

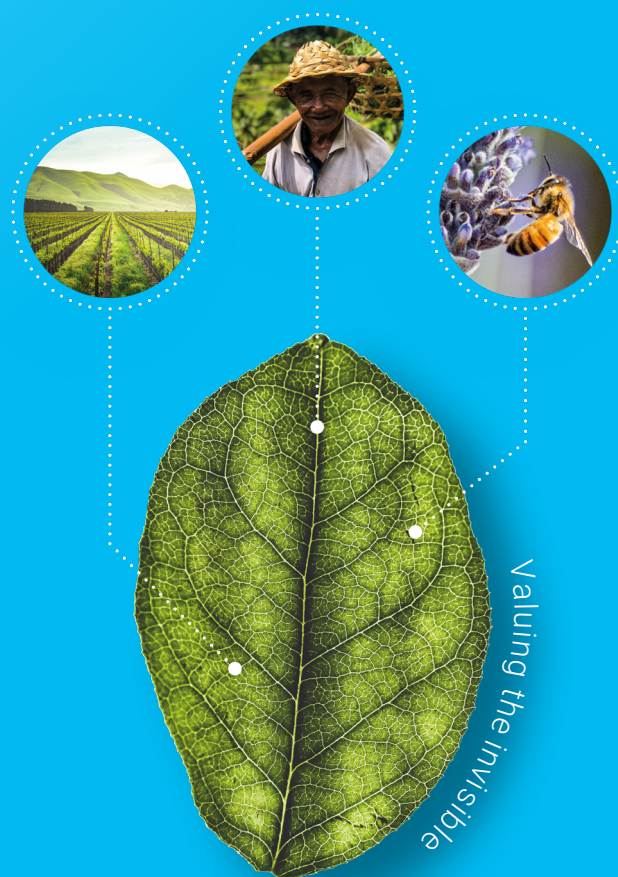
FOOD SYSTEMS SUMMIT DIALOGUE:

TRUE COST ACCOUNTING FOR FOOD SYSTEMS: REDEFINING VALUE TO TRANSFORM DECISION-MAKING

The UN Food Systems Summit
NEEDS YOUR VOICE!

Join us on the:

8 June 13:00 – 15:00 CEST



TECHNICAL BRIEFING NOTE

Introduction

The global community is only a few growing seasons away from delivering or missing the Sustainable Development Goals. If we are to succeed in addressing the interconnected crises of climate change, biodiversity loss, social inequities and human health, we need to bring

the value provided by nature, people and society to the forefront of decision-making to transform food systems. Food systems decision-makers need to recognize, measure, manage and reward responsible stewardship of natural, human, social and produced capital.

1. Aims of the Food Systems Summit Dialogue

This Dialogue is a core component of the Food System Summit engagement process. It offers a dynamic way for a diverse range of stakeholders to explore how they can unite around transformative action in support of valuing the often-neglected impacts and dependencies that food systems have on nature, people and society.

The expected outcomes of this Dialogue are:

- Strengthened common vision of how True Cost Accounting and redefining the value provided by nature, people, and society can improve decision making related to agriculture and food systems.
- Recommendations for the Food Systems Summit to apply True Cost Accounting and assess the full value of environmental, social and human dimensions of food systems as systemic and cross-cutting levers to inform decisions.
- Identified barriers and solutions to addressing the often-neglected impacts and dependencies that food systems have on nature, people and society, at different scales and in different geographies.
- A growing coalition to support the application of True Cost Accounting and associated approaches within the food sector.

True Cost Accounting has emerged as a central priority in the UN Food Systems preparatory discussions and is presented in a number of game-changers across Action Tracks. It also comes up as a cross-cutting theme, including in relation to **managing trade-offs in food systems**. Indeed, different policies (e.g. subsidies or taxes, agricultural policies, health policies), resource allocations (e.g. how much water to use for irrigation) and production decisions (e.g. what type of crop rotation to implement) made by different

actors (farmers, business leaders, policy makers, consumers) involve trade-offs for the economy, the environment, and society and communities. Comprehensive food systems evaluations can provide the data needed to measure and compare such trade-offs. This Dialogue aims to create a common vision and strengthen political support for True Cost Accounting and valuing the impacts and dependencies that food systems have on nature, people and society.



2. The rationale for the Dialogue topic

- Decision-makers flying blind without a full picture of food system impacts and dependencies
- Simplistic yield-per-hectare productivity measures undermine long-term sustainability efforts

The way that food is valued, or undervalued, is a major barrier to the transition to sustainable food systems. The failure to account for and value nature, health, food security and other issues leads to unsustainable decisions by governments and market players. Often it is in the best interests of actors in the food system to externalize environmental and social costs. The impacts of climate change, biodiversity loss, rising inequality, increases in mortality and morbidity, and the loss of food-cultures are typically borne not by private firms or individual consumers but rather by society at large. Due to these externalities, the price of unsustainably produced food products is lower than sustainable food products, and businesses that externalize costs on to society are typically more profitable than businesses that respect planetary and social boundaries. This leads to an erosion of the natural, social and human capital that underpins society.

Figure 1 presents various linkages, or impact areas, between agriculture and food systems and natural, human, social and produced capitals, many of which are often economically invisible. As a result, decision makers tend to base their decisions on an incomplete picture of reality, excluding (or not accounting for) significant impacts and dependencies.

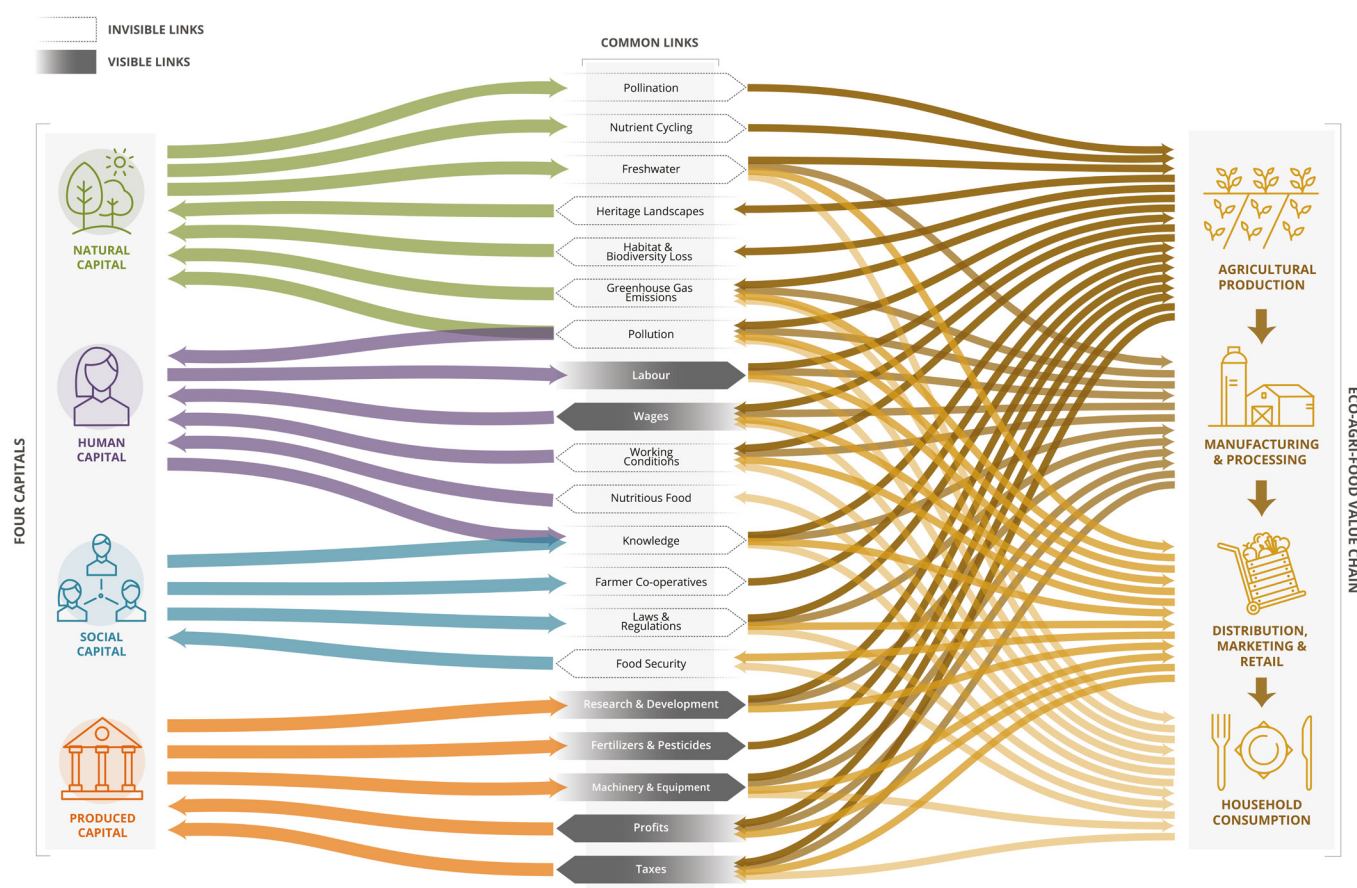


Figure 1. Common visible and invisible links in eco-agri-food value chains (Source: TEEB 2018)

3. What is the proposed solution?

3.1. Concepts, approaches and solutions discussed as part of this dialogue

A growing coalition aims to bring the value provided by nature, people and society to the forefront of decision-making to transform food systems and achieve the Sustainable Development Goals. Different terminology and concepts are being used by this growing coalition, depending on the context, application and audience. The relationships between some of the concepts is explained in the below:

- **True Cost Accounting (TCA)** is an evolving holistic and systemic approach to measure and value the positive and negative environmental, social, health and economic costs and benefits to facilitate business, consumer, investor and/or policy decisions. (Other people use the phrases impact assessment/management and a capitals approach to mean the same thing)
- Products sold in markets require the inputs of (i) plant and machinery, (ii) ecosystem functions (such as soil formation), (iii) human ingenuity and (iv) governance and social networks. Economists call (i) to (iv) respectively produced capital, natural capital, human capital and social capital. **A Capitals Approach** is one that recognises that all of these capital stocks are required to produce goods and services and thus meet our human consumptive needs; it enables organisations to understand how their success is directly or indirectly underpinned by the value provided by natural, social, human and produced capital, informing decisions that offer the greatest value across all capitals. Each of the capitals are linked in complex ways to agriculture and food systems. For example, while it may be technologically possible to replace human capital (e.g. farm workers) with manufactured capital (e.g. machinery), this may have negative consequences on social capital (e.g. social networks).
- **Nature, people and society provide value to our economies.** For instance, natural capital provides ecosystem services like pollination ‘for free’ – and since they are provided for free their value is not reflected in market prices, meaning that many of the **impacts** of food systems (the degradation and/or depletion of natural, social and human capital) are not captured in market prices, and equally our behaviours fail to account for our **dependency** on these capital stocks.
- As well as quantifying changes in capital stocks, True Cost Accounting aims to **value these changes** in qualitative, quantitative or monetary terms. **Cost and price are both elements that contribute to value** which is defined as the relative importance, worth or usefulness.
- Applying a Capitals Approach, i.e. measuring and valuing all four capitals, requires bringing together a range of technical expertise. The **TEEBAgriFood Evaluation Framework** is one effort to guide a systematic evaluation of all four capitals across the value chain and explain how to value the impacts of changes to the four capitals (in quantitative, qualitative and in both monetary and non-monetary terms).
- A Framework is about evaluation. Beyond ‘getting the metrics right’ and conducting an evaluation, we need to determine how these evaluations can influence policy. Thus the **TEEBAgriFood Initiative** is more than the TEEBAgriFood Framework – it is an inclusive stakeholder-driven process that uses the TEEBAgriFood Framework to create positive change in food systems using a capitals approach.
- The TEEBAgriFood Initiative is mainly targeted at national or sub-national governments. The **Capitals Coalition’s** TEEBAgriFood program connects these concepts to the business sector, supporting a comprehensive, systemic influence.

3.2. Systems thinking to strengthen understanding of the interconnected components of food systems

Systems thinking allows for better understanding and forecasting of the outcomes of policy decisions. Illuminating how the components of a system are interconnected and how the drivers of change are determined and impacted by feedback loops and non-linear relationships is a central part of this systemic approach. It is not possible or sensible to isolate impacts and dependencies of primary agricultural production (within the farm gate) from the rest of the food system if we are to find truly sustainable and equitable solutions. Impacts and dependencies cut across current commodity production systems and across spatial and temporal scales.



The diagram below is an example of systems thinking in agriculture and food systems, illustrating the need to embrace complexity to measure natural, human, social and produced capital.

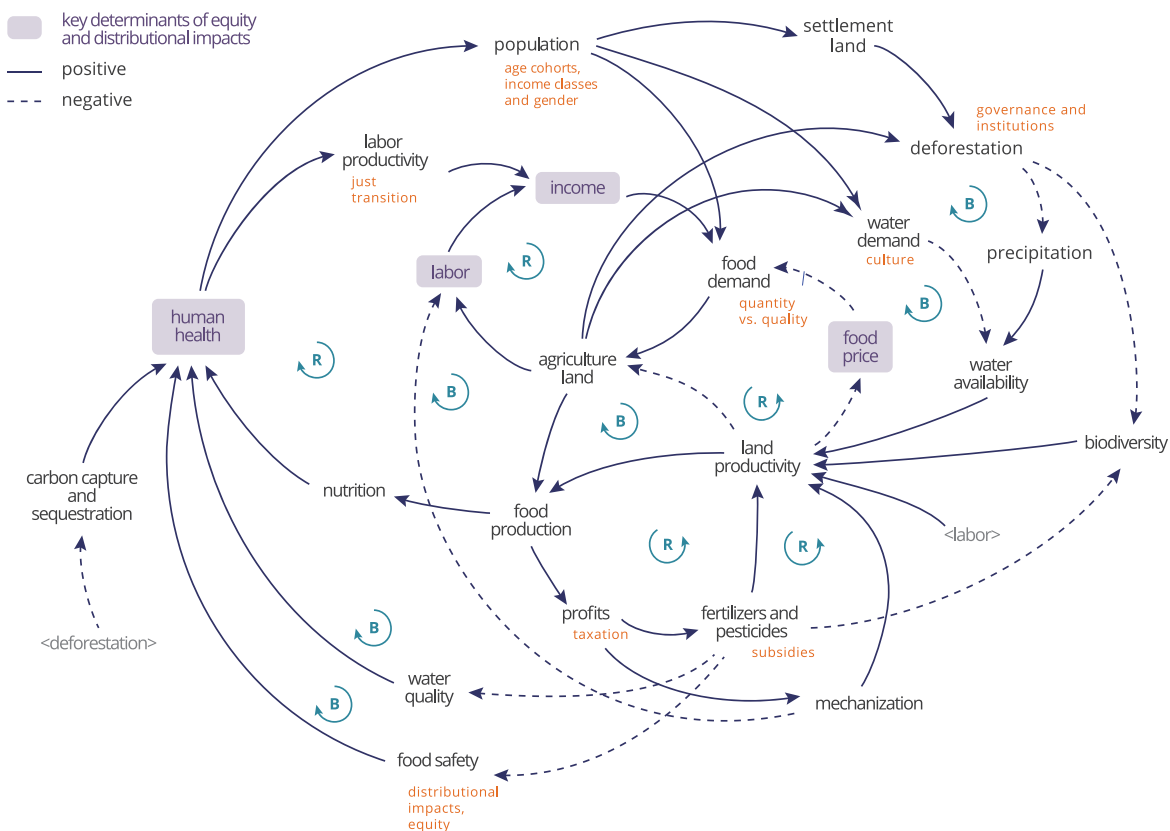


Table 2: illustrative example of systems thinking in agriculture and food systems (Source: TEEB 2018)

3.3. A comprehensive Evaluation Framework to measure what matters in agriculture and food systems

TEEBAgriFood Evaluation Framework is widely recognized as the foundational framework for holistic food systems evaluations. It involved 150 scientists over several years and is widely cited in the literature. The Framework was developed to create a common language to describe the range of diverse and complex food and agriculture systems coherently and comparably across spatial scales (national, regional, farm), accounting for the negative and positive externalities of these systems. This framework is being applied by a range of stakeholders, including policymakers, businesses, the financial industry, farmers, producers and consumer groups.

The TEEBAgriFood Evaluation Framework has three guiding principles: universality, comprehensiveness, and inclusion. As a ‘universal’ Framework, its elements are defined and described in a uniform, methodical, and consistent manner, to be used in any geographical, ecological, or social context, at the level of society, the firm, or the individual. The Framework is ‘comprehensive’ in that it acknowledges all significant impacts or dependencies of the food system, be they economically visible or invisible, along any segment of the food value chain. A third guiding principle is inclusion, i.e., that the Framework should support multiple approaches to assessment. Although the ‘accounting based’ nature of the Framework directly supports analysis in line with economic theory and valuation of impacts on human well-being in monetary ‘value addition’ terms, this is neither possible nor appropriate for all aspects of human well-being. Qualitative, physical, or non-monetary terms can provide important insights, as can a plurality of value perspectives and assessment techniques. These three guiding principles result in a Framework design and approach that can represent a holistic perspective of any food system.

- For further information on the scientific and economic foundations of the TEEBAgriFood Evaluation Framework, please click [here](#)
- To support the public sector and other actors in the application of the Framework, a [guidance manual](#) has been developed
- To support the private sector in the application of the Framework, the [TEEBAgriFood Operational Guidelines for business](#) have been drafted.

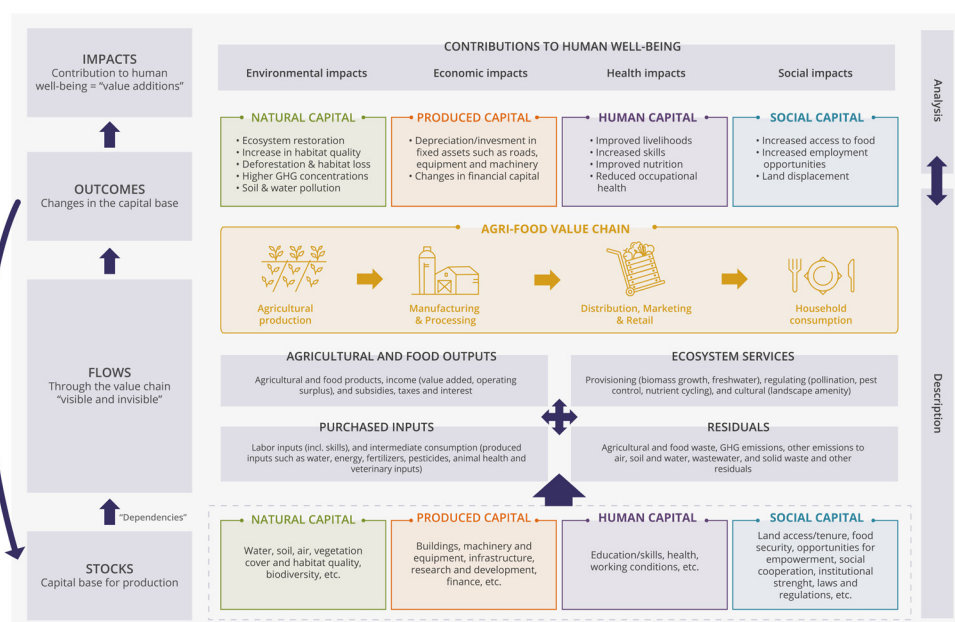


Table 3: Elements of the TEEBAgriFood Evaluation Framework (Source: TEEB 2018)

4. About the Dialogue organisers

The UN Environment Programme (UNEP), the Capitals Coalition and The Global Alliance for the Future of Food work with a common purpose to redefine the value provided by nature, people and society to transform decision making in food systems. TEEBAgriFood, the Capitals Approach, and True Cost Accounting, are all approaches that aim to qualitatively and quantitatively measure and value impacts and dependencies across the four capitals (natural, social, human and produced), with the goal of understanding and internalizing positive and negative externalities along the agri-food value chain to inform decision-making.

United Nations Environment Programme

The initiative from the UN Environment Programme (UNEP) called [The Economics of Ecosystems and Biodiversity for Agriculture and Food \(TEEBAgriFood\)](#) aims at equipping decision-makers with the tools and information to recognise the value that ecosystems provide to food systems. For this purpose, the scientific community in collaboration with UNEP, the Global Alliance for the Future of Food and the Capitals Coalition, developed the [TEEBAgriFood Evaluation Framework](#) to provide a clear and common starting point for all assessments as they work towards identifying the elements that are most material in their context. TEEBAgriFood applications are currently underway in Brazil, China, Colombia, India, Kenya, Malaysia, Mexico, Tanzania, Uganda, Thailand and Indonesia.

Capitals Coalition

The [Capitals Coalition](#) is a global collaboration that aims to transform the way decisions are being made by including the value provided by all the capitals. The Capitals Coalition currently runs the [TEEBAgriFood for Business](#) project, as part of the larger TEEBAgriFood initiative led by UNEP TEEB and funded by the EU. As part of this project, the [TEEBAgriFood Operational Guidelines for Business](#) were drafted and are currently being piloted and revised, for final publication in 2022. The Global Alliance for the Future of Food chairs the Steering Committee of these Guidelines.

Global Alliance for the Future of Food

The Global Alliance for the Future of Food is a strategic alliance of philanthropic foundations working together and with others to transform global food systems now and for future generations. We work closely with UNEP, the Capitals Coalition, and other partners to support decision makers to assess and advance sustainable food supply chains and accelerate food systems transformation using True Cost Accounting approaches. This work includes supporting the development of the TEEBAgriFood Evaluation Framework, the preparation of a step-by-step implementation guidance manual, and convening a diverse and long-standing community of practice which has recently launched a TCA Accelerator.

5. A growing coalition

A broad and diverse coalition exists to strengthen and mainstream comprehensive food systems evaluations. This includes the True Cost Accounting Accelerator and the TEEBAgriFood Community of Practice including country representation from Brazil, China, Colombia, India, Kenya, Malaysia, Mexico, Tanzania, Thailand and Indonesia.

Government support: Explicit support from a dozen countries, including China, India and Indonesia exist for TEEBAgriFood applications. A policy landscape assessment identified a strong interest from policymakers in True Cost Accounting. Country level studies provide proof of concept, including a TEEBAgriFood analysis contributing to the inclusion of agroforestry in the Indonesian five-year mid-term development plan. In India, TEEB has contributed to the uptake of Community Managed Natural Farming in Andhra Pradesh. A number of countries could champion comprehensive food systems evaluations. For example, aligning with the EU's Farm to Fork strategy, emerging priorities for the US government, and Germany's goal to transition to 30% organic production by 2030. The Netherlands has applied True Cost Accounting to a typical "plate" of food to provide guidance to consumers and co-funds a public-private partnership in True Pricing. Canadian food sector leaders are developing an agri-food sustainability index. More broadly, comprehensive food systems evaluations can support countries through their COVID-19 economic recovery, linking short term investments to long term social and environmental goals and targets (IEF).



Business support: Overviews of successful business TCA studies are collated by [WBCSD](#), [Oxford University](#) and the [TCA Inventory of case studies](#). Businesses are starting to actively value their interactions with the capitals, with over 390 organizations now in the [Capitals Coalition's community](#), and with 20 leading multinational businesses participating in WBCSD's [True Value of Food project](#). A series of interviews as part of the EU funded 'Transparent' project found businesses to have high expectations about the potential of natural capital accounting for decision-making. 227 banks have committed to steer on their impact on people and the planet as part of the [UNEP-FI Principles for Responsible Banking](#). A global coalition of banks, Impact Institute and the Harvard Impact Weighted Accounts Initiative is launching a TCA methodology for banks. A significant number of leading businesses also report their findings externally (e.g. SAM 2020). Around the world effort to deepen and broaden ESG (environmental, social and governance) reporting are advancing.

6. Frequently Asked Questions

Are True Cost Accounting and Natural Capital Accounting interlinked?

Natural Capital Accounting encapsulates both Natural Capital Assessments and Ecosystem accounts in the context of national statistical accounting systems. In April 2021, the United Nations Statistical Commission adopted the **SEEA EA framework** (System of Environmental Economic Accounts – Ecosystem Accounts) to better account for biodiversity and ecosystems in national economic planning and policy decision-making. **True Cost Accounting is not a component of the UN Statistical Commission's statistical accounting systems**, but a standardized rigorous way of collecting natural capital statistics can strengthen True Cost Accounting applications and food systems evaluations, making them more robust and credible. True Cost Accounting applications and food systems evaluations can help to enhance a broader recognition of the interactions biodiversity and ecosystems have with human, social, and produced capitals.

Is this about putting a price on nature?

This is not about commoditizing nature. The core assertion is that prices have failed to reflect the true value of the natural world, and the economic systems that we are using are broken. It is therefore about addressing the economic invisibility of important things that we value. This is based on the important difference between price (the quantity of one thing that is exchanged in sale for another) and value (relative importance or worth). Nature is not 'priced' and it is not 'for sale'. Even though we may seek where possible to monetize changes in capital stocks, in some cases it is neither appropriate nor possible to do so. A natural capital approach works to illuminate this hidden value, whether it be economic, social, environmental, cultural or spiritual value, and whether this value is expressed in qualitative, quantitative or monetary ways. Additionally it supports the moral and ethical arguments for the conservation of nature for its own sake.

More about economic valuation challenges and responses [here](#)

7. Reading material

Guidance materials on '*Measuring what matters in Agriculture and Food*'

- [Scientific and Economic Foundations Report - The Economics of Ecosystems and Biodiversity](#)
- [Guidance Manual to apply the TEEBAgriFood Evaluation Framework](#)
- [Operational Guidelines for business](#)
- [Fixing food metrics, Nature 2016](#)

True Cost Accounting Community materials

- [TCA Book](#) (advance embargoed copy available upon request)
- [TCA Accelerator Policy Landscape](#) (True Cost Accounting Accelerator)
- [TCA Inventory: A collection of methodologies, case studies, and valuation approaches](#) (True Cost Accounting Accelerator)
- [Prospects for the true cost accounting of food systems](#) (Baker, L. et al., Nature Food 2020).

Other relevant initiatives and publications

- [The Dasgupta Review](#) (UK Treasury Department)
- [Guidance on SEEA Ecosystem Accounting](#)
- [Inclusive Wealth Index](#)
- [Growing Better, Food & Land Use Coalition](#)
- [Principles of True pricing](#) (True Price Foundation)

8. Glossary

Capital	The economic framing of the various stocks in which each type of capital embodies future streams of benefits that contribute to human well-being. (Source: TEEBAgriFood)
Dependency	Reliance on or use of a capital required to produce goods and services. (Source: Natural Capital Protocol)
Externality	A positive or negative consequence of an economic activity or transaction that affects other parties without this being reflected in the price of the goods or services transacted. (Source: TEEBAgriFood)
Ecosystem services	The benefits people obtain from ecosystems. Ecosystem services are traditionally divided into supporting, regulating, provisioning and cultural. This classification, however, is superseded in IPBES by the system used under “nature’s contributions to people”. This is because IPBES recognises that many services fit into more than one of the four categories. For example, food is both a provisioning service and also, emphatically, a cultural service, in many cultures.
Flow	A cost or benefit derived from the use of various capital stocks (categorized into agricultural and food outputs, purchased inputs, ecosystem services, and residuals). (Source: TEEBAgriFood)
Framework, (TEEBAgriFood) Evaluation	An approach for describing and classifying the range of outcomes/ impacts for a given scope and value chain boundary, and caused by specified drivers, that answers the question “what should be evaluated?” (Source: TEEBAgriFood)
Human capital	The knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being (source: TEEBAgriFood)
Impact	A positive or negative contribution to one or more dimensions (environmental, economic, health or social) of human well-being. (source: TEEBAgriFood)
Materiality	An impact or dependency is material if consideration of its value, as part of the set of information used for decision making, has the potential to alter that decision (Adapted from OECD 2015 and IIRC 2013). (source: Natural Capital Protocol)
Natural capital	The limited stocks of physical and biological resources found on earth, and of the limited capacity of ecosystems to provide ecosystem services. (source: TEEBAgriFood)

Produced capital	All manufactured capital, such as buildings, factories, machinery, physical infrastructure (roads, water systems), as well as all financial capital and intellectual capital (technology, software, patents, brands, etc.). (source: TEEBAgriFood)
Social capital	Encompasses networks, including institutions, together with shared norms, values and understandings that facilitate cooperation within or among groups. (source: TEEBAgriFood)
Stock	The physical or observable quantities and qualities of (human, natural, produced, social) capital within a system at a point in time. (source: TEEBAgriFood)
System	A set of elements or components that work together and interact as a whole. (source: TEEBAgriFood)
Systems thinking	An approach that focuses on the identification of interrelationships between components of a system (Source: TEEBAgriFood)
Trade-offs	A trade-off is a situation where an improvement in the status of one aspect of the environment or of human well-being is necessarily associated with a decline in or loss of a different aspect. Trade-offs characterize most complex systems, and are important to consider when making decisions that aim to improve environmental and/or socio-economic outcomes. Trade-offs are distinct from synergies (the latter are also referred to as “win-win” scenarios): synergies arise when the enhancement of one desirable outcome leads to enhancement of another. (Source: TEEBAgriFood)
True Cost Accounting	An evolving holistic and systemic approach to measure and value the positive and negative environmental, social, health and economic costs and benefits to facilitate business, consumer, investor and/or policy decisions.
Valuation methods	When considering the values of nature, this refers to the specific techniques or formal procedures that are used to gather, analyse and make explicit information related to the importance of nature to people.
Value	The importance, worth, or usefulness of a good or service (including all relevant market and non-market values) determined by people's preferences and the trade-offs they choose to make given their scarce resources. (source: TEEBAgriFood)
Valuing	Is the more implicit act of assigning a value to something, which does not necessarily follow an explicit and formal process. Thus, while we all go through the process of ‘valuing’ on a daily basis for our day-to-day decisions, valuation is most often an exercise that is undertaken by ‘experts’ or a specifically designed team.