

TEEBAGRIFOOD INDIA

A wide-angle photograph of a mountainous landscape in Uttarakhand, India. The foreground shows a steep, terraced hillside covered in dense green forest. A dirt road winds through the terraces. In the background, more mountain ranges are visible under a clear sky. The lighting suggests it might be early morning or late afternoon.

Terrace farming in Uttarakhand

BACKGROUND

Our current food systems are a leading cause of *inequality, environmental harm* and *hunger*. Despite producing enough food to feed the global population, 828 million people faced hunger in 2021 – a grim reminder of systemic failures (FAO, 2022). These systems contribute significantly to biodiversity loss, climate change and soil degradation, while leaving millions of vulnerable people without equitable access to nutritious food.

The United Nations has recognized transforming food systems as critical to achieving the Sustainable Development Goals (SDGs). At the UN Food Systems Summit in 2021 and its 2023 review, world leaders called for global collaboration to build systems that are resilient, equitable, and sustainable.

In India, where the population is projected to reach 1.66 billion by 2050, the stakes are immense. Ensuring affordable, nutritious food for all while protecting ecosystems and supporting livelihoods is a balancing act made harder by climate change and limited resources. Current decision-making often does not take into account the hidden costs of food systems – such as environmental degradation and social inequities – leading to unaddressed impacts on ecosystems and communities.

The Economics of Ecosystems and Biodiversity (TEEB), an initiative hosted by the United Nations Environment Programme (UNEP), provides tools to integrate these hidden costs and benefits into economic decisions. TEEB emphasizes valuing natural, social, human, and produced capital, offering a holistic approach to create sustainable food systems. In India, where smallholder farmers are especially vulnerable, TEEB's methods are gaining traction, with frameworks like True Cost Accounting featured in FAO's flagship State of Food and Agriculture reports for 2023 and 2024.

TEEBAgriFood in India

TEEBAgriFood, the agricultural application of TEEB, has been implemented in 14 countries and has influenced policy areas ranging from sustainable land use to organic farming. Since 2019, its work in India has supported practices like organic farming and agroforestry, demonstrating how governments can balance economic growth with ecological preservation.

The initiative addresses critical challenges, including land degradation, water scarcity and climate resilience, while improving livelihoods and consumer health. By promoting sustainable practices, TEEBAgriFood helps India move toward a future where food systems are both equitable and environmentally sound.

Objectives and Outcomes

TEEBAgriFood in India is presently funded by *IKEA Foundation* through the four-year project (2023-2027) titled '**True Value Accounting**': Making the Economic Case for Food Systems Transformation in India and Kenya. This builds upon the previous European Union Partnership Instrument Funded project (2019-2023). The outcomes of the first phase, including the assessment of the four capitals and various activities, can be accessed at: ***Organic Farming and Agroforestry in India | UNEP*** - United Nations Environment Programme.

The project aims to contribute to food systems transformation by making the economic case for pro-nature policies that provide sustainable livelihoods and for enhanced community cohesion to achieve the following outcomes:

- Supporting the government in formulating policy measures for sustainable food systems by providing evidence-based recommendations based on the TEEBAgriFood studies to facilitate informed decision-making
- Collaborating with agri-businesses to help them assess their environmental and social impacts using the TEEBAgriFood Framework
- Equipping farmers, local communities, civil society organizations, and the media to advocate for best agricultural practices, thereby enhancing collective efforts towards transforming the food system in alignment with government goals

Activities Under IKEA-Foundation Funded TEEBAgriFood Project in India:

Governance

The project being implemented in **Uttar Pradesh, Uttarakhand, and Assam** (2023-2027), operates under the guidance of a Project Steering Committee (PSC), co-chaired by the Ministry of Agriculture & Farmers Welfare (MoAFW) and the Ministry of Environment, Forest & Climate Change (MoEFCC) with members from the Indian Council of Agriculture Research (ICAR), Ministry of Jal Shakti, Ministry of Statistics and Programme Implementation (MoSPI), National Biodiversity Authority, Additional Chief Secretaries of Agriculture Departments and Principal Chief Conservator of Forests & Head of Forest Force of each project states, and Directors of research partner institutions. The PSC's primary roles are:

- 1 Offering strategic guidance on project's alignment with national and state policies
- 2 Identifying cross-sector synergies to address food system sustainability
- 3 Reviewing project progress and provide recommendations for project's effective implementation in biannual meetings
- 4 Advising on integrating project outcomes into mainstream policy and practice



Women farmers diligently harvesting rice, highlighting their critical role in sustaining food production and rural livelihoods from sowing to harvest

Key Components

The project focuses on two verticals: **Organic Farming** and **Agroforestry**, aimed at supporting sustainable agriculture frameworks that benefit nature, livelihoods, and resilience. Key strategies include:

- Conducting TEEBAgriFood studies to economically validate these practices for broader adoption across other agro-ecological zones
- Assisting decision-makers in strengthening policy instruments for sustainable food systems
- Building capacity among public officials on the TEEBAgriFood framework
- Encouraging agribusinesses to adopt a capitals-based approach to assess their dependencies and impact on the four capitals
- Fostering public-private collaborations to advance food system transformation
- Strategic communications to generate awareness on TEEBAgriFood and support science-policy-practice translation
- Showcasing best practices to farmers and farmer communities

Scope

Guided by PSC's recommendation, the study's spatial scale varies across Assam, Uttar Pradesh, and Uttarakhand, shifting from broader state, district, and watershed levels to more localized landscape and farm-cluster analyses. This shift allows for targeted, location-specific recommendations and broader agroecological zone coverage in the project states.



A woman farmer planting potatoes in the fields of Bidaura, Uttarakhand



A woman farmer collecting cow dung for natural farm inputs, preserving traditional and sustainable organic farming practices (Assam)

Research Partners

➔ **Public Sector:**

- Uttar Pradesh & Uttarakhand: Indian Institute of Farming Systems Research (ICAR-IIFSR)
- Assam: Indian Institute of Forest Management (IIFM)

➔ **Private Sector:**

- Centre for Responsible Business (CRB) to engage agribusinesses involved in supply chains in Assam, Uttar Pradesh, and Uttarakhand. CRB is educating these businesses on the benefits of adopting the capitals approach for sustainable agroforestry and organic value chains based on the TEEBAgriFood guidelines for Business.



Intercropping in a demonstration field, showcasing improved soil health, enhanced fertility, and increased productivity (Modipuram, Uttar Pradesh)

Key Approaches

The TEEBAgriFood project uses a systematic approach focusing on four key capitals: **natural**, **produced**, **social**, and **human** to mainstream the values of biodiversity and ecosystem services into decision-making at all levels to develop an enabling environment for food and agriculture transformation.

Below are the components that explain the approach:

Value Chain Analysis

The project examines the entire agri-food value chain, identifying key flows and stocks of resources and capital. This analysis helps pinpoint areas where interventions can create value and promote sustainability. This is being driven by synergy in the mandate of the public sector partners focusing largely on positive and negative impacts of the production phase of the agri value chain and that of the private sector engagement dealing basically with post-harvest supply of feedstock to industry

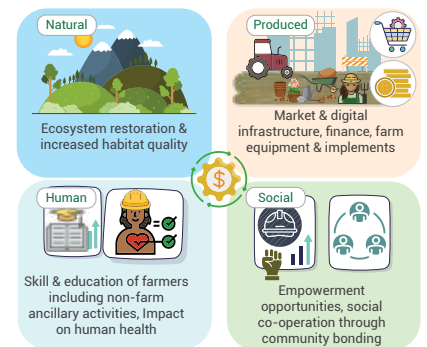


Scenario Modeling

Different policy scenarios (business as usual, optimistic, pessimistic) are modelled for different years based on varying climate projections (RCP 4.5 and RCP 8.5). This helps assess the potential impacts of different policy interventions over time, guiding decision-making

Capitals Framework

The assessment of natural, produced, social, and human capital is prioritized to evaluate the costs and benefits of various agricultural practices, focusing on their impacts on nature, biodiversity, and livelihood outcomes



Consultative Process

Periodic consultations with wide range of stakeholders including government, researchers, progressive farmers, civil society, and agri-businesses etc. ensure that project recommendations align with policy needs and adoption in the field. These discussions help set policy scope, prioritize impactful elements across the four capitals and value chain, and define methods and data needs for policy scenario assessments



Policy Integration

The project seeks to mainstream sustainable practices into national and state-level policies, leveraging evidence from modeling and valuation and other emerging values from field to advocate for incentives that support upscaling of organic farming and agroforestry



Mainstreaming of Study Outcomes:

The Project Steering Committee outlined a broad policy scope, identifying key policy-entry points to scale sustainable agriculture in India. It was emphasised that evaluation at landscape/farm cluster level across the agriculture value chain should be undertaken to provide useful inputs to the existing programmes and initiatives. Convergence of the TEEBAgriFood objectives and deliverables with other ongoing works of the different Ministries and State Departments should be explored to identify synergies and mutual gap filling.

- The project is actively contributing to several ongoing efforts based on the project outcomes summarised as follows: Revision of the operational guidelines of the Rainfed Area Development scheme of Ministry of Agriculture and Farmers Welfare for promoting adoption of Integrated Farming Systems/Integrated Organic Farming Systems models suited for different agro-climatic regions of India, as developed by IIFSR, the research partner for Uttar Pradesh and Uttarakhand.
- Framework for Climate Resilient Agriculture in India, Implementing the Voluntary Carbon Market Framework in agriculture, launched by MoAFW in January 2024.
- Evaluating the progress made over the past decade under the National Agroforestry Policy, 2014 and identifying future pathways.
- Potential for supporting the Green Credit Programme led by the Ministry of Environment, Forests and Climate Change (MoEFCC), including participation of private sector.
- A strong communication and outreach element tailored to different audience to enable science-policy-field translation.

- Support from States in identifying Farmer Producer Organisations (FPOs) including women led FPOs for replicating best practices by the research partners, following which valuation of benefits could be done in line with directive of PSC. With the engagement with the private sector, a complete fork-farm value chain could be established for sustainable food systems.
- The TEEBAgriFood Learning Landscape to be operationalised in Assam would serve as a live tinkering lab for demonstrating best practices to the associated farmers, continue studies based on primary data and serve as a reference landscape for sharing and adapting outcomes from other projects as well.



Women farmers demonstrating leadership by learning to cultivate seedlings in a polyhouse, embracing agricultural innovation (Assam)



A farmer operating a tractor, blending traditional methods with mechanized farming practices in the plains of Bidhaura (Uttarakhand)

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