

TEEB for Agriculture & Food Writers Workshop



9-10 May 2016, Paris

SUMMARY and OUTCOMES



Key Outcomes

TEEBAgriFood will need to:

1. Focus on the **theory of change**, and adopt as a guiding principle of success that the TEEBAgriFood valuation framework is universally adopted and used by the full range of stakeholders (farmers; the agri-business community; national and sub-national policy-makers; NGOs; the scientific community).
2. Adopt a **food systems perspective** as a central theme in order to present a different way of thinking about the complexity and interactions between ecological, social and economic dimensions.
3. Articulate **boundaries, scope and limitations** clearly, accepting that the study will be **comprehensive in what it examines**, but cannot be comprehensive in terms of covering all farm systems, all production processes, and all consumer choices.
4. Test the different applications of the **TEEBAgriFood framework** and provide an overall 'proof-of-concept' by outlining the metrics and data that are needed to populate the framework, and the methods applied to derive value estimates.
5. Build a **community of practitioners** in order to validate and attest to the viability and applicability of the framework and the TEEBAgriFood project.
6. Commission new (and compile existing) research on **health impacts** from agricultural production systems, which was identified as an important knowledge gap;
7. Ensure that appropriate mechanisms for **process management and technical coordination** are in place to ensure quality and transparency, including full peer review.
8. Develop the '**Scientific and Economic Foundations**' report as a priority applying the 'wireframe' developed at the workshop (see text that follows), initially coordinating with the **potential contributors** to the various sections and sub-sections discussed at the workshop.
9. Rephrase the 'Policies' report to '**Opportunities for Change**' in order to reflect the potential for reform in other contexts (e.g. business and accounting).
10. Identify and align its narrative with **strategic policy entry points**, such as Agenda 2030 and the Sustainable Development Goals (SDGs).
11. Treat **communication and messaging** as a central consideration throughout the entire process.

Day I



Welcome and Opening Remarks

Alexander Müller (AM), TEEBAgriFood Study Leader, welcomed over [40 participants](#) from academia, international organizations and civil society to the 'TEEB for Agriculture & Food' Writers Workshop. Mueller walked through the workshop [agenda](#) and described the workshop objectives as follows:

- I. To critically assess the TEEBAgriFood valuation framework to ensure its clarity, comprehensiveness and credibility;
- II. To explore and prioritize new areas of research that, though analysis, will offer a 'proof of concept' for using the framework;
- III. To discuss and flesh out the content and structure for the 'Foundations' and 'Policies' reports; and
- IV. To brainstorm possible lead authors, chapter leads and contributors.

AM then set the context for TEEBAgriFood by illustrating to participants the 'invisible' interactions between ecological, agricultural and human systems using the example of maize (corn) production. In particular, he looked at the production and consumption patterns of maize, and the implications in terms of health (e.g. diabetes and antibiotics) and environment (e.g. nutrient loading). Finally, he linked this back to subsidies and the important role of policy in reversing harmful impacts and encouraging more beneficial ones.

[Slideshow: Connecting the Dots](#)

Looking Back: the Vision of TEEBAgriFood, Progress to Date and Lessons Learned

Salman Hussain (SH), TEEB Office Coordinator, provided background information on the development and progress of TEEBAgriFood since its inception in early 2014. SH described the initial linkages between assessing externalities from agricultural and food production and natural capital accounting (NCA), which led to the commissioning of several sector-specific studies on livestock, rice, palm oil, inland fisheries, agroforestry and, more recently, maize. However, it was quickly realized that NCA was not sufficient for our purposes, and that TEEBAgriFood would need to focus on a landscape approach, inclusive of distribution and consumption (i.e. beyond farm gates) and inclusive of social capital and a livelihood dimension.

SH highlighted some of the bottom-up, top-down and hybrid valuation approaches taken by research teams, and limitations in terms of data and methodology. Nonetheless, the studies ([still being finalized, but to be shared online](#)) have delivered some robust, defensible value estimates for visible and invisible impacts and dependencies. Moreover, due to the fact that the valuation framework had not yet been developed, the partial results of these studies helped to justify the need for one. For this reason, the rice study was proposed as a candidate for expanding research to better align with the framework.

Hussain pointed to the culmination of this first phase of work in the launch of the [Interim Report](#) in December 2015 at the Global Landscapes Forum in Paris. Finally, he made reference to the broader theory of change of the project, and its potential implications for policy, business and accounting, as well as the timely opportunity to align with Agenda 2030 and many of the Sustainable Development Goals (SDGs).

[Slideshow: The Evolution of the Project](#)

Discussion points

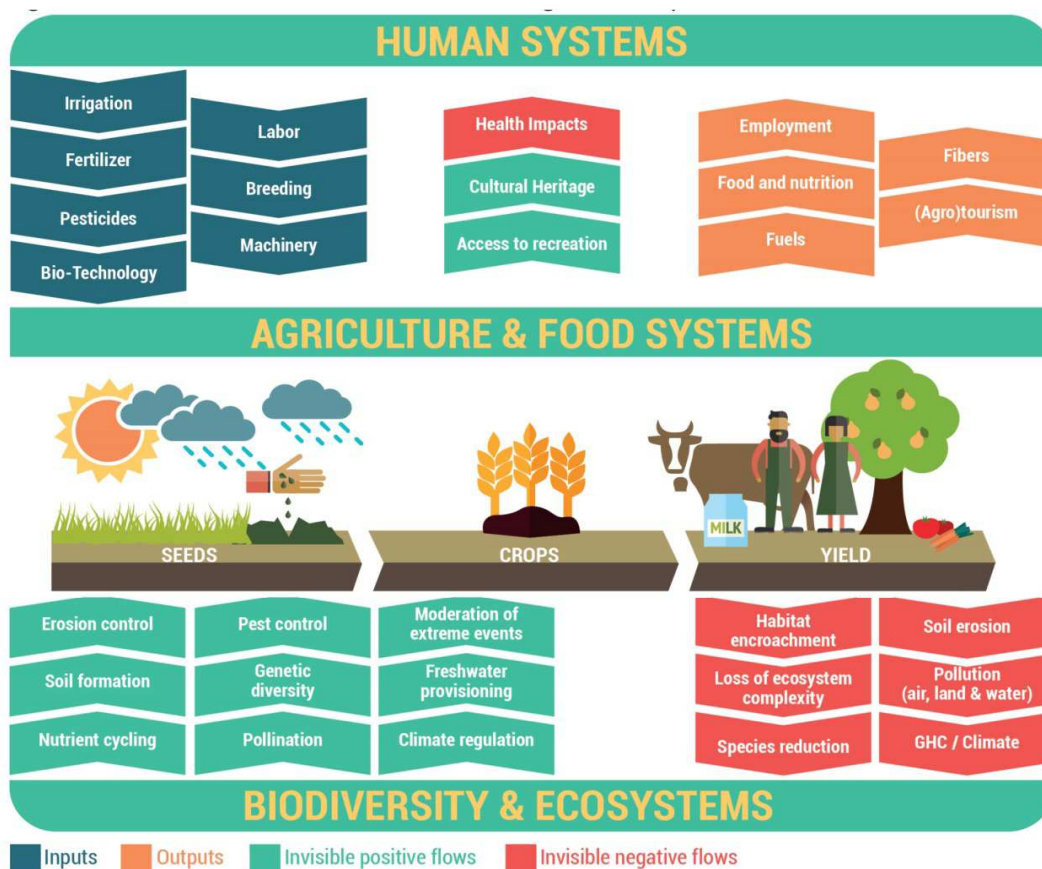
- Biodiversity (whether agricultural, landscape, species, genetic and soil, etc.) needs to be better integrated.
- Alternative systems should be considered.

The Evolution of the TEEBAgriFood Valuation Framework

Pavan Sukhdev (PS), *TEEB Special Adviser and UNEP Goodwill Ambassador*, introduced the session with a number of actual critical questions as to the viability and applicability of a **TEEBAgriFood valuation framework**, including:

- Will big investors ever filter their debt and equity purchases through a 'sustainability' lens?
- Will developing countries ever develop policy response to agri-chemical toxins?
- Will it ever be possible to quantify the public costs of health damage from agri-chemicals?

To each of these questions, PS presented evidence of these processes already occurring, thereby reinforcing the need to pursue TEEBAgriFood. PS then presented the TEEBAgriFood framework as *the* universal valuation framework that would effectively act as the means to enable us to achieve these important ends.



Kavita Sharma, *TEEB Office*, presented the guiding principles (holistic, anthropocentric, plurality and applicability) and key elements (visible and invisible flows, entire value chain, spatial scale and scope of evaluation) of the valuation framework, and identified a number of key issues that still need to be resolved in taking this forward.

Harpinder Sandhu, *Flinders University*, presented preliminary results from research undertaken on three US farms (conventional corn/soy, dairy, and diversified). The Farm

Sustainability Assessment Tool was used to assess production value, environmental benefits, social benefits, and environmental costs (in terms of US\$/acre/year), and the results were then monetized to illustrate relativity. He then offered suggestions on how to incorporate these results into the TEEBAgriFood process.

Tobias Bandel, *Soil & More International*, presented on his experience with full cost accounting in a number of country contexts with several different products, and comparing sustainable versus 'business-as-usual' scenarios. He identified particular metrics and methodologies for carbon/ greenhouse gases, erosion and water, shared some indicative results, and concluded with some important lessons learned. Later, he also offered the help of his organization to apply the framework to primary research data.

Haripriya Gundimeda, *Indian Institute of Technology - Bombay*, shared a relevant example of how non-recognition of all costs and benefits in national accounting frameworks has led to short-sighted policies in India, in the case of genetically modified crops to help address food security.

Discussion points

- It was confirmed that inputs to production were covered within scope.
- Biodiversity and interactions between flows should be addressed.
- Labor, livelihoods and other social dimensions were highlighted as requiring specific attention in terms of devising metrics.
- Spatial and temporal scale needs to be integrated.
- A suggestion was made to convert waste from a column in consumption into a row, spanning across the entire value chain
- Limits of the framework need to be explicit.
- Participants agreed that the framework needs testing/ proof-of-concept.

[Slideshow: Panel on TEEBAgriFood's proposed valuation framework](#)

Looking Ahead: Phase II Deliverables and Commissioning new Research

Ruth Richardson (RR), *Global Alliance for the Future of Food*, moderated an open discussion on new areas of research required to fill in gaps and weaknesses identified by the valuation framework, and ultimately to provide targeted content for the Phase II deliverables: the two technical reports. RR, referring to background document on [‘Commissioning New Research’](#), discussed three existing proposals on health, an extension of rice, and mixed systems. Participants were asked to react to these and identify other strategic areas to explore.

General comments:

- It was determined that both “populating” the framework with data and metrics and applying, or “testing”, the framework were necessary next steps, before jumping ahead to outcomes and conclusions.
- Participants agreed that the bulk of the work was pulling together existing data but presenting it in an innovative and integrative systems approach (from production to consumption), complemented by primary research.
- The question of spatial scale was raised, and whether more research was needed at the farm-level (which would imply some degree of primary research) or globally (which could be achieved with existing data); participants agreed that a combination of both would be ideal. It was further noted that on-farm activities have wider landscape (and global) impacts.
- The question of temporal scale was raised, for example how impacts and dependencies will change over time
- Valuation needs to be connected to decision-making
- Research would also need to be reflect a policy dimension (e.g. link to SDGs), in terms of options and scenarios, and address the theory of change

On health:

- Evidence on health impacts was identified as the weakest, and thus most strategic, area for further research
- A different approach to Quality-Adjusted Life Years (QALYs) and Disability-Adjusted Life Years (DALYs) would need to be presented (e.g. UK’s Wellbeing Valuation approach) due to their ethical concerns
- A suggestion was made to look at net impacts on health since “everyone dies”
- Financed by the Global Alliance for the Future of Food, the International Panel of Experts on Sustainable Food Systems (IPES-Food) is currently working on assessing the scope of health externalities and identifying gaps and opportunities. A draft report is expected by Fall 2016.
- WWF’s Luc Hoffmann Institute can provide information on linked indicators for health.

On expanding the rice study:

- The final report on rice has been submitted by a consortium led by FAO and is currently undergoing final restructuring and revisions, but will essentially consist

of a global overview underpinned by 5 country reports on different management practices and their impacts

- A proposal has been submitted to dig deeper into this study by expanding the number of ecosystem services and impacts assessed, however it is still limited in looking beyond farm gates and at health impacts.

On mixed systems:

- A suggestion was made to build a database for 'alternative' and mixed systems.
- Mixed systems are already assessed in some feeder studies (e.g. agroforestry, rice, and inland fisheries)

Key outcomes

- Commissioned studies must have a systems approach
- More data is needed on health, particularly in a systems context
- Existing and emerging research needs to be pulled together and synthesized
- Thinking about landscapes will add a new dimension to research
- Our work needs to add a meaningful contribute to the Sustainable Development Goals

Lessons Learned from TEEB Reports

Pavan Sukhdev, as Study Leader of the original suite of TEEB reports, called upon two colleagues to talk about their experiences and reflections.

Heidi Wittmer, *Helmholtz Centre for Environmental Research (UFZ)*, shared her experiences as co-editor of one of the four TEEB reports: ‘TEEB in Local and Regional Policy and Management’. She drew on several parallels between TEEB and TEEBAgriFood. First, she explained that TEEB did not rely on original research and instead synthesized existing knowledge on ecosystems and biodiversity. Second, the reports targeted groups of end users. Third, there was a structured and coordinated effort in terms of process management and technical coordination (led by UFZ as the scientific coordination arm).

[Slideshow: TEEB: Overview of process, content and approach](#)

Charles Perrings, *Arizona State University*, who had contributed to the TEEB report on ‘Ecological and Economic Foundations’, presented some of the key differences between TEEB and other biodiversity assessments. He noted in particular the strength of the TEEB approach in recognizing, demonstrating and capturing the values of nature, and how it embodies the demand for knowledge and research. He also applauded its lack of political or corporate influence and rather its emphasis on science as a means to improve policy and business decisions.

Discussion points

- One of TEEB’s key strengths was its engagement with stakeholders early on, allowing for smooth adoption
- TEEB was effective in influencing policy, as evidenced by the 120+ TEEB case studies that were compiled as part of the analysis
- The SDGs, and national plans for implementation, were identified as strategic policy entry points for TEEBAgriFood, particularly as they are very “silos”-oriented and would benefit from a wider systems perspective. The TEEB Office has already drafted a note on how TEEBAgriFood might contribute to the SDGs, and will work towards sharing it with a wider audience.



Break-Out Groups I: from Strawman to Structure

Salman Hussain (SH) introduced the two core deliverables proposed for TEEBAgriFood: a ‘Scientific and Economic Foundations’ report, and a ‘Policies’ report (both tentatively titled). Each report serves a different purpose and targets a different audience, but is part of a connected narrative. The ‘Foundations’ report is primarily for researchers and academics, and will seek to provide a technical overview of the valuation of the (visible and invisible) impacts and dependencies of agri-food systems – a complex undertaking. The ‘Policies’ report is targeted for policymakers at all levels to illustrate why and how national policy and accounting frameworks can and should be redesigned, all within a broader theory of change context.

Four groups were given the same task of drafting a basic structure (‘wireframe’) for each report, consisting of 4-6 main thematic sections. A [background document on Report Structures](#) provided some possible starting points.

Group presentations (which focused primarily on ensuring that the ‘Foundations’ structure was fit-for-purpose) can be viewed here:

- [Group 1](#) (presented by Fabrice Declerck, *Bioversity International*)
- [Group 2](#) (presented by Pierre Johnson, *PJ Consulting*)
- [Group 3](#) (presented by Peter May, *Federal Rural University of Rio de Janeiro*)
- [Group 4](#) (presented by Maryam Rahmanian, *independent*)

Importantly, participants agreed that the ‘Policies’ report should cover a wider set of reforms, for example in business and accounting, and opted for the title to be changed to ‘Opportunities for Change’.

Wrapping up Day 1

Alexander Mueller closed the day with several important building blocks for the reports and several equally important challenges and questions going forward.

First, there is a need to describe clearly and succinctly the scope, boundaries and limitations of our work. Second, we need to explain why we are taking a different perspective by focusing on systems, and the integration of ecological, social and economic dimensions. Third, we need to link to other important processes and initiatives in this space and make clear how what we are doing is different but related.

He identified two important challenges: (I) translating agri-food systems into human health impacts, and (II) how to best incorporate concrete examples obtained through research and meta-analysis.

Day 2



Reflections on boundary and scale

Following on from discussions from the day before, **Alexander Mueller** started the day by revisiting the issue of project boundaries, clarifying that TEEBAgriFood will focus on terrestrial production systems. Participants debated the possibility of including oceans (as a main source of protein) and forests (as a source of bushmeat and other non-timber forest products) as production systems in their own right, but ultimately decided against such a major expansion of scope for two reasons. First, it was deemed most important to present a coherent argument and present a new way of looking at agri-food systems, which might otherwise get muddled by seeking to be comprehensive. Second, these ecosystems would not be omitted entirely from the assessment since they are part of the overall interaction; some will be a source of inputs (e.g. fishmeal), some will be impacted by outputs (e.g. ocean “dead zones” as a cause of nutrient run-off), and others are invariably mixed (e.g. agroforestry).

In terms of planetary boundaries, for which agriculture is at the heart, it was agreed that the messaging should instead rephrase the argument toward exceeding the carrying capacity of our planet, and the increased risk of our systems not being able to produce for tomorrow.

Participants then shifted to the issue of spatial scale. On the one hand, TEEBAgriFood aims to provide a global narrative while at the same time offering a tool that is capable of being used very locally. Participants agreed that there is an advantage to having analysis and assessments at different levels, as long as it is clearly communicated. To this end, Lucas Garibaldi, University of Buenos Aires, offered his research findings on systems in Argentina as a way to apply the framework.

Participants then underscored the importance of communication and messaging, and treating this as a parallel process. It should be emphasized that the valuation framework, and the study overall, is not prescriptive, but offers important insights into the implications of our actions.

Break-Out Groups II: Fleshing Out the Structure

Using the results from the break-out group presentations on Day 1, **Kavita Sharma** and **Salman Hussain** presented a consolidated spreadsheet that identified the following broad sections:

- I. Introduction
- II. Agriculture and food – a systems approach
- III. Agri-food systems in an ecological, social and economic framework
- IV. Measuring, modeling and methods
- V. Mainstreaming TEEBAgriFood in decision-making



Under each section, several topics and themes were grouped together as per the recommendations made by groups the day before. Equipped with this spreadsheet, four new groups were tasked with reflecting on the suggested themes and topics, adding, deleting or removing themes and

topics, and identifying possible individual and institutional contributors.

Group presentations can be viewed here:

- [Group 1](#) (presented by **Michael Hamm**, Michigan State University)
- [Group 2](#) (presented by **Walter Pengue**, University of Buenos Aires)
- [Group 3](#) (presented by **Fabrice Declerck**, Bioversity International)
- [Group 4](#) (presented by **Harpinder Sandhu**, Flinders University)

In terms of next steps, the TEEB Office will consolidate all feedback into a full annotated structure, and circulate to all participants for final review, before ultimately being taken forward by report authors.

Closing Remarks

Alexander Mueller thanked all participants for their immensely valuable contributions, and looked forward to the Project Steering Committee meeting later that day in order to pursue immediate next steps in terms of commissioning research, identifying key individuals to manage process as well as content, and initiating the writing process for the reports.

In terms of immediate follow-up, the TEEB Office would circulate a summary and outcomes document as well as a draft report structure for 'Foundations' as soon as possible.