

SUSTAINABLE FOOD PRACTICES IN HOTEL OPERATIONS: CHALLENGES AND OPPORTUNITIES FOR GREEN HOSPITALITY

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ABSTRACT

Objective: The purpose of this paper is to examine sustainable food practices in hotel operations across Southeast Asia with particular attention to Malaysia and to explore the challenges and opportunities that influence their successful implementation, aiming to contribute insights into the development of green hospitality.

Research Method: This study adopts a qualitative literature review approach, drawing evidence from peer-reviewed journal articles, international industry reports, and global sustainability guidelines published between 2010 and 2025. A thematic analysis was conducted to identify recurring practices, challenges, and opportunities.

Findings: The review highlights that sustainable food practices in hotels primarily involve local and seasonal sourcing, efficient kitchen operations such as portion control and menu engineering, and systematic food waste management including donation and composting. The main challenges identified are high investment costs, inconsistent supply chains, and limited staff training. On the other hand, opportunities include long-term cost savings, improved brand image, higher guest satisfaction, and stronger community engagement.

Originality: This paper contributes to the existing literature by synthesizing sustainable food practices within a framework of challenges and opportunities, while linking them to the triple bottom line of economic, environmental, and social outcomes. The conceptual perspective presented provides practical implications for hoteliers, policymakers, and educators seeking to align hospitality operations with sustainability goals. This paper not only synthesizes existing knowledge but also offers practical pathways for hotels, policymakers, and educators in Southeast Asia to strengthen sustainable hospitality frameworks.

Keywords: Sustainable food practices, hotel operations, green hospitality, challenges, opportunities

1. INTRODUCTION

The hospitality industry is widely recognized as a sector that generates substantial environmental and social impacts, particularly through food production and service activities. Hotels rely heavily on water, energy, and raw ingredients and at the same time produce large volumes of food waste that contribute to resource depletion and environmental pressure (Jones et al., 2016). With the growing importance of global sustainability agendas, especially the United Nations Sustainable Development Goals, hospitality operators are increasingly encouraged to adopt responsible practices in their routine operations. Goal 12, which emphasizes responsible consumption and production, highlights the need to minimize food waste, improve resource efficiency, and promote sustainable behaviour among both consumers and businesses (United Nations, 2015).

Food sustainability continues to attract global attention because food production and

consumption are directly linked to climate change, biodiversity decline, and inefficient use of natural resources. The Food and Agriculture Organization reports that one third of the food produced globally is wasted each year and the hospitality sector contributes considerably to this figure (FAO, 2019). Within hotel operations, food waste arises at several stages including procurement, storage, preparation, and service. This pattern not only harms the environment but also increases financial losses for businesses. At the same time, travellers are becoming more aware of sustainability issues and increasingly prefer hotel brands that demonstrate clear commitment to environmental responsibility (Han et al., 2020).

To respond to these expectations, many hotels have begun implementing sustainable food practices such as sourcing ingredients from local and seasonal producers, adjusting menu design and portion size to reduce plate waste, and incorporating equipment that conserves energy and water (Filimonau et al., 2021). Community focused initiatives, including food donation and composting programs, are also becoming more common and contribute to social well-being in the surrounding areas. However, studies show that the adoption of such practices remains uneven. High investment costs, limited supplier networks, and inadequate staff training commonly hinder effective implementation, especially among smaller hotels that operate with restricted budgets (Gössling and Hall, 2019).

Despite these challenges, sustainable food practices present significant opportunities for hotels. Research indicates that environmentally responsible initiatives enable long term cost reduction, strengthen brand image, and enhance guest satisfaction, particularly among eco conscious travellers who value transparency and ethical management (Sarmah and Rahman, 2022). In addition, international sustainability certifications help hotels position themselves competitively by demonstrating commitment to responsible operations (UNWTO, 2021).

Although the body of research on sustainable food management has expanded over recent years, many studies remain focused on high income destinations with well-developed regulatory structures. There is still limited understanding of how sustainable food practices are implemented in developing regions such as Southeast Asia, where hotels may experience different constraints and cultural influences. This study therefore seeks to synthesize existing knowledge on the challenges and opportunities involved in practicing sustainable food strategies in hotel operations. The subsequent sections present the literature review, methodology, findings, and final discussion on the implications for green hospitality.

2. LITERATURE REVIEW

2.1 SUSTAINABLE FOOD SOURCING

Sustainable sourcing has increasingly been identified as a crucial foundation of green hospitality initiatives. Many hotels are shifting their purchasing preferences toward ingredients that are local, seasonal, and organically produced to reduce emissions related to long distance transportation while simultaneously strengthening domestic food systems (Gössling and Hall, 2019; Filimonau et al., 2021). Collaborations with local farmers and small-scale suppliers allow hotels to access fresher produce and create more resilient supplier networks. Past research also shows that guests often perceive local sourcing as an indicator of authenticity and responsible management, which enhances their overall experience during a hotel stay (Han, Yu, and Kim, 2020).

Despite these advantages, the successful implementation of local sourcing depends heavily on the reliability of supply. Many developing regions, including those supported by small producers, face challenges such as inconsistent product quality and unstable supply volumes. These issues create operational difficulties and may discourage hotels from adopting sustainable procurement strategies even when environmental awareness is high (Mensah, 2019).

2.2 OPERATIONAL PRACTICES IN KITCHENS

Operational strategies within hotel kitchens also play a vital role in promoting sustainability. Practices such as portion control, menu engineering, and the use of resource efficient technologies are widely recommended in the literature as effective methods for reducing waste and optimizing performance (Jones, Hillier, and Comfort, 2016; Pirani and Arafat, 2016). By redesigning menu items with multiple portion options or flexible serving sizes, hotels can minimize plate waste while maintaining guest satisfaction (Robinot and Giannelloni, 2010).

Technological advancements contribute further to operational sustainability. Equipment such as induction cookers, automated monitoring systems, and energy saving devices help reduce consumption of electricity and water while improving kitchen workflow efficiency (Zhang, Joglekar, and Verma, 2012). However, effective implementation depends on the readiness of staff. Many studies highlight the lack of structured sustainability training and the limited awareness among employees, which restrict the long-term success of operational improvements (Wang and Han, 2018; Hsiao et al., 2014).

2.3 WASTE MANAGEMENT STRATEGIES

Food waste management continues to be one of the most challenging aspects of sustainable hotel operations. The literature indicates that systematic monitoring and data driven evaluation allow managers to identify where waste occurs most frequently, enabling better control of purchasing and preparation routines (Pirani and Arafat, 2016). Waste reduction strategies often include recycling programmes, food donation efforts, and composting arrangements with local organizations or charities (FAO, 2019; UNWTO, 2023).

Although these initiatives are recognized as best international practices, many hotels still face difficulties establishing comprehensive waste management systems. Smaller hotels lack the technological infrastructure and financial support needed to implement such measures effectively. These limitations highlight the gap between awareness of sustainability principles and the ability to apply them in practice (Radwan, Jones, and Minoli, 2012).

2.4 CHALLENGES IN IMPLEMENTATION

Hotels face a combination of structural, financial, and behavioral obstacles when adopting sustainable food practices. High investment costs related to the purchase of energy saving equipment, upgrading waste management facilities, or training staff remain a primary concern for many operators (Zientara and Bohdanowicz, 2010). Limited availability of certified sustainable ingredients and inconsistent supply chains, especially in emerging markets, further complicate implementation (Gössling and Hall, 2019). In addition, resistance to change among management and employees continues to impede progress as traditional practices are deeply rooted in many establishments (Kasim, 2009). Weak regulatory enforcement and the absence of strong government incentives also hinder widespread adoption of sustainability initiatives (UNWTO, 2021).

2.5 OPPORTUNITIES AND COMPETITIVE ADVANTAGES

Even with the presence of challenges, sustainable food practices offer considerable benefits for hotels. Research demonstrates that efforts to conserve resources contribute to long term cost savings through reduced consumption of energy and water, as well as lower waste disposal expenses (Sarmah and Rahman, 2022). At the same time, adopting visible sustainability measures improves a hotel's reputation and increases its appeal to environmentally conscious guests. Eco certifications and environmental labels create additional competitive advantages by signaling a strong commitment to responsible operations (Chan and Hsu, 2023). These practices also strengthen links between hotels and local communities, particularly when hotels source ingredients from local businesses or engage in donation programs that support social well-being (Rahman and Karim, 2024).

2.6 RESEARCH GAP AND CONCEPTUAL IMPLICATIONS

Although the literature provides extensive insights into sustainable food practices, many studies focus primarily on Western and highly developed regions. There remains a shortage of research addressing the application of sustainability frameworks in Southeast Asia, where supply structures, cultural influences, and regulatory consistency differ significantly from high income countries (Rahman and Karim, 2024). This highlights a gap in understanding how economic conditions, community ties, and policy environments shape the ability of hotels to implement sustainability strategies successfully.

Furthermore, existing research often examines sustainable sourcing, operational efficiency, or waste management in isolation. There is limited integration of these elements into a comprehensive model that incorporates the economic, environmental, and social dimensions of the triple bottom line. Scholars suggest that more holistic frameworks are needed to understand how sustainability practices interact and contribute to broader hospitality performance outcomes (Mensah, 2019). The development of such frameworks offers valuable direction for policymakers and practitioners who aim to align hotel operations with international sustainability goals.



Figure 1: Conceptual Framework of Sustainable Food Practices in Hotel Operations

3. METHODOLOGY

3.1 RESEARCH DESIGN

This study adopts a qualitative literature review design to synthesize existing knowledge on sustainable food practices in hotel operations. Instead of conducting primary surveys or interviews, the research relies on secondary data drawn from peer-reviewed journal articles, industry reports, and international guidelines. This design is considered appropriate because it allows the researcher to gather a broad perspective on global best practices, challenges, and opportunities in the hospitality sector while identifying gaps for future empirical investigation (Jones, Hillier, & Comfort, 2016; Filimonau, Derqui, & Matute, 2021; Mensah, 2019).

3.2 DATA SOURCES

Relevant data were collected from a range of sources, including:

- **Academic journals** indexed in Scopus, Web of Science, and Google Scholar focusing on hospitality, tourism, and sustainability.

- **Industry reports** and guidelines published by the United Nations World Tourism Organization (UNWTO), the Food and Agriculture Organization (FAO), and the World Travel and Tourism Council (WTTC).
- **Grey literature** such as government policies, NGO reports, and hotel case studies related to food sustainability and green hospitality.

3.3 SEARCH STRATEGY

A systematic search was conducted using keywords such as “*sustainable food practices in hotels*”, “*green hospitality*”, “*food waste management in hospitality*”, “*eco-friendly hotel operations*”, and “*sustainable sourcing in hotels*”. Boolean operators and truncations were used to refine the search (e.g., “hotel* AND sustainable food” or “hospitality AND waste management”). The search was limited to publications between 2010 and 2025 to ensure contemporary relevance.

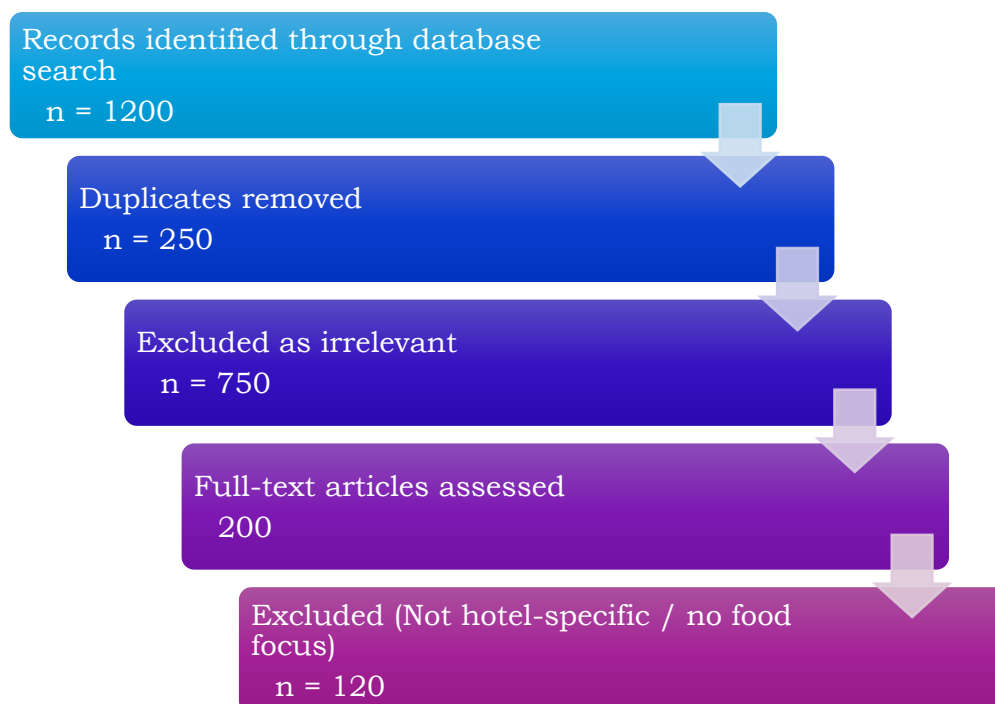


Figure 2: Systematic literature review process for sustainable food practices in hotel operations.

Figure 2 illustrates the systematic process of literature selection. Initially, a total of 1,200 records were identified from academic databases, industry reports, and grey literature. After removing duplicates, 950 records were screened based on relevance to sustainable food practices in hotel operations. Following title and abstract screening, 200 articles were assessed for eligibility through full-text review. Finally, 80 studies were included in the synthesis and thematic analysis. This process ensured transparency and rigor in the review, consistent with established guidelines for systematic literature reviews.

3.4 INCLUSION AND EXCLUSION CRITERIA

- **Inclusion:** Studies focusing on food sustainability in hotels, case studies of sustainable hospitality, reports linking food practices to sustainability outcomes, and literature addressing both challenges and opportunities.
- **Exclusion:** Studies limited to general tourism sustainability without specific reference to food practices, articles outside the hospitality sector, and publications without accessible full text.

3.5 DATA ANALYSIS

The collected literature was subjected to thematic analysis, where recurring concepts were identified, coded, and grouped into key themes. The analysis focused on three dimensions which are types of sustainable food practices (sourcing, operations, waste management), challenges to implementation (financial, operational, structural) and opportunities and outcomes (economic, environmental, and social benefits).

The themes were then synthesized into a conceptual framework that illustrates the interaction between challenges, opportunities, and sustainable food practices in contributing to green hospitality outcomes.

3.6 VALIDITY AND RELIABILITY

To ensure validity, the literature review process included cross-verification of multiple sources and prioritization of peer-reviewed and credible reports. Reliability was enhanced by documenting the search strategy and selection criteria, ensuring transparency and replicability of the review process.

4. FINDINGS AND DISCUSSION

4.1 SUSTAINABLE FOOD SOURCING

The literature reveals that sustainable sourcing is among the most prominent practices in hotel food operations. Hotels that procure ingredients from local and seasonal suppliers reduce their dependence on imported goods, thereby lowering transportation emissions and contributing to local economies. For example, partnerships with nearby farms not only ensure freshness but also foster community development. However, inconsistencies in supply, fluctuating prices, and the absence of certification frameworks in certain regions pose significant obstacles. These findings suggest that while sourcing locally is a critical element of green hospitality, it requires strong supplier networks and policy support to be fully effective.

For instance, hotels in Langkawi such as Resort World Langkawi and The Datai have introduced initiatives to source seafood directly from local fishermen and organic vegetables from nearby farms (The Datai Langkawi, 2023; Resorts World Langkawi, 2022). These programs not only reduce carbon emissions but also strengthen ties with surrounding communities by providing consistent income to small producers. Similarly, in Singapore, Marina Bay Sands has implemented the “Harvest-to-Table” program in partnership with urban farms, ensuring year-round supply of fresh herbs and vegetables (Marina Bay Sands, 2023). In Thailand, boutique resorts in Phuket and Chiang Mai collaborate with local farmers’ cooperatives to secure seasonal produce while promoting agrotourism (Tourism Authority of Thailand, 2023). These cases demonstrate that while large-scale international chains often have more resources to formalize sustainability, smaller and regionally embedded hotels can leverage local partnerships to achieve equally impactful outcomes.

Table 1: Summary of Challenges and Opportunities in Sustainable Food Practices

Dimension	Challenges Identified	Opportunities Highlighted
Sourcing	Limited availability of certified sustainable products; inconsistent supply from local farms; higher procurement costs.	Strengthening local supply chains; promoting authenticity and freshness; supporting local farmers and economies.
Operations	High cost of adopting energy- and water-efficient equipment; lack of staff training; resistance to menu changes.	Improved kitchen efficiency; reduction in long-term operational costs; enhanced guest satisfaction through menu flexibility.
Waste	Limited infrastructure for	Reduction of landfill waste;

Management	composting and recycling; lack of monitoring systems; financial constraints for SMEs.	partnerships with NGOs for food donation; improved environmental reputation.
Organizational Culture	Staff resistance to change; insufficient awareness of sustainability policies; lack of managerial commitment.	Building a green organizational culture; opportunities for training and staff empowerment; stronger internal sustainability values.
Policy and Regulation	Weak enforcement of sustainability policies; absence of clear incentives; fragmented certification schemes.	Opportunity for eco-label certifications; alignment with global standards; differentiation in competitive markets.

4.2 OPERATIONAL PRACTICES AND KITCHEN EFFICIENCY

Operational practices such as portion control, menu engineering, and the use of energy-efficient equipment are widely reported as strategies to embed sustainability in hotel kitchens. Several studies highlight that redesigning menu to incorporate flexible serving sizes can significantly reduce plate waste without negatively affecting guest satisfaction. Furthermore, investing in advanced technologies such as induction cooking and automated monitoring systems enhances efficiency while reducing energy and water consumption. Nonetheless, limited awareness among staff and the absence of structured training programs often undermines these efforts. This indicates that sustainable practices in kitchens must be coupled with continuous training and a supportive organizational culture.

4.3 WASTE MANAGEMENT INNOVATIONS

Food waste management remains a critical issue in hotel operations. Literature emphasizes the role of systematic waste monitoring and tracking as the foundation for identifying inefficiencies. Hotels that adopt composting, recycling, or donation programs are able to divert large volumes of waste from landfills while strengthening ties with local communities. For instance, collaborations with charities for food redistribution not only reduce waste but also contribute to social well-being. Yet, many hotels, especially small and medium enterprises—lack the financial resources and infrastructure to implement such initiatives. This demonstrates a gap between the recognition of waste management as a sustainability priority and the practical capacity to act upon it.

4.4 CHALLENGES IN PRACTICE

Across the literature, recurring challenges are identified that hinder the adoption of sustainable food practices. High capital investment remains the most cited barrier, particularly for small hotels with limited budgets. Inconsistent supply chains and inadequate policy incentives further constrain the adoption of sustainable sourcing. Another key challenge lies in staff behaviour, where insufficient training and resistance to change impede effective implementation. These findings underline that sustainability in hotels is not simply a technical adjustment but requires systemic change involving financial, structural, and cultural dimensions.

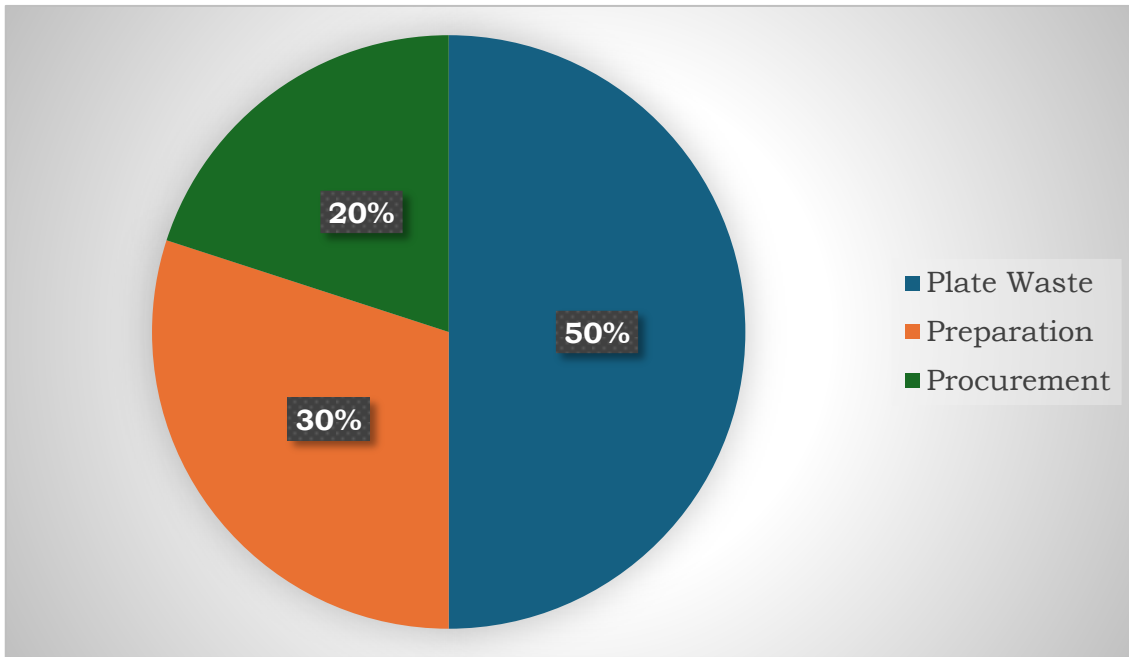


Figure 3: Proportion of food waste sources in hotels based on literature

4.5 OPPORTUNITIES FOR GREEN HOSPITALITY

Despite these challenges, opportunities for hotels adopting sustainable food practices are significant. Studies demonstrate that green practices enhance long-term cost savings by reducing energy and waste disposal expenses. Guest satisfaction is also shown to increase, particularly among environmentally conscious travellers who value eco-labels and certifications as indicators of responsible management. Additionally, engagement with local suppliers and community-based programs strengthens the social dimension of hospitality, aligning hotel operations with broader corporate social responsibility agendas. These findings highlight that sustainability is not only an ethical obligation but also a strategic tool for competitiveness in the hospitality sector.

4.6 INTEGRATING THE TRIPLE BOTTOM LINE

The discussion of sustainable food practices in hotels aligns closely with the principles of the triple bottom line. Economically, hotels benefit from cost reductions and improved competitiveness. Environmentally, practices such as sourcing locally and reducing waste contribute to lowering the carbon footprint. Socially, hotels foster stronger community relationships and enhance staff and guest awareness of sustainability. However, the literature reveals that these outcomes are unevenly realized, with larger international chains often demonstrating greater success than smaller, locally owned establishments. This underscores the importance of creating frameworks that make sustainability accessible and practical across all levels of the hotel industry.

Table 2: Sustainable Food Practices and Associated Outcomes (Triple Bottom Line)

Practice	Economic Outcome	Environmental Outcome	Social Outcome
Local and seasonal sourcing	Reduced dependency on imports; support for local suppliers.	Lower carbon emissions from transport.	Strengthened community linkages and authenticity.
Menu engineering & portion control	Reduced food purchasing costs; minimized	Decreased food waste at plate level.	Increased guest satisfaction through choice.

	overproduction.		
Energy-efficient kitchen equipment	Lower utility costs over time.	Reduced energy and water consumption.	Improved working environment for staff.
Food waste tracking & monitoring	Cost savings from accurate purchasing.	Identification of waste hotspots; reduction in landfill waste.	Awareness and behavioral change among employees.
Food donation & composting	Lower waste disposal costs.	Diversion of food from landfill to reuse.	Contribution to community well-being and social responsibility.

4.7 LINKING TO BROADER FRAMEWORKS

The findings of this study align closely with several global sustainability frameworks. Most notably, sustainable food practices in hotel operations are directly connected to the United Nations Sustainable Development Goals (SDGs). SDG 12, which emphasizes Responsible Consumption and Production, is reflected in initiatives such as local and seasonal sourcing, portion control, and systematic waste management. These practices contribute to reducing overconsumption and food loss while encouraging more efficient use of resources. Similarly, SDG 13 on Climate Action is supported when hotels reduce their carbon footprint by minimizing food transport distances, adopting energy-efficient equipment, and diverting waste away from landfills. By embedding sustainable food practices, hotels are not only meeting consumer expectations but also participating in a broader international agenda to combat climate change and resource depletion.

The outcomes of these practices can also be interpreted through the lens of the Triple Bottom Line (TBL) framework. Economically, sustainable practices lead to long-term cost savings and improved competitiveness in a market where eco-certification is increasingly valued. Environmentally, they reduce waste, lower emissions, and conserve water and energy resources. Socially, they foster stronger community engagement, create opportunities for local suppliers, and build awareness among staff and guests. This multidimensional impact demonstrates that sustainable food practices are not merely operational strategies but are also critical for holistic green hospitality development.

In the Malaysian context, the principle of Halalan Toyyiban offers an additional layer of significance. Beyond compliance with halal dietary requirements, the concept emphasizes wholesomeness, safety, and ethical sourcing. Integrating Halalan Toyyiban within hotel food operations ensures that sustainability practices resonate with cultural and religious values, thus broadening their acceptance among local communities and Muslim travelers. This approach enhances the credibility of sustainability initiatives while strengthening Malaysia’s position as a global leader in halal and green hospitality.

4.8 CRITICAL REFLECTION

While the literature highlights the increasing adoption of sustainable food practices in hotels, a closer examination reveals disparities between large international hotel chains and smaller, locally owned establishments. Larger chains often have financial capacity, managerial expertise, and access to global supply networks that enable them to implement eco-certifications, adopt energy-efficient technologies, and run comprehensive waste management programs. In contrast, smaller hotels frequently remain constrained by high costs, inconsistent supply chains, and weak policy support, which limits their ability to achieve similar standards.

This imbalance suggests that sustainability in hospitality is, to some extent, a privilege of resource-rich organizations. It raises the concern that the pursuit of green hospitality

may inadvertently widen the gap between international brands and local operators. Without targeted interventions, smaller hotels risk being left behind in global sustainability agendas, which could undermine both competitiveness and inclusivity in the sector.

Another critical point is that much of the literature tends to present sustainability initiatives as universally applicable, without sufficiently considering cultural, economic, and regional variations. For example, while composting and food donation programs are widely promoted, their feasibility differs across contexts depending on infrastructure and regulatory frameworks. This indicates the need for more context-sensitive approaches to sustainability that align with local realities rather than a one-size-fits-all model.

Overall, the findings suggest that advancing sustainable food practices requires more than operational adjustments at the hotel level. It demands systemic change supported by inclusive policy design, capacity-building programs, and collaborative partnerships between government, industry, and communities. Without such efforts, the long-term vision of green hospitality risks remaining aspirational rather than achievable across all levels of the hotel industry.

4.9 RESEARCH GAP HIGHLIGHT

Although the body of literature on sustainable food practices in hotels has grown steadily over the past decade, most existing studies are concentrated in Western and high-income contexts. These regions generally benefit from stronger regulatory frameworks, well-established supply chains, and higher consumer awareness of sustainability issues. As a result, much of the evidence emphasizes strategies that are feasible in resource-rich environments but may not fully reflect the realities of emerging tourism destinations.

This concentration leaves a significant gap in the context of Southeast Asia, where cultural food practices, regulatory enforcement, and infrastructural support differ considerably. For instance, local cuisines in Southeast Asia often rely on diverse small-scale producers, yet there is limited research on how these supply chains can be integrated into hotel sustainability initiatives. Similarly, policy enforcement in many developing countries is inconsistent, which raises questions about how hotels navigate weak institutional support while striving to meet global sustainability standards.

The gap also extends to the integration of cultural and religious frameworks such as *Halalan Toyyiban*, which could play a pivotal role in shaping sustainable hospitality practices in Malaysia and other Muslim-majority countries. Very few studies address how such indigenous concepts intersect with global sustainability models, leaving space for more localized frameworks that are both culturally relevant and globally competitive.

By identifying these gaps, this paper not only synthesizes current knowledge but also highlights areas for future empirical research. Addressing these gaps will be essential for building more inclusive, context-sensitive, and effective sustainability strategies in hotel food operations.

4.10 PRACTICAL IMPLICATIONS

The synthesis of sustainable food practices in hotel operations provides several practical implications for different stakeholders in the hospitality ecosystem.

For hotel operators, the findings highlight the importance of adopting incremental and cost-effective measures as entry points to sustainability. Quick wins such as portion control, menu engineering, and staff awareness campaigns require minimal investment yet can significantly reduce plate waste and operational inefficiencies. Over time, these practices can be scaled to include larger initiatives such as energy-efficient kitchen equipment and comprehensive waste tracking systems.

For policymakers and regulatory bodies, the study emphasizes the need to design inclusive frameworks that support both large hotel chains and smaller, locally owned establishments. Incentives such as tax reductions for green certifications, grants for waste management technology, or partnerships with local farmers can reduce barriers to adoption. Clearer policies and consistent enforcement are also necessary to bridge the gap

between sustainability goals and operational realities.

For communities and suppliers, sustainable food practices open opportunities for stronger collaboration with the hotel sector. By sourcing from local farmers, fishermen, and small enterprises, hotels can strengthen community economies while offering guests authentic culinary experiences. This partnership also fosters mutual responsibility in preserving local ecosystems and cultural food heritage.

For educators and training institutions, the findings suggest the need to embed sustainability modules into hospitality and culinary curricula. Equipping future professionals with knowledge of sustainable sourcing, waste reduction, and eco-certification ensures that the next generation of hotel managers and chefs are prepared to champion green hospitality practices. In addition, specific frameworks such as the Halalan Toyyiban concept can be integrated into training modules to contextualize sustainability within local cultural and religious values. Embedding practical activities such as zero-waste cooking demonstrations, farm-to-table projects, and student-led sustainability audits further strengthens applied learning. This approach not only enhances graduate readiness but also positions academic institutions as leaders in shaping a sustainability-oriented hospitality workforce. Together, these implications reinforce that sustainability is not an isolated hotel initiative but a multi-stakeholder effort that requires alignment between industry, government, community, and education.

5. CONCLUSION

This paper has explored sustainable food practices in hotel operations by synthesizing literature on their implementation, challenges, and opportunities. The findings reveal that practices such as local and seasonal sourcing, efficient kitchen operations, and systematic waste management are increasingly recognized as essential strategies in moving towards green hospitality. These initiatives contribute not only to environmental preservation but also to long-term economic benefits and stronger community engagement.

At the same time, the review highlights persistent challenges that hinder the widespread adoption of such practices. High capital investment, weak supply chains, inadequate staff training, and inconsistent regulatory enforcement remain critical barriers, particularly for small and medium-sized hotels. Larger international chains are often better positioned to implement sustainability initiatives, creating a gap between resource-rich organizations and local operators.

Despite these obstacles, the opportunities for hotels that embrace sustainable food practices are considerable. Beyond reducing costs and improving efficiency, green initiatives enhance brand reputation, increase guest satisfaction, and align hotel operations with global sustainability agendas such as the United Nations Sustainable Development Goals. By embedding these practices, hotels can position themselves not only as service providers but also as active contributors to climate action and community well-being.

In summary, sustainable food practices are no longer optional but a strategic necessity in the hospitality industry. Their successful adoption requires a systemic approach that integrates economic, environmental, and social considerations within a supportive policy and cultural context.

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