

Section 1: Food Systems

Primer on key food system concepts including descriptions and definitions. The purpose of this section is to introduce the concept of food systems, provide a few definitions and demonstrate how the concept can be used.

Why Understanding Food Systems is Important

Moving beyond cause-and-effect with systems thinking: A systems perspective, when applied to food-related issues, moves beyond simplistic cause-and-effect analyses. It delves into the intricate web of interactions between various components, revealing the underlying, often hidden, root causes. For instance, instead of simply attributing malnutrition to a lack of food, a systems approach explores the socioeconomic factors influencing access to nutritious food, such as poverty, inequality, and market failures. It also considers the environmental factors impacting food production, like soil degradation and water scarcity, and the cultural factors affecting dietary choices. By mapping these interconnected elements, we can pinpoint the systemic drivers of problems like food insecurity, obesity, and food waste, rather than just treating the symptoms.

Facilitating More Effective Interventions

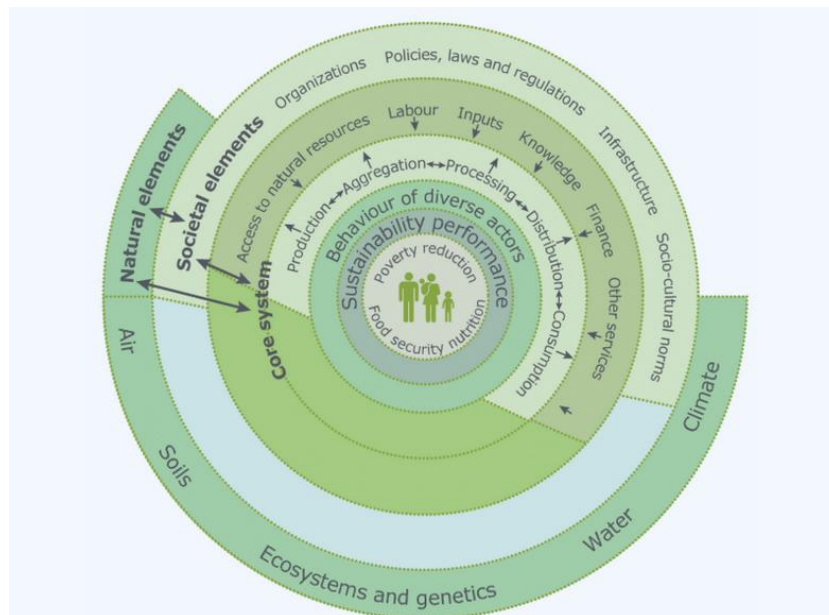
Recognizing Interdependencies for Problem Solving: Understanding the root causes through a systems lens naturally leads to the development of more effective and sustainable interventions. By recognizing the interdependencies within the food system, interventions can be designed to address multiple issues simultaneously. For example, promoting agroecological farming practices can enhance food production while also improving soil health, reducing greenhouse gas emissions, and supporting local economies. Similarly, interventions aimed at reducing food waste can address both environmental and economic concerns. This holistic approach avoids unintended consequences and fosters long-term resilience, ensuring that interventions are not only effective in the short term but also contribute to a more sustainable and equitable food system.

Highlighting Interconnectedness

Connections with Other Systems: Food systems do not exist in isolation. They are deeply intertwined with other sectors, including health, environment, economy, and social equity. A systems approach emphasizes these interconnections, revealing how changes in one sector can ripple through the entire food system. For example, climate change impacts agricultural yields, which in turn affects food prices and food security. Conversely, agricultural practices contribute to greenhouse gas emissions, exacerbating climate change. Furthermore, the health sector is directly affected by the quality and accessibility of food, while the economy is influenced by the efficiency and sustainability of food production and distribution. Recognizing these interdependencies is crucial for developing coherent and integrated policies that address the complex challenges facing food systems.

Examples of Food System Frameworks

FAO Food Systems Wheel



This diagram introduces a circular model, emphasizing the interconnectedness of different components. It adds layers of complexity by categorizing elements into sectors and outcomes.

Key Features: Circular structure with categorized components (e.g., food supply chains, food environments, consumer behaviour), highlighting interactions and outcomes. It highlights the drivers and outcomes of the food system.

Strengths:

- Visually emphasizes the circular and interconnected nature of food systems.
- Categorizes components, facilitating a more structured analysis.

Weaknesses:

- Can still be somewhat abstract, lacking specific local context.
- The circular form can make it difficult to follow specific cause and effect relationships.

Useful for:

- Analyzing the interactions between different sectors of the food system.
- Identifying key drivers and outcomes of food system performance.
- Assessing the sustainability and resilience of food systems.

Centre for Food Policy Food Systems Framework



This is a complex map aiming to capture the full breadth and depth of interactions within a food system. It demonstrates the various systems and elements of the food system with an emphasis on the key themes and concepts in the field.

Strengths:

- Provides a comprehensive and detailed view of the food system.
- Captures complex interactions, feedback loops, and external drivers.

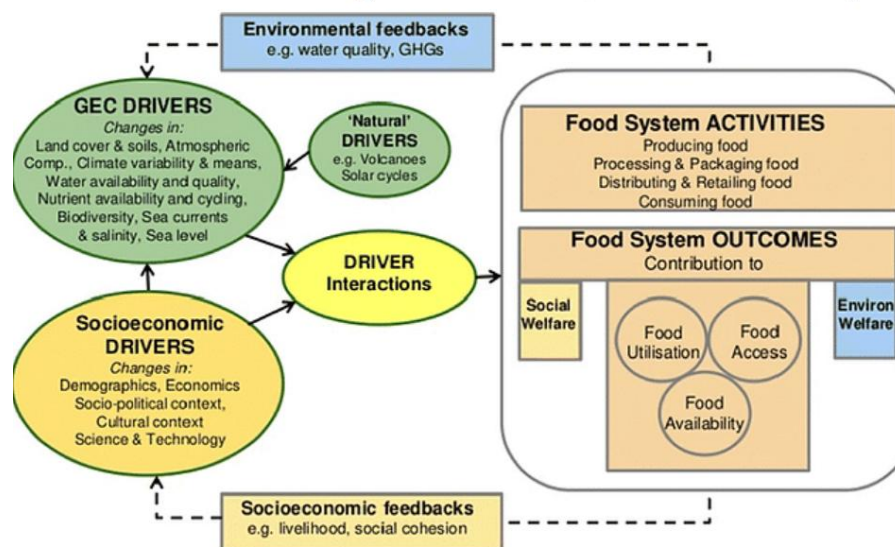
Weaknesses:

- Can be overwhelming and difficult to interpret for non-experts.
- Can be very specific to a local area, and therefore hard to generalize.

Useful for:

- Conducting detailed analysis of specific food system issues (e.g., food waste, urban food security).
- Developing targeted interventions based on a deep understanding of local context.
- Identifying complex interactions and feedback loops that influence system behavior.

Global Environmental Change and Food Systems (GECAFS) Framework



This is a complex systems map depicting the full breadth of interactions within a food system, highlighting global environmental change impact, focusing on the activities in the value chain.

Strengths:

- Provides a detailed view capturing the relationships between drivers and feedbacks.
- Demonstrates the value of specifying details like specific drivers and outcomes.

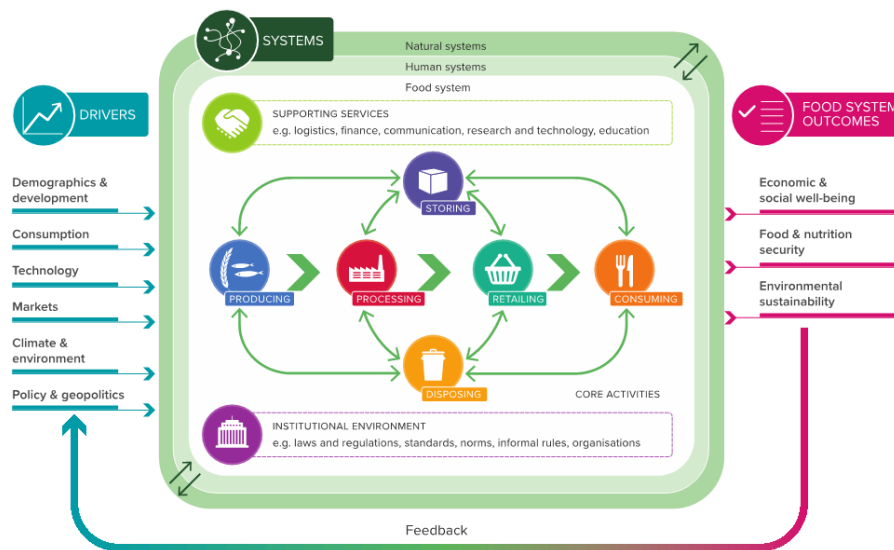
Weaknesses:

- Requires the sharing of the context and purpose of why the food system map was developed.
- Developing implementation pathways can be difficult because of the complexity of the system.

Useful for:

- Identifying complex feedback loops and their impact on policy and action development.
- Conducting detailed analysis of the impact of drivers on food system activities and actors.

Foresight4Food Initiative's Food Systems Framework



This is a complex systems map depicting the food system activities embedded in human and environmental systems, influenced by a range of drivers, and resulting in a set of outcomes. There is a feedback loop connecting the outcomes back to the drivers.

Strengths:

- Provides a simplified view of the key components of a food system.
- Indicates the central role of multiple food system activities in a food system.

Weaknesses:

- Does not unpack and detail the drivers and impacts.
- Suggests a degree of directionality and linearity and may not be helpful for considering complex driver interactions.

Useful for:

- Presenting a canvas to develop more detailed food systems maps and identifying drivers and outcomes relevant to specific contexts.
- Providing a general picture of most food systems maps in terms of key components.

Section 1 Review

Before moving on, take a moment to reflect on what you've learned in this section. Consider the following questions as a way to review the material and think about how you can apply these concepts in real-world situations:

Question 1: Using an example from your portfolio, how can you describe or illustrate a food system that incorporates the concepts you've learned in this course?

Question 2: Using an example from your portfolio, how can your work benefit from a food systems-thinking approach?

In the next section, we will be exploring the importance of identifying a problem in a complex situation.

Sources

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