IEA
Independent Evaluation Arrangement

Evaluation of the CGIAR Research Program "Forests, Trees and Agroforestry" (FTA)

Annexes to the Draft Inception Report

Munich/Rome, 26 September 2013

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Annex A. Key Development Trends and Related Research Needs

Overall Setting

World's forests are undergoing far-reaching changes as a consequence of human actions with great implications on the well-being of people and the sustainability of the environment. Most of the adverse developments are related to deforestation and forest degradation, in particular in the tropics and sub-tropics. These transformative changes are influenced by global macro-trends related to population growth and associated demographic dynamics, economic growth and its distribution, climate change, the shift towards low-carbon biomass economy, and globalization. The underlying drivers of change do not operate in isolation but are interlinked with each other through processes that cut across different sectors such as forestry, agriculture, water, energy, and manufacturing of goods, and influence the delivery of forest-related environmental services.

Megatrends and Cross-Sectoral Drivers of Forest Change

Population and economic growth, food security and forestry. The world population will continue to increase reaching 8.3 billion people in 2030 and 9 billion in by 2050, i.e. an increase of 2 billion from today. Almost 98% of the population growth will take in place in the developing world, and the majority of it in the Sub-Saharan Africa and South Asia. In 25 years an estimated 90% of global population will live in developing and emerging countries with the majority of them in the urban areas (UN Population Information Network 2013).

The world's fastest growing economies are in the developing and emerging countries. In China, GDP growth has averaged 9% per year in the last two decades, which combined with the world largest population base, translates into a demand boom for food and forest products, including import of wood fiber. BRIC economies are on average growing at rates exceeding 5% and even Africa has experienced growth rates far above the economic growth seen in Europe. It has been estimated that by 2050 non-OECD countries will account for some 70% of the increase in the global economic output. By 2050 India would have joined China as the world's two largest economies influencing trade flows and investment in forest and agricultural products as well as in energy worldwide and having direct and indirect impacts on agriculture and forestry land uses in all continents. Simultaneously with economic growth, middle class is expanding bringing changes in consumption and dietary patterns, including increasing demand for paper and packing products, construction wood, wooden furniture, non-wood forest products as well as for also for meat and cereals all of which influence land use and exert pressure on the forests.

It is estimated that by 2050 food production must be increased by 70 % to feed an additional 2 billion people, which will increase the demand for land (WWF 2011). Further, more affluent societies and the shift towards increased meat consumption are placing higher stress on agricultural production, forest resources, GHG emissions, and water demand. There are also more immediate concerns. Asia and Africa now contain two thirds and one third of all global poverty and food insecurity respectively, with a number of interrelated vulnerabilities, i.e., greater dependence on fuelwood for energy and non-wood forest products for nutrition, water shortage for household use and irrigation, and other insecurities. The number of

undernourished people has increased significantly since the mid-1990s reaching about 870 million worldwide. The largest number and share of malnourished children and hungry people live in South Asia and Sub-Saharan Africa. In these regions the share of malnourished population has also been increasing in recent years and the poor depend on agriculture, forests and other natural resources for their livelihoods. For example, around 2.6 billion people depend on fuelwood as a primary energy source for cooking ((FAO 2012a, WWF 2011).

Food security is the top challenge humanity is facing today, but food production must be increased without destroying the environment and creating social conflicts. However, as statistics indicate much of the increase in food and livestock production has in last decades been based on extensive land use instead of increasing agricultural productivity. Where population increases are significant and subsistence or low productivity commercial agriculture remain the norm, more land must come progressively under agricultural production – often by converting forested areas (FAO 2012b). Another trend is land grabbing: countries such as China, India, South Korea, Thailand, Qatar, United Arab Emirates, and India have started acquiring land and land concessions in Africa and in South America to grow food for their own peoples.

Significant increases in investments in agricultural R&D, and agriculture in general, are needed to enhance agricultural productivity. Ways of combining food, energy and forest production on the same land area must be pursued simultaneously. Already now, in many areas significant tree resources can be found on agricultural landscapes and other land outside of the forests.

Population and economic growth and increasing demand for forest products and wood. Demand for all kinds of industrial forest products and wood-biomass for energy is increasing rapidly in developing and emerging countries with naturally China, India and Brazil at the forefront. This implies increasing demand for roundwood and additional pressure on the existing forests, which again in some areas has resulted in illegal logging and trade. In countries with weak governance it is easier and more economical just to cut down forest and trees instead of investing in growing trees in either sustainable forest management or in plantation forestry or agroforestry.

The gap between sustainable supply of wood and demand for wood will be increasing in the coming decades. In order to fill this gap and avoid unsustainable utilization of natural forests, more productive plantations, tree crops and agroforestry systems are needed. Improved management of existing natural forests both for production and conservation is also essential. With rising wood prices, tree growing by smallholders, small and medium size forestry enterprises (SMEs) and others becomes more attractive. However, in many parts of the developing world there is insufficient knowledge on appropriate forest and tree resource management techniques and the institutional arrangements including land tenure do not often favor long-term tree growing investments.

Possibly around 45-55 million hectares of new planted forests and trees (fast growing plantations, semi-managed planted forests, tree farms, agroforestry crops) would be needed worldwide to fill the projected industrial roundwood gap of some 700 million m3 in 2030 (Dasos Capital 2012). WWF (2011) scenario projections are even higher suggesting that a new generation of plantations of different forms would need to be established at a rate of 4-6

million ha per year to meet the projected demand for forest products and wood-based renewable energy. This would create additional competition for land with agriculture and energy uses while also creating revenue earning opportunities for forest managers, including smallholders. At the same time degraded, overexploited forest ecosystems would have to be rehabilitated through different means to ensure delivery of critical ecosystems services, and wood and non-wood forest products for local people and the market.

Forest plantation development and tree growing naturally create changes – both positive and negative – to the lives of local people. The impact on the environment can also be negative or positive, or both at the same time. More research is required on the environmental and social consequences of foreseen major forest plantation development. Social impacts are manifold and highly complex and dynamic, while being location specific. In many regions, environmental and social issues are very much interlinked. Water shortage is a source of environmental concern in many regions. There is particularly a concern that plantation and tree development with highly evaporating species will worsen the existing drought-proneness of vulnerable regions (FSC 2012).

As is the case with agriculture, forest management and tree growing - irrespective of the type of production system – must become more productive and often also more resilient and adaptive to changing environmental conditions. This requires better understanding and utilization of traditional knowledge and management systems, better utilization of existing best practices and scientific knowledge, and also new scientific approaches. Along with improved practices, advances in bio-technology have great potential to increase tree plantation yields, their sustainability and resiliency to the impacts of climate change. Research can also facilitate the development of a range of plantation and tree crop management models and integrated cropping systems that maintain ecosystem integrity - including biological, carbon, nutrient and water cycles, biodiversity, ecosystem services and social and cultural values – and contribute positively to economic and social development (WFF 2011).

Climate change, forestry and trees. Deforestation is the second largest anthropogenic source of carbon dioxide after fossil fuel combustion, being responsible for 15-20% of global carbon emissions causing global warming (IPCC 2007). Higher temperatures and decreases in rainfall reduce agricultural productivity and water availability and also make forests more vulnerable to damage due to fires, pests and diseases. This is likely to cause more forest loss and create a vicious circle with huge ramifications for the livelihoods of forest-dependent people, long-term supply of forest goods and services to the benefit of local and national economies and in some cases to the benefit of the global public good. Projections suggest that 40% of biodiversity in the tropical and sub-tropical forests could be lost due to climate change (Fischlin et al. 2009).

Forests can also play a key role in sequestering emissions from other anthropogenic sources and provide an important, growing source of renewable energy. Complicated carbon credit and REDD+ schemes and procedures have been developed and hundreds of millions of dollars have been poured into the development of the related architecture, conducting climate-change related forest research and piloting forest carbon projects in the field. Most key international responses have focused on mitigation. Since it is now inevitable that global temperatures are increasing, adaptation is becoming more important at all levels. More information is needed on the impacts of climate change, especially on the most vulnerable

ecosystems and populations, and ways of reducing vulnerability and adapting to forthcoming changes must be identified.

There's a need to identify and preserve highly resilient ecosystems, forest types and species and developing modified forest management systems that are better adjusted to higher temperatures and less frequent rainfalls and related impacts (pests, fire, invasive species, etc.) Adaptive silvicultural techniques – such as judicious species selection and tree improvement, thinning, and improved fire management, applied as part of a sustainable forest management regimes – are needed to mitigate the negative effects of climate change (FAO 2012b). It is also crucial to identify new institutional and governance models that are suited for implementing forest adaptation and facilitating how forest-dependent households and communities adjust to climate change. Research can help in identifying institutional and governance frameworks that support effective and fair implementation of REDD schemes (Kanninen et al. 2010, Locatelli et al. 2010). Research findings must feed into action and decision-making at multiple levels, including national and regional policies and global climate-change related negotiations and "architecture" development.

Forests and increasing demand for bio-energy. One of the major trends to address climate change worldwide has been the shift towards substituting renewable energy, including wood biomass, for fossil energy. This change is also driven by the diminishing world's fossil energy resources. The evolution of the role of wood biomass in energy production depends on the overall energy demand trends and the dynamics of energy markets, which are increasingly determined by environmental policies, scarcity of fossil fuels as well as economic and population growth in non-OECD countries. The age of fossil fuels is far from over but it is widely accepted that the only alternative to meet people's needs sustainably and avoid the major economic, social and environmental costs associated with climate change is to shift towards a low-carbon bio-economy or "Green Economy".

During the last five to ten years increasing forest and other land areas have been converted into bioenergy production, including agricultural crops, oil palm and dedicated wood energy plantations in Latin America, Asia and Africa. In many countries, such shifts have been partially driven by national and regional policies, including quantitative targets and subsidies. For example, EU renewable energy policies have already generated incentives that have stimulated production of wood-based bioenergy in Western Africa to meet renewable energy needs in the UK. Bioenergy trends are already influencing land and food prices and in general increasing the competition for land and water resources. Wood energy plantations have known to cause social and environmental problems in many countries. However, in general not enough is known about their impacts, e.g. on the use of scarce water resources, on competition for other land uses dedicated to food or timber production, or possible positive impacts on employment and economic development, and related trade-offs.

Wood-based biomass production offers new revenue earning models both for large operators, SMEs and farm households. It can make a positive contribution to climate change, especially when established on already degraded land. There's a need to develop more productive, possibly integrated (with food production) wood biomass plantations that make more efficient use of scarce land and water resources. Research can contribute to the development of new sustainable bioenergy feedstock management models and developing related sustainability criteria and indicators. Research is needed to enhance the understanding of the trade-offs and

links between food, forestry and bioenergy production, including the impacts on prices and environment (biodiversity, water), and on the economy and people's livelihoods.

Forests and increasing demand for water. Growing food, wood and wood fiber and fuel production will compete intensively not only for land but also for scarce water resources. Significant increases in agricultural productivity and total production will require substantial amounts of water. Changing dietary patterns, such as the increasing consumption of meat products, lead to a higher demand for animal feed and, consequently, water. Agriculture is the largest consumer of fresh water resources globally, using an average of 70% of the total water consumed. This will accentuate current problems with water supply and access to both irrigation water and clean water for household use. More than 1.2 billion people live under physical water scarcity and another 1.6 billion have for various reasons poor or no access to water (Lele et al. 2013, UN 2009).

In a bid to ensure the security of food, bioenergy energy and wood fibre supplies, significant environmental stresses are being placed on water resources and forest lands critical for ensuring water supply. More than 70% of fresh water used for domestic, agricultural and industrial needs originate from forested catchments. The future availability and regularity of water supply are increasingly threatened by deforestation and other unsustainable land-uses in the upstream catchment areas, and also by converting water regulating natural forests to water-demanding energy crops. Climate change is also affecting adversely the relationship between forests and water as well as water availability (Malmer et al. 2010). At the same time, in developing countries governance constraints, such as weak institutions, centralized governments, and poorly empowered local people with unclear and/or uncertain land tenure, create major challenges for integrated water resource management. The knowledge base for managing the trade-offs and synergies between forests and water management and understanding the relationships between forest and water under the influence of climate change is inadequate. To meet the increasing demands for sustainable provision of water for social and economic development, improved governance models, and better scientific basis for modelling the effects of various land-use scenarios on water resources are needed. Such information is also crucial for creating a basis for a system for paying for watershed management services. More information is also needed on the role forests affecting local and regional patterns of rainfall (Lele 2012, Malmer et al. 2010)

Globalization, and the increasing role of private sector and trade. The globalization of the forestry and forest industry has been ongoing for the last 20 years but it has accelerated during the recent decade. As many developing and emerging countries offer the best long-term market prospects for paper and wood products and good growing conditions for fast-growing plantations, both production and fiber production are shifting increasingly to Latin America and Asia. Asia will be the location for substantial increase in the paper production. South East Asian and South American countries are increasing their production of wood chips and pulp to meet the rapidly increasing demand for fiber especially in China. Recently, some of the biggest pulp and paper complexes have been built in South America (e.g. Brazil and Uruguay) and in Asia (China, Indonesia) including both processing facilities and fast-growing plantations. At the same time, international timberland investors are also acquiring land and existing forests in developing and emerging countries. More recent developments are related to the increased investments in wood biomass production in Asia, Latin America and also lately in Africa as well as to accelerating South-to-South investments in forestry. These trends

are visible especially in Western and Eastern Africa where China and India have been active. There's a great need to analyze these trends and enhance the understanding of their impacts on forestry, forest-related land uses and forest-dependent people.

The global and regional investment and market developments offer significant opportunities for sustainable and profitable forest and agroforestry production, processing and marketing. Increasing opportunities are found in construction wood, pole, fuelwood and charcoal production, and processing of wood and non-wood forest products. If properly utilized, they can make significant contributions to poverty reduction and economic growth in developing countries and rural areas. Already at present, the forest sector is estimated to employ 58-63 million people, including some 45-50 million working in the informal sector. The reported monetary contributions of forests to economies of the developing world are estimated to exceed USD 250 billion annually, but very little is known about informal non-cash contributions and even less about value of forest-based environmental services to households, society at large, and to the global community (Agrawal et al. 2012).

Payments for environmental services offer an approach that could improve simultaneously people's livelihoods through complementary revenue streams while conserving nature. Private sector can play an important role; e.g. downstream power plants and farmers can pay upstream land managers for maintaining or even improving watershed management services. One of the major challenges is developing well-defined measurable and verifiable services, e.g. for carbon sequestration and watershed management, and creating enabling governance structures, starting from basic information on the status and trends in forest resources. As of today, most such payments, excluding carbon forestry projects, have been made by the domestic and international public sector and NGOs.

It is well recognized that unsustainable, exploitative investments in harvesting natural forests are causing deforestation and forest degradation in many developing and emerging countries. Some of the research conducted e.g. by CIFOR has helped to shed light on these developments. At the same time, it is accepted in the international fora, including United Nations Forum for Forests (UNFF), that one of the major constraints to sustainable forest management and conservation as well as to developing value-added and employment generating processing and trade, is related to the inadequate domestic and foreign investment in the forest sector (AGF 2012). A forthcoming World Bank PROFOR study on private sector forest investment flows and constraints to investments in developing and emerging countries confirms the huge disparity in investment flows between regions and countries, and between larger operators and SMEs. It also concludes that not enough reliable information is available on these themes (PROFOR, 2013, forthcoming). Better understanding of the actual financing flows and constraints to responsible private sector investment in developing countries by large companies, SMEs and micro-enterprises, including those operating in the informal sector, is needed.

Forest governance. Improved governance arrangements at multiple levels are needed for more sustainable land resource use. Research and field experience suggest that governance problems are cross-cutting, and constrain sustainable, efficient and fair development of forestry, agriculture, water and bio-energy sectors. In fact, there are concerns that unless the supportive governance structures are in place, increases in agricultural productivity may not always reduce pressure on land but rather make it more attractive to move into new frontiers

(Lele et al. 2012). Some three billion people in the developing world live without secure legal rights to land (Hudson et al. 2012). Establishing clear land tenure and property rights on the ground, based on a range of tenure models, is crucial for REDD+ and other PES schemes and for creating one of the key pre-conditions for promoting sustainable land resource management.

Decentralization of natural resource management, REDD+ and also international initiatives to control trade in illegal timber often imply a need for new institutions. New governance interventions are needed including land tenure and (forest) land management models appropriate in the specific local socio-economic and cultural environments and addressing gender and equity issues. These include private approaches and also community-based natural resource management as well as collaborative forest management and conservation models involving private sector, NGOs, government agencies, community organizations and farm households. One of the challenges is how the existing governance structures, including traditional (informal) resource management systems, and the new ones fit with each other instead of creating parallel unsustainable systems and bureaucracies.

There is also a need for developing sustainable commodity supply chains. This is a new area receiving increasing attention because it holds a lot of promise in addressing sustainability concerns of agribusiness expansion and can create a market-based response to addressing cross-sectoral concerns. It would also contribute to the implementation of "Principles for responsible agricultural investment" adopted by FAO and others (Hudson et al. 2012, Chatham House Event on Deforestation-related Commodity Supply Chain Controls, April 2013).

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Annex B. Component-Level Theories of Change[1]

In the following, brief summaries of the newest documented theories of change of each FTA Component are described.

Component 1. In this component the research analyzes and addresses constraints and opportunities in smallholder agroforestry and forestry production and marketing enterprises, with eight expected outcomes:

- NARES (including NGO sector) promote and farmers adopt improved tree germplasm and management options;
- Smallholder farmers and forest users become more aware of market operation and interact more effectively with other actors in value chains to gain better access to markets and realize higher value from their products;
- Better agroforestry options promoted by extension services;
- Better quality tree seeds and seedlings available to smallholder farmers;
- Local institutions encourage better tree use and retention to contribute to rural livelihoods;
- National NARs do better social, economic, policy and technical research;
- More accessible, effective and efficient markets for FTA products; and
- Policy makers reforms and local institutions implement policies enabling rational use of land and tree resources.

The following key outputs are to be produced to ensure the planned outcomes:

- Methods, approaches and databases for domestication and improvement of priority tree species developed
- Tree management options developed for forests and farms
- Tools for matching tree species and management options to sites
- Tools and strategies for value chain analysis and development including certification and enterprise developed
- Extension approaches for agroforestry interventions and alternatives evaluated and frameworks for their application developed
- Tree seed and seedling supply systems analyzed and guidelines for their improvement within public and private sectors developed
- Review of policies and laws and regulations affecting resource use rights
- Frameworks and tools to support negotiating use of land and trees

[1] The information provided in this Annex is based on FTA documentation, such as FTA proposal, FTA Gender Strategy, Progress Reports, Performance Monitoring Reports, etc..

Component 2. Component 2 researchers will be accountable for the successful delivery of the outputs related to the conservation and use of forest and tree resources. It will also engage and share responsibility with key partners for the dissemination and adoption of the project's outputs to achieve the following outcomes:

- Local stakeholders (men and women farmers, private enterprise, NGOs and CBOs) become more involved in supplying quality germplasm (seeds, seedlings, clones);
- International, national and development partners support local germplasm supply system by facilitating foundation germplasm, knowledge, training, and market linkages;
- Men and women farmers cultivate more diversified, adapted, profitable tree crops (conservation through use);
- Managers, forest owners and decision makers incorporate tools and approaches that reconcile the needs of different stakeholders for the provision of multiple forest goods and services including the needs and views of men and women;
- Managers, farmers, decision makers incorporate tools and guidelines and decision support systems for the rehabilitation and/or restoration of tree and forest cover while addressing the needs and views of men and women; and
- Women and men in communities, local and national governments and companies use appropriate conflict resolution arrangements for the equitable management of forests and trees.

Nine main research outputs are jointly to ensure the planned outcomes:

- Criteria for prioritizing tree species based on value, status and threat;
- Conservation and sustainable management guidelines and strategies for priority species;
- Guidelines and tools on germplasm documentation, evaluation and safe movement;
- Approaches and methods for characterizing germplasm;
- Systems and procedures for preserving ex-situ and in-situ genetic diversity of high value trees;
- Improved information systems and databases for tree crops;
- Guidance for better management practices and monitoring systems for multiple use forest ecosystems;
- Improved methods and approaches for forest restoration;
- Tools and methods to resolve conflicts about benefits and rights.

Component 3. A total of five outcomes have been outlined under this component:

- Recognition by government agencies and in public debate of tree cover and forest transitions as a basis for realistic land use and development planning and institutional reform of land use regulation;
- Local resource managers in tree-based multiple use landscapes use cost-effective and replicable tools and approaches to appraise likely impacts of changes in land use on watershed functions, biodiversity and carbon stocks as well as on the economic productivity of the landscape;
- Land use planners and practitioners use principles and methods resulting in clearer and more transparent recognition of conservation and development tradeoffs in land and rights allocation, as well as adjustments to economic incentives;
- Local and external stakeholders negotiate and have access to a range of conditional and performance-based arrangements that support the provision and maintenance of environmental services and biodiversity in productive landscapes; and
- Opportunities for win-win solutions in restoration contexts are fully used, while the hard tradeoffs are recognized and contest over them is replaced by negotiation.

The delivery of the following outputs is result in the planned outcomes:

- Empirical data sets of tree cover transition across major eco-climatic zones;
- Empirical data on changes in spatial pattern of tree covers within landscapes;
- Refined methods for monitoring and quantifying tree cover;
- Better understanding of drivers of tree cover change;
- Recommendations for improved negotiations and policy levers to influence drivers of tree cover transitions;
- Tools for quantifying buffering of waters flows and other hydrological ecosystem services;
- Tools for understanding biodiversity-based environmental services;
- Assessments of trade-offs between carbon stocks and other environmental services;
- Tools for adaptive landscape management of trade-offs between ecology and economics; and
- Understanding the link between food security.2

[2] Text missing in original.

Component 4. Addressing climate change is a complex and dynamic challenge that involves multiple stakeholders at various levels. FTA recognizes both the complexity of the system and the need for a multi-stakeholder approach. Consequently FTA proposes six impacts pathways for securing the communication and integration of the research outputs to deliver the following seven outcomes:

- Communities and project developers design and implement effective, efficient and equitable mitigation and adaptation (M&A) activities;
- National policy-makers design and implement adequate M&A policies;
- Global agreements appropriately integrated REDD+ and EBA;
- Global scientific assessments adequately address REDD+ and EBA;
- Adaptation funds support EBA initiatives;
- Carbon markets and funds increase their support to forest and tree-based activities; and
- Promoting synergy between mitigation and adaptation.

The delivery of the following five key outputs is to result in the planned outcomes:

- Best practice methods for mitigation, adaptation and synergies;
- Comparative analysis of sub-national initiatives, developments and impacts;
- Guidelines for improved initiative design and implementation;
- Comparative analysis of international and national policy options; and
- Guidelines to improve national policy processes on mitigation, adaptation and synergies.

Although the IDOs are shared by all components, IDO 5 and 6 are *directly* related to the globally agreed strategies for addressing climate change. Six impacts pathways linked in particular to policy makers and processes, including international negotiations, have been identified:

- Impact pathway 1: Sub-national level practitioners, forest managers and project developers.
- Impact pathway 2: National policy makers.
- Impact pathway 3: Negotiators to multilateral agreements.
- Impact pathway 4: Scientists and scientific community.
- Impact pathway 5: International adaptation funding.
- Impact pathway 6: International REDD+ funding and carbon markets.

Component 5. Component 5 research is to deliver three main outcomes that contribute to the six identified IDOs:

- Adoption of stronger policy and governance options to reduce negative impacts of trade and investment.
- Adoption of new practices and business models by the private sector to achieve more responsible and sustainable ways of working.
- More efficient, and inclusive global trade and investment processes.

Six main research outputs, structured under the two main research themes, are jointly to ensure the planned outcomes:

- Assessment of processes and factors through which trade and investment influence forests and people.
- Analysis of trade and investment impacts on forests and livelihoods.
- Methods for improved assessment of trade and investment impacts.
- Options to improve market-based instrument effectiveness.
- Analysis of policy regulations and options for managing trade and investment impacts.
- Options for increasing public private partnerships to promote synergies and more responsible investment.

The identified three main outcomes imply a contribution towards major positive shifts in the investment and trade trends that influence forest landscapes and forest-dependent people. The envisaged transformational change is to be based on changes in global, regional and national governance systems, policies, and legislation and their enforcement, and in the behavior of consumers and private sector operators (traders, industry, middlemen, large companies, SMEs, communities and farmers and their associations) and government organizations supporting and controlling them. The original FTA proposal identifies four impact pathways which target (the behavior) of four critical groups of actors:

- Impact pathway 1: Global and regional trade and investment actors.
- Impact pathway 2: Global and regional corporations and industry associations.
- Impact pathway 3: Governments in consumer countries.
- Impact pathway 4: Governments and actors in producer countries.

The FTA Proposal then identifies different ways of targeting research and disseminating findings using different approaches and tools such as development of best practice guidelines and standards and carrying out research to inform international and national policy making and behaviors of multilateral financial institutions.

Annex C. Preliminary List of Boundary and Research Partners

Note: this list has been compiled based on available FTA documentation and on evaluation team members knowledge and does not attempt complete coverage at this point.

Name	Related FTA components (G=Gender)
Research Institutions	
ICRAF- International Centre for Research in Agroforestry	1,2
CIAT- International Center for Tropical Agriculture	
Bioversity	
IFPRI-International Food Policy Research Institute	
CIRAD-Agricultural Research for Development	1,2,3,4,G
CATIE- The Tropical Agricultural Research and Higher Education Center	2,4,G
International Network for Bamboo and Rattan	5
Commonwealth Scientific and Industrial Research Organisation	5
International Institute for Environment and Development	4,G
International Institute for Sustainable Developmenr	4,G
ODI - Overseas Development Institute	4,G
Wageningen University	4,G
IIASA - International Institute for Applied Systems Analysis	4,G
SEI - Software Engineering Institute	4,G
Potsdam Institute	4
IRET/CENAREST- Centre National de la Recherche Scientifique et Technologique	
IPB -Bogor Agricultural University	1
EMBRAPA-Empresa Brasileira de Pesquisa Agropecuária	
ERAIFT	
CSIR-Council for Scientific and Industrial Research	
Shanduko	
PLAAS-Institute for Poverty, Land and Agrarian Studies	

Name	Related FTA components (G=Gender)
CEDLA-Centre for Latin American Research and Documentation	
INIAP -National Autonomous Institute for Agricultural Research	
SFA	
SPDA- Sociedad Peruana de Derecho Ambiental/Peruvian Environmental Law Society	2
IAAP	
IPEA-Institute of Applied Economic Research	
Universidad de Brazil	4
Johanuem Institute	4,G
Indian Institute of Science	4
WFSE-WorldForests, Society and Environment	
UNAMAZ- The Association of Amazonian Universities	
IUFRO - International Union of Forest Research Organizations	4
FLACSO-The Latin American School of Social Sciences	
RAFT - Responsible Asia Forest Trade	
IRD- International Relief & Development	1,2
RRI- River Research Institute	1
CORAF- Central African Council for Agricultural Research and Development	1
IPAM	1
Forestry Research Center of the Ethiopian Institute of Agricultural Research	1
Nitlapan Institute	1
IITA-International Institute of Tropical Agriculture	2
FFPRI-Forestry and Forest Products Research Institute	3
United Nations Agencies	
International Fund for Agriculture Development (IFAD)	
UNECE- United Nations Economic Commission for Europe	

Name	Related FTA components (G=Gender)
UNFCC- United Nations Framework Convention on Climate Change	4,G
RAP (FAO) - Regional Office for Asia and the Pacific	
FAO – Food and Agriculture Organization	1,3
University	
Rights & Resources Initiative	4,G
RECOFTC- Regional Community Forestry Training Center for Asia and Pacific	4,G
Oxford University	4,G
University of Sao Paolo	
University of Papua	
University of Wien	4
ETH-EidgenössischeTechnische Hochschule Zürich	1,2,3,4,S,M
National Institute for Space Research (INPE)	4
University of Aberdeen	4
University of Leipizig	
Utrech University	
Universite de Kisangani	
Tufts University	
Eduardo Mondlane University	
Wondo Genet College of Forestry and Natural Resources	1
University of Kisangani , Congo	1
Central American University UCA in Nicaragua	1
Copperbelt University, Zambia	1
Makerere University	1
FRK Indonesia	1
Pattimura University	3
Gadjah Mada Univeristy	3

Name	Related FTA components (G=Gender)
Civil Society / Non-Governmental Organization (NGO)	
Tropenbos Intl.	4,G
Oxfam	4,G
RECOFTC-The Center for People and Forests	4,G
BIC-Bank Information Center	
TRAFFIC –wildlife trade monitoring network	
TNC- The Nature Conservancy	4,G
African Forest Forum	4,G
Global Alliance of Community Forestry	4,G
Ecoagriculture Partners	1,2,3,4,G
Grupo FARO -Foundation for the Advance of Reforms and Opportunities	1
Instituto de bien Comun , Peru	1
Association of Uganda Professional Women in Agriculture and Environment (AUPWAE)	1
Wildlife Conservation Society (WCS)	2
World Resources Institute (WRI)	2
Fauna & Flora International (FFI)	3
TELAPAK	3
HuMA-Community and Ecological Based Society for Law Reform	3
TOMA	3
Inter-governmental Organizations	
IUCN-International Union for Conservation of Nature	2,4,G
Forest Trends	4,G
FERN- Forests and the European Union Resource Network	4,G
WWF -World Wildlife Fund	2,3,4,G
IUCN South East Asia Office - International Union for Conservation of Nature	

Name	Related FTA components (G=Gender)
ITTO- International Tropic Timber Organization.	4
FCPF - Forest Carbon Partnership Facility (World Bank)	4
World Bank	
European Commission	
FIP - Forest Investment Program (WB)	
Selected Bilateral (agencies such as USAID, DFID, SDC, SIDA, Finland, Ducth, GIZ, etc.)	1,3, 4,G
Southern African Development Community (SADC)	3
International Network for Bamboo and Rattan: INBAR	3
Governmental Institutions	
FORDA-Forest Research and Development Agency	1
Zambia Forest Department	1
MINEE- Ministry of Water Resources and Energy (SIE) – Cameroon	1
Forest Service Indonesia	3
Planning Agency	3
Conservation Agency	3
Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA)	3
International Financing Institution	
PROFOR-WB Program on Forests	4,G
PROFOR- Program on Forests	
UN REDD - United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation	4,G
AFD Agence Française de Développement	4,G
FFEM- Fonds Français pour l'Environnement Mondial	4,G
IFC- International Finance Corporation	
EIB- European Investment Bank	
IADBInter-American Development Bank - Inter-American Development Bank	4,G

Name	Related FTA components (G=Gender)
AfDB- African Development Bank	4,5,G
ADB- Asian Development Bank	4,G
CAF- Development Bank of Latin America	4,5
CEB	
Other	
ILC	
FSC- Forest Stewardship Council	2
PEFC- Programme for the Endorsement of Forest Certification	
RSB- Roundtable on Sustainable Biomaterials	
RSPO- Roundtable on Sustainable Palm Oil	
WTO – World Trade Organization , Agreement on Agriculture	
APEC- Asia-Pacific Economic Cooperation	
AFTA- Asean Free Trade Area	
ACP-FLEGT - Forest Law Enforcement, Governance and Trade Support Programme for African, Caribbean and Pacific countries	4,G
SADC- Southern African Development Community	
OTCA/ACTO- Office of Agricultural Trade Agreements	4,G
CAN	4,G
MERCOSUR- Mercado Común del Sur	
World Business Council for Sustainable Development	4,G
Asia Forest Partnership	4,G
ASEAN- Association of Southeast Asian Nations , Social Forestry Network	4
COMIFAC- Commission of Central African Forests/ Commission des Forêts d'Afrique centrale	4
ECOWAS- Economic Community Of West African States	
Chatham House	4,G
Inter-African Forest Industry Associatin	

Name	Related FTA components (G=Gender)
TFD- Forest Dialogue	4
TFF- Tropical Forest Foundation	4
NGFO-National Government Forestry Organizations	4
Verified Carbon Standards	4
The Gold Standard	4
Climate Focus	4
Carbon Development	4
International Forestry	
UN-REDD (United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation) Implementing Programme	4,G
FCPF- Forest Carbon Partnership Facility ,Implementing agencies in Indonesia & Democratic Republic of Congo	4,G
Conservation International (CI)	2
SGS - Société Générale de Surveillance	2
TBI	
Profundo	
Natura Bolivia	3
Southern Africa, Lusaka office in Zambia	3
COMESA- Common Market for Eastern and Southern Africa	3

Annex D. Suggested Evaluation Questions not or only Partially Addressed

The *Preliminary Evaluation Matrix*, in the Annex of the *Draft Terms of Reference for the Evaluation of CRP 6: Forests, Trees and Agroforestry (April 15, 2013)* suggests a series of evaluation questions some of which will not – or only partially – be addressed.

Evaluation question	Coverage
Is the allocation of resources between components and themes, as well as between participating organisations, consistent with system and global level priorities and comparative advantages? (Draft ToR Annex, p. 2)	Will not be covered in a systematic way since because of lack of reliable analysis methodology. Expert opinions may however be provided.
To what extent have the reformed organisational structures increased (or decreased) efficiency? (Draft ToR Annex, p. 8) *To what extent are the resources allocated to CRP6 being utilized in an economical manner in producing outputs and progressing towards planned outcomes?* (Draft ToR Annex, p. 8) *To what extent have the governance arrangements and aligned research between CRP6 participating organisations brought, or have potential, to bring about improvements in efficiency and net gains in resource use?* (Draft ToR Annex, p. 9) *Does the monitoring system provide adequate data on cost and resource use to enable assessment of the cost-efficiency of the CRP6 and its individual components or research programs/projects?* (Draft ToR Annex, p. 12)	Allocative efficiency, i.e. comparing the cost per outcome across alternatives, will not be assessed because of capacity and methodological constraints and no judgments about allocative efficiency will be made by the evaluation team apart from the qualitative analysis of comparative advantages. Efficiency-related assessments will be restricted to the identification of cost-saving and yield-increasing potentials.
How will the new CRP Research Management platform - being developed by the Consortium to facilitate harmonized monitoring of CRP research results-co-exist with Centres' management systems? Will it lead to duplication? (Draft ToR Annex, p. 8)	Will only be covered if implementation of those system-level systems has been decided and concrete and detail plans exist.
Are the research and administrative costs (and their balance) comparable with other CRPs and similar type of multi-centre programs in the natural resource sector? (Draft ToR Annex, p. 9)	Will not be assessed because of the absence of a standardized accounting standard for CRP overhead costs.

Annex E. Evaluation Team

The evaluation will be conducted by a team of five evaluators.

Markus Palenberg (Team Leader). Markus is the managing director of the *Institute for Development Strategy*, an independent research institute in Munich, Germany, and works as researcher, evaluator and consultant. His research focuses on evaluation methodology such as tools for efficiency analysis and causal chains in complex interventions. As evaluator, he conducts theory-based evaluations of complex interventions, with a special focus on Global and Regional Partnership Programs (GRPPs). Markus also consults programs and networks on impact strategies, corporate governance arrangements and M&E systems.

Over the last ten years, Markus has conducted more than thirty research and consulting assignments in the public and private sector, including eight global program evaluations of which three were CGIAR Challenge Programs. Currently, Markus is team leader of the global program review "The World Bank Group's Partnership with the Global Environment Facility", commissioned by the World Bank Independent Evaluation Group and covering 22 years of collaboration between the Global Environment Facility, the World Bank, and the International Finance Corporation.

Markus serves as Executive Board Member of the CGIAR Generation Challenge Programme and is Program Management Team Member of the CGIAR program HarvestPlus. He is member of the GRPP Technical Advisory Panel of the World Bank Independent Evaluation Group, member of the Scientific Committee of the 2015 IWRA World Water Congress, and fellow of the Global Public Policy Institute. Before entering the development field, Markus worked as corporate manager, as strategy consultant with McKinsey&Company, Inc., and as postdoctoral researcher at the Massachusetts Institute of Technology. Markus holds a Doctorate in Theoretical Physics.

Marko Katila (Team Member). Marko is a Senior Evaluator, Forest Policy, Economics and Trade). He works as a Senior Adviser at Indufor, an international forestry consulting company, and also at Dasos Capital, a leading European private equity funds specialized in investing in sustainable forestry. Marko is a member in the Finnish Society of Forestry Research (since 1988) and a Finnish Forest Economists Association.

Marko has worked 27 years in international forestry and development in different positions: senior consultant and vice president in an international forestry consulting company, senior economic advisor at the Ministry for Foreign Affairs of Finland, and a Research Director and Partner in an international timberland investment fund. During his career he has carried out several assignments for clients such as the World Bank, FAO, UNFF, and EC and covered more than 30 counties in Asia, Africa and Europe and lived extensively in South East Asia and South Asia. Before joining the consulting world Marko was a full time faculty member (Research Associate) in the Department of Social Economics of Forestry at the University of

Helsinki. After leaving the university, Marko has kept close links with the research community through reviewing doctoral dissertations and Master's theses, scientific articles and serving from time to time as a visiting lecturer in international forestry.

Marko is an experienced forest economist specialized in international forest policy and sector planning, forestry investment and trade and all aspects of project cycle management from project identification and design to implementation, monitoring and evaluation. His most recent major valuation experience dealt with the evaluation of FAO's global forestry work. Currently, Marko is contributing to the evaluation the Climate Change Investment Funds, being responsible for the Forest Investment Program (FIP) evaluation. Marko holds PhD degrees and Master's degrees in forest economics in USA (Fulbright Scholar) and Finland, respectively.

Florencia Montagnini (Team Member). Florencia is a Senior Research Scientist at Yale University, School of Forestry and Environmental Studies, and she is also Director of the Program in Tropical Forestry of the Yale Global Institute for Sustainable Forestry. She holds honorary professorships at several universities in Latin America and is a Senior Fellow of the Energy and Climate Partners of the Americas, Climate Change program, US State Department. She also works as a private consultant in Agroforestry and Restoration, advising on projects and programs of her specialty. Before Yale, she was the Head of the Area of Forests and Biodiversity at the Tropical Agriculture Research and Higher Education Center (CATIE).

Florencia's research focuses on variables controlling the sustainability of managed ecosystems in the tropics, such as forest, tree plantations and agroforestry systems, with a special emphasis on Latin America; sustainable land use systems that integrate ecological principles with economic, social, and political factors; the principles and applications of forest landscape restoration; the reforestation of degraded lands with native species; mixed-species plantations; tropical plantation silviculture; identification and quantification of ecological services provided by forest ecosystems, including biodiversity, carbon sequestration and watershed protection; organic farming using indigenous resources; Payments for Environmental Services as tools to promote restoration, conservation, and rural development.

Florencia is currently conducting projects in regions encompassing major types of tropical and subtropical humid and dry forest in South and Central America. Projects include examining the role of native tree species in plantations and agroforestry systems in reclaiming degraded areas with species of economic value; the identification and quantification of ecological services provided by forests (biodiversity conservation, carbon sequestration, and water); and organic farming in agroforestry systems with native species. In her research, she collaborates with institutions such as CATIE, as well as with universities and other academic, private and government institutions in Argentina, Brazil, Colombia, Costa Rica, Mexico, and Panama.

Florencia has written eight books on agroforestry systems and ecological restoration, including a major textbook in tropical forest ecology and management, and about 200 scientific articles, of which 80% have been published in international refereed journals.

Florencia holds a B.S. in Agronomy from the National University of Rosario, Argentina; an M.S. in Ecology from the Venezuelan Institute for Scientific Research; and a Ph.D. in Ecology from the University of Georgia, USA.

Carmenza Robledo (Team Member). Carmenza has over 15 years experience on Forest and Climate Change issues, with special regard of developmental aspects, including socio-economic and institutional issues as well as with the attribution of environmental impacts. She has project experience in Latin America, Africa and Asia, as well as experience advising international organizations including FAO, World Bank, ITTO, UNDP, UNEP, CIFOR, GEF, UNFCCC Secretariat or IUCN. She combines scientific research, international advisory and project oriented assignments.

Carmenza Robledo, Colombian and Swiss nationality, studied architecture at the Javeriana University of Bogotá and did an interdisciplinary master degree in regional development. Further she pursued a master in economics in Braunschweig (Germany) and holds a doctoral degree in geography of the University of Stuttgart, Germany. From 1998 to 2003 she worked as a Senior Scientist in the Swiss Ferderal Institute for Material Testing and Research (EMPA) on climate change and forest. In 2003 Carmenza Robledo joined the Swiss Foundation for Development and international Cooperation –Intercooperation - as Climate Change Task Manager and from 2006 as Coordinator of the Climate Change Group, an international network of climate experts within the organisation. Carmenza Robledo led the Environment and Climate Change Team from 2009 until 2012. In 2012, Dr Robledo established her independent consulting firm ECOEXISTENCE and shares her professional time between consultancy in her company and research as a Associated Senior Researcher in the Institute for Environmental Decisions (IED) oft he Swiss Federal Instirute of Technology Zürich (ETH – Zürich) ETH. Currently she is a Lead Author for the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)

Federica Coccia (Team Member). Federica works as an Evaluation Analyst in the Independent Evaluation Arrangement of the CGIAR. Prior to joining the CGIAR, she worked with the Food and Agriculture Organization for 12 years. Federica collaborated with the Evaluation Service of FAO on various evaluations including the country evaluation for the Democratic Republic of Congo and the evaluation of FAO's operational capacity in emergencies. In 2006, she supported the core team of the Independent External Evaluation (IEE) of FAO, particularly on the Administration, Management and Organization component of the evaluation. Following the IEE, Federica worked for the FAO Conference where she was closely involved in the reform process that the Organization embarked upon following the IEE. In 2010, Federica joined the Business Improvement Unit of FAO, tasked with streamlining and making more efficient the administration processes of the Organization. Federica has an MA in development economics from Manchester University (UK) and has completed the Melcrum International Communication Black Belt Program. Federica has solid experience in gender issues and rural development, as well as management and governance of large organizations.