FTA ISC special workshop on Foresight

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Bioversity Intl. HQ (Maccarese)

Final minutes

Participants

ISC members: Anne-Marie Izac (ISC Chair), Florencia Montagnini, Susan Braatz, Linda Collette, Rene Boot, Vincent Gitz.

MT members: Ramni Jamnadass, Fergus Sinclair, Pablo Pacheco, Peter Minang, Christopher Martius, Eduardo Somarriba, Christopher Kettle

Observers: Marlene Elias, Andrew Wardell, Louis Verchot, Yves Laumonier, Dennis Sonwa

MSU: Alexandre Meybeck, Monika Kiczkajlo

Apologies

Yemi Katerere, Robert Nasi, Stephan Weise (ISC), Plinio Sist (MT)

Executive Summary

This workshop was organized at the request of the ISC, to discuss the current status of foresight analysis in FTA. Foresight is instrumental for a large medium-term program like FTA, yet is not very visible.

After reviewing foresight work within FPs, in the gender and social inclusion cluster of FTA, and gaps and demands within the broader international community, participants discussed what kind of foresight work was most important for FTA, and why, as well as options for the way forward.

The FTA management team will consider the recommendations when preparing the 2019-2021 FTA workplan.

Detailed Summary

1) Introduction

The Chair introduced the workshop by stressing that ISC requested a discussion on foresight in FTA as part of its programmatic oversight role, delegated to ISC by the Board of the Lead Centre. The objectives of the workshop were to arrive at a shared understanding about what FTA is currently doing in foresight, what are the foresight needs of FTA and each of its flagships, and to study options for a way forward for the program. There is a need for regular scrutiny of FTA's strategic priorities, from a dynamic perspective, as change is rapid in the type of agricultural-forestry systems in which FTA works. The question is what are the big development issues lying ahead and how is FTA positioned vis-à-vis them, and the kind of options it could

propose. Currently, donors think the CGIAR is reacting too slowly to the changes out there[1]. It is thus important that FTA gives itself the means to take into account what is changing significantly and what are possible trends ahead, scanning the horizon on a regular basis.

2) Presentations

The director presented program-level considerations on foresight. Foresight in the FTA proposal was presented as having the following purpose: "(*i) to examine the emerging trends in forests, trees and agroforestry, especially to predict their potential impact on the SLOs; (ii) to estimate the potential impact of FTA outputs on the IDOs and SLOs, (iii) to identify important research areas for FTA to address*". Given the time lag for impact in research for development, and in forestry, there is often a built in future dimension in our activities. There is today a new context, with major international agendas being projected in the future, with aspirational targets: NDCs, SDGs.

Currently, the **scientific community in FTA uses the word foresight for different things**: (i) Projections, with different thematic focus, geographic focus, and different spatial and time scales, (ii) Development of exploratory scenarios with qualitative and quantitative approaches (foresight specialists often restrict the use of the word to it), (iii) Assessment of potential impacts of the evolution of a specific parameter, of a specific change or policy intervention.

Currently, **the following activities of FTA thus broadly fall under the label "foresight work":**

- contributing to broader foresight exercises, such as working on projections of cocoa yields in main producing countries to be used to assess land area needed to meet actual and potential demand, using the IMPACT model (Global Futures and Strategic Foresight)
- analyzing effects of climate change on the coffee primary production and value chain for Peru's National Coffee and Cocoa Chamber in collaboration with CCAFS.
- estimating the likely impacts of reduced deforestation on palm oil production. land use productivity, forest conservation and carbon emissions, associated with different options of policy interventions and private commitments, with IIASA
- assessing different scenarios on economic development and environmental services, and their trade-offs, at the landscape level associated with different scenarios of intensification and conservation, linked to oil palm development using INVEST.
- estimating the relations between future global demand changes and potential for national production (ex: avocado in Ethiopia)
- estimating the likely scenarios and impacts on carbon emissions associated with the implementation of NDCs in Brazil, DRC and Indonesia, with IIASA
- exploring how likely changes in land use and activities at field, farm, and landscape levels impact livelihoods in the face of anticipated global change (including the incorporation of trees in globally calibrated crop models used in the IMPACT model referred to above).
- exploring consequences of anticipated climate change for land restoration initiatives (e.g. increased floods and erosion in upland Sri Lanka with concomitant increased

[1] Recently, ISPC was given the responsibility to start work on foresight (see background document)

frequency and severity of drought in the lowland dry zone, dependent on water from the uplands for irrigated agriculture)

One could envisage the **following objectives for foresight work in FTA:**

1. Ensure that forests, trees and agroforestry are properly accounted for in global foresight initiatives, projects and studies undertaken by other institutions, and learning from it.
2. Enable the identification of possible futures and emerging issues for land use and forests, trees and agroforestry that take into account their various drivers and processes of change (food demand, urbanization, migration, technological change, etc).
3. Use these results to re-visit and if need be re-prioritize research.
4. Provide a global framework and a set of methodologies with potential for integration across scales and sectors, regarding agricultural landscapes with trees and forests, and to increase the consistency of the set of scenarios and hypotheses that FTA research uses, also to advance/supporte the formulation of new hypothesis .

FPs leaders and gender leader presented their ongoing work on foresight.

FP1 leader: the question for FP1 is how can foresight help prioritize the work on tree species. What are the most important species to effectively respond to the state of the world in 2020, 2050. What is needed is an understanding of the key drivers for the demand for tree species (e.g. population pressure, urbanization, biodiversity loss, homogenization of diets, patterns of government subsidies., too narrow range of crop options, consolidation of plant breeding companies, insertion of more nutritious trees in global food systems, etc..). In arriving at this understanding it is essential to engage in participatory dialogues and to seek the input of external experts, local communities, international agencies (IUCN, WRI, CBD, FAO, WHO), and factor in countries' own priorities.

FP2 leader: using the broad definition of foresight employed here, FP2 described work on predicting impact, including cash flow predictions, prediction of rates of adoption using land use suitability maps, and on policy reform connecting top-down and bottom-up processes (paternoster principle). Nearly all FP2 project proposals include a projection of impact, in terms of farm incomes and adoption as well as environmental consequences. FP2 also does market scoping, e.g avocado in Ethiopia, considering evolution of prices and feedback from markets and looks at impacts of climate change on value chains (see the coffee example in Peru mentioned above). An important priority is livelihood trajectory modeling (funded by IFAD) to assess the impact of intervention options on poverty and food security and nutrition (including livelihood system interactions, market conditions, time allocation in households etc). This connects forests, trees and agroforestry options with the broader rural economy, for instance: what would Ethiopian women do with time saved on collecting firewood if they have sufficient trees on the farm? Other proposed foresight related work in FP2 is the agent-based modeling within the UK Global Challenge Research Fund project on transformation soil restoration led by the university of Reading, linking agents' behaviour change to different stimuli, and exploring likely impacts of climate change on land degradation drivers (e.g. for the Sri Lankan GCF bid mentioned above).

FP3 leader: FP3 adopts multiple approaches at different scales: 1) global work looking at sector-specific trends (using IMPACT model), national level modeling work with IIASA (using the GLOBIOM model), landscape-specific work looking at conservation and environmental trade-offs (using InVEST), and local work with participatory approaches and role-playing games. Most of FP3 projects have a foresight component, and approaches are adopted depending on the type of questions explored as well as the spatial scale at which the questions are framed. Major outstanding foresight issues for FP3 concern the interactions between commercial plantations development, and associated social and environmental implications, such as:

- determining the development of timber and tree-crop plantations and impacts on land use and yields, resulting from changes in domestic and global demand (including demand for environmental services) and governance arrangements
- assessing how national and transnational policy interventions and private commitments along the supply chain would have an influence on sustainable production of tree-crops, smallholders' integration and adoption of enhanced practices, and productivity
- evaluating the role that plantations could play in meeting climate and energy targets, including negative emissions, linking land use with energy and climate, and the associated effects from changes in the biodiesel and biomass markets for energy.
- examining the direct and indirect social effects of timber and tree-crops plantations development across different contexts and business models, with impacts on benefit sharing and livelihoods, with specific consideration on gender and youth

While there are some specific approaches to connect different spatial scales, integration across models and approaches is still a major challenge. FP3 has been discussing with IIASA on how to support the work they are doing on downscaling GLOBIOM, as well as on the need to build a forestry-explicit model within GLOBIOM. The same holds for the IMPACT model of IFPRI that is not spatially explicit, although there are efforts to address this issue in IMPACT.

FP4 leader: FP works at landscape and subnational levels. The opportunity cost methodology for ecosystem services developed for the World Bank, with a tool, LUMENS, that is used by the government of Indonesia in 3 provinces and for the Green growth plan in Sumatra (as part of national emissions commitments). It looks at the development of tree commodities plantations, sustainable intensification with agroforestry and implications for emissions, and implications for economic growth in the province. It is also used in Peru with sub national governments. It includes looking at the potential of trees for feedstock for livestock, how farm timber can play a role, what are the impacts of such a change on trade, ecosystem services, income... He mentioned ongoing work with CIFOR in Indonesia to expand this to national level: what is the potential for tree-based bioenergy feedstock, with emphasis on technologies, policies and finance as determinants of change, and impacts in a range of dimensions. This would also mobilize FP5. The question to be answered is: can on farm timber fill the gap between wood demand growth and potential natural forests and plantations growth.

FP 5 leader: FP has currently a few targeted exercises ongoing: (i) Potential for carbon sequestration through restoration: Latin America, Africa, (ii): Effects of NDCs under different scenarios for 3 countries, (iii) Participation in IPCC as major global foresight exercise. The world needs to have clear perspectives on the future potential role of forests, trees and agroforestry resources in bioenergy, CO2 emissions capture and storage, and in Bioeconomy/Green Growth.

We need to understand the related increased demands on forests and trees, and the ability of supply to respond to the increased demand. A lot of interesting new technologies are out there - such as hydrophobic wood, or multi-story buildings made entirely from wood - that could make the use of forest-based products more pervasive in bio-based (low-C emission) economies. Also, the links of forests with ecological services such as the water cycle must be better understood as they directly affect how forests, trees and agroforestry resources interact with the climate. This would require a serious effort in a 10-year perspective.

Gender CCT leader: Foresight is needed to: (i) prepare young people for what the future may hold in FT&A landscapes, and (ii) create scenarios for youth employment and livelihoods under different FT&A options. FTA needs to understand demographics, economic opportunities, and youth aspirations, capacities, life trajectories, and visions for the future. This is key to help foresee what the future may hold in FT&A landscapes, and to contribute to creating desirable futures. Youth is not a homogeneous group: there are numerous cross-cutting factors -- gender, class, ethnicity, education, origin and stage in the life-cycle. All intersect with age or generation to shape choices, opportunities and access to resources. In all foresight work, we want to understand for whom opportunities are created or lost, and how to redress inequalities, address potential risks to different social groups. In terms of methods, the cluster uses primarily qualitative methods. This includes *Participatory Prospective Analysis* (PPA), participatory scenario building, visioning, to understand young men's and women's visions of the future, the value they attribute to alternative plausible scenarios, the choices they make based on those projections.

Questions pertaining to youth can inform or be addressed by foresight analyses. Examples are:

- What specific tree and forestry sectors are aging? What opportunities may exist for young people in these sectors? What skills, knowledge, and education will youth need to contribute to these sectors?
- What occupations do young people aspire for? What interests do they have in (commercial) tree production systems and marketing?
- How does climate change factor into the migration decisions of households and their younger generations; how may predicted changes in climate affect decisions to migrate?
- How may local forest enterprises, agroforestry or agribusiness investments, as well as forest sector policies, change the dynamics of rural youth employment and migration?

3) Discussion

The Chair noted that the presentations by some FP leaders showed an impressive list of needs from FPs as well as ongoing foresight work across a range of contexts, scales and topics. What objectives could capture the need of all FPs and program level objectives? Answering this question would probably also contribute, according to the Chair, to raising the profile of FTA in the global community. We need to be working today on the 'right' topics (given research lag time) to be able to effectively inform policy makers and stakeholders later on, once changes become manifest. It will also help to show donors that FTA has a strategic built-in foresight dimension and is responsive to changes in future demand. This is indeed one way to demonstrate the relevance of the work of the program.

To structure the discussion the Chair proposed to use the objectives of foresight for FTA proposed by the director (see page 2). **The participants broadly agreed with the bullets** and made some suggestions:

- The first bullet "*Ensure that forests, trees and agroforestry are properly accounted for in global foresight studies*" needs to be unpacked. A key question is: Why is there such a blindness to forest and trees in these studies? Part of the reasons are technical, it is difficult put trees in crop models. This is why FP2 is working with CSIRO, to develop a tree-crop interaction capability in the APSIM modelling framework so that agroforestry can be included in global models such as IMPACT. Then we need to get the forest sector into global land use and agriculture sectoral models. We finally need to persuade people to use these contributions, this will require inter alia a behavior change in various scientific communities.
- The second bullet on "*Enable the identification of possible futures for land use and forests, trees and agroforestry that take into account the various drivers of change that apply to them*", needs to be completed by "and vice-versa", and by "impact of decisions on forests and trees on global processes and livelihood opportunities". It could include language such as "taking into consideration the drivers of change in society, how can Forests, Trees and Agroforestry management impact positively people, and reduce current and future vulnerabilities of people. How can the CGIAR inform policy decisions?"

Participants agreed that **FTA should ask 'big' foresight questions, some of which are already being tackled at FP level, and some that would benefit from further** integration across FTA, rather than dissecting into small pieces. It would also enable to leverage potential for funding.

A discussion ensued on the big questions, resulting in the following ones being highlighted: What is the effect of changes in forests, trees and agroforestry cover on climate, economic and social processes. And conversely, how do broader social, economic (including consumption patterns) and ecological processes (including demand for environmental services) and drivers affect land use and forests? This means understanding and depicting feedback loops, and the conditions that could define a positive agenda for forests, in the investment, business and policy realm. What are the functions of forests that are most likely to be most valued by society in the future? What are Forests, Trees and Agroforestry related functions, drivers, and levers that research needs to focus on for facilitating future positive impacts for people and the environment?
Regarding **how to address these big questions** the following points were raised:

- Emphasis should be given to FTA providing a strong and coherent **foresight narrative**. A powerful foresight narrative is one that shifts the imagination of people around Forests, Trees and Agroforestry. Also, the more concrete you are, with numbers, the better.
- For some of the Forests, Trees and Agroforestry functions, we have evidence. For example there are data on the contribution of forests to nutrition. But there are also **knowledge gaps**, for instance on health benefits and costs. Regarding questions on youth, (e.g. to what extent would these possible futures be attractive to young people and to the diversity of people and who are the winners and losers) deemed important

during the discussion, it was emphasised that we are not sure we have the in-house capacities to address them but we do collaborate with partners who do.

- The issue of **spatial and social diversity and scales** is key, with the need to break down questions by regions as trends, socio-economic and biophysical characteristics are different (e.g., demographics, ecosystem shifts etc.), and play out differently for different social groups and at different scales, and also with the need to take into account historical trends and perspectives.
- **Users and donors** need to be factored in: what are the views of users, of young people, how do donors see the future? The important questions for FTA are (i) what is the demand, the information and evidence that people would like to have from us?, and (ii) how can we influence the global international agenda and with what kind of evidence? We can collect data to demonstrate the global importance of trees, forests and agroforestry. Participants agreed that to engage in the debates on transformational change, FTA needs to work alongside donors, with international organizations, GCF, FAO, with developing countries, private sector, social movements, young people, NGOs.

On the practical way forward, given the above, there are many possible avenues for FTA, **resources permitting, to become more involved in foresight**. This needs to be discussed. The director mentioned the following, non-exclusive options:

1. Use results of past and on-going foresight exercises for FTA's own research. This could take the form of a specific synthesis.
2. Participate in on-going foresight initiatives led by other institutions to ensure that forests, trees and agroforestry are better integrated (e.g., by providing relevant data and models on trees and forests).
3. Develop or contribute to a more global forests, trees and agroforestry related foresight, by itself or in collaboration with others.
4. Prepare a global framework (common references, methodologies) to be used internally for sectoral and local foresight.
5. Conduct a place-based foresight exercise, for instance in a Sentinel Landscape
6. Enlarge the scope of some of FTA's on-going work, for instance the work done with IIASA and in GCF and GCRF proposed projects.

Participants suggested to follow two paths:

1. Join ongoing quantitative foresight exercises, partner with IIASA and other upstream partners (University of Reading, CSIRO).
2. Constitute a small group within FTA to look for resources to write narratives about the future, bringing different skills and experts from outside the CGIAR, stakeholders from different countries, other organizations and donors. Similar to what the Stockholm Environment Institute does. And then build up a quantitative dimension within the narrative. This would necessitate to set aside some funds for a high level consultant to lead this process, which could include a solid synthesis of many relevant publications, reports, outlook or horizon-scanning studies, and could lead to a good marketing product.

Participants discussed the **relation with ex-ante analysis.** Given the long time lag for research on trees and forests, and associated impacts, the traditional disctinction between ex-ante analysis and foresight is often somewhat blurred in FTA projects. There was a broad agreement that ex-ante analysis (i.e., the assessment of expected benefits and costs for the adopters of an innovation today or in the very near future) is related to foresight, the more so as the time horizon is extended as is often the case in FTA research (a quarter of a century is a common time-frame). One difference between the two is that foresight is primarily concerned with understanding likely major shifts in demand for the 'products' (outputs and outcomes) produced by FTA and to the context in which they are generated so that FTA is prepared to respond to these major shifts in both demand and contexts. This can condition research priorites and methods, examining different pathways and time scales. Foresight and ex-ante analysis are also linked as global perspectives (and associated changes in demand and contexts) should serve as background for ex-ante analysis.

An underlining question is **what would attract funding**, and the need to build narratives around issues of interest to donors.

Finally, participants warned about the **risks to try to do many things at the same time**. Therefore key screening questions should be: why would the CGIAR do this rather than non-CGIAR bodies? What would FTA do that others are not doing? How should FTA do it? The chair stresses that the "how" is the responsibility of the management team.

4) Conclusion

The Chair concluded that FTA needs to be able to answer questions on:

- How can Forests, Trees and Agroforestry contribute to answer long term societal demands, with a time horizon of a decade or more?
- Within a time-horizon of the next few years, what tree systems options are the most promising (in terms of expected benefits and costs to adopters and to society as a whole) for different regions?[2]

Somewhere along the line, FTA will need discussions with donors to understand how their expectations will evolve. Forests, Trees and Agroforestry are pretty much absent in global studies: this can be turned in an opportunity to convince donors.

The chair concluded the workshop by stressing that the strategy and plan forward was for the FTA Management team to develop a foresight strategy, given the agreement reached in the workshop on the need for strategic foresight approaches in FTA. The above broad guidance should help in this process. The ISC looks forward to receiving a well-articulated and pragmatic foresight strategy from FTA.

[2] One participant emphasized that the first question could be tackled with existing research material and take the form of a major synthesis, and that answering the second question could elevate FTA above the generalities into issues of major social, economic and environmental relevance as well as offer some counterfactuals to the "grain-only-matters". It would require to look at some major tree-based commodities such as tea, coffee, cocoa, rubber, palm oil, timber or biomass, arguing for the importance of these sectors in achieving the SDGs. This would require investment in gathering data, syntheses but also modelling.