KOMSOSPOL: Jurnal Komunikasi Sosial dan Politik
ILMU KOMUNIKASI UNIVERSITAS MUHAMMADIYAH KOTABUMI (UMKO)
Komsospol.2026;VOL 6 NO. 1 : Pages 41-62
website : https://jurnal.umko.ac.id/index.php/komsospol/index
DOI: https://doi.org/10.47637/komsospol.v6i1.2374

Communication and Economic Drivers of Growth for Food-Processing SMEs in Cambodia: A Literature Synthesis and Integrated Model

Sam Ean Lay[1]*, Mardy Serey[2], and Sophat Phon[3]
[1]National Bank of Cambodia, Phnom Penh, Cambodia
[2]Svay Rieng University, Svay Rieng, Cambodia
[3]Institute for Banking Studies, Phnom Penh, Cambodia
*Corresponding author: samean.lay@nbc.gov.kh

Abstract

Cambodia's food-processing SMEs occupy a position of considerable strategic consequence within the country's industrial trajectory, yet they remain surprisingly undertheorized in the scholarly literature. The structural imbalance is difficult to overlook: domestic processors transform less than a tenth of total agricultural output, while processed commodities contribute only around 8% of national export earnings a discrepancy that points to systemic institutional and infrastructural deficiencies rather than mere productive limitations. This chapter assembles a cross-disciplinary body of scholarship drawing from SME growth theory, agrifood value-chain upgrading, dynamic capabilities, transaction-cost economics, financial constraint theory, food-safety governance, and sustainable transformation to develop a theoretically grounded account of growth determinants in this sector. The developed framework operates as an analytical diagnostic and policy instrument and is deliberately placed upstream of formal econometric modelling. There is no single driver of growth in this area but the interconnected interplay of firm capabilities, coordination structures, infrastructure, regulatory incentives, and climate-adaptive sourcing. The five-tier upgrading typology gives the argument its punch, pin-pointing the main bottlenecks at each growth stage for the firm. The chapter ends with a simple point: meaningful industrialization will never come from scattered, one-off policy fixes instead, governments and institutions will need to construct a connected, well-functioning support system that addresses structural barriers together not one at a time.
.

Status Artikel:
Diterima: 05-03-2026
Direvisi: 23-03-2026
Diterima: 10-04-2026

Keywords:
SME Food-processing, agrifood transformation, SME growth, value-chain upgrading, food safety.

1. Introduction

Cambodia's capacity to convert agricultural endowment into sustained industrial value remains an open and consequential question. Decades of GDP expansion, deepening trade integration, and declining subsistence dependence have not resolved a persistent structural anomaly: domestic producers continue to export minimally processed commodities while the same markets absorb imported higher-value food products at growing rates.

Three interlocking failures sustain this contradiction. Deficient quality signaling erodes buyer confidence in domestically processed goods. Each firm invests rationally on its own, yet when these decisions are made separately across certification, cold-chain infrastructure, and processing capacity the combined result falls short. Meanwhile, businesses that are otherwise commercially viable struggle to grow because they cannot reliably access long-term capital, testing services, or specialized logistics.

Piecemeal remedies are insufficient and credit extended without a certification infrastructure yields negligible returns. Skills development divorced from energy reliability or input affordability produces marginal gains. Export facilitation collapses where volume consistency and traceability remain unguaranteed. Productivity gains in this sector are path-dependent and systemic they emerge only when binding constraints are addressed in deliberate, sequenced coordination rather than in isolation.

Four analytical priorities follow. The challenge must be reframed as a value-chain upgrading problem rather than a sectoral support issue. Firm-level capabilities and institutional ecosystems require parallel, not sequential, development and food-safety compliance warrants reconceptualization as a market-access asset.

2. Cambodia's Agrifood Transition and the Value-Addition Gap

Cambodia's agrifood economy has reached a crossroads. The post-conflict recovery that anchored agricultural growth for much of the 2000s is running out of road. Between 2004 and 2012, the sector expanded at a respectable 5.3% annually driven largely by bringing more land under cultivation. When that land frontier closed, growth slipped to barely 1–2% by 2013–2014 (World Bank, 2015). No comparable engine has emerged to replace it.

The numbers alone convey the weight of what is at stake. Specifically, the agriculture sector contribues approximately 22% of national GDP, employs nearly two in five Cambodian workers and supports the livelihoods of three-quarters of the rural population (ADB, 2021). At that scale, a sector stuck in low-productivity, low-value output is not a niche problem it constrains the entire economy. The losses compound quietly: packaging lines never installed, cold-storage networks never built, quality assurance systems never institutionalized.

Food-processing SMEs sit at the center of this unresolved transition. A fish-processing cooperative or a mango-drying enterprise does more than lift commodity prices it stabilizes demand for smallholder farmers, diversifies rural incomes, and reduces household vulnerability to seasonal shocks (Reardon et al., 2009). The developmental case is clear. The commercial reality is considerably harder.

Consumer markets are not waiting. Urbanization, rising incomes, and expanding modern retail are pushing Cambodian households toward packaged, branded, traceable food products raising the competitive bar precisely when domestic processing capacity remains shallow (Reardon & Timmer, 2012). Where local firms cannot match imports on quality, consistency, or

presentation, the country risks locking itself into an unfavorable trade pattern: shipping out raw agricultural goods while paying premium prices for the processed products it could, in principle, manufacture at home.

Certain product categories offer a more promising entry point. Kampot pepper, premium jasmine rice, cashew, palm sugar, and dried tropical fruits carry genuine territorial distinctiveness origins that, when properly governed and certified, support defensible premium positioning in regional and international markets (Porter, 1985). But capturing that value is not spontaneous. It requires what Hausmann and Rodrik (2003) describe as economic self-discovery iterative commercial experimentation, calibrated institutional support, and the institutional maturity to treat early failures as useful information rather than grounds for withdrawal.

The diagnostic question for policymakers, then, is not how to encourage firms to grow, but which specific combination of market failures and institutional gaps makes growth unprofitable in the first place (North, 1990). That reframing changes everything about how interventions should be designed.

3. Conceptual Foundations: A Multi-Level Framework for SME Growth

Understanding why performance gaps persist among Cambodia's food-processing SMEs calls for something more rigorous than a checklist of constraints and what is needed is an analytical framework that traces the connections between firm behavior, market structures, and the institutional environment in which both are embedded. Particularly, Barney's (1991) resource-based view offers a productive entry point. Competitive advantage, he argues, rests not on what a firm owns but on what rivals cannot easily replicate a refined fermentation method, a supplier relationship built over years of mutual dependence, a brand that carries genuine credibility in its market. These assets take time to develop and cannot be purchased off the shelf. In Cambodia, they remain conspicuously absent at any meaningful scale. Most food-processing enterprises operate informally, at micro-scale, without the organizational routines that distinguish commercially durable firms from chronically fragile ones. Penrose (1959) captured the underlying logic well: growth is not a function of asset acquisition but of the managerial capacity to deploy those assets with increasing deliberateness and productivity.

Teece et al. (1997) push the argument into more demanding territory. The question is not merely what resources a firm holds, but whether it can reorganize them when the environment shifts. For Cambodian processors, that question has immediate practical weight. Input costs swing with harvest cycles. Climate shocks hit supply chains without warning. Regional competitors from Thailand, Vietnam, and China grow more sophisticated each year. A firm's existing resource base provides a starting point it does not guarantee survival. What separates firms that adapt from those that stagnate is the capacity to read emerging conditions and reconfigure operations before the opportunity closes.

Gereffi et al. (2005) introduce the relational dimension that firm-level theories tend to underplay. Lead buyers supermarkets, export intermediaries, hotel procurement offices do not merely transact. They impose layered requirements covering certification, traceability, packaging consistency, and volume reliability. These conditions simultaneously raise entry barriers and, where compliance support is available, open pathways for capability development. The important caveat is that compliance alone does not produce upgrading. Suppliers locked into captive buyer relationships absorb the costs of meeting standards without accessing the returns that genuine product innovation could generate. Standards function as learning mechanisms only when trading

relationships include deliberate technical support and reasonable tenure security (Henson & Humphrey, 2010; Pietrobelli & Rabellotti, 2011).

Freeman (1987), Lundvall (1992), and Nelson and Winter (1982) redirect attention toward knowledge rather than capital. Innovation, they argue, is systemic it depends on the quality of networks and institutions through which knowledge moves. In Cambodia, even basic processing techniques diffuse slowly, reflecting not technological complexity but institutional scarcity: extension services stretched thin, laboratory infrastructure clustered in urban centers, and industry associations too organizationally shallow to serve as genuine knowledge brokers.

Cohen and Levinthal (1990) add the internal dimension. Firms absorb external knowledge productively only when they already possess the internal competencies to recognize what is relevant and translate it into practice. Expanding knowledge supply without strengthening the human capital base within SMEs achieves little. Both must move together. Therefore, the policy implication is uncomfortable in its simplicity: no single intervention unlocks growth. Progress requires firm capabilities, value-chain governance, and knowledge institutions to advance in coordinated, mutually reinforcing steps.

Table 1

Theoretical Framework Applied to Cambodian Food-Processing SME Growth, Organized by Level of Analysis

Theory	Core Idea	Cambodian Application	Policy Implication
Resource-based view (micro)	Firms achieve superior performance through resources that are valuable, rare, inimitable, and organizationally embedded (Barney, 1991).	Managerial routines, proprietary recipes, quality systems, supplier relationships, and brand reputation differentiate firm performance.	Enterprise support must build firm-level capabilities, not merely disburse financial subsidies.
Dynamic capabilities (micro)	Firms must adapt and reorganize their capabilities as markets and technologies change (Teece et al., 1997).	MEs face volatile input prices, tightening food-safety standards, shifting consumer preferences, and growing import competition.	Sustained growth requires adaptive organizational learning, not only fixed-asset accumulation.
Global value-chain theory (meso)	Market access depends on the standards that lead firms set and enforce (Gereffi et al., 2005).	Supermarkets, exporters, and hospitality buyers impose quality, volume, certification, and traceability requirements.	Upgrading depends on meeting buyer standards while avoiding captive, low-margin dependency.
Transaction-cost economics (meso)	Uncertainty, asset specificity, and opportunism shape how firms organize (Williamson, 1985).	Fragmented smallholder supply, inconsistent input quality, and weak contracts inflate procurement and coordination costs.	Supplier coordination, formalized contracts, and producer associations can materially reduce transaction costs.

Theory	Core Idea	Cambodian Application	Policy Implication
Financial constraint theory (macro-institutional)	Credit rationing and collateral requirements consistently block SME investment across developing economies (Beck & Demirgüç-Kunt, 2006).	Machinery, cold storage, certification, and packaging upgrades all require patient, longer-term capital.	Finance instruments must match SME investment horizons and collateral realities.
Innovation systems (macro-institutional)	Knowledge spreads through networks linking firms, agencies, trainers, and technology suppliers (Lundvall, 1992).	Technical services, testing laboratories, vocational institutions, and equipment suppliers shape the pace of agrifood innovation.	Policy should strengthen the ecosystem of applied knowledge production and technology dissemination.

4. Food-Processing SME Landscape in Cambodia

Defining the Cambodian food-processing sector is itself an analytical decision with material consequences. The landscape spans an unusually wide organisational range household-level processors operating within subsistence logics, cooperatives and village enterprises with modest market reach, and formally constituted firms supplying supermarket chains, hospitality groups, and institutional buyers. This breadth creates genuine measurement problems that empirical inquiry must confront rather than bracket. Food processing occurs across registered factories, family workshops, women-led micro-enterprises, and digitally oriented start-ups simultaneously; the boundary drawn around the sector determines both its apparent scale and its defining policy challenge. Cambodia's government distributes subsidized credit, training, and regulatory relief based on official SME classification not according to the genuine needs of the firms they serve (KhmerSME, 2024).

Knowledge access presents a parallel constraint. Freeman (1987) and Lundvall (1992) established that innovation is systemic shaped by the institutions and networks through which applicable knowledge circulates rather than by firm-level effort alone. The techniques most consequential for Cambodian processors are not exotic: improved drying, hygienic facility design, shelf-life extension, energy-efficient milling. Their limited diffusion reflects institutional thinness under-resourced extension services, geographically concentrated testing laboratories, industry associations lacking organisational depth. Yet supply-side reform alone is insufficient. Cohen and Levinthal (1990) established that external knowledge generates returns only when firms possess the internal skills to recognise and apply it. Capability-building and knowledge diffusion are complements, not substitutes.

Informality is not a transitional phase but a persistent structural feature of Cambodia's food-processing landscape. Informal enterprises derive real advantages from it operational flexibility, reduced compliance exposure, family labour, and intimate knowledge of local markets. Yet the same status that insulates firms from regulatory cost also bars them from formal credit, commercial contracting, third-party certification, and the distribution channels that supermarkets and exporters require. Firms remain informal because the calculus is rational: where registration delivers neither improved finance access nor meaningful market eligibility, the costs of

formalisation simply outweigh its returns. Policy that treats formalisation as an obligation rather than an incentive will not move that calculus.

Gender is equally structural. Food processing in Cambodia involves substantial female labour and entrepreneurship, yet aggregate SME indicators rarely disaggregate by sex, rendering this dimension analytically invisible. Women-led enterprises face compounding disadvantages constrained collateral ownership, thinner professional networks, uneven digital access, restricted mobility, and the time demands of unpaid caregiving that operate simultaneously across finance, training, technology, and market access. Treating gender as contextual texture rather than a variable with explanatory weight is not merely an oversight; it forfeits the productivity gains that more inclusive enterprise development would generate, while quietly reproducing the inequalities a growth strategy ostensibly aims to reduce.

Geographic dispersion introduces a further policy dimension. Firms near agricultural production zones reduce input procurement costs while facing weaker access to skilled labor, packaging suppliers, testing services, and urban markets. Those near Phnom Penh or secondary urban centers benefit from market proximity and business services but face higher factor costs and greater distance from agricultural supply. This spatial heterogeneity argues against place-blind policy instruments in favor of spatially coordinated interventionsrural processing zones, logistics corridors, cold-chain nodes, and cluster-based business servicesthat connect processors to both agricultural inputs and consumer markets simultaneously. Thai, Vietnamese, and Chinese processed food imports have fundamentally altered the competitive terrain. Price-based competition against these suppliers is not a viable long-term position for Cambodian processors the cost structures simply do not favour it. The more defensible path runs through differentiation: freshness, geographic origin, cultural authenticity, supply-chain traceability, and environmental credibility are attributes that regional mass producers struggle to replicate convincingly. Building a processing base capable of converting these latent advantages into market-legible product attributes is not optional; it is the structural precondition for sector survival.

5. Drivers of Growth for Food-Processing SMEs

Cambodia's SMEs engaged in food processing do not stagnate for any single identifiable reason. Their growth or still not demonstrates the simultaneous engagement of nine interconnected drivers: finance, technology, human capital, food safety, market access, supply-chain governance, infrastructure, formalization, and climate resilience. Because each driver works in concert with, and does not work separately from, the others, each may have its own logic about how to operate on the firm's development path.

Finance is often portrayed as the biggest obstacle to SME growth, but treating it like a unitary, undifferentiated parameter hides real-world processes underlying the issue. The binding constraint here is not a limitation of capital, not in the abstract it is a persistent imbalance between available instruments and what firms truly need at each point in their growth trajectory. Stiglitz and Weiss (1981) have distinguished two different types of credit rationing mechanisms: outright loan withdrawal regardless of borrower willingness to pay and increases in interest rates that push weaker seekers out of the market. The first of these is much more difficult to solve no change in terms of borrowing mitigates a rationing decision based on information asymmetry (Beck et al., 2005). Entry-level firms must acquire working capital to buy inputs and to bridge payment cycles. In other words, growing firms need medium-term credit to purchase equipment and compliance investment. More established processors require longer-horizon financing for cold storage,

packaging infrastructure and third-party certification assets critical for commerce but slow to return on investment, and that don't serve short-tenor lending products as well. Short-term lending programs typically have generic instruments (Beck & Demirgüç-Kunt, 2006; Carpenter & Petersen, 2002) but the target to be serviced not only works to reinforce debt service pressure but at the same time the constraint is not relaxed. There needs to be sound financial policy oriented around processing economics equipment leasing, credit guarantees, buyer-backed contracts and blended finance vehicles not just traditional SME lending templates (IFC, 2017).

SME growth isn't the result of an inherent virtue of modern machines rather, appropriate machinery is reshaping the economics of quality, labor productivity, waste, and shelf life. Drying technologies, cold-chain systems, packaging lines, traceability platforms serve specific operational constraints. Access to this equipment will therefore continue to be severely limited for most Cambodian processors a finding the ADB (2021) identifies as a binding barrier to agricultural value addition. But the productivity effects of technology are never unconditional. Imported equipment often cannot provide a competitive advantage because there is no local service infrastructure, spare-parts supply and contextually calibrated operator training. This domestication challenge manipulating kit and methods to local constraints is regularly under-recognized in technology transfer programs (Acs & Audretsch, 1990; Cohen & Levinthal, 1990). Shared facilities for processing machines, organized maintenance networks, and a focus on demand-development programs are necessary structural conditions for productive access to technology, not optional luxuries.

Human capital is so much more than technical skills it encompasses managerial skills, financial wisdom, marketing skills, regulatory knowledge, digital savvy. Managerial competency often remains the hidden variable in analysis of growth of SMEs (Davidsson et al., 2006). Such initiatives are also aimed at finance or machinery supply, and are often lacking in the organizational capacity required to plan production, manage quality, control cash flows and take market signals competencies that fail them with lack of absence manifest as fluctuating product quality, erratic delivery and perpetual underpriced goods. Training programs are most effective when they hit the particular stage a firm has achieved. Early-stage firms may require food-safety orientation and basic cost accounting; intermediate companies may require quality management systems, digital marketing literacy and buyer contracting skills. Generic entrepreneurship content (Schumpeter, 1934) will not always translate into actual operational needs. Peer learning and practitioner mentoring are especially impactful delivery mechanisms educators who have traversed similar hurdles have a level of authority in training that no external trainers can comparably match. Gender is structurally embedded throughout this analysis. Women-led businesses are confronted with systematically reduced access to formal business education, thinner professional networks and larger time costs associated with unpaid domestic duties factors that can multiply across finance, training, mobility, and market access at once. The design of gender-responsive training, including flexible hours, accessible settings and based on what women are actually working on, not an option, is a must.

Food safety is more productively constructed as market-access infrastructure rather than regulatory obligation. Standards transform intangible quality characteristics into reliable external signals allowing buyers to believe products they are unable to thoroughly examine (Henson & Jaffee, 2008). Without certification, traceability and testing systems, high-quality SMEs cannot differentiate themselves from low-quality competitors which removes the commercial incentive

for investing more. There is empirical evidence from the agricultural exporters of sub-Saharan African countries that compliance with standards creates real income gains for smallholder-linked processors when the compliance with such standards is supported by the institution involved in enforcement (Maertens & Swinnen, 2009). Cambodia's Kampot pepper shows how origin governance, quality control, and intentional marketing tactics can work together in an effective manner. But the effective burdens of compliance depend on the quality infrastructure available laboratories, accreditation bodies and inspection agencies that act as public goods. Compliance barriers are still insurmountable irrespective of regulatory intention in areas where these services are expensive or geographically concentrated. Certification without accessible market channels becomes a sunk cost, not an investment.

Market access involves how sellers interact with buyers, distribution reach, pricing discipline, and packaging design not your ability to physically sell. Cambodian products can benefit from locality, freshness, cultural heritage or sustainability but brand image without quality uniformity is tactically sensitive. Brand promise must be practically feasible in every consumer experience; packaging breakdowns or delivery inconsistency erode branding from a strategic asset to a reputational liability. Collective branding efforts, the setting of geographical indication governance or public-private market platforms can build collective visibility at market terms that are able to be commercially scaled. But market exposure before capability building erodes brand reputation before it has been set in stone. Agricultural raw materials are seasonal, influenced by the natural and postharvest weather and handling variability which cannot be adequately managed by market exchanges (Williamson, 1985). Advance payments, cooperative procurement, and rural collection centers are common-sense solutions to ensure stable supply relationships that formal contracts are unable to achieve. Value-chain governance is the end point for whether chain participation supports upgrading or prevents it lead companies with similar technical support and consistent requirement facilitate supplier learning whereas captive systems are for the extraction of capability rather than for the development of capability (Trienekens, 2011).

Infrastructure establishes the limit on what processors can, and can't, produce and for whom. Electricity is at the heart of this limitation: power outages increase the risk of spoilage, steep tariffs compress margins and supply fluctuations reduce capital investment. Without cold-chain capability, processors have to deal in only the worst of dried and shelf-stable varieties, thereby shutting out all but the most premium perishable items, completely. Formalization is also motivated by this logic firms register only when benefits outweigh costs to a reasonable extent, not prior. The only way to create effective policies is to design pathways that are consistent with incentives, in which rewards are concrete and stage-appropriate (North, 1990).

Climate change converts the connection between sustainability and competition from a concept into an operational reality. Weather variability, flooding, and heat stress unsettle the supply of agricultural input, via direct channels availability, quality degradation, price volatility and indirect channels, such as investment uncertainty and energy demand variations (Scholtz et al., 2025). Processors that convert perishable surpluses into shelf-stable goods, by drying, fermentation, and controlled packaging are maintaining marketability in gluts occurring during peak season which would otherwise result in farm-gate returns. Food-loss reduction enhances resource efficiency and at the same time mitigates emissions of greenhouse gases and stabilizes output volumes (FAO, 2019; HLPE, 2014). Policy should promote actionable transitions towards

energy efficiency and climate-smart sourcing not by pushing standards set for industrial-scale manufacturers that smaller firms aren't able to meet realistically.

These nine forces work as an interlocking system, taken together. Combating any one constraint in isolation finance without capability, technology without maintenance infrastructure, certification without access to the market is always ineffective. Sustainable growth does not occur unless policymakers regard these constraints as structurally interrelated, allowing them to be addressed in purposeful, coordinated order.

6. An Integrated Conceptual Model of Food-Processing SME Growth

The preceding analysis establishes that food-processing SME growth in Cambodia is best conceptualized as a function of interacting capabilities and systemic conditions rather than any single determinant. The chapter proposes the following conceptual growth model:

$$G_i = f(K_i, H_i, T_i, Q_i, M_i, N_i, R_i, E_i, C_i; X_i)$$

where G_i denotes the growth or value-added expansion of food-processing SME i, operationalized through sales revenue, employment, factor productivity, value added per worker, product diversification, market channel breadth, or export participation; K_i through C_i represent the nine core growth drivers defined in Table 2; and X_i captures firm-level heterogeneity including enterprise age, subsector, location, ownership structure, gender of the owner-manager, initial size, and degree of informality. The functional form f(·) is intentionally underspecified at this stage, reflecting the analytical purpose of the framework as a diagnostic and hypothesis-generation tool rather than an immediately estimable econometric specification.

This framing requires explicit clarification of what the model is and is not. It is a structured conceptual framework for organizing the literature, diagnosing binding constraints, designing survey instruments, and generating falsifiable propositions. It is not presented as an additive regression model, and the linear specification that follows should be understood as a heuristic representation of hypothesized partial effects, not as a claim that growth is a simple linear function of these inputs. The most analytically important features of the model are its interaction effectscases where the marginal return to one driver depends critically on the presence or level of anotherwhich a naïve additive regression would underestimate or miss entirely.

Acknowledging this, a linear representation for empirical hypothesis-generation purposes may be written as:

$$G_i = \alpha + \beta_1 K_i + \beta_2 H_i + \beta_3 T_i + \beta_4 Q_i + \beta_5 M_i + \beta_6 N_i + \beta_7 R_i + \beta_8 E_i + \beta_9 C_i + \beta_{10}(Q_i \times M_i) + \beta_{11}(K_i \times T_i) + \beta_{12}(N_i \times C_i) + \gamma X_i + \varepsilon_i$$

where β_{10}, β_{11}, and β_{12} capture the three theoretically most important complementarity effects. The $Q_i \times M_i$ interaction embodies the proposition that certification without market channel access is a sunk cost, while market access without certification is commercially fragile in higher-value segments. The $K_i \times T_i$ interaction reflects that technology adoption generally requires upfront finance, while finance generates higher productivity returns when directed toward appropriate technology. The $N_i \times C_i$ interaction is increasingly important under climate stress: supplier networks with climate-resilient sourcing arrangements reduce input volatility in ways that isolated firm-level investments cannot replicate. These interaction terms are expected to carry positive and

statistically significant coefficients in empirical applications, indicating superadditivity in the enabling ecosystem.

A critical empirical challenge that future research must address is endogeneity. Many right-hand-side variablescertification status (Q_i), market access (M_i), formalization (R_i)are plausibly jointly determined with firm growth (G_i). A credible identification strategy would require instrumental variables, panel data with lagged regressors, or natural experiments generated by policy variation. The IFC Enterprise Survey database, World Bank enterprise surveys, and ADB SME panel datasets may offer partial estimation opportunities where Cambodia-specific firm-level data remain limited. In the absence of firm-level panel data, the model is most productive as a framework for structured diagnostic surveys and qualitative case study analysis rather than as an econometric specification. Table 2 translates the model into definitions, expected mechanisms, and researchable propositions.

Table 2

Integrated Growth Model Variables: Definitions, Expected Mechanisms, Propositions, and Interaction Effects

Variable	Definition	Expected Growth Mechanism	Illustrative Proposition
K_i Finance & capital	Access to working capital, investment loans, equipment leasing, credit guarantees, and patient finance.	Enables investment in machinery, facilities, packaging, inventory, and certification.	SMEs with longer-term, appropriately structured finance will exhibit stronger value-added growth than firms reliant on short-term credit alone.
H_i Human capital	Technical, managerial, financial literacy, digital, and regulatory competence at the firm level.	Improves cost control, quality management, strategic planning, and buyer reliability.	Managerial capability amplifies the productivity returns to finance and technology investment.
T_i Technology	Processing machinery, cold storage, packaging systems, traceability software, and process innovation.	Raises throughput, reduces spoilage, stabilizes output quality, and extends shelf life.	Technology adoption generates stronger growth where energy reliability and maintenance skills are adequate.
Q_i Quality systems	Food-safety practices, formal certification, laboratory testing, labeling, and batch traceability.	Converts compliance into credible market access and durable consumer trust.	Certification yields a larger growth premium for firms supplying supermarkets, hospitality, or export channels.
M_i Market access	Buyer contracts, distribution channels, brand development, e-commerce capability, and export readiness.	Widens demand, improves returns, and drives ongoing upgrading.	Branded, multi-channel firms consistently outgrow commodity sellers.
N_i Networks	Supply networks, cooperative ties, and buyer linkages.	Reduces costs, steadies supply, and fosters shared learning.	Strong coordination stabilizes supply and lifts output quality.

Variable	Definition	Expected Growth Mechanism	Illustrative Proposition
R_i Regulation & formalization	Registration, licensing, compliance, and regulatory predictability.	Unlocks formal finance, contracts, and program eligibility.	Formalization works when rewards outweigh the regulatory burden.
E_i Energy & logistics	Energy, roads, cold-chain, and transport infrastructure.	Reduces spoilage, raises capacity utilization, and expands geographic market reach.	Infrastructure reliability raises the return on processing and cold-chain investment.
C_i Climate & sustainability	Resilient sourcing strategies, food-loss reduction, energy efficiency, and credible sustainability practices.	Stabilizes supply, reduces losses, and enables premium positioning.	Resilient sourcing steadies supply and supports sustained growth.
G_i × Interaction terms (Q_i × M_i; K_i × T_i; N_i × C_i)	Complementarity effects between paired drivers, reflecting the threshold dynamics described in the conceptual model.	Certification, market access, finance, and energy reliability only create value when they work together.	Interaction effects are expected to exceed the sum of individual coefficients, indicating superadditivity in the enabling ecosystem.

Note. The interaction terms listed in the final row are the analytically central propositions of the model. The linear additive specification is a heuristic representation; empirical applications should test interaction and threshold specifications. Endogeneity in K_i, Q_i, M_i, and R_i requires instrumental variable or panel data strategies in any full empirical application.

The model also clarifies why single-intervention programs consistently disappoint: the binding constraint, and therefore the highest-return intervention, differs by firm development stage. Table 3 presents the staged upgrading typology introduced in Section 1, mapping dominant constraints and priority interventions at five progressive levels.

Table 3

Staged Upgrading Typology: Dominant Constraints and Priority Interventions by Firm Development Level

Stage	Firm Profile	Dominant Binding Constraint	Priority Intervention
Stage 1: Survival	Informal, household-scale; local market only; no certification; family labor.	Working capital; basic food-hygiene knowledge; informal market access.	Micro-finance; applied food-safety orientation; market linkage facilitation.
Stage 2: Formalization	Registered or transitioning; small permanent workforce; basic quality practices; limited packaging.	Registration costs and benefits; access to formal credit; standard operating procedures.	Simplified registration linked to finance access; template SOPs; first-time certification subsidy.

Stage	Firm Profile	Dominant Binding Constraint	Priority Intervention
Stage 3: Quality compliance	Formal; certified or near-compliant; supplying modern retail or hospitality; consistent packaging.	Technology for quality consistency; cold chain or shelf-life extension; cost-accounting discipline.	Equipment leasing; shared processing facilities; managerial accounting training; buyer-linkage programs.
Stage 4: Market expansion	Certified; multi-channel distribution; established domestic brand; some export inquiry.	Brand credibility at scale; export documentation; logistics reliability; volume consistency for buyers.	Collective branding schemes; export-readiness programs; logistics cooperative development; working-capital trade finance.
Stage 5: Export readiness	Export-active or -ready; traceable supply chain; internationally recognized certification; diversified product range.	International standards compliance; resilient sourcing under climate stress; innovation capacity for product development.	GI scheme governance; climate-smart sourcing support; product R&D partnerships with universities or buyers.

Note. The typology is a diagnostic guide, not a fixed ladder firms may span multiple stages or progress non-linearly. Empirical application requires validated measures across formalization, certification, markets, and technology.

7. Literature Synthesis: From Fragmented Constraints to a Growth Ecosystem

The literature on SME growth frequently presents drivers as analytically discrete: finance, training, technology, infrastructure, market access, regulation. In Cambodia's food-processing sector, these drivers constitute an interdependent ecosystem in which any single enabling condition may be necessary but none is sufficient. Growth results from the density and productive alignment of these conditions: firms grow when they can simultaneously mobilize capital, domesticate technology, develop skilled workers, secure reliable quality inputs, achieve standards compliance, reach remunerative buyers, and adapt to environmental volatility. Table 4 synthesizes the literature into a Cambodia-specific interpretive framework that incorporates gender and failure/exit as explicit domains, reflecting the structural gaps identified in the peer review.

Table 4

Literature Synthesis: Growth Domains, Insights, Cambodia-Specific Manifestations, and Implications

Growth Domain	Literature Insight	Cambodia-Specific Manifestation	Policy and Managerial Implication
Agricultural transformation	Future productivity gains require diversification and agribusiness development, not further land expansion.	Agricultural growth decelerated as extensive gains were exhausted (World Bank, 2015).	Position agro-processing as a structural transformation strategy.

Growth Domain	Literature Insight	Cambodia-Specific Manifestation	Policy and Managerial Implication
Value addition	Processing captures margins unavailable in raw commodity production.	Around 10% of agricultural output is processed domestically (ADB, 2021), though this estimate should be treated with caution.	Support processing capacity, certification, packaging, and market linkage.
SME capabilities	Firm performance rests on internal resources and the routines that deploy them.	Many processors remain informal or micro-scale, limiting contractibility and quality consistency.	Build managerial, technical, and quality-management routines alongside physical assets.
Finance	Credit rationing and collateral gaps persistently inhibit SME investment.	These investments require patient capital that short-term lending cannot support.	Expand leasing, guarantees, buyer-backed finance, and blended investment vehicles.
Value-chain governance	Lead-firm governance structures can enable or constrain upgrading.	Supermarkets, exporters, and hospitality buyers demand documented reliability and compliance.	Encourage upgrading-oriented buyer–SME relationships through facilitated partnerships.
Transaction costs	Fragmented supply and weak commercial institutions inflate coordination costs.	Smallholder sourcing introduces variability in input quality and volume.	Strengthen producer groups, contract design, collection systems, and relational trust.
Infrastructure	Reliable energy and strong logistics underpin both productivity and product quality.	Electricity cost/reliability and logistics constraints inhibit value addition (ADB, 2021).	Invest in cold chains, rural roads, shared facilities, and energy-efficient systems.
Food safety	Standards cut information gaps and gate entry to premium markets.	Most SMEs struggle to bridge informal market norms and formal retail or export standards.	Make quality infrastructure accessible, credible, and proportional to firm scale.
Gender and inclusion	Finance gaps, limited networks, and mobility barriers shape outcomes for women entrepreneurs.	Women entrepreneurs face specific constraints in finance, digital skills, and time.	Build gender-disaggregated metrics into SME monitoring and program design.
Sustainability	Climate pressures undermine supply stability and constrain market access.	Climate shocks and post-harvest losses directly threaten input reliability and processing viability.	Embed resilience, waste valorization, and sustainable sourcing into mainstream SME policy.
Failure and exit	Stagnation and exit expose binding constraints as meaningfully as growth does.	Data on firm failure and exit in Cambodian food processing are largely absent from available sources.	Future research should apply survival analysis and explicitly account for survivor bias.

Note. The gender and failure/exit rows are additions to the standard growth-constraint literature and reflect the structural gaps identified in this chapter's critical review. Inclusive upgrading requires both their analytical incorporation and their empirical measurement in future firm-level research designs.

The synthesis reveals a productive tension in Cambodia's food-processing SME development agenda. The sector is attractive because it can be labor-absorbing, locally embedded, and structurally linked to rural livelihoods. Higher-value processing is simultaneously demandingrequiring precision, hygienic discipline, logistics reliability, patient capital, and sustained buyer trust. The sector's inclusiveness depends on whether smaller firms, women entrepreneurs, and rural suppliers can be supported in meeting these requirements without being displaced by better-capitalized competitors or by imported products with established quality reputations.

Inclusive upgrading is analytically useful as a governing concept. Upgrading is inclusive when it enables smaller enterprises, women-led businesses, rural suppliers, and local workers to participate in higher-value productive activities; it becomes exclusionary when standards, finance barriers, and buyer requirements concentrate opportunities among a small cohort of already well-capitalized firms. Cambodia's policy challenge is not to avoid quality standards or competition, but to prevent the upgrading process from becoming structurally inaccessible to the enterprises and communities that would benefit most. This requires effective intermediationthrough associations, cooperatives, accelerators, public agencies, and development programsthat reduces search costs and translates complex compliance requirements into actionable, sequenced steps without creating permanent dependency.

A regional comparative note is also warranted. OECD and Economic Research Institute for ASEAN and East Asia (ERIA, 2018) documents persistent gaps in SME policy implementation across the region, including in finance access, technology adoption, and regulatory coherence. Cambodia's food-processing SME challenges share structural features with peer lower-middle-income economies in Southeast AsiaVietnam, Myanmar, and Laos in particularin fragmented smallholder supply, infrastructure deficits, high informality, and nascent food-safety governance. Vietnam's experience with processed seafood and agricultural commodity export upgrading, and Myanmar's emerging agro-processing policy framework, offer useful benchmarks for what coordinated value-chain development can achieve over a decade and what pitfallsparticularly around standards adoption without adequate technical assistancetend to recur. The analytical framework developed here is intended to be applicable across this class of country contexts, with Cambodia-specific parameters, rather than being exclusively Cambodia-bound.

8. Policy Implications

The policy implications of this analysis are substantial and require coordination across ministries, financial institutions, subnational governments, industry associations, vocational training providers, development partners, and private buyers. Cambodia's food-processing SME agenda should be positioned as a strategic pillar of agrifood transformation, rural industrialization, food-system resilience, and export diversificationnot as a conventional small-business support program. This framing is consistent with a broader tradition of argued for deliberate industrial policy in developing economies, where market failures justify coordinated government action to support productive diversification (Rodrik, 2004). Table 5 presents a structured policy matrix

incorporating the gender-responsive support dimension identified as absent in the peer review. The interventions proposed are consistent with the strategic directions outlined in Cambodia's Industrial Development Policy 2015–2025, which identified agro-processing and SME development as central pillars of the country's manufacturing strategy (Royal Government of Cambodia, 2015). The National Strategic Development Plan 2019–2023 similarly identified value-added agrifood production as a priority for rural income growth and export diversification (Ministry of Planning, 2019).

Table 5

Policy Matrix for Food-Processing SME Growth in Cambodia

Policy Lever	Binding Problem Addressed	Recommended Intervention	Expected Effect
Quality infrastructure	High cost and complexity of certification and testing services.	Accessible testing laboratories; mobile advisory services; risk-based inspection; subsidized first-time certification for SMEs at Stages 1–2.	Improved formal market access; reduced information asymmetry for buyers.
SME finance	Underinvestment in machinery, facilities, packaging, and certification.	Equipment leasing; credit guarantees; buyer-backed finance; blended investment funds with technical assistance components.	Higher capital deepening and measurable productivity improvement.
Technology diffusion	Low adoption and poor adaptation of machinery to local conditions.	Demonstration centers; shared processing facilities; maintenance networks; applied vocational curricula.	Reduced spoilage; improved output quality; higher processing throughput.
Supplier coordination	Inconsistent input quality and seasonal supply instability.	Producer group support; quality-based procurement pricing; collection centers; contract facilitation.	Lower transaction costs; more reliable quality-assured input supply.
Formalization incentives	Informality limits finance access and market channel eligibility.	Simplified, digitized registration linked to tangible benefits; proportional regulatory obligations calibrated to firm stage.	Greater contractibility; higher program participation rates.
Cluster development	Fragmented services and absence of economies of scale.	Product-specific clusters incorporating logistics, packaging, laboratories, and business services; professional cluster governance.	Improved coordination; reduced unit costs for shared services.
Sustainability incentives	Climate risk, post-harvest food loss, and energy inefficiency.	Energy-efficiency grants; solar drying support; waste valorization programs; climate-smart sourcing technical assistance.	More resilient and environmentally credible enterprise growth.
Market development	Weak brand recognition and	Trade promotion; digital platforms; collective branding; GI scheme	Expanded effective demand; improved price

Policy Lever	Binding Problem Addressed	Recommended Intervention	Expected Effect
	underdeveloped buyer relationships.	governance; structured export readiness programs.	realization; higher margin retention.
Gender-responsive support	Gendered constraints in finance, networks, mobility, and digital access.	Gender-disaggregated program design; collateral-light finance products; women-led enterprise mentoring networks; time-sensitive training delivery.	More equitable distribution of upgrading opportunities; stronger household-level returns.

Note. The sequencing of interventions matters: policy instruments should be calibrated to the upgrading stage of target firms rather than applied uniformly. Shared infrastructure and collective-action mechanisms (associations, clusters, cooperatives) generate returns only when professional governance, market orientation, and private-sector participation are present from the outset.

Five cross-cutting priorities warrant emphasis beyond the matrix. First, intervention sequencing must reflect the staged upgrading typology: the binding constraint facing a Stage 1 informal enterprise differs fundamentally from that facing a Stage 4 export-oriented firm, and programs designed for one stage can be ineffective or counterproductive at another. Second, gender-responsive design is a necessary rather than optional feature of all program categories: finance products, training curricula, cluster governance, and market linkage programs must be explicitly designed to reach and benefit women-led enterprises. Third, quality infrastructure should be treated as a public good whose accessibility determines the effective compliance cost curve for the entire sector, not merely for a few well-resourced firms. Fourth, sustainability incentives should be embedded within competitiveness policy rather than siloed in environmental programs: energy efficiency, waste reduction, and climate-smart sourcing affect commercial costs and market access, not only environmental footprints. Fifth, monitoring and evaluation frameworks should track distributional outcomesacross firm stages, gender, and geographyrather than aggregate sector growth alone, to ensure that policy investments in inclusive upgrading are generating inclusive results.

9. Managerial Implications for Food-Processing SMEs

Policy can reshape the enabling environment; firm-level strategy remains decisive. Cambodian food-processing SMEs seeking growth should resist equating expansion with volume increase alone. Growth that raises sales without improving unit margins, product quality, or organizational discipline may prove commercially unsustainable. The most successful firms are likely those that sequence upgrading systematically: stabilizing product quality and cost control first; then improving packaging and brand presentation; then entering progressively more demanding market channels; then diversifying across products or geographies.

A clear diagnosis of product-market fit is the essential starting point. A firm supplying traditional snack foods to local customers faces fundamentally different operational requirements from one targeting formal retail or export buyers. The choice of market channel should drive investment prioritization: for formal retail, packaging compliance, regulatory labeling, shelf-life extension, and food-safety documentation are non-negotiable; for hospitality channels, product consistency and service responsiveness dominate; for export, certification, traceability, volume reliability, and logistics documentation become central. Managerial routines and pricing

discipline form core components of the intangible resources through which SMEs convert market opportunities into sustained competitive performance (Barney, 1991; Penrose, 1959).

Rigorous cost accounting deserves particular emphasis as an often-neglected foundational practice. Many small processors systematically underprice products by failing to account comprehensively for labour, spoilage losses, packaging materials, transport, finance charges, owner-operator time, and capital depreciation. Without accurate unit cost calculation, growth can conceal operational losses: rising sales may mask eroding margins. Training in managerial accounting, contribution-margin pricing, and cash-flow projection is therefore a prerequisite for sustainable growth, not a secondary capability. Supplier relationship management should similarly be treated as a strategic rather than transactional function: preferred supplier networks with quality-based price premiums, practical agreements on variety selection and harvest timing, and trust built through payment reliability and transparent communication reduce input volatility and quality variation in ways that spot-market purchasing cannot.

Brand development should be grounded in authenticity and operational evidence. A stronger strategy articulates market identity rooted in specific locality, distinctive ingredients, verifiable production methods, or documented cultural heritageevery claim operationally defensible and consistently deliverable. Firms that internalize food-safety compliance as organizational discipline rather than regulatory imposition are better positioned to grow without the costly retrofitting that structural non-compliance eventually necessitates. For women-led enterprises specifically, building professional networksthrough industry associations, peer mentoring programs, and buyer introductions facilitated by development programscan address the structural network gaps that constrain market access and financing as effectively as, and sometimes more than, skill-based training alone.

10. Research Agenda

The empirical foundation underpinning food-processing SME policy in Cambodia remains considerably thinner than the confidence with which policymakers deploy it. Six priority areas demand serious scholarly attention, each reflecting a substantive gap in the current knowledge base. The most pressing need is systematic firm-level data collection. Researchers must build datasets that capture enterprise size, ownership structure, formalization status, technology adoption, finance access, certification, input sourcing, market channels, employment, sales, and growth trajectories disaggregated by gender and geographic location. Panel data are particularly valuable here. SME growth is dynamic, path-dependent, and shaped by selection effects that cross-sectional surveys cannot adequately detect. Firms develop capabilities through competitive learning and environmental adaptation over time, and only longitudinal data can capture these dynamics with any reliability.

Subsector-specific analysis represents an equally important frontier. Food processing is far too heterogeneous to treat as a unified sector. Cashew processing, rice milling, dried tropical fruit, fish products, spices, and traditional condiments differ markedly in technology requirements, perishability, applicable standards, and market channel demands. A cold-chain intervention may be operationally critical for fresh fish but largely irrelevant for shelf-stable dried spices. Research must identify which constraints bind in each subsector and which interventions generate the largest upgrading effects at each stage of firm development.

Gender-disaggregated analysis is a structural necessity, not an optional refinement. Researchers must examine whether women-owned enterprises face differential barriers in credit

access, professional networks, training, technology adoption, and market channel access and whether these barriers vary by subsector, location, and firm stage. Without this evidence, inclusive industrialization remains a rhetorical aspiration rather than a measurable development objective.

Digitalisation presents a parallel set of unresolved questions. Mobile payments, e-commerce platforms, traceability applications, and online training are routinely cited as transformative tools and in specific contexts, they demonstrably are. The OECD (2021) documents both the opportunities and the significant capability and infrastructure preconditions that determine whether digital tools translate into productivity gains for smaller enterprises. The problem is generalization. Digital adoption benefits do not distribute evenly across the firm population. Better-educated, urban, already-formalized enterprises are systematically better positioned to capture returns from digital tools. For early-stage firms with limited literacy, intermittent electricity, and no prior digital exposure and the same tools may drain limited resources while delivering little real benefit. Research needs to go beyond simply counting how many firms use digital tools. What matters is knowing which specific digital interventions actually drive growth and for which firms, at which stage of development, and for women-led enterprises in particular.

Certification pathways and compliance support demand assessment. Standards reduce information asymmetry and gate entry to higher-value markets, but the compliance gap between informal domestic markets and formal export requirements remains wide. Understanding how firms navigate this gap and what support structures make compliance achievable rather than prohibitive is essential for credible policy design.

Finally, firm failure, exit, and survivor bias deserve explicit analytical attention. Most SME growth research focuses implicitly on surviving firms, creating a selection problem that distorts policy conclusions. Future research must incorporate survival analysis, examine what distinguishes successful upgraders from those that stagnate or exit, and treat case studies of failed upgrading attempts as analytically valuable not merely as cautionary footnotes.

11. Conclusion

The SMEs food-processing in Cambodia stand at a critical turning poin and the country has made real progress in agricultural production, poverty reduction, and trade integration yet it still exports too much raw value and imports too much processed value. Closing this gap is not automatic. It depends on whether firms can build productive capabilities, whether value chains can coordinate more effectively, and whether policy can align finance, technology, quality systems, and market access into a coherent and mutually reinforcing ecosystem.

This chapter makes four core analytical contributions. First, it diagnoses the value-addition gap as the product of three interacting failures information failures, coordination failures, and missing markets rather than any single constraint. Second, it presents an integrated growth model built around nine complementary drivers, making the case that these drivers create value together, not independently. Third, the five-tier upgrading typology maps the dominant binding constraints firms face at each stage of development, giving policy recommendations a specificity that broad, aggregate guidance consistently lacks. Fourth, the chapter treats gender and firm exit as structural dimensions of the analysis rather than peripheral observations.

The stakes extend well beyond individual firm performance. When a food-processing SME upgrades, it generates rural employment, stabilizes income for smallholder farmers, reduces post-harvest losses, diversifies export revenue, and strengthens domestic food safety. Cross-

country evidence confirms that small and medium enterprises are disproportionately important contributors to job creation and output growth in developing economies (Ayyagari et al., 2011). These benefits will remain narrowly concentrated, however, if growth favors only well-capitalized enterprises while the broader SME base stays informal, underfunded, and disconnected from quality infrastructure and formal markets.

Cambodia's food-processing SMEs hold genuine potential to bridge agriculture and industry, rural livelihoods and urban consumers, and local identity and export markets. Whether that potential materializes depends not on the presence of entrepreneurial ambition which clearly exists but on building the institutional conditions that allow it to develop into competitive, inclusive, and sustainable enterprise.

References

Acs, Z. J., & Audretsch, D. B. (1990). *Innovation and small firms*. MIT Press.

Asian Development Bank. (2021). *Cambodia agriculture, natural resources, and rural development sector assessment, strategy, and road map*. Asian Development Bank. https://www.adb.org/documents/cambodia-agriculture-natural-resources-rural-development-assessment-strategy-road-map

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2011). Small vs. young firms across the world: Contribution to employment, job creation, and growth. *World Bank Policy Research Working Paper, 5631*. World Bank. https://doi.org/10.1596/1813-9450-5631

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance, 30*(11), 2931–2943. https://doi.org/10.1016/j.jbankfin.2006.05.009

Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter? *The Journal of Finance, 60*(1), 137–177. https://doi.org/10.1111/j.1540-6261.2005.00727.x

Carpenter, R. E., & Petersen, B. C. (2002). Is the growth of small firms constrained by internal finance? *Review of Economics and Statistics, 84*(2), 298–309. https://doi.org/10.1162/003465302317411541

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly, 35*(1), 128–152. https://doi.org/10.2307/2393553

Davidsson, P., Achtenhagen, L., & Naldi, L. (2006). What do we know about small firm growth? In S. Parker (Ed.), *The life cycle of entrepreneurial ventures* (pp. 361–398). Springer. https://doi.org/10.1007/978-0-387-32313-8_13

Food and Agriculture Organization. (2019). *The state of food and agriculture 2019: Moving forward on food loss and waste reduction*. FAO. https://www.fao.org/3/ca6030en/ca6030en.pdf

Freeman, C. (1987). *Technology policy and economic performance: Lessons from Japan*. Pinter.

Gereffi, G., Humphrey, J., & Sturgeon, T. (2005). The governance of global value chains. *Review of International Political Economy, 12*(1), 78–104. https://doi.org/10.1080/09692290500049805

Hausmann, R., & Rodrik, D. (2003). Economic development as self-discovery. *Journal of Development Economics, 72*(2), 603–633. https://doi.org/10.1016/S0304-3878(03)00124-X

Henson, S., & Humphrey, J. (2010). Understanding the complexities of private standards in global agri-food chains as they impact developing countries. *The Journal of Development Studies, 46*(9), 1628–1646. https://doi.org/10.1080/00220381003706494

Henson, S., & Jaffee, S. (2008). Understanding developing country strategic responses to the enhancement of food safety standards. *The World Economy, 31*(4), 548–568. https://doi.org/10.1111/j.1467-9701.2008.01099.x

High Level Panel of Experts on Food Security and Nutrition [HLPE]. (2014). *Food losses and waste in the context of sustainable food systems* (HLPE Report 8). FAO Committee on World Food Security. https://www.fao.org/3/i3901e/i3901e.pdf

International Finance Corporation. (2017). *MSME finance gap: Assessment of the shortfalls and opportunities in financing micro, small and medium enterprises in emerging markets*. IFC. https://www.ifc.org/wps/wcm/connect/03522e90-a13d-4a02-87cd-9ee9a297b311/121264-WP-PUBLIC-MSMEReportFinal.pdf

KhmerSME. (2024). *SME in industries*. Ministry of Industry, Science, Technology and Innovation. https://www.khmersme.gov.kh/en/sme-in-industries/

Lundvall, B.-Å. (Ed.). (1992). *National systems of innovation: Towards a theory of innovation and interactive learning*. Pinter.

Maertens, M., & Swinnen, J. F. M. (2009). Trade, standards, and poverty: Evidence from Senegal. *World Development, 37*(1), 161–178. https://doi.org/10.1016/j.worlddev.2008.04.006

Ministry of Planning. (2019). *National Strategic Development Plan 2019–2023*. Royal Government of Cambodia. https://www.mop.gov.kh/

Nelson, R. R., & Winter, S. G. (1982). *An evolutionary theory of economic change*. Harvard University Press.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.

OECD. (2021). *The digital transformation of SMEs*. OECD Publishing. https://doi.org/10.1787/bdb9256a-en

OECD & Economic Research Institute for ASEAN and East Asia. (2018). *SME policy index: ASEAN 2018 Boosting competitiveness and inclusive growth*. OECD Publishing. https://doi.org/10.1787/9789264305328-en

Penrose, E. T. (1959). *The theory of the growth of the firm*. Oxford University Press.

Pietrobelli, C., & Rabellotti, R. (2011). Global value chains meet innovation systems: Are there learning opportunities for developing countries? *World Development, 39*(7), 1261–1269. https://doi.org/10.1016/j.worlddev.2010.05.013

Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.

Reardon, T., Barrett, C. B., Berdegué, J. A., & Swinnen, J. F. M. (2009). Agrifood industry transformation and small farmers in developing countries. *World Development, 37*(11), 1717–1727. https://doi.org/10.1016/j.worlddev.2008.08.023

Reardon, T., & Timmer, C. P. (2012). The economics of the food system revolution. *Annual Review of Resource Economics, 4*, 225–264. https://doi.org/10.1146/annurev.resource.050708.144147

Rodrik, D. (2004). *Industrial policy for the twenty-first century* (UNIDO Working Paper). United Nations Industrial Development Organization. https://doi.org/10.2139/ssrn.617544

Royal Government of Cambodia. (2015). *Industrial development policy 2015–2025*. Ministry of Industry and Handicraft.

Scholtz, L., Eber Rose, M., Laborde, D., Mamun, A., Nhean, S., Olivetti, E., Panith, C., Smaller, C., & Tung, A. (2025). *Transforming agrifood systems in Cambodia: What are the priorities and how much will it cost?* Zero Hunger Coalition, FAO, IFPRI, and Shamba Centre. https://www.zerohungercoalition.org/sites/default/files/media_document/media_document/Final_ZHC_report_Cambodia_Transforming-Agrifood-Systems_5.pdf

Schumpeter, J. A. (1934). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. Harvard University Press.

Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American Economic Review, 71*(3), 393–410. https://doi.org/10.2307/1802787

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z

Trienekens, J. H. (2011). Agricultural value chains in developing countries: A framework for analysis. *International Food and Agribusiness Management Review, 14*(2), 51–82.

Williamson, O. E. (1985). *The economic institutions of capitalism: Firms, markets, relational contracting*. Free Press.

World Bank. (2015). *Cambodian agriculture in transition: Opportunities and risks*. World Bank. https://www.worldbank.org/en/country/cambodia/publication/cambodian-agriculture-in-transition-opportunities-and-risks