national platform in each of the three countries to link science, education and rural development, and to stimulate and support tripartite dialogue between science, development and education actors. The national platform was designed, sponsored and implemented jointly by FTA-CATIE, CIAT, CIRAD, Consejo Nacional para Investigaciones Científicas y Tecnológicas, La Fundación para el Desarrollo Tecnológico Agropecuario y Forestal de Nicaragua, Christopher Newport University, Virginia, and ICRAF. During Phase 1 of FTA the platform was very important in promoting sustainable development, not only in research but also in capacity development. During this phase, 41 CATIE master's degree students carried out their research in the Nicaragua-Honduras sentinel landscape, leaving an important legacy of knowledge and studies that has served to train many professionals from both countries.

During Phase 2 of FTA, the development of capacities focused on Flagship Programmes 3,4 and 5. With the integration of the CATIE-COSUDE water-harvesting project as a mechanism for adapting to climate change, a large number of training sessions were carried out in the context of the diploma in integrated management of water resources for the sustainability of water harvesting; 26 professionals graduated as specialists in water harvesting. Another important aspect was the diploma in certification on artificial insemination for members of the national system of production, consumption

and trade of Nicaragua, led by the National Institute of Agricultural Technology. In addition, a diploma in management and adaptation to climate change, for the management of sustainable systems in coffee and cocoa, was developed in collaboration with the Ministry of Family, Community, Cooperative and Associative Economy of Nicaragua; 50 professionals graduated with practical tools.

The main difference between FTA Phases 1 and 2 is that during Phase 1 the training was carried out according to CATIE's projects, with little follow-up by the FTA flagships. During Phase 2, training focused on Flagship 5 (climate change). This had better results since the training for professionals and technicians was concentrated, and because these people then trained other people.



Amarakaeri
Communal Reserve
Multi-stakeholder
forum, Peru.

Photo by Pavel Martiarena/
CIFOR

Seedling seed
orchard of malapari
(*Pongamia pinnata*)
in Kintamani, Bali.

Photo by Laurentius Angga/
CIFOR-ICRAF

Example 11


INBAR training of trainers for incubating NGO-Community-Professionals (development professionals) in Partnership (NCPP) model enterprises for household charcoal (HHC) (CGIAR Elements 6 and 8)

A South-South project to establish knowledge transfer strategies for scaling up pro-poor bamboo livelihoods, generating income and creating employment, and teaching environmental management in Africa ran from September 2014 to December 2018. The project was implemented by the International Bamboo and Rattan Organisation (INBAR), with joint financial support from the International Fund for Agricultural Development (IFAD) and the European Commission. The financial support programme covers three beneficiary countries in Eastern/Southern Africa: Ethiopia, Madagascar and Tanzania, and includes a fourth country, India, as a South-South technical partner.

The funding was used to achieve four objectives: (i) promote bamboo for environmental management; (ii) develop farming systems for bamboo; (iii) develop inclusive NGO-Community-Professional (development professionals) in Partnership (NCPP) enterprise models for organized household charcoal and smallholder waste biomass aggregation; and (iv) develop inclusive enterprise models to produce bamboo commodities and products for diverse markets.

INBAR and its project partners delivered 43 training-of-trainers sessions over 124 person days for 1,209 participants (446 female/763 male). This included 20 training-of-trainer sessions for household charcoal (HHC), provided to 453 beneficiaries (226 female/227 male) from Ethiopia, Madagascar and Tanzania in 2015–18. In addition, 370 community-level training sessions (439 person days) were delivered for 9,492 beneficiaries (5,113 female/4,379 male), with knowledge and learning products provided to support wider outreach.

NCPP units have been set up in Tanzania, Ethiopia and Madagascar to produce briquettes by processing household waste charcoal. Women are usually the principal cooks at home every day of the year, and 5,072 of them were trained in household charcoal collection. Also, 782 smallholder farmers can now produce bamboo charcoal using dome kiln technology. Three training programmes in stove making and honeycomb briquetting were also conducted in Ethiopia in partnership with the Department of Energy and the Netherlands Development Organization for departmental staff and community members from Amhara, Oromia and Tigray regions. A total number of 148 persons (75



Woman speaking about the Kanoppi project in Sumbawa Besar, West Nusa Tenggara.

Photo by Donny Iqbal/
CIFOR-ICRAF

female/73 male) were trained in collection, aggregation and primary quality control for enhancing burning efficiency. One economic bamboo and agri-waste cluster was established at the NCPP production centre in the city of Bahir Dar to produce locally branded Tana Charcoal. The initiative has been continued in partnership with the Bahir Dar city administration and IFAD's community-based integrated natural resources management project.

In Tanzania, 32 village clusters, comprising 3,029 women, were mobilized and 37 training programmes conducted on household charcoal collection and payment and logistics; participants also selected cluster coordinators. The inclusive social enterprise WODGRA's NCPP household charcoal briquetting unit has operated since April 2016, with a production capacity of five to six metric tons of briquettes per month. For market promotion, the project has also participated in the Nene Nene agricultural exhibition to create visibility and to demonstrate the burning and heating capacity of briquettes. A total of 353 visitors to the exhibition were interested in purchasing briquettes and are now being supplied with them. The project is also training micro charcoal sellers in Mbeya town, Tanzania. Training of trainers was facilitated for personnel of the Ministry of Environment, Ecology and Forests, Madagascar, and for the Tanzania Forest Service under the Ministry of Natural Resources and Tourism. In Madagascar, the project conducted training in data collection for the PROSPERER Counsellor for Enterprise Bamboo to capture data on the revenue, income and profit from the enterprise.

Scaling up/adoption has been done in collaboration with IFAD, World Bank loan projects, government departments/agencies, and the private sector.

Example 12

New open access e-learning course: gender and inclusion in forest landscape restoration (CGIAR Elements 4 and 5)

The world has set important objectives in terms of forest and land restoration (FLR) under the UN Decade of Ecological Restoration. Land restoration should be as much about people as about ecosystems. There is today a growing recognition of the importance of adopting a people-centred approach to land restoration as promoted by FTA. And a people-centred approach means giving proper priority to gender and social inclusion in the implementation of global ecological restoration efforts to avoid perpetuating marginalization, inequalities and environmental degradation. Yet, despite international agreements and national and local commitments, barriers to enhancing equality and inclusion remain, and continue to limit the opportunities and well-being of women and girls, and of groups marginalized by ethnicity, socioeconomic status, or other factors of discrimination. This situation hinders reaching restoration objectives and their sustainability.

A common challenge in enhancing gender and social inclusion in the field of FLR is the lack of practical, easily accessible learning tools. To address this, FTA has developed an open access e-learning course, Gender and Inclusion in Forest Landscape Restoration, for stakeholders engaged in FLR efforts (FTA 2021). The course was made freely available online in December 2021 and was officially launched and promoted in 2022. As of April 2022, there were almost 60 registered learners spread across five modules.

The course aims to strengthen the skills in and knowledge of FLR stakeholders about policies, approaches and practices that strengthen the integration of gender and social considerations in FLR. The goal is to provide course participants with inspiration and practical guidance to contribute to more gender-responsive FLR in order to generate equitable and sustainable restoration outcomes. The e-learning course addresses the needs and priorities in capacity and knowledge — as well as the gaps — that emerged from an extensive consultation process with multiple restoration stakeholders, including NGOs, national governments, research organizations and universities, and grassroots organizations. See Figure 2.



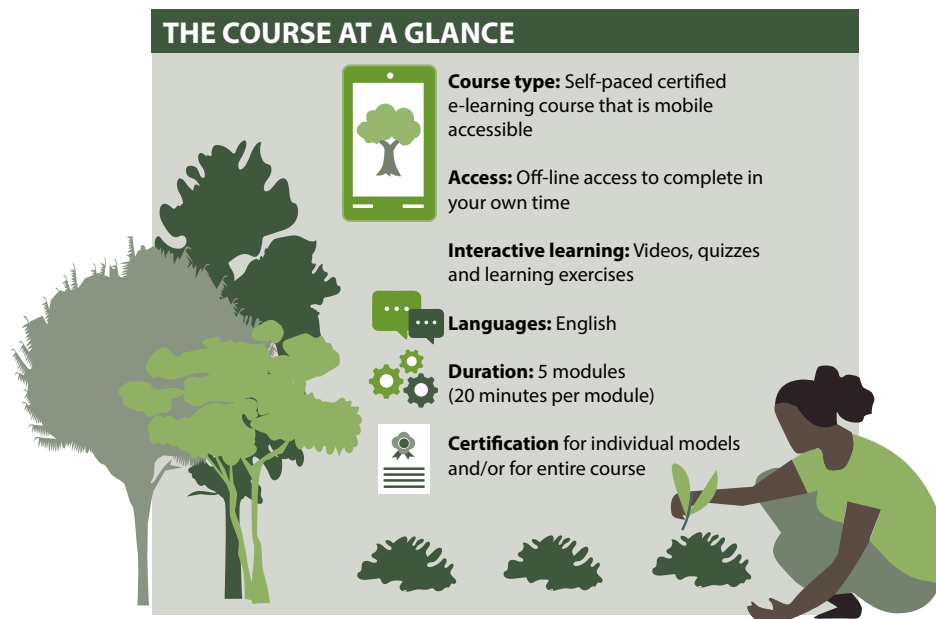


Figure 2. FLR gender course at a glance (FTA 2021)

The course consists of five modules featuring relevant evidence, case studies, tools and good practices developed by FTA and partners, packaged in an accessible and interactive online learning format. See Figure 3.

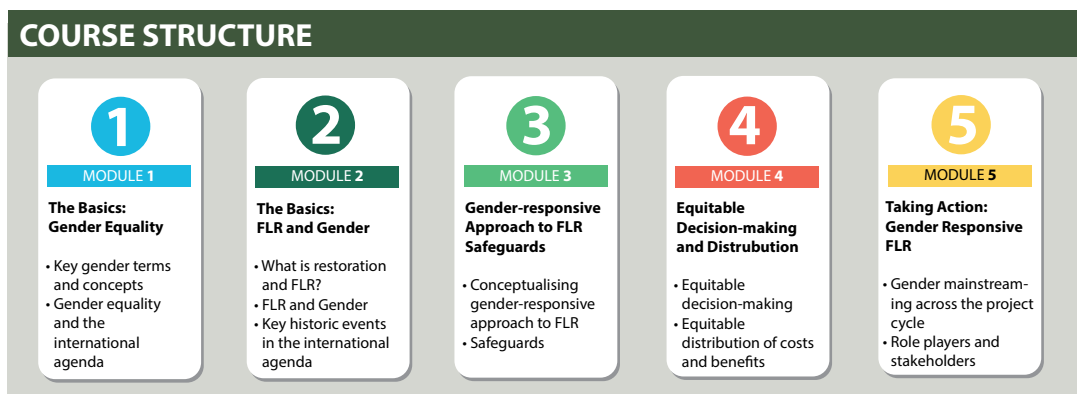


Figure 3. Course structure (FTA 2021)

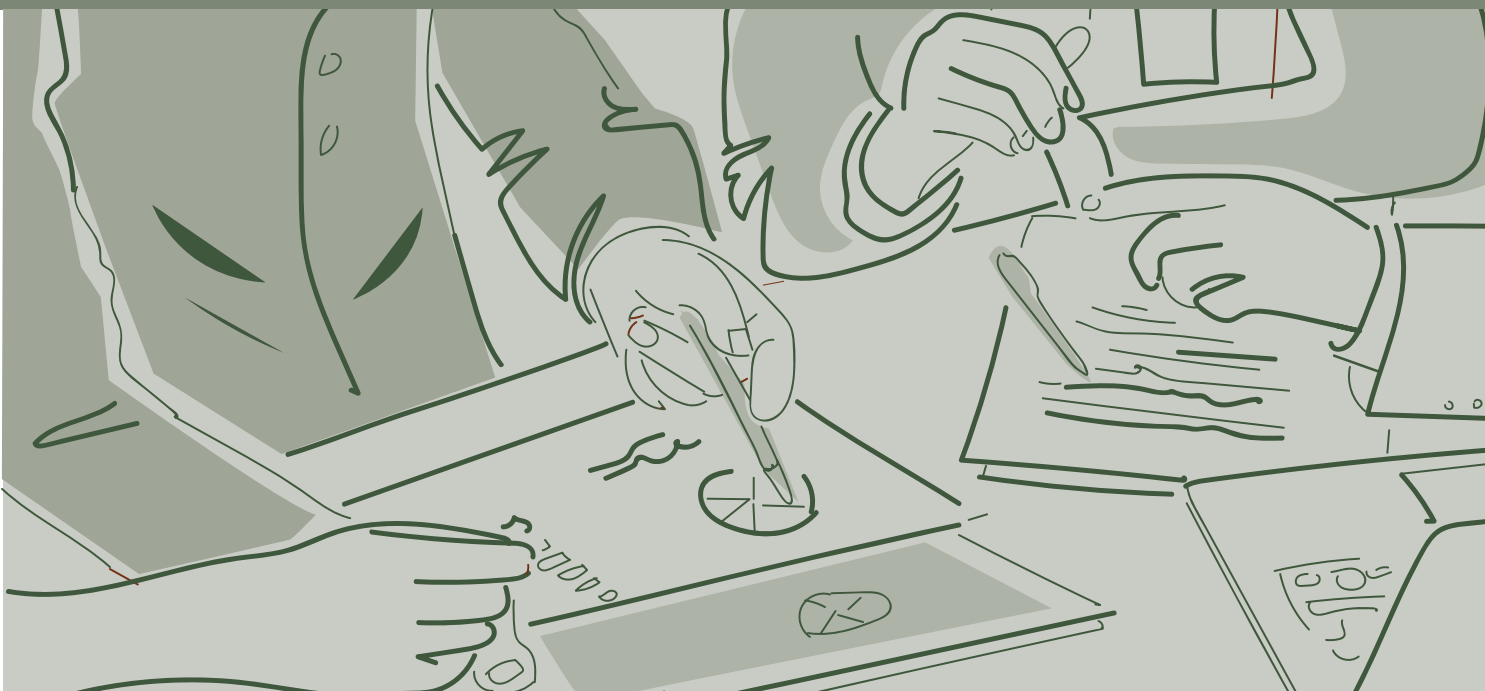
Each module is a certified training session in and of itself, and interested learners have the choice to complete one or more modules. The course is designed to be easily accessible to all: learners have the option to complete it online, offline or on their mobile phone. Learners have access to an extensive resource centre to assist with further learning. Each of the modules, which include videos, interactive exercises and a guide, takes approximately 40 minutes to complete, with the entire five-module course requiring

approximately three hours. The learning platform that hosts the course requires participants to register and log in and allows learners to pick up the course where they left off, for a self-paced journey. A certificate of completion is delivered at the end of individual modules and of the full course. It is hoped that the course will strengthen the capacity and knowledge of a range of actors to achieve more inclusive and equitable restoration initiatives.



Women's workshop,
Peru.

Photo by Marlon del Aguila Guerrero
/CIFOR



7. The legacy of FTA and future perspectives to strengthen CapDev

7.1 The legacy of FTA

For FTA's impact pathways, capacity development acted as an enabler at each stage of the upstream-to-downstream continuum of research for development, to support the achievement of outcomes.

- First, an ex-ante capacity needs assessment was the starting point for FTA flagship programmes and partner organizations (Example 1).
- Then, at the research design and conceptualization stage, capacity to frame the right research questions, choose appropriate methodologies, and collect and analyze data was promoted through the development of individual capacities in partner research organizations and by developing future research leaders. This was exemplified by the African Plant Breeding Academy (Example 5), FTA's Gender Fellowship Programme (Example 6), FTA work on building research and community capacities in ecosystem-based adaptation (Example 7), and by support to the organizational development of the University of Kisangani (Example 8).
- FTA's research-in-development mandate and co-learning with development partners required building the capacity to frame credible and relevant science in order to meet development partners' knowledge needs.

This was achieved through engaging development partners at the global, national and subnational scales from the beginning in action research, such as strengthening agricultural research services through rural resource centres (Example 3).

- At the proof-of-concept stage, FTA delivered innovative learning materials and delivery approaches, such as the development of a portfolio of climate change mitigation and adaptation and peatland restoration tools (Example 2).
- Finally, in scaling up, FTA has developed capacities to innovate and strengthen relevant innovative multistakeholder and multilateral platforms and communities of practice. This encompassed capacity development for public organizations by training future leaders (Examples 5–8), and by designing, implementing and monitoring policies (Example 9). This also included changing the way people learn, by exploring a relatively new research area, innovative finance for sustainable landscapes (Example 4), and by developing an open access e-learning course (Examples 10–12).

7.2 Future perspectives

Building on the legacy of FTA, and looking at a new partnership, future strategic actions to operationalize capacity development as an enabler along programme impact pathways will need to emphasize six key elements: (i) starting with a good diagnostic of strengths and weaknesses, through a capacity needs assessment; (ii) ensuring that CapDev is integrated into all research and development programmes in a structured and systematic way; (iii) making strengthened partner capacities in developing countries a key part and specific objective of impact pathways; (iv) co-developing innovative learning materials and tools available through National Agricultural Research Systems (NARS); (v) greater emphasis on strengthening education systems, curriculum reforms and capacities of NARS in developing countries, which will also contribute to the development of future leaders; and (vi) developing more rigorous CapDev monitoring and evaluation systems that encompass ex-post tracer impact studies⁴³ (Example 9).

This can be done through achieving three main targets. A first target should be strengthening engagement with global and regional multistakeholder initiatives and business fora through knowledge products and services on thematic issues that FTA research will continue to address. The second target should be enabling national and subnational governments and partner INGOs to collaborate in the generation and use of research results and

⁴³ In other words, future CapDev systems in FTA should be equipped to continue monitoring and evaluating projects after the initial funding period has ended. This will allow project managers to trace the long-term impact of their work..

piloting of solutions, and in co-developing tools and materials for upscaling. A third target should be capacity development for local-level NGOs and CBOs to experiment with research-based solutions, learn from experiences and refine approaches for testing at larger scales of landscapes. This means that the programme would in fact enable CapDev organizations to perform, with a role of the new FTA to train the trainers (Examples 10–12).

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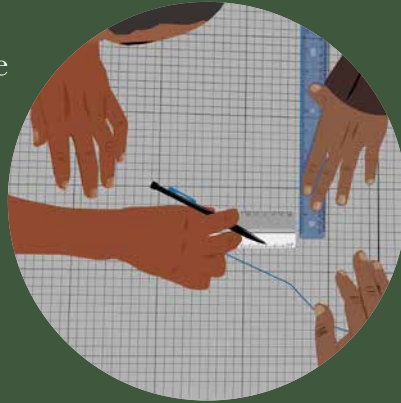
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Over the last decade, the CGIAR Program on Forests, Trees and Agroforestry (FTA) has undertaken innovative basic and applied research across different scientific disciplines on capacity development, from research to impact, and from upstream research to downstream outcomes. Capacity development activities increase the ability of a range of actors to act for positive, sustained change. This publication presents key FTA outputs on capacity development from 2011 to 2021.



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