CGIAR Research Program on

Forests, Trees and Agroforestry

Landscapes, livelihoods and governance

Annual Report 2015

















Taking stock

The year 2015 was remarkable for the CGIAR Research Program on Forests, Trees and Agroforestry in many ways. Two major events stood out on the international agenda: the Paris climate agreement and the announcement of the Sustainable Development Goals (SDGs). The SDG framework in particular confirms that we are on the right track with our integrated, cross-sectoral and landscape-wide approaches. The goals also give new impetus to our work, which integrates the study of forestry, trees and agroforestry.

Internally, we achieved a lot, despite growing funding constraints.

Our colleagues researching **Livelihood systems** see more and more smallholder farmers turning to agroforestry, with positive results for agriculture and landscapes.

The Management and conservation of forest and tree resources and their importance to biodiversity is becoming even more valuable with the strong focus on land restoration worldwide.

The term 'landscape' has become a leading one whenever thought leaders talk about land use and land-use change, and our research on Landscape management for environmental services, biodiversity conservation and livelihoods is providing strong evidence that tackling problems with the wider landscape in mind contributes to more effective solutions than by staying in separate silos.

FTA work on **Climate change adaptation and mitigation** has continued unabated in 2015 with,
for example, the growing adoption of a step-by-step
capacity-building framework to allow all countries to

join REDD+ at their own level of ability. The Overseas Development Institute (ODI) independent assessment of our Global Comparative Study on REDD+ has documented these outcomes.

Our research on **Global governance, trade and investment** yielded important findings on the role of smallholders in global value chains. Using the results from our studies, scientists are able to influence policy makers and companies to adopt more sustainable policies and practices.

Via the **Sentinel Landscapes** we continue to demonstrate that regional and global integration of research designs and findings is an important international public good leading to higher impact. More than 64 partners across 20 countries were involved in shaping the Sentinel Landscapes network, generating a high-value dataset on the health and trajectory of landscapes.

As always, the high-quality work of the Flagships was only possible with the tireless support of the three cross-cutting teams: Gender; Monitoring, Evaluation and Impact Assessment; and Capacity Building.

This short Annual Report shows only some of our stories and outcomes, but there are many more, which are, of course, no less important. Visit our dedicated website www.foreststreesagroforestry.org to find out more about our research program.



Robert Nasi
Director of the CGIAR Research Program on Forests, Trees and Agroforestry (FTA)

@ForestsMatter

FTA flagships



Smallholder livelihoods



Management of forests and trees



Landscapes



Climate change



Trade & investment

Cross-cutting themes



Sentinel landscapes



Gender

Key FTA publications last year

In 2015, research from the Program on Forests, Trees and Agroforestry was reflected in more than:

600

publications

78%

are openly accessible and we are always working to increase that proportion

45k

downloads*

* not counting direct downloads from publisher sites or scientists' webpages

Key FTA publications in 2015



Land use patterns and related carbon losses following deforestation in South America



Evaluating factors influencing heterogeneity in agroforestry adoption and practices within smallholder farms in Rift Valley, Kenya



Managing oil palm landscapes: A seven-country survey of the modern palm oil industry in Southeast Asia, Latin America and West Africa



Climate-Smart Landscapes: Multifunctionality In Practice



Supplying new cocoa planting material to farmers: a review of propagation methodologies

Assessing what works

Rigorous assessment is critical to ensure that research is done the right way and that results are valid. FTA researchers base their work on the CGIAR-FTA's Theory of Change, which allows them to check if their project indeed contributed to a particular outcome. In 2015, the Theory of Change was refined and included in the proposal for the next phase of FTA, starting in 2017.

Assesments in 2015



- Global Comparative Study on REDD+
- Putting Wetlands on the Agenda: An Outcome Assessment of the SWAMP Project
- Sustainable forest management in the Congo Basin

Capacity building

Some 50,000 people were trained in 2015 by the six FTA institutions in subjects ranging from calculation of Reference Emission Levels to plant breeding (ICRAF), from the development of a Regional Training Center on forest genetic resources (Bioversity International) to understanding Indonesia's fire and haze crisis (CIFOR). CATIE supported a high-level negotiation-table on the nexus of education, development and science. A set of recommendations developed during an expert meeting and based on CIFOR research on fire and haze was presented to panels consisting of government, the private sector and civil society.

49,800

Short-term trainees



195

Long-term trainees







One of the drivers of research on forests, trees and agroforestry is to improve the lives of smallholder farmers. And a key element of the Livelihood systems flagship in 2015 was Research *in* Development (R *in* D), which should not be

confused with research *for* development, because one preposition makes a big difference here.

Scientists from the World Agroforestry Centre have made considerable progress in R *in* D in 2015, using a two-pronged strategy of building a strong evidence base of what options suit different contexts and of improving farmers' access to agroforestry technologies.

"Research *in* Development is proving important in underpinning the wide adoption of agroforestry across landscapes in Africa, Asia and Latin America," said flagship coordinator Fergus Sinclair. 'This is because it leads to the promotion of more diverse and inclusive options, rather than to focus on only a few, usually exotic, tree species," he explained. "It results in more resilient livelihoods and landscapes."

R in D combines the vast scope of development spending with the precision of research methods to better fit agroforestry interventions to specific contexts, which is important because not all interventions will work everywhere or for all people. And what R in D

shows is that agroforestry – the management of trees in agricultural fields, farms and landscapes – takes many forms that suit different people and places. This is the take-home message from many recent FTA projects.

A powerful example comes from a project for agroforestry solutions to ease pressure on Virunga National Park in the Democratic Republic of Congo. The landscape there is degrading because forest cover and diversity in the area has declined. This is impoverishing local communities and making them more vulnerable to shocks and climate change.

Fortunately, there are ways of conserving biodiversity and improving local livelihoods at the same time. These are outlined in a new manual on agroforestry, a product of successful participatory research. The technical manual, which is also available in French, helps people to select and manage trees in the area around the national park.

It combines both local and scientific knowledge and provides guidelines on the various uses, ecological profiles and potential niches for integrating trees into farms and landscapes. It has been instrumental in changing knowledge, attitudes and behavior of development practitioners. Before, they often promoted woodlots comprising a few exotic tree species. Now, they can apply 15 agroforestry practices with 120 tree species, including 78 native. These diverse options are more inclusive of different people in the area, including women and indigenous groups.

This is the first participatory workshop involving scientists, farmers and technicians. The knowledge-sharing experience was rich. I was not aware there were so many important native species that we could promote."

Joseph Kana

Technical agent for the local farmer association ONDE in Sake, Masisi, Democratic Republic of Congo

More achievements in 2015

- FTA has grown the market for son tra (*Docynia indica*), an indigenous fruit tree in northwest Vietnam, by developing new products with industry partners, and FTA has catalyzed change in incentives for farmers to adopt agroforestry practices in Yen Bai province.
- FTA research has developed new insights into the devolution of forest governance in Kenya with key implications for what is required in terms of transfer of power and the agency of marginalized groups for local empowerment in community forestry to be effective.

For more information visit



www.foreststreesagroforestry.org



Fergus L. Sinclair f.sinclair@cgiar.org



Guide technique d'agroforesterie pour la selection et la gestion des arbes au Nord-Kivu





For Flagship 2, Management of Forest and Tree Resources, top achievements in 2015 were in research conducted on diversified forest management.

A good example comes from the Congo Basin, the second largest expanse of tropical forest in the world. Multiple demands on its 200 million hectares of forests often lead to conflict among users. As some of the uses are informal or illegal, they are not accommodated within the framework of forest management administered by the State. Widespread timber concessions granted to industries compete with agriculture, hunting, small-scale logging and, it has been suggested, with the gathering of non-timber products by local people who live in or near the forests.

FTA research on forest uses by men and women in dozens of villages in Cameroon, Gabon and the Democratic Republic of Congo show that local people depend on forest foods, including both plants and animals. Flagship 2 scientists analyzed

the density and abundance of forest resources and found that extracting both industrial timber and forest foods from trees could be sustained from the same concession if users had clear guidelines and negotiated agreements to reduce conflict. Expanding the number of resources managed and extracted from concessions would increase the benefits per hectare as well as the number of beneficiaries.

Agriculture, chainsaw logging and hunting were identified as the main sources of conflict between villagers and timber industries. Once these were identified, the researchers looked at ways to resolve the disputes and estimated the costs of the trade-offs required.

This last step was crucial as it gave stakeholders a clear idea of the costs and benefits associated with the implementation of a multiple-use scheme. It became clear that multiple-use forest management needs effective financial incentives. Going forward, the researchers suggest that concessions should not be dedicated solely to timber exploitation, but be seen as part of a broader landscape for sustainable multiple resource-based development.

Timber and non-timber products for different stakeholders can be obtained and sustained from the same concessions, when all agree on appropriate practices and arrangements."

Laura Snook
Program Leader,
Forest Genetic Resources Conservation and Use,
Bioversity International

More achievements in 2015

- Recommendations about concession boundaries have been used in the forest management plans in the Democratic Republic of Congo.
- At the 2015 Congo Basin Forest Partnership conference, COMIFAC ministers endorsed FTA recommendations on bushmeat.
- The work on social outcomes of FSC certification in the Congo Basin (with Flagship 5, Global governance, trade
 and investment) has been instrumental in showing that certified concessions have more positive impacts than
 non-certified concessions.

For more information visit



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After four years, the project Agroforestry and Forestry in Sulawesi: Linking Knowledge to Action (AgFor), co-funded by Global Affairs Canada, has left its mark in many districts of South Sulawesi Province, Indonesia. By 2015, four

districts – Bantaeng, Bulukumba, Jeneponto and Gowa – had officially implemented a strategy for sustainable livelihoods and conservation that AgFor had promoted since 2011.

Through training in agroforestry and forestry conducted by AgFor and national partners, farmers are now able to consistently improve their livelihoods while also providing ecosystem services that benefit not only themselves but also the wider community.

Agroforestry is only one component of AgFor; another consists of assisting with improved landscape governance. For example, the AgFor Governance team helped the district government to develop a regulation that recognizes the Kajang indigenous people of Bulukumba. Through collaboration with AgFor researchers and a Kajang nongovernmental organization, indigenous forest managers gained formal recognition of their management.

Furthermore, the Kajang and local government agencies came to a mutual understanding of better participatory governance, which is being mainstreamed into policies and procedures to ensure continuity after the project is closed in 2016. AgFor also had a gender component that assessed men's and women's involvement in local governance.

The third component of AgFor, which focused on the environment, developed the Capacity-strengthening Approach to Vulnerability Assessment (CaSAVA) method. This method assesses how trees or agroforestry systems can be used as coping and adaptation strategies for climate and market variability. It includes scientific modeling in assessing land-use changes and their impacts on the buffering capacity of a watershed, carbon-stock dynamics and biodiversity.

The method was further tested in another FTA-supported project – Climate-smart, Tree-based, Co-investment in Adaptation and Mitigation in Asia – which then presented it to the co-funder, the International Fund for Agricultural Development (IFAD). Other IFAD projects in the Philippines expressed interest in adopting the method.

We started with a small group in Ujung Bulu Village, which has become a good example for others. It obviously takes time and much effort but together we can change our mindsets and our landscapes."

Pratiknyo Purnomosidhi AgFor coordinator, South Sulawesi

More achievements in 2015

- The LUWES/LUMENS framework has been mandated by the Indonesian Ministry for National Development Planning for use in all provinces for land-use planning for low-emissions development.
- Social forestry and agroforestry have been included in the ASEAN Vision 2025 for Food, Agriculture and Forestry.
- Earlier FTA research in the design of reward instruments in management of ecosystems has now been mainstreamed in policies of the electricity company of Sumatra, Indonesia.
- The same research has influenced Vietnam's set up of payments for forest ecosystem services linked to REDD+.
- Indonesia's Ministry of Environment and Forestry adopted recommendations from studies conducted by the CGIAR Research Program on Forests, Trees and Agroforestry for the regulation on Economic Instruments for Environmental Protection and Management.

For more information visit



www.foreststreesagroforestry.org







At the Global Landscapes Forum during the Paris climate change conference in December 2015, Indonesia officially launched the Indonesian National Carbon Accounting System (INCAS) as the basis for the country's

measurement, reporting and verification (MRV) system for the land sector. An MRV system is required under the UN Framework Convention on Climate Change and as such, INCAS is an important milestone in achieving REDD+ readiness. FTA researchers have worked closely with the Indonesian government in the development of this system.

In its Intended Nationally Determined Contributions (INDC), the government of Indonesia has set itself the target of reducing greenhouse gas (GHG) emissions by 29 percent by 2030. INCAS

is designed to be a flexible framework system that brings together the best available spatial, biophysical and land management data from across the nation to quantify changes in carbon stocks and greenhouse gas emissions in the agriculture, forestry and other land-use sectors. It was first applied in Central Kalimantan and will gradually cover all of Indonesia.

To date, INCAS has been used to produce an annual account of GHG emissions and removals from all of Indonesia's forests and peatland for 2001–12. This refers to key activities related to REDD+ such as deforestation, forest degradation, sustainable management of forests and enhancement of forest carbon stocks. Emissions from biological oxidation and from fires on disturbed peatlands are also included. Eventually, INCAS will include full coverage of all sectors under agriculture, forestry and other land use.

Monitoring greenhouse gas emissions is a fundamental step to all actions on climate change. We need to know the size of the problem, before we can start to address the problem."

Rachmat Witoelar Special Envoy for Climate Change of Indonesia's President, on INCAS

External assessment of REDD+ research in 2015

In 2015, the Overseas Development Institute carried out an assessment of the Global Comparative Study on REDD+, a key project of Flagship 4. The report documents some of the achievements of this research-for-development program over the last few years. It can be found online: http://www.odi.org/publications/9932-informing-redd-policy-assessment-cifors-global-comparative-study



Informing REDD+ policy: An assessment of CIFOR's Global Comparative Study

For more information visit



www.foreststreesagroforestry.org



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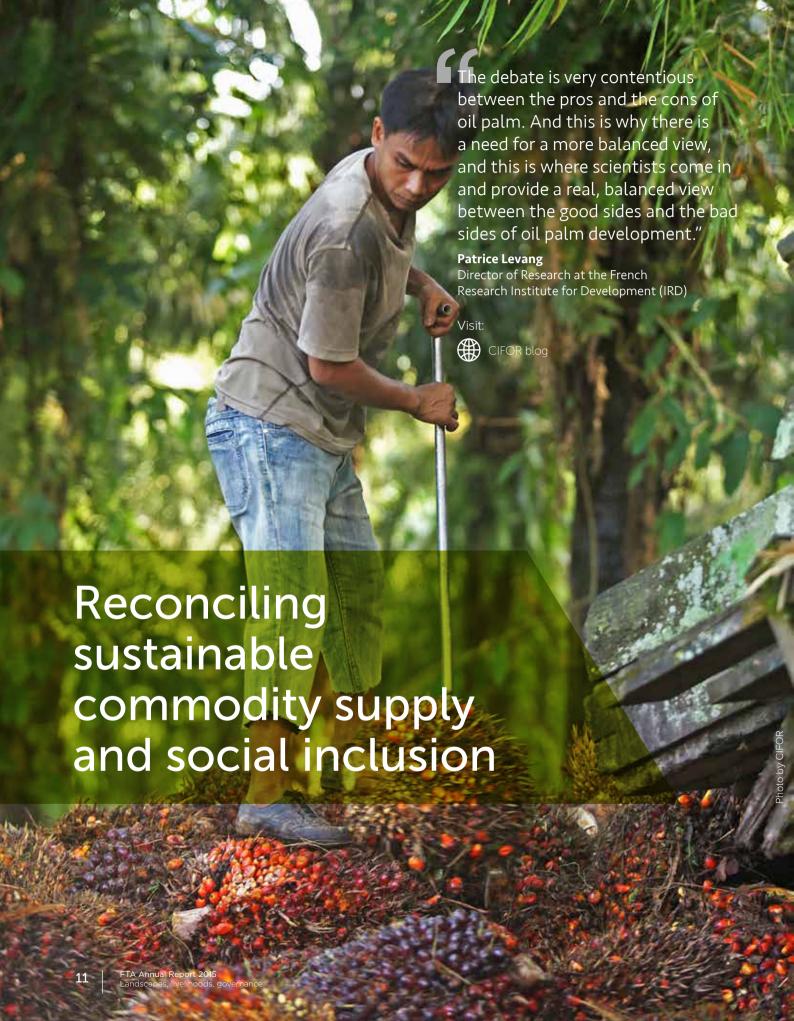


Video: INCAS explained



Standard Methods for Estimating Greenhouse Gas Emissions from the Forestry Sector in Indonesia (Version 1)







Research on global governance, trade and investment has been prolific in 2015, adding to the knowledge base on commodities such as cocoa, timber and beef. But of all the commodities that FTA researchers deal

with, oil palm is certainly the most controversial. Especially, but not only, in the chief producing countries Indonesia and Malaysia, it is associated with deforestation and environmental degradation. In Indonesia it is even a driver of the recurring fire and haze crisis, particularly when oil palm development takes over peatlands.

Representative of the research theme on trade and investment are three studies on oil palm that tackle the issue from different angles:

- One study examines the implications of oil palm expansion and policy responses in seven countries.
- A second takes stock of the palm oil sector in Brazil and has shown that, in contrast to the Indonesian case, oil palm and the expansion of deforestation don't have to go hand in hand.
- A third looks at the gendered impact of oil palm and has shown that in many cases, women tend to face more precarious labor conditions than men.

"The Brazilian case is interesting as it gives a contrasting perspective to Indonesia's," says Flagship coordinator Pablo Pacheco, who is Team Leader for Value Chains, Finance, and Investments at the Center for International Forestry Research (CIFOR). Brazil produces only a fraction of the globe's palm oil, but it still offers other countries important lessons for ways to keep palm oil sustainable. The main distinguishing factor, however, is that large amounts of land were already converted from forest to agriculture, particularly to pasture, where oil palm tends to expand.

The main force driving this expansion was Brazil's Biodiesel Law from 2005, which sought to reduce its dependence on imported fuels. The country's environmental and social safeguards have so far prevented deforestation from making way to oil palm expansion. Oil palm cultivation is restricted to areas that have already been cleared, and smallholder farmers have been included in the oil palm boom through easy access to finance.

"But it is not clear how the sector will develop in the future. Currently, the sector mainly targets the domestic market, and there are no good prospects for the biodiesel market," Pacheco warns. Higher costs for labor and transportation mean that Brazil, as well as all the other oil palm producing Latin American countries, will have a tough time competing on the international market with Malaysia and Indonesia.

More achievements in 2015

- FTA research fed into the Dutch Land Governance Multi-stakeholder Dialogue, the Roundtable for Sustainable Palm Oil, the Indonesian Sustainable Palm Oil system, and the Roundtable of Sustainable Beef in Brazil.
- The Forest Stewardship Council has taken into consideration our research findings when adjusting the standard systems for forests.
- The EU Forest Law Enforcement, Governance and Trade (FLEGT) initiative acknowledged our research findings on smallholders and domestic timber markets for their Voluntary Partnership Agreements.
- We informed the government strategy on sustainable palm oil and partnerships between companies and communities in Cameroon.
- In Ecuador, Indonesia, Cameroon and the Democratic Republic of Congo, research results made an impact on policy debates related to timber legality and verification, and options for smallholders.
- We have contributed to the formulation of more active policies for fire and haze prevention in Indonesia involving multi-stakeholder processes.

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Working paper 198

The state of oil palm development in the Brazilian Amazon: Trends, value chain dynamics, and business models





Sentinel Landscapes Progress

LDSF Field Survey Completed

 Both LDSF Survey and Soil Analysis Completed



Sentinel Landscapes is also special within FTA, as it is the only theme that brings together all six centers under one research project. The term 'sentinel' has been borrowed from medical science, where it refers to clinical

indicators used to monitor health over time.

A standardized methodology was developed in 2012 to assess a range of landscape-level indicators, measuring and monitoring human livelihoods, land health, informal institutions and governance of natural resources. It is based on and linked with existing data driven networks such as the World Agroforestry Centre's Land Degradation Surveillance Framework, the International Forestry Resources and Institutions methodology, and the Grameen Progress out of Poverty index.

In 2015, analysis of the data to date provided answers to questions such as:

- How important are trees for human resilience?
- How does access to global value chains influence local livelihoods?
- Who can benefit from sustainable intensification?
- What makes intensification sustainable?

Apart from being able to adress questions related to development across different regions, the integrated datasets provide important baseline



characterizations of the sentinel landscapes and allow for better targeting of new place-based research within those landscapes. One of the key elements and objectives of the network is to monitor changes over time, so continuity is a priority.

One of the highlights of the Sentinel Landscapes project is the interactive Landscape Portal that applies GeoScience in assessing socio-ecological processes in landscapes. It provides users with a platform for visualizing and sharing spatial data and maps, and with map stories.

Over the past year, the groundwork was laid for a global analysis of key drivers of soil health across landscapes, linking social and ecological metrics. Summaries of the ecological baselines can be explored interactively on the Landscape Portal. The aim is to expand this dashboard in 2016 to include outputs from the socioecological data analysis.

For more information visit



www.foreststreesagroforestry.org/ftasentinel-landscapes



Anja Gassner a.gassner@cgiar.org

The Sentinel Landscapes Network is a great example of how the CGIAR Fund can be used to produce international public goods that otherwise are unlikely to be funded."

Anja Gassner Lead, Research Methods Group, World Agroforestry Centre





"Scientists who are more aware of gender issues also produce better research into the structural causes of gender inequality," says Ana Maria Paez Valencia, who coordinates the gender-related work between the FTA centers.

The Gender Integration Team, which comprises at least one gender expert from each participating FTA institution, organizes training programs, develops tools and guidelines for gender analysis and research methods and provides tailored support across flagships to understand and address key institutional, cultural and attitudinal contexts that determine gender inequity.

In 2015, there were a number of major achievements for the gender theme including:

- A unique Gender Fellowship program was evaluated positively.
- Work on the gender implications of REDD+ schemes fed into the national guidelines for gender mainstreaming for national payment for ecosystem services policies in Vietnam and in UN-REDD planning.
- In Indonesia, dissemination of results from the same research led to a close collaboration with the government to mainstream gender into REDD+.
- Over the course of two years, researchers and partners in Uganda and Nicaragua increased the proportion of women in leadership roles as well as the number of women who planted their preferred tree species (including taboo trees) on farms owned

- by men. The number of women contributing actively to group meetings increased, as did women's interactions with external actors such as forestry agencies and NGOs.
- In India and Malaysia, research on the gendered dimensions of native fruit tree management has resulted in initiatives that support women's collective processing and marketing of kokum (*Garcinia indica*) and mango (*Mangifera indica*) to improve their incomes, strengthen their social networks and develop their self-confidence.
- Gender-responsive research on forest use and management in India and the Peruvian Andes opened up new spaces for women to participate. Women and men came to a better understanding of the benefits of inclusiveness in forest management.

To keep track of progress on the implementation of FTA's gender strategy and the efforts on gender integration, the FTA gender team has developed the Gender Equality in Research Scale, a monitoring and learning tool to identify the level of gender integration in the FTA research project portfolio.

It was amazing to see the nittygritties, which have to be considered when designing a tool with gender consideration. There is no 'one size fits all' system for social research."

Shambhavi Priyam

Researcher, Action for Social Advancement in Madhya Pradesh, India

More achievements in 2015

In Indonesia, Oxfam has used the results of research on the social impacts of oil palm in West Kalimantan to:

- formulate its program on Gender Transformative and Responsible Agribusiness Investments in Southeast Asia
- bring gender aspects to the Roundtable on Sustainable Oil Palm to be used in their setting up criteria, indicators and guidance for gender-sensitive policies.

For more information visit



www.foreststreesagroforestry.org



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Gender in Agroforestry

A highlight for the gender research theme of FTA was the special issue of International Forestry Review, Gender in Agroforestry, to which leading FTA gender experts contributed.

Communication and outreach

Traffic via the Forests, Trees and Agroforestry website grew from:

 $18,000 \longrightarrow 29,000 = 61\%$

page views in 2014 page view: in 2015 increase

A newly introduced FTA newsletter is distributed to about

4,600

subscribers every two months

In 2015, across all centers' websites more than

700

web stories based on FTA research have been posted

860k

page-views have been counted

The centers' web pages:



Forests News



CATIE's blog



Agroforestry World Blog



CIRAD's news



Bioversity International's news



CIAT news



The Global Landscapes Forum is the main FTA-related event and attracted some **3,200 participants** in Paris last year. FTA also contributed extensively to the World Forestry Congress, the World Bank Conference on Land and Poverty and many more events.

Data repositories, portals and online tools

Efforts in data management, archiving and open access are bearing fruit.

In 2015, ICRAF Dataverse contained

102

555

CIFOR Dataverse contained

35 studies 382

data files

FTA joined the CGIAR Consortium open data management initiative as a member of the task force and has completed the development of the CGIAR core metadata for future data sharing.

Our online tools such as the Landscape Portal, Terraland the The Tropical Managed Forest Observatory (TmFO) are in high demand.



Funding partners



























































































































































Partnerships

In 2015, FTA continued to strengthen its partnership engagement. The development of partnerships was tailored to the specific needs of each flagship and relevance for FTA as a whole, particularly at the global and national levels. Building on the confidence this systematic partnership approach has generated, we can deliver research-based knowledge in the format each partner needs.

A boundary partner survey carried out during the independent evaluation confirmed partners' satisfaction with the scientific quality of FTA research, while highlighting some issues with important boundary institutions in recognizing and adopting research results. In 2015, FTA researchers made systematic efforts to ensure that strategically important actors are involved in setting priorities for and designing research projects. This manifests, for example, in increased outcome mapping and social network analyses, and ensures a better fit of FTA targets and results with the concrete needs of development partners, including major funding partners.

Since 2015, the long-term collaboration with other CGIAR research programs and research centers is increasing. This will be stepped up in 2016 to define FTA's competitive niche and will be reflected in the design of the FTA portfolio for 2017 and beyond.



With more than 600 publications from research spanning smallholder livelihoods, biodiversity, commodities, climate change, landscapes and many other topics, 2015 was a remarkable year for the CGIAR Research Program on Forests, Trees and Agroforestry (FTA). In the just published Annual Report 2015, the six FTA partners look back on their most important achievements. Illustrative stories come from the Congo Basin, the Amazon and the Indonesian archipelago, among others.

