FROM EVERYDAY PRACTICES TO POLICY

Food safety concerns and strategies among the urban poor in retail environments in Bangladesh

MD. LATIFUL HAQUE

Propositions

1. Food safety adaptation intersects with socioeconomic, migrant, and spatial factors.
   (this thesis)

2. Rapid urbanisation poses a threat to food safety practices.
   (this thesis)

3. Academic institutions' focus on Northern interests marginalises non-Northern scholars.

4. Boldness significantly influences individuals' impact on scientific progress.

5. All problems are researchable, some are relevant.

6. Morality should take precedence over legality.

Propositions belong to the thesis, entitled

'From everyday practices to policy: food safety concerns and strategies among the urban poor in retail environments in Bangladesh'

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Wageningen, 27 March 2025

From everyday practices to policy

Food safety concerns and strategies
among the urban poor in retail
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From everyday practices to policy

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Thesis

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Abbreviations

BIDS - Bangladesh Institute of Development Studies

BSTI - Bangladesh Standards and Testing Institution

CFV - Cooked Food Vendor

DAE - Department of Agricultural Extension

DESA - Department of Economic and Social Affairs

DFV - Dry Food Vendor

DGHS - Directorate General of Health Services

DNCC - Dhaka North City Corporation

DNCRP - Directorate of National Consumer Rights Protection

DSCC - Dhaka South City Corporation

ER - Established Resident

FAO - Food and Agriculture Organisation

FGDs - Focus Group Discussions

FRE - Food Retail Environment

FSA - Food Safety Authority

FSC - Food Safety Concern

FSP - Food Safety Policy

GAIN - Global Alliance for Improved Nutrition

HLPE - High-Level Panel of Experts on Food Security and Nutrition

ICDDR,B - International Centre for Diarrhoeal Disease Research, Bangladesh

IFPRI - International Food Policy Research Institute

IFV - Informal Food Vendor

LMIC - Low and Middle-Income Countries

ODK - Open Data Kit

PPS - Probability Proportional to Size

RAM - Recently Arrived Migrant

SDGs - Sustainable Development Goals

SPT - Social Practice Theory

SSIs - Semi-Structured Interviews

UHDSS - Urban Health and Demographic Surveillance System Survey

UN - United Nations

UNDP - United Nations Development Programme

UNICEF - United Nations International Children's Emergency Fund

WFP - World Food Programme

WHO - World Health Organisation

WMV - Wet Market Vendor

Chapter 1

Introduction

1. Introduction

City food outlets play a vital role in urban life, offering diverse food options, supporting the local economy, and fostering social connections (Downs et al., 2019; Berggreen-Clausen et al., 2022). They can provide access to (un)safe, (un)healthy, and (un)nutritious food, thereby impacting city dwellers' overall well-being (Cicatiello et al., 2015; Cannuscio et al., 2014). By supporting local food providers, these outlets also strengthen the local economy and create a sense of community (Wertheim-Heck et al., 2019; Wertheim-Heck & Raneri, 2019). As central elements of the urban food system, city outlets are indispensable for food providers and consumers.

Urban food systems in Low- and Middle-Income Countries (LMICs) are characterised by overcrowded cities, informal food markets, and poor sanitation, especially in slum areas. These urban food systems include a mix of formal supermarkets, wet markets, and informal vendors, such as street sellers and farmers' markets (Hawkes, 2017; Smit, 2016). These outlets provide a range of products, including fresh produce, staples, non-staples, and cooked foods, to meet the diverse needs of urban residents (HLPE, 2017; Global Panel, 2017). However, LMICs face significant food safety challenges common to many Global South cities (see Table 1.1). For example, in Mumbai, a city which is home to 21 million people and where approximately 50% of street vendors operate informally, food contamination is widespread due to poor sanitation. In Manila, over 200,000 street vendors in informal settlements contribute to heightened food safety risks through improper food handling. Similarly, cities such as Nairobi, Jakarta, Lagos, and São Paulo experience high rates of foodborne diseases related to contaminated food and water in slums and informal markets. The presence of affordable informal food vendors, including cafeterias, restaurants, and street sellers, further complicates urban retail dynamics and poses challenges for food safety enforcement (Skinner, 2016). Addressing these issues requires a multifaceted approach, particularly in slum areas, which, according to UN-Habitat, are characterised by overcrowding, inadequate access to essential services, and poor housing conditions, leading residents to rely on informal food sources (see Figure 1.1).

Table 1.1 Data on Slum populations, informal vendors and food safety issues in selected megacities

City	Population (Millions)	Slum Percentage	Informal vendors	Major food safety issues
Mumbai	Over 21	40%	Over 250,000	Poor sanitation, informal vendors
Manila	About 14	20%	Over 200,000	Improper food handling
Nairobi	About 5	Nearly 60%	About 100,000	Contaminated food/ Water sources
Jakarta	Over 11	25%	Over 100,000	Poor hygiene
Lagos	About 15	Over 60%	about 250,000	Foodborne diseases

| São Paulo | About 22 | 20% | over 50,000 | Salmonellosis, gastroenteritis |
| Dhaka | Over 21 | Around 40% | about 200,000 | Lack of regulation implementation, contamination |

Source: The World Factbook

< https://www.cia.gov/the-world-factbook/field/major-urban-areas-population/>
- Mumbai: MMRDA, Census of India, Local surveys (NGOs, BMC), Times of India, Mumbai Mirror
- Manila: PSA, Local surveys (Institute for Policy Studies, Manila City Hall), Philippine Daily Inquirer, Rappler
- Nairobi: Nairobi City County, KNBS, Urban Poor Federation of Kenya, Nairobi City County, Daily Nation, The Standard
- Jakarta: BPS, Jakarta City Government, Local surveys (market research firms, Jakarta Provincial Government), The Jakarta Post, Kompas
- Lagos: Lagos State Government, National Population Commission, Nigerian Urban Reproductive Health Initiative, Lagos State Government, The Guardian Nigeria, Punch Newspaper
- São Paulo: São Paulo City Hall, IBGE, Local surveys (NGOs, research institutions), Folha de São Paulo, Estadão
- Dhaka: Dhaka City Corporation, BBS, Urban Resource Centre, Dhaka City Corporation, The Daily Star, Dhaka Tribune

A. Populations trend in the selected large cities in the global south, 1950-2035

B. Number of people living in urban slum households, 2020
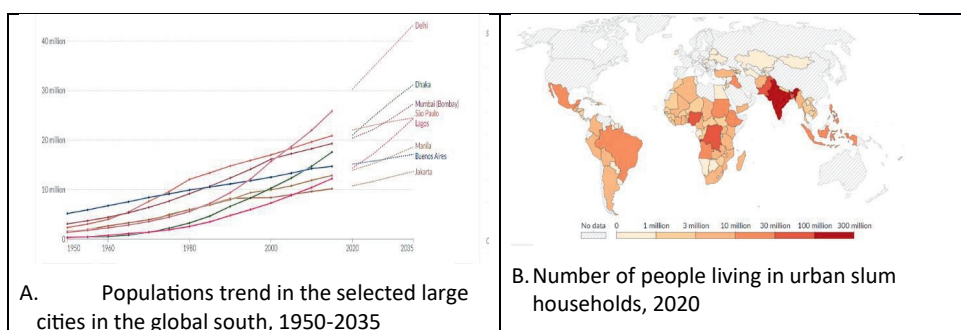
Figure 1.1 Urban population trends and slum households in the global south

Source: United Nations, Department of Economic and Social Affairs, Population Division (2018) – WorldInData.org/urbanization

Rapid economic development and urbanisation in LMICs present significant challenges, especially for the urban poor. As they rely on informal markets where food safety regulations are not always strictly followed, the urban poor are exposed to food safety risks. Moreover, the inadequate food retail infrastructure is not able to keep pace with the increased demand for safer food (FAO, 2017; Ortega & Tschirley, 2017). Low levels of education, insecure incomes, and inadequate cooking facilities among the urban poor further exacerbate these risks (Banks, 2001). Research shows that income disparities affect food access and food safety, making food shopping for the urban poor a challenge (Signs et al., 2011; Wertheim-Heck & Raneri, 2019). Addressing these challenges related to food safety in the urban areas of LMICs where the poor are living is critical (Yu, 2018).

Although attention to food safety in retail outlets in LMICs has increased recently, effectively addressing this requires insights from various disciplines and recognising that solutions from developed countries may not be directly applicable. Food retail outlets should not be approached individually but in combination as a food retail environment because urban consumers may have access to different

outlets. A food retail environment is generally defined as a set of physical and social locations where food is sold and purchased, such as grocery shops, markets, street sellers, and restaurants (Mattioni et al., 2020). Food retail environments can be characterized by the availability, accessibility, cost, and quality of food options, as well as the cultural, economic, and policy dimensions that influence consumer behaviour and food choices. While expertise from economics, and nutrition remains crucial to analyse food retail environments, these fields often make simplifying assumptions that may not hold in complex, real-world contexts (Berggreen-Clausen et al., 2022; Downs et al., 2019; Liguori et al., 2022; Turner et al., 2018). Economists typically emphasise the role of consumer demand and the supply side. The demand side focuses on an individual's actions based on rational choices, driven primarily by self-interest and the available information (Halkier & Holm, 2008; Delormier et al., 2009; Champy, 2018). This assumption suggests that if consumers are given adequate information about food safety, they will make rational choices that lead to safer food practices and physical food environments that allow for better access to safe food. These scholars overlook the social and cultural dynamics that influence food choices and thereby fail to fully account for the consumers, vendors, and regulatory bodies (Chen & Chen, 2023). Sociology can contribute by illuminating practices ingrained in social dynamics, and cultural norms that may enforce or hinder food safety practices. This thesis, therefore, builds on insights from sociology and employs a social practice approach to analyse the everyday practices of consumers and vendors as they are embedded in their food environments (Schatzki, 2002; Amjadi & Hussain, 2005; Worsfold & Worsfold, 2008; Fatimah et al., 2011; Shove et al., 2012; Adam et al., 2014; Nguyen et al., 2018; Liguori et al., 2022). Incorporating such a sociological perspective on food shopping and vending practices as social phenomena in retail food environments helps to develop more comprehensive strategies that better address the social realities of dealing with food safety challenges in LMICs (Daykin, 1993; Frohlich et al., 2001; Williams, 2003; Cockerham, 2005).

This thesis offers empirical insights into the food safety challenges faced by the urban poor in the global south, employing a social practice perspective to highlight the social dynamics within the food retail environment. Halkier (2008, 2019) demonstrated the potential of analysing food consumption practices as a social practice within the food environment. The study looks at the ways in which consumers and vendors respond to resource limits, food safety concerns, knowledge gaps and food retail environmental constraints. The goal of this thesis is to understand the strategies used by the poor to manage food safety issues, focusing on the social dynamics involved in food distribution and consumption.

This Chapter introduces the thesis, outlining its goals, significance, and theoretical foundations. Section 1.1 presents the study's rationale. Section 1.2 introduces the conceptual framework applied for viewing

the retail food environment through the lens of Social Practice Theory (SPT). Section 1.3 details the objectives and research questions. Section 1.4 describes the methodology, including the research site (Dhaka, Bangladesh), and the contextual background. Finally, the structure of the rest of the thesis, the research trajectory, and the key areas of investigation are outlined in Section 1.5.

1.1 Rationale

Unplanned urbanisation in LMICs, particularly in South Asia and Africa, affects food systems by driving population growth, expanding informal settlements, and deteriorating food security, especially in terms of food safety. By 2020, 60% of the global population lived in cities, a figure expected to rise to 68% by 2050 (UN-Habitat 2022). In 2020, nearly 1.1 billion people already lived in inadequate housing, with an additional 2 billion expected to face similar conditions within 30 years (High-level Political Forum on Sustainable Development, 2023). According to the United Nations (2022) estimates, there will be 2.8 billion more people living in the cities of Africa and Asia by 2050 compared with 2020. This urban influx, driven by economic pressure and climate change, often results in the expansion of slums. In this environment, limited access to land and cooking facilities forces many to rely on purchased food, increasing the risk of food safety issues as they have limited resources (Giroux et al., 2021; Patel et al., 2013; Ruel, 2020; Djan, 2023; Vilar-Compte et al., 2021). Recent migrants are especially vulnerable due to inadequate services and limited information about the urban food environment.

Food safety is a major public health and economic concern in LMICs. The World Health Organisation (WHO) estimates that contaminated food causes 420,000 deaths and affects around 600 million people globally each year (WHO, 2022). The economic impact is substantial, yearly expenses are expected to reach $115 billion by 2023 (David, 2023). LMICs bear a disproportionate burden, with per capita costs anticipated to be more than double the global average (Pipes et al., 2021). Urban poor populations face increased food safety risks due to inadequate access to safe food, in particular because of the prevalence of informal street vendors (Wirakartakusumah et al., 2014; Campos et al., 2015; Redzwan Habib, 2016; Jahan et al., 2018; Abrahale et al., 2019; Mohd Nawawee et al., 2019; Reddy et al., 2020; Sabuj et al., 2020; Daniele et al., 2021; Chen & Chen, 2023). Addressing these urgent food safety challenges is essential not only to reduce the health burden but also to mitigate economic losses.

Understanding food safety in food retail environments involves examining consumer concerns and coping strategies in an urban context. Food safety concerns span the entire supply chain, encompassing agricultural inputs, harvesting, storage, transportation, processing, and retail handling (FAO, 2022). Research indicates that social media greatly influences consumers' food safety concerns (Liu and Ma, 2016; Zhang et al., 2019). Coping strategies for food safety are shaped by economic needs, and social

and cultural contexts influencing urban food practices. For instance, Wertheim-Heck et al. (2014) found that consumers develop long-lasting relationships with vendors and a food shopping routine to address food safety concerns (Wertheim-Heck et al., 2014). Another study identified that consumers' long-term coping strategies include proactive actions, seeking support through organisation or information, and avoiding risks by escaping and wishful thinking (Yu, 2018). However, more research is needed in LMICs because little is known about the link between food safety and urban poverty and approaches that benefit all stakeholders, including consumers, producers, retailers, traders, and policymakers. To achieve this, this thesis has conducted empirical research in a slum food retail environment in Dhaka, Bangladesh. The research thereby focused on shopping habits, dietary choices, eating outside the home, and the effects of internal migration on food safety. In performing this research, this thesis aims to analyse the food practices of the urban poor in a retail environment and assess the impact of food safety policies on their everyday lives, particularly their food-related concerns.

1.1.1   Food safety amidst urbanisation

The fast urbanisation in LMICs raises food safety concerns due to the complexities of food supply chains, the prevalence of unlicensed food vendors, and the limited space for food storage in the expanding slums. Cities often struggle to regulate food safety effectively, resulting in weak frameworks and limited enforcement (Roesel & Grace, 2014). Identifying ways to address these challenges requires insights into the complex social, economic, and cultural dynamics involved. While informal food markets play an important role in food security, especially for on-site eating-out consumption, they frequently lack clean water and sanitation, raising the risk of foodborne illnesses (Roesel & Grace, 2014; Aung & Chang, 2014; Grace, 2015; Charmes, 2012; Hawkes et al., 2017; Henson et al., 2023). Long supply chains from rural production to urban consumption, increase contamination hazards at various stages (Liu et al., 2017). Residents of informal settlements face a high risk of foodborne illnesses due to inadequate refrigeration, improper storage, and unsanitary living conditions, which accelerates the spoilage of perishable foodstuffs and the risk of bacterial contamination, underscoring the need for better storage infrastructure and management.

1.1.2   Food safety management by informal food vendors

Informal food vendors, including street vendors and small shops, play a key role in LMICs. They provide diverse meals—fresh, packaged, and ready-made—to nearly 70% of households in African cities such as Cape Town, Harare, and Maputo, and 62% of households in Indian cities like Bangalore (Battersby & Watson, 2018; Giroux et al., 2021, Shankar et al., 2020). In Latin America, they are essential for 16% of households in Mexican cities (Young et al., 2019). Research revealed that these vendors struggle in food safety management due to limited resources, infrastructures, health education, and training

(David Aronson, 2023; Tawodzera, 2019; Rifat et al., 2022). They often rely on traditional knowledge and community networks to maintain food quality and customer trust, highlighting the need for interventions that address socioeconomic, cultural, and regulatory factors (WHO, 2018, World Bank, 2021).

1.1.3   Inclusive food safety governance

Food safety governance must be inclusive, as access to safe food is a fundamental human right although frequently denied to the urban poor in LMICs. These populations are disproportionately affected by foodborne because of weak regulations, insufficient enforcement resources, and the prevalence of informal food markets (Grace, 2015; Global Panel, 2017; Ahmed et al., 2019; FAO, 2023). According to research, food safety agencies often lack funding, adequately trained people, and strict monitoring infrastructure (Grace, 2015, Liguori et al., 2022). Policy documents often fail to address the specific challenges of informal markets and the urban poor, focusing on formal sectors instead. Yet, empirical evidence on policy effectiveness in daily practices remains limited. More research is vital to assess real-world policy impacts, identify biases and gaps and advocate for inclusive approaches (Onwujekwe et al., 2021).

In conclusion, despite notable academic and political interest in food safety challenges among the urban poor in LMICs, substantial research gaps persist. These include the impact of rapid urbanisation and migration on food safety concerns, risks in urban food markets, consumers' and vendors' coping strategies applied to address these concerns, and the influence of existing policies on their knowledge and practices. Addressing these gaps requires new frameworks, appropriate methodologies, and effective approaches to understanding the retail food environment, leading to suggestions for more effective policies and interventions for vulnerable populations.

1.2   Conceptual framework: Social practice approach in food safety coping strategies

This thesis examines food safety strategies among the urban poor in Bangladeshi slums, focusing on the effects of rural-to-urban migration and the resulting lifestyle changes. The main analytical framework employed is Social Practice Theory (SPT), which enables a study of food safety management as an integral component of consumers' and vendors' everyday practices being shaped by meanings, materials, and competencies (Shove et al., 2012). Unlike conceptual approaches building on insights from psychology, economics, or public health, which often separate individuals from their social context, SPT views everyday practices as the unit of analysis. This way SPT combines social actors and their doings and sayings and enables exploring how social, cultural, and material dimensions shape

social practices (Fonte, 2008; Halkier et al., 2011; Kantamaturapoj, 2012; Schatzki, 1997; Veen et al., 2014; Warde, 2005; Wertheim-Heck & Spaargaren, 2016; c, 2002, Raneri, 2019).

In Bangladesh's slums, the urban poor, who are often engaged in numerous jobs, face interruptions in their everyday lives as a result of migration and the adjustment to urban life. These changes present new social and economic challenges and require adjusting to unfamiliar food environments, forcing the urban poor to modify their daily behaviour. It is important to explore how these societal issues affect their established routines and competencies, as this complicates their efforts to maintain food safety and stability in a fast-urbanizing context.

SPT highlights the influence of social contexts on individual actions, integrating agency and structure thereby offering insights into coping strategies with its long-term perspective and the inclusion of material and symbolic dimensions (Giddens,1979; Heidenstrøm & Kvarnlöf, 2018). Nicolini (2013) further conceptualizes SPT as a versatile toolkit, enabling researchers to zoom in on practices as performances—focusing on specific actions and interactions—and to zoom out to consider practices as entities within their broader social and cultural contexts. Central to this framework is the concept of routinization, where regular, habitual behaviour is stabilized, and de-routinization, where these routines are disrupted, either by internal factors (e.g., a change in personal circumstances) or external factors (e.g., new technologies, infrastructure changes) (Tezzo et al., 2021). Different social practices are interconnected and form a "bundle of practices" that encompasses different related daily activities, such as working, cooking, eating, etc. (Shatzki, 2002; Shove et al., 2012). Practices evolve, emerge, continue and persist in everyday contexts without full control by practitioners over them. SPT's holistic approach is particularly well suited for exploring how food safety management is embedded within everyday practices and shaped by broader social dynamics like migration and urban lifestyle change (Adeosun et al., 2022; Tezzo et al., 2021).

While food safety coping strategies have been studied by applying various disciplines, such as public health and nutrition research, these approaches have often failed to fully capture the everyday realities of food practices within their social contexts. SPT addresses this gap by considering how coping strategies are integrated into daily routines and habits. In this research I, therefore, intend to identify coping strategies employed by the urban poor in Dhaka, highlighting how social factors influence this behaviour and how they evolve across diverse socio-cultural and material settings (Burningham & Venn, 2020; Spaargaren, G., Weenink, D., & Lamers et al., 2016).

Applying SPT to the food retail environment allows me to gain a more comprehensive understanding of the food system (UNICEF & GAIN, 2018). Thereby, I intend to go beyond merely considering the physical space of the food environment and instead include the broader social and cultural dynamics at play. This way I can consider the entire food system, encompassing production, distribution, and consumption practices. While my research primarily focuses on the retail food environment, my conceptual framework allows me to acknowledge that food safety is practised at different stages of the food system and to identify potential issues for intervention to improve food safety. This comprehensive view underscores the importance of considering the entire food system when addressing food safety concerns in urban poor environments.

Food policy is pivotal in shaping everyday practices related to food safety in the retail environment. Effective policies can influence the behaviour of both consumers and vendors, ultimately creating a safer food environment. This research examines how existing food policies impact the coping strategies of the urban poor and identifies gaps where policy interventions could be more effective. These insights are essential for policymakers aiming to create an enabling environment that supports safe food practices among the urban poor.

This research applies this conceptual framework to unpack the everyday food-related practices of the urban poor (see Figure 1.2). The framework helps to study the specific food retail environment of the urban poor and to collect empirical evidence, particularly on the food safety concerns that are imposed by rural-urban migration and urban lifestyles. It examines the impact of these concerns on both shoppers and vendors (social agents) when vendors' practices are further explored. Finally, the conceptual framework guides research on the influence of food policy on all actors within the retail food environment and its potential to shape practices for improved access to safe food. Thereby this research contributes to the ongoing debate on food safety for the urban poor by highlighting the importance of SPT in understanding coping strategies within the urban food environment. It offers a comprehensive analysis of how migration, urban lifestyle, and food policy influence food safety practices.
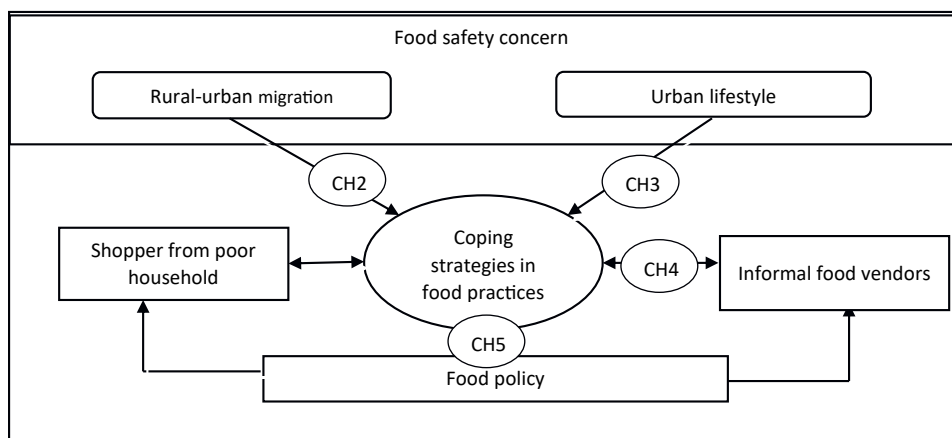
Figure 1.2 Conceptual framework

1.3 Research objective and question

This research aims to gain better knowledge of food safety challenges among the urban poor. The primary objective is to explore how the poor manage their food safety concerns in their everyday practices. Specifically, the study compares coping strategies between recent migrants and already-established residents, examining their everyday food shopping practices and their eating-out habits. The thesis also investigates the vendors' food safety management and evaluates the effectiveness of current food safety policies. By analysing consumer and vendor practices alongside relevant policies, the thesis seeks to provide insights into how to enhance access to safe food for the urban poor. To achieve this goal, this research is guided by the following research questions:

Primary question

How do food safety concerns influence food practices in urban retail environments, and how can strategies and policies address these concerns?

To answer the above question, it is further detailed into four sub-questions,

Sub-questions

1. How do the urban poor manage food safety concerns in their daily shopping practices? (Chapter 2)
2. What strategies do the urban poor employ to address food safety when eating out? (Chapter 3)

3. How do informal food vendors in urban Bangladesh manage food safety concerns for their consumers? (Chapter 4)

4. How do existing national food safety policies align with the needs and practices of the urban poor, and what improvements are necessary? (Chapter 5)

This research empirically investigates various aspects of food safety management. The findings are reported in the following four chapters. These findings are expected to shed light on food safety concerns in the food practices of consumers and vendors, societal and resource-related challenges and opportunities, and government policies affecting urban poor food practices. Finally, the study intends to generate suggestions for policy changes to enhance access to safe food for the poor in urban environments in LMICs. This thesis has the ambition to generate potential practical applications to improve food safety for the urban poor in LMICs.

1.4   Methodology

1.4.1   Food safety in retail environments: a case study of Bangladeshi urban slums

This study explores food safety practices among the poor urban residents in Dhaka's slums, focusing on how rural-to-urban migration and lifestyle changes impact these practices. Dhaka, the capital of Bangladesh, is situated in the central part of the country along the Buriganga River at approximately 23.81° N latitude and 90.41° E longitude (see Figure 1.3). The city has a high annual rural-to-urban migration rate of 3-4%, driving lifestyle shifts among the urban residents. It is administratively divided into Dhaka North and Dhaka South City Corporations. Several agencies, including the Ministry of Food, the Food Safety Authority, the Directorate General of Health Services (DGHS), the Directorate of National Consumer Rights Protection (DNCRP), the Bangladesh Standards and Testing Institution (BSTI), and the Department of Agricultural Extension (DAE), oversee the safety of food in the city.
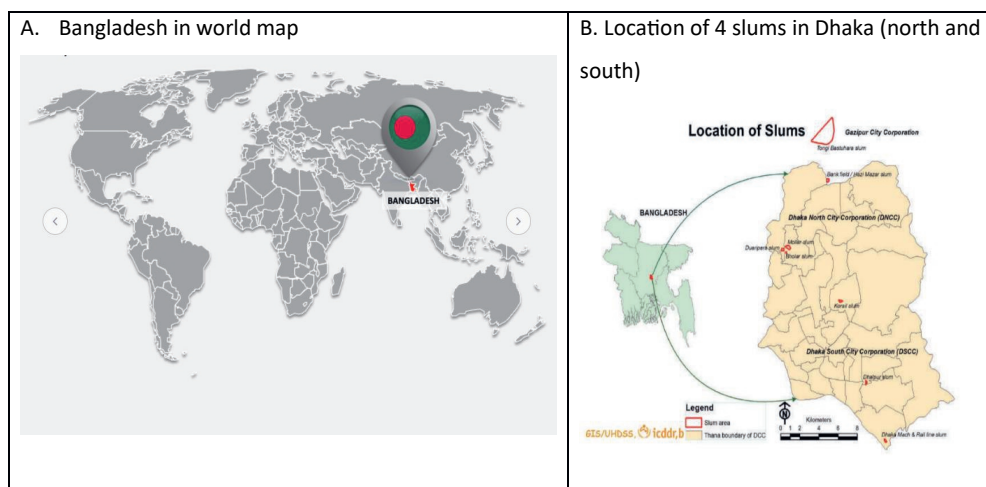
Figure 1.3 Location of Bangladesh in the world map and location of study slums in Bangladesh

Sources: A. https://www.sketchbubble.com/en/presentation-bangladesh-on-world-map.html

Source B. Razzaque, A., Iqbal, M., Hanifi, S., Mahmood, S. S., Mia, M. N., Chowdhury, R., Mustafa, A., Bhuiya, A., Majumder, M., & Hakim, A. (2019). Slum health in Bangladesh: insights from health and demographic surveillance. Dhaka, Bangladesh: icddr,b.

The interconnectedness of urbanisation, poverty, and food safety challenges is evident in cities like Dhaka and others across the Global South. Bangladesh, a rapidly developing nation, grapples with significant food safety challenges common to many Global South countries. Dhaka, characterized by rapid urbanisation, widespread poverty, and a substantial informal food sector, exemplifies these challenges. Due to its shared socioeconomic characteristics with other megacities such as Mumbai, Manila, Nairobi, Jakarta, Lagos, and São Paulo, Dhaka provides a valuable case study. By examining the root causes and consequences of these issues in Dhaka, this thesis aims to contribute to the development of effective interventions to improve food safety conditions in cities beyond Dhaka and worldwide. To achieve this, the thesis first analyses the practices, roles, and experiences of consumers and informal vendors within Dhaka's slum food retail environment. Additionally, the thesis assesses both the formal and the informal structures governing the retail food sector, with a particular focus on hygiene standards and practices. The findings will provide empirical evidence to inform policy development and enhance food safety practices. By serving as a case study for addressing food safety challenges in rapidly urbanising, economically developing contexts, this research seeks to offer valuable insights applicable to similar cities globally.

1.4.2   Analysing practices at retail outlets for food safety concerns and coping strategies

To analyse food safety concerns and coping strategies in the retail food environment, this thesis collects data on and examines the daily routines of vendors and consumers, emphasising how practices are shaped and sustained within the broader urban food system.

The analysis begins by identifying the core elements of these practices, and exploring how they are co-constituted within the urban context. Subsequently, the study investigates the concerns that arise from these practices and systematically identifies the coping strategies employed by individuals to address these concerns. This approach allows for a nuanced understanding of the intricate relationships between the elements of practice, the associated concerns, and the strategies developed to cope with these challenges.

The next three chapters provide a detailed comparative analysis of both practitioners (vendors and consumers) and the practices themselves, focusing on the practice elements, concerns, and coping strategies. The fifth chapter extends this analysis to include food policies and their impact on daily practices. By combining policy document analysis with observed food shopping, eating out, and vending activities, the thesis intersects practices in shaping food safety policy in urban settings.

1.4.3   Methods for data collection and analysis

Data for the empirical chapters came from applying both qualitative and quantitative methods for specific cases in Dhaka, Bangladesh. The cases explore daily food shopping, eating out and food vending practices, and a comprehensive policy assessment in four chapters as outlined in Table 1.2 (Flyvbjerg, 2006). Qualitative data, collected through purposive sampling, provide an in-depth understanding of consumer experiences and practices, while quantitative data, gathered through random sampling, offer a broader perspective on food safety dynamics. Data was recorded in notes, audio interview recordings, transcripts, photos, and through secondary policy document analysis.

Focus group discussions (FGDs) were conducted to explore general concerns related to food consumption and purchasing habits. Semi-structured interviews were held with both consumers and vendors to investigate socio-economic impacts, retail practices, and consumption patterns. Observational data captured actual consumer behaviour in retail outlets. Although observational studies were initially planned for the first three chapters, the COVID-19 pandemic required an adjustment in the research protocol. After collecting qualitative data to understand the detailed practices among the urban poor, the study analysed these practices by breaking them down into

different components and associated coping strategies, ultimately offering a comprehensive understanding through practice theory.

Table 1.2 summarizes the methods used in each chapter of this thesis, with detailed methodologies and respondent profiles provided in Chapters 2 through to Chapter 5. The research engaged a diverse group of participants, including slum residents, informal food vendors, and policymakers, to ensure a thorough exploration of food safety concerns and how people deal with them. Respondents represent various educational backgrounds, occupations, genders, and age groups.

Chapter 2 involves data collection through focus group discussions (FGDs), semi-structured interviews, and walk-along studies with 43 shoppers, along with a household survey of 401 respondents. The data was analysed using thematic exploration, descriptive statistics, and Chi-square tests to identify significant patterns in food safety practices. In Chapter 3, FGDs, semi-structured interviews, and household surveys were conducted with 440 participants. The analysis employed thematic methods and regression techniques to explore relationships between variables affecting food safety. Chapter 4 builds on semi-structured interviews with 26 vendors, and thematic analysis was used to gain deeper insights into specific practices and coping mechanisms. Finally, Chapter 5 examines 21 policy documents and relates these to the food safety concerns expressed during the semi-structured interviews with 43 consumers in Chapters 2 and 3, together with a survey involving 40 policy stakeholders. The analysis combines content analysis, thematic exploration, and descriptive statistics to investigate the post-enactment Food Safety Act 2013 and its governance implications. Together, these four chapters present a comprehensive empirical basis to understand the food safety challenges in Dhaka's urban retail environments.

Table 1.2 Methods for data collection and analysis

Chapters	Cases	Data collection	Data Analysis
Chapter 2	Food shopping	Focus group discussion, Semi-structured interviews, Walk along with shoppers, Shoppers' household survey.	Thematic analysis, Descriptive analysis, Chi-2 test
Chapter 3	Eating out	Focus group discussion, Semi-structured interviews, Shoppers' household survey	Thematic analysis, Regression analysis
Chapter 4	Food vending	Semi-structured interviews	Thematic analysis
Chapter 5	Policy assessment	Policy documents, Semi-structured interviews, Policy stakeholder survey	Content analysis, Thematic analysis, Descriptive analysis

1.5   Outline of the Thesis

This thesis comprises four empirical chapters, each formatted for publication in academic journals, preceded by this Introduction and followed by a Conclusion Chapter. In addition, a policy brief is included as an appendix.

Chapter 2 examines everyday food shopping practices among two different groups of urban poor, recent migrants and established residents, residing in Dhaka slums, employing a social practice approach. The analysis compares how these groups navigate food safety concerns within the urban food retail environment, highlighting the materials, skills, and meanings associated with their shopping practices. The findings shed light on the relative importance of practice elements, shared concerns about food safety, and strategies employed to manage food safety risks while shopping.

Chapter 3 utilises social practice theory to understand eating-out practices among the urban poor in Dhaka. It examines how practice elements, like choosing snacks versus full meals, play out within the context of Dhaka's urban lifestyle. The Chapter explores how limited cooking facilities, low education levels, and limited affordability influence the flexibility and innovative approaches adopted by consumers in managing food safety risks while eating out.

Chapter 4 investigates the coping strategies of informal food vendors. Dhaka's numerous slums are heavily reliant on informal food vendors. This Chapter focuses on the food safety considerations and resource limitations that vendors face in their daily practices. The analysis delves into their wholesale sourcing, processing, storage, and selling practices, and contributes to the ongoing discussion regarding vendors' commitment to food safety regulations and the resources needed for compliance.

Chapter 5 presents a food policy analysis and contributes to the debate on retail modernization for enhancing food safety. Taking a bottom-up approach, this Chapter builds on the findings of Chapters 2-4 to examine current food safety legislation in Bangladesh, such as the Bangladesh Food Safety Act of 2013. The analysis explores to what extent the content, aims, and implementation targets of these policies align with the needs and everyday practices of the urban poor on food safety. By studying policy documents and field implementation practices, this Chapter identifies strengths and weaknesses of current approaches and proposes potential pathways for creating safer retail food environments for Dhaka slum communities.

Chapter 6 is the concluding chapter. It synthesizes the key findings weaving from Chapters 2-5. The insights reveal a novel framework representing practices at retail points by the urban poor in

developing countries. This framework is situated within the broader field, highlighting its contribution to existing knowledge. I revisit the initial research questions and objectives, acknowledge limitations, and reflect on the lessons learned. This comprehensive overview aims to provide a clear understanding of the research's impact and its contribution to advancing knowledge in the discipline.

The thesis also contains an appendix which includes a policy brief designed to guide Bangladeshi authorities in taking evidence-based actions to address food safety concerns within the food retail outlets located in slum areas.

Chapter 2

Food safety concerns and purchase choices among poor households in the urbanising global south: the case of Dhaka, Bangladesh.

Abstract

This article looks into the daily food shopping practices of poor urban households in Dhaka, Bangladesh. A practice theory-based approach is used to explore their coping strategies in response to food safety concerns. By applying an exploratory sequential mixed-method approach, two groups of shoppers are compared: recently arrived migrants and established residents, as recently arrived migrants are expected to face an unfamiliar food shopping environment and therefore need to reconsider their daily food shopping practices. The results describe the elements of food shopping practices: food items, retail outlets, affordability, social networks, and relations to work. We identified the absence of freshness, undesirable substances, and the need for more information about the production process as the primary food safety concerns. Among both shopper groups, the harmful consequence of applying the chemical 'formalin' to food is considered the most prominent food safety concern. Major coping strategies include identifying (un)safe food, proactive selection, and establishing and maintaining social relationships. The two groups have similarities and differences in using skills and competencies to mitigate their food safety concerns in everyday shopping practices. Recently arrived migrants have to adapt to urban lifestyles and reconfigure their food safety concerns into their daily food shopping practices.

Keywords

Food safety concerns, coping strategies, grocery shopping, migration, social practice theory, Bangladesh

2.1 Introduction

Food safety is critical to food security, particularly for the urban poor in the global South. The United Nations' Sustainable Development Goals (SDGs) highlight the need for safe and nutritious food for everyone to end hunger and all forms of malnutrition by 2030 (FAO et al., 2017; Ilieva, 2017; Lartey et al., 2018). Unsafe food could seriously harm consumers' health, costing them money and time (Grace, 2015). Unfortunately, poor urban consumers in Low and Middle-income countries (LMIC) such as Bangladesh bear the most considerable burden of unsafe food due to low levels of education, hostile living conditions, and insufficient capacity to manage food safety (Jaffee et al., 2018; Liguori et al., 2022). These poor consumers must develop coping strategies for food safety concerns amidst challenging socioeconomic contexts, inadequate infrastructure, and malfunctioning institutions. It is critical to explore the coping strategies of the urban poor given the consequences of concerns about food safety on their overall well-being (HLPE, 2017; Ruel et al., 1998; Wahlqvist et al., 2012; Zhong et al., 2019).

Bangladesh is highly susceptible to food safety risks due to inappropriate food handling, insufficient refrigeration facilities, and insufficient temperature control (Noor, 2016). Recent studies have shown that food safety issues such as artificial colours, illegal additives, diseased animals, and microbial and chemical contamination are the most significant concerns for Bangladeshi consumers (Alam et al., 2015; Hossain et al., 2015; Ishra et al., 2022; Mohiuddin, 2018). Nearly 30 million consumers experience foodborne illnesses annually in Bangladesh. The capital city, Dhaka, with its rapid urbanisation and burgeoning slum population accounting for 40% of its population, makes it an ideal location for researching food safety coping strategies among urban poor inhabitants (Ahmed, 2014; Chatterjee et al., 2012). The slum dwellers have low affordability, low education, limited food storage facilities, and lack of proper cooking facilities. Slums in Dhaka are the primary destination for the rural poor who seek better economic prospects and escape the effects of climate change (Saracoglu & Roe, 2004). New migrants in slums may need to adjust to the different food environments, necessitating a shift from self-production in rural areas to dependency on food purchases in urban areas (Zezza & Tasciotti, 2010). With rural-urban migration likely to continue in the coming years, the issue of guaranteeing safe food will become even more pressing. Evidence shows that migration deteriorates the food security of migrants (Berning et al., 2022). However, more information is needed to understand how dealing with food safety concerns is associated with migration.

Previous research in developing countries demonstrates that consumers adopt coping strategies at retail points to avoid the consequences of unsafe food—their perceived hazards influence purchasing behaviours (Yeung et al., 2010). Shoppers actively seek information about food by smelling, checking

food appearance, and asking vendors about their origin (Ha et al., 2021). In China and Vietnam, urban consumers addressed safety concerns by cultivating their food rather than depending solely on purchasing (Kendall et al., 2019; Wertheim-Heck & Spaargaren, 2016). Studies further reveal that consumer in Hanoi and Addis Ababa shift their purchase points because of distrust of traditional markets and sidewalk vendors (Pham & Turner, 2020; Trübswasser et al., 2021). Additional coping strategies included creating connections with food vendors and planning shopping trips considering location and timing (Wertheim-Heck et al., 2014). Daily food shopping constitutes a critical decision influencing the safety and quality of food consumption in urban areas, a context where food shopping typically supersedes food production.

Given the apparent resource constraints of the urban poor, our goal is to investigate food safety coping strategies in food shopping. We expect to understand coping strategies better by exploring the concerns and adjustments in shopping routines among recently arrived migrants (RAMs) and comparing these with the shopping practices of urban poor who have lived in Dhaka for a longer time (here called "established residents (ERs)"). This study takes a social practice approach and defines food shopping as a routinised activity embedded in everyday life. According to the social practice perspective, individuals' behaviours and daily lives are positioned within larger social contexts and influenced by institutional processes, social structures, and cultural norms. This viewpoint allows for a thorough analysis of low-income urban residents' management of food safety concerns during their daily routine food shopping. Through the social practice approach, we aim to generate insights that can contribute to improving the urban food system by identifying possible interventions to support food safety strategies for the urban poor. This paper seeks to understand how poor urban inhabitants cope with food safety concerns in their everyday shopping practices. It also seeks to shed light on how coping strategies from recent RAMs differ from ERs.

The paper continues as follows: Section 2.2 outlines the conceptual framework rooted in a social practice approach, while section 2.3 details our mixed-methods data collection and analysis process. Section 2.4 offers findings and the concluding section 2.5 discusses the implications and leverage points for enhancing Bangladesh's food safety governance.

2.2 Conceptual framework

This study employs a social practice theory (SPT) approach to explore how the urban poor in Dhaka employ coping strategies to address safety concerns during food shopping. SPT recognises everyday practices as the unit of analysis and explores how social, cultural, and material dimensions shape these practices (Adeosun et al., 2022; Fonte, 2008; Halkier et al., 2011; Kantamaturapoj, 2012; Schatzki, 1997;

Veen et al., 2014; Warde, 2005; Wertheim-Heck & Spaargaren, 2016). Shove et al. (2012) define the practice as composed of three core elements: materials, meanings, and competencies. The participants in this study serve as performers of shopping, wherein some practice elements may appear more prominent than others due to shifts in the location or performers. This performance includes food items, affordability, infrastructure, and time. The materials encompass food items, the money involved in buying the food, and their food safety characteristics. The meanings comprise the shared understanding of buying safe food, convenience, and the value of money. Competencies in food shopping include skills, experiences, and knowledge in coping strategies such as selecting food and food shopping points and maintaining social relations.

Practices do not exist in isolation; instead, they are interdependent with other practices as part of daily life and constitute a "bundle of practices". This concept refers to how other daily activities, such as childcare, cooking, and livelihood, are linked to buying food. Moreover, the everyday life of Dhaka's poor relies on food shopping, which may impact their self-production opportunities. By identifying the bundle of practices, this study understands the influence of other practices on safer food shopping.

2.3 Methodology

2.3.1 Study settings, design, and sampling

The study was conducted in Dhaka, Bangladesh, examining four selected slums (Dholpur, Korail, Mirpur, and Shyampur) from two city corporations: Dhaka North City Corporation (DNCC) and Dhaka South City Corporation (DSCC). The choice of this study site is based on several criteria. These include being a recognised migration destination for rural poor individuals (DhakaTribune, 2018), predominant dependency on market-based food sources, comparable migration duration of slum residents, and similar food retailers' location patterns and opening hours (Razzaque et al., 2019). There were three traditional wet markets in the Korail slum: Bou Bazaar, Jamai Bazaar, and TNT Market along with the nearby Mohakhali and Banani Bazaars outside the slum. There were no supermarkets in the Korail slum.

This study followed an exploratory sequential mixed-method approach, incorporating four methods: focus group discussions (FGDs), semi-structured interviews (SSIs), Go-along, and a household survey. A "Go-along" is when a researcher participates in participants' daily activities (here food shopping) with them (Carpiano, 2009). This provides direct perceptions of their activities, decisions, and interactions in the real world. We collected qualitative data first, followed by a shoppers' household survey (Creswell & Creswell, 2017). The study was a comparative analysis of safety concerns, aiming to highlight potential coping strategy differences in food shopping between RAMs and ERs. The qualitative data

from these two groups were analysed and compared, and the generalisable findings from the survey were validated by the qualitative results via triangulation.

The sample included 444 respondents, comprising both qualitative and quantitative studies (see Table 2.1). The qualitative sample was purposively drawn exclusively from the Korail slums and consisted of self-reported adults and primary shoppers for their households. The purpose was to include shoppers from low-income urban households, assuming that many of them work out of home and that their various professions have a range of daily routines. The sample households were selected from the Urban Health and Demographic Surveillance System Survey (UHDSS) by the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) (Razzaque et al., 2019). Each of the two Focus Group Discussions (FGD) included eight shoppers, 25 semi-structured interviews (SSI) had 27 shoppers, and the Go-along included 5 shoppers who were already SSI respondents. FGDs offered insights into the broad aspects of shopping practices and food safety concerns, serving as a foundation for the exploration. SSIs gathered in-depth data on specific areas, including types of food items bought, consumers' daily shopping routine, considerations, food safety concerns and strategies to cope with them. Go-along allowed observing and talking about their actual food shopping practice as a daily performance. While collecting data, individuals residing in the slum for two years or less were classified as Recently Arrived Migrants (RAMs), whereas those with a residency exceeding two years were designated as Established Residents (ERs).

Table 2.1 An overview of data collection and analysis methods

Data collection	Number of respondents			Types of data	Method of analysis
	RAMs	ERs	All		
2 FGDs	8	8	16	Common sayings and doings regarding current shopping practices and safety issues	
25 SSIs	14	13	27*	Individual household shopping practices as part of daily routine, FSC, changes in practice, and coping strategies	Identifying thematic patterns
5 Go-Alongs	3	2	5	Direct observation of actions and interactions with retailers during the shopping followed by an interview	
Shoppers' household survey	51	350	401	General shopping practice, i.e., time, place, food group-specific safety concerns, and coping strategies	Descriptive statistics

*There were two participants for two SSIs; the households informed us that both members shop equally for grocery items.
Note: RAMs=Recently Arrived Migrants, ERs= Established Residents

The quantitative sample comprised 401 randomly selected households from the UHDSS, utilising Probability Proportional to Size (PPS). As the distribution of ERs and RAMs in these urban slums was not documented in previous studies and surveys, we assumed that 50% of the slum populations are

ERs and others are RAMs (Pourhoseingholi et al., 2013; Lakens, 2022). The lack of prior knowledge regarding the distribution of ERs and RAMs did not allow us to employ a stratified sampling method. In this study, the two-stage sampling approach aimed to achieve a representative sample of households in urban slums in Dhaka. First, using the random sample calculator, we determined that a minimum sample of 392 respondents is needed to achieve a precision level of 5%. Next, we employed PPS to determine the number of sample households in each slum (see Table 2.2). It is worth noting that there are five slums in total in the UHDSS base, but one is located outside Dhaka. Therefore, this one was not included in the sampling process. This approach enabled us to obtain a representative sample of migrants residing in urban slums in Dhaka to estimate the prevalence of safety concerns about food among this population.

Table 2.2 Survey sample households from each slum

| Name of slums | Total number of households in UHDSS within Dhaka | Population | | Sampling weight | Sample size | Dhaka City Corporations (DCC) |
		All	18 years and above			
Dholpur	2033	7942	5055	0.10144	41	DSCC
Korail	10939	40903	25816	0.51805	207	DNCC
Mirpur	5846	21378	14032	0.28158	113	DNCC
Shyampur	2099	7811	4930	0.09893	40	DSCC
Total	20917	78034	49833	1	401	

2.3.2   Data collection

Data were collected from February to November 2020. Initially, two FGDs, thirteen SSIs, and five Go-alongs were done in person before the COVID-19 pandemic hit Bangladesh in March 2020. The remaining SSIs and the survey were completed over the phone. The data collection team consists of seven trained research officers: two qualitative data collection experts, five enumerators for the survey, and the first author. Respondents in the qualitative segment were contacted via a community development committee leader. Verbal informed consent was recorded; only one SSI interviewee declined to participate. The FGDs were conducted in the community leader's house, and respondents were free to express their opinions. In-person SSIs were conducted in respondents' houses. RAMs were asked about their former practices when living in rural areas. The survey questionnaire was based on the information gathered in the qualitative exploration, for example, RAMs were asked about their current practices in Dhaka and their former practices when living in rural areas. Data was collected using the Open Data Kit (ODK) forms over the phone from October to November 2020. We conducted the survey using respondents' phone numbers recorded in UHDSS. A total of 705 households were contacted, but only 401 were included in the analysis due to 33% declining or unreachable.

2.3.3 Data analysis

The FGDs and SSIs were transcribed, coded, and segmented into categories (Braun & Clarke, 2006) using the ATLAS Ti_9 software. The analysis was deductive (following themes from the SPT concepts) and inductive (arising from respondents' discussions). During the analysis process, the first author read the transcripts multiple times, familiarised himself with the data, and listed the codes in a codebook. Later, he discussed with the other authors to apply the codes in all interviews and developed the themes presented in the result section. In this process, the two categories of shoppers were compared on their current shopping practices, safety concerns, indicators of (un)safe food, and coping strategies. The statistical analyses were performed in STATA 13.1 to generate descriptive statistics to support the qualitative findings. First, the surveyed 401 households were grouped into RAMs and ERs based on 2 years of residence. Then, Chi-square and other summary statistics were used to compare the food shopping performance of the two groups and their food safety concerns for buying.

In section 2.4, this study uses an integrated procedure in presenting results, sequentially exhibiting qualitative and quantitative findings in general, giving priority to qualitative discoveries, and attempting to expand them through quantitative analysis.

2.4 Results

2.4.1 Socio-economic status of respondents

Table 2.3 summarises the profiles of the respondents. Most respondents were younger than 40 years, with ERs tending to be older than RAMs. Gender was balanced, except for the slightly higher representation of men in the survey. Most shoppers were private employees and housewives, including day labourers, transport workers, readymade garment workers, other factory workers, maids, shop workers, office peons, etc. ERs showed higher self-employment and illiteracy than RAMs. Nearly one-third of the survey participants lacked formal education, while around 40% had attended primary education (up to 5 years).

Table 2.3 Respondents' demographics

Characteristics	Qualitative research respondents (FGDs (n=16)+SSIs (n=27))		Shoppers' household survey respondents (n=401) (%)	
	RAMs (n=22) n (%)	ERs (n=21) n (%)	RAMs (n=51) n (%)	ERs (n=350) n (%)
Age group				
18-30	12 (55)	9 (43)	39 (76)	158 (45)
31-40	6 (27)	6 (29)	6 (12)	123 (35)
41-50	2 (9)	4 (19)	4 (8)	46 (13)
51-65	2 (9)	2 (10)	2 (4)	25 (7)
Gender				
Male	12 (55)	9 (43)	25 (49)	196 (56)
Female	10 (45)	12 (57)	26 (51)	154 (44)
Profession				
Private employee	8 (36)	6 (29)	34 (67)	189 (54)
Housewife	6 (27)	3 (14)	11 (21)	77 (22)
Business	3 (14)	2 (10)	1 (2)	46 (13)
Self-employment	5 (23)	8 (38)	3 (6)	28 (8)
Others	0	1 (5)	2 (4)	7 (2)
Government employee	0	1 (5)	(0)	4 (1)
Years of schooling				
No education/ can only sign	5 (23)	11 (52)	12 (24)	109 (31)
1-5	9 (41)	5 (24)	20 (39)	144 (41)
6-10	4 (18)	4 (19)	18 (35)	88 (25)
10+	4 (18)	1 (5)	1 (2)	11 (3)

RAMs Recently Arrived Migrants, *ERs* Established Residents.

2.4.2 Grocery shopping practice of urban poor

The qualitative data revealed the dynamics of food shopping practices among the urban poor in Dhaka and highlighted five key themes: food items, outlets, affordability, social networks, and relations to work (see Table 2.4). These themes reflect the elements of the practice, exhibiting distinct characteristics. The engagement of RAMs and ERs revealed commonalities and variations, providing a comprehensive understanding of their considerations and behaviours in daily food acquisition.

Table 2.4 Key elements of the urban poor's food shopping practice

Shopping practice elements[a]	Characteristics	RAMs	ERs	Quotes
Food items	Diversified	2*	6	*Because everything is available here (32y, female, private cook)*
	Fresh	4	6	*Fresh things are available; you have to sort them out (44y, female, housewife)*
Outlets	Proximity	9	9	*Near to my home; I buy all the wet items from Boubaazar (35y, male, tailor)*
	Carrying	4	4	*My home is far away from my workplace. So I can not always carry food from there. (48y, male, street fruit vendor)*
Affordability	Price	2	6	*I try to save money by buying low-quality food for a low price (35y, female, readymade garments workers)*
	Credit facilities	3	4	*They [shopkeepers] give me food on credit; I pay end of a month (28y, male, rickshaw puller)*
	Income	7	13	*It depends on income; if you have enough income, you buy a large fish (38y, male, rickshaw puller)*
Social networks	Neighbours	1	4	*There is a refrigerator in a house nearby…I buy fish and meat once and keep them there (28y, male, rickshaw puller)*
	Retailers	0	1	*I have a connection with a shopkeeper; I can get food on credit too (32y, male, street shoe seller)*
Relations to work	After work or weekend	8	7	*Most of the time, I buy food in the evening because I do not get time in the daytime (65y, male, graveyard worker)*
	Way to home	5	6	*On my way home, I bring rice, pulses and all other wet market items (30y, male, rickshaw puller)*

[a]*Elements are identified through thematic analysis of the discussion in FGDs and SSIs*
RAMs Recently Arrived Migrants, ERs Established Residents.
**Number in the cells represents code frequencies of for the practice elements*

From FGD and SSI data, it became evident that the groups shared similarities in terms of outlets and relations to work. Dhaka's food market encompasses corner shops, street vendors, peddlers, and supermarkets. Approximately 90% of survey respondents bought food from traditional wet markets and corner shops, while only 1% from supermarkets (See Table 2.5).

Table 2.5 Frequency and chi-square analysis of shopping places visited by urban poor (N=401)

Shopping place	RAMs		ERs		Pearson chi2(5) /p-value
	n	%	n	%	5.091 / 0.405
Traditional wet market	41	80	255	73	
Corner shops	4	8	53	15	
Street vendors	5	10	19	5	
Peddlers	1	2	19	5	
Supermarkets	0	0	3	1	
Others	0	0	1	0	
Total	51	100	350	100	

**p<.01, **p<.05,*p<.10*

Respondents emphasised the importance of proximity and convenience for food shopping. Nearby outlets were valuable due to their accessibility and affordable transportation costs. One respondent

emphasised the importance of proximity: *"My home is far away from the workplace. So, I can not always carry food from there" (48y, male, street fruit vendor).* Most survey respondents (75%) preferred buying food from nearby outlets within a 500-m radius (See Table 2.6).

Table 2.6 Frequency and chi-square analysis of the distance between shopping points and poor urban homes (N=401)

Distance	RAMs		ERs		Pearson chi2(5) / p-value
	n	%	n	%	2.8979/ 0.235
Less than 500 metres	34	67	268	77	
500-1000 metres	12	23	51	15	
More than 1000 metres	5	10	31	9	
Total	51	100	350	100	

***p<.01, **p<.05,*p<.10

Despite a preference for morning food shopping, job requirements compelled shoppers to visit outlets after work or on weekends. In the rural area, RAMs were limited to shopping for food twice a week at a weekly market. However, Chi-square tests indicated a significant difference between the two groups regarding the moment of food shopping in urban areas, with the ERs (51%) tending to shop earlier in the day (i.e., before lunch) compared to RAMs (37%) (see Table 2.7).

Table 2.7 Frequency and chi-square analysis of shopping moments of urban poor (N=401)

Moments	RAMs		ERs		Pearson chi2(5) / p-value
	n	%	n	%	(10.495)*/ 0.062
Early in the morning until 7.00 hours	0	0	2	1	
Morning (7.00-11.00 hours)	17	33	154	44	
Lunch (11.00-14.00 hours)	2	4	23	7	
Afternoon (14.00-18.30 hours)	16	31	98	28	
Evening (18.30-20.00 hours)	15	29	49	14	
Night after (20.00 hours)	1	2	24	7	
Total	51	100	350	100	

***p<.01, **p<.05,*p<.10

Turning to the differences between the two groups, variations were observed in their food choices, affordability, and social networks for shopping. Although ERs slightly differed from RAMs, both groups valued the diversity and freshness of wet market items in Korail's market available in the morning. RAMs discussed the less-diversified and seasonal food availability in rural markets. Additionally, they mentioned the availability of free and fresh food in rural areas, such as free fish caught from nearby canals, wild vegetables harvested from neighbouring land, and cultivated vegetables obtained from family or other familiar people. Compared to RAMs, ERs prioritised affordability and had stronger connections with neighbours and retailers. This connection provided them with access to more

information when buying food on credit and support for food storage: *"My brother has a refrigerator. I keep them [bought food] in his refrigerator"* (24y, female, school teacher).

Our SSI data revealed connections between daily food shopping and other activities such as childcare, cooking, livelihood, and the daily mobility of respondents, highlighting a bundle of practices. Childcare influenced shopping schedules, particularly for mothers who may go food shopping while their children are napping in the presence of another caregiver. Furthermore, food buying was connected to the dependence on public transportation and Dhaka traffic congestion. For instance, employees at readymade garment factories, peddlers, and drivers left their homes at about 7h and returned at around 22h. On the way home, these workers visited traditional markets and street-side shops in the evening. They also preferred the morning shopping practice because the unstable pipe gas supply was more reliable, and shared cooking areas were easier to access. Later in the day, it was harder to access these amenities.

Overall, our observation points to the shopping practice of closer home were similar across both quantitative and qualitative respondents. However, RAMs and ERs differed in shopping moments, connection with neighbours and affordability.

2.4.3 Food safety concerns related to grocery shopping

Food safety concerns related to food shopping were prevalent among both groups. According to the survey, 96% of the respondents expressed concerns about food shopping, particularly the safety of fish, fruits, and vegetables (see Table 2.8 and Table 2.9**).** Furthermore, 90% believed that rural-urban migration had increased their concerns. Notably, supermarkets were the least concerning option in terms of food safety, while street vending was the most concerning outlet (see Table 2.10).

Table 2.8 Frequency and chi-square analysis of primarily concerned food items among concerned urban poor (N=390)

Distance	RAMs		ERs		Pearson chi2(5) / p-value
	n	%	n	%	10.3494/ 0.323
Fish	24	48	110	32	
Fruits and vegetables	15	30	120	35	
Beef mutton	4	8	34	10	
Chicken	3	6	36	11	
Milk and dairy products	2	4	8	2	
Oil	1	2	19	6	
Grain	0	0	9	3	
Snacks and beverages	0	0	2	1	
Nuts and seeds	0	0	1	0	
Others	1	2	1	0	
Total	50	100	340	100	

***p<.01, **p<.05,*p<.10

Table 2.9 Frequency and chi-square analysis of concerns by food groups of concerned urban poor' (N=390)

Percent of shoppers (N=401) who are concerned	Concerns	RAMs		ERs		Pearson chi2(5) / p-value
		n	%	n	%	
	Grains					
99	Not packaged	48	96	291	87	5.3066/
	Packaged	1	2	3	1	0.151
	Both	1	2	34	10	
	Others*	0	0	8	2	
	Total	50	100	336	100	
	*Others include fake products, chemicals, the possibility of disease					
	Beef and mutton					
98	Dead or alive while slaughtering	30	60	108	33	(14.923)**/
	Stale meat	8	16	91	27	0.011
	Providing (undeclared) other meats with beef or mutton	7	14	78	23	
	Chemical/formalin add	3	6	42	13	
	*Others	2	4	13	4	
	Total	50	100	332	100	
	*Others include injecting cows, dust on hanging meat, taste					
	Chicken					
96	Possibility of being ill	20	42	130	39.5	5.8866/
	Dead or alive while slaughtering	16	33	103	31.3	0.436
	Providing farmed chicken as organic	8	17	34	10.3	
	Non-organic or farmed chicken	2	4	48	14.6	
	*Others	2	4	11	3.3	
	Added colour	0	0	3	0.9	
	Total	48	100	329	100	
	*Others include sick chicken, adulterated poultry feed					
	Fish					
99	Chemical or formalin	20	40	160	48	4.8463/
	Ice	19	38	101	30	0.564
	Softness and dryness	3	6	33	10	
	Bad smell	3	6	15	4	
	Others	4	8	18	5	
	Added chemical or artificial colour	1	2	6	3	
	Total	50	100	335	100	
	*Others include stale fish, cultured fish, fish feed					
	Fruits and vegetables					
99	Chemical/formalin add	43	86	307	91	6.6833/
	*Others	2	4	13	4	0.154
	Frowziness/mustiness	1	2	10	3	
	Added chemical or artificial colour	2	4	2	1	
	All of the above	2	4	5	1	
	Total	50	100	337	100	
	*Others include expired, open foods, gastritis, etc.					
	Milk and dairy products					
94	Dirty water added	16	33	101	31	2.4648/
	Not packaged	15	31	76	23	0.782
	Chemical added	10	20	70	21	
	Packaged	3	6	34	10	
	*Others	3	6	21	6	
	All of the above	2	4	24	7	
	Total	49	100	326	100	
	*Others include expired, open foods, gastritis, etc.					
	Snacks such as bread, biscuits, and beverages					

	Artificial colour	2	54	17	5	5.2161/
	Chemical colour added	26	27	144	45	0.266
	Unknown processing	13	2	121	38	
94	All of the above	1	13	18	6	
	*Others	6	100	21	7	
	Total	48	0	321	100	
	*Others include date expired packaged items, dust on open snacks					
	Oil					
	Not packaged	49	98	304	93	
	Packaged	1	2	4	1	
	Both	0	0	16	5	
96	*Other	0	0	3	1	
	Total	50	100	327	100	
	*Others include unknown processing, plum oil mixed with soybean					
	Nuts and seeds					
96	Overall concerns about nuts and seeds	15	30	154	45	(4.1522)**/ 0.042

***p<.01, **p<.05,*p<.10

Table 2.10 Frequency and chi-square analysis of shopping places of concern among concerned shoppers (N=390)

Shopping place	RAMs		ERs		Pearson chi2(5) / p-value
	n	%	n	%	(13.0405)**/ 0.023
Street vendors	29	58	205	60	
Peddlers	17	34	57	17	
Traditional wet market	2	4	66	19	
Corner shops	1	2	6	2	
Supermarkets	1	2	5	1	
others	0	0	1	0	
Total	50	100	340	100	

***p<.01, **p<.05,*p<.10

All respondents in FGD and SSI expressed safety concerns about their daily food shopping, primarily due to health issues such as fever, diarrhoea, and cholera. We identified eight themes and nineteen safety concerns for food and non-food elements (see Table 2.11). RAMs expressed greater concern about nine items, lower concern about five items, and equal concern about four items. Children and the elderly were perceived to be more vulnerable to unsafe food than adults. A shared understanding of "safe food" was identified through the native term "*Taaja*" (in English, "fresh"). This concept encompassed locally grown, self-cultivated, and well-known production and handling processes.

Regarding food items, three key themes emerged: concerns about undesirable substances, issues regarding freshness, and uncertainties about processing methods. Regarding undesirable substances, the major concern revolved around the usage of formalin (a chemical used as a preservative and disinfectant), with one RAM mentioning, "In Dhaka, formalin is added to fish, fruits and vegetables and present in almost every food item" (34y, female, housewife). In addition to formalin, RAMs expressed

greater concerns about various undesirable substances such as chemical fertilisers in plants, dust in grains, animal diseases, and ice on fish, while artificial colours to conceal paleness in meat, fish, and vegetables raised less concern. Concerning freshness, RAMs were less concerned about rotten food, foul odours, and expired food products; however, they exhibited more concern about the longer selling period in wet markets causing foul smells due to prolonged exposure to Dhaka outdoor temperatures. Additionally, fewer RAMs than ERs were concerned about being illiterate and its impact on their understanding of freshness by checking the expiration dates of packaged goods. Lastly, RAMs expressed greater concern about unknown processing practices, for instance, cultivation and handling processes and the slaughter of already deceased animals. Both groups showed similar concerns about mixing meat types–cow and dog meat. However, only 1.9% of survey respondents were concerned about unidentified food processing, and 1.7% were concerned about food origin.

Regarding non-food aspects of shopping, both groups expressed similar levels of concern about outlet choices and affordability. Taking into account the image of the shops, they believed smaller corner shops and street vendors provide unsafe food. A shared connection between food safety concerns and affordability emerged; both groups believed that cheaper food is associated with poor quality, and credit-based food purchase limits their access to better foods from other outlets. However, a slight distinction existed between the groups regarding social networks and relations to work. RAMs showed more concern than ERs towards unfamiliar neighbours, vendors, and shopping schedules. This unfamiliarity restricted access to information and refrigeration availability. As a respondent put the challenge of night shopping, *"Not good at all; it is bad. Nothing to do; we have to eat to survive. Good things are not part of our luck. When good things come in the morning, we go to work" (35y, female, readymade garments worker).*

In general, RAMs expressed greater concern about undesirable substances and unknown processing practices than ERs, while both groups showed similar levels of concern about non-food aspects of shopping.

Table 2.11 Themes and codes of food safety concerns among urban shoppers in food shopping practices

Shopping practice elements	Food safety-related concerns[a]		Shopper groups		Quotes
	Themes	Codes	RAMs	ERs	
Food items	Undesirable substances	-Formalin	47*	32	*There is formalin in everything (24y, female, school teacher)*
		-Dust	9	6	*There is a possibility of dust in the open food on the footpath (30y, male, rickshaw puller)*
		-Chemical fertilisers in plants	5	3	*In our time, we used cow dung as fertiliser, now everything is chemical fertiliser (55y, male, street fish vendor)*
		-Ice	4	1	*Vendors put ice on fish; perhaps they kept it for an extended period (24y, female, housewife)*
		-Diseases in animals	2	1	*I do not buy broiler chicken; this contains disease (30y, male, rickshaw puller)*
		-Artificial colouring	3	7	*The blue colour is given on shrimp (55y, male, street fish vendor)*
	Lack of freshness	-Rotten food	8	10	*After buying it, I find the fish is rotten (48y, male, street fruit vendor)*
		-Bad smell	4	6	*The fish are soft, bad smells come from them (24y, female, housemaid)*
		-Expired food products	5	8	*Illegal fake labelling on expired products (31y, male, private car driver)*
		-Extended selling period	8	0	*Beef can be sold, preserving a long time (38y, male, rickshaw puller)*
	Unknown processing	-Cultivation and handling	4	2	*We cannot see here; how it was cultivated (21y, male, debt instalment collector)*
		-Slaughtering already dead animal	3	1	*I do not buy cut chicken meats; those might be already dead before slaughtering (21y, male, debt instalment collector)*
		-Mixing meat types	1	1	*We do not know what meat it is; cow or dog (54y, male, cook)*
Outlets	Image of shops	-Smaller shops	1	1	*I always buy from big shops, smaller provide bad things (28y, female, housewife)*
	Street vendors	-Street vendors	1	1	*Here in the street shops, you will get most of the time date expired bread (28y, female, housewife)*
Affordability	Low affordability	-Cheaper and on-credit food	2	2	*I buy food on credit…sometimes they give worse quality food (35, female, housewife)*
Social relationship	Unfamiliar neighbours	-No or limited access to the refrigerator	4	0	*There is no refrigerator here [city]; I cannot store foods (21y, male, debt instalment collector)*
Relations to work	Shopping schedule	-Evening shopping	4	8	*Not good at all; it is bad. Nothing to do; we have to eat to survive. Good things are not part of our luck. When good things come in the morning, we go to work (35y, female, ready-made garments worker)*

[a]Food safety-related concerns were identified through thematic analysis of the discussion in FGDs and SSIs

RAMs Recently Arrived Migrants, *ERs* Established Residents;

*Numbers in the cells represent code frequencies for food safety-related concerns

2.4.4 Coping strategies in daily food shopping

In FGDs and SSIs, we found three significant themes for coping strategies: identifying safe and unsafe food, proactive selection, and creating and maintaining relationships (see Table 2.12).

RAMs were more engaged in identifying safe food indicators, although both groups examined the external appearance and packaged food items. RAMs often relied on visual indicators of vegetables, such as full baskets, wild vegetables, and freshwater fish in the market. Besides, they looked for 'Desi' (locally bred) and live animals to indicate safer food. For instance, RAMs actively avoided purchasing fish stored under loose ice or selecting vegetables with a smell of chemical fertiliser. Assuming they had been fattened, avoiding larger fish was consistent across the groups. In the survey, 97% of participants observed and 73% smelled to assess food safety (see Table 2.13).

Table 2.12 Themes and codes of coping strategies among urban shoppers for food safety concerns in food shopping practices

Coping strategies		Shopper groups		Quotes	Shopping practice elements
Themes	Codes	RAMs	ERs		
Safe food identification indicators	Observe external appearance/packaging	24*	16	*I observe as much as I can (40y, female, ready-made garments workers)*	Food items
	Checking the expiration dates	5	4	*Eating expired food can cause problems, so it's always better to check the date (31y, male, private car driver)*	
	Durability	2	0	*My daughter bought tomatoes a month ago but did not rot (44y, female, tailor)*	
	Basket composition	2	0	*Few vegetables left in vendor's baskets may not be fresh or good (24y, female, housewife)*	
	Wild/not cultivated	2	1	*I buy Malabar spinach, which appears as if it has been cut from the jungle (32y, female, housemaid)*	
	River or sea fishes	3	2	*Sea fish is not cultivated, so it is not adulterated (55y, male, street fish vendor)*	
	Desi	1	2	*Desi (local) cow milk is safe (60y, female, corner shop owner)*	
	Live animals	1	2	*I buy a chicken which is slaughtered before me (48y, male, street fruit vendor)*	
	Image of shops	2	2	*There is a big shop, created by joining two or three shops. You can good things there (28y, female, housewife)*	
Unsafe food identification indicators	Observe external appearance	15	10	*When I see black spots on taro root, I do not buy them (21y, male, debt instalment collector)*	

	Size of the food items	2	2	*I do not buy big-size fish. They are grown with fertilisers (55y, male, street fish vendor)*	
	Chemical fertilisers	1	0	*The cultivated food has a smell (40y, male, shoe seller)*	
	Bad smell	4	6	*Soft fishes is not good. They smell bad (30y, male, rickshaw puller)*	
	Experience	2	0	*I have a bitter experience (60y, female, Cornershop owner)*	
	Loose ice on fish	4	0	*They put ice on it [fish]. Due to ice, something happens (24y, female, housewife)*	
Proactive selections	Altering shops	9	13	*I do not buy from that shop but rather from another shop (25y, female, housewife)*	Outlets
	Buy high-priced items	4	2	*For my child's safety, I must pay a higher price (32y, female, recycle factory labour)*	Affordability
	Avoid buying food on credit	2	0	*I always buy in cash (35y, female, ready-made garments worker)*	
	Avoid low-priced products	0	4	*Even the price is high; I buy packaged items (20y, female, housewife)*	
Establishing maintaining relationships	Create new relationships	2	0	*Recently I have had contact with a shopkeeper(40y, male, shoe seller)*	Social networks
	Altering food products	21	17	*I will stop buying the items from the shop; rather will buy another item (24y, female, housewife)*	
	Arguments with shoppers	2	4	*I must tell the shopkeeper; it's my hard money (38y, male, rickshaw puller)*	
	Trust the vendors	2	3	*Yeah, I buy based on trust (48y, male, street fruit vendor)*	
	Depending on rural relatives	3	0	*My mother sometimes sends me chilli powder from her home [rural area] (21y, female, housemaid)*	Relations to work
	Delegating family member	2	3	*My son can go food shopping in the daytime (32y, female, housemaid)*	

RAMs Recently Arrived Migrants, ERs Established Residents.

*Numbers in the cells represent code frequencies for food safety-related concerns

Shoppers with safety concerns tended to address their concerns proactively (see Box 1). Overall, RAMs adopted less proactive action than ERs. The actions included choosing particular outlets and avoiding the cheaper foods, which may be of lower quality or contaminated. For instance, a respondent described, "I do not buy from that shop but rather from another shop…they sell cheaper and expired items" (25y, female, housewife). More RAMs than ERs paid higher prices and refrained from credit-based food purchases. When compared to ERs, fewer RAMs purchased packaged items. Furthermore, RAMs exhibited greater vigilance in verifying the expiration dates of food items, with higher numbers of RAMs inspecting such dates. However, no significant differences were found in the rest of the coping strategies except observing and smelling among the groups (see Table 2.13).

Respondents created and maintained relationships with vendors and neighbours as a critical social coping strategy. Social networks could offer them support during difficult times and aid with further information on food items. RAMs, more than ERs, explained that creating relations with vendors could build trust and provide access to high-quality food items. On the other hand, ERs highlighted arguments with vendors to alter spoiled products. For RAMs, relying on rural relatives to bring safer food from rural areas was another coping strategy. Additionally, they delegated family members for food shopping to avoid the evening shopping practice.

Table 2.13 Frequency and chi-square analysis of coping strategies employed by urban poor (N=401)

Coping strategies	All shoppers (N=401)		RAMs (n=51)		ERs (n=350)		Pearson chi2(5) /
	n	%	n	%	n	%	p-value
Observe while buying (yes)	389	97	50	98	339	96	0.2143/0.643
Buy packaged items (yes)	159	40	14	27	145	41	3.6344*/0.057
Check the expiration date (yes)	163	41	27	53	136	39	3.6599*/0.056
Smell before buying (yes)	292	73	39	76	253	72	0.3939/0.530
Touch the food items (yes)	221	55	31	61	190	54	0.7599/0.383
Pay a higher price (yes)	212	53	23	45	189	54	1.4157/0.234
Argue with the vendors (yes)	133	33	18	35	115	33	0.1193/0.730
Trust some vendors (yes)	189	47	25	49	164	47	0.0835/0.773
Alter shops(yes)	159	40	16	31	143	41	1.6734/0.196
Stop buying some items (yes)	188	47	25	49	163	47	0.1071/0.743
Buy foods at a specific moment (yes)	155	39	21	41	134	38	0.1569/0.692

***p<.01, **p<.05,*p<.10

Box 1 Go-along on a shopping trip: Boubazaar, Korail Slum, 03 March 2020, afternoon

It was 12:50 h. I met Mr. A (age 40), a recently arrived resident of the Korail slum. He is currently a street fruit vendor who migrated six months ago from the coastal district, Barishal, where he was a farmer. He was slightly uncomfortable during the walk along with him, but his mind was determined. He sat down and said he would not buy much food that day. Perhaps he would buy some vegetables and fish but nothing more. I assured him that I had nothing to do with the amount of food he intended to buy. Then we left for the market. It was about 13:00 h. We were passing the narrow lanes of the slum, and shortly we entered the Boubazaar. The bazaar was relatively quiet compared to the morning. Mr A instantly looked at the entire marketplace and gestured to follow him. First, we approached the fish corner, and he was busy searching for his desired items. I noticed he was not choosing but searching for the particular fish. He informed me earlier during the interview that he would like to buy sea fish, not other types. He believed that sea fish was safer than other fish as they were not grown artificially or by applying various chemicals. Only a small sea fish was available; later, he found some of them. According to Mr A, the fish is locally known as *Narkeli* (a local Bengali word meaning 'as tasty as coconut') and becomes tastier if cooked with tomato. He asked the vendor for the price and told him to give 250 grams. The vendor weighed and packed it in a polythene bag. Then, we left the spot and moved to the vegetable corner. Mr. A went to a particular vendor without looking for other shops and items. Then, he stopped in front of a vegetable shop. The vendor offered him a welcome smile and asked what he wanted to buy. He carefully looked at the eggplants and then took some of them in his hand to check. He sorted them according to his choice, and the vendor weighed and packaged them in a polythene bag. Then Mr A selected tomatoes by pressing them to determine whether they were hard enough.

2.5 Discussion and conclusions

This study looks at how the poor urban inhabitants cope with food safety concerns during daily food shopping in Dhaka and whether the strategies differ between two groups: RAMs and ERs. Drawing on social practice theory and using exploratory sequential mixed methods, we comprehensively understand everyday performances of food shopping practices and how they manifest coping strategies in shopping practices by interconnecting with the core elements: meanings, materials, competencies, and parts of other practices. Despite some resemblance, both groups expressed distinct shopping practices, food safety concerns, and coping strategies. The shopping practice of the urban poor in Dhaka comprises five major elements: food items, outlets, affordability, social connections, and work relations. We found notable differences in food choices, affordability, and social networks, and partial similarities concerning outlets and work relations. Shoppers applied a variety of sensor-based safe food identification, proactive measures, and social coping mechanisms while food shopping. Based on these findings, it is imperative to acknowledge the challenges faced by RAMs and ERs. Tailored interventions must be developed to cater for their specific needs, such as educating them on safe food identification and fostering community building to ensure inclusive access to safer food for all city dwellers.

Firstly, our findings underscore the influence of migration on the established routine of food shopping practices among migrants, suggesting the need for re-routinisation. Departing from accustomed shopping routines due to migration led to material and competency differences between the groups. Specifically, RAMs encountered challenges engaging in various elements of food shopping practices in urban areas. For instance, affordability was identified as an essential material in food shopping for the urban poor, often leading to compromises in food quality and safety due to buying inexpensive food items. The convenience of buying food from nearby outlets resonates with findings from prior studies (Li et al., 2019). They may need to establish a morning shopping routine to obtain fresh food products. Furthermore, food shopping is connected to other practices and can be completed with stable links with elements of different practices.

Secondly, Dhaka's daily food shopping practices are plagued by numerous safety concerns regarding food and non-food materials, making it a health hazard threat for shoppers. Concerns about formalin in food were widespread among the shoppers, highlighting the need for further research on formalin use in food and to take appropriate measures (Ishra et al., 2022). Key stakeholders, including researchers and food safety monitoring agencies, must pay closer attention, regardless of whether applying formalin in food is a fact or just consumers' perception. Although supermarkets are perceived as a safer option than street vendors, they remain inaccessible to many urban poor due to low affordability issues (Pham & Turner, 2020; Trübswasser et al., 2021). While the ability to identify hazards

during food shopping is crucial, these competencies are primarily self-taught and lack formal training. Structured training programmes or improved communication processes are necessary to ensure proper information dissemination and to promote better food safety practices. Given the high rates of illiteracy among urban poor people, community-based education focusing on food safety and hygiene awareness could empower both consumers and vendors to make informed decisions.

Thirdly, RAMs face challenges in coping due to limited social networks with neighbours and vendors. Establishing relationships with neighbours and vendors could help them compensate for their lack of social connections. While formalin is a major concern, shoppers, particularly RAMs lack specific strategies to address it. Shoppers rely on sensor-based strategies such as looking for food appearance (Ha et al., 2021). However, many of these sensor-based actions might not be scientifically proven approaches to ensure safer food at retail points. Shoppers adapt to the concerns about the outlets by altering and developing trust relationships (Wertheim-Heck et al., 2019). Besides, addressing the need for more competencies in reading food labels (which necessitates education) could be managed by possible innovation for alternative labelling. ERs may possess better coping strategies due to their longer exposure to food safety concerns. Facilitating knowledge transfer for appropriate meaning and competence for safe food shopping, along with ensuring access to improved materials can enhance safe food provision to the urban poor. Essentially, most of the coping strategies are embedded in the roots of shoppers' understanding of safe food, materials and the competencies in their hands.

The aspect of migrants' food safety concerns, within the broader spectrum of food security challenges faced by the urban poor, is frequently neglected, highlighting the necessity for greater attention. The current study reveals food safety coping strategies while considering social and cultural dimensions with an empirical application of Social Practice Theory (SPT). By applying SPT and beginning with qualitative methods, this thorough investigation within a single city is one of its inherent strengths; delving into social dimensions that transcend conventional rational choices. Nonetheless, it is crucial to acknowledge some limitations. COVID-19 led to protocol modifications, including shifting to phone surveys and limiting the intended data collection, for instance, household size information. The comparison between RAMs and ERs is the primary focus of this study, revealing differences with partial similarities in the qualitative studies primarily. However, our survey sample may represent the broader urban slum population in Dhaka, not exclusively RAMs or ERs. This necessitates caution in interpreting the difference between the groups in the quantitative research findings due to potential covariate variables within this context. Future exploration should consider taking equal samples from both RAMs and ERs for clarity. We only considered the shopping practices of poor urban inhabitants in a South Asian city. However, the limitation pertains primarily to the transferability of the findings to different

cities or countries. The food shopping practices of the rural poor, the urban poor of other cities, and other groups of urban shoppers may reveal additional elements. Thus, the coping strategies revealed in this study may only apply to some consumers.

Nevertheless, this study makes a noteworthy contribution to realising the complexities of coping strategy as a dynamic process inherent in everyday shopping practice. Cities in the rapidly urbanising South Asia are under increasing pressure to manage food safety challenges and accommodate rural-urban migrants. For instance, Bangladeshi consumers and policymakers have expressed concerns about hazardous food available on the market due to the (over)use of chemicals and other harmful substances over the last decade (Hassan, 2015; Hossain et al., 2008; Solaiman & Ali, 2014). In 2013, the government passed the Food Safety Act to address these concerns. However, the media continues to report unsafe food and criminal prosecution of (primarily urban) retailers who violate food safety regulations (Mohiuddin, 2018). This may indicate a disconnection between the actual documentation of policies and the situation on the ground, necessitating focused interventions. This paper offers actionable insights that policymakers and researchers of the global south, such as Bangladesh, can use to address the pressing concerns.

The current food shopping practices of poor urban inhabitants can be improved through better accessible material resources and enhanced skills, depending on their situation as RAMs or ERs. This study also emphasises social practice understanding to research coping strategies in food shopping. It shows how routinised everyday food shopping practices may be interrupted due to food safety concerns and migration. This approach identifies critical element(s) in food shopping across the two types of urban populations, such as RAMs and ERs and their different strategies employed in the same marketplace. A better understanding of everyday practices will enable policymakers to intervene, monitor, and modify food acquisition spaces to achieve inclusive food safety for all. Overall, our study sheds light on the complexities of migrants' food shopping practices and provides policymakers with insights and scope for improvements in the global south.

Chapter 3

Dealing with food safety concerns among urban poor when eating out: social practices in Dhaka, Bangladesh

Abstract

The article explores eating-out practices among poor urban consumers in Bangladesh and their strategies to cope with food safety concerns. Using social practice theory, we implemented interviews and a household survey to analyse the eating-out practices of adult slum dwellers in Dhaka, Bangladesh and their food safety coping strategies. We identified two different dominant eating out practices: 'snacking' and 'having a complete meal'. By reviewing the food safety concerns and coping strategies, we found that despite varying concerns, coping strategies are broadly similar across these two practices. The concerns include food presentation, unhygienic conditions, and unknown processing, while searching for information, using heuristic tools, and avoidance are the main coping strategies. These strategies are applied in both practices and do not exhibit significant differences in socioeconomic considerations and safety concerns. This indicates that the urban poor lack the resources and competencies to manage their concerns. The conclusion section presents a conceptual framework for future research on food safety coping strategies in urban eating-out practices. We also underline the need for context-specific policy interventions to ensure food safety in the urban food system of the global south.

3.1 Introduction

Worldwide, consumers are concerned about their food safety. However, this is particularly the case in the global south, where food contamination is widespread and underreported, equitable access to safe food remains challenging, and urbanisation is accelerating (Grace, 2015a, 2015b). Despite these risks, global south urban food consumers are forced to rely largely on street vendors and other food outlets (FAO, 2022; Reddy et al., 2020; Esohe, 2014). International agencies such as the World Health Organisation (WHO) have recognised the need for comprehensive measures to address these challenges and have developed the Framework for Action on Food Safety in the Southeast Asia Region (WHO, 2020). Despite such efforts, the urban poor have to compromise food safety for convenient and affordable meals at these outlets (Hasan et al., 2021; Reardon et al., 2021; Abrahale et al., 2019; Ha et al., 2019; Mostafa et al., 2018; Tull, 2018; Pingali & Sunder, 2017; Al Mamun et al., 2013). For example, Bangladesh's urban consumers have been concerned about eating out due to harmful food additives, stale items, and dirty utensils and outlets (Ishra et al., 2022). In addition to these concerns, due to their limited resources and unfavourable living conditions, low-income people cannot prepare all meals at home and are forced to rely on eating out. Consequently, they must develop strategies to cope with food safety concerns while eating out.

Eating out practices and food safety coping strategies have received considerable attention in nutrition, public health and social science studies. Various results have emerged from these studies. For instance, some studies concluded that food safety concerns affect consumers' consumption patterns, purchasing preferences, and affordability (Liguori et al., 2022; Kilders et al., 2021; Krukowski et al., 2012;). Others reported that consumers' socioeconomic status and cultural background influence eating-out behaviours and risk perception about food safety (Hu et al., 2017; Dosman et al., 2001). Furthermore, consumers were found to scrutinise the restaurant's cleanliness and reputation, learn from experience, and limit their purchases at night to reduce their concerns (Tach & Amorim, 2015; Rheinländer et al., 2008). Critical aspects of food safety while eating out include food storage, cooking and processing, hygiene, and costs (Hannah et al., 2022; Naidoo et al., 2017; Adam et al., 2014; Domaneschi, 2012; Harvey, M., McMeekin, A., & Warde, 2004). Most studies have tried to identify critical factors explaining food risk perception and behaviour. However, they have paid less attention to eating out as an embedded practice in the everyday lives of the urban poor. In this context, the current paper investigates the eating-out practice of the urban poor and their coping strategies with food safety concerns from a sociological perspective.

Rapid urbanisation in developing countries challenges maintaining food safety as part of the broader food security (HLPE, 2020). Urbanisation accelerates eating outside the home. This is particularly visible

in the daily life of South Asian urban consumers (Bren d'Amour et al., 2020; Gaiha et al., 2013). An interesting case in this respect is the capital city of Bangladesh, Dhaka. The city is densely populated with 3,400 slum areas which accommodate 40% of its population. These poor urban lead busy lives with multiple jobs and the requirement to leave their homes for 8-12 hours every day. As a result, eating out has become a part of their daily routine and lifestyle pattern (Pfeiffer et al., 2017; Olsen et al., 2000). Hereby, they face various challenges, including low education and income, unhealthy living conditions, and limited access to sanitation facilities. Microbiological food safety risks research has significantly improved in Bangladesh, but other food safety-related concerns have yet to receive much attention. The limited number of studies on the urban poor's daily eating habits, routines and challenges for food safety is alarming considering their demographic vulnerability and their prone to food-related illnesses. As a result, it is critical to understand their daily eating habits to design and build strategies and implementation to improve the inclusive urban food system and alleviate the risks of foodborne illnesses (Wilcock et al., 2004). This leads us to formulate the following questions for this study: What do the urban poor's eating-out practices look like? Why do they continue eating out despite food safety concerns? How do they cope with food safety concerns in their daily lives? These questions are crucial because poor consumers have very little choice in the food outlets they frequent because they are unable to access expensive eating outlets where comparatively safer food can be obtained but for a higher price.

This study focuses on the challenging conditions faced by Dhaka slum residents through the lens of social practice theory (SPT). This theory allows us to analyse their eating-out practices and how these practices are continually (re)produced (Torkkeli et al., 2020; Burger Chakraborty et al., 2016). The main focus is on revealing the urban poor's food safety coping strategies and how they are embedded in daily routines and urban lifestyles. We expect our findings to be of interest to policymakers, national and international non-governmental organisations (INGs), and the food industry in developing practical plans to assist underprivileged consumers and retailers in reducing food safety concerns.

In the following sections, we first discuss in section 3.2 how we use social practice theory to analyse eating-out practices and to understand the urban poor's food safety concerns and coping strategies. We then present in the section 3.3 our mixed-methods data collection tools and analysis for the investigation and the findings in the section 3.4. We proceed with a section (i.e. 3.5) that discusses the main findings and concludes with a final section discussing our findings and presenting a conceptual framework that may guide future research.

3.2 Practice theory lens on eating out practices

The Social Practice Theory (SPT) is employed in this study to examine food safety coping strategies in the daily eating-out practices of the urban poor in Dhaka. This perspective was selected because it allows to integration of social, cultural, and material dimensions (Burningham & Venn, 2020; Spaargaren, G., Weenink, D., & Lamers et al., 2016). When analysing a practice, SPT prioritises socially rooted behaviours and routinised habits over individuals' rational decisions (Southerton, 2013; Oosterveer et al., 2012). This lens suits our ambition to study eating out at outlets in Dhaka, where numerous interactions occur with food vendors while selecting, purchasing, and consuming foods. These activities are generally unintentional as they are highly routinised and include the local cultural context, consumers' concerns about food safety, and wider urban lifestyle.

In this study, eating-out practices are understood in two ways: practice as performance and practice as an entity. Performing a particular practice occurs at a specific time and place, whereby three practice elements (meanings, materials, and competencies) are connected in a particular way (Shove et al., 2012; Shove & Pantzar, 2005; Reckwitz, 2002). Practice as an entity entails comprehending practises as identifiable, reproducible, describable and routinised, thereby distinguishing a particular everyday activity from others, such as eating out, grocery shopping, taking a shower, cycling, and other action (Wertheim-Heck & Spaargaren, 2016). In social practice, meanings comprise practitioners' emotions, motives, beliefs, and engagements with its social and symbolic significance (e.g. necessity, enjoyment, food safety concerns for eating out); materials include financial affordability, outlets for eating out, time allocation; and competences consist of actions, knowledge, and practitioners' psychological capacity to carry out their practice (e.g. knowledge about outlets locations and coping strategies). Additionally, eating out interacts with other practices in various ways, creating a bundle of practices in the daily life of the urban poor (Heidenstrøm, 2022; Gram-Hanssen, 2011). For instance, eating out is connected to livelihoods, commuting to work from home, and spending time with friends and family. As a result, understanding eating out necessitates comprehension of these related practices.

In performing eating out practices, food safety concerns can significantly affect people's regular eating habits. Consumers may use a variety of coping strategies to overcome food safety concerns. These strategies include skills gained through training, mobilising existing resources, experience from others, and scheduling or choosing a specific eating place (Wills et al., 2015). Thus, concerns about food safety may disrupt daily out-of-home food consumption practices. However, the urban poor in Dhaka may manage their concerns by using different practice elements (such as knowledge, material resources and social networks) in various ways.

3.3 Materials and methods

3.3.1 Study area

The study was carried out in Dhaka, Bangladesh, a heavily populated metropolis with an estimated 22 million residents, over 30% of whom live in impoverished neighbourhoods. Bangladesh's capital and largest city, Dhaka, is a centre of politics, culture, and the economy for the area. The study focused on low-income urban slum dwellers, who were selected due to their higher susceptibility to food safety hazards when eating out of home. Four Dhaka slum areas: Dholpur, Korail, Mirpur, and Shyampur were chosen. These slum areas are encompassed under two city corporations—Dhaka North City Corporation (DNCC) and Dhaka South City Corporation (DSCC). These regions were picked to offer a representative urban poor sampling from Dhaka. The following photos show the food environment in different eating-out outlets in Dhaka slums (see Figure 3.1)

Figure 3.1 Urban poor's everyday eating out environment in Dhaka slums

3.3.2 Research design and data collection

This study follows an exploratory sequential mixed-methods approach. It collected data by applying three research methods: Focus Group Discussions (FGD), Semi-structured Interviews (SSI), and a household survey on practice elements, relevant food safety concerns, and coping strategies. Qualitative methods were applied to create a survey questionnaire, thereby pursuing an exploratory sequential mixed-methods approach. The study included individuals who eat out regularly and those who do not, to cover a larger spectrum of food safety issues. In addition to analysing data thematically qualitative data, we employed descriptive statistics and regression analysis from the survey to triangulate the findings. Combining multiple data sources, we comprehensively understand eating-out practices, food safety concerns, and coping strategies (see Figure 3.2).
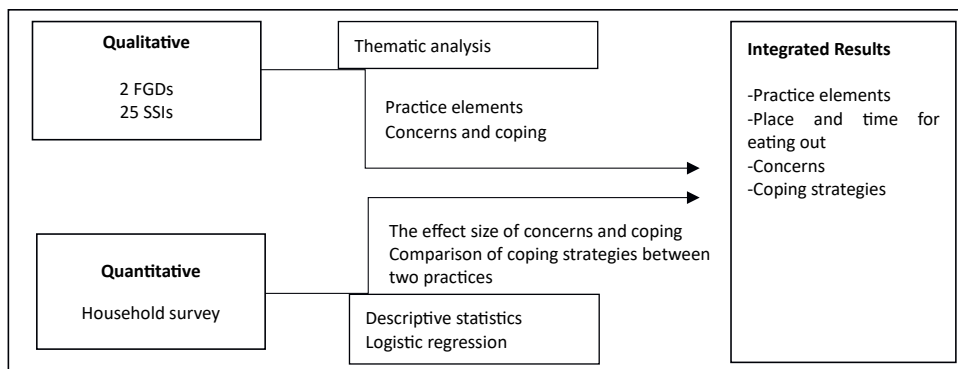
Figure 3.2 A mixed-method approach to understanding the practice and coping strategies

There were 444 participants in the sample, representing both qualitative and quantitative research. The self-reported adult shoppers in the Korail slum made up the purposively selected qualitative sample. The shoppers originate from low-income urban homes and their varied professions have different daily patterns, so we included them in the sample. We chose the sample households from the Urban Health and Demographic Surveillance System Survey (UHDSS) by the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b, 2019). Each of the two Focus Group Discussions (FGD) included eight shoppers and 25 semi-structured interviews (SSI) had 27 shoppers. We contacted FGD and SSI interviewees through a local community leader of Korail Slum in Dhaka. The interview guidelines for both methods were developed based on the literature on eating-out practices and consumers' food safety concerns. The FGD provided general information about the aspects of food safety that need to be explored, while SSIs gathered detailed data on the food items consumed, eating-out outlets, consumers' daily routines, the relevant concerns and coping strategies. In February-March 2020, before the outbreak of the COVID-19 pandemic in Dhaka, all FGDs and 12 SSIs were held face-to-face in one participant's home. The remaining 13 SSIs were conducted over the phone in August 2020.

The sample selection was based on the question, 'Who (adult) does most food shopping in your household?'

In our research, the household phone survey included 401 (57% of called) primary adult shoppers from Dhaka slums: Dholpur, Korail, Mirpur, and Shyampur. The remaining 43% either declined or were unreachable during the survey. It was held from 30 October to 14 November 2020 to collect data on socio-demographics (age, gender, occupation, year of schooling), eating out practices at various outlets, reasons for not eating out, concerns about outlets and food, and strategies to alleviate the concerns. The survey was conducted with a random sampling frame of the 'Urban Health and Demographic Surveillance System (UHDSS)' which consisted of the phone number of the respondent households. We adopted a two-stage sampling approach. First, using a random sample calculator, we determined that a minimum of 392 respondents were required to achieve a precision level of 5%. Subsequently, Probability Proportional to Size (PPS) sampling was employed to determine the number of sample households in each slum (see Table 2). It is worth noting that there are five slums in total in UHDSS, but one is located outside Dhaka. Therefore, this one was not included in the sampling process. This approach enabled us to obtain a representative sample of urban slums in Dhaka to estimate the prevalence of FSC among this population. The study used Open Data Kit (ODK)— a mobile data collection platform— to store responses digitally. By gathering data through a phone survey, the study reached a larger sample size and gained insights into food safety practices among the selected population.

3.3.3   Data analysis

The analysis process includes a triangulation of results from both qualitative and quantitative data. The qualitative data collected from the interviews were transcribed, translated, and coded using ATLAS Ti_9 software. Through an iterative process for thematic analysis, emerging themes were identified, guided by the three integrated elements of meanings, materials, and competencies. Two distinct practices emerged from this process: snacking and eating a complete meal; with variations in the level of food safety concerns observed between these practices. We then compared and contrasted these two practices' concerns and coping strategies. The decision to compare two practices—snacking and eating full meals—was made in light of their practical importance, range of potential implications, and capacity to influence policy. These techniques provide a thorough understanding of the food safety environment by covering a wide range of concerns and coping mechanisms around these practices. For quantitative analysis, STATA version 13.1 was used to analyse the survey data. Based on the qualitative data analysis, we hypothesised that the influence of socioeconomic and concern variables on the coping strategies for the two practices would differ. A logistic regression analysis was used to test

whether the difference could be generalised. The proportion of variance explained by the model was calculated using Pseudo R2. For each level of the variables, odds ratios (OR) and P values are reported.

FGD and SSI participants will be called interviewees for the rest of the paper. Those who continued responding to the survey questionnaire will be called respondents. The aggregate sample will be referred to as participants.

3.4 Findings

3.4.1   Participants' profile

Table 3.1 presents participants' demographic information across the three methods in this study. The age ranged from 18 to 65 years, with the majority falling in the 18-30 years category, and gender was almost equally distributed among the methods. Participants worked in a variety of professions, with three-fourths either employed in the private sector or being housewives, and the remaining participants worked in private jobs such as readymade garment workers, small businesses, self-employment (e.g. day labourers, housemaids, shop workers, office peons, rickshaw poolers or street vendors) or public administrative jobs. More than two-thirds of participants had less than five years of education or no education at all (e.g. could only provide their signature).

Table 3.1 Sample profile

Characteristics	2 Focus group discussion (n=16)	25 Semi-structured interviews (n=27)*	Shoppers' in household survey (n=401)
Age group [n, (%)]			
18-30	9 (56)	12 (44)	205 (51)
31-40	5 (31)	8 (30)	124 (31)
41-50	2 (13)	3 (11)	48 (12)
51-65	0	4 (14)	24 (6)
Gender			
Male	8 (50)	13 (48)	217 (54)
Female	8 (50)	14 (52)	184 (46)
Profession			
Private sector employee	8 (50)	14 (52)	221 (55)
Housewife	3 (19)	6 (22)	88 (22)
Business	0	3 (11)	48 (12)
Self-employment	4 (25)	4 (15)	32 (8)
Other	1 (6)	0	8 (2)
Government employee	0	0	4 (1)
Years of schooling			
No education/ can only sign	5 (31)	13 (48)	112 (28)
1-5	7 (44)	5 (19)	162 (41)
6-10	2 (13)	6 (22)	114 (28)

| 10+ | 2 (12) | 3 (11) | 13 (3) |

In only two SSIs, we included two interviewees per SSI; the households reported equitable food shopping responsibilities between the two members.

3.4.2 Eating out practices of urban poor in Dhaka

Eating out practices of Dhaka's poor are influenced by economic, social, and cultural factors beyond simply fulfilling basic hunger needs. This subsection presents empirical findings that outline two distinct eating practices and explores the meaning, materials, and competencies required to sustain these practices. The section begins with an overview of the practices and then delves deeper into the reasons that influence eating-out practices in the daily lives of the urban poor.

Based on the interviews, four types of eating-out practitioners were identified: non-eaters, snackers, complete meal eaters, and snack and complete meal eaters. Nevertheless, this classification was only partially distinctive because individuals can engage in multiple practices. 22% of SSI interviewees and 44% of survey respondents ate outside their homes. Among the 22 SSIs, 16 were primarily snackers, and 6 were complete meal eaters. Nonetheless, some respondents avoid eating out due to being accustomed to home-cooked meals, being concerned about unhygienic environments, disliking eating out alone and being housewives.

The findings suggest that gender plays a vital role in shaping eating-out practices among the poor urban in Dhaka. Men tend to eat out more than women, comprising 85% of the survey respondents who ate out. Many women were housewives and part-time workers who assisted nearby households and ate their lunch at home. Moreover, several female interviewees expressed avoiding eating out due to food safety concerns.

Most visited outlets include cafes with sheds, restaurants, and open-air street cafes (see Figure 3.3 and Table 3.4). Proximity, affordability, time efficiency, and food safety were critical for choosing outlets. Breakfast was the meal most respondents ate out due to starting work early in the morning. For instance, an interviewee who works as a personal driver began his job at 8:00 in the morning, had to travel throughout the city and therefore had to eat breakfast and lunch away from home.

Figure 3.3 Primary destination for eating out by the respondents
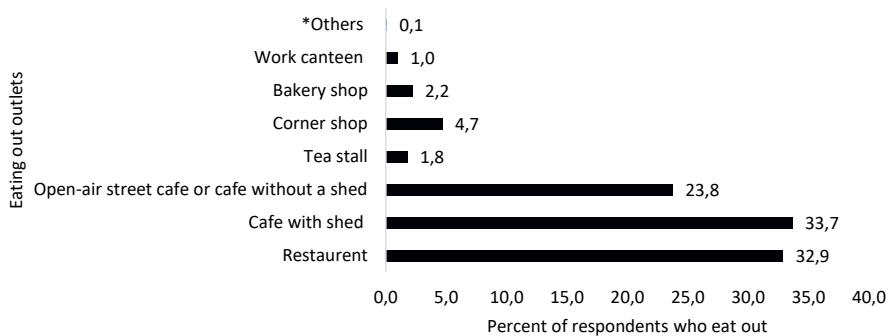
Table 3.2 compares the elements in two practices: snacking and eating a complete meal, as a performance and as an entity. Regarding materials, snacking involves consuming a single food item from the seven outlet categories identified. In contrast, a complete meal consists of multiple food items, including rice, typically sourced from one of three different outlets: restaurants, open-air street cafes without shade, and work canteens where complete meals are offered. Rice dominates the practice of eating a complete meal. Interviewees revealed eating a complete meal as eating boiled rice with vegetables or fish curry, hotchpotch (Khichuri), Biriyani, or Roti with one or two meat, fish, or vegetable curries. The street café without a shed was found to be a frequently visited place for eating a complete meal. For instance, an interviewee mentioned,*"…I eat street food. Eating in a restaurant is expensive…", Many people sell food in bowls sitting on the sidewalk and from the tricycle"* (SSI 14, age 54, professional cook).

Interviewees who preferred snacking mentioned that it was inexpensive, easy to obtain, and quickly consumed. FGD interviewees expressed that eating complete meals is expensive. They choose between snacking and a full meal largely based on time and financial constraints. An interviewee discussed, *"…It is not that I do not want to eat out… I also prefer to eat in nice, well-mannered outlets…I spend approximately 60 to 70 taka per day on food while working. I doubt I could afford rice with that… To eat rice, I must leave my workplace; this will take some time. Also, I do not feel well after eating rice at noon"*(SSI 06, age 30, construction wage labourer).

According to the participants, snacking means serving and suppressing hunger, whereas eating a complete meal means enjoying eating out with family and friends. A request from co-workers also plays a role in snacking, while children's requests to eat out complete meals played a role in choosing that option. Interviewees ate small meals as snacks to substitute for a complete meal and ate a complete

meal to substitute for home cooking. Snacking was commonly (mis)interpreted as eating nothing, whereas eating rice with curries was regarded as a complete meal. On the one hand, snacking is seen as satisfying hunger while having fun; on the other hand, it may waste home-cooked food and cause a loss of appetite for a complete meal. One interviewee put enjoying a particular cuisine from a specific outlet as follows: *"…Halim and Nan-roti are two of my favourite foods… I have tried Halim in a few outlets in Dhaka, but on the best taste I have found at Wireless Gate" (SSI 11, age 43, Housewife).*

Regarding competence, information is critical. For instance, snacking requires knowledge of available food, especially as some foods are only available in hot form during specific times; in contrast, selecting outlets for complete meals needs knowing places where a hot, fresh complete meal is available.

Overall, snacking and eating a complete meal are the everyday practices of Dhaka's urban poor. These practices differ regarding the food items, locations, affordability, time constraints, meaning and purpose. Snacking is seen as a survival strategy considering financial and time limitations, and eating a complete meal is performed to enjoy the company. The competencies of interviewees for the two practices were mostly similar.

Table 3.2 Comparison of elements in snacking and eating a complete meal

		Elements	Practice as entity	
			Snacking	**Complete meal**
Practice as performance	**Materials**	- Food items	- Mostly one item	- Multiple items
		- Eating out outlets	- All seven outlets	- Primarily three outlets
		- Affordability	- Affordable	- Relatively costly
		- Time constraints	- Quick to eat	- More time for searching and eating
	Meaning	- Surviving	- Snacking replaces a complete meal to suppress hunger	-The actual eating of a proper meal
		- Pleasure	-Sharing a meal with familiar others	-Social dining (e.g. enjoying in the company of friends and family)
		- Children's request	- Children enjoy eating out	- Weekend outing with children
	Competence	- Knowledge of food availability	- Limited availability of hot snacks during specific times	- Locations of complete meal outlets
		- Selecting the outlets	- Know where to find hot, fresh foods	- Aware of desired meal locations

Interviewees linked eating out to their livelihoods, mobility, cooking, and shared living. This highlights the intricate interplay among a bundle of practices and circumstances that shape eating habits in urban environments. For example, one interviewee who works as a retailer began snacking by replacing eating a complete meal because the morning was the most crucial time for selling. Some interviewees must switch from the self-provisioning practice of takeaway or eating at home to eating out at commercial outlets. Given Dhaka's traffic, moving through the city takes a long time; for example, an

interviewee commuted 20 kilometres from home to work which took four hours. Due to the lengthy hours, interviewees often had to eat dinner at work. Only a few interviewees reported consuming employer-provided meals for overtime work. Moreover, snacking is commonly associated with a casual walk in the evening when warm snacks are readily available in restaurants and other sidewalk outlets.

The gas shortage and shared kitchen facilities hindered home cooking, leading slum dwellers to have breakfast outside of the home: *" ...Yes, we do leave early in the morning. Children go to school, and we all have to rush to get to work. I buy a banana, some bread, or a cake on my way to work" (SSI 08, age 35, readymade garments worker).* Furthermore, shared living of male co-tenants in a rented house or room contributes to eating out because cooking at home is considered a highly gendered practice—females were thought to be the primary performers: *"...No. I am a single man. We, four co-tenants live in a room...We cook only at night and eat other meals outside" (FGD 1- R2, age 30, private driver).*

3.4.3   Food safety concerns for eating out practices

"… I may have to eat If I go out and am starving, but not intentionally" (SSI 09, age 24, school teacher).

This statement emphasises that food safety is a major concern for the urban poor in Dhaka when eating out. Other studies confirmed that food safety in Bangladesh is a broad concern, and a high percentage of our respondents (96% of those who eat out) expressed concerns. The principal concerns are exposure to food safety issues, such as becoming sick from eating out and experiencing diarrhoea. Males showed higher levels of anxiety about food safety, which may be related to their propensity for eating out more frequently. Furthermore, the qualitative inquiries revealed that a considerable number of snackers avoid eating a complete meal due to food safety concerns.

The major themes in food safety concerns when eating out, including presentation, ingredients, hygiene, and processing, were compared between the two practices and are presented in Table 3.3 and Table 3.4. Two prominent themes emerged during the discussion on concerns about the materials: food presentation and ingredients. Interviewees who described themselves as snackers showed deep concern over uncovered snack items, indicating the need for appropriate packaging and covering to guarantee food safety. The concerns include dust, human hair, and germs from mosquitoes and flies: *"Healthy! Not at all; many times, mosquitoes fly and sit on there" (SSI 14, age 54, professional cook)*. Conversely, those who eat a complete meal emphasised the importance of keeping the outlets clean, including the tables and cutlery. Restaurants and cafés with sheds were identified as the most alarming outlets for this practice (see Table B). One interviewee referred to the dirty place, *"Cleanliness is crucial*

for me when choosing a place/shop to eat. If it appears dirty and the vendor does not prepare or serve food hygienically, I do not eat there" (SSI 09, age 24, school teacher). Additionally, a sizable percentage of respondents (26%) expressed concerns about stale food, demonstrating a focus on the quality of the food ingredients served at the outlets they visit. An interviewee reported, *"…If a restaurant cooks ten pieces of fish, three are sold, and the remaining seven are sold for the next two or three days"(SSI 12, age 40, street shoe seller).* Further, some interviewees emphasised the significance of ingredient quality were references to the discovery of unpleasant smells in specific snacks. Repeated use of frying oil also raised concerns about the food smell and the staleness of the snacks. As a snacker referred, *"… The main problem is the oil. The restaurateur keeps the oil for several days and uses it repeatedly to fry" (SSI 12, age 40, street shoe seller).*

When discussing concerns about hygiene practices and the unknown processing methods, the interviewees drew connections between these factors and their meanings and competence. Poor hygiene of food handlers meant to them the risk of indigestion from eating out. Food handlers' handwashing and sweating while making food were the other concerns of the interviewees. In addition, the unclear idea of food processing creates further concerns while eating out. Other concerns were about unknown processing for a complete meal. An interviewee detailed, *"This food is prepared at the seller's home. I did not see how it was made. How can you claim that this is safe..." (SSI 06, 30, construction wage labourer).*

Overall, concerns about unhygienic practices were common for both practices but more significant for snacking than for complete meals. While interviewees were concerned primarily about unclean outlets and stale food for complete meals, the snackers had concerns about unexpected odours from the snacks. These poor hygiene practices inhibited many respondents from continuing to eat out.

Table 3.3 Food safety concerns by eating out practices elements

Elements	Themes	codes	Snacking (Code frequency)	Complete meal (Code frequency)	Topmost concerns of the surveyed respondents (multiple counts) (Percent)
Materials	Presentation	-Uncovered food	9	2	24.2
		-Unclean outlets	2	4	10.7
	Ingredients	-Stale status of food	4	2	26.2
		-Unacceptable smell	4	2	3.4
Meaning	Hygiene	-Fear of indigestion	4	2	10.5

		-Food handlers' hygiene	4	4	8.0
Competence	Processing	-Unknown processing	3	3	14.0

Table 3.4 Concerns about food safety by outlets among the urban poor who eat out (n=176)

Food safety concerns		Outlets				
Themes	Codes	Restaurant	Cafe with shed	Open-air street café (without shed)	Tea stall	Bakery
		(Percent of surveyed respondents)				
-	-Uncovered food	18	3	1	0	1
Presentation	-Unclean outlets	5	2	1	1	0
-Hygiene	-Fear of indigestion	8	1	1	0	0
	-Food handler's hygiene	1	2	0	0	0
-Processing	-Unknown processing	16	0	1	1	0
-Food	-Stale status of food	26	8	4	1	0
ingredients	-Unacceptable smell	1	0	0	0	0

3.4.4 Coping strategies in eating out practice

We distilled 13 different coping strategies from the interviewees to manage the urban poor's concerns about food safety when eating out (see Table 3.5). These strategies can be differentiated into three groups: searching for information, using heuristic tools, and avoiding. Most respondents used multiple of these 13 coping strategies. The interviewees applied the strategies primarily for snacking rather than eating a complete meal. By contrast, the logit regression analysis of the survey results revealed no noticeable differences between those who snack and those who eat a complete meal regarding their socioeconomic characteristics and concerns about food safety when implementing these three coping mechanisms (see Table 3.6 and Table 3.7).

3.4.4.1 Searching information

Under the theme of searching for information, interviewees discussed various sensor-based approaches, including observing food items, smelling them before purchasing, verifying expiration dates, arguing with vendors, and touching or pressing food items. Observing was the most applied strategy among the survey respondents (97%). Some interviewees claimed that observing the food item reduces the risk of becoming ill. For instance, observing food items before buying was important: *"Suppose buying and eating rotten things will make me sick; I will need a doctor, and it will cost a lot. That is why if I buy through observation, it will not be a problem (SSI 24, age 45, loan instalment collector)."* Whereas observing and smelling did not require additional materials or competencies, other strategies did. Some illiterate interviewees, for example, indicated that checking expiry dates on food labels is difficult for them. They relied on shopkeepers for assistance in dealing with this situation. Additionally, interviewees argued with familiar vendors and questioned them about unusual food

status or hygiene standards; while this could sometimes be a successful strategy, it was not always practical. According to several respondents, taking action against unknown vendors might cause humiliation because other consumers also buy from them: *"No, I do not take action against vendors. Because other consumers also buy from them. If I tell the seller anything about food adulteration, he will give an example of other buyers" (SSI 13, 28 years, housewife).* These strategies primarily build on essential competencies for purchasing decisions for safer food consumption.

3.4.4.2   Using heuristic tools

Some coping strategies were revealed as applying heuristic tools, such as only trusting familiar vendors and purchasing more expensive items. Trusting familiar vendors was the most employed heuristic tool, applied by 43% of the respondents. As interviewees often base their decisions on social and cultural norms and beliefs, these coping strategies reflect the meanings associated with purchasing food and consumption at outlets. Interviewees defined eating-out practices differently to ensure food safety. Interviewees dealt with their concerns by posing self-defined meanings about the safety of food items and outlets. Several respondents felt safer when they were familiar with the vendors. One interviewee reported, '*There is a tea stall near my office; I go there if I wish to have a cup of tea. The person who prepares tea there (near to office) is also clean. I often like to eat from such a shop. I would not eat anything unless there is a good environment (SSI 24, age 45, loan instalment collector).*' Others paid higher prices to ensure food safety, *"Even if the price is high, there is nothing else to do but purchase these...for my child's safety; I must pay a higher price" (SSI 25, age 28, recycle labour)*. On the other hand, most interviewees questioned their ability to influence the current provision of food at various outlets. The lack of appropriate materials, such as a specific point for complaining, demonstrated their vulnerability. Moreover, effectively identifying safe food necessitates skills that interviewees lack. They gained competencies through their experiences in selecting the right shop, perceived as a provider of safer food.

3.4.4.3   Avoidance

We discovered avoidance strategies such as altering or avoiding outlets, avoiding particular foods, and purchasing only packaged goods. These coping techniques focussed on the physical food environment to prevent potential risks and hazards associated with eating out. Rather than taking action, avoiding eating out became a way of dealing with the situation. The majority (56%) of the survey respondents did not eat out. Strategies for avoiding unsafe or stale food, included bringing food from home or eating at home: *"...No, I have my lunch at home. If I eat out, I have to eat stale food at restaurants. It is better to eat at home. (SSI 12, age 40, street shoe seller).* However, cooked rice meals spoiled quickly in Dhaka's warm weather so bringing food from home may be risky in itself. However, most eating out

occurs due to necessity, so not all respondents could avoid it as a strategy to address their concerns. Despite concerns about the hygiene of the outlet, one interviewee explained why he could not avoid eating out, *"I saved my stomach...There were no alternatives. Awful place and odour. I ate despite the lousy ambience"* (SSI 14, age 54, professional cook).

Table 3.5 Coping strategies for food safety concerns in eating out practice

Themes	Coping strategies / Categories*	Snacking (code frequency)	Eating a complete meal (code frequency)	Surveyed respondents (multiple counts) Percent
Information seeking	-Observe the food items	19	1	97
	-Smell before buying	2	1	56
	-Check the expiration dates	5	2	48
	-Argue with shopkeepers	9	1	44
	-Touch or press the food items	7	0	26
Heuristic approaches	-Trust only familiar vendors	3	2	43
	-Purchase more expensive items	5	0	37
	-Feel unable to claim the loss	2	2	37
	-Feel unable to identify safe food	2	2	17
Avoidance	-Alter/avoid the outlets	7	4	56
	-Avoid eating particular mealtimes	1	1	28
	-Avoid uncovered food or -Buy packaged items	21	9	20
	-Avoid eating certain food items	9	6	17

***We derived these strategies from semi-structured interviews and then asked survey respondents about them.**

Table 3.6 Logistic regression analysis for the predictors of coping strategies in eating out a complete meal

VARIABLES	Model 1 Information searching	Model 2 Heuristic approach	Model 3 Avoidance
Age			
31-40 years	-0.024 (0.397)	0.050 (0.407)	0.445 (0.388)
41-50 years	0.470 (0.505)	0.796 (0.525)	0.549 (0.514)
51+ years	0.487 (0.631)	0.532 (0.654)	0.840 (0.646)
Gender			
Male	1.678(0.540)***	1.860 (0.603)***	1.210(0.572)**
Schooling			
1-5 years	-0.247 (0.409)	-0.216 (0.418)	-0.267 (0.398)
6-10	-0.123 (0.458)	-0.469 (0.471)	0.138 (0.444)
10+	-0.257 (0.925)	-0.231 (0.959)	-0.693 (0.919)
Occupations			
Private employee	-0.908 (0.630)	-0.690 (0.708)	-0.932 (0.668)
Government employee	0.094 (2.551)	0.424 (2.910)	0.543 (2.319)

Self-employee	-1.004 (0.855)	-1.157 (0.947)	-0.345 (0.884)
Business	-0.864 (0.772)	-1.021 (0.842)	-0.847 (0.793)
Others	-0.497 (1.301)	0.110 (1.424)	0.207 (1.332)
Food safety concerns			
Uncovered food	0.972(0.351)***	1.602(0.392)***	1.501(0.377)***
Fear of indigestions	0.670(0.348)*	0.897(0.375)**	1.018(0.377)***
Stale food	2.811(0.366)***	2.898(0.391)***	2.929(0.393)***
Unclean place	0.763(0.365)**	1.074(0.385)***	0.957(0.378)**
Unknown processing	2.109(0.419)***	2.076(0.420)***	1.833(0.393)***
Food handler's hygiene	1.297(0.465)***	1.492(0.465)***	1.323(0.444)***
Unexpected smell	0.724(0.677)	1.111(0.692)	0.145(0.645)
Constant	-3.742(0.656)***	-4.997(0.798)***	-4.802(0.763)***
Observations	401	401	401

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1*

Table 3.7 Logistic regression analysis of the predictors of the coping strategies for snacking

VARIABLES	Model 4 Information searching	Model 5 Heuristic approach	Model 6 Avoidance
Age			
31-40 years	-0.174(0.876)	-0.062(0.520)	0.442(0.435)
41-50 years	-0.003(0.932)	0.400(0.659)	0.410(0.550)
51+ years	0.753(1.053)	0.251(0.814)	0.851(0.710)
Gender			
Male	4.126(1.375)***	3.012(0.745)***	1.400(0.554)**
Schooling			
1-5 years	-1.158(0.815)	-0.140(0.549)	0.010(0.447)
6-10	-1.670(0.970)*	-1.471(0.637)**	0.090(0.508)
10+	0.041(1.561)	-0.757(1.238)	-1.020(0.986)
Occupations			
Private employee	-2.762(1.381)**	-0.782(0.870)	-0.524(0.688)
Government employee	-	.133 (7.713)	.330(3.214)
Self-employee	-3.146(1.772) *	-1.225(1.167)	0.069(0.916)
Business	-2.989(1.623)*	-1.155(1.019)	-0.440(0.830)
Others	-	-1.150(1.895)	-.514(1.521)
Food safety concerns			
Uncovered food	0.674(0.746)	1.175(0.463)**	0.995(0.388)**
Fear of indigestions	-0.737(0.638)	0.359(0.419)	0.703(0.375)*
Stale food	-	3.736(0.495)***	3.436(0.427)***
Unclean place	2.414(0.734)***	1.824(0.477)***	1.413(0.408)***
Unknown processing	6.761(1.439)***	3.675(0.641)***	2.512(0.472)***
Food handler's hygiene	-	2.016(0.643)***	1.916(0.542)***
Unexpected smell	-	3.073(1.301)**	-0.243(0.675)
Constant	-3.385(0.970)***	-4.988(0.914)***	-4.704(0.788)***
Observations	253	401	401

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1*

3.5 Discussion and conclusion

In this study, we sought to identify coping strategies for food safety concerns of the urban poor by exploring eating-out practices in Bangladesh's capital, Dhaka. We applied social practice theory to study eating out among the urban poor and tried to uncover how food safety concerns are handled in this practice. Our findings shed light on the variety of enabling and impeding resources and skills that influence the urban poor's choice of eating out and how they manage their concerns. Overall, the study provides a comprehensive understanding of the eating-out practices of the urban poor in the context of food safety concerns and urban lifestyles.

Firstly, we identified two distinct variations of eating out: 'snacking' and 'eating a complete meal'. We found similarities among the different practice elements in both, which demonstrates the adaptability of elements in social practices. At the same time, different elements may be part of the same social practice. By comparing different (variations of) practices, we can gain a more holistic understanding of the practice, which enables us to zoom in and learn more about its details. While the locations and times of the two variants differ, the meaning of engaging in them is similar: necessity and pleasure (Southerton, 2013; Fine et al., 2001;). Satisfying hunger is essential, but this practice demonstrates significant social value (Warde et al., 2020). Eating out often becomes an obligation to maintain social connections. However, affordability, location, and time requirements lead to snacking dominating over eating a complete meal. Our findings differ from the observation by Warde et al., (1998) who found that financial constraints are not primary concerns for UK consumers in choosing of eating-out practice. In contrast, our study suggests that financial limitation plays an important role for Dhaka's poor in continuing the practice. This finding shows that snacking requires more attention from policymakers and food industries to make them safe. It is critical to empirically compare and contrast the two variations when determining appropriate policy responses.

Secondly, Several food safety concerns related to eating out practices by the Dhaka poor are identified, consistent with the study in other Asian cities, but the concerns vary in nature (De Filippo et al., 2021). The concerns in this study are mostly associated with materials and competencies and vary between snacking and having a complete meal, highlighting the need for practice-specific considerations in the urban food policy process. While snacking and complete meals involve non-food materials, such as covering food and outlet environments, the main food-related concerns are linked to eating a complete meal. The inability to identify food processing indicates consumers' lack of competence. Despite the serious concerns about snacking, it is predicted to persist due to its role in satisfying hunger at work, driven by convenience and cost. In addition, outlet-related concerns for restaurants and café with sheds are easily visible and need more exploration to take appropriate measures (Adam et al., 2014). Fewer

practitioners' engagement in eating out indicates deeper concerns. This signifies that people from slum households are aware of the food they consume. One possible explanation is that existing policy instruments or their implementations may not alleviate concerns and impact provisioning practice in the informal context of Dhaka slums (Smit, 2016).

Thirdly, poor consumers in this study adopt coping mechanisms based on their perception of the food environment and available resources in urban areas. These mechanisms are generally non-scientific. Nevertheless, they incorporate different practice elements. Especially the poor are limited in their resources and expertise to cope with these risks. Coping strategies in eating out practices need to comprehensively connect the different practice elements (i.e., meaning, materials and competencies) to ensure safe food. So far, however, only single elements are often used to manage the risk. The embeddedness of eating out in other everyday activities as part of urban lifestyles should be considered when trying to improve the circumstances surrounding eating out in an urban food system (Adeosun et al., 2022). The urban lifestyle of these poor means it may be impossible to avoid daily eating out by them (Wertheim-Heck et al., 2015).

This study's innovative approach has led to the development of a new framework that can serve as a guideline for future research in the area of coping with food safety concerns among the urban poor in the global south (see Figure 3.4). This framework begins with examining the core practices while considering additional associated practices, referred to as the bundle of practices. A search for similarities and differences among the practice elements can assist in separating the two practices. A careful review of the strategies for coping employed in established practices can discover how they adapt or alter in response to issues raised by food safety concerns. This helps us figure out the reconfiguration procedures to address the disruptions caused by these concerns.
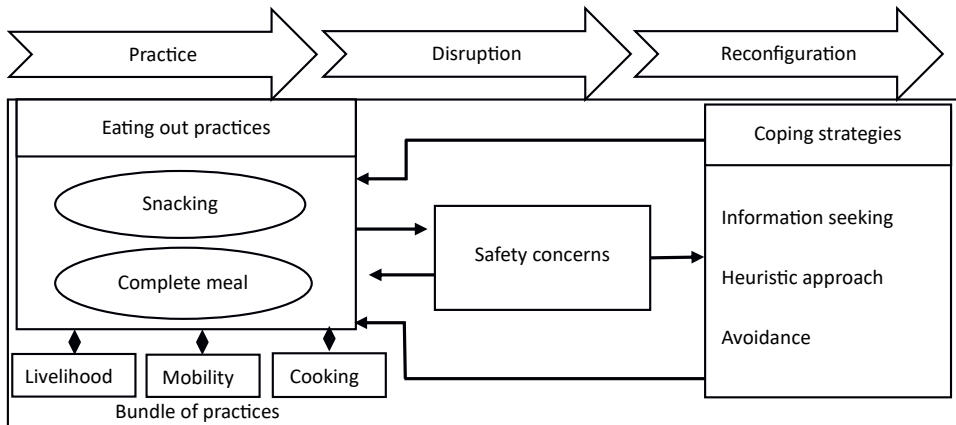
Figure 3.4 A conceptual framework connecting eating out and food safety coping strategies

Exploring a practice with mixed methods gave us substantial results about the actual practice among large groups, concerns and strategies. While the study's findings are interesting and valuable for the food industry and policymakers, there are some limitations to consider. First, forthcoming studies could investigate the influence of home cooking facilities on food safety management for eating out, potentially revealing distinctions in experiences between households with and without such equipment. Second, analysing the effect of time constraints on the decisions and concerns regarding food safety made by the urban impoverished can provide insight into the nexus between urban lifestyles and safety measures for eating out. Third, because the study was conducted in a South Asian city with distinct cultural and contextual dimensions, the findings may not be generalisable to other cities worldwide. Fourth, surprisingly, concerns about chemicals related to food safety concerns were not raised by the respondents, which can be another aspect for further research. Finally, the sample only includes poor urban populations, which may also limit the findings' broader applicability. Further exploration of the other socio-economic groups and locations can be recommended with the help of the conceptual framework presented above. Using this framework, researchers can better understand the complex interplay between the different elements of coping strategies and how they shape everyday practices.

Food quality and safety are critical to any food security strategy (King et al., 2017). This case study demonstrated how food safety concerns disrupt the urban poor's eating out practice. It also demonstrates that low- and middle-income countries yet have to implement appropriate policy instruments to reduce these concerns (Berg & Brouwer, 2019; Giroux et al., 2021; Mohammed Abdus Satter et al., 2016; Omari & Frempong, 2016; Rheinländer et al., 2008; Tach & Amorim, 2015). Global

South countries may require capacity-building support as they currently lack them. Food safety for the urban poor cannot be left to the market alone; researchers, government and civil society should work together to support urban planning, retailers and public health sectors. To do this effectively, it is crucial that everyone involved in the food system, specifically from the farm to the retail outlet, understands how and why consumers perceive food safety dangers and how they react to them.

This study not only offers practical insights for food consumers, retailers, industry stakeholders, and policymakers but also introduces a novel tool for future studies examining food safety concerns among the urban poor in global contexts. Our conceptual framework facilitates a more profound comprehension of the interplay between various coping mechanisms within the larger context of the urban poor's out-of-home food consumption. Ultimately, our findings demonstrate the significance of understanding eating out from the viewpoints of social practice, non-scientific methodologies used in the practices, and collaboration among academics, governments, and civil society in resolving food safety concerns in urban food systems. The study underscores the importance of food safety for low-income urban populations when eating out, stressing the need for context-specific interventions in low- and middle-income countries in the Global South.

Chapter 4

Food safety in urban informal market food environment: a social practice perspective to coping strategies of vendors in Dhaka, Bangladesh

Abstract

Informal food vendors in the Global South face challenges in managing food safety, requiring strategies that address consumer concerns. This paper examines how informal vendors in Dhaka, Bangladesh, cope with these issues. Viewing food vending as a social practice, the study emphasises that food safety is a shared responsibility. Research on 26 vendors, divided into three categories (cooked food, dry goods, wet market), explores their coping strategies in sourcing, processing, storage, and sales. Key strategies include information sharing, resource management, trust-building, and innovation. The study highlights varying resource access and skills, calling for a multi-faceted approach to food safety that aligns with vendors' local practices.

Keywords

Informal food vendor, Consumers, Food safety concern, Food environment, Social practice theory, Bangladesh

4.1 Introduction

Food safety in the informal market is critically important, especially as informal food vending serves as a vital source of nutrition for low-income households in low- and middle-income countries (LMICs) (Grace et al., 2019; Reddy et al., 2020; Giroux et al., 2021). With rapid urbanisation in the LMICs, informal food vending is expected to play an increasingly significant role due to its cultural relevance, affordability, and support for livelihoods (Bhattacharyya Thakur, 2001; Huang et al., 2018). However, informal food vendors (IFVs) are often perceived as less safe, primarily due to poor practices in sourcing, processing, and selling, which can heighten health risks for consumers (Pham & Turner, 2020; Trübswasser et al., 2021; Wertheim-Heck & Spaargaren, 2016; Scott, 2017). The World Bank estimates that foodborne illnesses result in annual productivity losses of up to US$95 billion in LMICs (Jaffee et al., 2018), further complicating vendors' reputations, profits, and consumer-vendor relationships (Halder et al., 2003). Consequently, IFVs need to develop effective food safety management strategies to address consumer concerns (Henson et al., 2023).

Research on food market environments has predominantly adopted an individualistic approach, focusing on consumer access to vendor locations and personal convenience, while neglecting social interactions between consumers and vendors. IFVs are considered integral components of traditional markets, which include small-scale, unregulated venues such as street vendors, farmers' markets, and bazaars (HLPE, 2020; Grace, 2015; Renko & Petljak, 2018; Liguori et al., 2022). Downs et al. (2020) describe these environments as built settings where various vendors operate. However, documenting and implementing policies for IFVs is challenging; Turner et al. (2018) stress the need to understand both personal and external consumer contexts in the food environmental context.

This study examines food safety management among IFVs by exploring their daily experiences and social interactions, specifically focusing on how they cope with consumer safety concerns. Utilising Social Practice Theory (SPT), we emphasise practices as the primary unit of analysis, addressing vendors' routines rather than individual choices. The central research question is: how do Dhaka's informal food vendors manage consumer food safety concerns in their daily operations?

Our qualitative analysis reveals themes related to the coping strategies employed by three distinct types of vendors: cooked food, wet market, and dry market vendors. This classification facilitates a deeper exploration of varying food safety management strategies. We conclude that food safety management is influenced by IFVs' material resources, skills, and daily social interactions with consumers. The article presents the conceptual framework in Section 4.2, followed by the methodology

and findings in Sections 4.3 and 4.4, which focus on a case study of IFVs in Dhaka. Section 4.5 concludes with a discussion and final thoughts.

4.2 Social practice theory lens on coping strategies of IFVs in Dhaka

This research utilises Social Practice Theory (SPT) to investigate the coping strategies employed by informal food vendors. SPT has gained traction in the literature, providing a valuable framework for analysing everyday social activities, such as food vending, by considering the interplay of social and cultural factors (Spaargaren & Oosterveer, 2010; Southerton, 2013). Informal food vending is hereby conceptualized as a composite practice, consisting of interconnected sub-practices like sourcing, processing, storing, and selling food (see Figure 4.1) (Vignola & Oosterveer, 2022).

To gain deeper insights, we apply Shove's (2012) three-element model, which examines practices through the dimensions of meanings, materials, and competencies (Shove et al., 2012). Meanings refer to the shared understandings and significance that vendors attach to food safety, business continuity, regulations, and consumer concerns. Materials encompass the physical components involved, such as food items, vending spaces, equipment, and the time spent navigating Dhaka's traffic. Competencies represent the skills and knowledge required for safe food handling, often developed through experience and cultural understanding. Since the practice comprises several interconnected elements (Reckwitz, 2002), deconstructing the practice into these components and then reconstructing it as a cohesive whole is an effective approach for applying Shove et al.'s model to analyse vending practices.
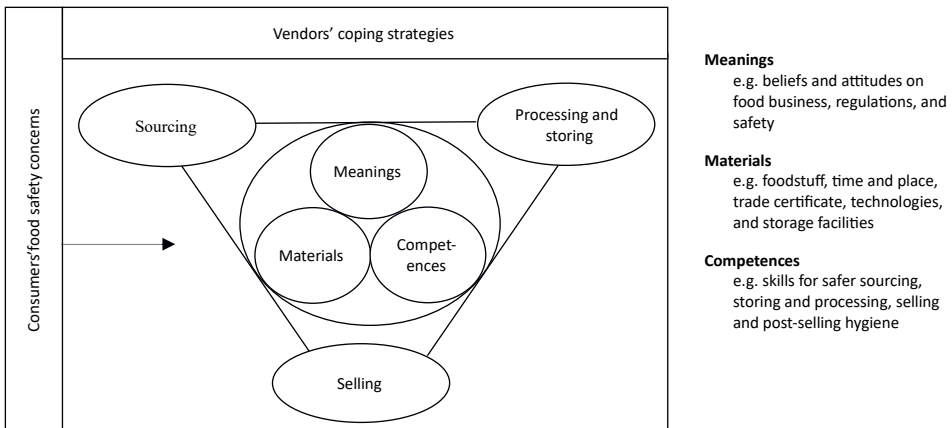
Figure 4.1 Food safety in informal vending: interplay of practice elements

Additionally, this study integrates the concept of the "nexus of sayings and doings" from Nicolini (2009), which emphasises the significance of interactions and relationships with consumers and institutions. This perspective highlights how social dynamics contribute to safe food management practices within Dhaka's complex food system. By examining these interconnected elements, the research aims to provide a comprehensive understanding of informal food vending practices and the coping strategies adopted by vendors in Dhaka.

4.3 Methods

Primary data was collected to explore the perceptions and responses of IFVs to consumer food safety concerns within the urban slums of Dhaka, Bangladesh. The study sought to understand the coping strategies and everyday practices of vendors in response to these concerns. Dhaka serves as a case study for examining the dynamics of IFVs' daily practices in densely populated urban areas.

4.3.1   Dhaka, a case in point

The rapidly urbanising environment of Bangladesh exerts pressure on housing for the poor, affecting both slum construction and the supply of safe food. Consequently, a significant number of IFVs have emerged in slum areas of Dhaka, many of whom may not adhere to legal requirements and may not serve food safely (Hassan et al., 2017). As a result, food safety standards have been compromised.

This case study examines the challenges faced by vendors in Dhaka as they respond to consumers' food safety concerns, which include pesticide residues, Salmonella resistance, antibiotic-resistant bacteria, microbial quality in ready-to-eat food, and health risks associated with other contaminants (Kamruzzaman, 2016; Ahmed et al., 2019; Parvin et al., 2020; Hassan et al., 2021; Nisha et al., 2021). Dhaka, now a commercial and industrial hub, has experienced a substantial influx of rural migrants due to climate change and social unrest. With a population exceeding twenty-four million—nearly 40% of whom reside in slum dwellings—this megacity houses a significant urban poor population, including many street vendors. The focal point of this study, the Korail slum, situated within the Dhaka North City Corporation, features three wet markets surrounded by shops selling dry food items. Despite being the largest slum in the city, Korail faces challenges with IFVs that hinder institutionalization and regulatory enforcement efforts. The lack of formal regulations, such as shop registrations and food business licenses, presents significant obstacles, perpetuating the uncontrolled operations of IFVs. Despite government and non-government efforts to address food contamination and improve slum infrastructure, managing food safety in everyday vending practices remains largely unregulated and under-recognised. This underscores the disconnect between IFVs and the city's urban food governance

frameworks. This study also models metropolitan scenarios prevalent in the LMICs, with Dhaka epitomizing rapid urbanisation, evolving food systems, and widespread food safety challenges.4.3.2 Semi-structured interviews

Semi-structured interviews were conducted in September 2020, primarily over the phone and administered by the first author, a resident of Dhaka. With informed consent from the respondents, the consultations lasted approximately 30 minutes. Only one vendor expressed hesitation after 12 minutes, citing discomfort with the topic. Notably, during data collection, food shopping among Dhaka's poor had nearly normalized despite the ongoing COVID-19 situation. Ethical approval was obtained from the International Diarrhoea Research Institute, Bangladesh (icddr,b).

The semi-structured interviews (SSIs) aimed to capture the complexities of the food environment, encompassing socioeconomic, situational, and personal factors pertinent to IFVs' understanding of food safety arising from daily business operations. The guiding question, "How do you (i.e., vendor) manage consumer food safety concerns?" was central to the interview protocol, which was developed based on selected literature. The protocol included inquiries grouped into three primary areas: 1) Everyday business operations of IFVs, 2) IFVs' understanding of consumer concerns while shopping, and 3) Strategies employed by IFVs to address consumer concerns regarding food safety within operational procedures.

4.3.2   Respondents

A total of twenty-six SSIs were conducted with IFVs from the Korail slum, forming a purposive sample (see Table 4.1). These vendors offered a variety of food items, including cooked food, fresh produce, and dry goods. They operated in diverse settings, from temporary stalls to permanent shops, and from street corners to market squares. Their insights and experiences were essential to understanding the complex dynamics of urban informal food vending practices. Data saturation was reached when no new themes or insights emerged, leading to the cessation of recruitment. The informality of vendors was confirmed by the absence of food business licenses. The sample consisted of 19 males and 7 females, with all but two respondents being married. All respondents were residents of the Korail slum and were over 18 years old. The average age was 37.6 years (SD = 7.8), with the oldest participant being 50 years old. Recruitment was facilitated with the assistance of the local community leader in Korail. Table 4.1 presents the vendors' types, gender, age, education, and mobility status.

Table 4.1 Vendor's profile

Vendor types	Vendors	Gender	Age (years)	Education (years)	Business period (years)	Mobility Type
Cooked Food	Restaurateur	Female	31	12	5	Sidewalk
	Restaurateur	Female	47	Illiterate	22	Permanent
	Restaurateur	Male	28	5	unavailable	Permanent
	Restaurateur	Female	45	OCS*	10	Sidewalk
	Restaurateur	Female	35	5	3	permanent
	Chotpoti	Male	48	5	16	Permanent
	Pickle	Female	24	5	5	Permanent
	Tea	Male	30	8	4	Permanent
	Tea	Male	42	OCS	5	permanent
	Pitha	Female	25	5	2	Sidewalk
	Pitha	Female	48	Illiterate	15	Sidewalk
	Pitha	Male	41	OCS	2	Sidewalk
Dry food	Grocery	Male	48	5	16	Permanent
	Grocery	Male	36	OCS	3	Permanent
	Grocery	Male	27	10	8	Permanent
	Grocery	Male	29	5	7	Permanent
	Grocery	Male	44	5	26	Permanent
Wet Market	Fish	Male	50	OCS	18	Permanent
	Fish	Male	42	Illiterate	10	Peddler
	Meat	Male	32	Illiterate	14	Permanent
	Chicken	Male	21	14	1/2	Permanent
	Fruit	Male	48	5	22	Permanent
	Fruit	Male	38	5	6	Permanent
	Vegetable	Male	35	Illiterate	5	Peddler
	Vegetable	Male	48	Illiterate	15	Permanent
	Vegetable	Male	30	5	5	permanent

OCS=only can sign

The recruitment of these respondents was guided by several considerations. Firstly, it prioritised the participation of locally accessible IFVs, fostering trust to minimise socially desirable responses regarding food safety. This approach provided valuable insights into the practices and perspectives of IFVs, allowing for in-depth exploration of the unique challenges and dynamics within informal food vending, enriching existing literature, and paving the way for further research.

4.3.3   Coding, categorizations, and analysis

A two-step coding process was employed to extract key themes from the interviews. In the first step, the lead author developed a preliminary list of codes based on predefined themes related to meaning, materials, and competencies pertinent to daily vending operations. These themes considered factors influencing a vendor's approach, such as operating time, location, incentives, knowledge of regulations, and licensing requirements. After finalising these codes through discussions with the other Authors, they were systematically applied to all interviews using Atlas.ti, a qualitative data analysis software.

The analysis process also involved thematic analysis. Through iterative coding, we identified both similarities and variations in the vending practices described by the participants. Additionally, emergent themes were recognised from the coded data. These themes arose not only from vendors' explicit statements but also from their interactions and the connections between different pieces of information. An important aspect of the analysis was documenting the frequency of specific coping strategies employed by vendors and assessing their effectiveness in mitigating food safety hazards.

We also noticed that vendors may hold diverse opinions regarding shopper concerns and employ various methods of coping in their daily operations. The lead author's background and experiences within Dhaka's urban environment were seen as beneficial in facilitating vendor understanding and interpretation of the study's findings.

Following vendor recruitment and initial data analysis, a categorization system was developed to group vendors based on their primary food items. This yielded three categories: cooked food, wet market, and dry market (see Table 4.2). This categorization provides a typology for comparative analysis, identifying potential challenges and discrepancies in food safety management within the informal retail environment.

Table 4.2 Dhaka informal food vendors

Vendor Type	Description	Location	Specialties	Local Name
Cooked Food	Prepares and sells cooked meals or snacks on-site or from home	Permanent stalls with seating or pavements	Full meals (e.g., rice and curries), snacks (e.g., local cakes)	N/A
Dry Food	Sells dry goods, including staple items and snacks.	Kiosks designed for storage and display	Rice, pulses, spices, cooking oil, bread, cookies, chips, soft drinks, etc.	Grocery Dokan, Mudi Dokan
Wet Market	Offers fresh food items, including meat, fish, and vegetables	Permanent markets or mobile vending	Meat, live poultry, fish, fruits, vegetables	Mangser Dokan (beef), Sabjir (vegetables) Dokan

4.3.4   Researchers' description

To ensure accurate data collection, interviews were held in Bangla, the native language of the participants. A research assistant and the first author, fluent in both Bangla and English, transcribed the interviews and checked them for accuracy. Following this review, the first author translated the transcripts into English for further study with co-authors. This thorough method ensured the accuracy of the data obtained and the integrity of the findings.

4.4 Results

The main findings drawn from the empirical study are presented in this section. After outlining the regular food vending practices in Dhaka's informal market system, we investigate how vendors view consumer concerns about food safety. The three interrelated sub-practices of sourcing, processing and storage, and selling are the focus of our final analysis of vendor strategies for coping.

4.4.1   Informal food vending practice in Dhaka

This study, based on interviews with three distinct groups of vendors in Dhaka, reveals notable differences in their working hours and locations, while also uncovering shared practices concerning informal permissions and payments.

Food vending in Dhaka is a multifaceted income-generating activity that demands strategic decision-making. Vendors must navigate ideal timing, site selection, and the informal approval system, all while prioritizing consumer health.

Vendors rely heavily on timing and location to ensure their business continuity. Wet market vendors (WMVs), who deal with perishable commodities like fish and vegetables, typically operate in the early morning, while cooked food vendors (CFVs) and dry food vendors (DFVs) extend their hours into the evening to cater to customer demand. For instance, CFVs that specialize in snacks often work late into the night, demonstrating adaptability to customer preferences and the challenges of handling perishable goods. Most vendors operate from fixed locations and pay rent, indicating some level of stability within the informal sector.

Interviews revealed the significant role community leaders play in facilitating vending operations. One vendor stated, *"…No, small businesses like us do not need a licence"* (SSI 01, Grocery vendor, age 36). Another shared*, "I have been living in this area for a long time. The local leaders address me as an uncle. I am not required to pay anyone. However, there are occasions when I have to treat them" (SSI*

21, Pitha seller, age 41). Although vendors lack formal permits, they maintain informal networks and often pay fees to local leaders for operational approval, navigating the system through social skills and informal norms.

Most vendors demonstrated a limited understanding of food safety regulations and safe retailing practices, which poses risks to consumer safety. Many expressed a lack of formal education and limited access to food safety information. For example, one vendor remarked, *"Nobody told me about that"* *(SSI 24; Pitha Seller, age 41),* while another admitted,*"I do not know about the law. You know I do not know how to read and write, but if we sell good things to the consumers, It will be better" (SSI 05, Fish vendor, age 50).*

Overall, IFVs in Dhaka face challenges in ensuring food safety due to their reliance on informal fees, self-taught competencies, and limited knowledge of food safety regulations.

4.4.2   Consumers' food safety concerns

Vendors recognise that affordability often outweighs food quality for consumers due to economic constraints, but their interpretations of consumer concerns vary based on the type of food sold. Wet market and dry food vendors emphasise freshness and potential chemical use, while cooked food vendors adopt a broader perspective that includes the overall hygiene of the selling environment.

The type of food vended shaped vendor perspectives on the materials aspects. WMVs referred shoppers to focus on fresh produce and potential chemical additives, while the shoppers of DFVs were concerned with dry foods' quality and packaging. CFVs emphasised proper food display and hygiene equipment.

The skills and experiences of vendors significantly influence their understanding of consumer concerns. WMVs and DFVs show competence in recognising consumer preferences for fresh produce and are aware of potential adulteration risks. DFVs also assess the quality of dry goods over time, while CFVs exhibit a strong understanding of safe food handling, hygiene, and proper storage practices. Ultimately, vendors' narratives about food safety differ considerably; CFVs prioritise the hygiene of their outlets, whereas WMVs and DFVs emphasize the freshness and safety of the food items sold.

4.4.3   Vendors' coping strategies in vending practices

All IFVs in this qualitative investigation collectively demonstrated the crucial need to guarantee food safety for consumers. However, considerable gaps exist in the knowledge, skills, and resources required

for successful food safety management. All respondents reported employing distinctive coping strategies in three interconnected practices: sourcing, processing and storage, and selling. Unlike previous studies, which focused primarily on knowledge, attitudes, and practices (KAP), this study identifies and categorizes 30 distinct coping activities into eight themes: time management, trust building, resource management, information searching, interpersonal relationships, innovation, hygiene and safety measures, and acceptance (see Table 4.3). These themes are divided into three broader categories: economic, social, and environmental. Notably, the representation of these themes varies across the three practices, as discussed below.

4.4.3.1   Coping in sourcing practices

The coping strategies identified in sourcing practices reveal five key themes: time management, trust building, information searching, resource management, and acceptance.

Time management is particularly critical for WMVs, who prioritise early morning sourcing (e.g., 2 a.m. -5 a.m.). This proactive strategy demonstrates their commitment to preserving freshness by sourcing high-quality commodities such as fruits, vegetables, and fish to suit consumer demands. As one vendor summarised, *"I go there [wholesale market] between 2 and 5 a.m. If I cannot get there at that time, I will not be able to get any high-quality things to offer in my shop" (SSI 02, vegetable seller, age 48).*

Trust-building is an essential component of sourcing procedures since vendors rely on established relationships with wholesalers to negotiate market dynamics and make informed sourcing decisions. By developing these ties, vendors improve quality control and consumer safety. Furthermore, DFVs trust particular brands and actively seek to enhance quality control

Vendors demonstrate a high level of expertise in product selection, developed through years of experience. Wet market vendors, for instance, emphasise visual inspections of fresh produce, while dry food vendors diligently check expiration dates to avoid selling expired goods.

Resource optimisation through logistics present challenges in food safety management, as IFVs often lack dedicated food transportation. They adapt by using public transportation, like rickshaw vans and buses, to move items from wholesale markets to retail locations. These strategies highlight their ability to navigate Dhaka's traffic congestion, emphasising the need for effective time management.

Lastly, the theme of acceptance reflects vendors' acknowledgement of limitations in identifying safe food. When vendors struggle to assess freshness, they adapt to the situation. One vendor illustrated

this sentiment*: "Nothing to do…I cannot identify the fresh vegetables properly. Vegetables seem attractive under the light of the bulbs when we purchase from Kawran Bazaar at night. However, in the morning, I found these are not as coloured as I saw" (SSI 14, Vegetable vendor, age 35).*

Overall, these themes underscore the complex dynamics shaping safer sourcing practices among IFVs in Dhaka's informal market, ultimately enhancing consumer welfare by ensuring the availability of safer food options.

4.4.3.2   Coping in processing and storage practices

Coping strategies employed in processing and storage, we identified five major themes: resource utilisation, innovation, relationship maintenance, hygiene and safety measures, and acceptance. These strategies are predominantly employed by CFVs.

The most recurrent theme across the data is 'resource utilisation,' which encompasses vendors' mobilisation of materials, combining implicit meanings, beliefs, and accompanying competencies in addressing consumer concerns. The efficient allocation and management of resources are critical for maintaining food quality. Vendors store cooked food in glass racks and personal refrigerators. The skills of underproduction, in which sellers purposefully produce fewer prepared foods than consumer demand permits, further exacerbate the unstable balance between supply and demand. For instance, while many meat and fish vendors refrigerate their leftovers after a day's sales, a vegetable vendor explained why he avoids refrigeration: *"I do not refrigerate vegetables to avoid discolouration, and nobody will buy them anymore" (SSI 14, vegetable seller, age 35).*

Vendors incorporate innovation and maintaining relationships into their food processing and storage procedures. They talked about cutting-edge methods that enhanced controlled storage facilities and food preservation. For example, one fish vendor asserted that utilising oral saline might prolong the freshness of fish, saying. These strategies were observed among vendors to expand shelf life challenges for fish and live chickens. For example, one vendor claimed to keep fish fresher for longer by using oral saline, saying, *"I keep fish inside the drum with saline water. I use oral saline, which is used for people with diarrhoea, for this purpose. It is not restricted by the government. Moreover, I'm not employing any chemicals, correct? (SSI 04, 42-year-old fish vendor).* However, many WMVs were likely unaware of these techniques. Another vendor who sells live chicken emphasised deploying a particular technology, *"I do not give medicine to them, I just feed them (chicken) paracetamol. They need warm temperature in winter and cold in summer" (SSI 12, Chicken Seller, age 21).* Additionally, the promotion of a safe food

environment through asking family members of CFVs for help with dishwashing or using neighbours' refrigerators to acquire food emphasises the value of social interaction.

Essential steps, such as covering prepared food, handwashing with soap, and refraining from reusing burned oils, constitute hygiene and safety measures. Most CFVs emphasised hygiene by covering food items to keep away dust, dirt, and flies. Several vendors also declined to reuse burned oil due to consumer concerns about potential health effects. These procedures reflect the expertise and additional capabilities that some cooked food vendors possess.

Lastly, acceptance in processing and storage procedures reveals how vendors tolerate space constraints in shops and acknowledge the limitations of not owning glass racks.

4.4.3.3 Coping in selling practices

Three major coping themes come to light in the context of selling practices: acceptance, resource management, and trust building.

Building trust is essential to sales techniques, which place a strong emphasis on gaining the trust and loyalty of consumers. To build trust through social contact, vendors place a high priority on transaction transparency and service delivery dependability. This involves preserving uniformity in food quality and disseminating pertinent information through product descriptions. Trust-building strategies, such as promptly replacing sold items, are very prevalent among DFVs, which helps to increase customer confidence in them.

Resource management emphasises the strategic optimisation of resources to enhance sales practices. Providing consumer handwashing facilities by the CFVs, adhering to stringent hygiene standards, and implementing food safety protocols, such as reheating food and using hand gloves, contribute to consumer confidence and satisfaction. Investments in these materials that prioritise consumer well-being reflect a commitment to quality and customer-centricity. Acceptance appeared in selling practices, recognising the reality of market dynamics and consumer behaviour. Practices such as discounting to stimulate sales, donating unsold food to reduce waste, and occasionally incurring a financial loss for the sake of customer satisfaction demonstrate the acceptance of obstacles and trade-offs inherent in commerce.

In summary, effective safe selling practices among IFVs in Dhaka are rooted in trust building, resource optimization, and pragmatic acceptance, demonstrating the complex interplay of social practices that underpin their operations in the informal food market.

Table 4.3 Coping strategies in informal food vending: sub-practices, themes, and codes

Dimension	Themes	Codes
Sourcing practice		
Social	-Time management	-Early morning sourcing
		-Daily sourcing
	-Trust building	-Relying on trusted wholesalers
		-Selecting reputable brands
	-Visual inspection	-Assessing wholesale items visually
		-Checking expiration dates
Economic	-Resource optimisation	-Carrying by public transport
		-Collecting unwashed produce
	-Acceptance	-Incompetent for food safety identify
Processing and storage practices		
Economic	-Resources optimisation	-Utilising personal refrigerators
		-Storing cooked food in glass racks
		-Practicing underproduction
	-Innovation	-Adopting new preservation technologies
		-Extending fish freshness with loose ice
Social	-Collaborative practices	-Accessing neighbours' refrigerators
		-Involving family in dishwashing
	-Space adaptability	-Managing with limited storage space
		-Using alternative storage without glass racks
Environmental	-Hygiene and safety measures	-Practicing thorough handwashing
		-Covering cooked food for protection
		-Avoid reusing burnt oils
Selling practices		
Social	-Trust building	-Fostering consumers' trust
		-Offering replacements for sold-out items
		-Explaining product details to consumers
Environmental	-Hygiene standards	-Providing Consumer handwash facilities
		-Re-heating food to ensure freshness
		-Using hand gloves while serving
Economic	-Waste and lost management	-Offing discounts on unsold items
		-Donating unsold food to reduce waste
		-Absorbing financial losses if needed

4.5 Discussions and conclusions

This study examines coping strategies used by informal food vendors (IFVs) in Dhaka's slums to address consumers' food safety concerns. Guided by Social Practice Theory (SPT), we analysed how meaning, materials, and competencies shape vendors' practices. The results show that there are still issues with food safety because of low safety perceptions, poor equipment and storage, and a lack of scientific knowledge. We classified vendors by product type (cooked, dry, and wet markets) and found unique

coping mechanisms and resources for each category after looking at sourcing, storage, and selling techniques. SPT provides a holistic framework for understanding IFV practices, emphasising the interconnectedness of social and material factors, which can inform targeted policy interventions to improve food safety. This study provides a comprehensive exploration of the coping strategies employed by IFVs in Dhaka through the lens of Social Practice Theory (SPT). By analysing the interconnected practices of sourcing, processing and storage, and selling, we uncover the complexities and nuances that characterize food safety management in urban informal markets. The findings illustrate how IFVs navigate the challenges of food safety amidst significant socioeconomic constraints and an evolving urban landscape.

The influence of social dynamics on IFVs' food safety measures is among the study's robust findings. The focus on developing human connections and trust emphasises how vendors use social capital to boost customer confidence and guarantee the calibre of their products. This is consistent with previous research that emphasises the value of community relationships in informal economies (Termeer et al., 2024). When ensuring food safety becomes challenging, "social connection" and "trust" are critical in coping strategies for the vendors for sourcing, storing and selling practices (Adeosun et al., 2022). In addition to addressing consumers' food safety concerns, IFVs strengthen their market position in a very competitive industry by encouraging transparent interactions and upholding consistent quality.

The interconnected practices highlight the multifaceted nature of food vending within the informal sector and the management of food safety. Our findings demonstrate that strategies within one sub-practice can impact outcomes in other areas, whereas previous research frequently considered sourcing, processing, and marketing as separate activities. The quality of goods from wet marketplaces, for example, is directly impacted by efficient time management in sourcing, indicating that practices are not just isolated acts but rather interrelated behaviours influenced by social and cultural settings (Shove et al., 2012). Understanding this interdependence can help develop more successful strategies to enhance food safety in unofficial marketplaces.

Using a social practice theory (SPT) framework to identify coping strategies provides comprehensive insights and opportunities to address food safety by influencing vendors' behaviours. Unlike individualistic approaches in public health or psychology, which focus on vendors' intentions and obstacles, SPT enables a broader examination of various dimensions like daily routines and social situations, offering opportunities for change (Rettie et al., 2012). Changing a practice necessitates disrupting links between interconnected aspects (Shove & Pantzar, 2005). Our analysis suggests that policy interventions might address vendors' perceptions (e.g., food safety regulations), necessary

resources (e.g., refrigeration facilities), and competence (e.g., identifying safer food). Food safety, as a multidimensional issue, requires integrated policy interventions that establish connections between elements, such as material access and competence, facilitating necessary behavioural changes and addressing complexities within vending practices.

Not every coping mechanism applies to every kind of vendor. About 30 strategies have been found for usage by CFVs, however, not all of them are applicable in all situations. Because different vendors have critical gaps in different materials, skills, and knowledge, some strategies that work for WMVs might not work for DFVs or CFVs. Some vendors are also unable to acquire the skills they need due to resource limitations. Notably, IFVs adopt special coping mechanisms that show resilience and adaptability, like sharing household resources and preserving fish using oral slaine. These results show that informal vendors take advantage of creative methods showing their agency that could raise the bar for food safety. Further research and documentation of these tactics may provide insightful information for official food safety regulations. More research needs to be done on the relationship between food processing at retail locations and the implementation of preventative safety measures, considering the variety of food vending practices. Future studies could support the idea that vendors who process a lot of food are more likely to implement proactive safety procedures.

The findings of this study have important implications for urban food governance in rapidly urbanizing areas like Dhaka. As population growth surges and the informal sector remains a crucial food source for many, policymakers must recognise the complexities of informal food systems. Strengthening food safety through an integrated regulatory approach—including collaboration among local communities, government agencies, and private entities—can foster resilient urban food systems that prioritise food safety while respecting socio-cultural dynamics.

This study makes a valuable contribution to food safety and food environment literature, though several limitations should be noted. Its qualitative approach, while detailed, may limit generalizability. Data is restricted to vendor interviews, as on-site observations were not possible due to COVID-19 restrictions. Differences in vendor innovation may stem from resource availability, information access, and personal preferences. Future research could employ mixed methods to examine the root causes of these disparities in innovative practices and their effects on vendor performance within various contexts. Additionally, a closer investigation into these innovations is warranted, particularly since this study did not analyse food samples for safety. Expanding research to include multiple cities and on-site observations could further address these limitations.

Our approach makes three distinct contributions to the study of food safety in informal vending practices. First, it is empirical evidence for using SPT to analyse the safe food provision of informal vending in the rapidly urbanising global south. As a result, food safety should be seen as a complicated challenge in mixed food systems where practice elements, behavioural concerns, and social activities overlap from the food system perspective. Secondly, zooming in or desegregating practice aspects assists researchers in comprehending the numerous dimensions of food safety challenges that practitioners and policymakers must address in an integrated practice such as food vending. Disconnecting from components of bad practice (whether innovative or traditional) and connecting to elements of good practice (whether new or existing elements) require more coordinated legislative and policy instruments to reconfigure practices toward a safer retail food environment. Third, the vendors' coping mechanisms can provide a better understanding of the management issues of vendors' day-to-day living perspectives and the severity of safety management; this is not only an intentional or information availability issue.

In conclusion, this study provides compelling insights into the coping strategies employed by informal food vendors (IFVs), showcasing their ingenuity in utilising available resources and skills within the urban food landscape. This study breaks new ground by moving beyond the traditional KAP (Knowledge, Attitude, and Practice) framework to examine the broader social and cultural dimensions of how vendors address consumers' food safety concerns. Unlike previous research, which primarily focused on vendors' knowledge, attitudes, and practices, our findings reveal how vendors adapt and normalize their methods in resource-limited settings, highlighting their resilience and adaptability. There is already evidence suggesting that informal markets will persist in countries like Bangladesh (Hannah et al., 2022). Our study shows that vendors often adapt their practices based on the resources at hand, frequently normalizing processes in the absence of specific means. While not all vendors consistently apply these strategies, our research opens new avenues for enhancing daily food safety practices in the vending context. These findings underscore the importance of considering social interactions among vendors as crucial elements in improving consumer food safety and fostering a trustworthy food environment. The challenges faced by informal food vendors (IFVs) in Dhaka—stemming from their dependence on informal fees, self-taught competencies, and limited knowledge of food safety regulations—underscore the urgent need for targeted interventions and strategies to enhance food safety practices within this vital sector of the similar city's food system.

Chapter 5

Does food safety governance in Bangladesh include the urban poor? An analysis of government strategies and policies for the retail food environment in Bangladesh, 2013-2022

Abstract

This study investigates the influence of food safety policies on the food shopping practices of the urban poor food retail environments in Bangladesh. While national food policies focus on food access, they often overlook the safety of informal settlements. Using a mixed-methods approach, including national policy documents, interviews with shoppers, and stakeholder surveys, we identified strengths and weaknesses in Bangladesh's food safety governance. The analysis shows that while policy documents acknowledge consumer concerns, key weaknesses include unclear roles of local government, unspecified timelines, ambiguous budgets, inadequate monitoring and lack of cohesive societal transformation planning. These shortcomings potentially render policies ineffective and erode public trust. Stakeholder analysis highlights scepticism about current policies addressing food safety for the urban poor, emphasising the need for distinct, urban-focused policies. We recommend reassessing and restructuring retail food policies to enhance stakeholder engagements, prioritising the urban poor's perspectives, and implementing strategies that address diverse socio-economic groups. This approach is critical for advancing food safety in urban Bangladesh and other Global South countries.

Keywords: Food policy, food safety, urban poor, urbanisation, food retail environment, Bangladesh

5.1 Introduction

Food safety governance is crucial for ensuring the well-being of consumers, particularly in food retail environments (FRE) in LMICs. Unfortunately, the high rates of foodborne illnesses in these regions, disproportionately affecting the poor urban consumers due to inadequate hygiene and contamination within FREs risk being further exacerbated by rapid urbanisation and the growth of informal settlements (Wirakartakusumah et al., 2014; Global Panel, 2017; Ruel et al., 2017; Paudyal et al., 2017; Ahmed et al., 2019; FAO, 2023; Dewanti-Hariyadi, 2024). While food policies should ideally ensure safe food access throughout the chain (Lang et al., 2009; Mansfield & Mendes, 2013), in reality implementing them in FREs presents a complex challenge, particularly when there are weak governance frameworks and limited funding (Barling et al., 2002; de Krom et al., 2013; Berger & van Helvoirt, 2018; Moragues-Faus & Battersby, 2021). This paper investigates whether and how food safety governance in Bangladesh meets the needs of the urban poor in FREs and emphasises the need for effective policies and strategies to ensure equitable access to safe, affordable food.

Despite the importance of ensuring food safety for all socio-economic groups, substantial challenges persist in the FREs for the urban poor in LMICs. While retail modernisation, a strategy aiming to formalise FREs, has been proposed to improve food safety, this process is often stalled in LMICs due to resource constraints (Reardon et al., 2010; Wertheim-Heck et al., 2015; Grace, 2015; Maruyama et al., 2016). The formalisation of retail may not align with the needs of the poor, who rely on informal vendors and prioritise affordability and convenience over supermarkets (Cannuscio et al., 2014). Research suggests that supermarkets often primarily cater to wealthier population groups in South Asia and Africa (Skinner & Haysom, 2016; Battersby, 2017; Giroux et al., 2021). While retail modernisation presents a potential route towards safer food, it must be paired with both a practical and socially inclusive approach. Social inclusion in food safety governance entails institutional transformations or policies specifically designed to guarantee safe food access for all socio-economic groups, including disadvantaged consumers (Dreyer et al., 2007).

Bangladesh faces several food safety challenges marked by inadequate policy implementation, limited awareness campaigns and weak monitoring (Moustier et al., 2023). The 2013 Food Safety Act's intended goal to address existing policy gaps and strengthen food safety by promoting equity remains unmet due to resource allocation and regulation problems. Rapid urbanisation further exacerbates the situation, particularly in cities such as Dhaka, where informal food sources near slums serve the poor, despite growing online grocery shopping (Snoek et al., 2021; Haque et al., 2023). Research reports from the Urban Development Directorate (UDD) from 1965 to 2017 also show that food safety was less emphasised compared to issues of food surplus and deficiencies (Ministry of Housing and Public Works,

2017). The reliance on informal sources, coupled with weak policy enforcement, underscores the urgent need to target food safety research for the urban poor.

Analysing food safety policies is essential to identify the changes needed to enhance the well-being of the urban poor. Extensive research underscores the importance of rigorous food policy analysis, advocating for robust urban governance structures that acknowledge both formal and informal vendors (Barling et al., 2002; de Krom et al., 2013; Berger & van Helvoirt, 2018; Moragues-Faus & Battersby, 2021). Additionally, a comprehensive approach to public health and sustainability must consider various actors, resource availability, and consumer engagement (Doernberg et al., 2019; Namugumya et al., 2020; Boelsen-Robinson et al., 2021; Isanovic et al., 2023). Although existing studies explored food safety challenges in Bangladesh, a critical gap remains: the effectiveness of current policies in guaranteeing safe FREs for urban poor is yet to be fully elucidated (Kamruzzaman, 2016; Shammi et al., 2017; Ahmed et al., 2019; Parvin et al., 2020; Hassan; 2021; Nisha et al., 2021; Zheng et al., 2021; Hossain et al., 2021; Shamsuzzaman et al., 2022; Ishra et al., 2022)..

This study explores national food safety policies (FSP) in Bangladesh with a specific focus on the retail food environment (FRE), which includes various food outlets and related infrastructure, and regulations (Herforth & Ahmed, 2015; Downs et al., 2020). It assesses the strengths and weaknesses of these policies in addressing the everyday food shopping concerns of the urban poor. The key research questions are: 1. What constitutes the core elements of national food safety policies for urban food retail in Bangladesh? 2. To what extent do these policies address the food safety concerns and shopping practices of the poor, potentially serving as catalysts for necessary changes? By identifying gaps and overlooked issues, this study aims to reshape urban food safety policy— using Bangladesh as a case study— towards a more inclusive, pro-poor approach. Drawing from multiple data sources, this study offers direct policy relevance for similar LMICs. The article further continues by introducing a conceptual framework for analysing food retail policies in section 5.2, followed by the section 5.3 outlining the research methods. The subsequent sections (5.4 & 5.5) of the paper will concentrate on presenting and discussing the findings.

5.2 Conceptual framework

This paper draws upon Hudson's (2019) work to present a conceptual framework for assessing food safety policy in Bangladesh's retail sector. The framework comprises three key elements: (1) policy formulation and content, (2) policy implementation, and (3) the policy gap (see Figure 5.1).

The first element, policy formulation and content, focuses on the processes involved in designing FSPs. Our assessment framework incorporates the policy evaluation framework proposed by Theis (Theis, 2022). This framework outlines a set of components for assessing policy implementation viability, including developing regulatory frameworks, stakeholder engagement strategies, capacity-building initiatives, enforcement mechanisms, and budget allocation. We consider these to be essential components for effective policy formulation.

The second element, policy implementation, involves translating government decisions into programmes, procedures, and regulations that are applied in everyday practices (DeGroff & Cargo, 2009). We examined the gap between established retail FSPs and the experiences of poor urban consumers during daily shopping. The evaluation considers how effectively the policies are translated into actions, factoring in contextual elements, regulatory coherence, and alignment with consumer practices. Stakeholder perspectives are included to assess the practicality and relevance of policies in promoting food safety at the retail level, especially in slum areas.

The final element, the policy gap, highlights the discrepancies between the intended outcomes outlined in policy documents and the observed realities of policy implementation as experienced by consumers and vendors and the stakeholders' understandings. This involves examining enforcement mechanisms, monitoring, and compliance levels to identify barriers to effective enforcement (Hudson, 2019). Policy gaps often arise due to poor training, elite distortion as such voices of rich consumers are loudest, political bureaucracies, inappropriate prioritisation, resource shortages, and inadequate stakeholder involvement (Jaffee et al., 2019). Cultural norms and weak monitoring also hinder effective implementation and problem resolution (Grace, 2017). By pinpointing policy gaps such as visibility in consumer actions and stakeholders' involvement (Ramakreshnan et al., 2019), the framework aims to inform necessary policy revisions and improvements.

Figure **5.1** presents a conceptual framework for policy evaluation, highlighting critical elements for comprehending policy efficacy. The arrow from "policy formulation and content" to "policy implementation" signifies the translation of policy objectives into practical actions. The arrow from "policy implementation" to "policy gap" identifies discrepancies between policy goals and achieved outcomes. A dotted line connects the "policy gap" and "policy formulation and content," indicating a weak, two-way relationship. This highlights the iterative nature of policy evaluation. Feedback gleaned from implementation should inform policy revisions, and the development of new policies may reveal

existing gaps. This cyclical process of evaluation and refinement ensures that policies remain pertinent and effective.
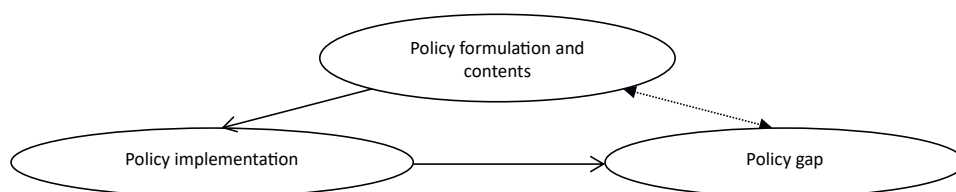
Figure 5.1 A conceptual framework for assessing policy: formulation, implementation and gap.

5.3 Methods

5.3.1   Study design

This study employs a mixed-methods approach to investigate the policy barriers hindering access to safe food for the urban poor within FREs. Data from policy documents, interviews with slum residents, and stakeholder surveys provide a comprehensive, "bottom-up" examination of the issue. This approach delves into consumer practices and assesses the alignment of policy with these realities, offering a more nuanced understanding of access barriers. This was achieved through a two-stage research process. Initially, consumer food shopping practices and experiences within the FRE were investigated through interviews conducted with slum residents. Subsequently, the research evaluated how existing policies (analysed through document review and stakeholder surveys) align with these on-the-ground realities.

5.3.2   Data sources

5.3.2.1 Selection of policy documents

The policy document analysis was inspired by the guidelines outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) framework, typically used for systematic literature reviews. Food safety research has previously made use of PRISMA (Rifat et al., 2022). The four-stage approach included the standard PRISMA steps: identification, screening, eligibility, and inclusion. We added a fifth stage to this process, involving a thematic analysis and content review of the included documents (see Figure 5.2).

In March 2023, we looked for information on Bangladeshi government websites (ending in .gov.bd). We found around ten ministries and six United Nations organisations working on food safety and security in Bangladesh. We then downloaded 107 policy documents from the "Law & Rules" sections of the Ministry of Food and Ministry of Fisheries and Livestock websites. These documents, published

between 2013 and 2022, mainly focused on developing policies after the Food Safety Act, of 2013. The analysis aimed to assess how well these policies would lead to positive changes in society.

A systematic exclusion process was employed for policy documents from the eight remaining ministries that lacked English search terms directly corresponding to "retail" and "food." Inclusion criteria, on the other hand, were based on relevant Bengali keywords including "*Khaddo*" (food), "*Bikroy*" (sell/retail), and "O/*nirapod*" (un/safe). The term "*Khaddo*" encompasses a broad range of food products, "*Bikroy*" pertains to selling and retailing activities, and "*O/nirapod*" covers both hazards ("*Dushon*") and adulteration ("*Vejal*").

The identified documents included a range of legal instruments such as acts, regulations, gazettes, and guidelines, all concerned with managing safe food retail practices in Bangladesh (see Figure 5.2). Table 5.3 provides a detailed breakdown of the 21 selected policy documents. Particular focus was given to documents originating from the Food Policy and Monitoring Unit (FPMU) and the Food Safety Authority (FSA) within the Ministry of Food, given their direct responsibility for food safety legislation and regulations. The Ministry of Fisheries and Livestock was also included due to its crucial role in ensuring the safety of fish and livestock products.
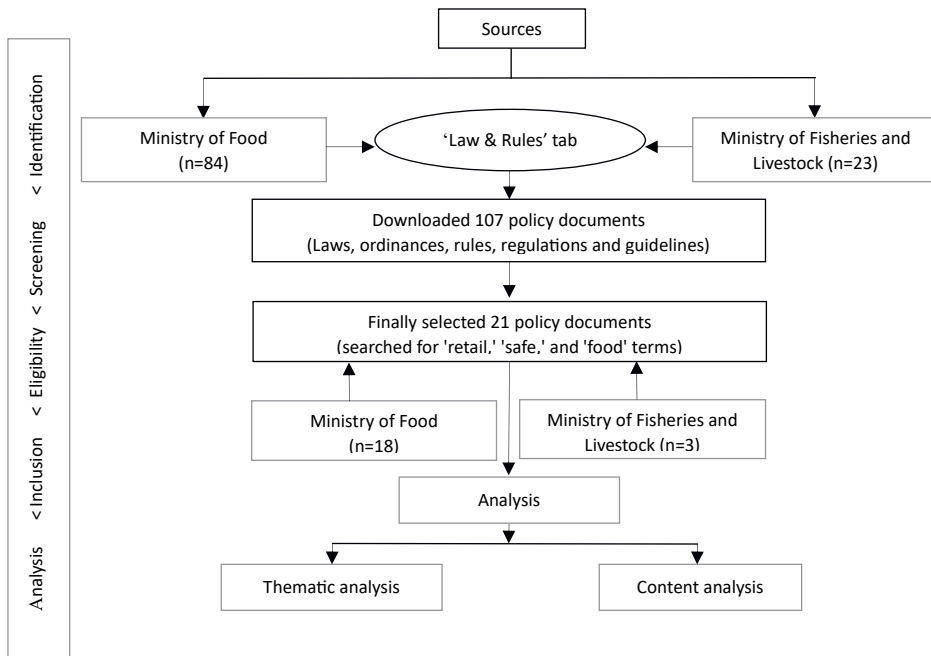
Figure 5.2 Policy documents selection and analysis flow

5.3.2.2 Semi-structured interviews

This study builds upon a prior research project, which was part of a PhD project at Wageningen University and Research conducted by the lead author in 2020 (Haque et al., 2023; Haque et al., 2024). The project protocol received ethical approval from ICDDR, Bangladesh (Ethics number # PR-19129). The prior study employed semi-structured interviews with 26 purposively selected residents of the Korail slum to collect data on their lived experiences. The respondents were the primary food shoppers for the household. The interviews explored respondents' food safety concerns (FSCs), daily food shopping practices, and coping strategies employed during food acquisition and consumption. The current research utilises this existing data source to establish a systematic link between the previously identified consumer concerns and strategies with the policies. This allows for a comparative analysis between the expressed needs of the urban poor and the specifications outlined within Bangladeshi FSPs.

5.3.2.3 Stakeholders survey

An online survey conducted in December 2023 using Microsoft Forms gathered data on stakeholder perspectives regarding the FRE for the poor and relevant food policies in Bangladesh. This survey approached 120 policy stakeholders in Bangladesh who were participants in the Sustainable Healthy Diets Through Food Systems Transformation (SHiFT) Launching programme in 2022 in Dhaka, Bangladesh. Their emails were accessed by the International Food Policy Research Institute (IFPRI), Bangladesh. The response rate was 33% (40 respondents).

The survey gathered demographic information (organisational affiliation, role, gender, age, and years of experience in the food sector) to understand the stakeholder landscape. The survey focused on stakeholder involvement in shaping FSPs, their views on existing FSPs and awareness of Dhaka's slum FRE. The survey sought respondents' opinions on food safety for the urban poor, including their concerns, the effectiveness of current policies, collaboration among stakeholders, and monitoring practices. This encompassed inspection practices, affordability of safe food, the use of technology, policy inclusivity, and existing barriers to food safety. Additionally, respondents were invited to suggest improvements for enhancing food safety practices at retail points within slums.

5.3.3   Data analysis and result presentation

To analyse food safety policies (FSPs) in FRE for the urban poor population, we employed a triangulation approach, drawing on data from three sources: policy documents, stakeholder surveys, and consumer interviews.

Policy document analysis utilised Atlas.ti_9 software. We applied a combined deductive-inductive thematic analysis approach. Predefined themes were established based on research objectives and existing literature, while inductive analysis allowed for the identification of emerging themes. A thorough content analysis was then conducted on the chosen policy texts. This approach enabled us to assess the viability of policy strategies and instruments based on seven key criteria from Theis's (2022) analysis matrix (see Table 5.1). These criteria encompass responsible actors, target populations, monitoring plans, timeframes, budgets, evidence base, and theory of change. A high viability score is achieved by fulfilling more than five of the seven criteria, while a low viability score indicates meeting two criteria or less.

We re-analysed data from a previous project ("Food Systems for a Healthier Diet") (Haque et al., 2024; Haque et al., 2023), specifically focusing on consumers' concerns and coping strategies at retail outlets. This data provided valuable insights into the lived experiences of the poor.

Data from the online survey of policy stakeholders was analysed using SPSS software version 21. This survey explored stakeholder involvement, their views on current policies, and insights into food safety challenges faced by the urban poor.

The results section adheres to the outlined conceptual framework. Each subsection will present concerns arising from semi-structured interviews, followed by findings from document analysis, and conclude with findings from the stakeholder survey.

Table 5.1 Evaluation criteria for implementation viability of good policy formulations

Evaluation criteria	Description of the evaluation	Evaluation questions	Possible answer
1. Target population	Who is the policy aimed at? Who is making the change?	Is there a clear target group?	Yes/ No
2. Responsible actor	Is it clear who is responsible for delivering the policy?	Is it clear who is responsible for delivering the policy?	Yes/ No
3. Monitoring or evaluation plan	How will the policy be monitored and evaluated, and will that be conducted independently?	Is there any monitoring and evaluation plan?	Yes/ No
4. Time frame	What is the time frame of the policy?	Is the time frame defined or ongoing?	Yes/ No
5. Cost and budget	How much will the policy cost, and is a budget allocated?	Is the budget mentioned?	Yes/ No
6. Evidence	What evidence is the policy based upon? Such as surveys, research results, etc.	Has there been any evidence mentioned in the policy document?	Yes/ No
7. Theory of change	How is the policy theorised to work? What are the key assumptions underlying how it is theorized to work?	Is there a clear theory of change mentioned in the policy document?	Yes/ No

Note: Adopted from the policy implementation validity framework by Theis (Theis, 2022)

5.4 Results

This section analyses food safety policies in the retail food environment for poor consumers in Bangladesh. Data from policy documents, consumer interviews, and stakeholder surveys is used to assess the strengths and weaknesses of these policies through the lens of our conceptual framework, which focuses on policy formulation and content, implementation, and policy gaps. Before delving into the policy analysis, we present an overview of the respondents to the stakeholder survey.

5.4.1   Consumers' and Stakeholders' Characteristics

A total of 26 consumers were included in the semi-structured interviews (See

Table 5.2). Gender was balanced among the sample. Over two-thirds of respondents had five years or less of education, with half of them being unable to even sign their names. Three-quarters of the respondents were either housewives or employed in the private sector, while the rest held private jobs like small business owners, self-employed roles (e.g., garment workers, day labourers, housemaids, shop workers, office assistants, rickshaw drivers, or street vendors), or worked in the public sector.

Table 5.2 Semi-structured interviews with consumers

Characteristics	25 Semi-structured interviews (n=27)*
Age group [n, (%)]	
18-30	12, (44)
31-40	08, (30)
41-50	03, (11)
51-65	04, (14)
Gender	
Male	13, (48)
Female	14, (52)
Profession	
Private sector employee	14, (52)
Housewife	6, (22)
Business	3, (11)
Self-employment	4, (15)
Others*	0
Government employee	0
Years of schooling	
No education/ can only sign	13, (48)
1-5	5, (19)
6-10	6, (22)
10+	3, (11)

There were two participants for each of the two SSIs; the households informed us both members shop equally for grocery items.

Stakeholder survey respondents (n=40) were predominantly male (63%) with ages ranging from 32 to 68 and an average of 17 years of experience in the food sector. Despite 88% reporting active involvement in policy design and implementation for food safety, only 55% expressed familiarity with the food environment in Dhaka's poor urban population. Furthermore, 97% had attended at least one food safety meeting before the survey, indicating basic expertise in food safety issues. These respondents represented diverse sectors including government, academia, research institutions, and international/national NGOs (including UN agencies) (see Figure 5.3) In the following sections, analysing their diverse perspectives on existing Bangladeshi food safety policies is crucial for identifying areas for improvement and shaping the future of food safety governance in the country.

Figure 5.3 Categories of stakeholders in food safety policy survey
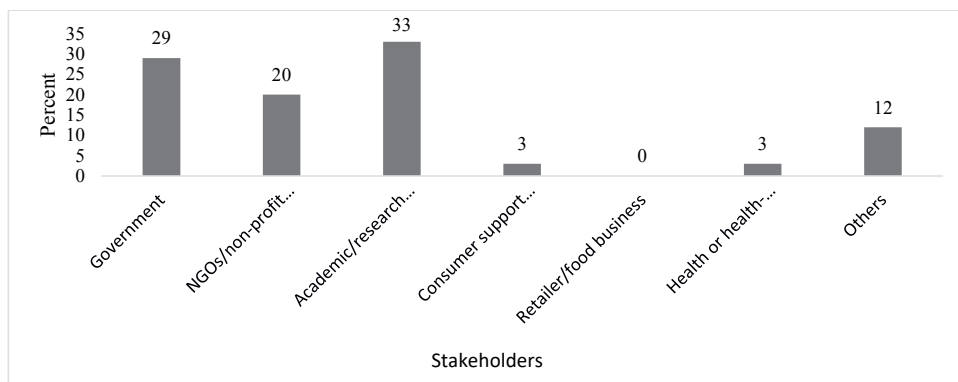
5.4.2   Description of policies

Twenty-one strategy and policy documents by the government of Bangladesh (see Table 5.3) fulfilled the aforementioned inclusion criteria, originating from the Ministry of Food (18 documents) and the Ministry of Fisheries and Livestock (3 documents). These documents reflect policy developments since the enactment of the Food Safety Act in 2013, with notable advancements observed in 2014, 2017, and 2021 (see Figure 5.4). Policy areas addressed include adulterated food seizure, food labelling regulations, hygiene practices, and advertising standards. Despite these advancements, explicit regulations or guidelines intended to promote inclusive food safety practices within the retail sector are still lacking, particularly for poor urban consumers.
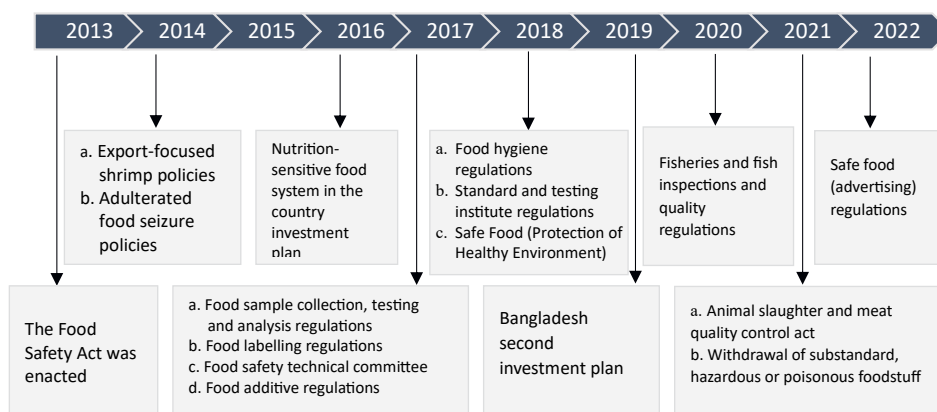
Figure 5.4 List of analysed documents on food safety policies in Bangladesh

5.4.3   Policy formulation and contents

This section analyses the content of Bangladesh's food safety policies to consider their implementation viability during formulation. The contents outline various aspects of the food system, including safety, nutrition, health, and sustainability. While some policies acknowledge the challenges faced by poor people, the primary focus is on ensuring food security through social safety net programmes and price stabilisation strategies (see Table 5.3). Only two documents demonstrated content reflecting high implementation viability scores, two displayed medium scores, while the remainder exhibited low scores.

Some policy documents have strengths, such as advocating for a safe food environment by ensuring accountability for implementing and monitoring plans. For instance, the National Food and Nutrition Security Policy, 2020 [document 4], and the National Shrimp Policy, 2014 [document 16], identify responsible actors and include monitoring plans (e.g. documents 2, 4, 5, etc.), which facilitate effective progress tracking. However, considerable weaknesses persist. Only a limited number of documents explicitly mention responsible actors (9), and even fewer provide clear monitoring and evaluation plans (3). They generally lack specific timeframes, which are essential for setting and meeting targets within a defined period. There is also a lack of concrete action plans based on evidence, which are necessary for practical and effective implementation. Budget allocations are not clearly outlined, leaving financial planning and resource distribution ambiguous. Furthermore, there are no clear pathways provided to achieve the stated objectives, making it difficult to assess how the goals will be realised in practice. Most critically, none of the documents address the specific challenges related to ensuring food safety in retail environments frequented by the urban poor.

5.4.4 Policy implementation: policy responses to FSCs and food shopping practices

The policies detail comprehensive strategies involving regulatory measures and information dissemination to encourage safe food practices across various sectors. These initiatives are directed towards individuals, the food industry, and the agriculture sector to ensure compliance with standards, mitigate risks, and increase public awareness to create a safer food environment. Initiatives include a dedicated hotline for reporting food safety concerns and filing complaints to the Bangladesh Food Safety Authority. Table 5.4 compares the numerous food safety concerns faced by the urban poor in Bangladesh with their coping strategies when shopping and existing policies.

5.4.4.1 Policy response to FSCs when food shopping

Consumer interviews revealed a range of food safety concerns during shopping, including contamination with formalin, dust and other chemicals; unhealthy animals; spoilage; and unclear agricultural practices. Stakeholders (82%) had similar concerns about chemical residues.

Policy documents outline strength with a distinct approach to regulatory measures and consumer education for chemical contamination. The Food Safety Act of 2013 refers to strict enforcement against food adulteration. It prohibits the use of formalin in food items, with harsh penalties for violators. Chapter V, Clause 23 outlines these penalties, including imprisonment for up to five years or a fine of 1 million taka (roughly USD 12,200) for first offences, with even stricter punishments (i.e. both punishments) for repeat offenders. Additionally, the Food Safety (Contaminants, Toxins and Harmful Residues) Regulation 2017 identifies and prohibits specific undesirable substances like wood particles, sand, paper, and stones in nitrate and polycyclic aromatic hydrocarbons. The National Food and Nutrition Policy 2020 emphasises consumer awareness through Strategy 2.3, which focuses on preserving nutritional value throughout the food chain. Action 5 of this strategy promotes safer food retailing practices by advocating for proper labelling of permitted chemicals and agricultural processes used in food production.

Policies targeting spoiled and expired food primarily rely on information-based strategies. These policies focus on educating consumers about the proper labelling of packaged food and the implications of selling stale or rotten items. Enforcement mechanisms include confiscating damaged goods. For instance, the BSAF Packaged Food Regulation 2017 mandates clear expiration dates for perishable items, while the Fisheries and Fisheries Act 2020 empowers inspectors to penalise transporters and fish business owners found with chemical contaminants or damaged fish.

5.4.4.2 Policy response to FSCs when eating out

Consumer concerns about hygiene and food safety when eating out are addressed through various policies. These concerns include uncovered food displays, unclean outlets, indigestion risks, and general hygiene issues. Key strategies for addressing these concerns include guidelines for risk communication and training programmes for vendors and their staff. Documents such as "Grading the Restaurants", "Guidelines for Hotels and Restaurants", and "Guidelines for Sweetmeat Producers and Bakeries" set standards for cleanliness and hygiene (see Table 5.3). The "Guidelines for Hotels and Restaurants" address the concern of uncovered food on display in section 7, "Storage and Preservation," mandating that all foods must be covered and refrigerated if necessary. Section 4, "Cleanliness Standard," covers concerns about unclean outlets, stating that all furniture, rooms, and toilets must be kept clean with adequate air and light. Sections 5 and 6 on "Hygiene and Personal Hygiene" specify the availability of clean water, clean cutlery, wearing uniforms, and ensuring personnel have cut nails.

Safe Food (Protection of Healthy Environment) Regulations 2018 mandates the cleanliness of food outlets, water and waste management, and hygiene practices for food producers and servers. Section 13 specifically addresses mobile vendors, outlining guidelines to protect food from getting rotten, including measures such as avoiding prolonged exposure to sunlight and mandating the use of covered surfaces for informal mobile vendors.

Table 5.3 Implementation viability of formulated retail food safety policies in Bangladesh

Policy documents		Policy implementation viability							Viability score
		Target population (General=G, Poor =P)	Responsible actor	Monitoring/ evaluation plan	Time frame	Cost and budget	Evidence	Theory of change	Low/ Medium/ High
1	Withdrawal of substandard, hazardous or poisonous foodstuff Regulations, 2021	G	No	No	No	No	No	No	Low
2	Animal slaughter and meat quality control act 2021	G	Yes	No	No	No	No	No	Low
3	Safe Food (Advertising) Regulations, 2022	No	Yes	No	No	No	No	No	Low
4	National Food and Nutrition Security Policy, 2020 (plan of action 2021-2030)	G	Yes	Yes	Yes	Yes	Yes	No	High
5	Bangladesh fisheries and fisheries inspection and quality control act 2020	G	Yes	Yes	No	No	No	No	Medium
6	Food Business Obligation 2020	G (Business)	No	No	No	No	No	No	Low
7	Food safety (food hygiene) regulations, 2018	G	Yes	No	No	No	No	No	Low
8	Safe Food (Protection of Healthy Environment) Regulations 2018	G	No	No	No	No	No	No	Low
9	Bangladesh standards and testing institution act 2018	G	Yes	No	No	Yes	No	No	Low
10	Use of food additives regulations, 2017	-	Yes	No	No	No	No	No	Low
15	Food safety (contaminants, toxins and harmful residues) regulations, 2017	G	No	No	No	No	No	No	Low
11	Packaged Food Labelling Act, 2017	G	No	No	No	No	No	No	Low
12	Food Sample Collection, Testing and Analysis Regulations, 2017	-	No	No	No	No	No	No	Low
13	Food Safety Technical Committee Rules 2017	G	Yes	No	No	No	No	No	Low
14	Bangladesh's Second Country Investment Plan 2016-2020 (cip2)- nutrition-sensitive food system	G	Yes	No	Yes	Yes	Yes	No	High
15	Food safety (food seizure and administration system) rules, 2014	G	No	No	No	No	No	No	Low
16	National Shrimp Policy 2014	G	Yes	Yes	No	No	No	No	Medium
17	Food Safety Act 2013	G	No	No	No	No	No	No	Low
18	Grading the restaurants	G	No	No	No	No	No	No	Low
19	Guidelines for hotels and restaurants	G	No	No	No	No	No	No	Low
20	Guidelines for sweetmeat producers and bakeries	G	No	No	No	No	No	No	Low
21	Family food safety direction	G	No	No	No	No	No	No	Low

Table 5.4 Consumers' concerns, coping strategies, and policy measures in retail food safety in Bangladesh

Poor consumers concerns[a]	Coping strategies	Policy contents	Illustrations for policy aims and targets
Everyday grocery shopping			
Formalin	No action is detected	"The use of harmful substances - No individual shall, either directly or indirectly, on their own or through a representative, introduce into any food product any chemical, ingredient, or substance (e.g., calcium carbide, formalin, sodium cyclamate), insecticides or pesticides (e.g., DDT, PCB oil, etc.), or any tainted food colouring or flavouring agents, whether appealing or not, along with any other harmful additives or processing aids that have the potential to cause harm or toxicity to human health in any food product. Furthermore, it is prohibited to store, promote, or sell any such food item or food ingredient containing such materials"-Food Safety Act, 2013, Chapter 5, section 23	Specific legal provisions and regulations against harmful substances in food products
Dust	Choose packaged items	The use of open salt is recognised.	Recognition of open food items in the market
Diseased animals	Ask the vendors about animal health before buying	Bringing of poultry to the slaughterhouse must follow the following: Dead or sick poultry shall not be brought to the slaughterhouse. - Animal slaughter and meat quality control act 2021	Regulations ensuring that only healthy animals are slaughtered and handled appropriately before processing
Artificial colouring or additives	Observe before buying	"Any person or a person appointed on behalf of him/her, directly or indirectly, will not be allowed to use or include any colouring material or colour-bearing material mentioned in the part-1 of Schedule-1 or its mixture in more than Bangladesh National Standard in any food or food ingredient or will not manufacture, import, process, store, supply or sell any food or food ingredient prepared that way."- Use of Food Additives Act 2017	Restrictions and penalties for exceeding the national standard on artificial colouring and additives
Rotten foods and bad smells	Inspect food for signs of spoilage	No criminal or administrative action shall be taken against a fish seller or shopkeeper if raw fish and other perishable fish products are found in a state of decay due to natural causes in any retail fish-selling establishment, hawker, or shop, provided that it is clearly understood they have not placed or attempted to place such fish and fish products for sale without- Bangladesh Fisheries and Fisheries Inspection and Quality Control Act 2020	No administrative or criminal action if spoilage is natural and not intentional
Expired food products	Check expiration dates on packages	"In order to identify the source of the packaged food, the manufacturer must, in the shortest possible time, take the initiative to introduce a bar code on the label; However, until the use of bar code is implemented, all source identification information, such as raw materials, foodstuffs and packaging food at all stages of production and distribution, must be stored for a minimum of 3 (three) months after the expiry of the relevant food product and displayed to the food regulator as required."- Use of food additives regulations, 2017	Requirements for barcoding and traceability of food products
Extended selling periods	No action is detected.	The policy document advocates for a comprehensive approach to ensure food safety in all stages of the processing chain, encompassing on-farm and off-farm processing, household and industrial	Emphasising comprehensive guides and training programmes

		processing, transportation, storage, display, and sale. Key measures include developing guidelines incorporating Good Manufacturing Practices (GMP) and Good Hygienic Practices (GHP), disseminating them through training and Behavior Change Communication (BCC), and enforcing Hazard Analysis and Critical Control Points (HACCP) operations. Training focuses on clean and safe handling, using recommended detergents and clean water, proper storage, appropriate packing for transport, and adherence to safety standards during food processing. The main message is a commitment to comprehensive guidelines and training to ensure food safety across the entire processing chain in Bangladesh.- Bangladesh second country investment plan 2016-2020 (cip2)-nutrition-sensitive food system	to ensure throughout the processing chain
Absence of cultivation and handling information	No action is detected	"In the interest of ensuring safe food, where applicable, special instructions relating to food processing, packaging, preservation, storage, transportation and distribution, if any, must be stated on the packaged food label. "- Use of food additives regulations, 2017	Mandate for labelling special instructions on food packaging
Animal Slaughtering information	Asking the vendor about the time of slaughtering	Any animal to be slaughtered must be healthy and alive and must be rested for at least 6 hours before slaughter. - Animal slaughter and meat quality control act 2021	Regulations ensuring proper handling and health of animals before slaughter.
Mixing meat types (e.g. cow and dog)	No action is detected	After slaughtering an animal only after its death is confirmed, as the case may be, can be removed from the body only after it has been disposed of about death. Explanation: For the purposes of this rule, cattle, i.e. cows, buffaloes, goats, sheep, goats, rabbits and deer shall be included; unless prohibited by any other law.- Animal slaughter and meat quality control act 2021.	Definition and regulation of meat types permissible for sale and consumption
Foods sold by street vendors	Avoid buying from street vendors	"Use TV, radio, local theatre and other media to sensitise people to the risks of contamination of food through humans • Target mothers through healthcare workers • Provide bespoke training to food handlers in markets and supermarkets, restaurateurs and street vendors • Incorporate hygiene education in school curricula''- Bangladesh's Second Country Investment Plan 2016-2020 (cip2)-nutrition-sensitive food system	Educational and training programmes to raise awareness and improve food safety practices among vendors
Eating out			
Uncovered food on display	Look before buying	Make sure food is covered and refrigerated at all times- Guidelines for hotels and restaurants	Guidelines for maintaining food hygiene and safety in hotels and restaurants.
Unclean outlets	Avoid eating	Ensuring the regular cleaning of all furniture, utensils (such as tables, chairs, and trays), walls, floors, carpets, windows, and doors with disinfectant, while implementing rigorous pest control measures- Guidelines for hotels and restaurants	Recommendations for maintaining cleanliness and hygiene standards in eating establishments.
Fear of indigestions	Miss meals and eat only when coming back home	Use TV, radio, local theatre and other media to sensitise people to the risks of contamination of food through humans • Target mothers through healthcare workers -Incorporate hygiene education in school curricula- .- Bangladesh second country investment plan 2016-2020 (cip2)-nutrition-sensitive food system	Educational programmes and media campaigns to raise awareness about food contamination risks and hygiene practices.

Food handler's hygiene	Observe before buying;	Provide bespoke training to food handlers in markets and supermarkets, restaurateurs and street vendors	Training initiatives to ensure food handlers maintain proper hygiene standards.
Unknown processing	No action is detected	"In the interest of ensuring safe food, where applicable, special instructions relating to food processing, packaging, preservation, storage, transportation and distribution, if any, must be stated on the packaged food label."- Use of food additives regulations, 2017	Mandate for labelling special instructions on food packaging
Stale status of food and Unacceptable smell	Check before buying and stop eating	Sterilization means keeping food safe and suitable or reducing the amount of micro-organisms present in food by applying certain chemicals, heating food or other methods. - Food safety (food hygiene) regulations, 2018	Methods highlighted for ensuring food hygiene and reducing microbial contamination.

Note: ªConsumers' concerns were revealed from the first author's previous two studies (one published: https://link.springer.com/article/10.1007/s12571-024-01464-x ; and another published: https://doi.org/10.3389/fsufs.2023.1248638). Some of the policy quotes are translated by the first author, whose mother tongue is Bengali, unless this is under a quotation from an available English version.

5.4.5   The gap and the possible source of change for inclusion

In this section, we focus on the weaknesses of the analysed policies that set the stage for making the possible changes. This analysis identifies three key themes contributing to the gap between policy and the reality of food safety for Bangladesh's urban poor: overlooking the urban poor in policy design, discrepancies between policy and practice, and knowledge gaps among consumers and stakeholders. Despite policy efforts addressing some concerns like hazardous substances and improper storage through regulations, training, and enforcement, a gap remains. Consumer interviews reveal that they cope with food safety risks by checking expiration dates, smelling products, and avoiding specific vendors. Nevertheless, 95% of stakeholders believe the urban poor are more likely to consume unsafe food compared to their wealthier counterparts, suggesting policy objectives may not get fully translated into their lived experiences.

Food safety policies in Bangladesh often overlook the specific needs of the urban poor, particularly those residing in high-risk areas like slums. Stakeholders (85%) report a concerning reality - only 40% of food purchased for home cooking in these areas might meet safety standards. This highlights the urgency for more inclusive policies. Stakeholders themselves emphasise the importance of incorporating clear monitoring and evaluation plans, clearly defined responsible actors, and outlining theories of change within policy documents (see Figure 5.5). Informal vendors, a crucial source of food for the urban poor, are frequently excluded from policy considerations. This is further compounded by the absence of a clear model for social change that outlines a path towards achieving food safety for the poor. Consumer interviews reveal a strong demand for supermarkets and clean eating outlets around slum areas, demonstrating the desire for safer food options. While general guidelines exist for

hygiene and restaurant grading, this absence of a targeted approach leaves the urban poor particularly vulnerable to unsafe food practices.

Figure 5.5 Stakeholder perspectives on key aspects to include in food safety policy documents
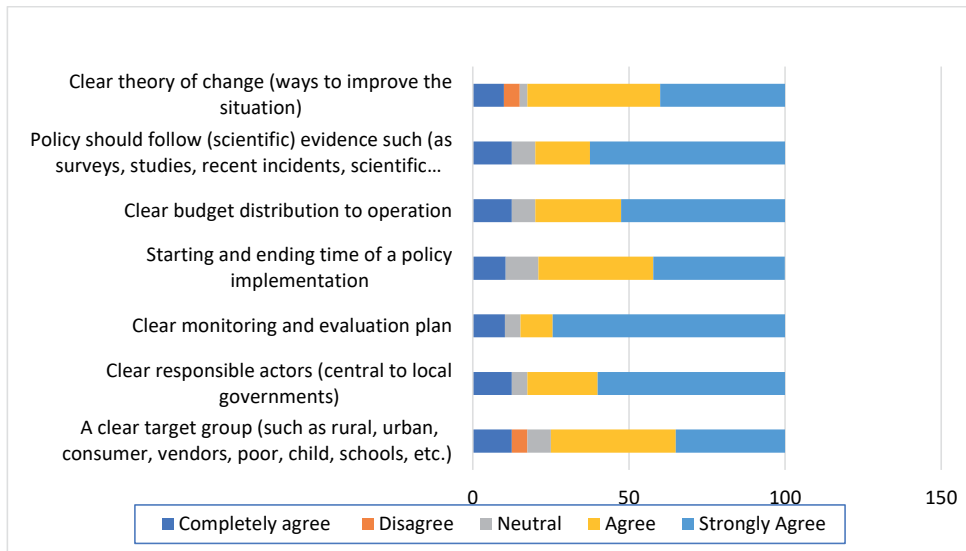
Considerable discrepancies exist between the stringent measures outlined in policy documents and their actual implementation. These gaps affect both food shopping and eating out experiences for the urban poor. While policies may appear robust on paper, enforcement is often weak, especially in slum areas. The aforementioned financial penalties (1 million taka) designed to promote compliance can disproportionately impact smaller retailers, hindering their ability to meet safety standards. Consumer interviews revealed that although magistrate monitoring is seen on television, inspections in slum areas are infrequent. 87% of stakeholders perceive unclean food environments in restaurants near slums. The majority of them also expressed that the low political willingness can weaken local government enforcement efforts, leading to inconsistent and inadequate control measures in these areas (see Figure 5.5 and Figure 5.6). Additionally, a lack of information on animal slaughter practices at retail points and existing food labelling poses challenges for illiterate consumers, making it difficult for them to make informed choices about food safety. These discrepancies create a situation where policy objectives are not translated into tangible improvements for the urban poor.

Figure 5.6 Stakeholder perspectives on barriers to safe food in urban retail environments
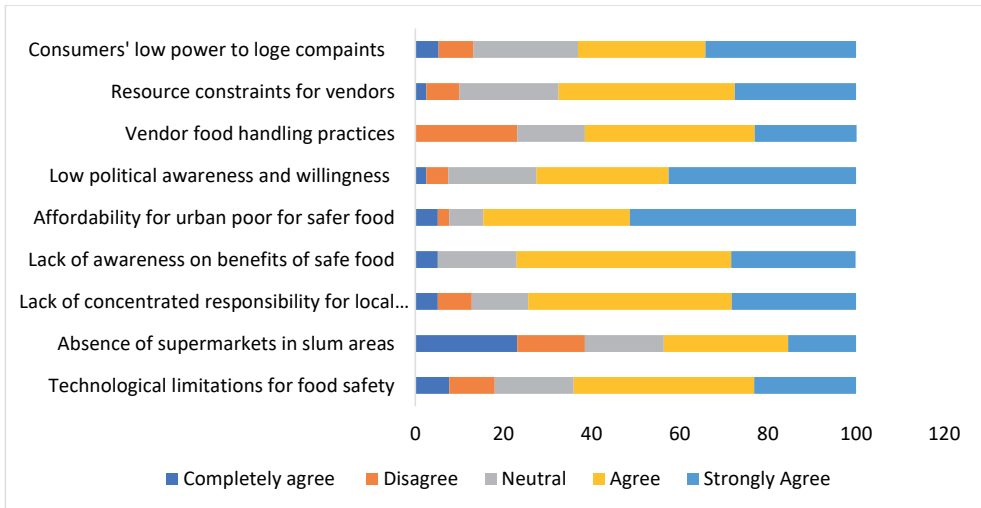
Limited awareness among stakeholders cripples food safety oversight even more. A significant knowledge gap emerged from the stakeholders survey, with 90% of stakeholders being unaware of existing food safety monitoring initiatives such as surveys by governments or international organisations. This lack of knowledge hinders their ability to participate and hold authorities accountable. Furthermore, the implementation of information provision strategies falls short, particularly for the urban poor. Stakeholders expressed concerns regarding limited communication channels, inadequate resources, and restricted access to technology in slum areas, highlighting significant barriers to effective communication of food safety risks and best practices.

5.5 Discussion and conclusion

This study examined Bangladesh's food safety policies (FSPs) and assessed equitable access to safe food for all citizens, particularly focusing on Food Retail Environments (FREs) within Dhaka slums. Employing a policy evaluation framework encompassing policy formulation, implementation, and gap identification, we scrutinised the strengths and weaknesses of these policies. Despite significant development after the enactment of the Food Safety Act 2013, aimed at science-based management and addressing consumer concerns, our analysis reveals persistent gaps with respect to including all citizens in food safety policies (The Business Post, 2023). This discussion synthesizes our findings and suggests avenues for enhancing FSPs to effectively safeguard the urban poor in Bangladesh.

First, our analysis highlights several key areas for improvement in policy formulation after 2013. Policy documents acknowledge almost all concerns of consumers in this study. However, the policy content analysis for implementation viability revealed most policies lack detailed action plans, timeframes, clear responsibility to actors and budget allocations. Most importantly, none of the analysed documents specifically target the challenges of ensuring food safety in retail environments visited by the urban poor. This highlights the need for a more inclusive policy development process that acknowledges the vulnerabilities and challenges faced by the urban poor. Aligning with Theis' (2022) framework for robust policy evaluation, future policies should prioritise comprehensive stakeholder engagement and resource allocation. Integrating social change models into food safety strategies could directly benefit the urban poor by promoting long-term behavioural shifts towards safe food practices. Furthermore, emphasising more precise and inclusive criteria within future policy design is crucial. This requires moving beyond a one-size-fits-all approach and adopting an adaptive framework that considers the diverse needs and changing realities of various urban populations (Wertheim-Heck et al., 2019).

Secondly, the translation of policy objectives into practical action remains a significant challenge. Policies detail various strategies, such as regulatory measures and public information campaigns, aimed at promoting safe food practices among consumers and the food industry. However, the actual implementation of these strategies is hindered by limited communication channels, and the absence of implementors, particularly for illiterate and marginalised individuals. For instance, despite existing policies covering regulatory measures, educational initiatives, and information provisions, there is a discernible gap in addressing concerns related to chemical contaminants in shopping practices, particularly in slum areas (Ishra et al., 2022). Consumer-centric policy design, i.e. policymakers must actively consider the poor consumers' perspective and challenges for targeted interventions. For instance, policymakers should prioritise consumers' concerns, particularly regarding chemical and microbiological contamination, prevalent among consumers in slum areas. The disconnect between policy goals and on-the-ground realities underscores the importance of considering contextual factors and ensuring that policies are coherent within the existing regulatory landscape, as DeGroff and Cargo (2009) emphasise. Additionally, regulatory enforcement should be consistent across all retailers, as they are pivotal in driving substantial changes within urban food systems (Boelsen-Robinson et al., 2021). Financial penalties and enforcement measures should be implemented fairly and consistently.

Lastly, a critical examination of the policy gap reveals significant deficiencies in the explicit inclusion of the urban poor in the policy documents. Despite the establishment of regulatory frameworks and monitoring systems, the practical enforcement and compliance levels are often inadequate.

Stakeholder surveys reveal a notable lack of awareness of and involvement in food safety monitoring. Many stakeholders are unaware of existing surveys administered by government bodies or international NGOs, thus missing the opportunity to contribute. Furthermore, there is a notable deficiency in policies explicitly mentioning inclusive practices throughout the food supply chain for the urban poor. This gap aligns with Hudson's (2019) assertion that identifying barriers to effective enforcement and compliance is essential for informing necessary policy revisions and improvements. Furthermore, a crucial gap exists in regulations specifically designed for inclusive food safety practices within the retail sector catering poor consumers. The prevalence of concerns without corresponding coping activities underscores the vulnerability of poor consumers, emphasising the need for a tailored approach to policy interventions. Tailored food safety policy for the urban poor involves understanding their needs, promoting affordable options, empowering communities, and ensuring targeted enforcement with collaboration.

While our study provides valuable insights into the interplay between food safety policies (FSPs), stakeholder perspectives, and practical implications in Bangladesh's urban context, several limitations must be considered. The conceptual framework in this study underscores the importance of incorporating ongoing implementation feedback to facilitate continuous refinement and adaptation, ensuring FSPs remain effective and relevant. However, the reliance on government policy documents available online may have overlooked other pertinent sources. Additionally, our static examination of FSPs fails to capture their dynamic nature and potential evolution over time. Future research should adopt longitudinal approaches to track the effectiveness of FSPs. Caution is needed when interpreting documents due to the differences among policies, strategies, regulations, and acts. Moreover, increased engagement from government and funding stakeholders is crucial for sustaining impactful studies and establishing an enabling policy framework (Gillespie et al., 2018).

With effective management, cities are expected to become hubs of innovation and creativity, testing new concepts that can then influence other policy levels (Dagevos 2016; Morgan & Moragues-Faus, 2015; Helguero et al., 2022). For instance, the intricate links between food safety policies and various urban challenges, highlighted in this study, necessitate a multi-pronged approach. Decentralized governance models, with municipalities playing a pivotal role in managing food safety, offer promise (Blay-Palmer, 2009; Magarini et al., 2017). Cities like London demonstrate the effectiveness of such approaches (Parsons et al., 2021). However, successful implementation in urban areas requires a comprehensive assessment of local governance structures and their capacity to support seamless collaboration between national and local levels (Parsons et al., 2021). This highlights the need for a

tailored urban food policy for urban areas such as Dhaka that explicitly defines responsibilities and empowers local authorities.

Our findings underscore the policy challenges faced by Bangladesh, one of the LMICs, striving for food safety amidst resource limitations and an informal food sector (Suman et al., 2021). The lingering concerns about food safety, particularly among Bangladesh's urban poor (Haque et al., 2023), necessitate a data-driven approach. By prioritising the needs of the poor, strengthening enforcement mechanisms, and improving communication strategies, Bangladesh can build a more equitable and robust food safety system. The study underscores the critical need for inclusive and adaptable food safety policies tailored to the challenges faced by poor urban populations, emphasising stakeholder engagement, coherent implementation, and targeted enforcement for equitable access to safe food in Bangladesh's urban environments. This study advocates for a critical reassessment of prioritising retail modernisation and advocates for a paradigm shift towards inclusive food safety policies in cities in the global south. It emphasises prioritizing the needs of the urban poor through targeted interventions and fostering interdisciplinary collaboration for evidence-based solutions.

Chapter 6

Conclusion

6.1 Introduction

In the context of urbanisation, particularly in Low and Middle-Income Countries (LMICs), the dynamics of food acquisition, consumption, and vending practices are undergoing a significant shift (UN-Habitat, 2016). This shift introduces distinct challenges in ensuring safe food for urban residents, particularly the poor. The migration of poor populations from rural to urban areas and their adaptation to urban lifestyles exacerbate existing food safety concerns (FSCs), creating a complex challenge that conventional food safety policies often fail to address (Wertheim-Heck et al., 2014). Overcrowded living conditions, inadequate infrastructure, and increasing reliance on informal food markets heighten the vulnerability of urban residents, especially the poor (Ahmed, 2014; Kang'ethe et al., 2020). Consequently, urban food outlets may serve as crucial providers and distribution centres for safer food.

To address these complex challenges, this research intends to improve the understanding of how micro-level perspectives among individual actors in the retail food environment affect poor populations' access to safe food. By focusing on urban slum dwellers in Bangladesh, the study explored the influence of food safety concerns on shopping practices, both for in-home and out-of-home consumption. Key findings reveal how urban lifestyles, migration from rural areas, and local coping mechanisms shape these practices. Additionally, the study assessed the roles of informal food vendors and existing policies in ensuring food safety, ultimately providing recommendations to enhance food safety and well-being for urban slum populations.

This thesis investigated the research objective aforementioned through the lens of social practice theory (SPT), drawing on the work of Shove et al. (2012). SPT provided the framework for analysing the daily routines and practices that shape food safety behaviours in urban settings. By focusing on the actions of both consumers and vendors, the research uncovered how food safety is influenced by interconnected practices and socio-environmental factors rather than individual actions alone. The central research questions guiding this study were: How do food safety concerns influence food practices in urban food retail environments, and how can strategies and policies address these concerns? The four sub-research questions that further detail these questions were:

1. How do the urban poor manage food safety concerns in their daily shopping practices?
2. What strategies do the urban poor employ to address food safety when eating out?
3. How do informal food vendors in urban Bangladesh manage food safety concerns for their consumers?

4. How do existing national food safety policies align with the needs and practices of the urban poor, and what improvements are necessary?

These questions were examined through four distinct studies, focusing on daily food shopping, eating-out practices, food vending, and policy evaluations, presented in the preceding chapters of this thesis.

This concluding chapter summarizes the overall findings from the synthesis of the four studies and provides in-depth theoretical and environmental policy reflections on the relationship between urbanisation and food safety practices and its governance. The chapter is divided into six key sections: it begins by outlining the research objectives and questions, followed by a synthesis of the empirical findings, which highlight how the urban poor navigate food safety challenges in retail food practices. Next, it offers a theoretical reflection on the complexities of food safety within the context of urbanisation. The chapter then explores the policy implications for urban food systems, emphasising the significance of understanding the intersectional food safety strategies of the urban poor. Finally, it presents recommendations for future research, identifying critical areas for further investigation.

6.2 Food safety in urbanisation: conclusion from the case studies

Chapters 2 to 5 of this thesis, examine the four sub-research questions, delving into the complexities of food safety in urban settings, specifically in Bangladesh, where rapid urbanisation has profoundly impacted food acquisition, consumption, and vending practices. These chapters highlight the significant food safety challenges faced by the urban poor and their resilience in adapting to urban pressures such as limited access to safe food, high prices of safe food, informal food markets, and substandard sanitation and hygiene conditions. The urban poor, who often rely on informal markets and vendors, are especially vulnerable to food safety risks due to overcrowded environments and inadequate regulatory enforcement.

Urbanisation has a profound influence on food acquisition and consumption patterns, giving rise to new and evolving FSCs, particularly among the urban poor. As cities expand and food outlets proliferate food safety risks become increasingly complex. This thesis, specifically in Chapters 2 and 3, highlights how this expansion has intensified concerns about food quality and the broader environmental and social conditions in urban Bangladesh (see Figure 6.1). The urban poor grapple with food-related concerns together with non-food concerns such as the cleanliness and environmental conditions of food outlets, particularly when eating out, as well as the affordability of safe food, which is aligned with existing literature (Lues et al., 2006; Al Mamun et al., 2013; Kamruzzaman et al., 2016;

Deshmukh, 2019; Nordhagen et al., 2022). These concerns about outlet cleanliness reflect the difficulties faced by urban consumers, including the poor, in navigating crowded food environments, where increasing economic and environmental pressures significantly affect food safety. The transition from rural to urban life for migrants, in particular, has introduced unfamiliar anxieties around balancing affordability with food quality and hygiene. These concerns play a significant role in shaping the daily food practices of consumers and vendors in urban retail settings.
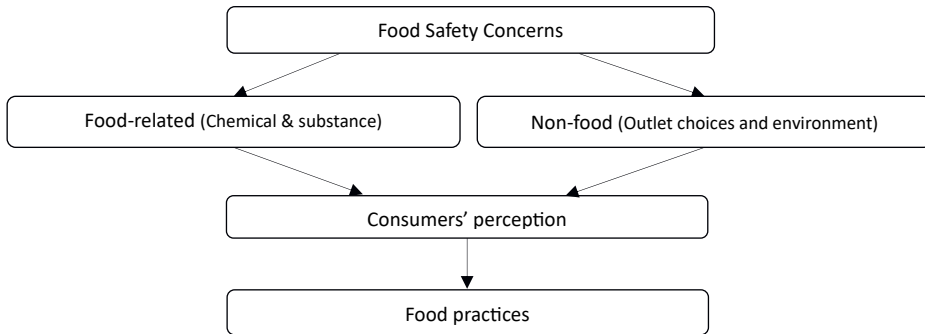

Figure 6.1 Influences of food safety concerns on food practices

This study identified resource limitations, spatial constraints, and social networks as critical factors shaping food practices among the poor in the urban food retail environment, which corresponds with existing literature on these influences, three factors— resource limitations, spatial dynamics, and social networks—shape the food practices of poor consumers and vendors (see Figure 6.2). First, resource limitations such as financial and infrastructure constraints heavily affect food acquisition and consumption. In the context of eating out, these limitations often force individuals to choose cheaper alternatives, like snacks, rather than full meals and this evidence was supported by previous studies (Su et al., 2024; Gojard & Véron, 2018). The case of informal vendors showed that vendors face difficulties accessing refrigeration and other resources, prompting them to adapt their practices for maintaining food safety (Ahmed et al., 2015; Ruel, 2008). Second, spatial dynamics also shape food practices, as access to food outlets influences shopping habits. Transportation costs for reaching safer outlets such as supermarkets often confine the urban poor to nearby shops and wet markets which may not adhere to food safety standards (Wertheim-Heck et al., 2014; Reardon et al., 2019; Kang'ethe et al., 2020; Henson et al., 2023). In Chapter 4, the case of informal vendors demonstrates how vendors adjust their business hours to meet demand and ensure the freshness of their products (Giroux et al., 2021). Lastly, social networks play a critical role in providing consumers and vendors with access to information, credit, and community resources, as revealed in Chapters 2, 3, and 4 (Pothukuchi et al., 2022; Alkon et al., 2013; Su et al., 2024; Sodano et al., 2008). However, while these networks offer

crucial support, they can also perpetuate inequalities by limiting access to diverse food options. Together, these factors illustrate the complexity of food practices among the urban poor in rapidly urbanising environments.
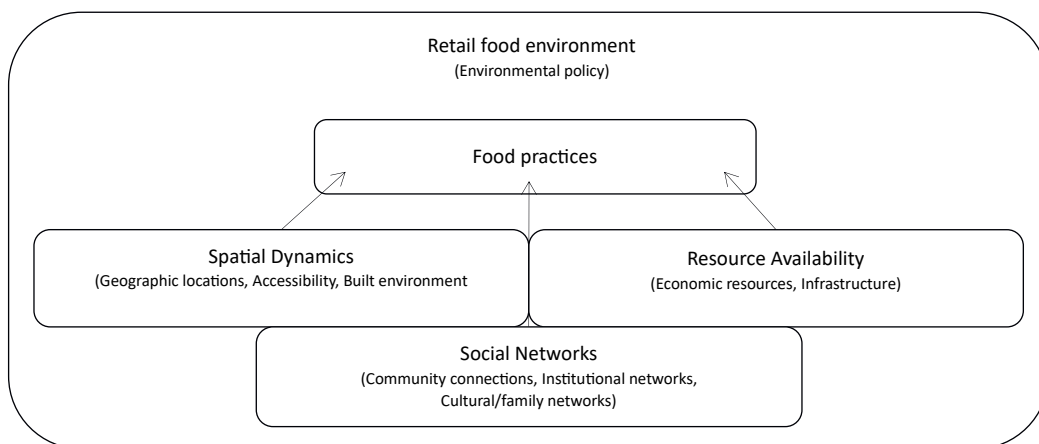
Figure 6.2 Socio-spatial resource framework of urban poor's food practices

Findings indicate that social networks have become a key coping mechanism for addressing food safety challenges, as seen in the cases of daily food shopping, eating out, and food vending practices (See Chapters 2, 3, and 4). These networks facilitate access to information, shared resources, and informal support where formal regulatory oversights are limited, aligning with similar observations in the literature (Pothukuchi et al., 2022). Although these networks help mitigate immediate risks, they may not address the structural inequalities and fail to address systemic challenges (Alkon et al., 2013). Without structural transformation, social networks serve as short-term solutions to food safety; acting as a proxy for inadequate infrastructure, limited access to safe food, or poor regulatory oversight.

Migrants, are particularly vulnerable to food safety risks due to their unfamiliarity with the urban food retail environment, a challenge compounded by the disrupted routines brought about by the migration (Halkier, 2009; Fonte, 2013**)** (see Chapter 2). In urban areas, migrants navigate an unfamiliar food landscape filled with various vendors and unsafe food sources. Their lack of knowledge about vendors' routines and locations, reliable suppliers, and proper food handling practices increases the likelihood of encountering unsafe options. Additionally, many migrants struggle to adapt to morning shopping routines, further complicating their access to safe food (Bauler et al., 2011; Downs et al., 2020; Giroux et al., 2021; Shove et al., 2012). While social coping strategies are critical for the urban poor, recent migrants face heightened risks of foodborne hazards because of their lack of familiarity with these. Nevertheless, urban areas, compared to rural areas, often offer stronger food safety infrastructure,

including regulated markets, regular food inspections, and consumer protection measures. While recent migrants initially face challenges, over time, access to these resources in urban settings may help mitigate food safety risks and lead to safer food consumption.

Economic and spatial constraints significantly shape food safety practices in urban environments (Chapters 2 and 3). Limited access to affordable, safe food often compels residents to rely on nearby vendors who may not adhere to high safety standards (Kang'ethe et al., 2020). In response, both consumers and food vendors adopt proactive strategies that go beyond merely identifying safe vendors. For instance, consumers may choose specific nearby vendors, avoid risky practices such as consuming street food during hot weather, or delegate family members to make purchases. Meanwhile, vendors select wholesalers who meet safety standards (Pham & Turner, 2020; Trübswasser et al., 2021). While outlet infrastructure improvements are crucial, they must be complemented by efforts to enhance affordability and food safety. A dual approach—addressing both economic constraints and food safety practices—ensures that infrastructure enhancements lead to improved safety outcomes and make safe food more accessible to those in need.

Chapter 3 of this thesis introduces a conceptual framework linking eating-out practices with food safety concerns and coping strategies among the urban poor. The reconceptualization of coping strategies beyond conventional Knowledge, Attitudes, and Practices (KAP) frameworks highlights that food safety is influenced by broader urban spatial dynamics and economic constraints. It demonstrates how the urban poor often resort to unsafe eating-out practices due to limited access to safe and affordable food. By focusing on informal food environments, this framework extends existing research that has primarily addressed food safety in formal retail contexts. While KAP approaches assess food safety behaviours, they often overlook the contextual and structural challenges faced by marginalized populations. Using the social practice approach, this research shows that coping strategies employed by informal food vendors and low-income consumers are shaped by socioeconomic and spatial constraints. Findings reveal that vendors and consumers adopt various techniques to navigate these challenges, such as establishing trust with specific vendors or choosing optimal shopping times. These strategies illustrate how food safety practices are influenced by structural conditions, offering new insights into the complexities of food safety risk management among the poor (Grace, 2015; Roesel & Grace, 2014).

Food safety policies for the retail environment failed to cope with the urbanisation of food acquisition and consumption (see Chapter 5). Despite the implementation of food safety policies, significant discrepancies persist between consumer expectations and the standards available in the safety policies

and strategies. The case of Bangladesh's policy analysis demonstrates how policy advancements do not always translate into effective implementation on the ground. The Food Safety Act of 2013 in Bangladesh marked a significant step forward, but gaps in policy formulation, implementation, and enforcement continue to limit equitable access to safe food for urban populations. The analysis revealed that while policies are comprehensive in theory, they often lack actionable details, clear responsibilities, and specific strategies for addressing the needs of the urban poor. This disconnect between policy goals and practical implementation reflects a broader issue of inadequate attention to marginalized populations. Regulatory frameworks struggle to keep pace with the rapid changes in urban food environments, leading to inconsistent enforcement and oversight. These discrepancies between policy goals and real-world conditions underscore the need for a more adaptive and inclusive approach to food safety governance that takes into account the lived realities of the urban poor. Bridging the gap between regulatory ideals and real-world conditions is essential to ensure that food safety measures are robust and responsive to the diverse needs of consumers and vendors alike to keep pace with the evolving dynamics of urban food systems.

6.3 Theoretical contributions: understanding intersectional food safety adaptation

This thesis set out to examine how food safety issues intersect with urban transformation and socioeconomic inequality, shaping food safety practices and coping strategies among marginalized urban populations—particularly the urban poor and migrants—in retail environments. An emerging theoretical framework, the Intersectional Food Safety Adaptation (IFSA) framework, will later be introduced in this section. Integrating and expanding on existing theories is necessary to capture the complexity of food safety issues within the context of urban transformation and inequality, which current theories only partially address. While social capital theory, gentrification theory, and FAO's food security frameworks of FAO offer valuable insights into social networks, urban displacement, and food access, the empirical findings of this thesis suggest that the IFSA framework goes beyond these theories. The existing theories and frameworks tend to focus on isolated aspects of inequality, such as economic or spatial factors, and overlook the complex, interconnected dynamics that influence food safety practices in marginalized urban communities. To fully grasp how these populations adapt to food safety challenges, it is essential to recognise the multifaceted nature of the food safety issues, which current theories only partially address.

This research presents the Intersectional Food Safety Adaptation (IFSA) framework, a theoretical proposition designed to encompass the complex challenges of food safety adaptation in urban environments. Food safety adaptation is inherently intersectional, shaped by factors like

socioeconomic status, migrant status, and spatial constraints, resulting in diverse experiences and adaptive behaviours across different social groups. The thesis argues that food safety practices and adaptations are influenced by these overlapping factors, which align with the concept of intersectionality from the social sciences. This intersectionality creates a web of social identities, systemic barriers, and adaptive strategies, particularly evident in informal food markets. Figure 6.3 illustrates the IFSA framework, the following sections discuss its key concepts and hypotheses, in conjunction with existing theories and frameworks.
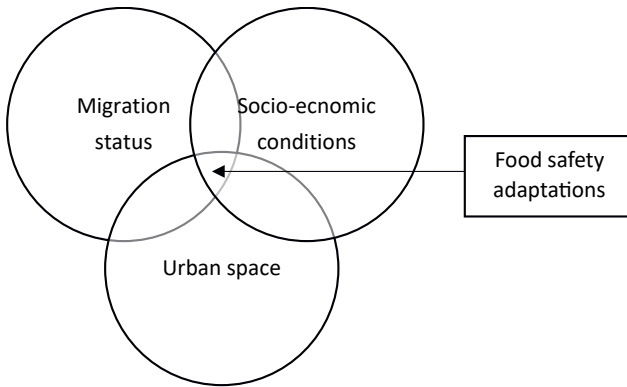
Figure 6.3 Intersectional food safety adaptation among urban poor

First, Kimberlé Crenshaw's (1989) concept of intersectionality emphasises how overlapping social identities shape individuals' experiences of oppression and privilege. The IFSA framework extends this concept to food safety, showing how different combinations of identities affect the food safety practices of the urban poor. Specific case studies can further illustrate how socioeconomic class and migratory status affect food safety practices. For instance, new migrants, who often face both economic hardship and migratory challenges, may adopt different coping strategies than long-established residents due to changes in their social networks and knowledge of local food sources (see Chapter 2). This perspective highlights that systemic barriers and adaptive behaviours differ greatly based on an individual's combination of social identities and circumstances

Second, socio-economic factors—economic resources, education, and employment levels—significantly influence access to safe food, with individuals from lower socioeconomic backgrounds more likely to shop in informal food markets, where regulations are often lax due to a lack of nearby formal vendors. When purchasing from formal vendors, price and transportation costs frequently take

precedence over food quality (see Chapters 2 and 3). While informal food vendors play a crucial role in food security for the poor, they also impact food safety and coping strategies. According to the United Nations Food and Agriculture Organisation (FAO), food security exists when "all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food." However, this perspective treats access as a distribution issue, overlooking how socioeconomic inequities and systemic constraints shape people's lived experiences with food safety. This theory typically operates at the macro level, focusing on food distribution while ignoring how socioeconomic disparities and spatial limitations affect access to safe food. In contrast, the IFSA framework adopts a grounded, micro-level perspective, integrating intersectionality to explain how the urban poor perceive and respond to food safety issues based on factors like gender, class, and migration status. While socio-spatial inequality can be incorporated into the food security framework, Battersby (2012) critically examined how such inequalities fuel food insecurity, particularly in urban contexts, highlighting the role of informal markets and the concept of "food deserts," where low-income populations struggle to access safe, nutritious, and affordable food due to limited availability in their immediate surroundings. Her analysis does not delve deeply into the intersectional experiences in the everyday life of different demographic groups. The IFSA framework integrates an intersectional lens that provides a richer understanding of how food insecurity is experienced differently across various social identities. This approach allows for a nuanced analysis of how overlapping identities create unique vulnerabilities. The IFSA framework does not overemphasise identity-based differences at the expense of economic and infrastructural factors affecting all poor populations; instead, it demonstrates that material issues alone cannot fully explain food insecurity, as socioeconomic factors intersect with social identities to create barriers. For example, migrant populations may have limited spatial mobility and access to vendors compared to other groups among the urban poor. Ultimately, the IFSA framework enriches the food security framework by illustrating that, even under similar economic conditions, food safety risks manifest differently across groups due to intersecting inequalities.

Third, urban spatial configurations, such as food deserts and informal food markets, significantly impact food safety (see Chapters 2, 3, and 4). Gentrification theory explains how structural dynamics of displacement and economic inequality contribute to the creation of food deserts. While this theory critiques urban restructuring and its effects on food access, it tends to portray low-income populations as passive victims. In contrast, the IFSA framework highlights the agency of the urban poor, illustrating how they adapt to food safety challenges through informal food systems and social networks, even amid gentrification. While gentrification theory implicitly recognises the urban poor's strategies for coping, it investigates how structural inequalities affect options for resilience and displacement (Smith, 1982). It could be argued that the IFSA framework focuses too much on individual and community

adaptation strategies rather than addressing the structural changes that cause food insecurity. However, the framework complements the gentrification theory by focusing on the poor's everyday lived experiences. While structural change is important, understanding how the urban poor adjust in the short term is also necessary for effective policymaking. The framework contends that adaptation strategies are a reality that policy must recognise, rather than seeing the urban poor as mere recipients of structural dynamics.

Lastly, the adaptation strategies employed by the urban poor to address food safety challenges are context-specific, placing the city's socioeconomic, migratory, and spatial dynamics in question. Social capital theory offers a partial explanation for these dynamics by asserting that social networks and relationships function as forms of capital, comparable to economic or cultural capital. Bourdieu (1986) defines social capital as the total of resources available to individuals via their connections and networks. Later, Putnam (2000) distinguishes between bonding (i.e. social ties within a homogeneous group that can provide significant support) and bridging (i.e. social ties across heterogeneous groups that promote innovation and inclusion). Strong social capital promotes social cohesion and cooperation, whereas its absence can lead to fragmentation and isolation within communities. The findings of this thesis show that informal food vendors and poor consumers adopt social networking techniques to reduce safety concerns, such as trusting specific (wholesale) vendors, accessing neighbours' refrigerators and buying food at specified times of day (see Chapters 2 and 4).

Social Practice Theory (SPT), as developed by Shove et al. (2012), provides a key framework for understanding how food safety practices are shaped by everyday routines, social interactions, and material environments. In this thesis, food safety strategies are conceptualized as a social practice that was found as influenced by the socioeconomic conditions, spatial constraints, and informal networks of the urban poor. The Intersectional Food Safety Adaptation (IFSA) framework, introduced here, builds on SPT by integrating the concept of intersectionality. This framework demonstrates how overlapping identities, such as class, gender, and migration status, shape food safety strategies. The IFSA framework highlights how food safety practices are not only shaped by individual actions but also by broader social inequalities and structural factors. By integrating insights from intersectionality, the IFSA framework offers a more nuanced understanding of food safety challenges among marginalized urban populations, extending beyond traditional food safety theories.

Overall, the IFSA framework emphasises the intricate relationship between food safety, social inequality, and urban dynamics. By combining insights from thinking about intersectionality, social capital, food security, and gentrification, the IFSA framework stresses the specific problems and agency

of underprivileged urban people in dealing with food safety concerns. This study advocates an intersectional approach to food safety regulation, acknowledging the many techniques used by these groups in response to institutional hurdles. Ultimately, the IFSA framework contributes to academic discourse while offering practical solutions for creating fairer food systems in evolving urban landscapes.

6.4 Scientific contributions: food safety and urban poverty

This thesis integrates perspectives from environmental policy and urban development, focusing on the intersection of urban food systems, public health, food safety, and urban poverty. It examines how the urban poor engage with food systems in informal marketplaces, addressing food safety and security issues. The research highlights the influence of socioeconomic factors on food safety practices and explores how social identities—such as gender, poverty, and migration—affect coping strategies and dietary choices. Additionally, it identifies policy gaps in food governance and critiques systemic injustices impacting food safety and governance inclusivity for underserved populations. The main scientific contributions of this thesis are outlined below.

This study presents several novel approaches, methods, and instruments that improve knowledge and offer workable answers to problems with food safety in urban settings. The findings' worldwide significance, particularly in cities of LIMCs, emphasises how they might be applied in cities with comparable socioeconomic and spatial limitations. The following are the main contributions: (1) a conceptual framework that links shopping and eating-out practices to food safety concerns; (2) innovative ways to compare food safety concerns and coping strategies among migrants; (3) an intersectional vulnerability framework that integrates migration, socio-economic status, and spatial dynamics to analyse food safety practices; and (4) a bottom-up policy framework that advocates for participatory food safety governance for marginalized urban populations.

The "Intersectional Food Safety Adaptation (IFSA)" framework examines how socioeconomic conditions and urban spatial dynamics jointly shape food safety practices. While intersectional vulnerability is recognised in food security research, this framework highlights the specific food safety challenges faced by diverse social groups, including but not limited to recent migrants. Existing literature typically isolates socio-economic factors or spatial dynamics, often neglecting how these aspects intersect with identity in shaping food safety outcomes. In line with Battersby's (2014) works, this thesis connects urban food systems, food security, and food safety, underscoring that safe food shopping is influenced by structural and spatial factors, not just individual choices.

The thesis advances the understanding of the complex relationship between various identities and food safety through a new methodological approach. By analysing how migration affects food shopping behaviours, access to safe food, and coping strategies. The innovative approach employed here allows for nuanced analyses, enhancing the global relevance of findings and enabling policymakers to tailor interventions for specific social identities, particularly in low- and middle-income countries (LMICs). This research enriches discussions around food security, migration, and food safety, emphasising the urgent need for targeted policy interventions.

The final contribution is the development of a bottom-up policy framework advocating for participatory governance in food safety, particularly for marginalized urban populations (see Chapter 5). Conventional food safety policies often neglect the voices of those most affected by food safety issues. This thesis calls for including the urban poor in policy-making processes to ensure their needs are addressed. The proposed framework emphasises the necessity of including the urban poor in the policy-making process (Arnstein, 1969; Fung & Wright, 2003), highlighting the importance of involving marginalized communities in decisions related to food safety. By engaging informal food vendors and low-income consumers, this framework aims to create more effective and inclusive food safety policies. This approach recognises the valuable local knowledge these communities possess and advocates for policies that are flexible and responsive to the changing dynamics of urban life, particularly in informal markets where food safety risks are prevalent.

Overall, each of these aforementioned contributions adds value by addressing critical gaps in the existing literature on food safety and urbanisation, such as the focus on informal markets, the influence of migration and socioeconomic factors, and the need for participatory governance. These contributions improve our understanding of food safety in urban settings and have broad policy implications, particularly for LMICs.

6.5 Implications of the IFSA framework on urban policy

Policymakers can develop tailored interventions that address the specific needs of diverse urban populations. These interventions should consider factors such as socioeconomic status, migration history, and local spatial dynamics. For instance, implementing localised outreach programmes can effectively identify and address the challenges faced by various demographic groups, ensuring that food assistance programmes are culturally relevant and accessible to low-income individuals or families (Smith et al., 2020). By respecting cultural preferences and removing accessibility barriers, these programmes can create sustainable solutions to food insecurity. By using data-driven

approaches to understand the demographics and needs of urban residents, interventions can be strategically designed to maximize impact, fostering greater food safety, security and health equity (Jones & Brown, 2021).

Policies can be developed to improve food safety standards while offering IFVs resources, given the importance of informal food markets in urban food systems. For instance, in addition to providing access to affordable health inspections, local governments may provide training programmes that take into account contemporary coping mechanisms for safe food handling procedures (Williams, 2019). In addition to improving overall food safety, this kind of assistance gives IFVs legitimacy and authority, avoiding their exclusion from official food markets. Cities can improve community access to fresh and healthy food options by incorporating IFVs into the urban food system and making use of the special positions held by these vendors (Davis & Chikanda, 2022).

Urban policies should incorporate an intersectional approach, ensuring that diverse voices—especially from marginalised populations—are included in food safety and urban planning decision-making processes. Involving community members in discussions about their food systems fosters a sense of ownership and accountability (Kumar, 2021). In this context, policymakers can make use of participatory planning techniques tailored to the specific dynamics of the community they serve. For instance, focus groups and community forums specially focused on everyday food access will allow those affected by food safety to share experiences and insights. This engagement not only enriches policy development but also promotes transparency and trust between communities and government entities (Miller & Nguyen, 2023).

The Integrated Food Systems Approach (IFSA) framework emphasises that resource allocation should focus on areas severely affected by food insecurity, particularly food deserts. This focus ensures equitable access to safe and nutritious food. For example, cities can improve food distribution networks in underserved areas by supporting mobile markets and community gardens (Thompson et al., 2020). Additionally, promoting income-generating activities related to food production and distribution can strengthen local economies, creating jobs while enhancing food access. By strategically directing resources toward these communities, cities can develop sustainable, long-term solutions to safe food insecurity.

Urban residents can be empowered to choose safer foods through community-based initiatives that teach them about safe food acquisition methods tailored to their cultural and socioeconomic contexts. To reach diverse populations, educational programmes could include demonstrations, workshops, and

resources that reflect existing social coping strategies (Garcia & Patel, 2021). These initiatives not only enhance knowledge of food safety but also help individuals build skills and confidence, enabling them to advocate for their food rights within their communities (Jackson, 2020).

Food safety can be positioned within larger sustainability and equitable contexts by connecting the IFSA framework to the Sustainable Development Goals (SDGs), especially Goal 2 (Zero Hunger) and Goal 11 (Sustainable Cities and Communities). To bring local food policies into line with international sustainability initiatives, policymakers might use the SDGs as a framework (UN, 2015). Initiatives to increase food accessibility or decrease food waste, for example, directly support these objectives and encourage integrated approaches that tackle urban resilience and food security (Harrison et al., 2023).

6.6 Future research agenda

Based on the findings of this thesis, several research directions are highlighted, emphasising empirical and methodological issues that can advance our understanding of urban food practices, policy effects, and consumer-vendor dynamics in rapidly urbanizing cities, particularly in low-income countries. The following points outline this future research agenda.

First, research is needed to understand the efficacy of policy interventions to enhance food safety among urban poor populations. Research on consumer and vendor responses to such measures in their food practices is crucial in densely populated areas with scarce resources and high health risks. Chapters 2, 3, and 5 partly address this by identifying gaps between everyday food shopping practices and food safety policy. Future work should examine how targeted policies can promote safer food-handling practices and assess the receptivity of urban populations to food safety regulations and subsidies. This will help policymakers develop more inclusive strategies that reflect local contexts, improving public health outcomes in vulnerable communities.

Second, informal food vending plays a crucial role in addressing food access in low-income urban areas but is often underrepresented in urban planning. Chapter 4 highlights the constraints informal vendors encounter, suggesting that future research should prioritise examining how food vending practices are influenced by zoning laws (if any) and urban governance. Zoning laws fundamentally control land use in cities, influencing the availability of safe food options and impacting food access, particularly in underserved areas such as slums. Researchers should investigate how the spatial distribution of food vendors impacts food access in low-income neighbourhoods and whether zoning regulations create barriers or opportunities for these vendors. By exploring the intersection of food vending and urban

spatiality, insights can be gained into how local governments can effectively integrate food vendor practices into the urban economy, ensuring that food safety standards are met while also supporting the livelihoods of informal vendors. Such research will contribute to the development of more inclusive urban policies that enhance both food access and economic opportunities for poor populations.

Third, resource constraints often drive innovation in food vending practices, especially in informal economies. As highlighted in Chapter 4, vendors facing material shortages and regulatory limitations develop creative strategies to ensure food safety while meeting market demands. Future research should examine how these vendors adapt to urbanisation and manage hygiene standards despite inadequate sanitation and storage facilities. Additionally, exploring their responses to fluctuations in food prices, longer shutdowns due to political conflicts, and changing consumer preferences can reveal the resilience of informal food systems. Documenting these adaptive practices will provide insights into how informal vendors enhance urban food safety and security, guiding policymakers and urban planners in creating supportive regulatory frameworks that recognise the vital role of informal vendors in providing affordable food to the urban poor.

Fourth, future research should explore how socio-spatial constraints, such as the availability of safe food outlets and spatial segregation, impact food safety practices at retail in urban areas (Chapters 2, 3, and 4). These challenges are particularly pronounced in low-income neighbourhoods, where residents often struggle to access safe and affordable food (Baker et al., 2021). Investigating the spatial distribution of food outlets and the effects of urban planning decisions—such as zoning laws and transportation networks—on food access is crucial. For instance, how do transportation costs and vendor locations influence consumer choices? Spatial analysis using Geographic Information Systems (GIS) can assess the distribution of food outlets in selected urban areas using data from local government databases. By integrating spatial analysis with qualitative and quantitative methods like community surveys and interviews with food vendors, consumers, and urban planners, researchers can gain insights into their experiences and perceptions of food safety practices and access. This research is vital for developing urban policies that ensure equitable access to safe food for all residents.

Fifth, a promising avenue for future research is to conceptualize retail food environments as social laboratories. Cross-national comparisons and experimental studies comparing various social groups can shed light on how socioeconomic status, education, and cultural norms affect food safety. For instance, as this thesis demonstrates, contrasting long-term city dwellers with new immigrants may highlight disparities in their understanding of and approaches to food safety. Comparing countries could also show how various legal systems or cultural norms influence food safety outcomes. These

experimental investigations would contribute to the development of conceptual frameworks that guide future research and policy interventions. By comprehending the differences in food practices across social groups and geographic contexts, researchers can identify best practices and develop more targeted interventions to enhance food safety.

Sixth, this thesis highlights a disconnect between national food safety policies and their implementation in city-level retail markets. This gap can result in inequitable food practices, as local governments may lack the resources or political will to enforce national regulations (Chapter 5). Future research should investigate this disconnect by examining how city-level food policies align—or fail to align—with national standards. Considering actors and networks, researchers can explore the power dynamics and decision-making processes that influence food safety regulation at different governance levels. For instance, how do local actors, such as city officials and food vendors, interpret and implement national food safety policies in everyday life? What barriers prevent effective coordination between national and local governments? Understanding these dynamics is essential for designing interventions that address the challenges of urban governance, ensuring that national policies are implemented equitably and effectively at the city level. Ultimately, this research could lead to more coherent policy frameworks that bridge the gap between national directives and local realities.

Seventh, the implementation of practice-based approaches to food safety in LMICs presents challenges, as these countries often lack the capacity for rapid transformation of their food environments. Social practice theory, developed in high-income countries, assumes the changing meaning and competencies, availability of materials, and to easily facilitate new practices. In LMICs, however, where material resources and infrastructure are often limited, competencies may not align with those needed for new practices. Future research should explore the feasibility of gradual changes that prioritise food safety while considering the limited resources available in these contexts. Specifically, researchers should investigate the essential requirements for implementing practice-based changes, including the necessary skills, infrastructure, and financial support needed to ensure the successful adoption of the changes. Additionally, exploring how local stakeholders, including policymakers, vendors, and consumers, can collaborate to create realistic strategies for improving food safety is essential. This approach would allow for a more sustainable and context-sensitive transition to safer food practices. By focusing on practical, incremental changes rather than sweeping reforms, researchers can identify interventions that are both achievable and effective in the long term. This research will be critical in helping LMICs develop food safety policies that are both realistic and impactful.

Eighth, the future research directions outlined in this thesis emphasise the importance of examining the intersectional vulnerabilities faced by urban poor populations. These vulnerabilities—rooted in several factors such as poverty, migration, gender, and spatial segregation—affect safe food access in intricate and interrelated ways (Chapter 3). Poverty and the disruptions caused by migration create new vulnerabilities for individuals. Eating out practices are more prevalent among men than women, and outlet locations also play a significant role. Future studies should focus on how these vulnerabilities interact to create challenges for different groups within urban populations. For example, how do gender dynamics influence food purchasing decisions considering food safety issues in low-income households? How does spatial segregation exacerbate food safety risks for marginalized populations? By investigating these intersectional factors, researchers can help design policies that are more inclusive and effective. This research will be crucial in addressing the root causes of food insecurity and ensuring that future interventions promote equitable access to safe, nutritious food for all urban residents.

Finally, a historical analysis of socio-spatial and economic changes in food practices can provide valuable insights into how food safety practices have evolved. Understanding different changing circumstances and the long-term trends in food systems is crucial for contextualising current challenges, finding out the systematic inequalities, and shaping future policy responses. For instance, how have shifts in urbanisation, food industrialisation, and migration impacted food safety standards in low-income countries? Research could explore how historical events, such as economic crises or policy reforms, have influenced everyday food safety practices in urban settings. By tracing the evolution of food systems, researchers can identify the root causes of current food safety issues and predict future challenges. This analysis will help policymakers design forward-looking strategies that account for both historical and contemporary factors affecting food safety. In particular, it will be important to examine how marginalised populations have been affected by these long-term trends, ensuring that future interventions prioritise equity and inclusivity.

Overall, investigating these dynamics can provide insights into how urbanisation shapes food systems, and how various stakeholders—including policymakers, vendors, and consumers—interact within these systems. Understanding the influence of urbanisation on food security and safety is critical, as it informs the development of policies that can better address the challenges of food distribution, accessibility, and sustainability. Future studies should focus on the ways these dynamics vary across different cities, as urban environments are not homogeneous, and factors such as culture, infrastructure, and economic conditions can significantly alter the food landscape. Exploring this

complexity will lead to more nuanced policies that are tailored to specific urban contexts, ultimately improving food security and safety outcomes in LMICs.

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Appendices

Appendix A

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Appendix A (Chapters 2 and 3)
A.1 Focus Group Interview guideline
(Translated from Bengali)

This guideline was used for focus group discussions with two distinct participant groups:
1. Recently Arrived Migrants (RAMs)
2. Established Residents (ERs)

General questions for both Groups (RAMs and ERs)

Starter Questions

1. Please provide your age, level of education, occupation, and gender.

2. How long have you been living in this slum (*Bastee*) area?

3. Why did you decide to come here?

4. What types of food do you typically consume at home?

5. Where do you usually purchase these food items?

6. What types of food do you typically consume outside the home?

7. Where do you generally buy food?

8. What do you understand by 'safe food' (*Nirapod Khaddo*) and 'contaminated food' (*Vejal Khabar*)? Please explain.

Specific Questions

(Themes: Health, Cost, Availability, Taste)*

9. Which types of food do you consider safe?

   - Probes: Do you think homemade, out-of-home, packaged, or expensive food options are safer?

10. What food types do you personally consider safe?

   - Probes: Do you prefer homemade, out-of-home, packaged, or more costly items?

11. Do you believe the food you buy is safe?

   - Probes: If yes, why? If not, why?

12. What considerations are most important to you when buying food?

13. When you are away from home for long hours, such as for work, what types of food do you perceive as safe options? If you do not bring food from home, what alternatives do you choose?

   - Probes: Do you prioritise convenience, cleanliness, or low cost?

Shopping practices and food safety evaluation

(Themes: Shopping Methods, Safety Perceptions, Social Influence on Food Safety)

14. How do you usually purchase food items for home consumption? Include locations, times, and methods.

15. How do you acquire food for consumption outside of home? Include locations, times, and methods.

16. To what extent do you consider food from these vendors to be safe?

17. Judging Food Safety: If you view any food as safe or unsafe, what criteria do you use?

  - Probes: Appearance (colour, smell), packaging, storage, vendor handling (open sacks, preparation, etc.).

18. Do you believe that the food you consume affects your health?

Questions for Group B (Recently Arrived Migrants Only)

(Themes: Rural-urban migration, adaptation in shopping behaviours)

19. Please describe how moving from a rural area to an urban area has influenced your shopping behaviour.

20. Can you explain how your shopping actions have evolved since your arrival?

  - Probes: Differences in food availability, vendor structures, and safety concerns.

A.2 Semi-structured Interview guidelines
 (translated from Bengali)

Demographic Information

1. Tell me about your age and education.

2. Can you tell me about your current occupation and the occupation you had when you were in a village?

3. How often do you get your salary/earnings (daily, weekly, monthly)?

In-house Consumption

4. Tell me about the food items you usually buy for your family to eat at home.

   (Expected conversation: dry food, wet food, fish meat, milk, open items, packet items, child food/snacks)

5. Can you describe the places you usually go for food shopping at home? (Wet market, peddlers, cart vendor, window-shops)

6. What are the reasons you buy food from these places?

7. Can you explain the considerations for shopping for food for home consumption?

8. Describe the differences between the food list you bought before and after moving to the city. What reasons account for these changes?

9. What aspects are most important when buying in-house food items: freshness, open, packaged? Why?

10. How do factors like physical distance, vendor selection, seasonality, freshness, cleanliness, price, and other attributes influence your choices?

11. When do you prefer to buy groceries for in-house consumption in the city? Why?

12. When did you prefer to buy groceries when living in a village? Why?

Eating Out

13. Tell me about the food items you usually buy for eating out.

14. Where do you typically go for eating out, and why?

15. Why do you buy food for eating out?

16. What are your main considerations when eating out? (e.g., restaurant, roadside shop, window-shop)

17. Describe how the list of items you buy for eating out has changed since moving to the city. What reasons account for these changes?

18. What aspects matter most when choosing food for eating out: freshness, taste, cleanliness, cooked or packaged items? Why?

19. How do factors like distance, vendor type, seasonality, freshness, cleanliness, price, and other considerations influence your choices?

20. When do you prefer to buy items for eating out in the city? Why?

21. When did you prefer to buy items for eating out when living in a village? Why?

22. What is your opinion on current food safety ('Nirapod Khabar') issues?

   (Expected discussion on unsafe food, chemical hazards, microbial issues, and packaging concerns)

23. How would you define safe food?

24. What steps do you take to obtain safe food now compared to when you were in the rural area?

25. What do you do if you suspect food safety issues?

26. Who do you think is more vulnerable to unsafe foods?

27. Where can safe food be found, and who has easier access?

28. How do you carry foods from markets or shops to your home?

29. Can you describe your daily routine?

30. How does life differ between rural and urban settings?

31. What factors lead you to buy and eat out of home? (e.g., routine, availability, job requirements)

32. Have food safety concerns changed due to the pandemic? If so, how and why?

33. How has the pandemic affected your daily routine and food shopping habits? What are the differences in routine between normal and pandemic times?

A.3 Shoppers' Household Survey Questionnaire, 2020

Module A - Sample household identification and demographic information

1. Respondent's name (including nickname)

2. Address

3. Age

4. Occupation
   - □ Housewife
   - □ Day labourer
   - □ Agricultural day labourer
   - □ Rickshaw puller
   - □ Transport worker
   - □ Construction worker
   - □ Skilled worker
   - □ Unskilled worker
   - □ Readymade Garment worker
   - □ Shopkeeper/Restaurant worker/Hotel worker
   - □ Maid
   - □ Teacher/Home tutor
   - □ Government employee
   - □ Private employee
   - □ Office peon/ office staff
   - □ Factory worker
   - □ Salon/beauty parlor staff
   - □ Cleaner/sweeper
   - □ Chef
   - □ Small Business/SME
   - □ Farmer
   - □ Jobs at religious places of worship
   - □ Professional [Doctor/Village Doctor/Lawyer/Muhuri]
   - □ Fisherman
   - □ Animal Husbandry (Cow/Goat/Buffalo/Sheep]
   - □ Poultry rearing
   - □ Tailor
   - □ The van driver
   - □ Barber
   - □ Broker/Contractor
   - □ Others (specify)

5. Sex
   - □ male
   - □ female
   - □ others

6. Education (highest class passed)
   - □ Illiterate and can only sign
   - □ class one
   - □ class two

□ class three

□ class four

□ class five

□ class six

□ class seven

□ class eight

□ class nine

□ SSC/Dakhil

□ HSC/Alim

□ BA/BSc/B Com/Fazil

□ MA/MSc/M Com/Kamil

□ Diploma/Technical

□ Religious education

7. Marital status
   □ married
   □ unmarried
   □ separated
   □ Widower/widow
   □ Divorced

8. Which district were you in before coming to Dhaka?

9. Residence period in Dhaka
   □ Years [_____]

10. Family members less than 5 years old (number)   [_____]

11. Family members more than 60 years old (number)   [_____]

12. Religion
    □ Islam
    □ Hindu
    □ Others

Module B - Shopping practice for in-house eating

13. From where do you buy the most (quantity) of food?
    □ formal wet market
    □ Corner/grocery shops
    □ street vendors
    □ peddlers
    □ supermarkets
    □ Others (specify) [_____]

    13.1 If you buy food from a "formal wet market/grocery shop/street shop/peddler/supermarket/other", how far is that place from your home?
    □ Less than 500 meters
    □ Less than 1000 meters

□ More than 1000 meters

14. What moment of the day do you usually shop?
    □ early in the morning (before 7:00 hours)
    □ morning (7:00-11:00 hours)
    □ lunch (11:00-14 hours)
    □ afternoon (14:00-18:30 hours)
    □ evening (18:30 -20:00 hours)
    □ night (after 20:00 hours)

Module C - Meaning of safe food

	How much do you agree with the following statements about the meaning of safe food?	Strongly disagree	Disagree	Somewhat agree	Agree	Strongly agree
15.	Foods that are not harmful to the body	□	□	□	□	□
16.	Packaged and covered food	□	□	□	□	□
17.	Expensive food	□	□	□	□	□
18.	Own cultivated food	□	□	□	□	□

Module D - Food safety concerns for in-house shopping

19. Do you have any concerns about getting safe food when you buy for in-house eating?

    □ Yes
    □ No, (if the answer is no, skip to 36)

20. Which one is your major concern about food safety while shopping for in-house consumption?
    □ added colour
    □ chemical/formalin added
    □ hygiene practices of the shopkeepers
    □ spoiled/rotten products/product that smells bad
    □ unknown source
    □ unknown processing
    □ Others (specify)

	How much do you agree with the following statements about food safety concerns?	Strongly disagree	Disagree	Somewhat agree	Agree	Strongly agree
21.	The presence of chemical/formalin/artificial colours in food	□	□	□	□	□
22.	Date expired food	□	□	□	□	□
23.	The presence of dust and dirt in dry items such as rice, pulses, sugar, etc.	□	□	□	□	□

Module D.1 - Safety concerns by food groups and buying sources, and coping strategies

24. Do you have any food safety concerns about grains such as rice, pulses, flour (wheat) and sugar?

    □   yes

    □   no, (if the answer is no, skip to 25)

    24.1   Which one is your major concern about grains?

    □   packaged

    □   not packaged

    □   both

    □   others (specify)   [   ]

25. Do you have any food safety concerns about beef and mutton?

    □   yes

    □   no, (if the answer is no, skip to 26)

    25.1 Which one is your major concern about beef and mutton?

    □   added colour

    □   chemical/formalin added

    □   Dead or alive while slaughtering

    □   Providing (undeclared) meat of other animals as beef or mutton

    □   stale meat

    □   All of the above

    □   others (specify)   [   ]

26. Do you have any food safety concerns about chicken?

    □   yes

    □   no, (if the answer is no, skip to 27)

    26.1 Which one is your major concern about chicken?

    □   added colour

    □   dead or alive while slaughtering

    □   organic or farmed chicken

    □   Providing farmed as organic chicken

    □   possibility of being ill after eating

    □   all of the above

    □   others (specify)   [   ]

27. Do you have any food safety concerns about fish?

    □   yes

□ no, (if the answer is no, skip to 28)

27.1 Which one is your major concern about fish?

□ bad smell

□ added colour

□ softness and dryness

□ ice

□ chemical/formalin added

□ all of the above

□ others (specify)   [   ]

28. Do you have any food safety concerns about fruits and vegetables?

□ yes

□ no, (if the answer is no, skip to 29)

28.1 Which one is your major concern about fruits and vegetables?

□ added colour

□ chemical/formalin added

□ frowziness/mustiness

□ all of the above

□ others (specify)   [   ]

29. Do you have any food safety concerns about milk and dairy products?

□ yes

□ no, (if the answer is no, skip to 30)

29.1 Which one is your major concern about milk and dairy products?

□ packaged

□ not packaged

□ chemical added

□ dirty water added

□ all of the above

□ others (specify)   [   ]

30. Do you have any food safety concerns about snacks such as bread, biscuits, and beverages?

□ yes

□ no, (if the answer is no, skip to 31)

30.1 Which one is your major concern about snacks such as bread, biscuits, and beverages?

□ artificial colour

- □ chemical added
- □ unknown processing
- □ all of the above
- □ others (specify) [   ]

31. Do you have any food safety concerns about oil?
    - □ yes
    - □ no, (if the answer is no, skip to 32)

    31.1 Which one is your major concern about oil?
    - □ packaged
    - □ not packaged
    - □ both
    - □ others (specify) [   ]

32. Do you have any food safety concerns about nuts and seeds?
    - □ yes
    - □ no

33. Which food item are you most concerned about?
    - □ grains such as rice, pulses, flour and sugar etc.
    - □ beef and mutton
    - □ chicken
    - □ fish
    - □ fruits and vegetables
    - □ milk and dairy products
    - □ snacks and beverages
    - □ oil
    - □ nuts and seeds
    - □ others (specify) [   ]

34. Which source of buying are you most concerned about?
    - □ formal wet market
    - □ corner/grocery shops
    - □ street vendors
    - □ peddlers
    - □ supermarkets
    - □ others (specify) [   ]

35. What are the strategies you follow to buy safe food for in-house eating? (mark all that apply)

- □ observe before buying
- □ buy packet foods
- □ check the expiry dates of the food product
- □ smell the food product before buying
- □ touching or pressing
- □ pay high price
- □ argue with the shopkeepers
- □ trust the vendors or buy only from the familiar shops
- □ change shops
- □ stop buying some food products
- □ shop at a particular time of a day
- □ feeling helpless or you have nothing to do
- □ can't identify unsafe food
- □ others (specify) _____

Module E-Shopping practice for eating out

36. Do you buy food for eating out?
    - □ yes
    - □ no, (If the answer is no, answer the question 36.1 and then skip to 42)

    36.1 Why do not you eat out?
    - □ Housewife/I always stay at home
    - □ The price is high so I can't buy and eat
    - □ Food is unclean
    - □ The place is unclean
    - □ It's my habit
    - □ There is a possibility of getting sick by eating outside food
    - □ Other (specify)

37. What mealtime do you usually buy food for eating out?
    - □ breakfast
    - □ lunch
    - □ afternoon snacks
    - □ dinner

38. Where do you buy food for eating out? (mark top three sources)
    - □ restaurant
    - □ cafe with shed
    - □ open-air street cafe or cafe without a shed
    - □ tea stall
    - □ corner shop

□ bakery shop

□ work canteen

Module F-Safety concerns and coping strategies for eating out

39. What are your major food safety concerns for eating out? (mark top three items)

□ stale food

□ uncovered food

□ dirty place

□ hygiene practice of the vendors

□ bad smell

□ indigestion

□ unknown food processing

□ others (specify) _____

40. Which one is the main source of food safety concerns for eating out?

□ restaurant

□ cafe with shed

□ open-air/street cafe without the shed

□ tea stall

□ corner shops

□ bakery shops

□ work canteen

41. Which are the following strategies you take to buy safe food for eating out? (mark all that apply)

□ observe before buying

□ buy packet foods

□ checking the expiry dates of the food product

□ smell the food product before buying

□ touching or pressing

□ pay high price

□ argue with the shopkeeper

□ trust the vendors or buy only from the familiar outlets

□ change outlets

□ stop buying some food products

□ shop at a particular time of a day

□ feeling helpless or having nothing to do

□ can't identify unsafe food

□ others (specify) _____

Module G- Food-related urban lifestyle and rural-urban migration

	How much do you agree with the following statements?	Strongly disagree	Disagree	Somewhat agree	Agree	Strongly agree
42.	My food safety concerns have been increased since migration	□	□	□	□	□
43.	I am eating out more in the city than that in the rural area	□	□	□	□	□
44.	Currently, I cannot shop food in my preferable time due to longer working hours and traffic jam	□	□	□	□	□
45.	Production- consumption gap is shorter in the village	□	□	□	□	□

46. How do you learn about unsafe food? (mark top three sources)
   □ television
   □ neighbour
   □ friends
   □ facebook
   □ internet
   □ newspaper
   □ meeting and training
   □ mobile court executed by police and magistrate
   □ poster/billboard/leaflet
   □ others (specify) [＿＿＿＿＿＿＿]

47. Who do you think is responsible for addressing food safety problems? (mark top three items)
   □ local government
   □ central government
   □ food processors
   □ farmers
   □ retailers
   □ wholesaler
   □ consumer
   □ police
   □ others (specify) [＿＿＿＿＿＿＿]

➤ Is this phone number your own?

        □   Yes

        □   No

➢ If this phone number is not yours, please give your number

           [   ]

Appendix B (Chapter 4)

Semi-structured interview guidelines for informal food vendors
 (Translated from Bengali)

General Information

1. Age, education level, gender, year of business.
2. Please describe your shop.
3. What types of food items do you typically sell?
4. Can you elucidate the demographics of the shoppers who purchase your products?

Competences

5. How, from whom, and where do you source the (wholesale) items that you sell? Also, when do you typically collect these items?
6. Could you outline your daily routine regarding the opening of the shop and the collection of products from the wholesale market?
7. What procedures do you follow for handling and storing food to maintain its quality and safety?

Materials

8. Describe your process for stocking and restocking inventory.
9. (Probe: Include details about the storage locations, such as racks or refrigerators.)
10. What equipment or tools do you utilise for storing and selling food items?

Meaning

11. In your perspective, what defines safe food?
12. How do you perceive consumers' preferences for safe food?
13. Share your understanding of safety regulations related to food.
14. Do you believe that retailers like yours play a role in ensuring the provision of safe food to consumers? If so, how?
15. Were any certificates or permits required for opening your shop?

Appendix C (Chapter 5)

Policy Stakeholders' Survey (online)
(Translated from Bengali)

1. Which type of organisation do you represent?
   a. Government
   b. Industry
   c. NGOs / non-profit organisations
   d. Academic/research organisation
   e. A consumer support group or association
   f. Retailer/food business
   g. Health or health-related organisation
   h. Other
   i.

2. What is your role in your organisation? (Occupational designation)

3. How do you identify your gender?
   a. Female
   b. Male
   c. Other
   d. Prefer not to say

4. How old are you?

5. How many years of experience do you have in the food sector?

6. As a stakeholder, how involved do you feel in shaping food safety policies, from design to implementation?

   a. Extremely involved
   b. Somewhat involved
   c. Neutral
   d. Somewhat not involved
   e. Extremely not involved

7. Did you ever attend meetings, discussion forums, or conferences on food safety?
   a. Yes
   b. No
   c. Maybe

8. Please tell us about the importance of key following actions for ensuring food safety.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Vendors' hand-washing					
Proper packaging					
Proper storage (covering, storage in fridge or shelves) Proper handling					
No chemical contamination					

9. How confident are you in the current food safety policies for the urban poor?
   1 = not confident at all, 5 = very confident

1	2	3	4	5

10. Are you familiar with the current state of food availability, types of shops, and the conditions of food sold in the slum areas in Dhaka?
a. Yes
b. No
c. Maybe

11. What percentage of food bought by the urban poor of Dhaka do you think is safe?

1	2	3	4	5	6	7	8	9	1

10%   100%

12. Do you believe that the poor in Dhaka slums receive less safe food than wealthier residents?
a. Yes
b. No
c. Maybe

13. Is there a regular, measurable monitoring system in urban slum retail food environments for food safety?
a. Yes, managed by the local government
b. Yes, managed by the central government
c. Yes, a survey is conducted by un agencies (FAO, WHO, IFPRI, WFP, etc.) to assess poor consumer satisfaction
d. No, there are no monitoring systems, according to my best knowledge
e. Unsure/I am not aware of any monitoring system

14. In your opinion, what are the main concerns among the urban poor about the food they buy? (multiple answers are possible)

a. Unclean food environment for eating out in slum area
b. Chemical contamination (formalin, reduced from fertilizers, artificial colours, etc.)
c. Dusts (unwanted stones, sands, etc.)
d. Microbial contaminations (rotten food, stale food)
e. Food handling practises of the food away from home sellers (uncovered foods, storing)
f. Food handler's hygiene
g. Other

15. Please tell us the importance of including the following aspects in framing food safety policy documents.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A clear target group (such as rural, urban, consumer, vendors, poor, child, schools, etc.)					
Clear responsible actors (central to local governments)					
Clear monitoring and evaluation plan					
Starting and ending time of a policy implementation					
Clear budget distribution to operation					
The policy should follow (scientific) evidence such (as surveys, studies, recent (incidents, scientific research etc.)					
Clear theory of change (ways to improve the situation)					

16. Please tell us about the key strengths of Bangladesh's food safety policies for urban slum retail food environments.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Regular inspection and monitoring to ensure compliance with food safety					
Policies include education and awareness programs for poor retailers and consumers					
Quick and effective action for food safety issues in poor areas					

Current food safety policies provide affordable and accessible safe food options for the urban poor					
Urban poor consumers can report their food safety concerns to the authorities					

17. How effective are current policies in the case of inspections, monitoring, and collaborations in ensuring food safety in retailing slum areas?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Current inspections and monitoring are very effective					
There is a need for better collaboration among government, businesses, and NGOs					
There is real-time monitoring of food safety in retail using data collection and monitoring technology					
Policies are inclusive, considered small retailers and informal vendors					
Poor consumers can report food safety concerns to authorities					

18. What are the barriers to ensuring safer food in urban slum retail food environments?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Low technological capabilities to ensure food safety					
Lack of super shops in slum areas (super shops are proven as safer than local shops)					
Lack of concentrated responsibility for different local governance					
Lack of demonstration of the benefits of safe food					

consumption among poor people				
Low affordability of the urban poor for safer food				
Low affordability of the urban poor for safer food				
Low political awareness and willingness				
Vendors' present daily food handling practices				
Low resources of the vendors around slums (cleaning, storing, serving)				
Vendors' present daily food handling practices				
Low power of consumers to lodge complaints				

19. Which methods do you think would help improve food safety at retail shops around slums?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Displaying food safety messages in each shop					
Providing training to vendors					
Increasing purchasing power of poor					
Establish super shops around slums					
Monitoring the formal and informal restaurants by local government					

20. Should there be a specific urban food policy for city residents, considering the challenges faced by urban poor individuals compared to those in rural residents?
   a. Yes, there should be a separate urban food policy
   b. No, the current food safety policy is enough to accommodate urban poor
   c. Maybe
   d. Other

Appendix C

Appendix D

Policy Brief

Improving food safety in retail environments for urban poor in Dhaka

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Wageningen University and Research
Policy brief | July 2023

This policy brief provides an overview of the urban poor's food safety concerns about the retail environment in Dhaka, Bangladesh. It presents the concerns and coping strategies of poor urban consumers and vendors. This information and recommendations equip stakeholders to foster safer food in Dhaka's food system.

Introduction

Food safety is closely intertwined with health, security, and sustainability (Garcia et al., 2020). In urban settings, the retail food environment is linked to access to safe food for individuals and communities. However, rapid urbanisation in Dhaka, Bangladesh, poses a substantial challenge to food safety at retail points, emphasising the importance of a shift toward socially responsible and equitable access to safe food for all. Residents in Dhaka slums face numerous food safety concerns such as chemical use (Hossain et al., 2008 despite the efforts of government bodies, non-governmental organisations (NGOs), and private companies in general and the countless debates on the topic. As a result, both consumers and vendors apply coping strategies in their daily shopping and vending practices, respectively. Understanding these strategies is essential to enhance social welfare, support a healthier labour force, and reduce national healthcare expenses.

The food system in Dhaka faces challenges in ensuring safe food for everyone, specifically for the slum population, which makes up 64% of the city's total population (24 million). In 2013 the government implemented the food safety act to address the issue (Ministry of Food, 2016). However, one in five consumers in Dhaka confronts concerns when buying food at the market (Zingel et al., 2011). The urban

poor's low affordability, and other socioeconomic barriers, hinder their access to safe food. Additionally, vendors' inadequate food safety management practices in and around the slums exacerbate the problem. Their concerns potentially decrease the consumption of particular food items and make people eat meals away from their homes (Bailey et al., 2018; Liguori et al., 2022). These consumers also harm the vendors through money and reputation loss. Thus the challenges for Dhaka's food systems need to be addressed, particularly for slum residents.

The solutions for this challenge raise several crucial questions. First, what are food safety concerns among consumers? Second, how do they cope with the concerns? Third, what measures are taken by vendors to address consumers' concerns? By comprehending the dynamics of various social practices among consumers and vendors, policymakers can effectively devise evidence-based solutions to address food safety issues.

This policy brief presents findings based on the practices of adult customers and vendors in Dhaka's four slums (Dholpur, Korail, Mirpur, and Shyampur). The studies were conducted as part of the "Effective Policies and Instruments to Transform Food Systems Towards Healthier Diets" project by Wageningen University, funded by the International Food Policy

Research Institute (IFPRI). In 2020, qualitative interviews and household surveys were held with shoppers to gain insights into their daily shopping behaviours, concerns, and coping strategies. Two focus groups comprised sixteen individuals, semi-structured interviews with 27 people, and a home survey of 401 shoppers provided vital information on grocery shopping and eating-out behaviours. The brief also encompasses strategies employed by informal vendors – categorised into three types - cooked, dry, and wet market vendors. Twenty-six vendors from Korail slums were interviewed. These findings give a better understanding of the dynamics of the retail food environment in Dhaka's slums.

Food safety concerns

Despite prioritising cheaper food, 96% of surveyed individuals expressed safety concerns about everyday food purchases.

Regarding grocery shopping, qualitative interviews revealed three major categories of concerns: lack of freshness (e.g. stale or date-expired foods), undesirable substances (e.g. chemicals, colours, dust, or sand), and a lack of transparency regarding food processes (e.g. fertiliser use or the mixing of different types of meat). Consumers with limited literacy expressed concerns about their inability to understand expiration dates. Fish (37%), fruits and vegetables (32%), and meat (19%) appeared as the items causing the most concern among the studied households, with chemicals being the most common source of concern (57%) (Figure A).
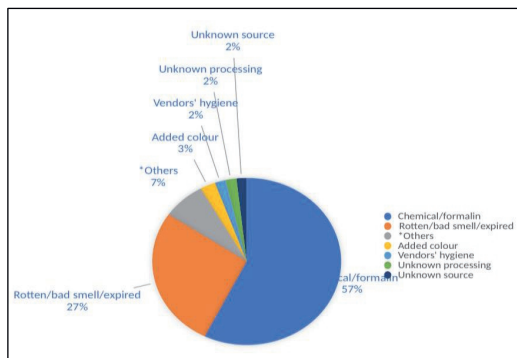
96% concerned

Figure A. Share of shoppers by food safety concerns for daily grocery shopping.

Only 40 per cent of the surveyed households reported eating out. This group had concerns about food presentation, hygiene, ingredients, and unknown food processing procedures. There were reports of unclean utensils (e.g. cutlery) and unsanitary restaurant surroundings (e.g. sitting places). Hygiene concerns focused on vendors' hand washing methods and insufficient hand washing facilities for consumers—also, concerns about food ingredients and the use of repeatedly burnt oil for frying. Furthermore, the survey showed that cafés without shade and restaurants were the most concerned eating venues (Figure B).
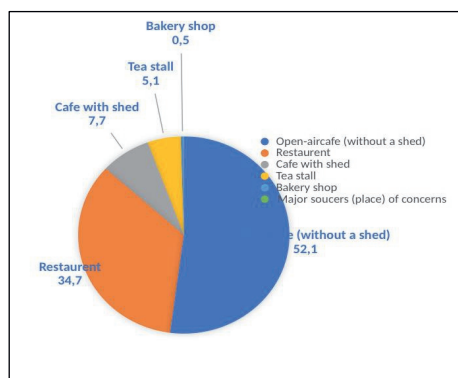
40% eat out

Figure B. Share of consumers who eats out by most concerned outlets

Consumers 'coping strategies

First, about grocery shopping. Three primary approaches can be described to ensure food safety while shopping: 1) identifying safe and unsafe food, 2) proactive selections, and connection building.

Shoppers identify safe food by looking for full baskets, wild vegetables, live animals (e.g. chicken, goat and cow), and lastly, by paying attention to expiration dates.

Consumers prefer specific outlets (e.g., larger stores) and avoid purchasing fish under loose ice, vegetables with chemical odours, cheaper items, and on credit. Despite minimal anxiety about the supermarkets, they opt for local markets due to lower costs and proximity. Some shoppers, on the other hand, prefer packaged goods. Furthermore, buyers refrain from arguing with unknown vendors due to the possibility of being embarrassed.

Building and maintaining relationships with reliable vendors and neighbours is another important coping mechanism since it provides support and helpful information regarding food items. Additionally, some consumers also rely on their rural relatives for safer food.

Turning to the concerns when going out to eat, coping strategies can be categorised again into three groups: 1) searching for information, 2) using heuristic tools, and 3) avoidance.

Within the information search, individuals employ various strategies such as observing food items, smelling them, checking expiration dates, arguing with vendors, and physically assessing the food by touching it. The most common strategy is observation of food items, which respondents believe helps reduce the risk of illness. Illiterate individuals often rely on shopkeepers for assistance in checking expiration dates. Although sometimes practical, arguments with vendors could be more effective and may lead to potential humiliation.

Heuristic tools involve trusting familiar vendors and opting to purchase more expensive items. However, interviewees desired more influence over the overall food provision at outlets.

Avoidance strategies include altering or avoiding specific outlets, skipping meals, avoiding certain foods, and opting for packaged goods. Many respondents exhibited skills in avoiding eating out altogether, either by bringing food from home or eating at home. However, some participants acknowledged that getting food from home could also pose risks, such as spoiled cooked rice in warm weather. Despite hygiene concerns, some individuals felt compelled to eat out due to necessity, even in unfavourable conditions. As a result, complete meals, such as rice with curries, are often replaced by snacking due to concerns about food safety and affordability.

Informal vendors' coping strategies

Through semi-structured interviews, a deep understanding of coping strategies and challenges faced by informal vendors in managing food safety and business operations was revealed. The strategy encompassed crucial areas such as procurement, processing, storage, and selling of products.

Time management, trust-building, resource allocation, relationship maintenance, technology integration, information dissemination, and normalisation emerged as key coping strategies. For instance, wet market vendors emphasised the importance of procuring non-stale food by relying on the early morning hours, typically between 1.00-5.00 am, and placing their trust in wholesalers. And in their efforts to prolong the shelf life of fish, some vendors resorted to unconventional methods, such as adding human oral saline to water, while others fed paracetamol to chickens. On the other hand, cooked food vendors addressed concerns related to dust and darts by employing measures to cover them up. Notably, informal food vendors normalised their challenges despite the absence of glass racks, hand-washing facilities, and refrigerators. Interestingly, none of the cooked food vendors mentioned the availability of running water for consumers' hand washing and dishwashing. These findings shed light on the integral role of managing food safety within informal vendors and consumers' daily routines and interactions.

Policy recommendations
1. Enhance consumer information support

Improving food safety and addressing the needs of low-income and illiterate consumers necessitates establishing a comprehensive

information support system. This includes efforts such as vendor training programs and instructional posters to increase knowledge about food production and processing. It would be useful to establish complaint centres focused on food safety in slum areas. Local community leaders can help develop food safety centres and promote training programs. Visual food labelling with standardised symbols can give customers understandable information and empower them. Allowing customers to inquire about vendors' hygiene methods improves safety even more. In ready-to-food outlets, posters outlining hygienic measures and inspected certifications underline the significance of hygiene and assure customers of strong safety requirements.

2. Consider affordability and home-market distance

Consumers' affordability and home-market distance must be considered when implementing policies to improve access to affordable and safe food in slum areas. One approach is to provide incentives to established supermarkets or facilitate the merging of several shops to form a supermarket near slum areas, ensuring the availability of affordable and safe food options and easy monitoring. Another option is to tie these shops to an urban social safety net scheme, integrating them into existing welfare programs. To address potential misuse issues, limiting the number of subsidised purchases may be beneficial by linking them to consumers' national voter ID cards, thereby reducing the possibility of multiple collections of subsidised items and ensuring the scheme's effectiveness.

3. Educating and equipping vendors

Several solutions are advocated to ameliorate the situation for informal vendors operating in slums from the standpoint of the food system. Mandating food safety training for vendors and workers to maintain proper food handling, storage, and cleanliness requirements is one of them. Food safety literacy among vendors may educate consumers about safe food practices, while low-cost technologies (for food testing procedures) can improve product quality and consumer trust. Creating a certification system

that evaluates food facilities based on compliance with food safety requirements and publicly displaying these certificates allows consumers to make more informed decisions. Finally, investing in infrastructure such as cleaning, storage, and inventory management facilities can help suppliers enhance their storage capacities, hygiene standards, and overall food quality and safety.

4. Accelerate food industry and agriculture practices surveillance

The proposed surveillance accelerations include efforts in the food industry, and agricultural practices are crucial, focusing on food systems and the retail food environment. Implementing robust monitoring and data collection mechanisms can provide valuable insights into potential risks, ensure compliance with food safety standards, and enable timely interventions. This proactive approach will enhance the overall safety of food products, protect public health, and promote consumer confidence. Furthermore, fostering collaborations between relevant stakeholders, such as government agencies, food producers, retailers, and public health institutions, is essential for effective surveillance implementation and knowledge sharing.

Conclusion

Improving food safety in retail contexts for Dhaka's urban poor requires a multifaceted approach involving consumers, food sellers, and regulatory authorities. We can improve food safety processes, boost awareness, and eventually minimise the incidence of foodborne illnesses among this vulnerable population by applying the recommended approaches mentioned above.

Acknowledgement

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Appendix D

Thesis summary

Food safety literature has extensively examined the factors influencing food safety security and health. However, it often fails to address critical social dimensions such as rural-to-urban migration and urban lifestyles in food safety challenges. As urban areas expand in low and middle-income countries (LMICs) and attract migrants from rural regions, the complexity of the food safety landscape increases. Poor migrants settled in urban areas face distinct challenges related to food acquisition and resource access, often relying on informal retail outlets that lack stringent regulatory oversight. To develop effective food safety strategies for burgeoning urban populations, it is imperative to understand these migration and urbanisation-related factors.

Food outlets play a crucial role for urban residents, yet they frequently encounter issues related to substandard food provisions and inconsistent safety standards. Existing food safety research has predominantly concentrated on economic and public health dimensions, with a particular focus on the safety presence of contaminants and nutritional content of food products. This body of work often overlooks the social dynamics and daily practices of consumers and vendors involved in food acquisition and provision. Addressing these social contexts is essential for understanding and mitigating food safety concerns for the urban poor in LMICs such as Bangladesh.

Few studies have explored the intersections of urbanisation and urban lifestyles with food safety concerns, as well as the strategies employed to uphold safety standards in food shopping and vending. This thesis investigates the interplay between rural-to-urban migration, urban lifestyles, and food safety issues, with a focus on the coping mechanisms of consumers and vendors in Dhaka, Bangladesh. Utilising a social practice theory framework, the research examines daily practices related to food procurement and dining out. The study employs a combination of qualitative and quantitative methodologies to provide comprehensive insights into these practices and their implications for food safety within daily life and policy.

Chapter 2 explores the link between rural-to-urban migration and food safety concerns among employed urban poor. Applying a social practice theory, this chapter analyses food shopping behaviours, concerns, and coping strategies among them. It specifically investigates the food shopping strategies of two groups, both recent migrants and established residents, to manage potential risks. The disruption of daily practices due to migration has become evident, with significant differences between the groups in daily shopping practices and coping strategies. While recent migrants encounter

difficulties in adapting to new shopping practices particularly due to low social connection, their food safety concerns align with those of established residents, albeit with less effective coping strategies. The chapter posits that enhancing shopping practices and leveraging social networks could benefit recent migrants despite their resource constraints.

Chapter 3 examines the eating-out practices of the urban poor, with a particular emphasis on food safety. This chapter identifies two primary categories of eating-out behaviour: snacking and consuming full meals. These behaviours are characterized by differences in affordability, place of acquisition, and their roles in addressing hunger and facilitating social interactions. Food safety concerns vary between these categories, with snacking addressing immediate hunger and full meals involving greater food safety considerations. Despite these differences, coping strategies across both categories are similar, reflecting the urban poor's reliance on available resources. The chapter advocates for policymakers to consider the practical realities of these eating-out practices and develop strategies to improve the food retail environment for the urban poor. A proposed conceptual framework offers broader implications for food safety research and policy.

Chapter 4 focuses on food safety management practices among vendors, transitioning from traditional knowledge-attitude-practice models to a social practice perspective. This chapter assesses vendors' daily food safety practices and the social barriers that impact their ability to manage food safety effectively. It highlights vendors' willingness to adhere to food safety standards but identifies gaps in their knowledge and awareness of regulatory requirements. Many vendors employ intrinsic, non-scientific methods for managing food safety and rely on relationships with other vendors and consumers. The chapter calls for enhanced support programs and improved infrastructure to bolster vendors' food safety practices.

Chapter 5 investigates the interaction between consumers' daily food safety practices and food policies in Bangladesh, particularly regarding retail outlets. By analyzing consumer concerns, coping strategies, and policy documents, the chapter reveals both strengths and weaknesses in current policies. Although national policy documents address many consumer concerns, food safety policies for retail outlets still suffer from inadequate budgetary allocation and insufficient local government oversight. Stakeholders, including policy experts, exhibit limited awareness of ongoing services or policies targeting the urban poor. The chapter highlights a gap between policy and practice, suggesting that only a fraction of the urban poor benefit from safe food practices.

In sum, this thesis examines how food safety challenges intersect with urban transformation and socioeconomic inequality, particularly among the urban poor and migrants. It introduces the Intersectional Food Safety Adaptation (IFSA) framework, which confronts existing theories by highlighting how overlapping factors such as socioeconomic status, migration status, and spatial limitations shape food safety practices. The research reveals that urbanisation exacerbates food safety issues through shifts in economic, spatial, and social dimensions, significantly affecting marginalized populations and their local food environments. By viewing food safety as a social phenomenon, the study underscores the importance of incorporating social and spatial factors into food safety management. The IFSA framework emphasises the agency of the urban poor, showing how they adapt to food safety challenges through informal markets and social networks, despite financial and spatial constraints. Social networks provide vital support and information, helping these populations navigate food safety concerns. The study advocates for comprehensive strategies in low- and middle-income countries that address the compounded vulnerabilities of the urban poor, considering migration, socioeconomic status, and urban food environments to improve food safety and security.

Samenvatting van het proefschrift

In de voedselveiligheidsliteratuur is uitgebreid onderzoek gedaan naar de factoren die van invloed zijn op voedselveiligheid, -zekerheid en gezondheid. Er wordt echter vaak geen rekening gehouden met kritieke sociale dimensies, zoals de migratie van het platteland naar de stad en de levensstijl in de steden bij uitdagingen op het gebied van voedselveiligheid. Als in stedelijke gebieden het aantal migranten met een laag- en middeninkomen toeneemt, neemt de complexiteit van het voedselveiligheid probleem toe. Arme migranten die zich in stedelijke gebieden vestigen, worden geconfronteerd met uitdagingen die verband houden met de verwerving van voedsel en de toegang tot hulpbronnen. Vaak zijn ze afhankelijk van informele detailhandelszaken die geen strikte controle van een toezichthouder hebben. Om effectieve voedselveiligheidsstrategieën voor de groeiende stedelijke bevolking te ontwikkelen, is het absoluut noodzakelijk om deze migratie- en verstedelijkingsgerelateerde factoren te begrijpen.

Verkooppunten van levensmiddelen spelen een cruciale rol voor stadsbewoners. De voorzieningen in deze winkels zijn echter ondermaats en voldoen niet aan de normen. Bestaande onderzoeken gaan over economische- en veiligheidsaspecten, met speciale aandacht voor de aanwezigheid van verontreinigde stoffen en de voedingswaarde van producten. Ze gaan echter voorbij aan de sociale dynamiek en de dagelijkse praktijk van consumenten en producenten. Het onderzoeken van deze sociale contexten is essentieel voor het begrijpen van stedelijke armen.

Dit proefschrift onderzoekt daarom de stedelijke levensstijl van armen. Dit proefschrift onderzoekt de wisselwerking tussen migratie van het platteland naar de stad, stedelijke levensstijlen en voedselveiligheidskwesties, met een focus op de omgangmechanismen van consumenten en verkopers in Dhaka, Bangladesh. De vraag wordt gesteld: Wat zijn de handelingsmechanismen van kopers en verkopers in Dhaka, Bangladesh? Gebruikmakend van een theoretisch raamwerk dat focust op sociale praktijken, onderzoekt dit onderzoek de dagelijkse praktijken met betrekking tot voedselinkoop en uit eten gaan. De studie maakt gebruik van een combinatie van kwalitatieve en kwantitatieve methodologieën om uitgebreide inzichten te krijgen in deze praktijken en hun implicaties voor voedselveiligheid in het dagelijks leven en in het beleid..

Hoofdstuk 2 onderzoekt het verband tussen migratie van het platteland naar de stad en de zorgen over de voedselveiligheid. Met behulp van een theorie (ISFA) analyseren we in het hoofdstuk het koopgedrag, de zorgen en de strategieën van de respondenten. Het onderzoekt specifiek de strategieën van twee verschillende groepen: recente migranten en gevestigde bewoners. De

verstoring van de dagelijkse praktijk als gevolg van migratie is duidelijk geworden. Daar zijn verschillen gevonden. Doordat ze minder contacten hebben, ondervinden recente migranten moeilijkheden bij het aanpassen aan de nieuwe winkelpraktijken. Zij hebben minder effectieve handelingsstrategieën. Het hoofdstuk stelt dat het verbeteren van winkelpraktijken en het beter benutten van sociale netwerken ten goede zou kunnen komen aan recente migranten, ondanks hun beperkte middelen.

Hoofdstuk 3 onderzoekt de eetgewoonten van de armen in de steden, met een bijzondere nadruk op veiligheid. Dit hoofdstuk identificeert twee hoofdcategorieën van het eetgedrag: tussendoortjes en volledige maaltijden. Er wordt onderscheid gemaakt op basis van verschillen in betaalbaarheid, plaats van aankoop, hongerreductie en het faciliteren van sociale interacties. De zorgen over veiligheid variëren, waarbij tussendoortjes, die onmiddellijk de honger aanpakken, minder tot zorg leidt dan volledige maaltijden. Echter, ondanks deze verschillen zijn de handelingsstrategieën voor beide categorieën vergelijkbaar. Het hoofdstuk pleit ervoor dat beleidsmakers de praktische realiteit van deze eetpraktijken in overweging nemen en strategieën ontwikkelen om de voedselvoorzieningen voor de armen in de steden te verbeteren. Een voorgesteld conceptueel raamwerk biedt bredere implicaties voor onderzoek en beleid op het gebied van voedselveiligheid.

Hoofdstuk 4 richt zich op het management bij leveranciers, waarbij de theoretische lens verschuift van traditionele kennis-attitude-praktijkmodellen naar een sociaal praktijkgericht perspectief. Dit hoofdstuk beoordeelt de sociale barrières die van invloed zijn op het vermogen van leveranciers om voedsel veilig te verwerken. Het benadrukt de bereidheid van leveranciers om zich aan de veiligheidsnormen te houden, maar identificeert ook hiaten in hun kennis en bewustzijn van de wettelijke vereisten. Veel leveranciers gebruiken intrinsieke, niet-wetenschappelijke methoden om voedsel veilig te verwerken en ze vertrouwen op hun relaties met andere leveranciers en consumenten. Het hoofdstuk roept op programma's te ontwikkelen om de kennis van leveranciers te verbeteren. Ook moet de infrastructuur rondom leveranciers worden aangepast om de voedselveiligheid adequater te ondersteunen.

In hoofdstuk 5 wordt het verschil tussen beleid en praktijk geëvalueerd in Bangladesh, met name wat betreft de detailhandel. Zowel de sterke als de zwakke punten van het huidige beleid komen aan bod. Hoewel nationale beleidsdocumenten tegemoetkomen aan de vele zorgen van consumenten en producenten, heeft de detailhandel nog steeds een tekort aan begroting en is er onvoldoende toezicht van de lokale overheid. Teveel mensen zijn zich niet of nauwelijks bewust van lopende diensten of beleid gericht op stedelijke armen. Het hoofdstuk benadrukt de kloof tussen beleid en praktijk, wat erop wijst dat slechts een fractie van de armen in de steden profiteert van veilige voedselpraktijken.

Samenvattend onderzoekt dit proefschrift hoe uitdagingen op het gebied van voedselveiligheid samengaan met stedelijke transformatie en sociaaleconomische ongelijkheid, met name onder de stedelijke armen en migranten. Het proefschrift introduceert het Intersectional Food Safety Adaptation (IFSA)-raamwerk. Dit raamwerk benadrukt hoe overlappende factoren zoals sociaal-economische status, migratiestatus en ruimtelijke beperkingen, voedselveiligheidspraktijken vormgeven. Uit het onderzoek blijkt dat verstedelijking de problemen verergert, door verschuivingen in de economische, ruimtelijke en sociale dimensies. Hierdoor worden gemarginaliseerde bevolkingsgroepen en hun lokale voedselomgevingen meer negatief beïnvloed dan bij niet gemarginaliseerde groepen. Door voedselveiligheid als een sociaal fenomeen te beschouwen, onderstreept het onderzoek het belang van het integreren van sociale en ruimtelijke factoren in het voedselveiligheidsmanagement. Het IFSA-raamwerk benadrukt de keuzevrijheid van de stedelijke armen en laat zien hoe zij zich aanpassen aan uitdagingen op het gebied van voedselveiligheid via informele markten en sociale netwerken, ondanks financiële en ruimtelijke beperkingen. Sociale netwerken bieden essentiële ondersteuning en informatie en helpen deze bevolkingsgroepen om te gaan met zorgen over de voedselveiligheid. De studie pleit voor alomvattende strategieën in lage en middeninkomsnslanden die de kwetsbaarheden van deze armen aanpakken, rekening houdend met migratie, sociaal-economische status en stedelijke omgeving bij het verbeteren van de voedselveiligheid en voedselzekerheid.

Acknowledgement

Every journey has an end. As I end my PhD journey, I am filled with deep gratitude for the numerous individuals who have supported and guided me along the way. While I have over 1,000 friends on Facebook and many of you have played a role in my life in one way or another; I can not mention everyone individually. Being the first PhD graduate in my extended family, achieving this milestone has been a dream come true. This acknowledgement serves as a heartfelt tribute to all who contributed to making this accomplishment possible.

I express my sincere gratitude to my promoters, Dr. Peter Oosterveer and Dr. Raffaele Vignola, my co-authors and supervisors. Your patient guidance, deep understanding, steadfast support, and necessary setbacks have been essential in helping me overcome research challenges and achieve independence. I truly appreciate how you allowed me to take the lead on my project, and the considerable effort you invested in advancing my academic journey.

During my field visits, I want to acknowledge the support of Ashraf and Ashrafon, the research officers, all the enumerators, and the research participants. I also appreciate the International Food Policy Research Institute (IFPRI), Bangladesh for facilitating my data collection by providing a field office. The International Center for Diarrhoeal Disease Research, Bangladesh (ICDDR, B) for supplying the sampling frame for the household survey. I would also like to thank my BRAC colleagues— Fahmida and Aatya—who were my first teachers in analysing qualitative data. During the COVID-19 lockdown, two online meetings with you guided me in conducting an in-depth analysis of the qualitative data.

My PhD journey was made manageable and productive by the companionship and collaborative spirit of my colleagues at Environmental Policy Group (ENP), including Anke, Anique, Corry, Erna, Emily, Furkan, Helena, Iryna, Jiaqi, Judith, Maira, Mattijs, Max, Moises, Nila, Pamela, Paul, Phatra, Puspi, Quoc, Robin, Sake, Sayel, and Violet. Your technical and administrative guidance, encouragement, and even casual chit-chat were crucial in achieving this milestone. I also extend my sincere thanks to my IFPRI Bangladesh colleagues Akhter, Ricardo, Julie, Nusrat, Nazmul, and Aklima. Your friendship, support, and counsel have enhanced my personal and professional life. Special thanks also go to Christian and Sabrina, colleagues from the University of London, City and ICDDR, B, respectively.

In the Netherlands, I am grateful to friends like Carlos, Dinar, Fariha, Iftakharul, Ishfat, Kabir, Leanne, Mahsina, Masud, Matin (who has passed away), Mujahid, Masbah, IstiuK, Muktader, Nishat, Pradip,

Acknowledgement

Rafiul, Rubayet, Sainur, Sagor, Sami, Shahnawaz, Tanvir, Tesfaye, Yvette, and Wenyuan. Your support and camaraderie have enriched my time here. Although many of you have moved on, your impact remains significant. My heartfelt thanks go to Bangladeshi friends: Jayson, Milon, Rumayan, Shaon, Shamim, and Shohel whose encouragement has been a consistent source of motivation.

I am profoundly thankful to my family in the Netherlands—Akhi, Mumtahina, and Joost. My wife, Akhi, a strong and resilient woman of high standards, deserves more gratitude than words can express. Your unwavering emotional and financial support, especially during periods of financial uncertainty due to the extra time demands of this PhD journey, has been remarkable. Your belief in me has been a driving force. To our daughter, Mumtahina, your innocent smiles and endless curiosity have been a constant source of joy and motivation. I hope that one day you will be proud to have been a part of this journey, even though you might not completely comprehend this achievement right now. Joost, although we first became friends here in Wageningen, you have grown to be like family, and I am happy to have you in my life. The many weekend trips we took together—Akhi, Mumtahina, you, and I—were not only a great way to relieve stress but also an excellent opportunity to understand Dutch culture and practice the language; integrate more fully into Dutch life.

To my family in Bangladesh, I owe the deepest gratitude. My mother, Parul, and my father, Amzad (passed away), whose dream was for me to achieve international success—this accomplishment is a testament to your love and belief in me. *Ma* (Mother), your constant encouragement has been my greatest source of strength. *Abba* (father), although you are no longer with us, your dream to see me as an international success has been a guiding light. My youngest sister, Kaisara (who recently passed away), whose memory has inspired me to persevere, is always in my heart. Kaisara, you always envisioned me as a distinct presence, like butter that floats on the surface, rather than blending in like milk. To the rest of my siblings, Sayeed, Mujahid, and Rima, and all 11 nieces and nephews your steady support and love have been invaluable. I also extend my thanks to my in-laws for their understanding and support during this journey.

In conclusion, to all my teachers, colleagues, family and friends, a few enemies and even those who challenged me along the way, I extend my heartfelt thanks. Your contributions, whether large or small, made this journey not only possible but also meaningful.

Thank you all—named and unnamed—for making this journey possible.

WASS Education Certificate

Md Latiful Haque

Wageningen School of Social Sciences (WASS)

Completed Training and Supervision Plan

Name of the learning activity	Department/Institute	Year	ECTS*
A) Project related competences			
A1 Managing a research project			
WASS Introduction Course	WASS	2018	1
The Essentials of Scientific Writing & Presenting	Wageningen In'to Languages	2018	1.2
Writing the Research Proposal	WASS	2018-2019	3
"Effective Policy Strategies and Instruments for Transforming Food Systems towards Healthier Diets"	Research progress, Food Systems for Healthier Diets, A4NH Annual meeting	2020	1
"Food safety in the food environment: A social practice perspective on informal vendors' strategies"	NL-CGIAR conference on 'Partnering for Global Food Security: Advancing knowledge and innovation for food system transformation'	2022	1
"Does food safety governance in Bangladesh include the urban poor too? A study of food retail environment policies in Bangladesh, 2013-2022"	WASS PhD Day	2024	1
Paper review	Journal of Food Security	2024	1
Project and Time management	WGS	2021	1.5
Institutional Review Board (IRB)- Research Review Committee (RRC) and the Ethical Review Committee (ERC) Application	International Centre for Diarrhoeal Disease Research, Bangladesh	2019	0.4
A2 Integrating research in the corresponding discipline			
Advanced Qualitative Research Design and Data Collection Methods, GEO-56806	WUR	2019	6
Food systems for healthy and sustainable diets	Wageningen Centre for Development Innovation	2019	4
Monitoring, Evaluation and Impact Assessment, HNH 36406	WUR	2019	6
Searching and Organising Literature for PhD candidates	WUR Library	2022	0.6

B) General research related competences

B1 Placing research in a broader scientific context

Academic Publication and Presentation in the Social Sciences	WASS	2019	4
Introduction in R	WASS	2018	1.5
Academic Writing 2: Writing academic documents	Wageningen In'to Languages	2021	1.5
Efficient Writing Strategies	Wageningen In'to Languages	2021	1.5
Reviewing a Scientific Manuscript	WGS	2020	0.1
Structuring your article correctly	Research Academy, Elsevier	2022	0.1
PhD Writing retreat	WASS	2022	1

B2 Placing research in a societal context

Knowledge clips on camera/video training	Environmental Policy (ENP)	2018	0.1
Research visit to City, University of London	Centre for Food Policy, City, University of London	2023	2.0

C) Career related competences/personal development

C1 Employing transferable skills in different domains/careers

Brain-friendly working and writing	WGS	2018	0.3
Writing Grant Proposals	Wageningen in'to Languages	2021	2.0
Interpersonal Communication for PhD candidates	WGS	2018	0.6
Reviewing a Scientific Paper	WGS	2021	0.1
PhD Carousel	WGS	2019	0.3
Workshop 'Supervising BSc and MSc thesis students' for PhD's and Post-docs	ENP, WUR	2023	0.6
Supervising BSc & MSc thesis students	WGS	2022	0.6
Supervision BSc student's	ENP, WUR	2023	1
Total			**45**

*One credit according to ECTS is on average equivalent to 28 hours of study load

About the Author

Md. Latiful Haque, also read as Mohammad Latiful Haque, was born in 1987 in Bogura, a north-western district of Bangladesh. Although the town was small then, it holds great personal significance for him, as his parents are from rural areas within the same district.

In 2005, Latiful moved to Dhaka, the capital of Bangladesh, to pursue higher education after completing 12 years of formal schooling, including eight years of general education and four years of specialising in the humanities. After passing a highly competitive admission exam, he enrolled in the Department of Economics at the University of Dhaka for the 2004–2005 academic session. He earned his BSc and MSc in Economics from the same department.

Latiful is passionate about languages and cultural exchange. After arriving in Dhaka, he began learning French at the Institute of Modern Languages (IML), University of Dhaka and later advanced to a B1 proficiency level over three years at Alliance Française de Dhaka.

Latiful's research interests are rooted in food and environmental policy, agricultural economics, and sustainability. His professional journey began at the Institute of Microfinance (InM) in Dhaka as a project research officer. He then joined BRAC's Research and Evaluation Division (RED) as a research associate in the Agricultural Economics Group, where he developed a strong interest in food policy research, particularly in the economic and social dynamics shaping food systems.

His expertise in large-scale quantitative data analysis deepened when he joined the International Food Policy Research Institute (IFPRI) as a research analyst. During his tenure, he contributed to major policy issues concerning food security, nutrition, and rural development. A defining moment in his career came when he attended the Launch Workshop on Food Systems for Healthier Diets in Dhaka, organised by the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH), IFPRI, and Wageningen University and Research (WUR). This event sparked his interest in the interdisciplinary connections between social aspects of food consumption, provision, and environmental policy.

Motivated by a desire to explore these complex intersections further, Latiful pursued a PhD at Wageningen University & Research (WUR) in the Netherlands in October 2018. His doctoral research integrated the Social Practice Approach into food systems analysis, offering a novel perspective that complemented his economics background. He also developed expertise in mixed methods research, qualitative methodologies, and policy analysis.

Beyond his academic and research endeavours, Latiful is deeply committed to multilingualism, recognising its role in cross-cultural collaboration and global research engagement. In addition to Bengali (his mother tongue), he is fluent in English, Dutch, French, Urdu, and Hindi.

Latiful's academic and professional journey reflects his unwavering commitment to addressing global food system challenges through interdisciplinary research. His work aims to contribute to a more sustainable and equitable future by bridging the gaps between food policy, environmental sustainability, and social transformation.