

Governing Food Safety in Malaysia's Homemade Food Sector: Challenges, Gaps, and Emerging Regulatory Needs

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ABSTRACT Malaysia's homemade food sector has expanded significantly through digital platforms, yet its rapid growth has outpaced the regulatory mechanisms designed to ensure safe food production. A critical governance gap persists, as home-based producers are not covered under existing food premises legislation, resulting in limited oversight, unclear responsibilities, and constrained enforcement within private households. Foodborne incidents linked to informal production further highlight the urgency of addressing these regulatory blind spots. Current Ministry of Health initiatives rely on general guidelines and voluntary certification, but no structured system exists for monitoring compliance, verifying hygiene standards, or tracing online micro-enterprises. This research investigates how homemade food producers understand and practise food safety, how food technologists navigate enforcement challenges, and how digital platforms shape behaviour within the informal food economy. By articulating these structural and behavioural gaps, the study provides foundational insight for designing more inclusive, context-appropriate approaches to governing Malaysia's rapidly expanding home-based food sector.

KEYWORDS *Food Safety Governance; Homemade Food Producers; Informal Food Sector; Digital Platforms and Regulation; Malaysia*

INTRODUCTION

Food safety continues to be a central concern within global public health discourse. Despite the extensive development of regulatory frameworks, technological innovations and improved surveillance systems, foodborne illnesses remain a persistent burden worldwide. The World Health Organization reports that unsafe food is responsible for more than six hundred (600) million illnesses and four hundred and twenty thousand deaths each year, illustrating the far-reaching and preventable nature of contamination across food systems (WHO, 2015). Updated WHO assessments further reveal that unsafe food causes illness in one out of every ten people globally and contributes to thirty-three million Disability-Adjusted Life Years, with children under five carrying nearly one third of all deaths attributed to foodborne diseases (WHO, 2024). These alarming figures underscore the critical importance of effective food safety governance and the need for frameworks capable of responding to evolving risks.

Malaysia faces similar trends as its food ecosystem continues to diversify. The growth of homemade food production, fuelled by digital commerce and socio-economic shifts, has reshaped the national food landscape. Homemade food businesses, once confined to neighbourhood-level exchanges, now operate within expansive digital marketplaces that facilitate rapid scale and accessibility. This growth accelerated during the COVID-19

pandemic, as individuals sought alternative income streams and consumers increasingly turned to online sources for food. While this transformation enabled economic participation, it also exposed the limitations of a regulatory system designed for traditional premises rather than domestic kitchens.

This conceptual paper examines the governance challenges emerging from Malaysia's expanding homemade food sector. It situates the issue within the broader global burden of foodborne disease, analyses Malaysia's regulatory frameworks and the structural gaps they produce and draws on international perspectives from the United Kingdom's food safety culture literature to illuminate behavioural and cultural dimensions relevant to informal food production. Hence, this integrated assessment provides a foundation for understanding the complexities of governing homemade food production.

THE GLOBAL BURDEN OF FOODBORNE DISEASES AND ITS RELEVANCE TO NATIONAL GOVERNANCE

The global burden of foodborne illness offers a crucial context for examining Malaysia's challenges. WHO's global disease burden analysis identifies unsafe food as a major cause of acute and chronic illness, disability and premature mortality worldwide (WHO, 2015). These diseases result from a diverse range of hazards including bacteria such as Salmonella, E. coli and Campylobacter, as well as parasites, mycotoxins, heavy metals and other chemical contaminants. The breadth of these hazards demonstrates that food safety risks are not confined to industrial systems but occur across food environments, including informal and home-based settings where regulatory oversight is limited.

More recent WHO updates indicate expanding analytical sophistication in estimating disease burden. The forthcoming 2025 report incorporates an enlarged hazard list and advanced laboratory technologies including whole genome sequencing to strengthen pathogen attribution and surveillance (Minato, 2024). This refinement offers global policymakers' deeper insight into the origins and transmission of foodborne hazards. Most importantly, these global estimates underscore that, in many countries, a significant proportion of foodborne illnesses arise from settings that fall outside formal regulatory systems. Informal and household-level food production environments are frequently implicated because they lack standardised controls, consistent hygiene practices and access to formal training (Griffith, 2006).

Malaysia's homemade food sector exhibits conditions aligned with these global concerns. Digitalisation enables widespread distribution of food prepared in private homes, yet these kitchens typically lack structural features associated with safe food handling. WHO's findings thus serve as a cautionary context, highlighting that as food systems evolve, governance structures must also adapt to include spaces historically considered outside formal regulatory domains.

THE RISE AND TRANSFORMATION OF MALAYSIA'S HOMEMADE FOOD SECTOR

Malaysia's homemade food sector has undergone rapid transformation over the past decade. Traditionally, individuals preparing food at home for sale did so within localised networks, distributing products through personal relationships or small community events. This landscape shifted dramatically with the advent of social media and commercial food delivery applications,

which reduced barriers for market entry by offering producers immediate access to a nationwide consumer base (Dahari et al., 2019).

The Movement Control Orders implemented during the COVID-19 pandemic further intensified this shift, resulting in unprecedented growth in home-based food entrepreneurship. As formal employment became uncertain, many Malaysians turned to homemade food production to secure income. Small producers utilised digital tools to reach customers, manage orders and coordinate deliveries. This democratization of food commerce contributed to economic resilience and community support.

However, the same technological shifts that facilitated economic empowerment also exposed inherent governance challenges. Homemade producers operate in domestic kitchens not designed for commercial food handling. Scholars have shown that such environments often lack designated preparation areas, proper temperature-control equipment and standard sanitation protocols (Bas et al., 2007). In Malaysia, studies reveal that some home-based producers lack awareness of essential hygiene standards and rely on personal intuition or traditional family practices rather than evidence-based guidelines (Sani and Siow, 2014). This creates conditions where contamination risks may not be fully appreciated or effectively mitigated.

Digitalisation adds complexity by creating a blurred boundary between informal and formal markets. Consumers may infer that products sold through platforms have undergone safety vetting, although platforms in Malaysia are not legally obliged to enforce food safety requirements. This disconnect elevates public health risks by enabling widespread access to food produced without any formal oversight or training.

MALAYSIA'S REGULATORY FRAMEWORK AND THE CHALLENGES OF INFORMAL FOOD GOVERNANCE

Malaysia's primary food safety legislation, consisting of the Food Act 1983 and the Food Hygiene Regulations 2009, provides comprehensive requirements for ensuring safe food production in formal settings. These regulations specify standards for premises design, personnel hygiene, sanitation, equipment use and temperature control, and they enable the Ministry of Health's Food Safety and Quality Division to inspect food premises and enforce compliance.

However, these instruments were not designed to address the realities of domestic food environments. The legislative definitions of food premises and food handlers generally apply to commercial establishments rather than home-based settings. Consequently, homemade food producers fall outside most regulatory provisions unless they voluntarily seek certification or licenses, which many are unable or unwilling to do due to financial or logistical constraints (Razzif and Norzaidi, 2020).

The inability of enforcement officers to access private residences without consent creates an additional structural limitation. As a result, regulators lack direct visibility into food production practices within home kitchens. Without a mechanism for mandatory registration, authorities also lack the data needed to identify producers, disseminate guidelines or provide targeted training. These gaps leave homemade food production largely unmonitored despite its significant presence in the national food economy.

Research underscores that micro-enterprise owners often perceive formal certification systems such as GMP and HACCP as too complex or costly for small household operations (Kim-Soon et al., 2020). Furthermore, informal producers may lack awareness of the existence or relevance of these systems. Their practices tend instead to reflect personal routines rather than systematic approaches to hazard control. Studies in Malaysia have documented improper storage temperatures, inconsistent hand-washing practices and inadequate separation of raw and cooked foods in informal settings (Hamat et al., 2019). These findings indicate that regulatory frameworks centred on formal premises cannot effectively mitigate risks associated with homemade food production.

FOOD SAFETY CULTURE AS AN ANALYTICAL LENS: INSIGHTS FROM THE UNITED KINGDOM

International research, particularly from the United Kingdom, offers valuable conceptual insights into the relationship between culture and food safety. Within a high-risk fish processing environment, compliance with food safety protocols is significantly shaped by organisational culture, leadership behaviour and communication practices (Watson et al., 2022). Even in settings with robust formal controls, safety breakdowns can occur when expectations are not fully internalised by workers or when communication flows are inconsistent.

The literature on food safety culture more broadly identifies shared values, attitudes and norms as critical in shaping food handling behaviours (Griffith et al., 2010). Scholars argue that compliance is influenced not only by knowledge but also by perceptions of risk, peer behaviour, management support and contextual pressures (De Boeck et al., 2015). Understanding food safety through this lens highlights that training alone may not be sufficient unless it is reinforced through consistent messaging and behavioural modelling.

These insights are highly relevant to Malaysia's informal homemade food sector. Homemade producers, unlike workers in formal food premises, operate autonomously and without supervision. Their practices are shaped by personal beliefs, family traditions and informal community norms. Fatimah et al. (2014) observed that food safety attitudes vary widely among Malaysian food handlers and are strongly influenced by workplace culture, highlighting the importance of social and environmental reinforcement.

Although producers working at home may not identify as food handlers in the formal sense, their decisions regarding preparation, storage and hygiene directly influence consumer safety. The absence of institutional structures in domestic settings means that culture plays an even larger role in determining outcomes. Insights from UK research therefore help illuminate how behaviours form and persist in settings where formal oversight is limited, and they suggest that governance strategies must consider cultural and behavioural dimensions alongside regulatory mechanisms.

INTERSECTING GLOBAL, NATIONAL AND CULTURAL REALITIES: IDENTIFYING GOVERNANCE GAPS

The convergence of global epidemiological data, Malaysia's regulatory limitations and international food safety culture research reveals a complex governance landscape. The global burden of foodborne disease demonstrates the significant risks associated with environments where oversight is weak or absent (WHO, 2015). Malaysia's homemade food sector

exemplifies such an environment, where producers operate outside formal regulatory structures and rely on personal discretion.

The cultural and behavioural dynamics identified in the literature show that individuals often underestimate food safety risks or prioritise convenience and tradition over formal guidance (Clayton et al., 2002). When combined with limited access to training, this contributes to inconsistent or unsafe practices in domestic kitchens. In Malaysia, research consistently highlights gaps in awareness, infrastructure and procedural knowledge among small-scale producers (Sani and Siow, 2014; Razzif and Norzaidi, 2020).

Digitalisation further complicates governance. Platform-mediated transactions obscure producer identities and geographical boundaries, reducing the ability of regulators to track and intervene in unsafe practices. WHO's recent updates emphasise that food systems characterised by rapid distribution and digital complexity require advanced and adaptive governance measures to protect public health (Minato, 2024). This insight reinforces the need for Malaysia to reconsider how homemade food production is managed within its broader regulatory architecture.

Together, these intersecting factors reveal that Malaysia faces a governance gap not because of insufficient regulation but because existing frameworks were not designed for informal and decentralised production systems. The homemade food sector therefore represents a critical area for policy attention and scholarly inquiry, especially as digital commerce continues to expand.

CONCLUSION

Malaysia's homemade food sector reflects the changing dynamics of contemporary food production, where digital innovation, economic necessity and cultural tradition intersect. While the sector contributes to economic empowerment and supports diverse forms of entrepreneurship, it also highlights fundamental gaps within Malaysia's food safety governance system. The global burden of foodborne disease underscores the urgency of ensuring that all food production environments, including domestic settings, meet minimum standards to safeguard public health (WHO, 2015; WHO, 2024).

Malaysia's regulatory framework is well established for formal food premises, yet it does not adequately encompass informal home-based producers. Behavioural and cultural insights from Malaysian and international research further demonstrate that reliance on personal discretion, intuitive practices and informal knowledge can contribute to inconsistent or unsafe food handling. The growing role of digital platforms in mediating homemade food commerce adds another dimension, revealing gaps between consumer assumptions about safety and the reality of unregulated production practices.

By integrating global, national and cultural perspectives, this paper provides a comprehensive foundation for understanding the governance challenges associated with Malaysia's homemade food sector which allow future research to examine governance strategies that are contextually grounded, responsive and aligned with the realities of informal food production.

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