



Stats4SD



Agroecology TPP

# The TRANSITIONS Metrics Library

## What is it?

The Metrics Library is an online database that provides a comprehensive collection of metrics for evaluating the performance of food and agricultural systems. This user-friendly platform will act as a one-stop shop for users to explore, search, and select the most appropriate metrics and tools for their specific needs. The library is aimed at a wide range of users interested in agrifood systems assessment, from policymakers and donors to development actors and producers.

## Why is it needed?

While we may already know which aspects of agrifood system performance we want to measure, choosing the right metrics can be challenging. The Metrics Library addresses this gap by offering users the ability to search for metrics based on various criteria, such as the dimension (e.g., economic, environmental, social), theme (e.g., food security, resource use efficiency), or scale of interest (e.g., field, farm, landscape, region). Additionally, the library can suggest existing assessment tools that align with a user's needs and introduce them to potentially overlooked metrics, ensuring a more holistic evaluation.

The Metrics Library is being developed to complement and support the metrics Meta-framework – a step-by-step guide to developing your own holistic assessment that meets your specific needs.

Check out the working paper on the Meta-framework here: <https://www.cifor-icraf.org/knowledge/publication/9081/>



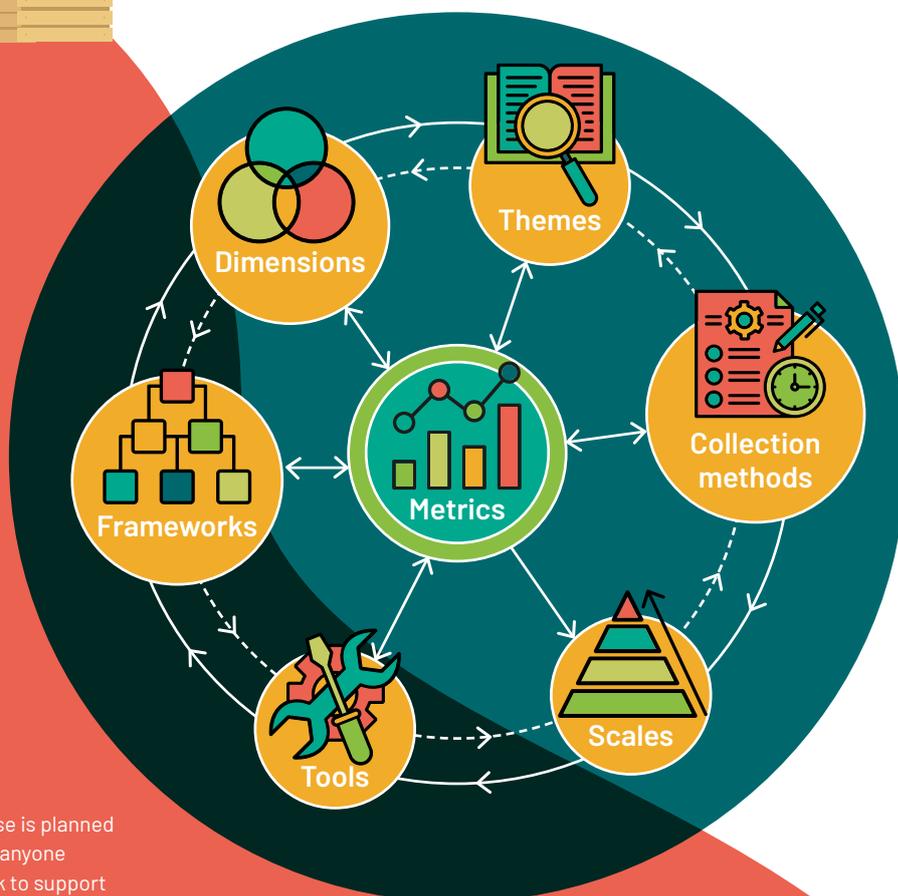
## What does it look like?

The underlying structure of the database can be imagined as a network or spiderweb, where each node represents a metric, and connections link them based on shared characteristics. This structure allows users of the database to filter results and navigate the database through various attributes. For example, users can explore metrics based on the dimensions and themes they want to measure, to their measurement scale of focus, or existing tools and frameworks they might already be using or want to use (e.g., TAPE, SAFA, PG tool, F-ACT).

The Metrics Library is built upon a systematic review of academic literature and existing holistic systems assessments. It incorporates metrics from over 200 existing assessment methods and over 8,000 scientific articles, covering a wide range of dimensions and themes related to agrifood system performance.

## When will it be available?

The library website is in development and a beta release is planned for the end 2024. The beta version will be available for anyone interested in testing the library and providing feedback to support the development. The full platform will be launched next year.



# Dimensions and themes and some example metrics for each



## PRODUCTIVITY

### Productivity

Focuses on **agricultural productivity** (i.e., output per unit input per unit time), including its stability over time. Example metrics include yield per hectare, variation in yield over time, land equivalent ratio; farm output value per hectare; value added per unit of farm labour; labour productivity.

### Synergy/positive interactions

Focuses on **positive ecological interactions, synergy, integration, and complementarity among agroecosystem components to improve the efficiency and resilience of food systems**. Example metrics include use of livestock by-products, use of intercropping and agroforestry.

### Animal health & welfare

Relates to **ensuring animal health and welfare within food systems**. Example metrics include mortality rates, incidence of injury/infections/diseases, use of antibiotics.



## ECONOMIC

### Economic diversity & resilience

Focuses on **economic diversification and ensuring that farmers have greater financial independence and value addition opportunities**. Example metrics include number of sources of income, diversification indices, assets indices, entrepreneurship, measures on absorptive/adaptive/transformational capacities.

### Profitability, income, returns

Relates to the **profitability of food systems and returns to factors of production**. Example metrics include gross margin, benefit to cost ratio, dependence on credit, income per family member.

### Resource use efficiency

Relates to **efficiency of resource use and reducing dependency on purchased outputs and leakage of key resources (such as biomass and nutrients)**. Example metrics include nitrogen use efficiency, energy balance; water use efficiency, production of renewable energy.



## HUMAN

### Human health

Focuses on various aspects of **human health in relation to food systems, including food safety, public health, and the physical, mental, and social well-being of workers**. Example metrics include use of pesticides/herbicides known to be harmful to human health, safety/protection measures within the workplace, incidence of disease, presence of food contaminants.

### Food security & nutrition

Relates to **food security and its six dimensions of availability, access, utilisation, agency, stability, and sustainability, and nutrition**. Example metrics include underweight prevalence, percentage of household expenditures on food; degree of crop diversity produced at the household level; calorie intake, dietary diversity.



## SOCIAL

### Participation & agency

Relates to **co-production of knowledge among multi-stakeholder networks, collective action, and participation in decision-making by food producers and consumers**. Example metrics include self-assessment of agency/self-efficacy, number of stakeholder engagements, participation in collective action groups.

### Fairness & equity

Relates to aspects of **fair trade, fair employment and fair treatment of intellectual property rights, and equitable relationships across social groups in a community or landscape, as affected directly by food systems**. Example indicators include Women's Empowerment in Agriculture Index (WEAI), Gini coefficient, poverty rates.

### Responsible governance

Focuses on processes related to **making and implementing decisions that increase the democratic and equitable control of food systems**. Example metrics include presence of grievance procedures, stakeholder dialogues, transparency policies.

### Connectivity & local economy

Focuses on the **proximity and connectivity between producers and consumers (through shorter supply chains, re-embedding food systems in local economies, encouraging a circular economy) and local economy**. Example metrics include distance from producer to consumer, local employment rates; quantity of farm produce sold to local markets; sell produce direct to consumer.

### Social values

Relates to **culture, identity, tradition, social values and includes aspects such as recognising cultural and traditional knowledge and food sovereignty**. Example metrics include capacity to experiment, use of heirlooms/traditional varieties; knowledge and skills to provide nutritionally diverse meals.



## ENVIRONMENT

### Soil health

Focuses on aspects of **soil health and functioning as affected directly by agriculture**. Example metrics include soil erosion prevalence, soil organic content, soil water holding capacity, heavy metal contamination from inputs.

### Water resources

Relates to **water resources, including availability, access, use and quality, as affected by agriculture**. Example metrics include freshwater withdrawal rates, water pollution - acidification and eutrophication, irrigation use, water security index.

### Air & climate

Focuses on the **provision of clean air and aspects of climate change mitigation, including sequestering carbon and reducing emission of greenhouse gases**. Example metrics resulting from agriculture and food systems include: levels of particulate matter, sulphur dioxide, nitrous oxides, volatile organic compounds and ground-level ozone, and greenhouse gas emissions, carbon sequestration rates.

### Biodiversity

Focuses on **diversity of species, functional diversity and genetic resources in time and space at field, farm and landscape scales**. Example metrics include crop diversity, insect biodiversity.

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**For more information:**

<https://www.agroecologytpp.org/project/metrics>

