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Addressing Hunger Through the Lens of the Informal Economy in Developing Countries

Saada Reuveni

Researcher in economics and business in developing countries

saadare@gmail.com

Abstract. This study investigates the relationship between informal economies and food security in developing countries, focusing on how informal markets and smallholder farmers contribute to food accessibility while also facing systemic vulnerabilities. A cross-sectional quantitative design was applied to a dataset of 23 countries across Africa, Asia, and Latin America, assessing correlations between informal employment and the Global Food Security Index (GFSI). Complementary case studies from diverse regions illustrate real-world challenges and adaptive strategies within informal food systems. Statistical analysis revealed a significant negative association between high levels of informal employment and lower GFSI scores, with $R^2 = 0.45$ and a Pearson correlation coefficient of 0.67 ($p < 0.01$). Case studies highlighted how infrastructure gaps, income volatility, and climate vulnerability reduce food security, but also demonstrated positive outcomes where interventions - such as mobile-based market platforms, women-led cooperatives, and microfinance initiatives-have strengthened resilience. The findings emphasize that informal markets, while critical to daily food access, remain highly vulnerable without institutional support. Policies that integrate informal actors into national strategies, expand financial inclusion, and invest in climate-smart infrastructure are essential. Bridging formal and informal systems is necessary to achieve sustainable, inclusive food security.

Keywords. Informal economy, Food security, Smallholder farmers, Supply chain inefficiencies
Income volatility, Climate resilience

Chapter 1: Introduction – Hunger and the Informal Economy

Hunger remains one of the most urgent global challenges of the 21st century, disproportionately affecting developing countries. Despite gains in agricultural productivity and economic growth, an estimated **735 million people were undernourished in 2022**, according to the Food and Agriculture Organization (FAO, 2022). Hunger is not only about insufficient calories; it also reflects lack of access to safe, nutritious, and diverse foods—conditions that contribute to malnutrition, stunting, and heightened vulnerability to disease. The persistence of hunger highlights deep systemic inequities and underscores how far the world is from achieving **Sustainable Development Goal 2 - Zero Hunger by 2030** (FAO, 2022).

Among the drivers of food insecurity—climate change, conflict, poverty - the **informal economy** plays a complex and often overlooked role. Defined by the International Labour Organization (ILO) as economic activity not regulated by the state, the informal

economy encompasses small-scale farming, street vending, casual labor, and unregistered enterprises (ILO, 2018). In many developing regions, it accounts for **up to 60% of employment and nearly 40% of GDP**, serving as both a survival mechanism and a source of structural vulnerability (ILO, 2021).

Workers in the informal sector lack access to social protections, legal safeguards, and stable contracts. This exposes them to **income volatility, exploitation, and exclusion from credit and insurance systems**, with direct consequences for food access (ILO, 2024). For instance, inconsistent and low earnings prevent households from securing regular nutritious meals, while limited bargaining power in informal food markets results in low farm-gate prices for smallholders and higher costs for consumers.

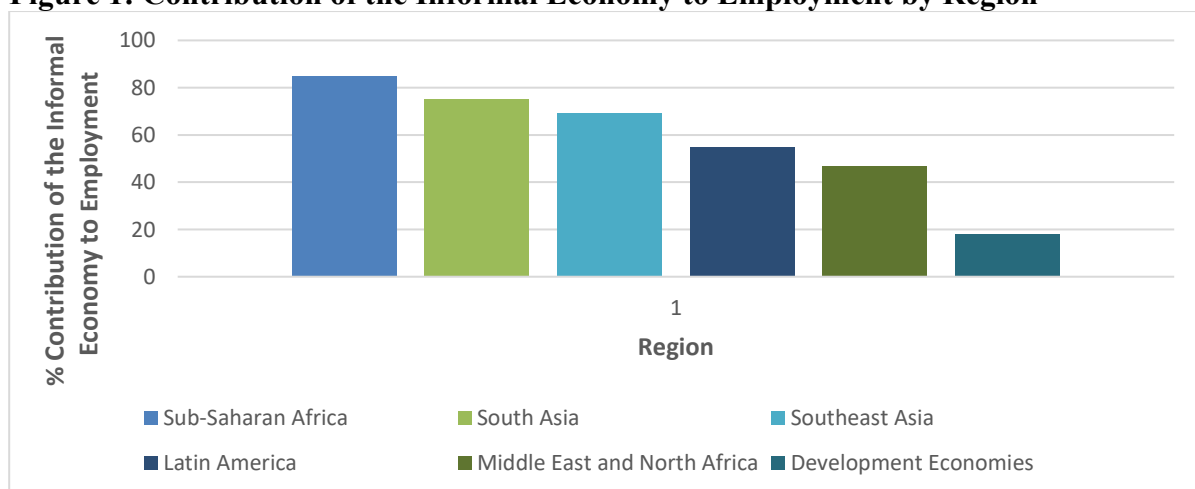
The connection between hunger and informality is further compounded by **gender disparities and urbanization**. Women, who dominate informal agricultural and market work, often face unequal wages and limited decision-making power, reinforcing cycles of malnutrition and poverty (UN Women, 2021). Meanwhile, rapid rural–urban migration has led to the growth of informal settlements where residents rely heavily on unregulated vendors. These communities frequently encounter **higher food prices, lower quality, and weak infrastructure**, deepening food insecurity (UN-Habitat, 2021).

Despite these challenges, the informal economy also serves as a **critical safety net**. Informal markets ensure affordable food access for low-income populations and generate employment where formal systems fail. Evidence from Sub-Saharan Africa, South Asia, and Latin America shows that informal food systems remain indispensable to the survival of millions (Amoah, 2024).

Figure 1 illustrates regional disparities in informal employment, with the highest rates recorded in Africa and South Asia, where informality exceeds 80–90% in some countries (ILO, 2024; Wikipedia, 2023).

The informal economy’s dual role - as both a lifeline and a barrier - makes it central to any meaningful response to hunger. Understanding these dynamics is essential for designing **inclusive policies** that reduce vulnerability, enhance livelihoods, and strengthen food systems. Addressing hunger in developing countries therefore requires moving beyond traditional agricultural and economic reforms to directly confront the realities of informality.

Figure 1: Contribution of the Informal Economy to Employment by Region



Source: International Labour Organization (ILOSTAT), 2019–2022; Wikipedia, 2023. Data reflects most recent available estimates. Actual values may vary by dataset.

Chapter 2: Methodology and Analysis

While the informal economy is widely recognized as central to livelihoods in developing countries, its implications for food security remain insufficiently quantified. This chapter introduces the methodological framework used to examine this relationship, focusing on how varying levels of informal employment across 23 countries influence national food security outcomes. The study employs a cross-sectional quantitative design, drawing on internationally recognized datasets to ensure analytical rigor and comparability. By combining regression modeling with regional case observations, the analysis not only uncovers the statistical association between informality and food security but also situates these findings within broader socioeconomic contexts. In doing so, the chapter establishes the empirical foundation for the thematic discussions that follow and provides evidence relevant for both academic inquiry and policy interventions aimed at reducing hunger and strengthening resilience.

2.1 Research Design, Data Sources and Variables

The analysis adopts a **cross-sectional quantitative design** to assess the relationship between the share of informal employment and the Global Food Security Index (GFSI) across 23 countries in Africa, Asia, and Latin America. The key objective is to evaluate whether high levels of informal employment are statistically associated with lower food security outcomes at the national level.

Data Source- Data were drawn from multiple authoritative sources:

Informal Employment Data: International Labour Organization (ILOSTAT), Statista (Galal, 2023), regional labor force surveys, and country reports.

Food Security Data: Global Food Security Index (GFSI) 2022, compiled by the Economist Intelligence Unit, incorporating affordability, availability, quality, and resilience.

Literature Support: IMF (Deléchat & Medina, 2020) and World Food Programme country briefs, which provide conceptual grounding.

Countries were selected based on data availability and regional balance, ensuring coverage of both low-income and middle-income economies.

Variables:

Dependent Variable: Global Food Security Index (GFSI) Score (2022), ranging from 0–100, where higher values indicate stronger food security.

Independent Variable: Share of Informal Employment (% of total employment), representing the portion of workers excluded from formal labor protections.

Descriptive Evidence

Understanding the role of the informal economy in food accessibility requires a close examination of descriptive data—both quantitative and qualitative—drawn from national labor statistics, market surveys, and household-level studies. This section presents a baseline overview of informal employment rates, food expenditure shares, and the prevalence of informal food markets across developing countries. It also highlights regional disparities and gender dimensions, providing empirical grounding for subsequent analysis. By mapping these patterns, we gain clearer insight into the structural characteristics that shape food security outcomes in informal contexts.

Table 1 summarizes country-level statistics, showing that nations with high informal employment—such as Uganda, Tanzania, and Benin (above 90%)—report some of the lowest GFSI scores (<50). Conversely, countries with relatively low informality, such as Costa Rica and Brazil (<40%), display higher food security outcomes (>65).

Figure 2 visualizes this relationship through a scatter plot, with the regression line demonstrating a clear negative slope, reinforcing the descriptive evidence of an inverse relationship between informality and food security.

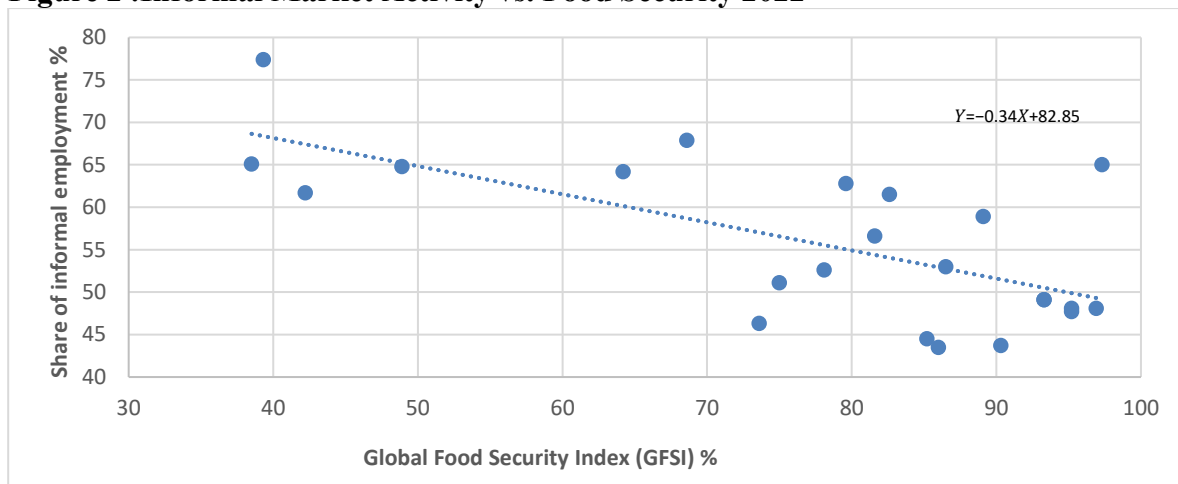
Table 1 :Informal Market Activity and Global Food Security Index (2022)

Country	Share of Informal Employment (%)	GFSI ¹ Score (% , 2022)	Country	Share of Informal Employment (%)	GFSI ² Score (% , 2022)
Uganda	95.2	48.1	Honduras	82.6	61.5
Tanzania	93.3	49.1	Nicaragua	81.6	56.6
Angola	90.3	43.7	Kenya	86.5	53.0
India	89.1	58.9	Ghana	78.1	52.6
Zambia	86.0	43.5	Botswana	75.0	51.1
Vietnam	68.6	67.9	Benin	96.9	48.1
El Salvador	64.2	64.2	Niger	73.6	46.3
Argentina	48.9	64.8	Kenya	86.5	53.0
Costa Rica	39.3	77.4	Ghana	78.1	52.6
Brazil	38.5	65.1	Botswana	75.0	51.1
Dominican Republic	97.3	65.0	Benin	96.9	48.1
South Africa	42.2	61.7			

¹ **The Global Food Security Index (GFSI)**- is the pre-eminent source of intelligence on the drivers of global food security. Developed by Economist Impact and supported by Corteva Agriscience, it evaluates food security in 113 countries across four key pillars: affordability, availability, quality and safety, and sustainability and adaptation. The index is based on a dynamic benchmarking model constructed from 68 qualitative and quantitative drivers of food security (GFSI, 2022). https://impact.economist.com/sustainability/project/food-security-index/resources/Economist_Impact_GFSI_2022_Global_Report_Sep_2022.pdf

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Figure 2 :Informal Market Activity vs. Food Security 2022



Sources for Table 1 and Figure 2: Galal, 2023; Economist Group, 2022; Deléchat & Medina, 2020.

2.2 Analytical Approach, Estimation Results and Limitations

The statistical analysis used a **bivariate Ordinary Least Squares (OLS) regression** model:

$$GFSI_i = \beta_0 + \beta_1(\text{Informal Employment}_i) + \epsilon_i$$

Where:

$GFSI_i$ is the food security score of country i ,

$\text{Informal Employment}_i$ is the percentage of informal labor in country i ,

β_1 is the slope coefficient representing the effect of informality on food security,

ϵ_i is the error term.

Regression estimation was performed in Python using **NumPy** and **Statsmodels** libraries.

The regression analysis yielded the following results:

Slope coefficient (β_1): -0.34 → each percentage-point increase in informal employment is associated with a 0.34-point decline in GFSI score.

$R^2 = 0.45$ → 45% of the variation in GFSI scores is explained by informality levels.

Pearson correlation (r): -0.67 → confirming a moderately strong inverse linear relationship.

Significance: The relationship was statistically significant at the 0.01 level ($p < 0.01$).

These findings strongly support the hypothesis that **informality undermines food security outcomes**.

Limitations:

Confounding Factors: The analysis does not control for GDP, education, infrastructure, or governance, which may also affect food security.

Cross-Sectional Nature: Results capture associations but not causality.

Data Gaps: Informality figures are not continuously available, relying on the most recent estimates (2018–2022)

2.3 Regional Observations

Sub-Saharan Africa: Countries like Uganda, Tanzania, and Zambia, with informality >85%, record some of the lowest food security scores, reflecting weak formal labor structures and fragile food systems.

Latin America: Costa Rica and Brazil, with informality below 40%, show relatively high GFSI scores, suggesting stronger institutional capacity.

Asia: India and Vietnam fall in the middle range, highlighting regional diversity in informality's impact.

Outliers such as the Dominican Republic (97% informality but relatively high GFSI score) suggest that **external factors**- including remittances and food import capacity- can offset the adverse effects of high informality.

The analysis provides robust evidence that **informal labor markets negatively affect national food security outcomes**. This underscores the urgent need for policies that strengthen labor protections, support gradual formalization, and reinforce food governance systems. Such measures are critical for reducing hunger and building resilience in developing economies.

Chapter 3: The Informal Economy and Food Accessibility

In developing countries, the informal economy plays a central role in shaping food accessibility for millions of people. This chapter examines three interlinked dynamics: the influence of informal employment on income stability and purchasing power, the role of informal markets in food availability and affordability, and illustrative case studies that highlight the sector's adaptability and challenges.

Informal employment is typically defined by the absence of contracts, social protection, and regulatory oversight. Workers in this sector often face income volatility, with fluctuating earnings and little financial security. This unpredictability undermines households' ability to plan and budget effectively, especially for essential needs such as food. Evidence shows that informal workers earn significantly less than their counterparts in the formal sector, directly constraining their purchasing power and access to adequate nutrition. Sultana et al. (2022) demonstrate that in many developing countries, informal employment constitutes the majority of labor activity, yet income disparities persist, reinforcing structural vulnerabilities in food security.

Informal markets-comprising street vendors, open-air markets, and small-scale retailers—form the backbone of food distribution networks in many urban and rural settings. They supply affordable food to low-income households and generate livelihoods for countless vendors. According to the Food and Agriculture Organization (FAO), these systems are indispensable for urban populations, particularly in contexts where formal retail and supermarket penetration remain limited (Scott, 2007).

However, informal markets often operate without adequate infrastructure, exposing consumers to health risks related to food safety and hygiene. Despite these challenges, they remain indispensable sources of food access, particularly for the poor, reinforcing the paradox of accessibility coupled with vulnerability.

3.1 Adaptive Practices in Informal Food Systems

Case studies highlight the adaptability and resilience of informal food systems:

Nigeria (Lagos): Street food vendors supply over 70% of daily meals to low-income households, filling gaps left by formal food systems and ensuring affordability in high-density urban areas (GAIN, 2020).

Kenya: The M-Farm mobile platform provides informal traders with real-time price data and cooperative selling tools, reducing reliance on middlemen and improving farmer incomes (Baumüller, 2015).

Mozambique (Maputo): Women-led food stalls, supported by targeted training and policy recognition, have improved food safety standards and expanded economic opportunities for female vendors (Hungry Cities Report, 2020).

Ghana: Farmerline’s digital extension services link smallholder farmers to markets, finance, and weather information, reducing transaction costs and boosting resilience (Forum for the Future, 2024).

India (Madurai): The inclusion of street food vendors in municipal planning improved urban food security and offered formal recognition to informal actors (Patel et al., 2014).

These examples (summarized in

Table 2) illustrate how digital innovation, gender-sensitive policies, and participatory approaches can enhance the role of informal markets while addressing challenges of safety, pricing, and inclusion.

Table 2: Case Studies in the Informal Economy and Food Accessibility

Country/City	Focus	Intervention/Practice	Outcomes	Key Source
Nigeria (Lagos)	Street food vending	Informal vendors supplying daily affordable meals	Over 70% of meals for urban poor; maintained affordability	GAIN (2020)
Kenya	Digital empowerment	M-Farm: SMS-based platform delivering price data & group selling	Better planning, higher incomes, reduced reliance on brokers	Baumüller (2015)
Mozambique (Maputo)	Women-led food vending	Training & infrastructure support for women vendors	Improved food safety; vendor empowerment	Hungry Cities Report (2020)
Ghana (National)	Digital extension services	Farmerline linking farmers to markets & weather data	Expanded reach, increased resilience, higher incomes	Forum for the Future (2024)
India (Madurai)	Urban food security	Street vendor inclusion in urban policy	Better recognition; improved food access	Patel et al. (2014)

The informal economy significantly influences food accessibility in developing countries. It provides critical channels for affordable food distribution and employment but also generates risks tied to informality - such as unsafe food handling, unstable incomes, and lack of regulation. Case studies demonstrate that targeted interventions—digital platforms, gender-sensitive programs, and participatory planning - can mitigate these risks and unlock the sector’s potential.

Recognizing and integrating the informal food economy into broader policy frameworks is therefore essential. Strengthening linkages between informal and formal systems, enhancing infrastructure, and formalizing support for vendors can improve food security outcomes while safeguarding the livelihoods of millions who depend on this sector.

Chapter 4: Smallholder Farmers and the Challenges of Informality

Smallholder farmers are the backbone of agricultural production in developing countries, providing food for local markets and sustaining rural livelihoods. Yet, most of these farmers operate within the informal economy, where limited recognition and support undermine their contributions to food security. Despite their pivotal role, smallholders face systemic barriers that restrict productivity, reduce resilience, and perpetuate poverty. This chapter examines the major challenges facing informal smallholder farmers and explores opportunities to empower them through targeted interventions.

Informal smallholder farmers often cultivate small plots with minimal access to financial, technological, and institutional resources. Their challenges are multidimensional, encompassing financial exclusion, weak infrastructure, environmental risks, and lack of formal recognition. These constraints not only affect individual livelihoods but also weaken the stability of food systems more broadly.

Limited Access to Credit - Credit is essential for investment in seeds, fertilizers, machinery, and infrastructure. Yet, smallholder farmers are frequently excluded from formal financial systems due to lack of collateral, poor credit histories, or restrictive lending requirements. Consequently, many turn to informal lenders who charge higher interest rates, increasing financial vulnerability. A study in Pakistan shows how fragmented farm structures and limited financial literacy compel smallholders to depend on informal credit, reinforcing cycles of dependency (Ullah et al., 2024).

Limited Access to Technology - Modern technologies—from improved seeds to irrigation and digital tools—can dramatically increase yields and sustainability. However, smallholders face barriers to adoption due to cost, lack of awareness, and inadequate extension services. The OECD highlights that institutional weaknesses and market imperfections prevent farmers in developing countries from accessing critical risk management tools and technologies (Cervantes-Godoy, Kimura, & Antón, 2013).

Limited Access to Markets - Market participation remains a persistent challenge. Poor rural infrastructure, inadequate storage facilities, and lack of price transparency often leave smallholders dependent on intermediaries who exploit their weak bargaining position. In Ghana, limited access to credit has constrained smallholders' ability to engage effectively in agricultural activities, reducing both productivity and profitability (Anang et al., 2015).

Climate Change and Environmental Degradation - Smallholder farmers are disproportionately exposed to climate risks, including erratic rainfall, drought, and soil degradation. Without adaptive capacity, these shocks directly reduce yields and threaten household food security. Research suggests that nearly 80% of smallholders in countries such as Mexico, India, and Ethiopia will face at least one major climate hazard by 2050, highlighting the urgency of climate-resilient strategies (Bread for the World, 2023).

Lack of Formal Recognition and Support - Because they operate informally, smallholder farmers often remain outside the scope of government support programs, subsidies, and extension services. This exclusion denies them access to safety nets and perpetuates systemic marginalization. The IMF underscores that informality in agriculture remains

pervasive in developing countries, constraining both farmers' prospects and national food security outcomes (Defait, 2018).

4.1 Empowering Informal Smallholder Farmers

Despite these challenges, smallholders also represent enormous untapped potential. With appropriate policies and support systems, they can become engines of rural development, poverty reduction, and food security.

Innovative Financing Models - Alternative financing mechanisms - such as microfinance institutions, digital lending platforms, and community savings groups - are helping overcome barriers to credit access. Leveraging informal lending systems can also facilitate technology transfer and small enterprise development in rural communities (Hansen et al., 2014).

Capacity Building and Extension Services - Agricultural education, technical training, and extension services can provide farmers with knowledge on modern inputs, sustainable practices, and market engagement. Programs that integrate financial literacy and climate-smart agriculture strengthen resilience and productivity. OECD research emphasizes the importance of institutional support in equipping smallholders with risk management strategies (Kimura & Antón, 2013).

Market Linkages and Infrastructure Development - Investments in rural roads, storage facilities, and digital platforms can improve access to markets and reduce dependence on intermediaries. Farmer cooperatives and producer organizations strengthen collective bargaining power and lower transaction costs. Evidence from the Caribbean shows that formalizing informal agricultural trade through cooperatives has enhanced both farmer incomes and food security (MamoPanel, 2017).

Climate Resilience Strategies - Adopting climate-smart practices—such as diversified cropping, agroforestry, and water-efficient irrigation—helps reduce vulnerability to environmental shocks. Early warning systems and climate information services can further enable informed decision-making, lowering production risks (Kimura & Antón, 2013).

Policy Integration and Formalization - Formal recognition of smallholder farmers within national agricultural policies ensures access to subsidies, social protection, and institutional support. Importantly, formalization strategies must be gradual and context-sensitive, designed to empower rather than penalize farmers. The MamoPanel (2017) argues that structured integration of informal agricultural trade can support resilience and equitable growth.

Informal smallholder farmers are indispensable to global food security, yet they face persistent barriers that undermine their potential. Addressing challenges related to credit, technology, markets, climate resilience, and policy inclusion is critical for empowering smallholders and unlocking their contributions to sustainable agriculture. Through targeted interventions, inclusive policies, and investment in supportive infrastructure, these farmers can transition from vulnerable actors in the informal economy to key drivers of resilience and growth in rural economies.

While smallholder farmers navigate the labyrinth of informality - facing obstacles of credit, technology, and policy neglect - their struggles are not confined to the farm gate. Even when crops are successfully harvested, the journey of victuals through the intricate tapestry of

supply chains remains fraught with loss and inefficiency. Post-harvest bottlenecks, weak infrastructure, and fragmented markets often orchestrate outcomes where the promise of productivity is squandered before reaching consumers. To transcend these persistent barriers, it is essential to delve into the mosaic of supply chain dynamics, where inefficiencies and food loss intertwine in ways that beckon urgent attention. This crucible of production and distribution forms the focus of the next chapter.

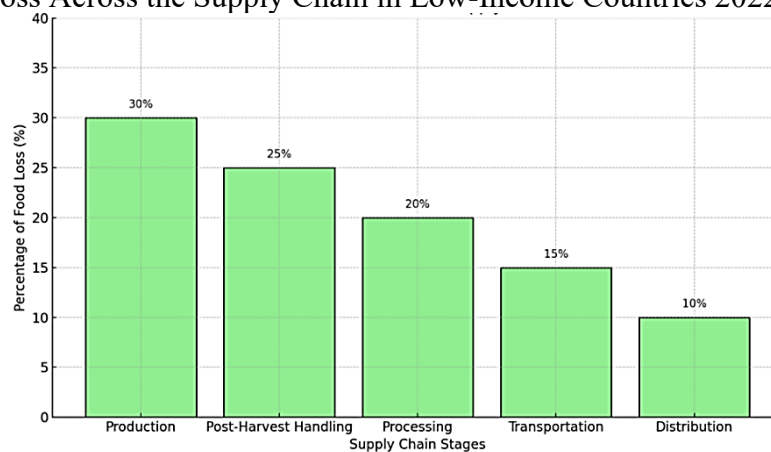
Chapter 5: Food Loss and Supply Chain Inefficiencies

Food loss and supply chain inefficiencies represent some of the most pressing challenges undermining food security in developing countries. While smallholder farmers strive to increase productivity, much of their effort is undermined by systemic weaknesses in storage, transportation, processing, and market systems. According to the FAO (2011), up to one-third of food produced globally is lost or wasted, with the highest proportions occurring at the **post-harvest and distribution stages** in low-income regions. These inefficiencies not only deprive households of much-needed calories but also weaken rural livelihoods and national economies.

Food loss refers to the decrease in the quantity or quality of food before reaching the consumer, primarily during production, post-harvest handling, storage, processing, and distribution (HLPE, 2014). In developing countries, perishable products such as fruits, vegetables, and dairy are especially vulnerable, often spoiling before reaching urban markets.

Figure 3 (from FAO's Food Loss and Waste Database, 2022) highlights the distribution of losses across the supply chain, showing how systemic weaknesses - rather than consumer behavior—drive waste in developing countries.

Figure 3: Food Loss Across the Supply Chain in Low-Income Countries 2022



Source: FAO (2022). *Technical Platform on the Measurement and Reduction of Food Loss and Waste (TPFLW)*. <https://www.fao.org/platform-food-loss-waste/flw-data/en>

5.1 Inefficiencies in the Supply Chain, Opportunities and Strategies

Informal food supply chains often suffer from weak infrastructure, poor coordination, and high post-harvest losses. However, these gaps also present opportunities for innovation. By improving storage, transport, and market information systems, and promoting collaboration among actors, targeted strategies can enhance efficiency, reduce waste, and strengthen food security.

Inefficiencies occur at multiple stages:

Post-Harvest Handling and Storage: Poor handling practices and lack of cold storage lead to high losses in grains, fruits, and vegetables (Kiaya, 2014).

Processing & Packaging: Traditional methods often reduce shelf life and compromise food safety (Knorr, Augustin, & Tiwari, 2020).

Transportation and Distribution: Weak road networks and inadequate vehicles cause delays, physical damage, and spoilage (FAO, 2011).

Market Access and Information: Farmers often lack price data, leading to mismatched supply and demand and unsold produce (Malhotra & Vos, 2021).

The root causes of food loss are systemic and multifaceted, it is about: **Infrastructure Deficiencies** - Insufficient investment in rural roads, storage, and electricity (NDCs, 2024); **Technological Gaps** - Lack of access to modern storage, drying, and processing technologies (Kleineidam, 2019); **Financial Constraints**- Farmers and traders lack affordable credit to invest in solutions (Benni, 2023); and **Policy Neglect** - Informal actors are often excluded from agricultural policy frameworks, perpetuating inefficiency (Rezaei & Liu, 2017).

The informal food economy is both a **critical enabler** and a **potential barrier** to food security. On one hand, it supplies affordable food and jobs; on the other, it suffers from weak regulation and limited support. **The challenges such as:** Food safety risks due to unregulated markets (IPES-Food, 2024); Economic vulnerability and price volatility from fragmented supply chains (GRAIN, 2023); And Infrastructure gaps that increase post-harvest losses (GRAIN, 2021). **But on the other hand the opportunities are:** Inclusive policies to recognize and support informal markets (IPES-Food, 2024); Capacity building to improve hygiene, handling, and market engagement (GRAIN, 2021); Investment in storage and cold chain infrastructure (FAO, 2024); and Digital finance and mobile payments (e.g., Kenya's M-Pesa) to stabilize farmer incomes (ksong Alumni, 2016). When combined, these interventions can transform informal systems from survival mechanisms into **resilient contributors** to food security. Building efficient and inclusive supply chains requires coordinated strategies:

Infrastructure Investment: Cold storage hubs, rural roads, and processing centers (SESI, 2024).

Technology Adoption: Hermetic storage bags, solar dryers, digital logistics platforms (WFP & FAO, 2023).

Training and Capacity Building: Farmer education in handling, storage, and transport (Kiaya, 2014).

Market Access and Digital Solutions: Real-time price apps, cooperatives, and participatory mapping (Malhotra & Vos, 2021).

Policy Reform: Supportive policies integrating informal markets, subsidies for storage technology, and risk management tools (Hawkes et al., 2020).

Food loss and supply chain inefficiencies represent a **dual challenge and opportunity**. By addressing systemic bottlenecks—storage, transport, markets, and policy neglect—developing countries can dramatically reduce waste, increase farmer incomes, and strengthen food availability. Transforming fragile supply chains into resilient networks requires investment, innovation, and inclusive governance. In doing so, food that once slipped through the cracks of inefficiency can instead nourish communities and secure livelihoods.

Chapter 6: Income Volatility and Nutritional Outcomes

Income volatility is a defining feature of the informal economy and directly influences the food security and nutritional outcomes of millions of households in developing countries. Unlike formal workers, informal laborers and smallholder farmers lack stable wages, social

protection, and access to financial services, making them highly vulnerable to fluctuations in earnings. These unpredictable income patterns often lead to inconsistent food consumption, reduced dietary quality, and reliance on cheap, calorie-dense foods that exacerbate malnutrition. Understanding the relationship between income volatility and nutrition is essential for designing interventions that stabilize household incomes, improve resilience, and enhance dietary outcomes.

6.1 Gender Disparities, Income Volatility and Coping Mechanisms

Income fluctuations translate into uneven food access. When earnings fall, households are forced to reduce the quantity and quality of food consumed, often substituting nutritious foods with cheaper staples. The Global Food Security Index (2022) underscores that affordability remains the weakest dimension of food security in many developing nations, where even minor shocks in income can disrupt access to balanced diets (Economist Impact, 2022). Research in Sub-Saharan Africa shows that unpredictable agricultural incomes result in “feast-famine cycles” of food consumption, where dietary diversity is highest just after harvest but deteriorates sharply during lean seasons (FAO, 2021). Such volatility perpetuates chronic undernutrition, particularly among women and children.

Income volatility does not affect all household members equally. Studies reveal that women often bear the brunt of nutritional sacrifices during income shortages, as cultural norms may prioritize feeding men and children first (FAO, 2019). Additionally, women-headed households in informal economies face greater income instability due to barriers in accessing land, finance, and employment opportunities (UN Women, 2020). However, evidence also suggests that when women have greater control over household income, spending is more likely to be directed toward food, healthcare, and education. This underscores the importance of gender-sensitive financial and social protection programs.

Households in informal economies often adopt coping mechanisms to manage income volatility, but these strategies frequently undermine long-term nutrition and resilience. Common mechanisms include:

Reducing dietary quality by cutting back on protein and micronutrient-rich foods (e.g., meat, dairy, vegetables).

Borrowing from informal lenders at high interest rates, deepening cycles of debt and vulnerability (Ullah et al., 2024).

Relying on child labor or reducing school attendance to supplement income during crises (ILO, 2020).

Shifting to cheap, processed foods, which increases risks of obesity and non-communicable diseases over time (WHO, 2021).

While these coping strategies may provide temporary relief, they erode household resilience and perpetuate intergenerational cycles of poverty and malnutrition.

Table 3 summarizes the links between income volatility, its nutritional impacts, coping mechanisms adopted by households, and potential solutions. It highlights the systemic nature of volatility and emphasizes the need for integrated, multi-level interventions

Table 3: Income Volatility, Nutritional Impacts, Coping Mechanisms, and Solution

Income Volatility Factor	Nutritional Impact	Common Coping Mechanisms	Proposed Solutions	Key Sources

Seasonal or unstable wages (informal labor, farming cycles)	Fluctuating food access; reduced dietary diversity during lean seasons	Cutting meals, shifting to cheaper staples	Social protection programs; conditional cash transfers; seasonal safety nets	Economist Impact (2022); FAO (2021)
Gendered income instability (women excluded from finance/land)	Women and children most affected by undernutrition; intra-household food inequality	Women sacrificing their own meals; reliance on informal borrowing	Gender-sensitive financial inclusion; equal access to land, credit, and training	FAO (2019); UN Women (2020)
High reliance on informal credit	Indebtedness reduces ability to purchase nutritious food	Borrowing from moneylenders at high interest	Community savings groups; microfinance; digital lending platforms	Ullah et al. (2024); Hansen et al. (2014)
Market shocks and price volatility	Inconsistent food affordability; increased risk of micronutrient deficiencies	Buying low-cost, processed foods	Market stabilization programs; mobile money platforms (M-Pesa)	ksong Alumni (2016); WHO (2021)
Lack of formal safety nets	Chronic malnutrition; intergenerational food insecurity	Reducing education/health spending; child labor	Integrated policies recognizing informal workers; targeted subsidies	World Bank (2020); ILO (2020)

6.2 Opportunities for Stabilizing Incomes and Improving Nutrition

Addressing income volatility requires integrated approaches that combine financial innovation, policy reform, and social protection:

- **Financial Inclusion:** Digital platforms like Kenya's M-Pesa demonstrate how mobile money can stabilize household finances and provide quick access to credit during income shortfalls (ksong Alumni, 2016).
- **Social Protection Programs:** Conditional cash transfers (e.g., Bolsa Família in Brazil) have been shown to smooth incomes while improving nutritional outcomes (World Bank, 2020).
- **Community Savings & Credit Groups:** Informal savings cooperatives strengthen resilience by providing emergency funds and reducing reliance on predatory lenders (Hansen et al., 2014).

- **Gender-Sensitive Approaches:** Policies that improve women’s access to land, finance, and training ensure income stability translates into better nutrition for all household members (UN Women, 2020).

Income volatility is not merely an economic challenge; it is a nutritional crisis. The unpredictability of earnings in the informal economy exacerbates food insecurity, forces reliance on harmful coping mechanisms, and perpetuates malnutrition. Yet, with innovative financial tools, inclusive social protection, and gender-sensitive policies, it is possible to reduce volatility’s impact and strengthen resilience. By stabilizing incomes, developing countries can simultaneously enhance food access, improve dietary diversity, and foster long-term nutritional well-being.

Chapter 7: Opportunities for Integration and Formalization

The informal economy plays a central role in food security across developing countries, but its fragmented, unregulated nature often limits its potential. Rather than displacing informal markets, integration and gradual formalization offer opportunities to enhance resilience, improve food safety, and expand economic inclusion. This chapter highlights the potential benefits of integration, discusses key policy approaches, and presents real-world case studies of successful formalization initiatives.

7.1 Potential Benefits of Integration and Policy Approaches to Formalization

Formalizing aspects of the informal food economy can yield multiple benefits for farmers, traders, and consumers alike. Benefits include:

- **Improved Food Safety and Standards:** Integrating informal vendors into regulatory frameworks ensures that food safety standards are applied more consistently, reducing public health risks (FAO, 2018).
- **Enhanced Access to Credit and Services:** Formal recognition enables farmers and traders to access credit, insurance, and extension services, which are often unavailable to those operating informally (World Bank, 2020).
- **Increased Bargaining Power and Market Access:** By joining cooperatives or associations, small-scale traders gain collective strength to negotiate fairer prices, reduce exploitation, and expand market reach (IIED, 2023).
- **Social Protection Inclusion:** Formalization extends social safety nets, such as pensions, health insurance, and unemployment benefits, to informal workers (ILO, 2021).
- **Economic Stability:** Integration reduces vulnerability to shocks by linking smallholders and vendors to more resilient and transparent value chains (UNDP, 2021).

Policy frameworks must balance regulation with inclusivity to avoid marginalizing informal actors. Strategies include:

Licensing and Registration: Simple, low-cost licensing schemes help governments recognize informal vendors while minimizing bureaucratic barriers. Successful pilot programs in *Dhaka, Bangladesh* demonstrated that licensing increased vendor incomes while improving hygiene standards (Horn, 2018).

Cooperative Models: Encouraging collective organization allows smallholders and vendors to pool resources, share risks, and gain formal recognition. For example, women-led cooperatives in *Zambia* have improved income stability and food access (UN Women, 2019).

Public–Private Partnerships (PPPs): Collaborations between governments, NGOs, and private companies can provide infrastructure (storage, cold chains, transport) while supporting informal market integration (Vellema et al., 2021).

Territorial Market Recognition: Policy frameworks that acknowledge the role of informal markets as “territorial food systems” help integrate them into urban planning, as seen in *Peru* through participatory mapping (Lambert & Allen, 2016).

Tax Incentives and Subsidies: Carefully designed fiscal incentives encourage vendors to register formally without imposing prohibitive costs, ensuring inclusivity.

7.2 Case Studies of Successful Integration

Real-world experiences demonstrate that integrating informal food systems into formal structures is not only possible but also transformative when approached with inclusive policies and partnerships. Across Africa, Asia, and Latin America, governments, NGOs, and community organizations have piloted models that bridge informality with regulation, finance, and infrastructure. These case studies (Table 4) highlight how tailored interventions, such as licensing programs for street vendors, cooperative market structures, or digital platforms that connect farmers to buyers, can reduce vulnerabilities while preserving the accessibility and adaptability of informal systems. By examining successful integration efforts, we can identify replicable strategies and lessons that inform policy and practice in diverse contexts.

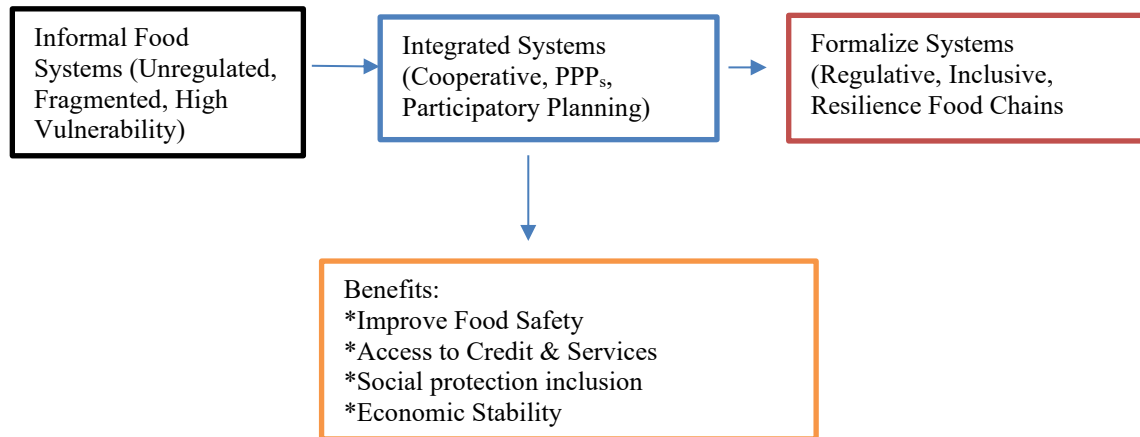
Table 4: Case Studies of Successful Integration of Informal Food Systems

Country/City	Approach	Outcomes	Source
Bangladesh (Dhaka)	Licensing street food vendors	Reduced harassment, improved vendor income, better hygiene	Horn, 2018
Zambia (Lusaka)	Women-led cooperatives	Enhanced bargaining power, improved income security, food safety	UN Women, 2019
Peru (Lima)	Participatory mapping & policy inclusion	Recognized role of informal vendors, improved urban food planning	Lambert & Allen, 2016
Kenya (Nairobi)	Cooperative-based vendor recognition	Increased access to microfinance and reduced exploitation by middlemen	Baumüller, 2015

Figure 4, **Pathway from Informal to Formalized Food Systems, highlighting integration steps and benefits** illustrates the gradual transition from informal to more formalized food systems, showing how targeted interventions can strengthen resilience and inclusivity. The pathway begins with **recognition of informal actors** (such as smallholder farmers, vendors, and cooperatives), followed by **capacity building and policy engagement**, and moves toward **infrastructure investment, access to finance, and inclusive regulation**. At each step, benefits accumulate, ranging from improved food safety and reduced post-harvest losses to increased income stability, gender equity, and stronger market participation.

Figure 4 adapted from FAO (2018), IIED (2023), and UN Women (2019), the graph underscores that formalization is not a single event but a **phased, supportive process**. Importantly, it shows that integration should balance **the flexibility of informality with the protections and stability of formal systems**, ensuring that food systems remain both inclusive and sustainable.

Figure 4 :Pathway from informal to formalized food systems



Formalization should not mean imposing rigid frameworks that exclude vulnerable populations. Instead, policies must adopt a *graduated approach* - recognizing the diversity of informal actors, reducing entry barriers, and promoting inclusive growth. Integration into broader national food security strategies is critical, ensuring that informal actors are not displaced but rather supported to transition gradually. Opportunities for integration and formalization present a win-win: improving food safety and security while empowering millions of workers who are often excluded from the benefits of formal economies.

Chapter 8: Innovative Financial Tools for Stability

In developing countries, income instability among informal workers and smallholder farmers is a key driver of food insecurity. Without access to secure and affordable financial services, these groups struggle to manage risks, invest in productive activities, or buffer against shocks. Innovative financial tools—ranging from microfinance and community savings groups to digital payment platforms and agricultural insurance—offer pathways to enhance stability and resilience. This chapter examines the role of these instruments in reducing vulnerability, improving market access, and strengthening food security outcomes.

Microfinance institutions (MFIs) have long been recognized as vital for extending credit to marginalized populations excluded from formal banking systems. By offering small loans, savings opportunities, and group-based lending models, MFIs enable farmers and informal workers to invest in agricultural inputs, diversify income sources, and smooth consumption patterns. In Bangladesh, the **Grameen Bank model** demonstrated how microloans could empower women to expand agricultural and small-scale enterprises, improving household food security (Yunus, 2007). Community-based savings groups (e.g., Village Savings and Loan Associations) also play a significant role, fostering collective responsibility and reducing reliance on predatory moneylenders (Ledgerwood, 2013).

8.1 Digital Finance, Mobile Money and Risk-Sharing Mechanisms

The rapid spread of mobile phones has transformed access to financial services. Mobile money platforms such as **M-Pesa in Kenya** enable users to transfer funds, save securely, and access credit, even in remote rural areas. M-Pesa reduced transaction costs and increased the resilience of rural households by providing quick access to liquidity during shocks (Suri & Jack,

2016). Digital platforms also allow farmers to receive real-time payments for produce, reducing delays and improving trust in informal supply chains.

Crop failure, extreme weather events, and market volatility expose smallholder farmers to significant risks. Innovative insurance schemes, such as **index-based weather insurance**, offer affordable and scalable protection. In Ethiopia and India, weather-indexed insurance programs have helped farmers manage risks and invest in higher-value crops (World Bank, 2011). Bundling insurance with other services (e.g., loans or seeds) increases uptake and effectiveness, providing a safety net while encouraging productivity.

8.2 Fintech Innovations and Crowdfunding

Fintech startups are pioneering solutions that link smallholder farmers to global capital flows. Platforms such as **ThriveAgric in Nigeria** and **FarmDrive in Kenya** use data-driven models to assess creditworthiness and connect farmers with investors. ThriveAgric provides farmers with upfront financing, training, and access to markets, repaid after harvest (SNV, 2022). FarmDrive leverages alternative data (e.g., mobile usage, farm records) to expand credit access for farmers traditionally excluded from formal banking. Table 5 summarizes the major categories of innovative financial tools, their benefits, and examples from developing countries that illustrate their potential to enhance food security and resilience in informal economies.

Table 5: Innovative Financial Tools for Stability in Informal Food Systems

Financial Tool	Key Benefits	Examples / Case Studies	Key Sources
Microfinance & Community Lending	Expands credit access for & excluded farmers; promotes investment in lending; inputs and small enterprises	Grameen Bank in Bangladesh (women-focused); Village Savings and Loan Associations (2013) (Africa)	Yunus (2007); Ledgerwood (2013)
Mobile Money & Digital Finance	Provides secure savings, & rapid transfers, access to credit; reduces transaction costs	<i>M-Pesa</i> in Kenya improved resilience and food security for rural households	Suri & Jack (2016)
Index-Based Agricultural Insurance	Protects against climate risks and crop failures; encourages higher-value crop adoption	Weather-index insurance pilots in Ethiopia & India	World Bank (2011)
Fintech & Crowdfunding Platforms	Links farmers to & investors; uses alternative data for credit scoring; provides bundled services	<i>ThriveAgric</i> (Nigeria) – upfront financing + training; <i>FarmDrive</i> (Kenya) – data-driven microloans	SNV (2022)
Gender-Sensitive Financial Tools	Reduces gender gaps in access to finance; boosts household nutrition; empowers women	Group-based lending models; Women-focused mobile finance programs	Kabeer (2015); GSMA (2020)

8.3 Gender-Sensitive Financial Tools

Women in informal food economies often face additional barriers, such as exclusion from land ownership and formal credit. Gender-sensitive financial innovations address these disparities by designing products tailored to women's needs. Group-based lending has been particularly successful in empowering women farmers and vendors, as it leverages collective accountability and social cohesion (Kabeer, 2015). Expanding women's access to mobile finance has multiplier effects on household nutrition, as women tend to allocate a higher share of income to food and education (GSMA, 2020).

Innovative financial tools cannot function in isolation, they must be embedded within supportive ecosystems that combine technology, policy, and community engagement. A multi-pronged approach-linking digital platforms, insurance, microfinance, and gender-sensitive interventions-offers the most promise for building resilient livelihoods and reducing hunger.

Formal recognition of these tools within national food security strategies will ensure that informal actors, who make up the majority of smallholder farmers and traders in developing countries, can access the financial stability needed to thrive.

Chapter 9: Urbanization and the Informal Food Economy

Urbanization is reshaping food systems across the developing world. With more than half of the global population now living in cities - and projections that two-thirds will be urban by 2050 - the demand for accessible, affordable, and safe food in urban areas is increasing rapidly. In many developing countries, this demand is largely met by the **informal food economy**, which plays a vital role in ensuring food accessibility, especially for low-income households. Yet, rapid urbanization also poses challenges, including food deserts, health risks, and exclusion from urban planning. This chapter explores the dynamics of the informal food economy in the context of urbanization, highlighting both challenges and policy opportunities.

9.1 Urbanization, Informal Vendors and Policy Interventions

Urban growth intensifies reliance on informal vendors - street food sellers, small kiosks, and open-air markets - that supply affordable meals in cities where formal supermarkets remain inaccessible to the poor. In **Lagos, Nigeria**, street food vendors provide over 70% of daily meals for low-income residents, underscoring their role as primary food providers (GAIN, 2020). In **Dhaka, Bangladesh**, rapid population growth has increased the visibility of informal street vendors, though they face constant harassment and insecurity without formal recognition (Horn, 2018). In **Accra, Ghana**, informal markets dominate fresh food distribution, connecting smallholder farmers with urban consumers (Skinner & Haysom, 2016).

While informal systems enhance access, they also suffer from inadequate infrastructure, weak regulation, and exclusion from policy frameworks, resulting in food safety concerns and vulnerability to displacement during urban redevelopment projects. Despite their importance, informal food vendors often face challenges intensified by urbanization:

Food Deserts: In rapidly growing peri-urban areas, poor infrastructure and inadequate formal food retail create gaps in access to affordable, nutritious food. Informal vendors fill these gaps, but without stable support, households face inconsistent supply (Battersby & Watson, 2019).

Food Safety Risks: Lack of refrigeration, sanitation, and oversight heightens risks of contamination, especially in dense urban areas. Studies in Maputo, Mozambique highlight persistent hygiene challenges in informal markets despite their central role in food access (Raimundo et al., 2020).

Policy Exclusion: Informal markets are rarely integrated into urban food planning, leaving them vulnerable to evictions or restrictive policies during city modernization efforts (IIED, 2023).

For urbanization to contribute to food security, informal food systems must be recognized and supported as integral to city economies. Promising approaches include:

Licensing and Regulation: Simplified licensing schemes improve vendor security while enhancing food safety standards, as seen in Dhaka’s pilot vendor registration programs (Horn, 2018).

Infrastructure Development: Investments in storage, cold chains, and hygienic market spaces can strengthen informal vendors’ capacity to provide safe and reliable food (FAO, 2018).

Participatory Planning: In Lima, Peru, participatory mapping projects have successfully integrated informal vendors into urban planning processes, increasing recognition and sustainability (Lambert & Allen, 2016).

Social Protection and Training: Programs that combine technical training with financial inclusion empower vendors to adapt to urban challenges while improving household food security (UNDP, 2021).

9.2 Case Study Highlights

Case studies across different cities illustrate how the informal food economy interacts with urbanization in diverse contexts. They demonstrate both the adaptability of informal vendors and the importance of supportive policies. From street food vendors in Lagos supplying the majority of daily meals to urban poor, to licensing pilots in Dhaka improving hygiene standards, and participatory mapping in Lima that integrated informal markets into urban planning, these examples highlight innovative practices and persistent challenges. Table 6 below summarizes these cases, providing insights into how informal systems can be strengthened to meet the food security needs of rapidly urbanizing populations.

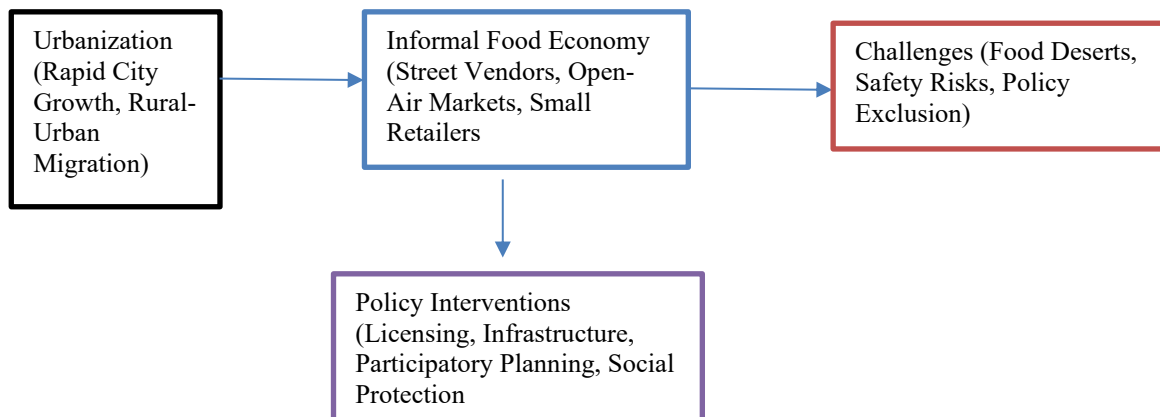
Table 6: Case studies: informal systems and food security

City	Focus	Outcome	Source
Lagos, Nigeria	Street vending	Over 70% of meals supplied to low-income households	GAIN, 2020
Dhaka, Bangladesh	Vendor licensing pilot	Improved income, reduced harassment, better food hygiene	Horn, 2018
Accra, Ghana	Informal market systems	Critical for fresh food distribution to urban poor	Skinner & Haysom, 2016
Lima, Peru	Participatory mapping	Increased visibility and integration of informal vendors in planning	Lambert & Allen, 2016

These case studies reveal that while informal food systems play a critical role in feeding urban populations, their potential is maximized only when supported by inclusive policies, infrastructure investment, and participatory planning. Together, they underscore the need for cities to view informal vendors not as temporary stopgaps but as long-term partners in

building resilient urban food systems. Figure 5, The role of the informal food economy in urbanizing contexts, highlighting the challenges and potential policy responses (adapted from GAIN, 2020; FAO, 2018; IIED, 2023).

Figure 5 :Urbanization and the Informal Food Economy- Challenges and Policy Responses



As cities expand, informal food systems must be viewed not as obstacles to modernization, but as essential partners in creating equitable and resilient urban food economies. Policies that combine **infrastructure investment, participatory planning, simplified regulation, and social protection** can transform the urban informal food economy into a stable foundation for food security. Urbanization, when managed inclusively, can provide an opportunity to strengthen the informal food economy-bridging the gap between rural producers and urban consumers, while ensuring that low-income populations retain access to affordable, nutritious food.

Chapter 10: Policy Recommendations and the Way Forward

The persistence of hunger and food insecurity in developing countries—despite the critical role of the informal economy-calls for comprehensive and inclusive policy frameworks. Prior chapters highlighted the dual nature of informal systems: they are essential for affordability and access but often hindered by inefficiencies, exclusion from governance, and vulnerability to shocks. This final chapter consolidates lessons from the analysis and proposes **strategic, evidence-based policy interventions** to strengthen food security, empower smallholder farmers, and integrate informal actors into resilient and equitable food systems.

10.1 Strengthening Institutional Frameworks and Financial exclusion

Informal food systems cannot thrive in isolation. For them to meaningfully contribute to national food security, they must be recognized, regulated, and supported within broader institutional frameworks. Strengthening governance structures ensures that informal actors are not marginalized but integrated as vital partners in food system transformation.

Formal Recognition of Informal Food Systems: Governments must formally recognize informal markets, vendors, and smallholder farmers as legitimate stakeholders. Licensing schemes, supportive regulation, and inclusion in national food security strategies can help bridge the gap between informal and formal systems (IIED, 2023).

Decentralized Governance: Local authorities should be empowered to work directly with informal vendors and community organizations, ensuring policies reflect lived realities of urban and rural markets (Mitlin & Satterthwaite, 2013).

By strengthening institutional frameworks and giving formal recognition to informal actors, governments can create more inclusive and resilient food systems. This foundation also prepares the ground for investments in infrastructure and technology that directly support these actors.

Without adequate infrastructure and modern technology, even the most resilient farmers and vendors face high levels of inefficiency and food loss. Strategic investments in storage, transport, and digital platforms are essential to reduce waste, improve market access, and empower smallholders to compete in evolving economies.

Post-Harvest Loss Reduction: Build storage facilities, improve rural roads, and invest in cold-chain logistics to reduce waste and losses (FAO, 2011).

Digital Tools for Inclusion: Expand mobile-based platforms for farmers and traders to access market prices, climate data, and financial services. Projects such as Kenya's M-Farm and Ghana's Farmerline show promising impacts on resilience and profitability (Baumüller, 2015; Forum for the Future, 2024).

Addressing infrastructure gaps and expanding access to affordable technologies are critical first steps to reducing food loss and unlocking productivity. These improvements also reinforce financial inclusion efforts, since farmers and vendors with stronger systems are better positioned to access credit and insurance.

Financial exclusion remains one of the biggest barriers for smallholder farmers and informal workers. Expanding access to credit, insurance, and digital payments can stabilize incomes, encourage innovation, and provide security against shocks, ultimately strengthening both livelihoods and food security.

Microfinance and Insurance: Scale up innovative financial tools, including mobile money, microloans, and index-based insurance to protect farmers against shocks (Hansen et al., 2014; Benni, 2023).

Digital Payment Systems: Build on successful examples such as Kenya's M-Pesa, which has demonstrated the power of mobile banking for economic resilience (Ksong Alumni, 2016).

Expanding financial inclusion equips smallholders and informal workers with the resources they need to invest, adapt, and grow. Combined with infrastructure and market reforms, financial stability lays the groundwork for building climate-resilient food systems.

10.2 Building Climate-Resilient Food Systems and Community Partnerships

Climate change presents unprecedented risks to smallholder farmers and informal markets. By promoting adaptive practices and resilience strategies, policymakers can safeguard food production against unpredictable weather, environmental degradation, and long-term sustainability threats:

Climate-Smart Agriculture: Promote agroforestry, drought-resistant crops, and sustainable irrigation practices to reduce vulnerability to climate shocks (Bread for the World, 2023).

Early Warning Systems: Expand weather information services and farmer training programs to support adaptation (Kimura & Antón, 2013).

Climate resilience must be embedded into every stage of agricultural development. Integrating adaptation strategies with financial tools and infrastructure planning ensures that informal and smallholder farmers can thrive in the face of climate uncertainty.

Transforming informal food economies requires collaboration. Partnerships between governments, businesses, and communities can create inclusive solutions that balance economic opportunity with social protection, ensuring food systems are not only efficient but also just and equitable.

Collaborative Governance: Governments, NGOs, and private enterprises should jointly design inclusive food systems that strengthen both formal and informal economies.

Community-Led Approaches: Empower local associations and cooperatives to influence decision-making and ensure culturally appropriate solutions (Hungry Cities Report, 2020).

Partnerships are the glue that connects institutional reform, investment, finance, and climate resilience. By fostering collaboration among diverse stakeholders, policymakers can ensure that these strategies reinforce each other and move collectively toward sustainable food systems.

10.3 Strategic Directions Ahead

The informal food economy should no longer be viewed as a temporary safety net. With the right mix of recognition, investment, and collaboration, it can become a cornerstone of sustainable development. The way forward lies in inclusive, cross-sectoral policies that integrate informality into the core of national food strategies. This study demonstrates that informal economies are not obstacles to development but **critical components of food security and resilience**. Policy interventions must balance formalization with inclusivity, infrastructure with equity, and innovation with affordability. By embracing informal systems as partners, not liabilities, governments and development actors can design food systems that are not only **sustainable and efficient**, but also **equitable and resilient**. The way forward is clear: **inclusive policies, smart investments, and cross-sector collaboration** will transform the informal food economy from a fragile safety net into a pillar of sustainable development.

The informal food economy is a pillar of resilience, employment, and access for millions. Moving forward, policymakers, practitioners, and communities must treat it not as a liability but as a strategic partner in ending hunger and building equitable food systems.

Chapter 11: Conclusion – Bridging the Gap and Final Thoughts

Throughout this study, we have seen that the **informal economy is not a marginal phenomenon but a backbone of food access** in many developing regions. Street vendors, smallholder farmers, and unregulated markets provide affordable food to urban and rural communities, while also sustaining millions of livelihoods. At the same time, this reliance on informality exposes food systems to volatility, inefficiency, and exclusion from support structures. The paradox is clear: what sustains food access in the short term can undermine resilience in the long term if left unsupported. The evidence presented across countries in Africa, Asia, and Latin America illustrates that **higher levels of informality correlate with weaker food security outcomes**. Informal workers face income instability, limited credit access, poor infrastructure, and heightened exposure to climate shocks. Informal markets, while indispensable, often operate without adequate regulation or investment, resulting in food safety risks and post-harvest losses. Yet the case studies also show the adaptability of informal

systems: mobile platforms in Kenya, women-led food stalls in Maputo, and cooperatives in Ghana demonstrate how innovation and inclusion can transform vulnerabilities into strengths.

Bridging the gap between informal and formal economies requires **balanced policies**—ones that formalize where necessary but preserve the flexibility and accessibility of informality. Investment in infrastructure, financial inclusion, and climate resilience is essential. Equally, recognizing informal actors as legitimate stakeholders in governance will ensure that their voices are not excluded from food security strategies. Partnerships that connect governments, NGOs, private enterprises, and community organizations will be key to scaling these interventions sustainably.

The way forward lies in reframing informality from a liability to an asset. Informal economies already sustain millions through affordable food access and employment, but they are often left unsupported, unregulated, or stigmatized. Policymakers, international organizations, and development actors must view informal systems as strategic partners in achieving food security. By providing infrastructure, financing, recognition, and inclusive regulation, these systems can evolve into stronger, more resilient, and more equitable contributors to national development.

Bridging the gap requires multi-level engagement. At the global level, frameworks such as the Sustainable Development Goals (SDGs) must explicitly account for the informal economy's role in hunger reduction. At the national level, governments should integrate informal actors into agricultural, financial, and urban planning policies. At the local level, community organizations, cooperatives, and informal vendor associations must be empowered to co-create solutions. This multi-tiered approach ensures coherence between policy ambitions and the lived realities of those operating in informal systems. Ultimately, food security cannot be achieved without addressing the vulnerabilities and potential of the informal economy. Supply chain inefficiencies, income volatility, and climate risks will continue to undermine progress unless systemic reforms are made. However, if policy recommendations are implemented in partnership with informal actors, food systems can become more inclusive, resilient, and sustainable. Informality must be recognized as an integral component of the food system transformation agenda (FAO, 2021; IPES-Food, 2020; ILO, 2018; United Nations, 2015; World Bank 2020).

The challenge ahead is significant, but so is the opportunity. By bridging the gap between informal and formal systems, countries can move beyond survival strategies and lay the foundation for sustainable livelihoods, economic resilience, and equitable food access. Hunger in developing countries cannot be solved by ignoring the informal economy—it can only be addressed by embracing it, supporting it, and enabling it to thrive as a partner in building secure, just, and sustainable food systems.

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