



Revealing the hidden costs of agrifood systems to enhance their value

Factoring agrifood systems costs and benefits into decisions

Agrifood systems are perpetually changing. Greater agricultural productivity and food trading have reduced hunger and enhanced food security and nutrition. However, agrifood systems have become increasingly fragile and unsustainable, contributing to climate change and natural resource degradation while failing to provide healthy diets to all. Many of these impacts – both positive (e.g. afforestation) and negative (e.g. water pollution) – are not included in the market prices, which shape incentives to produce, process, distribute, consume and dispose of agrifood products. They are thus *hidden* and generally not considered in the day-to-day decisions agrifood actors make.

Managing these hidden impacts is crucial to informing decision-making towards sustainable agrifood systems. **True cost accounting (TCA)** is a useful approach in this regard because it can measure and value the (environmental, social, health and economic) costs and benefits generated by agrifood systems to improve decision-making.

Given that TCA is often hampered by data gaps, methodological limitations and institutional barriers, a **two-phase assessment** is proposed in which available data and information are first analysed to provide an initial understanding of agrifood systems. Such initial analyses can prompt dialogue between relevant stakeholders to identify the most important challenges and the most urgent data gaps to fill to better understand the contexts and guide interventions.

Against this backdrop, phase one starts with national-level TCA assessments to raise awareness and provide stakeholders with a comprehensive understanding of agrifood systems challenges. It then moves towards in-depth and targeted evaluations (phase two) to prioritize intervention areas and guide actions to transform agrifood systems towards sustainability.



KEY MESSAGES

- ▶ Agrifood systems are invaluable to society, but one must also consider their hidden impacts. True cost accounting (TCA) allows estimating the hidden costs and benefits of agrifood systems, providing decision-makers with the evidence needed for their transformation.
- ▶ A national-level TCA assessment for 154 countries reveals that global quantified hidden costs from agrifood systems are highly likely to exceed 10 trillion dollars, revealing the urgent need to factor these costs into decision-making.
- ▶ These new estimates are a first step in raising awareness and should be followed by targeted TCA assessments, needed to inform decision-makers on how to employ levers for a transition towards sustainable agrifood systems.

Preliminary assessment of the hidden costs of agrifood systems for 154 countries

A preliminary TCA analysis for *The State of Food and Agriculture 2023* was conducted to quantify the hidden costs of agrifood systems for 154 countries. It uses national-level data to model impacts and combines these with monetary estimates to value (monetize) the hidden costs. This is the first time hidden costs are provided at national level for as many countries, enabling aggregation and comparison on different dimensions and geographical scales, to be used as a foundation for dialogue with relevant stakeholders.

This exercise is part of a broader strategy by FAO to uncover the hidden costs of agrifood systems to reveal what concrete changes are needed. With this information, we can transform how food travels from farm to table and increase the true value of agrifood systems. Although relative prices may change as

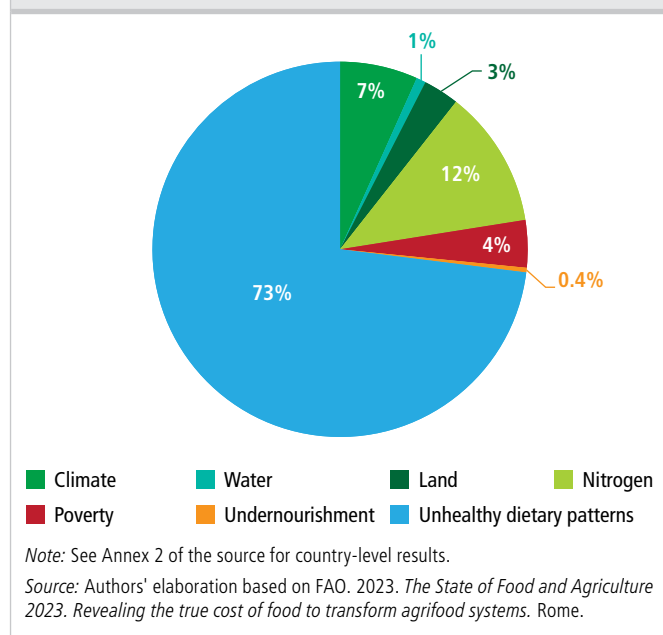
solutions to address the root causes of hidden costs are implemented, families' total expenditures on food does not need to increase.

In this exercise, both hidden costs and benefits are factored in as much as possible, with hidden benefits expressed as *negative* hidden costs (e.g. returned ecosystem services from grassland recovery). Some benefits cannot be monetized (e.g. cultural identity), and are thus excluded from the analysis. Similarly, some hidden costs are omitted due to data gaps, for example, costs associated with child stunting, pesticide exposure, antimicrobial resistance, and illness from unsafe food.

The expected value of the global **quantified hidden costs of agrifood systems is 12.7 trillion 2020 purchasing power parity (PPP) dollars** in 2020. Health hidden costs from unhealthy dietary patterns are the largest contributor to total hidden costs, followed by environmental – largely due to nitrogen and GHG emissions – and social hidden costs from poverty and undernourishment (Figure 1). This figure is equivalent to 10 percent of global GDP. Per day, these costs are equivalent to 35 billion 2020 PPP dollars, or about 4.5 PPP dollars per person every day.

Even when accounting for uncertainty (driven by data gaps), it is estimated that global hidden costs have a **95 percent probability of being 10.8 trillion 2020 PPP dollars or higher**, revealing the undeniable urgency of agrifood systems transformation towards greater efficiency, resilience, inclusiveness and sustainability.

FIGURE 1. Distribution of 12.7 trillion dollars of hidden costs of agrifood systems by sub-category

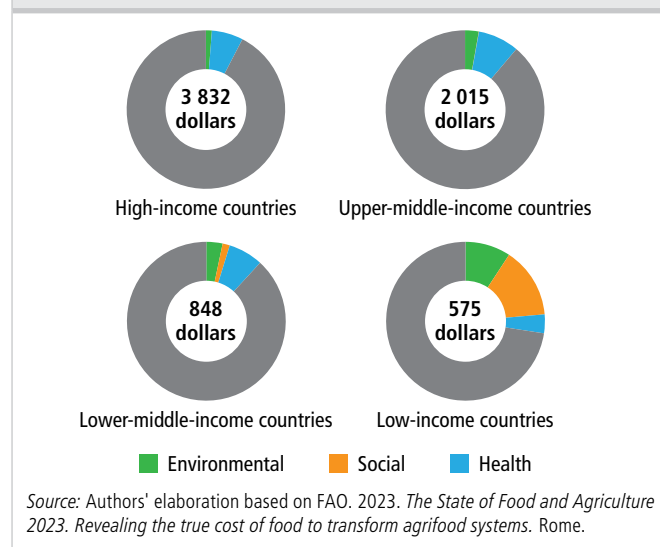


Uncovering country-specific context with targeted true cost accounting assessments

Hidden costs differ in their magnitude and composition by income level. Globally, the majority (75 percent) of the hidden costs of agrifood systems are generated by high-income countries (4.6 trillion) and upper-middle income countries (5 trillion). Lower-middle-income countries account for 22 percent of hidden costs (or 2.8 trillion), while low-income countries make up 3 percent (or 0.4 trillion). Health hidden costs from unhealthy dietary patterns prevail across all income levels, apart from low-income, where social hidden costs due to poverty and undernourishment dominate.

When compared to GDP, however, even though high-income countries generate the highest per person costs (an average of 3 800 dollars), it is on low-income countries that these place the largest burden (Figure 2). They amount to, on average, 27 percent of GDP in low-income countries – a much higher share when compared to middle-income countries (11 percent) and high-income countries (8 percent).

FIGURE 2. Hidden costs share in GDP by income level (average per capita costs at the centre of each circle)



In conclusion, these new national-level estimates are a first step in raising awareness, even if they are incomplete, subject to a high degree of uncertainty and are mute on the costs of transformation. Therefore, targeted and context-specific TCA assessments that also consider the costs of different abatement actions are needed to inform decision-makers on how to leverage policy, regulation, standards, and private capital for a transition towards sustainable agrifood systems. Such targeted TCA assessments will be the focus of *The State of Food and Agriculture 2024*.

