1st FTA Phase 2 Science Workshop

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Gustav Stresemann Institute, Bonn, Germany.

From place-based landscape research to International public goods: FTA works and set-ups for observing, understanding and learning from changes in land use, their multiple drivers, and multidimensional consequences

Lessons from FTA phase 1 and ways forward into FTA phase 2

PROCEEDINGS

Main points:

The objective of this workshop was to discuss the different existing set-ups mobilized in FTA for observing, understanding, and learning from changes in land-uses, their multiple drivers, and their multidimensional consequences (in the environmental, economic and social dimensions). The discussion was framed by the need to review these settings in the beginning of phase 2 of the FTA program and in light of their potential contribution to the implementation of the SDGs.

FTA, in phase 1, had devised its own set up to observe changes in landscapes, their causes and consequences. This innovative set-up, called *Sentinel Landscapes* (SL), is at a turning point. In order to understand how to bring it forward in phase 2, we need a critical look at the new context in terms of international demand, the key questions to which FTA aims at providing answers, as well as the evolution of the funding environment, especially for long term observatories. Where does SL stand, what are the tangible results since its inception? What were the challenges during the roll-out in phase 1? How to move forward?

The workshop was organized in 5 sessions: considering first the demand, the needs, the objectives (session 1); then current frameworks and challenges towards integration of project-based, place-based research in FTA (session 2) and looking beyond, towards other networks (session 3). This enabled to envisage FTA's set-ups at a turning point: *Sentinel Landscapes* and learning landscapes (session 4); and concluded by a discussion oriented towards a way forward and possible action plan (session 5).

The first session was fueled by a series of short presentations on main landscape related-data needs and objectives in FTA by the 5 FP leaders as well as by the MEL and gender leaders. It clearly showed how essential place-based research and data is to FTA in all its components.

It also highlighted that gathering data for monitoring changes and for assessing performance of projects share some characteristics and differ on others. The "what to observe" can be the

same, with a different focus, to monitor change and to measure how a project performs. It includes context characteristics, and consequences of changes. The real tension is on the "where to observe", either where there is a big change, on a representative sample, or where there is enough work going on. It is also linked to scaling up/ scaling out.

In the second session were presented some examples of place-based research by each partner of FTA. FTA is supported by an incredibly rich number of projects in many different locations. The issue is how to manage integration between datasets, and of different dimensions within a dataset. The majority of place-based research is project-based and therefore driven by different objectives. Building a framework that would favor integration is a challenge for FTA partners. Data are often trapped in the research space (project, papers) that led to their generation. This leads to technical and conceptual silos, that are hard to escape. There is a need to build a framework for data collection with (i) appropriate protocols to improve data quality within the project cycle, and (ii) to promote integration within centers and within FTA. This led to a discussion on the linkages with decision-making, in particular at landscape scale, and whether place-based research was enough considering the economic dimensions.

In the third session several presentations described land observatory initiatives outside FTA. The objective was to have an idea of what is going on, to get different perspectives and ideas, and also to consider which linkages and partnerships could be envisaged. Robert Nasi gave a presentation on ILTER, a network of networks, with a history of long term, place-based studies. He concluded by two questions: Do we want to become member of something like that? How can we add value to what has already been collected? A presentation on the ASB partnership highlighted 3 key elements for success: long term commitment to co-location by multiple and diverse partners; investment in defining and redefining a set of landscapes; an adaptable framework for data collection and analysis.

The fourth session, one of the most important of the workshop, reviewed challenges encountered in the rolling out of SL in phase 1, considered SL in Borneo/Sumatra and in Honduras Nicaragua and the notion of "learning landscapes". It concluded by a group discussion organized along three questions: 1) Did SL phase 1 managed to address the issues of co-location and common approaches to data? 2) What is the comparative advantage of the SL set-up? 3) What framework for research co-location in FTA in the future?

The discussion highlighted the need to make the distinction between monitoring global changes and assessing landscape projects' results. Ways to improve the quality and cross relevance of place-based research and data gathering were identified. Co-location enables sharing of information complementing each other. It requires a specific mechanism to facilitate it, as well as funding for common approaches, starting with georeferenced data for bilateral projects. Involvement of local stakeholders and institutions is key but was rather the exception in the SL set-up. Then, appropriate implementation of the set-up also requires significant efforts in capacity building. Several means have been identified to improve long term place-based research.

Participants highlighted the specificities of any long-term monitoring program and the related constraints in terms of methodology and need for long-term resources. The pertinence and possibility of such an ambitious monitoring program on the long term was questioned. Is it the role of FTA to operate SL; or should it be to support countries and national systems in monitoring SDGs and changes?

The fifth session, building upon previous sessions, discussed what could be a way forward. There is a need to see what is available and give it back to local actors. To attract funding there is a need to show minimal data and analysis of it. It has been noted that SL has not been much demand driven. In that regard some participants recommended to ask the partners what they think about what has been done and "to give back to them". What donors think about SL? Is the data available enough to convince donors? It was suggested to exploit the data already collected, site by site. Then ask what can be done with it, involving local partners, and to facilitate this process.

Participants agreed on the need to first take stock in three sites to check if the data that we have is relevant for anything.

This analysis at site level will help understand what can be done in the future and how, including what would be minimal resources. This may include reducing the number of sites and use co-location to strengthen the remaining ones. There are also methodological issues that will need to be considered. Among others, the need to start from the research questions, before working on the "how". Finally, capacity development needs of local actors involved will need to be included.

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Introduction: background and objectives of the workshop

The SDGs invite all actors in the research to development continuum to inscribe their actions into a common framework. It calls for a better understanding of the changes that go-on in landscapes, for appropriate means to assess the progresses, and also for providing to countries and stakeholders adapted solutions to challenges that are often shared (but with diverse modalities) across countries and geographies.

The need to articulate across scales, from local to global, and from place-based research to global public goods, is not only a major issue to enable action and for resource mobilization, it is also a key scientific question.

FTA, in phase 1, had devised its own set up to observe changes in landscapes, their causes and consequences. This innovative set-up, called *Sentinel Landscapes* (SL), is at a turning point. In order to understand how to bring it forward in phase 2, we need a critical look at the new context in terms of international demand, the key questions to which FTA aims at providing

answers, as well as the evolution of the funding environment, especially for long term observatories. Where does SL stands, what are the tangible results since inception, what were the challenges during the roll-out in phase 1. How to move forward?
Also, FTA phase 2 includes a Cluster on *Learning landscapes*. This cluster, focused on governance should be integrated into the whole programme. What does it propose to do, how should it be fine-tuned, what are its priorities and how to make the most of it across FTA?

Data collection, interpretation and use for policy advice and to inform solutions and stakeholder decisions at landscape level is very much at the center of FTA works and projects. Collecting data is generally a very expensive, and time-consuming task. There are constraints but also opportunities: data collected for one purpose could serve later on for another purpose/research question/project. Often several difficulties (linked to practicality, methods, analytical framework, ownership etc..) are obstacles to making that possible.

This triggers a range of questions that the workshop aimed to address:

1. What does FTA need to observe and learn in landscapes, where and how, with whom, and for what? What data is effective to trigger change? How to decide (and who) what is to be observed, what are the priorities and how should local stakeholders be engaged?

2. What is the demand from Flagships? What are the expectations of partners?

3. FTA is supported by an incredibly rich number of projects in many different locations. How do we manage integration between datasets, and of different dimensions within a dataset? Can we build a framework that would favor integration? What methods to ensure extrapolation domains exists, or that insights from the data can be relevant to different contexts in other locations and/or to global insights/International public goods?

4. What current related experiences in main land observatory initiatives outside FTA? Which linkages and partnerships could be envisaged? What are our expectations versus the big data initiatives and platforms? What could be the roles of a partnership like FTA, as a place to valorize data and related work, to build frameworks for data collection, organization and valorization, and to build related linkages across datasets and partners?

To address these questions the workshop was organized in 5 sessions: considering first *the demand, the needs, the objectives***;** then *current frameworks and challenges towards integration of project-based, place-based research in FTA* and *beyond.* This enabled to envisage *FTA's set-ups at a turning point: Sentinel landscapes and learning landscapes*; and concluded by a discussion oriented towards a *Way forward and action plan.*

Opening of the workshop: objectives

Vincent Gitz, FTA director, opened the meeting by introducing the objectives of the workshop and its organization.

There are overarching research questions. Landscapes are highly dynamic, with huge, complex, rapid changes over time: how to observe and document those changes? What causes the changes? What are the consequences, in the environmental, economic and social dimensions? How can stakeholders be involved in observation and understanding the changes? It is central to much of the research we do.

There are big challenges to data and information collection. It is very costly in time and resources (ex: SDG monitoring), not easy to fund in itself in the R4D context. "Observing for observing" or even for understanding is not appealing to donors. In many research institutions, data is rich but fragmented: by project, spatially, thematically, disciplinarily/methods used, issues looked at (economic, social, environmental), and over time. How to link quantitative and qualitative type of information? Big data is an ex-post concept, not ex-ante. It may help but does not preclude from having an organized approach to data. What data is effective to trigger change?

Aren't we in FTA sitting on a gold mine? Partners have a history of operations, often in the same geographies… Data collected for one purpose could serve later on for another purpose/research question/project. IPGs could be generated from existing data. Can we build a framework that favors integration? How do we manage integration between datasets, and integration of different dimensions within a dataset? How do we account for the specific roles of the spatial and time dimensions? Being aware of the important practical constraints: different supports, different methods, competing analytical frameworks, ownership issues etc.., What methods to favor the creation of extrapolation domains and generation of international public goods?

The objectives of this workshop are to share views and expectations around these questions; take stock of the demands, needs and objectives; consider the consequences for FTA, in particular for structuring its place-based research, and the landscapes observation and learning framework, especially *Sentinel Landscapes*. Which partnerships to be envisaged? What are our expectations versus the big data initiatives and platforms? What IT systems? Building upon the workshop discussion, works could be initiated on a joint review and perspectives paper on the issue. It is also useful in the perspective of the discussion of SL results with the ISC in June 2018 and in the perspective of the forthcoming review of SL landscapes by the IEA.

1: The demand, the needs, the objectives.

The objectives of this first session was to share views and expectations on what FTA needs to observe and learn in landscapes, where and how, with whom, and for what? What data is

effective to trigger change? How to decide (and who) what is to be observed, what are the priorities and how should local stakeholders be engaged?

It was fueled by a series of short presentations on main landscape related-data needs and objectives in FTA by the 5 FP leaders as well as by the MEL and gender leaders.

Christopher Martius, for FP5, noted that for mitigation most of the data collection is done at national scale, except to assess performance of projects. For adaptation he noted that much more could be done with respect to the linkages with *Sentinel Landscapes*, particularly for ecosystem-based adaptation; requiring integration of data. What can adaptation learn from data at landscape level? There is data for bioenergy trees, for plantations on marginal lands, on a project basis, donor driven. It could be better integrated, also to facilitate comparisons in terms of productivity, to food production, and depending on soil quality. Performance assessments of REDD+ are generally landscape based, so definitely a "place-based" research with ambition for global significance, but they are currently not overlapping with FTA's *Sentinel Landscapes*. There could be more integration. The question is how to assess on the ground. Can SL learn from what we have learned on how to assess performance? There is a need for exchanges on methodology and data rather than of scaling. SL criteria have been preconditioned and were not necessarily suitable for our research or data works. The selection criteria may be different for different landscapes.

Peter Minang stated that the issue is at the very heart of FP4. 4.1 is about observation and learning, and as per the proposal now hosting the SL set-up, 4.2 about biodiversity, mosaics, 4.3 about diets and nutrition, 4.4 about governance, adaptive institutions, with three key topics: drivers and dynamics; consequences, ecosystem services, with different lenses; adaptive institutions. It ensues specific needs and a number of questions on place-based works:

- The question of domains of extrapolation (scaling up dynamics), the need to determine a set/portfolio of place-based works: what is a reasonable set? How such a set/portfolio can have a validity? a representativeness?
- What is the framework in terms of work co-location?
- What is the framework for comparative analysis, scientifically valid, but flexible.

This raises important preliminary questions. What kind of characterization of context? What are the key variables (and minimum set of these) for measuring changes? And what would be "performance variables"? What would be the options? With the emergence of new dynamics that could inform policies. This could enable a framework for comparative analysis.

The question is how to organize across different landscapes. And how do we organize ourselves to go forward; especially as the key persons are gone. We should think about reorganizing SL after we have the co-location portfolio.

For FP3, **Pablo Pacheco,** we initially observe some landscapes where there is the influence of external drivers. The objective is to integrate actions on value chains, vertical, and results on landscapes, horizontal. Global forces are driving landscape transformation (e.g. the debates on

indirect land-use change/ ILUC), the geography of production. Need to link local and global processes.

Need to address performance gaps, on the social side, productivity gaps, environmental gaps. There are different approaches to address these performance gaps: multi-level governance, "experimentalist governance", "orchestration" of institutional arrangements, and influence on specific landscapes. What is happening on the ground is a collection of landscapes with experimentalist approaches.

Fergus Sinclair: "In FP2, half of the work is place-based." The point is to choose places where there is enough development work (=investments by development organizations) to upscale. Options are then a mixture of interventions: technological innovations, market innovations, institutional innovations. Implement the "research-in-development" (R-in-D) paradigm, which aims at scaling up within a particular geography, for millions of people and/or hectares, then at scaling out (=elsewhere). We're already dealing with very large areas and very different contexts. We need "contextual variables" to enable understand what are the domains of suitability of options. The objective is to build scaling out options in order to accelerate development; through "exemplar landscapes", bringing options from outside, "cutting edge", with attention to behavior, to livelihood trajectories, with a policy focus and a farmer focus. International Public Goods (IPGs) will be generated through R-in-D, in a two-way process: research is nourished by the way options are scaled out by development institutions; research also helps development institutions do their work better.

The "what to observe" can be the same, with a different focus, to monitor change and to measure performance of how a project performs. It includes context characteristics, and consequences of changes. The real tension is on the "where to observe", either where there is a big change, on a representative sample, or where there is enough work going on. It is also linked to scaling up/ scaling out. On the "how to observe" there are issues around the type and format of data; stability of observation, with a need to standardize qualitative studies.

The very process of observation and data gathering can help bringing people and actions together, like in the example of Sri Lanka, bringing together the issues of soil, land and water health. Evaluation can be a binding object and create a consensus on the existence of a problem, the complexity of the causes and drivers, and on the need to act. There is a need to understand links and feed backs in order to design a road map for "land health", exemplar landscapes.

LEARN = Look, Engage, Adapt, Refine, Nurture

Ramni Jamnadass summarized the activities of FP1 and how they link to place-based research. It includes in situ conservation, with strong participation of stakeholders, and constitution of genetic conservation units. Domestication, institutional arrangements, genome characterization, and downstream breeding programs contribute to the overall objective of enabling the determination of the right material for the right place and purpose.

Implementation requires delivery systems, with appropriate business models, institutional arrangements, and to take into account both physical characteristics and behavioral components. Information on all these points is needed for effective delivery. FP1 would look forward to be part of one of the SL landscapes.

Brian Belcher, MEL leader, gave an overview of data needs for landscape research. Research is considered here as research for development (R4D), as an intervention (on a bio-physical and socio-economic system) and how it results in changes. R4D is knowledge creation, with a lot of stakeholders, and outreach and dissemination. The question is how to assess which part of this package is working and how to improve. Need also to be able to give a credible story to donors with respect to outcomes. Critically important are an explicit Theory of Change (TOC) and afferent research planning, in order to devise explicit elements in the program. The ToC helps researchers design and implement the work. It will also make it easier to assess. It has also to do with the way scientists, teams, and stakeholders interact and enables to build an impact culture, through discussion on the elements that can contribute to a change process, and through evaluations of outcomes and impacts. A lot is qualitative. Series of case studies enable to have comparative analysis. What is different with a landscape approach, with co-locating research, is that it is much more complex to evaluate. There are multiple channels/pathways for impact in a landscape. The TOC needs to recognize these interactions.

Marlène Elias for Gender; there are two objectives: first, to ensure that gender is integrated, and in a locally relevant way. This (gender-responsiveness) applies to how we do research: the research questions, the composition of the field teams, the participants we select. The second objective is to understand gender relations, how these underpin issues of importance to FTA, and how these may be changing in changing landscapes. It links to the SDGs and to the CGIAR's 3 gender and inclusion sub-IDOs, for which outcomes are to be monitored. Here, we want to understand the structural factors and institutions that cause gender inequalities. Need place-based research and ideally want to expand on/link with other initiatives. There are promising methods, like the Gennovate comparative qualitative research methodology, and aspects of the Women's Empowerment in Agriculture Index, as well as participatory research methodologies, which can also lead to change on the ground, and at which FTA is quite adept.

The discussion is opened by **Alexandre Meybeck**, wondering, from has been presented, if could be identified a minimal set of data, needed to answer a set of research questions. In other words, can a set of needed data (what to observe, where to observe, how to do it?) be deduced from a set of research questions? If this is the case, then research questions would be the first priority, so that could be identified needed data.

First, there seems -from the presentations- to be a convergence on the "what to observe?": monitor changes, understand context/characteristics, looking at consequences (wanted or not), looking at how a project performs. Where to observe is the result of a tension: it can be where the biggest changes are happening, or when you need to upscale. The selection of places results more often from donors' interest, at the intersection of where there are pre-existing works. Important is to choose places that can also inform things elsewhere. How to observe is often

dependent on the nature of the projects. There is often a lack of stability and repeatability over time, even in similar locations. People fluctuate in the field. Donors' priorities shift.

Another question is how can big data help? There is a need to find ways to use for a same purpose different data differently collected in different places, and to constitute series. The collection and confrontation of data plays a role and can create interest of stakeholders and donors. In itself it can have an impact at landscape level.

Another question is whether there is, or not, convergence on what are the major elements to observe in a determined landscape, or whether there are big differences between FTA FPs. Would it be possible to determine a minimum set of data that we would like to gather whatever the type of project in a landscape?

Fergus answers that we need global comparative data and, at the same time, to ensure local relevance of data and indicators. This leads to the question of what is locally relevant; keeping in mind that this might be the most important. We cannot privilege the global view over the local views and needs, which are the most critical to understand.

Eduardo Sommariba explained that there were four main questions that drove the design of FTA phase 1

- Understanding the presence of trees and forests in a landscape
- Inventory the changes
- What are the consequences of these changes on ecosystem services and livelihoods
- What to do with these changes? Mitigate? Reverse?

Same questions everywhere, but applicable according to contexts.

Alexandre Meybeck mentioned the example of the SDG2 indicator of sustainable agriculture. There is no single unique indicator that would be relevant to all contexts. To compare, often there is a need to transform different data and indicators into other metrics. Another example is resilience: if resilience can only be defined locally, how can you have a global comparable indicator?

Christopher said that there are certain dimensions that are always relevant, like policies and institutions, whatever the research question. It would however be difficult to come to a number of characteristics that would be able to cover all situations. There need to be some realism. The assessments of REDD+ could provide good examples; there has been two useful surveys.

Riina Jalonen said that we could start by looking at places where things are happening, where policies are being implemented; select first a set of policies and innovations.

On the issue of what data to select, **Alexandre** mentioned the examples of the agricultural census. It is very costly to add a question/data to observe in a census. Therefore, we should look at those that can answer multiple purposes. A good example is gender-disaggregated data.

There is a tension between two objectives: to monitor change and to measure performance of how a project performs.

Laura Snook posed the question of the selection of the place where to answer your question best. This issue is compounded by trade-offs. The places that answer your research question would normally depend on the question. Now choices are less and less directed by research, but by funders. And with decline in funding there is more traction to look at outcomes; a monitoring approach is more and more required, but this does not necessarily help research (and also eats funding). Research and monitoring are two separate issues, we cannot do monitoring at the same time we do research.

2: Current frameworks and challenges towards integration of project-based, place-based research in FTA

FTA is supported by an incredibly rich number of projects in many different locations. The objective of this second session was to consider: How do we manage integration between datasets, and of different dimensions within a dataset? Can we build a framework that would favor integration? What methods to ensure extrapolation domains exists, or that insights from project data can be relevant to different contexts in other locations and/or to globally provide insights/International public goods?

Vincent Gitz presented a summary of the discussions on data from the last CIFOR annual meeting.

Creating extra value from existing data requires a new mindset. Data are often trapped in the research space (project, paper) that led to their generation. This leads to technical and conceptual silos, that are hard to escape. There is a need for a center or a program to re-examine the data value chain, both (i) along the project cycle, by building appropriate protocols to improve quality and (ii) integrated at the level of a center, by building a framework that promotes integration. This is true also at the level of research programs like FTA. Following the discussion have been prepared draft recommendations.

The first recommendation regards improving protocols along the project cycle, and to systematize the establishment of a Data Management Plan (DMP) at project start-up, taking into account data quality requirements, donor requirements. The center should support this effort by providing links to the Project Management system, data quality checklists, controlled vocabulary/glossaries, standardized procedures (including for geo-referencing, dates, acronyms, measurement units) and templates. DMPs should be intended to be living documents in which information can be made available on a finer level of granularity if need be. Projects need to implement an on-course quality assurance check, to review the data in collection, minimize error, inconsistency, and data loss, including steps to identify and mitigate such issues. This could require mobilizing ad-hoc internal expert groups. Data curation activities need to be integrated into the project workflow. Finally, a key challenge of data capture is the variety and volume of data. This poses a question about where and how to store the data. How

to process it for storage in such a way so that it is ready for analysis? How to link qualitative data into comprehensive quantitative databases?

The second recommendation regards frameworks for integration at center leve.: This has three dimensions: (i) Consideration of spatial dimension and geographic mapping, (ii) Understanding the multiplicity of objects at hand to lay the ground for integration, (iii) Integrate different projects' results: learning, mapping and interoperability. Integration of different research/data dimensions in a project. The lack of interoperability between datasets creates a major difficulties for combining data from different sources and turning them into new data products. Standardization and the creation of data in computer-processable formats is key. Interoperability issues need to be taken into account at the stage of the production of the data. What worked well and less well should be documented into a lessons-learned book. It should help determine which mechanisms to feed-back into projects. It was proposed that such an integration scheme could be piloted for CIFOR in one country, for instance Indonesia.

Christopher Kettle and Riina Jalonen in an intervention titled *Forest and Landscape restoration From Genes to Society* presented some results from placed based research in Bioversity, including on mapping threats for 16 important food tree species in Burkina Faso, on seed dispersal in a forest mosaic, on Brazil nut production in pastures in Madre de Dios (Peru) in partnership with a big retailer from Switzerland.

Roland Kindt made a presentation on *Selecting Useful Tree Species: potential natural distribution maps and species distribution models* highlighting that one big question is what is the right tree for the right use and the right place. Use of natural vegetation maps can help to select the right specie (for appropriate products and services), to create an agroforestry species switchboard.

Eduardo Somarriba presented on *From place-based landscape research to IPG, CATIE's activities on: Model Forests Network, Silvopastoral systems and climate change*.

Created 1995, the Model Forests network has its headquarters in Ottawa, Canada, with sites in more than 25 countries, on 5 continents. Model Forests are social, inclusive and participatory processes that seek the sustainable development of a territory and thus contribute to global targets related to poverty, climate change, desertification and sustainable development. More than 31 million hectares in 15 countries are part of the 30 model Forests in Latin America. Model Forests are negotiation platforms, to agree on what to do in a landscape. Model Forest network (MFN) is a natural partner for FTA's Sentinel Landscape work. The Nicaragua-Honduras Sentinel Landscape (NHSL) overlaps (and cooperates) with the MFN in Sico-Paulaya, Honduras.

The Program on Sustainable Livestock Systems (GAMMA**)** has as major research lines:

- Silvopastoral Systems for fodder, ecosystem services, deforestation-reforestation, national REDD+, climate change and other conventions
- Reduction of emissions of methane, N2O, pollutants (nitrates and phosphates), and other GHG

- Restoration of degraded pasture lands, build-up of soil organic matter

These give way to various projects and to activities on certification, networking, education from farmer field schools to postdoc.

Fergus opened the discussion by stating the need for a broader performance assessment. He noted that with the "the right tree for the right place" question, we are missing the economic dimension. We need to go beyond the single productivity measure. Our meaning for performance has to be expanded, because we are not only looking at trees, but at systems, and their governance.

Pablo complemented that this is one of the reason why very little money for restoration is going to trickle down. We are missing dimensions. Need to better understand these economic fluxes, as well as the economics of small holders. We also need to integrate institutional dimensions. All these dimensions need to be added in restoration work. What is the unit of analysis? considering that governance is multilayered.

Fergus answered that we can have a restored landscape but with people still poor; need to do both. We need a nested approach to study this: plot models, farm/livelihood models, landscapes. We need more negotiation support tools at landscape level, bringing the evidence into multistakeholder partnerships. There is an implementation gap, because of lack of social capital, of institutions at the appropriate scale.

Alexandre challenged the group: by the way, what is the scale of a landscape? What is the unit of analysis for decision making?

Eduardo mentioned that economics is key.

Marlene noted the need to characterize, at multiple scales, making the data available, so that it can help analyze other data in a more meaningful way. This would help not reinventing everything once we come back in a landscape.

3: Looking beyond FTA

This third session looked at what is going on in such matters outside FTA. What current related experiences in main land observatory initiatives outside FTA? Which linkages and partnerships could be envisaged? What are our expectations versus the big data initiatives and platforms?

Robert Nasi gave a presentation on ILTER (International Long Term Ecological Research network), a network of networks, with a history of long term, place-based studies. Founded in 1993 it involves projects in 32 countries, focusing on:

- Pattern and control of primary production;
- Spatial and temporal distribution of populations selected to represent trophic structure;
- Pattern and control of organic matter accumulation in surface layers and sediments;

- Patterns of inorganic inputs and movements of nutrients through soils, groundwater and surface waters; and
- Patterns and frequency of site disturbances.

It is not specifically driven by hypotheses but has a set of network-wide goals. The sites are spread amongst three tiers: Tier 1 = measuring everything all the time . Tier 2= same as tier 1 but measuring less often. Tier 3 = Same as Tier 2 but less things.

Its core strengths are a history of long-term, place-based studies - some sites have more than 100 years of data-; its community of scholars committed to integrative research across disciplines and service to society; a diversity of landscapes, stakeholders, and disturbance regimes. This make it ideally suited to lead scenario analysis.

It has limitations: it is more a set of individual sites than a network. There is the issue of coordination. Tendency to think as an individual or as a member of a clan (site) rather than as a participant in a network, and this mindset takes time to evolve. ILTER cohort resisted the concept of network coordination of research quite strongly at first, despite the fact that the importance of collaboration was at least implied in the first call for ILTER proposals. ILTER network was started by ecologists, the integration of a social component was an afterthought. A high number of sites are in pristine ecosystems.

Robert Nasi concluded by two questions: Do we want to become member of something like that? How can we add value to what has already been collected in SL and other FTA datasets? There is in FTA a broad range of datasets with a large number of commonalities: GCS Redd+, agrarian reform, learning landscapes, etc.. There are lots of data but where is the IPG? CCAFS claims to produce IPGs will a less comprehensive set of data. We should be proposing data to the world.

Plinio Sist presented TmFO, *The Tropical managed Forest Observatory: A Research Tool to address the Future of Logged Forest.*

Tropical pristine forests are no more dominant in the landscapes: 75% of tropical forests are disturbed. 400 million ha of tropical production forests will be managed for commercial harvesting by 2050. Managed and disturbed tropical forests are the forests of the present and of the future.

There are important issues to be addressed for the future of Tropical Production Forests: What are the general responses of tropical forests to logging? How do those responses vary across regions and continents? What are the trade-off between timber production and environmental services? Most of our knowledge on tropical forests is from studies carried out in primary forests. There is no continental, nor regional network dedicated to managed forests like for primary forests (Rainfor, CTFS).

TmFO is a pantropical network. Started in 2012, it covers 3 continents, 9 countries, and gathers 18 Research Institutions, 40 researchers, 24 experimental sites, 539 plots (1274 ha). There have

been important steps forward. At institutional level, an MoU was signed in 2017 with the 18 institutions involved, there is a representative field basis for ESA Biomass Project. Several sources of funding have been secured: Remafor 100,000€, 2 years; APFNet (CN approved, full proposal submitted 500,000 USD 2 years); ESA 50,000 € 3 years; proposal from Wageningen Dutch Science Foundation (1 m€). Several publications have been prepared: publications on TmFO network, Biomass recovery time and recovery rates (5 papers); Timber recovery rate (submitted); Impact of logging on Biodiversity. There are however important limitations: no long term significant funding, no funding support from FTA since 2015, human resources capacity limited while huge data bases are available, covers a small part of the so-called « degraded » forests.

Peter Minang presented on *ASB Partnership for the Tropical Forest Margins: The BenchMark Sites Experience*. Alternatives to Slash-&-Burn (ASB) is a global consortium hosted by ICRAF, of over 40 research institutions, NARS, NGOs, government agencies, universities, and community groups; with contributions from about 250 researchers; a Millennium Assessment partner.

3 key elements characterize ASB:

- Long term commitment to co-location by multiple and diverse partners
- Investment in defining and redefining a set of landscapes, with a strong sense of ownership by the national systems
- An adaptable framework for data collection and analysis (land-use classification with multiple levels of aggregation)

From the original 20 sites, ASB now has 5 key sites, based on projects. It is important to collect data having in mind both global concerns and local concerns. National involvement is key, including in the governance of the project.

4: FTA's set-ups at a turning point: Sentinel landscapes and learning landscapes

In order to understand how to bring SL forward in phase 2, we need a critical look at where it stands, what are the tangible results, review challenges from the roll-out in phase 1.

Anja Gassner presented *Sentinel Landscapes- Phase I set-up and key results.*

The objectives 2012-2016, FTA Phase I, were:

1 Cross regional comparison
2 Integrating Biophysical & Social data
3 Long-term presence
4 Opportunity to test landscape hypothesis based on good understanding of landscape variation
5 Co-locating research activities (share resources)
    - Between Components
    - With Partners
    - With other CRP's

She recalled some of the main characteristics of the set-up design regarding the selection of sites. The objective was to have the most different system design; with each sentinel site as different as possible from the others. The only communality being that each site is located in a forested landscape, that has been severely altered by humans. Use existing methodologies as much as possible.

She presented some preliminary analysis on co-location of FTA bilateral projects and SL in phase 1. As we do not have georeferenced data for bilateral projects it is impossible to check strictly co-location to *Sentinel Landscapes*. Moreover, there is no mechanism to check co-location of bilateral projects in FTA. Finally, there is no mechanism to communicate the information generated in bilateral projects to *Sentinel Landscapes*. Co-location remains a good-will gesture.

There were some results on co-location, such as:

- Integration of Bilateral projects in the Mekong and in Burkina Faso, the BMZ-funded Green Rubber project, Biocarbon and Rural Development (BIODEV), Ministry of Foreign Affairs Finland
- Collaboration with IUCN on landscape restoration in Peru and Uganda DFID-funded KnowFor project
- Cross CRP efforts in Burkina Faso, Uganda, Nicaragua Honduras

There are still bilateral projects in most SL countries, showing long term presence.

She recalled that a literature review has been conducted in 2012 and highlighted some do's and don'ts in data driven networks. She ended her presentation by asking three questions: How come we think we have great findings in phase 1, but no result? What can be the role, in phase 2, of the SL teams from phase 1? Did bilateral projects benefit from SL?

Vincent Gitz presented on behalf of **Yves Laumonnier**, coordinator of the Borneo Sumatra Sentinel Landscape at the time of implementation, on *Sentinel Landscapes: the challenge of building long-term research networks.*

Sentinel Landscape uses the concept of "Tree cover transitions" as unifying concept for livelihoods, landscape and governance. A sentinel landscape is essentially a site or a network of sites, geographically or issue bounded in which a broad range of biophysical, social, economic and political data are monitored, collected with consistent methods and interpreted over the long term. The *Sentinel Landscape* network (SLN) is an initiative to set up long term socio-ecological research sites and to collect an integrated dataset (livelihood, institutions and environmental data) that support the strategic research framework of the CGIAR. The *Sentinel Landscapes* involves 200 research sites spread across 8 landscapes in 15 countries on 3 continents. The 8 sentinel landscapes are Nicaragua and Honduras, Western Ghats (India), the Mekong (China, Laos), West Africa (Ghana-Burkina Faso), Western Amazon (Brazil, Peru,

Bolivia), Borneo-Sumatra (Indonesia), CAFHUT (Cameroon) and Nile-Congo (Kenya, Rwanda, Democratic Republic of Congo (DRC)).

The key research questions, as formulated in 2012, are:

- Is there a relationship between the variation in Tree cover/Tree quality and the variation of any of the four system level outcomes: reduction in poverty, increased global food security, improvement of nutrition, better management of natural resources?
- What explains spatial and temporal variation of tree cover?

In year 1 and 2 (2012-2013) were conducted the following activities:

- Detailed analysis of existing networks and opportunities for collaboration
- Workshop to select sites (Nairobi, 2012)
- Creation of a working group on methods
- Develop partnerships with relevant partners
- Workshop method & data collection procedures (Ouagadougou, January 2013)
- Start carry out measurement campaign

In year 3 and 4 (2014-2015):

- Method and Analysis workshop (Costa Rica, March 2014)
- Progress Meeting (Rome, Oct 2014)
- Workshop on institutional mapping (Montpellier, Dec 2014)
- Data collection implemented at each sentinel landscapes sites (2014-2015)
- Outreach, World Forestry Congress 2015

For each of the 8 sentinel landscapes, data was collected from 4 selected sentinel sites, each measuring 10x10 km2, and representing a variation in tree cover over a 10-year period.
For instance, in Borneo-Sumatra SL: 4 selected sentinel sites, each measuring 10 x10 km^2, representing a variation in tree cover along the transition curve.

The rolling out of the project revealed a range of challenges:

- No thorough analysis of the existing ILTER networks
- Partners not involved at the beginning
- In most sites partners did not show much interest (or lost it quickly) = link with partners and donors not secured
- Not the same level of assistance for local teams between sites (some sites received trainings, some not)
- Data and feedback were not given to the potential users at the end
- Poor cooperation between FTA CG Centers
- Unequal level of science (especially in remote sensing and tree diversity)
- Workshops were not participatory and managed in a too autocratic way.

The presentation concluded by the following considerations :

- Limitation in funding is the usual big constraint for such a long-term research network, but should not be used as the overall excuse due to the extent of otherwise existing place-based research in FTA.
- Harmonization in methods and instrumentation is needed
- Already existing datasets, even not using the same methods should be considered (appropriate statistical tools that address differences in method)
- There is more (much more) data to be included
- Consideration should be given to the geographical gaps of ILTER
- Consideration should be given to set up regional groups and partnerships joining ILTER.

Eduardo presented the Nicaragua-Honduras Sentinel Landscape (NHSL), 68 000 km2, which includes 2 biosphere reserves and 13 protected areas in Nicaragua and Honduras, the largest remaining forest area in Central America, surrounded by a mosaic of agricultural land, cattle ranching and agroforestry systems. Baseline studies have been conducted on 9 sites (each with several contents, each content with several files, each file with several variables). In a landscape, a difficulty has been that different organizations and projects have their own criteria, preferences, and goals in terms of priority action sites and variables of interest. The data collected has been made available in open access and has been analyzed in workshops with local partners. Students' work and various publications and ongoing partnerships are linked to the SL/area. On-going research on shaded cocoa and coffee agroforestry systems aims to optimize cocoa shade canopy for multiple purposes. Another project aims to optimize orchard renovation trajectories. It enabled to identify two basic models, that have an influence on cash flows: total renovation at optimal renovation age or partial renovation.

Lei made a presentation on *Adaptive Landscape Institutions. From place-based landscape research to International public goods. Lessons from FTA phase 1 and ways forward into FTA phase 2.*

The impact pathway and theory of change invite to identify 3 types of situations:

Tier 1: agro-ecological zones and the recognized domains of socio-ecological system similarity (**theories of place**), overlain by national boundaries and differentiated systems of governance; impact at this level generally depends on policy change, informed by ideas and experience at tier 2, plus long-term changes in human capacity supported by changes in curricula

Tier 2: 'learning landscape' action research efforts that benefit local actors (incl. farmers) and contribute to international public goods by **tested paradigms**, **concepts** and **generic theories of change**

Tier 3: landscape observatory sites with intensive data collection for monitoring and unraveling the **complexity of change** as it happens without specific project interventions.

For the learning landscapes project the key deliverables are:

2017 Exchange of lessons learned across the various learning landscapes associated with FTA, including a further review of existing typologies of 'payment for watershed services' settings and as basis for new action research efforts.
2018 Reflection on the multi-scale character of the 'common but differentiated responsibility' phrase that so far is primarily used at international negotiation tables but that may increase space for local adaptive landscape management.
2019 Compilation of lessons learned at landscape scale across the learning landscape networks for reporting on Aichi targets to CBD.
2020 Impact study of the further development and use of the LUMENS tool for participatory planning of land uses providing multiple environmental services. Cost-effective, multi-scale and participatory protocols for monitoring viability of restored forests developed and adopted by key countries and other stakeholders.
2021 Documented investment action of development support partners on the basis of the shared learning that links issues to places and action perspectives
2022 Next-level stock taking of how the 'payment for environmental services' debate has progressed conceptually (combining behavioral economics, applied ecology and institutional political ecology) and in evolving practice.

The presentation was further illustrated with some highlights from bilateral portfolio.

Steve Lawry made a presentation on *Exploring forest landscape restoration: Tenure, multi-level governance, and community impacts***.**

To achieve the ambitious goals of forest landscape restoration (FLR), widespread and long-term behavioral changes in resource use and management will be needed. Tenure rights can motivate long-term investments in restoring deforested and degraded lands. The research question here is: Do rights devolution and higher levels of tenure security influence FLR in ways that: Provide more equitable livelihood benefits? Benefit women and marginalized communities? Contribute to better forest outcomes? The approach was, starting from the key concepts of tenure and governance, to consider lessons learned from REDD+ in order to investigate how can tenure and governance reforms for FLR be operationalized.

Lessons from REDD+ have identified tenure challenges: lack of rights, unclear rights, and tenure insecurity; overlapping tenure claims (multiple types); inconsistencies in statutory laws and policies; lack of government and/or community capacity or will to enforce regulations; legal and customary norms that conflict with conservation goals. They also enable to devise tenure strategies: formalizing rights and strengthening enforcement; expanding alternative livelihood opportunities; broad-based stakeholder engagement.

Such an analysis calls for a rights-based approach to FLR. A focus on community rights gives people agency to choose and manage forests and other land uses. Evidence suggests that where they have clear tenure and forest-related benefits, communities will choose to maintain and extend areas in forests. Where rights are absent the scope for sustained uptake of FLR is probably low. If the intention of FLR is to benefit poor people and improve livelihood

conditions, then FLR needs to align itself with contexts where communities have clear rights to land and forest and provide added incentives for people to take up forest related investments.

Discussion

The discussion, in groups, was organized around 3 questions:

Q1: Did SL phase 1 manage to address the issues of (i) co-location of projects across FTA or a center, and (ii) common approaches to data? If not, what were the challenges, and what could solve the problem in the future?

Q2: As it stands, what is the comparative advantage (strength and weaknesses) of the SL set-up, given the need to (i) fit a demand from actors, (ii) articulate between different scales, (iii) articulate research questions with observations and data, and (iv) the potential to link with other initiatives.

Q3: What framework can we envisage for research co-location in FTA in the future, especially with respect to: (i) common approaches (including minimum data) enabling the constitution of extrapolation domains and comparative analysis, (ii) articulation between scales, (iii) link to decision and policy making.

On question 1, the following points were raised

Participants regretted the too limited role of SL in disseminating methods. CCAFS did it but we did not.

Need to make the distinction between monitoring and landscape projects. Need robust methods, and that are adapted to forests and agroforestry.

Need a transdisciplinary approach to frame the questions. Need to frame it inside the project cycle. Differences between researchers' points of view regarding conceptual approaches have limited their willingness to participate in a common methodology for data collection.

What to do with long term observation if bilateral projects are not available? (for instance due to shift in donors' preferences or availability of funding). There may be changes of interests from donors, which is an additional difficulty for having a representative sample. This creates challenges in some areas, for instance continued location is more difficult in Central America than in Africa. Co-location and local partners can give continuity in these cases. The solution is to look at sites with potential for co-location and involvement of local teams.

Need to bring in national and local experts, including to get the questions right. It is important that local teams are also involved in the analysis of the data.

Co-location enables sharing of information complementing each other. At this stage there is no co-location happening. It requires a specific mechanism to facilitate it, as well as funding for common approaches. Common approaches to data have worked because there was enough funding but the results are still sub-optimal. Data stays in *Dataverse* that involves only a small group of scientists. Need more interactions to learn and to co-locate. Donors change their geographical interests. Locations change due to various interests, donors, centers, CGIAR. Problems linked to partial approaches; need more representativeness of landscapes, with reasonable sub-sets. For instance, ASB is managing landscape sub-sets. As a minimum, people need to commit to certain sites. SL has a lot of activities, however there is a missed opportunity to connect to initiatives. ASB has more specific questions. SL has no specific questions.

Co-location and common approaches to data varied across SL, due for instance to differences in availability of funding. In some regions it was possible to bring in bilateral projects run by different FTA partners. In other regions there were fewer resources from donors. In other cases, local partners had on-going projects and were able to raise more funds to sustain operations in the SL and to co-locate their own projects.

Co-location in phase 1 didn't really happen; there was no mechanism to make it happen. It happened on an ad hoc, personal, basis. It worked better in the thematic SLs, as there was an incentive to benefit from other sites.

Researchers from different FPs, centers and partners did not embrace the SL concept, methods, data to be collected… This reduced possibilities to co-locate work in SLs.
It was difficult to get an agreement between scientists on methods. Research questions were decided by directors overruling scientists' views; agreement was impossible. Scientists do not want to be data collectors. It works better in a co-location, or when there is a common research question or a common research interest.

Solutions proposed: Select sites where there is funding available, work within existing networks, involve local teams in the analysis of data in order to ensure their ownership and involvement in the work.

Q2 As it stands, what is the comparative advantage (strength and weaknesses) of the SL set-up, given the need to (i) fit a demand from actors, (ii) articulate between different scales, (iii) articulate research questions with observations and data, and (iv) the potential to link with other initiatives.

One group mentioned three main weaknesses of SL in phase 1:

- It did not manage to use land-use systems as sampling units. This would have been a much fruitful approach, leading to characterization/typologies of land-use systems on which extrapolation frameworks could have been built.
- There was no representativeness of the 4 sites within a SL. A gradient-based sampling approach would have been better than a randomized approach.

- No action research was included in the design, which would have increased relevance to national actors. But action research needs flexibility in the design, which was not the case.

According to another one:

- SL did not fully meet the needs of local actors.
- There was only partial articulation between research questions and data collection, which stayed at the level of baseline data.
- Needed more articulation between different scales.
- Needed more resources and time to move from baseline data to specific/practical analysis and then to other scales (farming, governance, policy, financing).
- There are huge opportunities to link with other networks.

Historic data is already available to build on. Living labs: landscapes for data, to see change over time. ASB is problem driven. SL should have been the same, not data driven (it was an option in the beginning). Data is still not available after 5 years; there is no learning opportunity. It should look at global challenges demonstrated in landscapes. It should be based on the forest transition curve, with a reasonable sample of landscapes. Representativeness is not yet known as data is not available. 4 blocks per SL; it probably overlooks gradients. No action research has been conducted, a missed opportunity. Action research needs flexibility.

There was no clear consultation on demand; the initiative came from FTA; The methods were defined by a small group of people. It was limited to data collection, with limited buy in inside FTA. There was limited involvement of social sciences. It was driven by data, not by research questions. Need to add value to what projects want and support and to synthetize. A good example is restoration. The biggest weakness is to what extent to leverage the initiatives; need to add a layer beyond data collection. Another difficulty is the CG moving targets and the lack of time to generate research. Another major weakness is the lack of funding.

A big advantage of FTA is having trained teams on the ground. Can supplement national statistics, create an engagement forum for local authorities. When site workshops were organized, it created a forum for local governments to express demand on FTA research. However, this demand was challenging to make emerge. And the countries were not engaged in the selection/sampling of sites. And there is often no way to extrapolate at national level.

The current teams need to be reformed as many people left.

Need for minimal data sets. Successes can attract resources. Comparison can be done at a relatively small scale. This is different from the scale of definition of a landscape.

The articulation with research questions was only partial; it stayed at the issue of the baseline data, which is not necessarily relevant for local farmers and stakeholders, for which change is more important.

There could be opportunities to link with other networks, especially for baseline data. There is historic data that can be used. Need to cross scale collection of data and link to policy level.

Q3: What framework can we envisage for research co-location in FTA in the future, especially with respect to: (i) common approaches (including minimum data) enabling the constitution of extrapolation domains and comparative analysis, (ii) articulation between scales, (iii) link to decision and policy making.

FTA has no "lab": SL can be a collection of living labs to collect data, look at global challenges in the perspective of these landscapes, grounded on a conceptual framework (the transition curve could have been used) and that are reasonably representative.

The initiative should come from demand. Methodology should be driven by the needs on the ground. Not only related to data collection. Add more social sciences. SL should have been driven by the research question, rather than being "data-driven". Add value to what has been done on the ground, to other projects.

Limited funding was a constraint, as there were minimum requirements to cover.

Several ways forward can be identified to improve long term place-based research:

- A portfolio analysis of old projects. These projects could be the starting point for future co-location. Also, considering them could help inform the design of methods on how to observe progress on the long term
- We should target long term partners, national research organizations, long term national programs
  We should facilitate interactions inside FTA, for instance on restoration
  We did not have any communication strategy, but we should have one.

Participants put some more fundamental questions on the table:

- Is it the role of FTA to operate/coordinate a network as SL?
- Or should it rather be to support countries and national systems do it themselves, such as for monitoring SDGs and changes?

A new objective could be to support countries, national systems monitor SDG achievements in the FTA domain. This would involve: to identify what the problems are for SDGs; to improve methods, test, compare, assess bias; to identify sustainable approaches countries should buy in. It will require a 2nd layer to assess quality and process, towards comparability, assessing gaps and challenges.

Others are doing the same thing for the SDG indicators. Our niche is the forest transition. The agriculture/forestry dichotomy is fake; tree crops are invisible.

This approach is sustainable only if countries need to do monitoring. There we could help to improve methods, to assess quality of the process and data, which is an important issue for SDG indicators: for instance, is there enough data to monitor tenure? Can it be moved from Cat 3 to Cat 2?

It is also important to take into account issue cycles. The question is at what stage of the cycle countries are to address a specific issue. Can we help countries moving into the cycle? Can we help them articulate between scales and identify where the bottlenecks are?

Meine mentioned 4 points:

- Sustainability: there are critical permanent pressures on the territories; need permanent presence and some resources to keep operations running; need to work more with local and national authorities. This requires credibility, which is an issue in places where we have no continuity of presence. We also need to come with funds.
- Relevance: need to go beyond baseline studies, to ask questions that are relevant to local actors, this cannot be just "another data collection exercise".
- Buy in and ownership: more time is needed for interactions with actors, including municipalities. All need to be convinced, in terms of goals, questions, methods, units of measure.
- Utility: There is still a lot to do with the data collected during phase 1. When will results be available? Can we make sure data is given back to the communities and users?

It is not about the framework but the incentives. Is there any incentive to build on what was invested? Among the topics of interest for use of SL data: thematic landscapes, comparative approach, gender, restoration.

Give more room to local, national partners. Methods are also boundary objects. SL will require resources on the long term. It has to be a mix. May be there should be fewer sites. It cannot be free; some investment is needed to move.

There is also an issue of institutional memory; who was working on it? How to make accessible synthesis and data?

Taking the example of restoration, one group identified 3 groups of conditions:

- Funding and processes of collaborative, comparative portfolio analysis of past and current projects, taking into account the timeline of the project (minimum 4 years), per location as a start. A reasonable size portfolio for medium term (3 years), with duration, convergence of location, convergence of theme. For projecting into the future it would have a comparative advantage in observing progress.

- To have more permanent partners, such as NARS, working in long term and government programs. Build from what they have done. Have semi-permanent NARS and national programs. Coincide with portfolio analysis.

- To facilitate interactions of groups working on restoration in FTA, across FP1, FP4, FP5, on what they are doing, what they are learning, thinking about products that address the demands of governments and NGOs. Design a communication strategy. Prepare position papers.

This is where we are now; Compare with projects that were more issue focused. There were different approaches: what can we learn from that? What type is more relevant? What has happened? We can learn from alternative approaches.

5: Way forward and action plan

The objective of the session was to consider and discuss, in light of the previous sessions, what could be the roles of a partnership like FTA, as a place to valorize data and related work, to build frameworks for data collection, organization and valorization, and to build related linkages across datasets and partners. How to continue SL in phase 2? What partnerships to build beyond the current FTA core partners? Etc.

Vincent: We need to take stock. We may need to reduce the number of sites. Use collocation. There are methods' issues. We need to start from the research questions; then the how. Need for capacity development.

Ask the partners what they think about what has been done. Give back to them.

What donors think about SL? Is the data available enough to convince donors? Can we test the product in front of donors?

Alexandre asked about the 4 action points mentioned by Meine: sustainability, relevance, buy-in and utility. Is it feasible everywhere? Also, when it comes to empowering local authorities, what is local : villages, subnational, national?

Meine mentioned that a comparative evaluation with what other methods led to will be ultimately needed. Methods can be seen as boundary objects. What did other methods yield? How much money went in? How did the other studies perform? Did other issues-based programs have more results with less funding? Can we learn lessons from others?

Fergus suggested a way forward: go SL by SL. What do the teams can/want to do with the data? Exploit the data site by site. What data is available? Then ask what do you want to do. And convene a process to facilitate what we can do across the analyses. The first objective should not be global comparisons. This can only come later.

Eduardo: For Nicaragua there is baseline data, which is good for contextualization and problem statement, but we realized we need more data to be effective, to get to the level where you can do other things. We need to decide what to do. We should start by analyzing baseline data,

To analyze existing data is only one thing; but to be relevant for stakeholders, need to invest a bit more. Need also some money for communication.

Christopher: Need for a review or a consolidation of what has been collected in order for this resource to exist. For example, regarding restoration questions: Is SL of use? Has there been restoration going on in these sites? What impact on livelihoods' trajectories?

Peter Minang: Need to check if the data that we have is relevant for anything. Is data useful to guide local interventions? Need to see what is available and give it back to local actors.

Mehmood mentioned the opportunities for collocation and comparison on: stage of transition, global challenges, stages of issue cycle.

Alexandre highlighted some important points of this discussion:

- Need to go back to local and to donors. You cannot go to donors empty handed.
- Also the thinking behind SL needs to be packaged to be easily understandable by everybody.
- There is an increasing concern on how to deal with complexity (cf sustainable food systems). So SL and related questions can be of interest for people having to work with complex systems = how can these be approached? There could be a publication illustrated by 2-3 key results.

Meine mentioned that SL was used in a recently published comparative study of certification on oil palm, coffee, cacao and rubber. But in practical terms, in the landscapes, nobody has heard about certification. He points to the importance to start with landscapes. SL could be used as a sampling scheme. When you start from a landscape or a commodity you get different results.

Eduardo mentioned that the Nicaragua Honduras SL could be a priority action site for the restoration initiative. Could be a sampling frame, for instance for the certification of management. It could link to management, and to what happens in other domains (example sustainable forest management).

Participants agreed on the need to take stock in three sites to check if the data that we have is relevant for anything. Need to see what is available and give it back to local actors. This analysis at site level will help understand what can be done and how, including minimal resources.

<u>Conclusions of the organizers</u>

The workshop has shown how central place-based research and data collection is to FTA's work. It has enabled to better understand some of the challenges encountered in the rolling out of *Sentinel Landscapes* and to envisage some potential ways forward.

A key question all along the day was the relations between data gathered as part of a specific project or as part of a long term monitoring of global change; underlined by the idea that

projects could contribute through co-location. The discussion distinguished the “what”, the “how” and the “where”.

The data collected and the way it is collected, the “what” and the “how”, are determined by the research question. The “where” is also, and probably increasingly, determined by donors and local/national interests.

Harmonization of data collection methods is difficult as they depend on research questions and background of researchers. The idea of data management plans linked to each project, proposed by CIFOR, might be helpful in that regard. There are also statistical means that could facilitate the exploitation of diverse sets of data, including historical ones.

However, monitoring changes and assessing the performance of a project are two different exercises. Even if the “what” to observe and the “how” to do it can be the same, the “where” to do it is different. It can be either where there is a big change, on a representative sample, or where there is enough work going on.

Participants highlighted the importance of local and national engagement to ensure continuity and improve ownership. This requires better involving local actors , from the definition of questions, to address and reflect local interests and concerns, down to the analysis. There might also be interest linked to the implementation and monitoring of the SDGs.

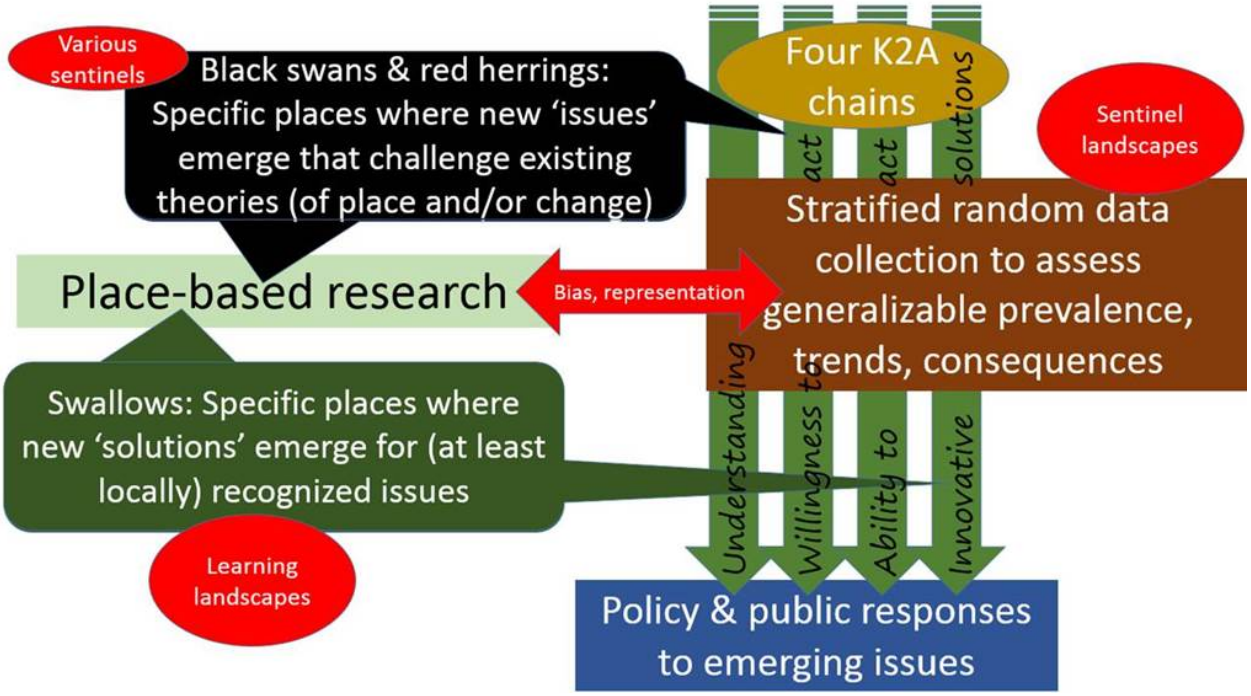
The biggest challenge for a long-term observatory like *Sentinel Landscapes* seems thus to be to ensure continuous monitoring in a stable sample, especially with scarce funding and in spite of changing interests of donors.

To address this, there might be potential for co-location of projects provided that researchers are engaged and find an interest to do so. One example is when SL could be used as a sampling scheme.

Other networks can provide insight and lessons learned on how to combine stability and flexibility and how to ensure long term engagement of partners. There could also be opportunities for partnerships with some of them.

May be the most important conclusion of the day was that such an ambitious, long term, initiative can generate significant global public goods. However, it requires considerable resources to produce results, and at the same time is difficult to sell before having demonstrated results. It cannot succeed without a strong commitment of both FTA researchers, local and national partners and donors.

Annex 1 Meine van Noordwijk: Reflection on place-based research in FTA discussion



A diagram to help us forward to better describe 'place-based' research in FTA. In my view this requires synergy between three aspects:

- Black swans and red herrings : emergence of 'new' issues, where existing theories and science don't yet have the answers ; agenda setting

- Donkeys and asses : Spatially unbiased data that allow issues to be assessed and collective action to emerge

- Swallows and swifts : emergence of 'new' solutions that work in 'learning landscapes' and/or 'action research'

A program like FTA needs all three functions, and needs to be clear how they interact in theories of induced change

Decoding the animal labels:

- Black swans have since Karl Popper be the example of discordant information
- Red herrings have been the starters of public debate
- Donkeys and wild asses reflect the hard work to assess
- Swallows and swifts have in the Northern hemisphere been the messengers of spring

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