Food Systems Countdown Initiative

The Food Systems Countdown Initiative Webinar: Tracking progress and managing interactions

29 April 2025 at 16:00 CET

Countdown Co-Chair Organizations:

Food and Agriculture Organization of the United Nations

gain Global Alliance for Improved Nutrition

Columbia Climate School Climate, Earth, and Society

Cornell CALS College of Agriculture and Life Sciences

Food Systems Countdown Initiative

The Food Systems Countdown Initiative Background & baseline analysis

Dr. Mario Herrero
Cornell University

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UNFSS catalyzed food system transformation pathways

Country progress on national pathway operationalization

127 countries have developed a pathway today

- **60%** have started to develop implementation/action plans for their national pathways
- **70%** have integrated the FST vision of their national pathway into national strategies and/or sector plans
- **40%** are linking finance to national pathways

UNITED NATIONS FOOD SYSTEMS COORDINATION HUB

But no monitoring system was agreed upon

- The SDG framework is insufficient to guide food systems transformation
- Evidence-based decision-making needs indicators and data to guide decisions
- Demand for a multisectoral, multi-scale indicator framework to monitor food systems change and transformation

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The Food Systems Countdown Initiative formed to fill this gap

Objectives:

To provide actionable evidence to track progress and guide decisions for transformation

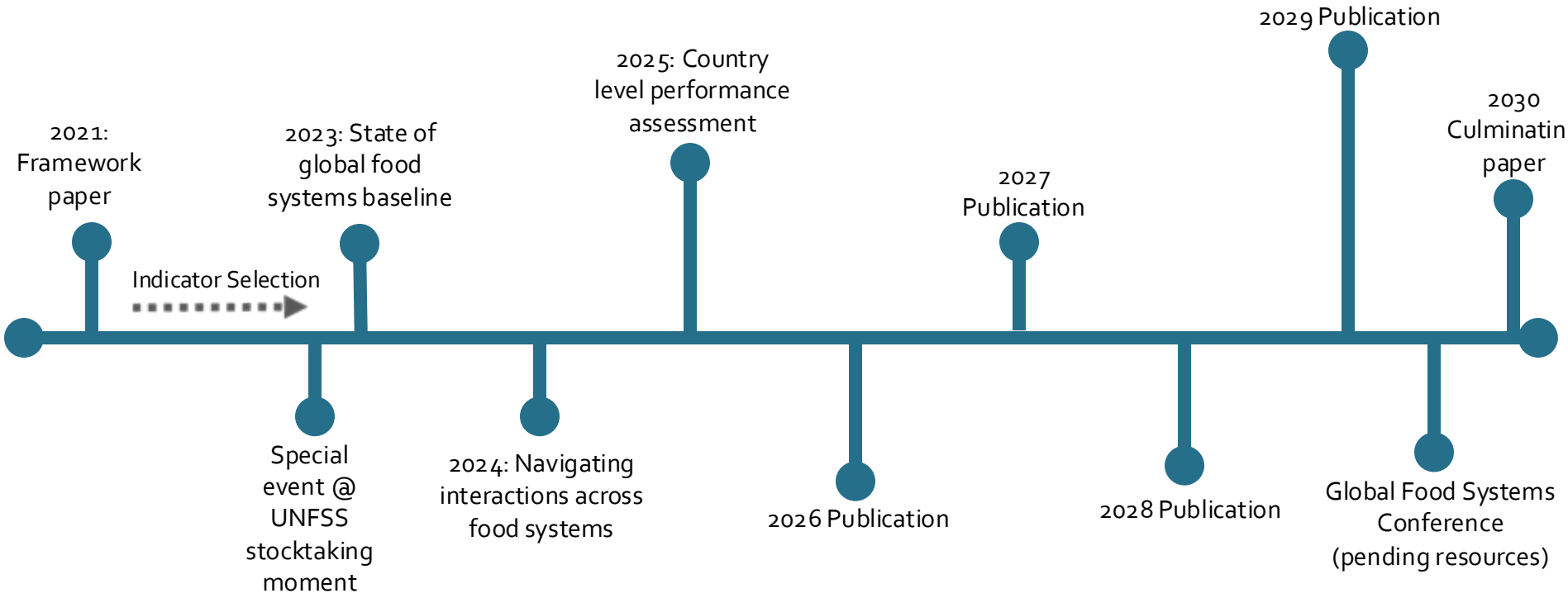
Complement other monitoring and tracking initiatives

Contribute to advancing the science of food systems and their transformation

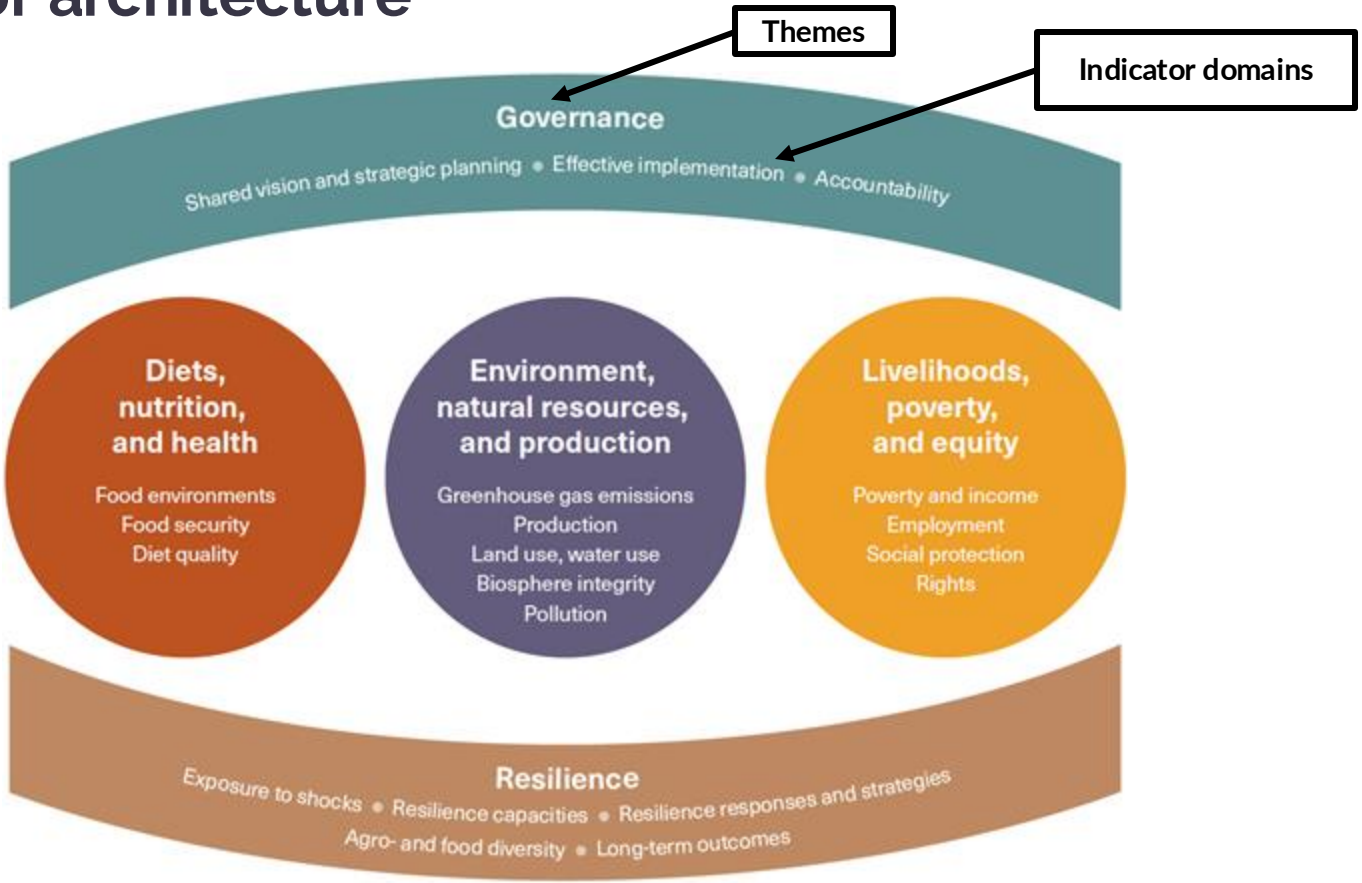
The Countdown is an interdisciplinary, multi-institution scientific partnership to monitor global food systems in service of meeting the SDGs and other global goals

FSCI timeline to 2030

All available on the Countdown website



Indicator architecture

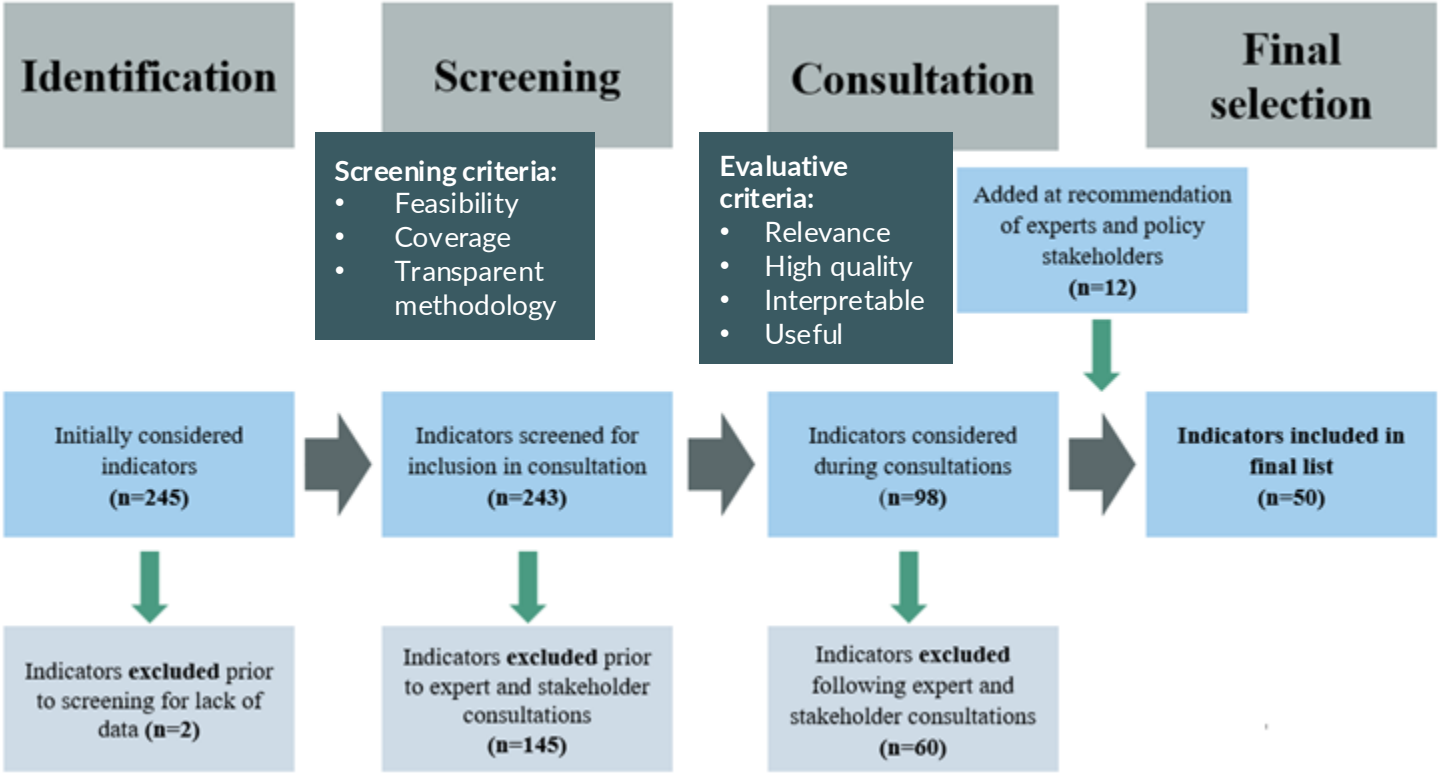


Fanzo et al. 2021

Indicator selection: transparent, inclusive, rigorous

57 scientists in the FSCI collaboration conducted identification, screening, and final selection

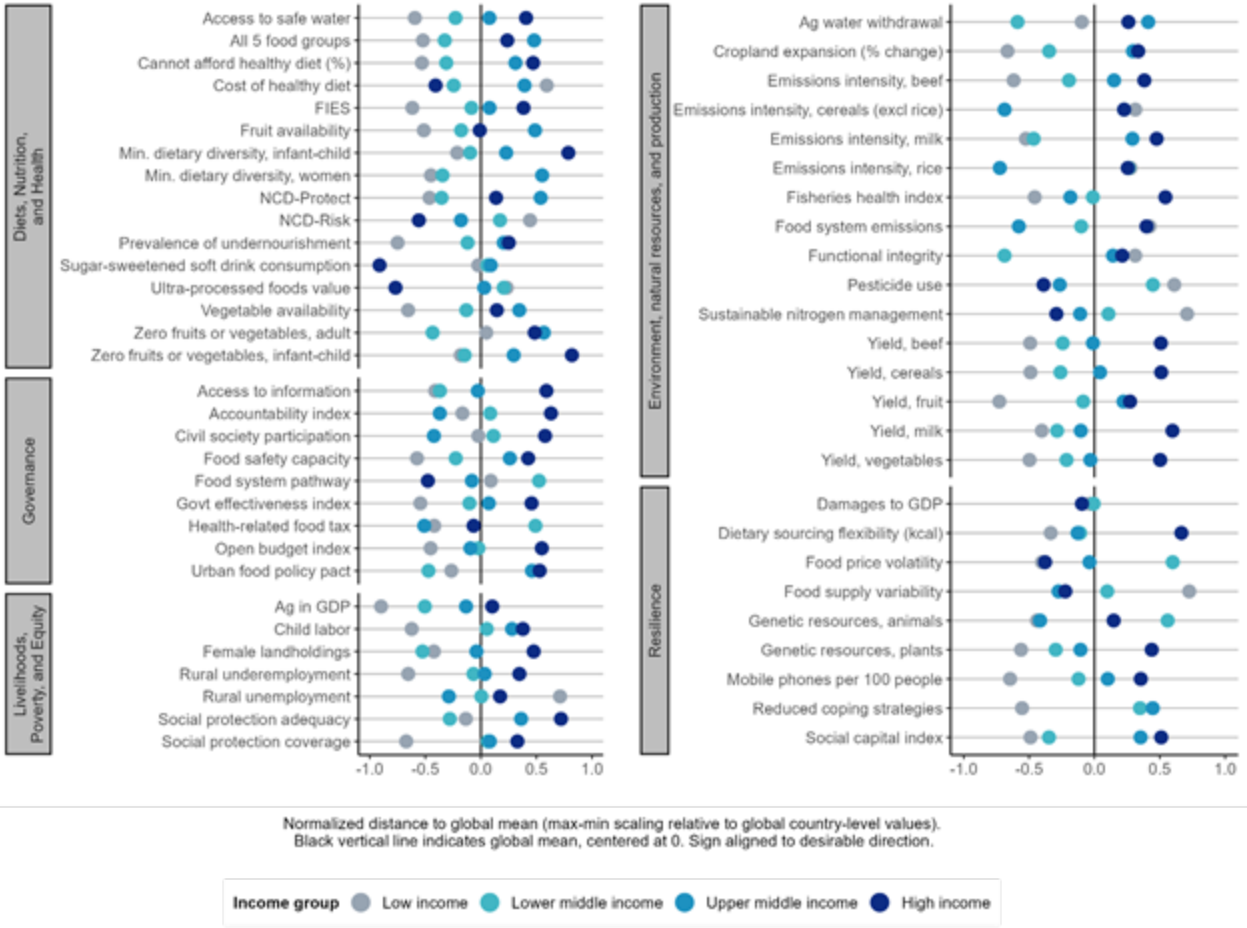
Dozens of additional scientists and over 550 policy stakeholders participated in the consultations



Schneider et al. 2023

Global food systems baseline

Food system success is not synonymous with country income



Schneider et al. 2023

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Main lessons from the 2024 analyses
Monitoring progress and navigating interactions

Roseline Remans, PhD Ir.
glocolearning and the Alliance of Bioversity & CIAT

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Main lessons from the 2024 analyses
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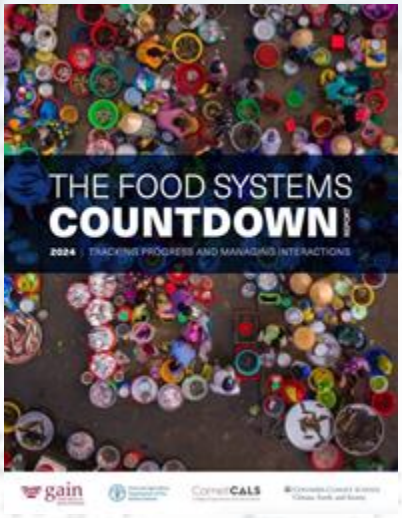


Global food systems trends 2000-2022

Show 20 out of 42 indicators moving in the desirable direction

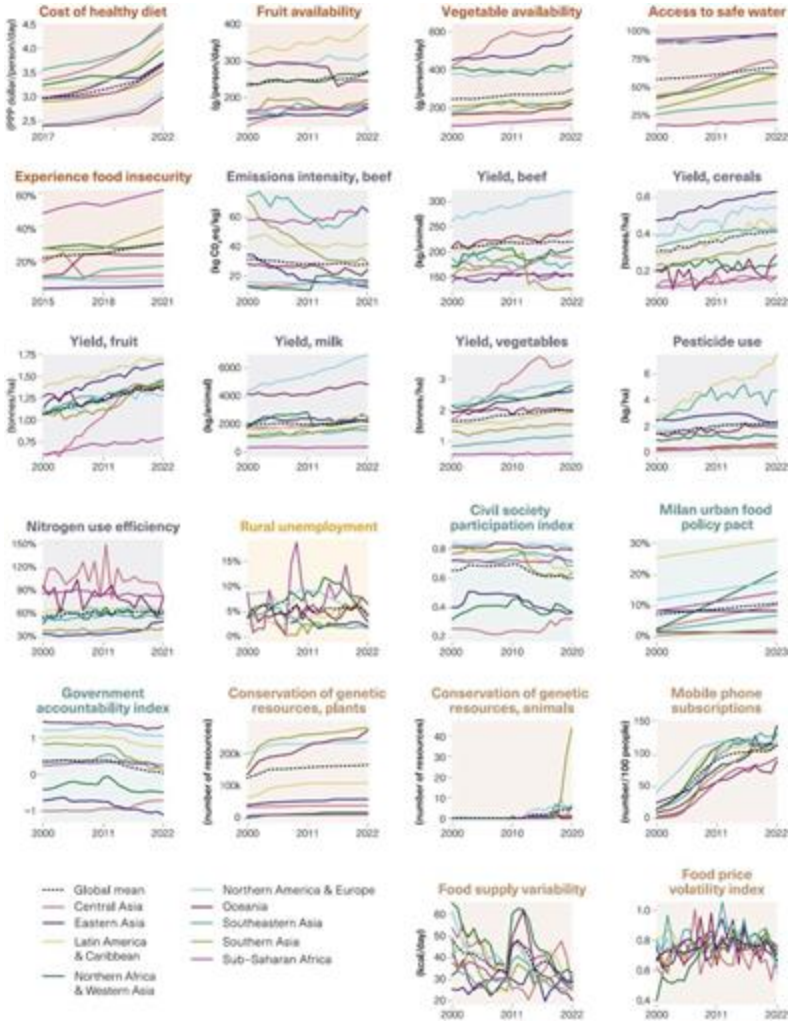
7 indicators trend undesirably, and the rest show no change, which is also undesirable

Schneider et al. 2025

Regional trends

For some indicators, similar trends across regions can be observed
e.g. cost of a healthy diet, mobile phone subscriptions

For other indicators, trends differ greatly between regions, e.g. food insecurity, fruit yield, pesticide use



Schneider et al. 2025

Thematic trends

Nuance within themes, some indicators moving in desirable directions, some indicators moving in undesirable directions, or not changing

Table 1. The Countdown indicators

● Trending in desirable direction ● Trending in undesirable direction ● No change

Diets, nutrition, and health

↗ **Access to safe water:** Share of the population that gets drinking water from an improved source, providing the clean water essential for food security (SDG 6.1.1)

Consumption of all five food groups: Share of the adult population consuming all five food groups typically recommended for daily consumption

Population who cannot afford a healthy diet: Share of the population whose food budget is less than the cost of a healthy diet

↗ **Cost of a healthy diet:** Per-person cost of the least expensive locally available foods to meet daily needs, based on food-based dietary guidelines

↗ **Population experiencing moderate or severe food insecurity:** Share of the population experiencing food insecurity, measured according to the Food Insecurity Experience Scale (FIES) (SDG 2.1.2)

↗ **Availability of fruits and vegetables:** Amounts of fruits and vegetables—an underconsumed yet highly nutritious food group—available in a country's food supply per capita per day (2)

Minimum dietary diversity for women (MDD-W) and Minimum dietary diversity for infants and young children (MDD-IYCF): Share of women (or young children) who consumed at least the minimum recommended food groups the previous day, which makes it more likely they consume adequate micronutrients (2)

NCD-Protect: Average score for adults on an indicator of dietary practices protective against noncommunicable diseases, like eating enough fiber, on a scale from 0 to 9

NCD-Risk: Average score for adults on an indicator of dietary practices known to raise the risk of noncommunicable diseases, like eating too much sugar, on a scale from 0 to 9

↘ **Prevalence of undernourishment:** Share of the population that goes hungry—that is, lacks enough calories for a healthy, active life (SDG 2.1.1)

Soft drink consumption: Share of adults who consumed a sugar-sweetened soft drink, which are generally known to be unhealthy, during the previous day

→ **Ultra-processed food sales:** Annual per-person sales of ultra-processed foods, which are known to be associated with poor health outcomes

Zero fruit or vegetable consumption: Share of the population (adults or young children) who did not consume any fruits or vegetables the previous day (2)

Environment, natural resources, and production

→ **Agricultural water withdrawal:** Water withdrawn for irrigation each year, as a percentage of the total renewable water resources available

→ **Cropland area change:** Average percentage change in cropland over the previous five years; expanding cropland is a major driver of biodiversity and ecosystem service loss and greenhouse gas emissions

Greenhouse gas emissions intensity, by product group: Greenhouse gas emissions (kg CO_2 equivalents) per kilogram produced of certain important food commodities (4) (↘ beef, → cereal, ↘ milk, → rice)

Fisheries Health Index: An indicator summarizing the availability and sustainability of fish, which are at risk of overfishing or environmental degradation

→ **Food systems greenhouse gas emissions:** Greenhouse gas emissions (kt CO_2 equivalents) from food systems

Agricultural ecosystem function: Percentage of agricultural land area with enough semi-natural or natural habitat, relative to the amount of cropland or rangeland, to maintain biodiversity and functioning ecosystems

↗ **Pesticide use:** The use of pesticides per area of cropland (kg active ingredient per hectare); pesticide use can cause pollution and harm health

↗ **Nitrogen use efficiency:** A measure of the efficiency of nitrogen application in agricultural production

↗ **Food product yield, by food group:** Yield, or production per unit area (tonnes per hectare) or per animal (kg per animal)—an indicator of how efficient production is (5)

Livelihoods, poverty, and equity

→ **Share of agriculture in GDP:** Percentage of a country's GDP derived from agriculture, a measure of the level of economic development of the country

Child labor: Percentage of children ages 5–17 who are engaged in child labor, the majority of which is known to be in the food system and specifically in agriculture

Percentage of agricultural landowners who are female: A measure of the share of women among owners or rights-bearers of agricultural land

→ **Rural unemployment and** ↗ **Rural underemployment:** Percentage of working-age people in rural areas who are unemployed or underemployed (i.e., worked fewer hours than expected) (2)

Social protection adequacy: An indicator showing the extent to which social protection is sufficient to meet household needs

Social protection coverage: Percentage of people who live in households that benefit from social protection programs, like cash transfers and health insurance

Schneider et al. 2025

Navigating interactions between indicators

- Change (or lack of change) in one indicator can have direct or indirect impacts on other indicators
- History has many examples where food systems challenges have arisen owing to unintended consequences and systemic conflicts among multiple objectives
- Understanding interactions can help anticipate and manage tradeoffs or synergies and highlight entry points for decision-making

Identifying interactions: Methods

1. Expert elicitation with FSCI coauthors

1. Automated literature search

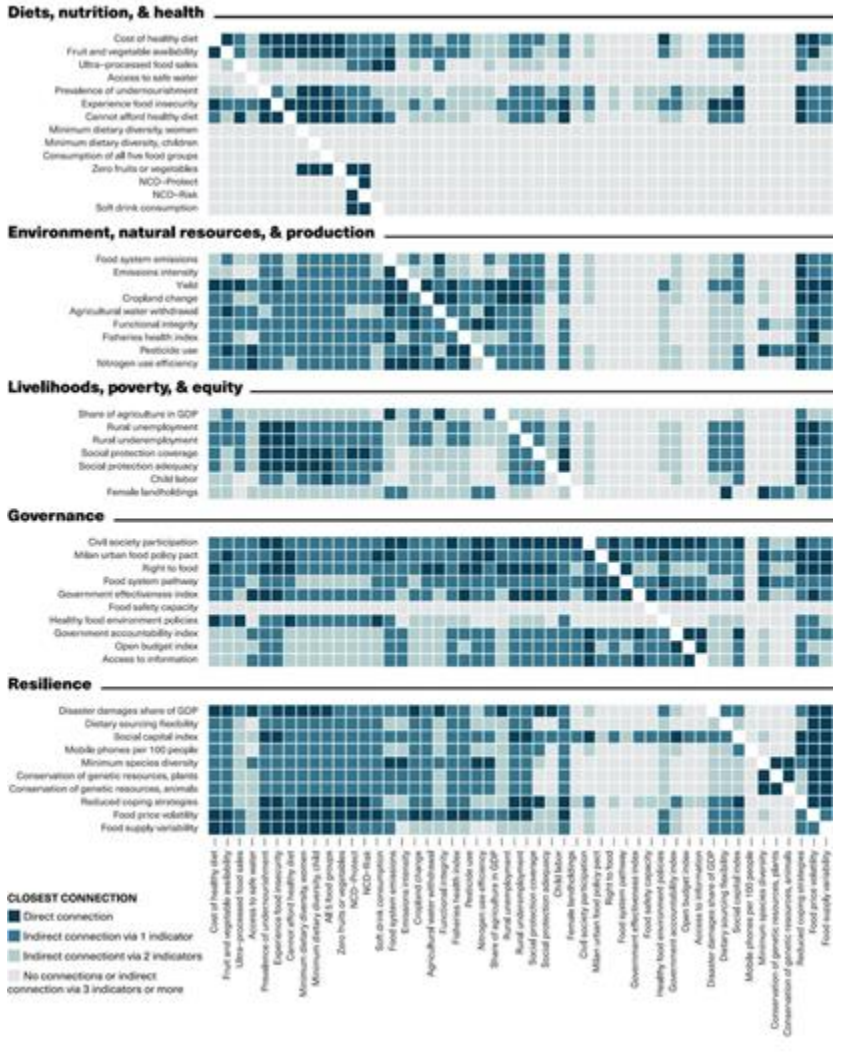
1. Country case studies with country expert panels

Assessed relationships between indicators

Many interdependencies

One third of interactions occur across themes

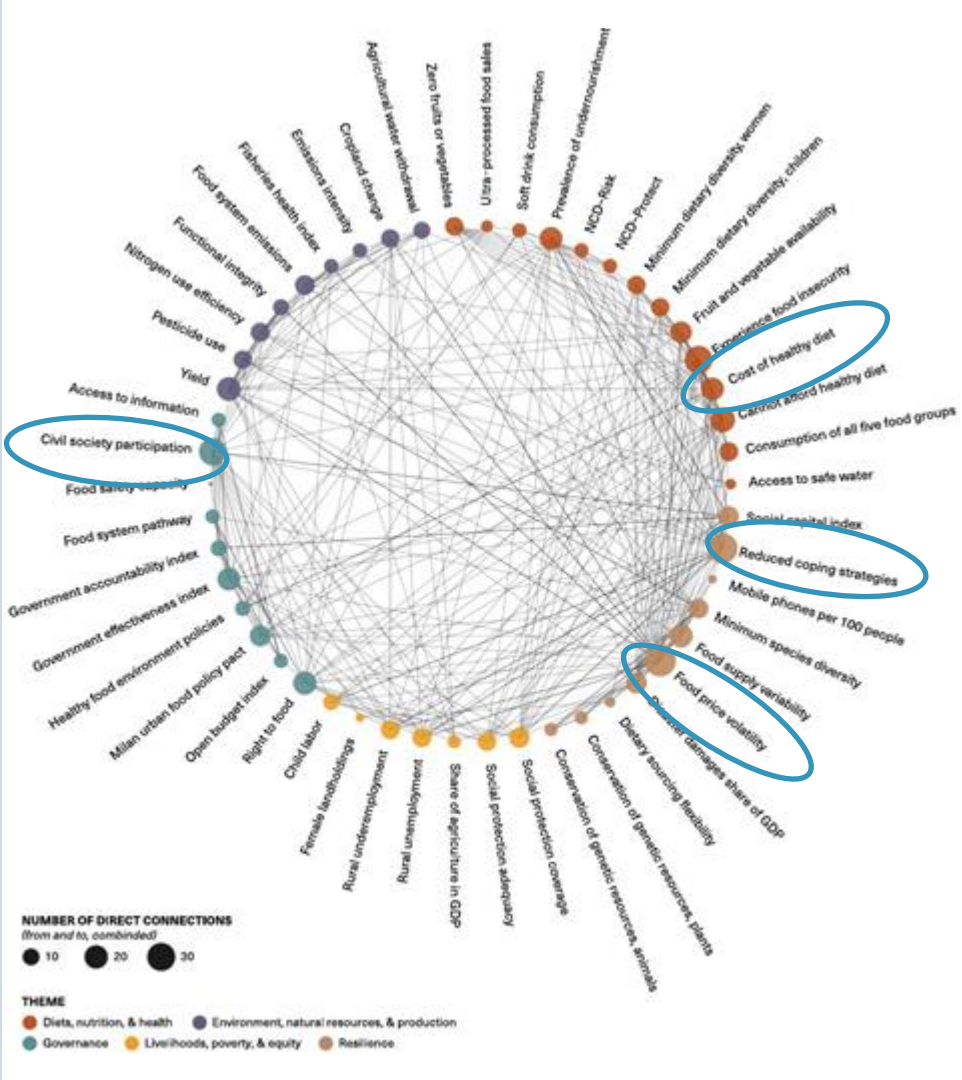
Governance and resilience show the largest number of connections to other themes



Highly connected indicators

Change in these indicators could have broad impact on others and/or require multiple coordinated actions

Explore on the Food Systems Dashboard

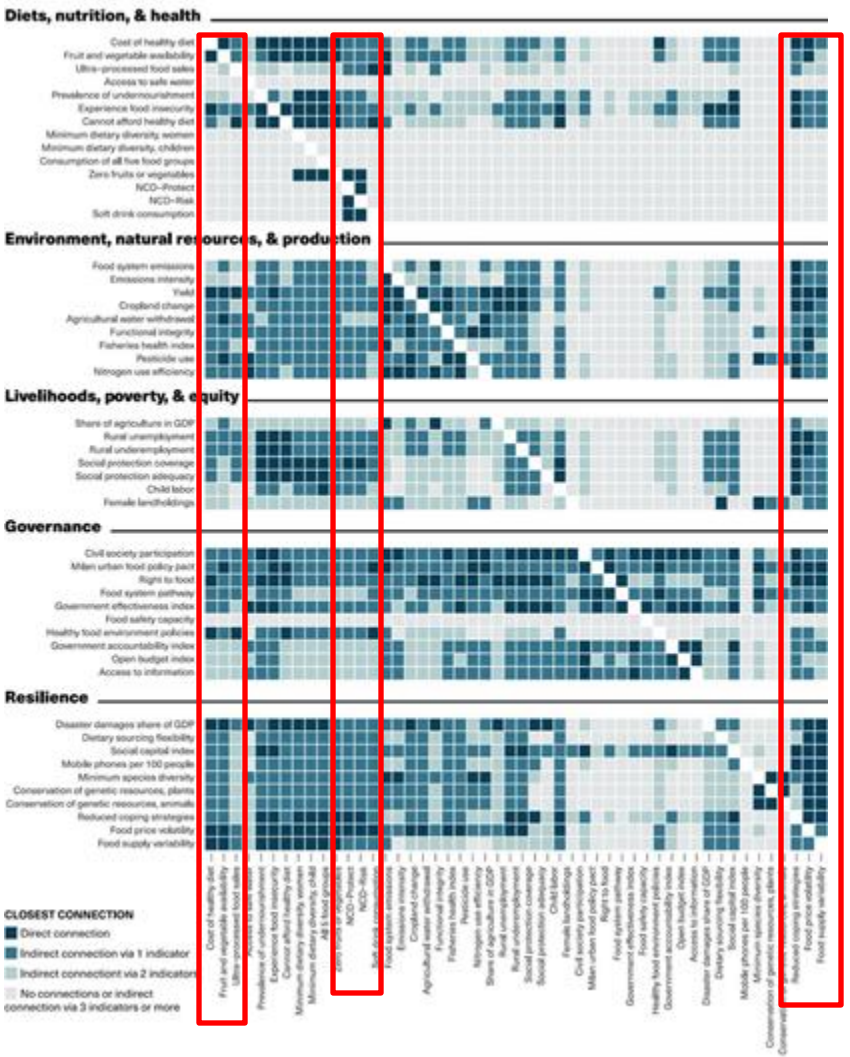


Assessed relationships between indicators

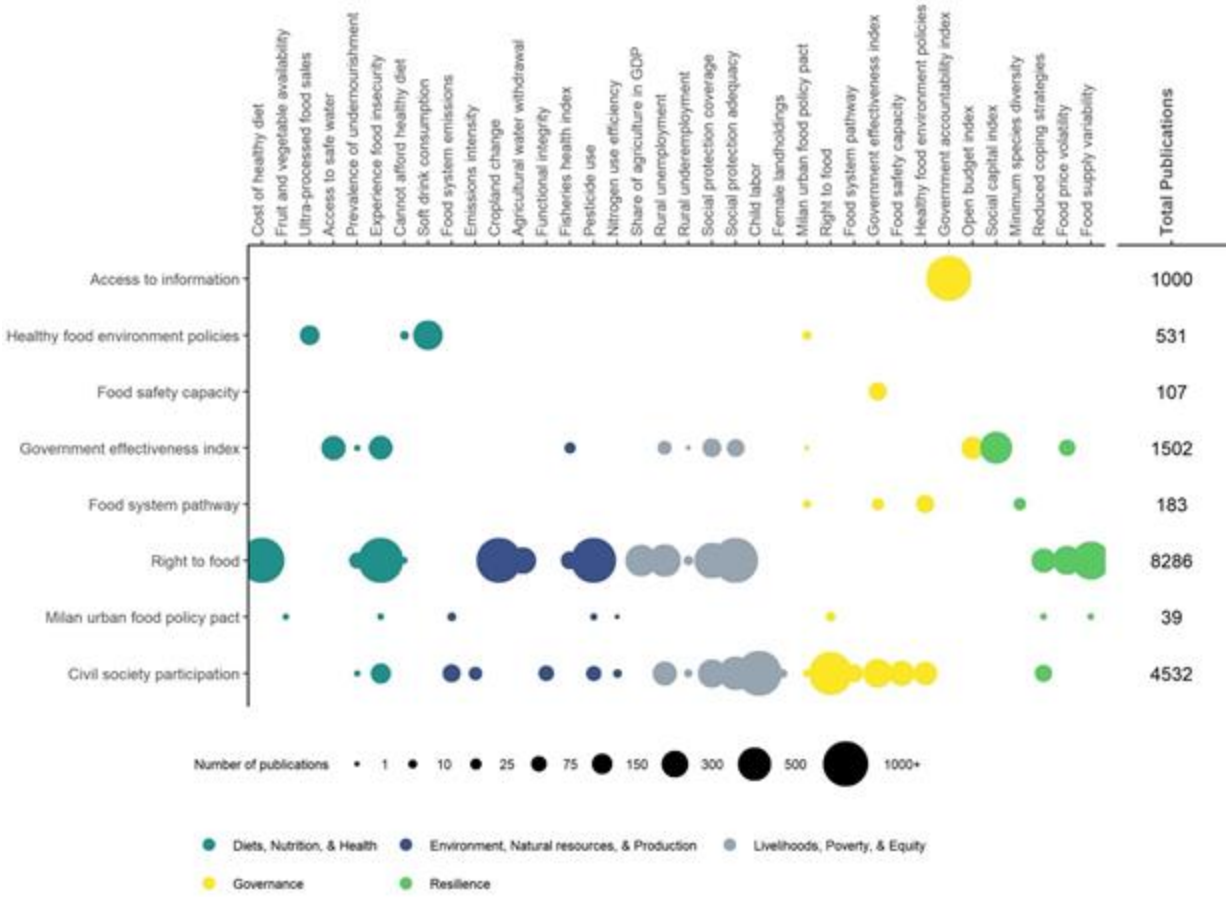
Rows highly connected across columns show where changes in these indicators could have broad impact on others

Assessed relationships between indicators

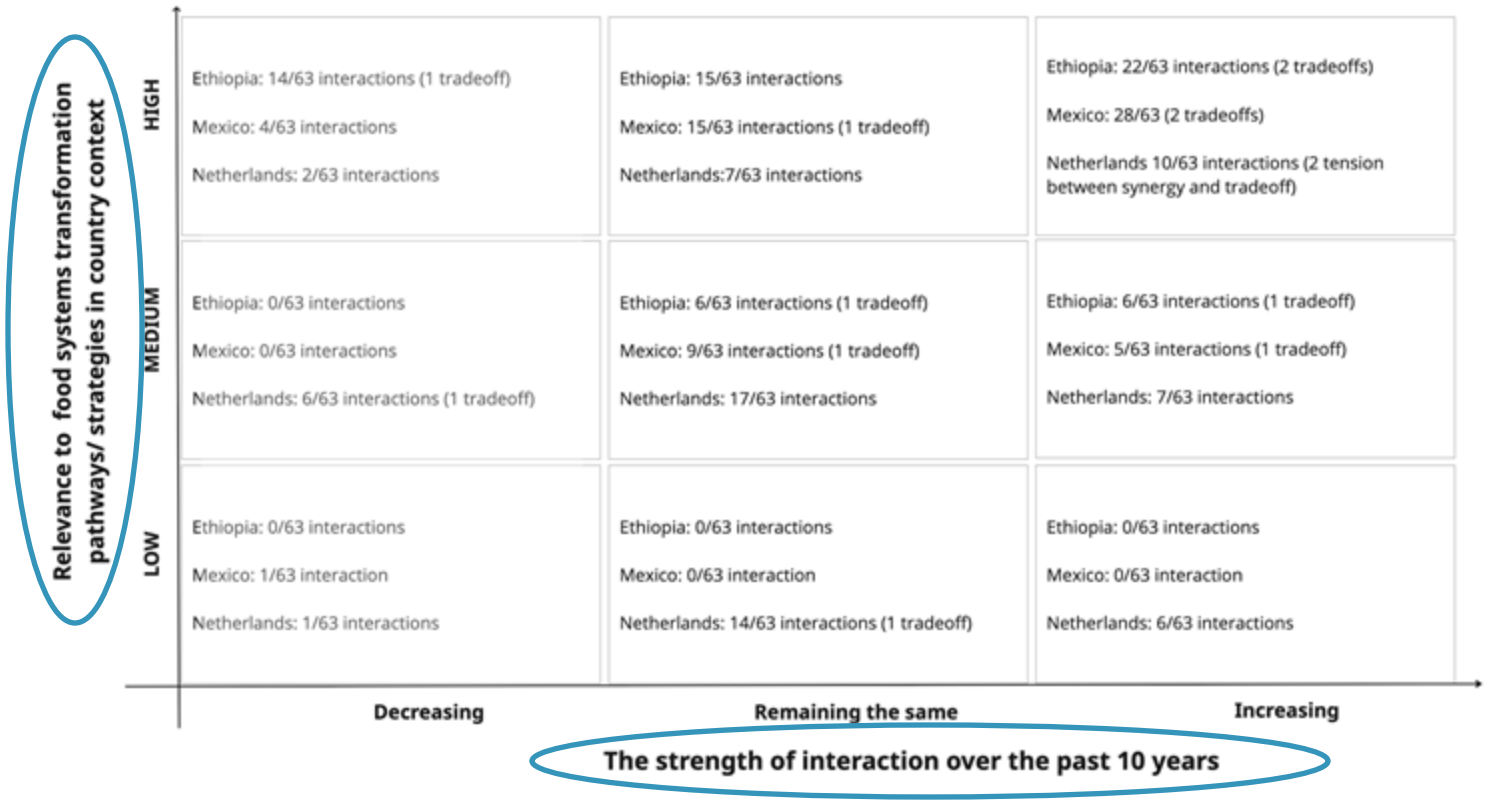
Columns with many influencing rows suggest indicators where multiple coordinated actions are needed to drive change



Volume of literature on direct relationships involving governance indicators



Country case studies on governance related interactions



Country case studies

- Ethiopia & Mexico: most interactions deemed highly relevant to achieve national transformation goals
- Increasing influence of health-related food environment policies on diet and nutrition outcomes in Mexico
- Netherlands context proved very different from Ethiopia and Mexico with less than one-third of the identified global interactions involving governance were viewed as highly relevant to achieving sustainable food systems in the country. Limited political will and industry lobbying were considered as main barriers for change
- Also noted that increased globalization has lessened government power over food systems and made it harder for governments to be effective

Conclusions

- Some parts of food systems are moving in a desirable direction
- Interactions illustrate where there are potential upstream dependencies blocking potential for change
- Governance and resilience indicators have broad influence across the food system, suggesting important leverage points
- Diet and resilience indicators are influenced by many factors, suggesting need for coordinated action

Critical data gaps exist to measure food systems

Economic value

Workers and worker welfare

Levels of market concentration

Policy coherence for transformation

The true cost of food

Food loss and waste

Budgetary allocations

Food safety

Food Systems Countdown Initiative

Food Systems Dashboard

The Food Systems Dashboard
A tool for holistically examining food systems of countries and the world

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What is the Food Systems Dashboard?

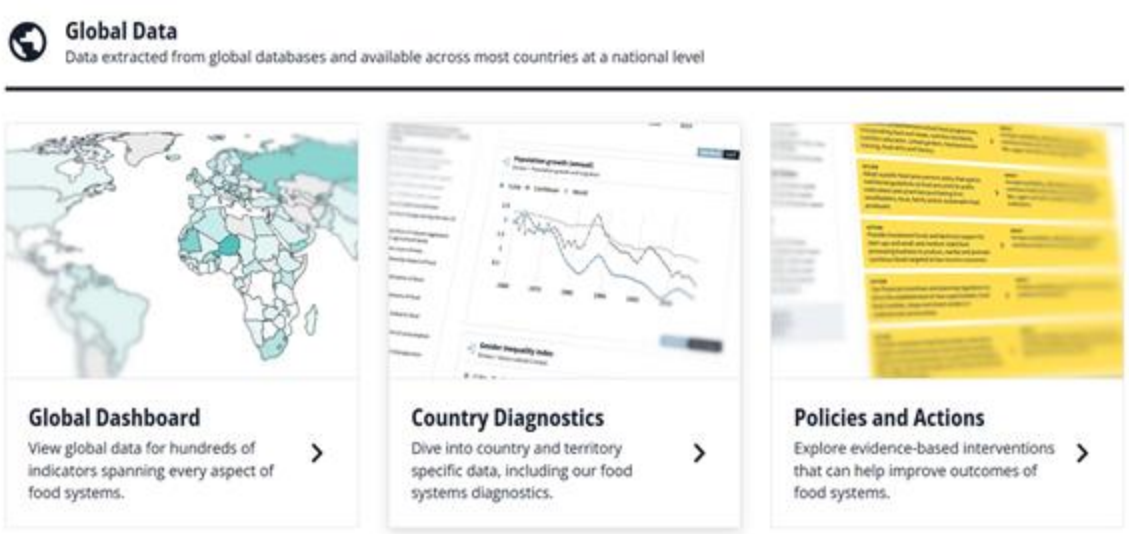
www.foodsystemsdashboard.org

The Food Systems Dashboard, launched in 2020, combines data from multiple sources to give users a complete view of food systems

DESCRIBE: View data for hundreds of indicators spanning every aspect of food systems

DIAGNOSE: Dive into country-specific data, including our diagnostics

DECIDE: Explore evidence-based actions to improve diets, nutrition, and environment



The Dashboard includes almost 300 indicators from over 40 sources, organised through a food systems framework

22 **Drivers**
- Environment and climate change
- Globalization and trade
- Income growth and distribution
- Urbanization
- Population growth and migration
- Policies and leadership
- Socio-cultural context

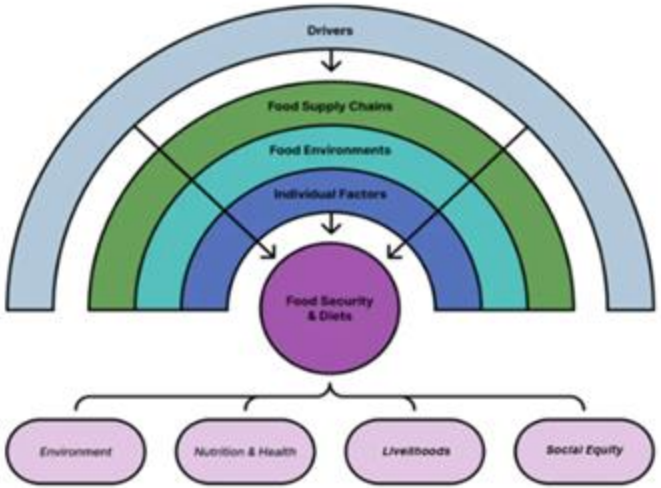
62 **Food Supply Chains**
- Production systems and input supply
- Storage and distribution
- Processing and packaging
- Retail and marketing

61 **Food Environments**
- Food availability
- Food affordability
- Product properties
- Vendor properties
- Food messaging
- Food safety

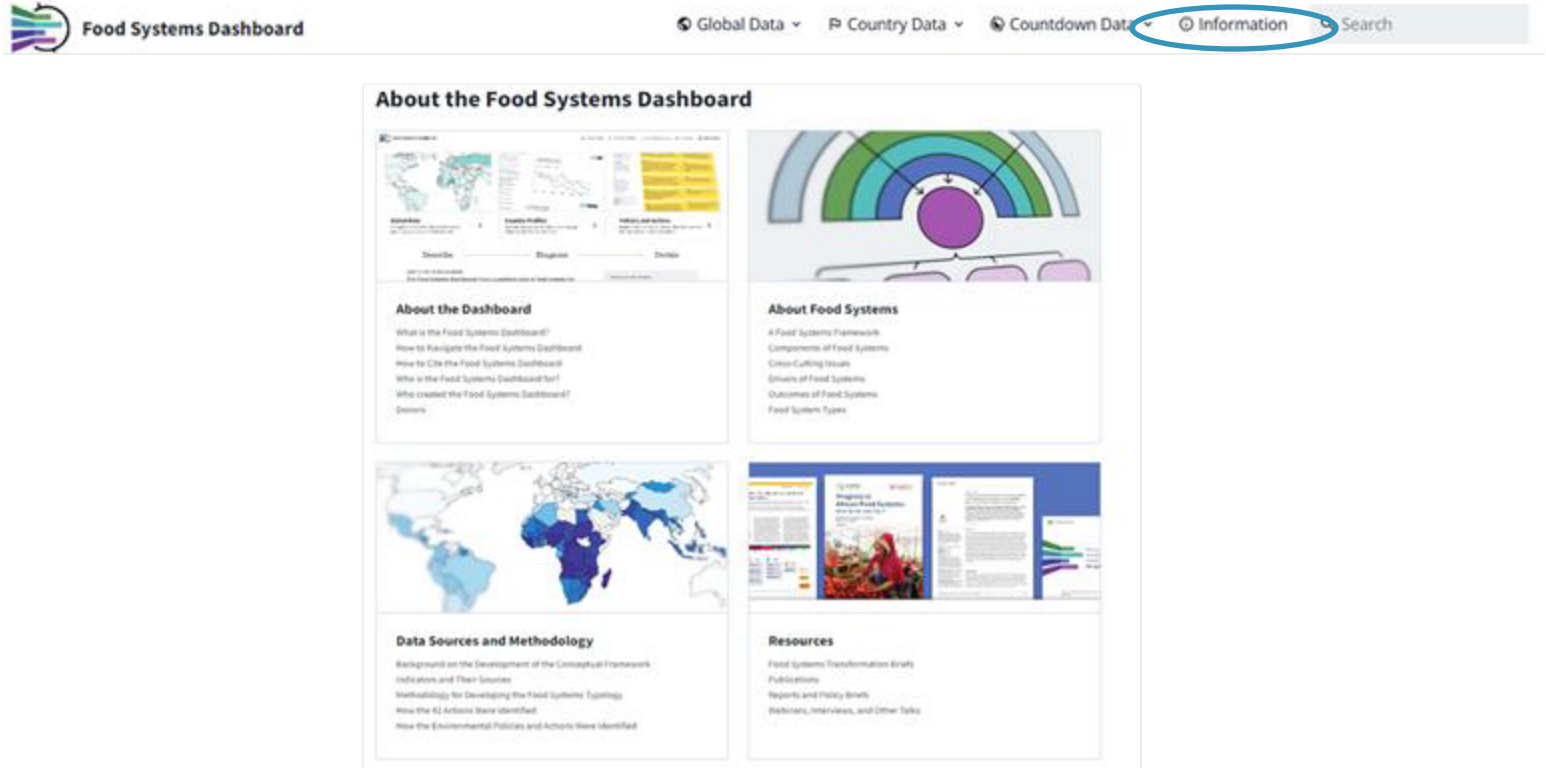
17 **Individual Factors**
- Economic
- Situational
- Behavioural

21 **Cross-Cutting Issues**
- Governance
- Resilience

101 **Outcomes**
- Food security
- Dietary intake
- Infant and young child feeding practices
- Nutritional status
- Noncommunicable diseases
- Livelihoods, poverty, and equity
- Environmental impacts



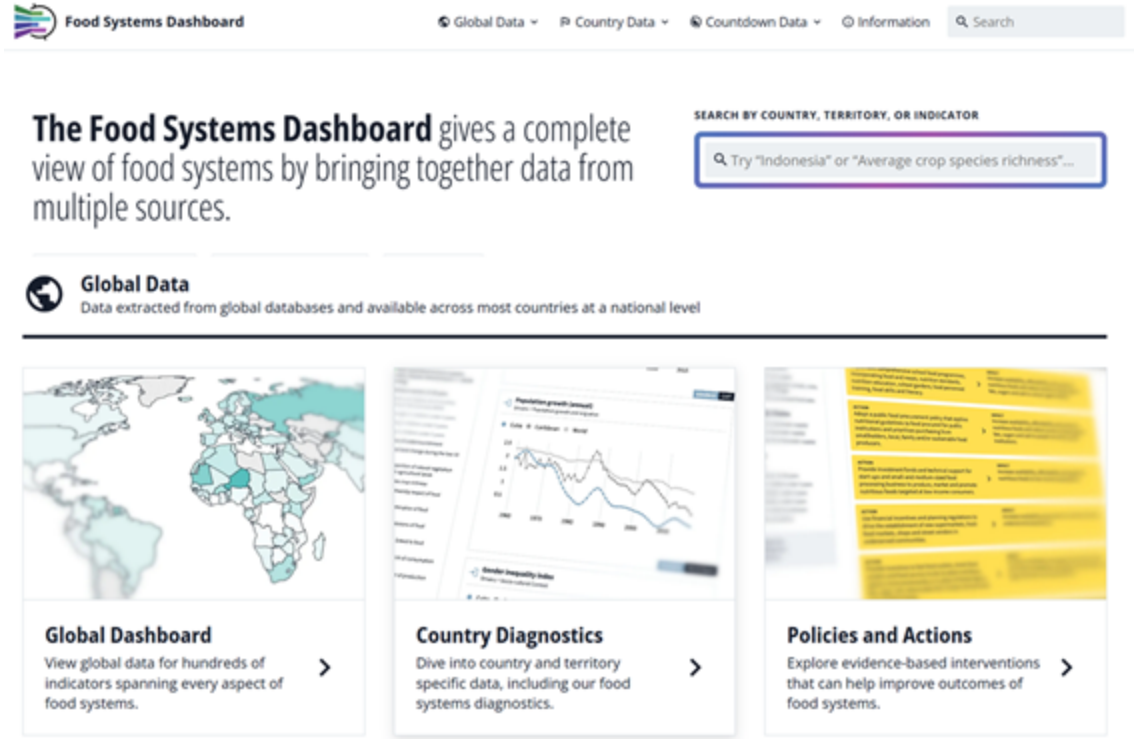
Data sources, methodology, and other resources are also available



The Dashboard enables visual exploration of data across countries and over time

Visualising Global Data

- All indicators can be viewed in a map form, to compare across countries
- To more easily understand relative rankings, data can also be viewed in a bar graph or as a table
- Time trends can also be viewed, where available



Food Systems Countdown Initiative

Food Systems Dashboard

The Countdown data and analysis on the Food Systems Dashboard

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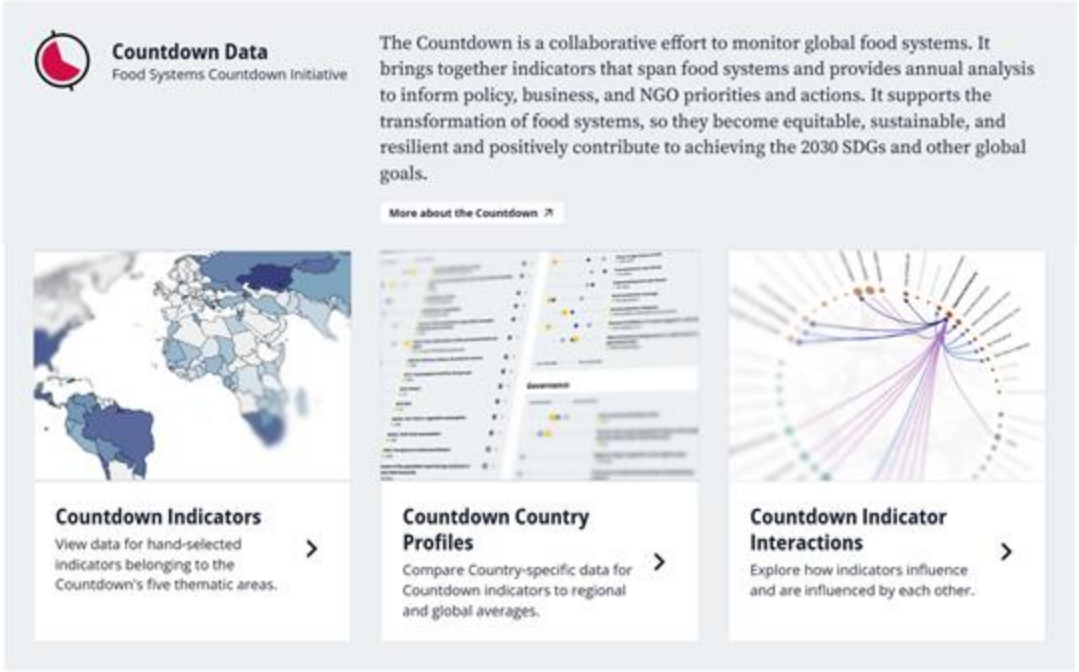

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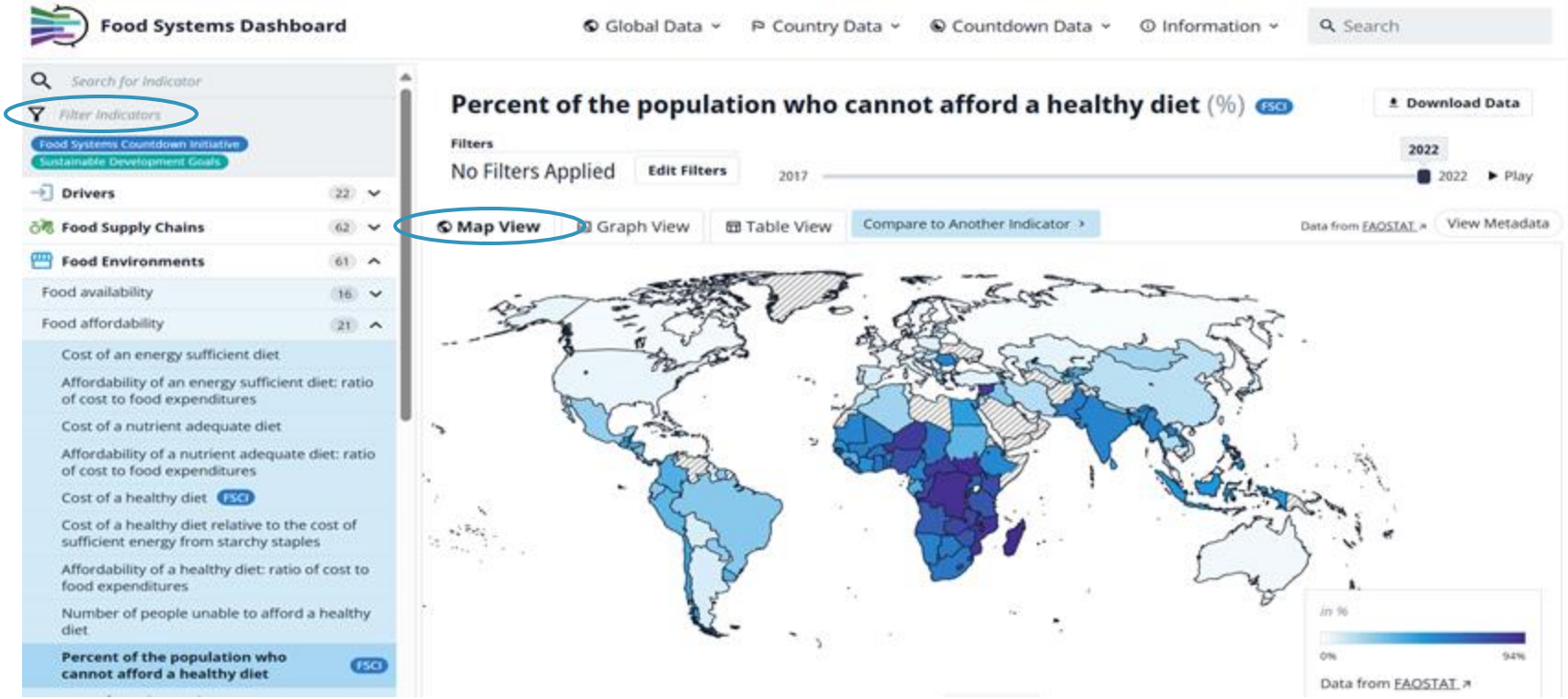
Countdown indicators



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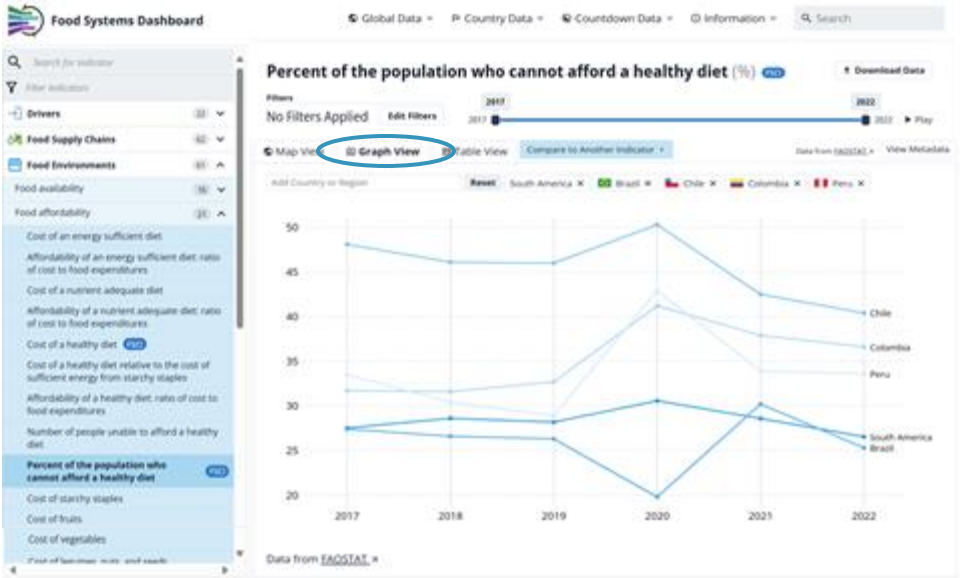
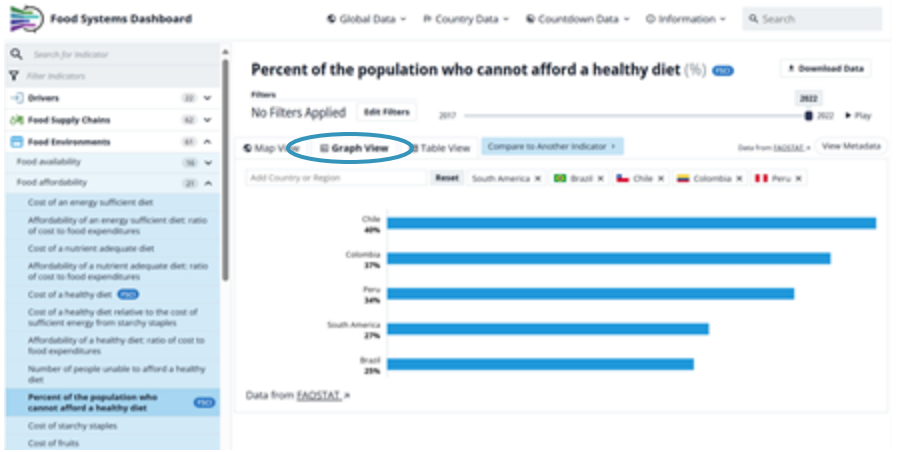
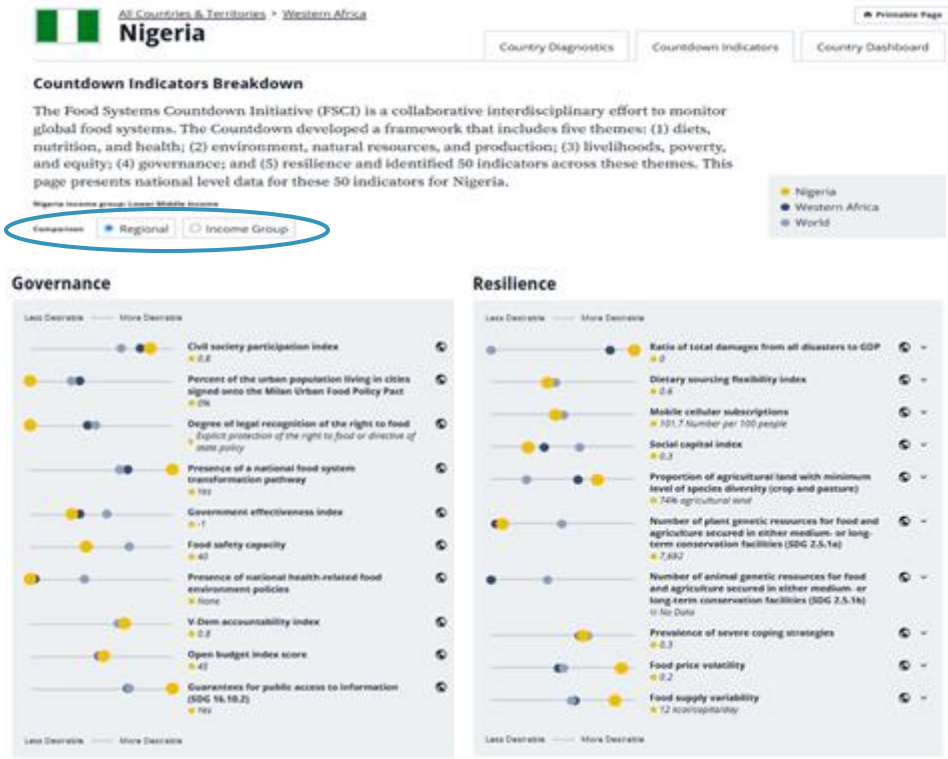
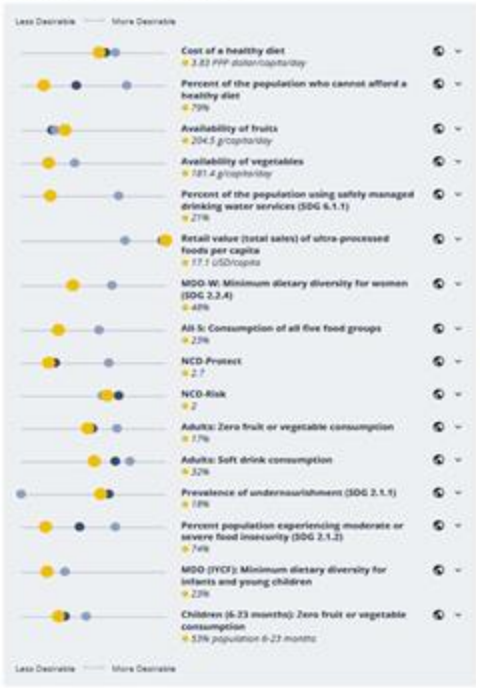


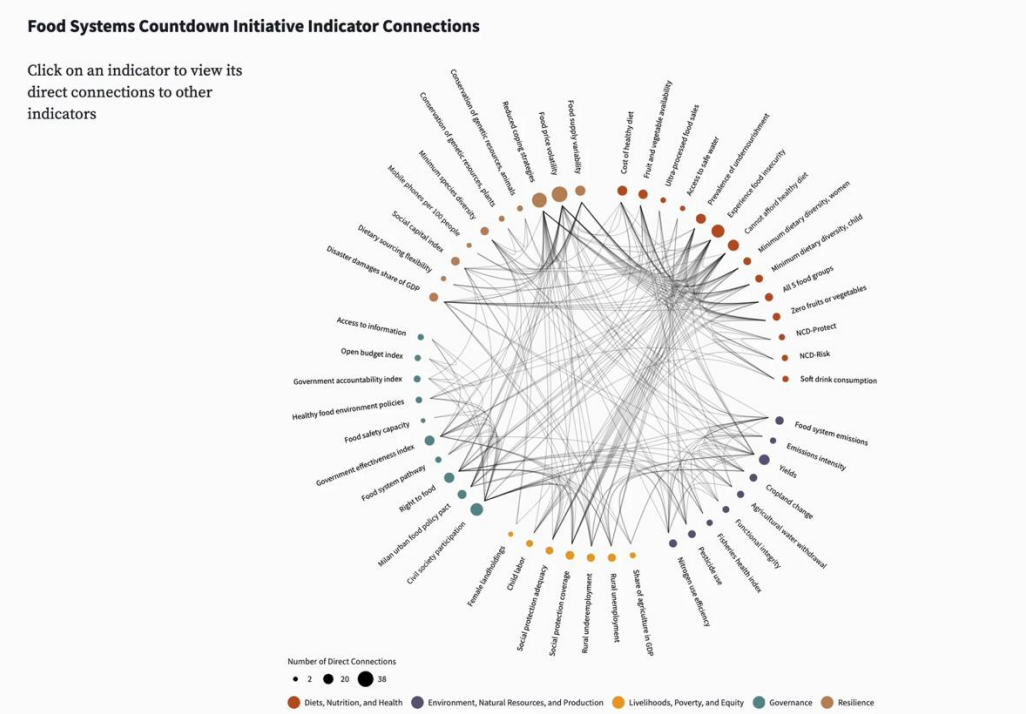


Countdown country profiles





Countdown indicator interactions



Countdown indicator interactions