

Food System Resilience and Implications for Health Equity: Integrative Policy Design for Sustainable Development Goals

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ABSTRACT

In recent years, the intersection of food system resilience and health equity has emerged as a crucial area of inquiry within global public health and sustainable development discourses. The principle of health equity—defined as socially produced, avoidable, and unjust differences in health outcomes—underscores the need to address broader structural, social, and environmental determinants of health. This study employs a qualitative literature review method to explore theoretical and empirical linkages between resilient food systems, health equity, and the Sustainable Development Goals (SDGs). Findings reveal that food systems influence more than food availability and access; they also shape labor conditions, gender equity, mental health, and community resilience to crises. Additionally, the concept of food sovereignty emerges as a valuable complement to mainstream food security frameworks, particularly for Indigenous and marginalized populations. The analysis concludes that achieving just and resilient food systems requires integrative, cross-sectoral policy design that embraces participatory governance, equity-centered strategies, and systemic thinking. This review offers a conceptual foundation for designing transformative interventions that align public health objectives with food system resilience and global sustainability goals.

Keywords: food system resilience, health equity, sustainable development, integrative policy design, food sovereignty, SDGs

1 Introduction

Amid ongoing transformations in global public health, the last ten years have seen a growing scholarly and policy-oriented interest in health equity, now widely acknowledged as a foundational component of sustainable development initiatives. As articulated by Braveman et al. (2011), health equity embodies “social justice in health,” highlighting a moral obligation to create conditions that enable every individual to reach optimal health regardless of their background. This perspective underscores that health is profoundly influenced by broader structural and systemic variables—encompassing social, economic, and environmental contexts—rather than being solely dependent on individual choices or access to medical care (Marmot & Wilkinson, 2006; Dahlgren & Whitehead, 2006; Exworthy et al., 2006; Exworthy, 2008; Raphael et al., 2008; Navarro, 2009).

Addressing health equity extends beyond technical solutions; it is fundamentally a normative issue. From an ethical standpoint, health disparities are viewed as unjust when they are preventable through practical interventions (Norheim & Asada, 2009). This moral lens demands purposeful public policies that can lessen inequality without compromising broader goals like population-wide health or core societal values. In practice, this means policymakers must carefully navigate the tension between targeted equity measures and overarching social objectives—especially in complex areas like the food system.

The food system plays a pivotal role in shaping health outcomes but is often undervalued in public health discourse. Its structure and function are influenced by a wide array of stakeholders—from

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agricultural producers to consumers and regulators—each guided by different, and sometimes opposing, priorities such as economic gain, environmental sustainability, food justice, or cultural autonomy. Consequently, food systems are not merely economic mechanisms but also serve as arenas of cultural and political negotiation, affecting what food is produced, who accesses it, and how fairly and sustainably it is distributed (Wallace et al., 2022).

Given today's multifaceted global challenges—ranging from climate change and pandemics to financial volatility and political unrest—resilience in food systems has become an increasingly vital concept. Resilience refers to the ability of these systems to withstand disruptions while still ensuring food availability and nutritional adequacy. However, resilience is inherently value-laden, often involving trade-offs between sustainability, equity, and economic efficiency. Furthermore, stakeholders across different regions and governance levels may have conflicting views on what outcomes should be prioritized (Wallace et al., 2022).

In this context, building resilient food systems that also foster health equity requires a pluralistic and inclusive policy approach. Such strategies must integrate multiple forms of knowledge and value systems while enabling transparent governance and flexible, adaptive responses to change (Wallace et al., 2022). These efforts should align with the Sustainable Development Goals (SDGs), which advocate for coordinated actions across sectors to eliminate poverty, reduce hunger, improve health outcomes, and combat inequality (UN-SDG Review, 2023).

Health promotion values—particularly those centered on equity and justice—stress the need to consider not only physical or material conditions but also the broader socio-cultural, spiritual, and economic realities that influence human well-being. Therefore, advancing both food system resilience and health equity calls for transformative policy models that move beyond siloed governance and prioritize inclusive, integrated public health strategies. Such an approach will be critical in realizing societies that are healthier, more equitable, and environmentally sustainable.

2 Literature Review

Food systems encompass “all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation consumption [and waste management] of food, and the output of these activities, including socioeconomic and environmental outcomes” (HLPE, 2017). In low and middle-income countries (LMICs), local food systems are both comprised of, and benefit, many of the world's poorest citizens (Smith, 1998; Gómez et al., 2013).

3 Research Methods

This study adopts a literature review method to systematically explore the theoretical and empirical intersections between food system resilience and health equity, especially as they relate to the broader agenda of the Sustainable Development Goals (SDGs). A literature review is a qualitative research approach that synthesizes existing scholarly and grey literature to identify trends, gaps, and critical insights (Snyder, 2019). This method is particularly suitable for multidisciplinary topics where knowledge is dispersed across fields such as public health, environmental sustainability, food policy, and social justice.

The methodology involves a structured process of identifying, selecting, and analyzing literature from databases such as Scopus, Web of Science, and PubMed, using keywords like “health equity,” “food system resilience,” “sustainable development,” and “integrated policy.” Inclusion criteria include relevance to the core themes, publication within the past 20 years (where applicable), and scholarly credibility. Content will be analyzed using thematic synthesis to identify overlapping concepts, gaps in knowledge, and implications for policy.

By synthesizing findings from diverse sources, this literature review aims to construct a conceptual framework for understanding how resilient food systems can be designed and governed in ways that also promote health equity. The review will help reveal existing policy tensions, support the identification of promising integrative models, and suggest areas for future empirical investigation.

4 Results and Discussion

In recent years, global attention has increasingly focused on how social justice, health equity, and food systems intersect within public policy. Health equity, which refers to health disparities that are unjust, preventable, and rooted in social conditions (Braveman et al., 2011), has emerged as a vital focus within health promotion efforts and broader policy agendas.

An expanding body of research has investigated how dimensions such as food insecurity, labor exploitation within food supply chains, and ecological degradation are intricately connected to the broader social determinants of health. Through a meta-narrative synthesis, Wallace and colleagues (2022) identified eight key mechanisms through which food systems influence health equity—ranging from workplace hazards and dietary exposures to systemic governance and political structures. These findings reinforce the necessity of adopting a systems-thinking lens to both understand and address these multifaceted relationships.

In parallel, there has been rising advocacy for food sovereignty—the principle that communities should have the right to shape and control their own food systems—as a critical counterpart to the more widely accepted concept of food security. While food security continues to dominate the discourse (reflected in its significantly higher citation count), food sovereignty has shown promising outcomes in strengthening community adaptability, preserving cultural identity, advancing gender justice, and supporting equitable nutrition (Wallace et al., 2022). This approach is particularly important for Indigenous and historically marginalized groups, whose health and identity are tightly connected to land stewardship, food traditions, and self-determination.

In conflict-prone or resource-limited settings, efforts to align health and food system strategies with the Sustainable Development Goals (SDGs) have leveraged solutions such as mobile health units, local health worker initiatives, and infrastructural improvements to enhance access to essentials like clean water, food, and healthcare. These interventions underscore the power of cross-sector collaboration—especially when built on community involvement and a foundation of equity—to drive progress on SDG 2 (Zero Hunger) and SDG 3 (Good Health and Well-being) (UN-SDG Review, 2023).

Collectively, this evidence base calls for a more cohesive and inclusive policy architecture that unites food system transformation with health equity and sustainable development imperatives. Such policies must be rooted in justice, inclusivity, and responsiveness to local realities, while also being capable of addressing the interlinked dynamics across geographic scales and political contexts. Advancing food systems that are equitable, resilient, and sustainable will depend on pluralistic, community-informed approaches that foreground structural determinants and lived experiences.

5 Conclusion

This review underscores that advancing health equity is inseparable from systemic reform in global food systems. Food system resilience entails not only the ability to withstand shocks and disruptions but also the capacity to ensure equitable access to nutritious food, decent livelihoods, healthy environments, and culturally appropriate practices. While conventional approaches have predominantly focused on food security, the inclusion of food sovereignty frameworks brings critical attention to issues of power, justice, and community self-determination.

Integrating core values from health promotion—such as equity, justice, and participation—into food system governance allows for policy solutions that are not only technically sound but also socially transformative. In alignment with the Sustainable Development Goals, particularly SDG 2 (Zero Hunger) and SDG 3 (Good Health and Well-being), effective policy design must be cross-sectoral, inclusive, and context-sensitive, capable of navigating trade-offs and fostering long-term sustainability. Moving forward, evidence-based, integrative policy frameworks that center structural determinants and community experiences are essential for building food systems that are not only resilient, but also just and health-promoting for all.

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