

GLOBAL ALLIANCE FOR THE
FUTURE OF FOOD

TEEBAgriFood Briefing Note

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Introduction

Since 2015, the Global Alliance for the Future of Food has been a key supporter of, and contributor to, the [TEEBAgriFood initiative](#), which is housed at UNEP's TEEB Office. This internal briefing note provides an overview of the TEEBAgriFood initiative, its history, organizational structure, relevance, work to date, and emerging findings. The note is organized to highlight how TEEBAgriFood fits into the Global Alliance strategy to make the case, communicate the relevance, and advocate for solutions.

The intent is that this note will be used by member foundations and other partners to better understand:

- How TEEBAgriFood fits into broader efforts related to true cost accounting;
- TEEBAgriFood key messages and preliminary findings;
- How to effectively communicate the importance of true cost accounting for food and agriculture systems; and,
- How to support the application of TEEBAgriFood by policy makers, business and farmers, and encourage decision-makers to consider the positive and negative impacts and dependencies inherent in food and agriculture systems.

Making the Case: Why TEEBAgriFood

The need

The economic environment in which farmers, businesses, consumers, and agricultural policymakers operate today is distorted by significant externalities, both negative and positive. Indeed, most of the largest impacts on the health of humans, ecosystems, agricultural lands, waters, and seas arising from different agricultural and food systems are economically invisible and are not adequately considered by decision- and policy-makers. This reality has a significant impact on how food and agriculture policy and practice affects pressing issues like climate change, biodiversity, soil erosion, nutrition, food security, and public health. By evaluating the significant external costs and benefits inherent in different food systems, and making these costs transparent, decision-makers on-farm, in governments, institutions, and businesses can make better-informed decisions that take into account the impacts of the available choices.

There are several initiatives working towards developing frameworks for a “true cost accounting” of food (TCA), but the TEEBAgriFood initiative is unique in that it is the only proposal that aims to assess a comprehensive set of externalities (environmental, health, social, cultural) - both positive and negative - across value chains, and at the global systems level.

The history of TEEB

TEEB for Agriculture and Food (TEEBAgriFood) is a sub-project of UNEP’s TEEB Office ([The Economics of Ecosystems and Biodiversity, TEEB](#)), a global initiative focused on “making nature’s values visible.” TEEB’s objective is to mainstream the values of biodiversity and ecosystem services into decision-making at all levels. It aims to achieve this goal by following a structured approach to valuation that helps decision-makers recognize the wide range of benefits provided by ecosystems and biodiversity, demonstrate their values in economic terms and, where appropriate, capture those values in decision-making.

TEEB first achieved global recognition in 2008 when officials from 13 of the world’s largest economies (the G8+5), with support from the European Commission and the German Environmental Ministry, commissioned the first-ever global analysis of the economic benefits of biological diversity and the costs of its loss (Phase I). This analysis was followed by a series of targeted reports released in 2010 at the Convention on Biological Diversity (CBD) meetings in Nagoya, Japan, aimed at key audiences – including international policy-makers, local policy-makers and the private sector – with tools for applying true cost accounting to decision-making (Phase II). The current phase of TEEB is the implementation phase (Phase III), in which the TEEB approach is being applied in multiple sectors, biomes and at different levels of policymaking. The two most ambitious applications of TEEB are the Natural Capital Coalition (NCC) - formerly TEEB for Business - and TEEBAgriFood.

The TEEB approach

TEEB follows a tiered approach in analyzing and structuring valuation guided by three core principles, as articulated by project founder Pavan Sukhdev:

- 1. Recognizing** that the externalities of human behavior on ecosystems, landscapes, species and other aspects of biodiversity is a feature of all human societies and communities and is sometimes sufficient to ensure conservation and sustainable use. For example, the existence of sacred groves in some cultures has helped to protect natural areas and the biodiversity they contain.
- 2. Valuing** these externalities in economic terms is often useful for policy-makers and business stakeholders in reaching decisions that consider the full costs and benefits of an ecosystem, rather than just those costs or values that enter the markets in the form of private goods.
- 3. Managing** the externalities involves the introduction of mechanisms that incorporate the values of ecosystems into decision-making through incentives and price signals. This can include payments for ecosystem services, reforming environmentally harmful subsidies or introducing tax breaks for conservation.

TEEBAgriFood goes beyond the original TEEB in that it seeks to be inclusive of externalities that are not typically included in environmental economics. This includes the social externalities, cultural externalities and health-related externalities of food systems, both negative and positive. TEEBAgriFood assesses multiple types and scales of food production systems,

including multiple types of industrial-scale agriculture and livestock production, and also artisanal scale agroecology, pastoralism and fisheries management. It aims to be applicable in multiple scales and contexts around the world.

The TEEBAgriFood valuation framework provides a structure and an overview of what should be included in the analysis, but does not prescribe methods for valuation. Methods of valuation depend on the values to be assessed, availability of data, and the purpose of the analysis. The application of the framework requires an interdisciplinary approach, where all relevant stakeholders, including policy-makers, businesses, and citizens, understand and identify questions that are to be answered by a valuation exercise. Therefore, stakeholder engagement across sectors is critical to the effective application of TEEBAgriFood in specific contexts and policy arenas.

A strategic opportunity for the Global Alliance

The Global Alliance for the Future of Food, as a philanthropic alliance, seeks to change the narrative on food systems. An important part of this change is to render visible the externalities and impacts of current practices. This is not just about revealing the negative impacts of food systems, but also about amplifying the positive impacts of practices and approaches. Individually, Global Alliance members already support a number of initiatives related to True Cost Accounting (TCA), such as Natural Capital Coalition, Institute of Medicine, etc. The TEEBAgriFood valuation framework is an important tool for rendering visible these positive and negative externalities, challenging the dominant narrative on increasing production to “feed the world”, to a new narrative on the need for food systems that minimize negative externalities and impacts and maximize positive impacts.

The TEEBAgriFood valuation framework provides a broad theoretical lens that helps the Global Alliance make key connections at the global level – it can support progress toward the Sustainable Development Goals (SDG), as well as help meet UNFCCC climate targets. The Global Alliance has presented the underpinnings of the framework at key international events, including the IUCN World Conservation Congress, the UNFCCC’s COP22 Global Landscapes Forum, the EAT Forum, the WHO Forum on meeting the SDGs, COP13 of the Convention on Biological Diversity, the Barilla Forum, the AFSA (African Food Sovereignty Alliance) convening, and the Global Commons convening organized by GEF and the World Economic Forum. The TEEBAgriFood framework has the potential to provide both conceptual and practical tools for the broader global community.

How TEEBAgriFood fits into the broader True Cost Accounting movement

True Cost Accounting, also known as environmental full cost accounting, is a system of financial accountability that ensures that the true costs and benefits of different production systems are properly accounted for. The concept of TCA evolved from the field of ecological economics, which recognizes the failure of markets and systems of economic analysis and accounting (notably GDP) to capture values of ecosystem services. TCA broadens the analytical approach beyond ecosystem services and natural capital to include physical, human, and social capitals.

There are a variety of approaches to TCA that are being applied at different scales and in diverse contexts. For example:

- In 2005 the [Millennium Assessment](#) evaluated the consequences of ecosystem change for human well-being and provided the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being.
- Launched in 2014, the [Inclusive Wealth Report](#) (IWR) evaluated the capacities of nations around the world to improve their citizens’ well-being, and do so sustainably for the benefit of present and future generations. The report provides a comprehensive measure of development and progress. The results of the IWR indicate that GDP is an inadequate measure for assessing long-term prosperity, and reveal education, health, and the environment as investments that will truly unleash the potential of young and interconnected populations around the world for development.
- The TEEB for Business Coalition was formed in 2010 as an offshoot of TEEB. It was set up to bring together work being undertaken by business in relation to natural capital, to engage key stakeholders from business, government and civil society for open source collaboration in order to raise awareness and provide a leading-edge forum to shape the future of business thinking and action on natural capital. TEEB for Business evolved to become the [Natural Capital Coalition](#) in 2014. See Appendix A for a comparative exploration of the relationship between TEEBAgriFood and NCC.
- Organizations and researchers, including the Sustainable Food Trust, have [applied TCA at the farm level](#) to quantify the social and environmental benefits and costs of different production systems.

TEEBAgriFood seeks to extend the scope of externalities assessment beyond natural capital, providing wider views into health and social externalities. The comprehensive valuation framework is a frame of analysis addressing the question “what should we value, and why?”

Architecture: management, advisory board and steering committee

TEEBAgriFood was founded with an “open architecture” intended to encourage collaboration across multiple institutions, and with reputable economists and academic researchers from around the world. While the TEEBAgriFood initiative is housed at the UNEP, both the overall TEEB Advisory Board and TEEBAgriFood Project Steering Committee are intentionally independent of UNEP in order to provide the project with more flexibility and independence.

Leadership

Pavan Sukhdev is the founder of TEEB and currently is acting Special Advisor to the TEEBAgriFood project. Pavan is an economist, former banker, UN Goodwill Ambassador, and prior head of the UNEP’s Green Economy Initiative. Pavan’s primary role is to provide internal management and oversight of TEEBAgriFood. **Alexander Müller** is the TEEBAgriFood Study Lead. Alexander has been a German government minister and the assistant Director-General of the FAO. Alexander’s primary role is to provide strategic direction for the project and engage the broader global community in the TEEBAgriFood Project.

Advisory Board

The TEEB Advisory Board provides guidance and oversight for all TEEB activities. In addition to contributing to strategic portfolio decisions, the Advisory Board plays an active role in reviewing draft TEEB outputs. **Guillermo Castilleja**, Chair of the Global Alliance, sits on the TEEB Advisory Board. Other prominent members include: **Inger Andersen** of IUCN, **Achim Steiner** of UNEP, **Patrick Holden** of Sustainable Food Trust and **Braulio Ferreira** of the Convention on Biological Diversity.

Project Steering Committee

The [TEEBAgriFood Steering Committee](#) is the second highest decision-making authority, dealing solely with project-related issues for TEEBAgriFood. Members are largely responsible for the more substantive elements of work, including peer review of draft outputs, nominations of/suggestions for contracting of experts and contributors, and technical guidance. **Ruth Richardson**, Executive Director of the Global Alliance, sits on the Project Steering Committee. Other prominent members include: **Maryam Rahmanian** of the FAO, **Abdou Tenkouano** of the West and Central African Council for Agricultural Research and Development, and Kathleen Merrigan, Executive Director of the Sustainability Institute George Washington University.

Experts' Workshops

Part of the TEEBAgriFood open architecture approach is to seek out reputable economists and researchers to contribute to key portions of each publication. This is accomplished in part through Experts' Workshops (a.k.a. Writers Workshops) organized by the TEEBAgriFood leadership. These workshops typically include top-level thinkers from the field together with TEEB Advisory Board and Project Steering Committee members, gathered together for 2-3 days to review key findings and provide guidance to report authors early on in the drafting of each major report.

Publications: current and projected

Exploratory Studies

- [Inland Fisheries: Ecosystem services in freshwater fish production systems and aquatic ecosystems](#) (Jan 2016)
- [Agroforestry: an attractive REDD+ policy option?](#) (Nov 2016)
- Maize: Ecosystems and agro-biodiversity across small- and large-scale maize production systems (scheduled for early 2017)
- Palm oil (scheduled for 2017)
- Livestock production (scheduled for 2017)
- Rice (scheduled for 2017)

General Reports

- [TEEBAgriFood Concept Note](#) - lays out the ideas behind TEEBAgriFood (Feb 2014)
- [Toward TEEBAgriFood](#) - provides preliminary findings from TEEBAgriFood exploratory studies (May 2015)
- [Interim Report](#) - explains the TEEBAgriFood Framework (Dec 2015)

- Scientific and Economic Foundations Report - to address the core theoretical issues and controversies underpinning the TEEBAgriFood Framework (estimated for beginning of 2018)
- Opportunities Report - to draw conclusions as to the opportunities for policy and production changes that could be made based on the application of the TEEBAgriFood Framework (estimated for Q2 2018, depending on availability of funding)
- Synthesis Report - to provide clearly articulated key messages with a broad readership in mind, supported by an extensive communications strategy (estimated for Q4 2018, depending on availability of funding)

Communicating the Relevance: Initial Findings

Key messages emerging from TEEBAgriFood

- TEEBAgriFood seeks to overcome the common practice of viewing ecosystems, human systems, agriculture and food systems as distinct 'silos.'
- TEEBAgriFood aims to build an evidence base that provides context-specific examples and recommendations for sustainable food systems that can feed the world, while maintaining and improving ecosystem services for the benefit of all, including generations to come.
- TEEBAgriFood valuation framework seeks to assemble and evaluate the invisible and visible impacts of the food system, and provide analytical consistency and comparability across systems, across policies, and across business strategies.
- The negative externalities arising from our food systems can be addressed by a range of regulatory reforms, policy reforms including fiscal policies and incentives, and market-based mechanisms.
- A full range of stakeholders at local, regional and international scales will need to be involved in managing and reducing negative externalities and increasing the provision of positive externalities.

Initial findings

The TEEBAgriFood exploratory studies demonstrate that it is possible to quantify and value a sub-set of the positive and negative impacts and externalities using the framework. In so doing, outcomes that both improve human livelihoods and also reduce impacts and dependencies on ecosystems and biodiversity can be highlighted. Through this work, TEEBAgriFood is developing the theoretical building blocks for assessing the “true cost” of food, including the impact of food production on human health and well-being.

The exploratory studies commissioned by TEEBAgriFood have led to the following suggestions for further research:

- Include all significant dependencies and impacts from biodiversity-agriculture linkages, as critical elements in understanding the economics of ecosystems and biodiversity.
- Typologies evaluated should include mixed systems, reflecting the full complexity and diversity of smallholder agriculture, and suggestive of resilient production systems at larger scales.
- Off-farm dependencies and impacts are to be included, taking the full “eco-agri-food” value chain as a boundary, to inform future analysis.
- Health impacts arising from unhealthy diets, or arising from agricultural impacts on air quality, water quality, and vector-borne diseases, should be included as important elements in tracing the hidden costs of current production and consumption patterns.
- The full gamut of impacts and externalities identified in the TEEBAgriFood framework should be applied across all major system typologies, developing and informing efforts to identify “full cost pricing” of food.

Not all the exploratory studies have been completed, and this list of findings and recommendations is expected to grow as the studies are reviewed and integrated by the TEEBAgriFood team.

These findings are being communicated out publically across multiple venues and media outlets. As an example, the renowned journal *Nature* has recently published an article titled “[Fix Food Metrics](#)” written by the TEEBAgriFood leadership team.

Potential challenges to applying the TEEBAgriFood Framework

The TEEBAgriFood Interim Report identifies four challenges for the framework:

1. Perception challenge: overcoming the tendency to view ecosystems, agricultural systems, food processing, distribution and consumption as distinct “silos”, instead of one comprehensive interacting whole.
2. Adaptability challenge: Since the framework is to be used to assess significantly different food systems, evaluate different policy scenarios, monitor food systems over time, and help guide business decisions and consumption choices, it needs to be adaptable. Selecting appropriate system typologies and scales therefore, without selection bias, is a challenge that must be faced directly in developing a universal framework.
3. Comprehensiveness challenge: A comprehensive framework would ensure that all hidden costs and benefits are assessed for the agricultural value chain as a whole, including both upstream and downstream dependencies and impacts.
4. Systems challenge: Food systems are constantly changing over time and space due to climate change, soil quality and other factors. These dynamics have to be understood, forecasted and modeled in any robust evaluation. Policy-makers and businesses both struggle with forecasting changes in demand and predicting variables that influence agricultural value chains.

Advocating for Solutions: Next Steps

Applying TEEBAgriFood: Toolkit and Applied Research

The TEEBAgriFood framework will only become widely recognized once it is found to be useful at multiple scales and in multiple contexts. The Global Alliance is currently:

- Exploring the development of “toolkits” with potential partners such as the World Business Council on Sustainable Development and Carbon Tracker.
- Considering how individual members’ grantees might be able to use the resources developed by TEEBAgriFood, e.g., in April 2017 the J.W. McConnell Family Foundation will be hosting a TEEBAgriFood Canada workshop to share the results of the TEEBAgriFood project with Canadian businesses, organizations, and practitioners.
- Identifying the strategic application of the framework at the farm-level with support from the McKnight Foundation.
- Supplementing the TEEBAgriFood framework with additional studies to apply and/or expand the framework, including the generation of a complete typology of health impacts and externalities of food systems, a health valuation case study of the UK food system. UNEP is currently working to second Nadia Scialabba from the FAO to support work on health impacts and externalities, further strengthening ties between TEEBAgriFood and the FAO.

TEEBAgriFood is also seeking to carry out additional country-level studies in the Global South with support from the European Commission/European Development Fund and the European Commission Partnership Instrument.

Additionally, there is potential in 2017 for the framework to be applied to wheat systems in India. The proposed study looks to highlight the hidden costs and benefits of wheat cultivation in Punjab, applying the TEEBAgriFood Framework. The study seeks firstly to develop a common assessment for conventional versus organic wheat cultivation systems practiced and for existing farm subsidies versus an alternative system of transfer payments to farmers. It will compare costs and benefits holistically, on the basis of economic, environmental, and human impacts, as well as social values and risks and uncertainties. This evaluation explores the possibility of delivering lower impacts by correcting for policy failures, as farmers might automatically reduce input use (energy, fertilizer, pesticides) or may transition to sustainable alternatives. The same approach might be applied to corn systems in the U.S., Mexico and Malawi.

Building a Community of Practice

As a next step towards strengthening TEEBAgriFood and related work, the Global Alliance has initiated an international Community of Practice for True Cost Accounting in Food Systems. While the genesis of this new project was in part to help strengthen TEEBAgriFood, we see it as a space where all true cost accounting methodologies related to food systems can be explored, and where shared messages, narratives and strategies for applying them can surface. We feel that only

through maximizing collaboration across sectors, approaches and geographic contexts can we ensure that the most robust methodologies emerge and be taken up by stakeholders.

Bringing TEEBAgriFood tools to key audiences

By identifying various points in the value chain where the most important impacts and dependencies occur, TEEBAgriFood has begun to develop a strong analytical framework that can inform and influence decision-making by multiple actors across the food system. In Phase II, TEEBAgriFood will develop practical tools to influence policy and practice, with the SDGs as a possible policy hook. It will be important to consider different tools and messaging for different target groups, including government, private sector, academic, civil society, and on-farm stakeholders.

As TEEBAgriFood releases its major findings in 2017 and 2018, the Global Alliance will be working closely with the TEEB project team to strengthen outreach to key audiences. A communications advisory committee is currently being created to help support this purpose. It will work to identify where to place media releases, op-eds, journal articles and mentions in other key publications. Presentations and panels at key global convenings will also continue to be integral to the outreach strategy.

Through this process, the Global Alliance seeks to ensure that the tools generated by TEEBAgriFood are recognized and applied in multiple regions and across scales, ultimately transitioning food systems towards greater transparency, sustainability and equity.

Appendix A.

TEEBAgriFood and Natural Capital Coalition: a guide to similarities and differences

One common question asked by Global Alliance members is, what is the difference between TEEBAgriFood and the Natural Capital Coalition's Food and Beverage Protocol? An overview of TEEBAgriFood and the Natural Capital Coalition reveals a number of similarities and differences. It is helpful to understand the common goals, approaches, methods, and participants to understand how these two efforts both advance goals of internalizing externalities in food production and promote better decision-making. Correspondingly, it is also helpful to understand the unique aspects that differentiate TEEBAgriFood from the NCC, to understand how they are complementary and what possible different points of reference stakeholders may use to orient their engagement with either or both efforts. This analysis is thus a quick guide to help orient the Global Alliance for the Future of Food to understand the key points of similarity and difference between TEEBAgriFood and the NCC. A key similarity, is the common origins of both studies within the TEEB umbrella.

General assessment of similarities and differences:

Similarities:

- Conceived of as a follow-up phase beyond the original TEEB.
- Focus primarily on ecosystems and biodiversity, or natural capital, and are not restricted to specific geographical constraints.
- Pursue a long-term ultimate goal of shifting norms to more fully incorporate ecosystems/biodiversity/natural capital into economic analysis and decision-making.
- Aim to provide consistent, useful approaches toward consideration of externalities.
- Acknowledge that a plethora of approaches, studies, etc., have developed independently, and pursue a perceived opportunity to provide common awareness, understanding, and approaches.
- Involve some common participants and research organizations: Trucost, FAO, UNEP, Pavan Sukhdev, and others.

Differences:

- TEEBAgriFood and NCC differ most significantly and meaningfully in their intended audience, usage, and direct actionability.

- Generally, TEEBAgriFood focuses on providing cohesive meta-analysis of existing research and a common framework for conceiving of economics and common views of food systems that are more inclusive of hidden externalities in food and agriculture.
- TEEBAgriFood extends the scope of externalities beyond natural capital, providing wider views into health and social externalities than NCC intends.
- NCC is focused directly on business decision-makers, and presents a “Natural Capital Protocol” (NCP) to be followed consistently by businesses in a given sector to better incorporate natural capital.
- NCC (and NCP) extends beyond food/agriculture into other business sectors, including apparel, finance, mining, and others.