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## **Smallholder Social Enterprise Development and Value Chain Inclusivity: A Review of Cooperative Models, Market Access, and Equitable Employment in Palm Oil Supply Chain**

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### **Abstract**

The palm oil sector plays a strategic role in global agricultural supply chains, with smallholder farmers contributing a substantial share of production. However, disparities in market access, organizational capacity, and employment conditions continue to shape outcomes of inclusivity within smallholder-linked palm oil value chains. This study aims to systematically synthesize and analyze scholarly evidence on the role of cooperative-based social enterprises in enhancing value chain inclusivity for smallholder farmers, with particular attention to market access and equitable employment dimensions. The study adopts a Systematic Literature Review (SLR) approach, following a transparent and reproducible screening process. Peer-reviewed journal articles were retrieved exclusively from the Scopus database using structured Boolean search strings, publication year range from 2019 to 2025, and Open Access and Open Archive criteria, resulting in 35 eligible studies. Data were analyzed through qualitative thematic synthesis to identify recurring empirical patterns and conceptual insights. The results reveal five dominant thematic clusters: cooperative-based organizational models, market access and value chain upgrading pathways, employment structures and equity dimensions, social enterprises and hybrid governance arrangements, and structural constraints alongside enabling conditions. Collectively, the findings indicate that cooperative and social enterprise arrangements function as institutional mechanisms that strengthen smallholder integration, stabilize market participation, and improve employment conditions when supported by effective governance structures. The study concludes that inclusivity in palm oil value chains is shaped by the interaction between organizational design, governance capacity, and institutional context. Future research is encouraged to adopt longitudinal and comparative approaches further to examine the durability and contextual variation of inclusive outcomes.

**Keywords:** Smallholder Farmers, Social Enterprise, Cooperative Models, Value Chain Inclusivity, Palm Oil Supply Chain

### **Introduction**

The palm oil industry occupies a strategic position within the global agri-food system due to its significant contribution to vegetable oil supply, rural livelihoods, and economic development in producing countries. As one of the most widely traded agricultural commodities, palm oil plays a central role in meeting growing global demand for food, energy, and industrial inputs, while simultaneously supporting millions of smallholder farmers across Southeast Asia, Africa, and Latin America [1]. In many producing regions, smallholders account for a substantial share of planted area and output, making their effective integration into palm oil value chains a critical determinant of both sectoral performance and rural development outcomes [2].

Within this context, increasing scholarly attention has been directed toward the inclusivity of agricultural value chains, particularly in relation to how smallholders participate, benefit, and exercise agency within commodity systems dominated by large-scale actors. Inclusive value chain development emphasizes not only economic participation, but also equitable access to markets, fair employment conditions, and institutional arrangements that enable small producers to capture value beyond primary production [3]. In palm oil supply chains, inclusivity is closely linked to organizational forms, governance structures, and market relations that shape smallholder engagement across different stages of production, processing, and commercialization [4].

Smallholder farmers in the palm oil sector operate under heterogeneous conditions, ranging from independently managed plots to organized schemes embedded within cooperative or partnership arrangements. While independent smallholders often face constraints related to limited market access, weak bargaining power, and restricted access to finance and services, organized smallholders may benefit from collective action and institutional support mechanisms that enhance their position within the value chain [5]. As a result, cooperative-based models and other forms of collective organization have emerged as prominent institutional mechanisms for facilitating smallholder integration, improving productivity, and strengthening linkages to formal markets [6].

Beyond production and commercialization, employment dynamics within smallholder-linked palm oil value chains represent an increasingly important dimension of inclusivity. Smallholder systems generate substantial employment opportunities, not only for farming households but also for hired labor engaged in harvesting, maintenance, and post-harvest activities. The quality and equity of these employment arrangements including wage levels, job stability, and access to basic protections are shaped by organizational capacity and governance arrangements at the local level [7]. Consequently, discussions of value chain inclusivity increasingly extend beyond market participation to encompass labor relations and employment outcomes within smallholder-based production systems [8].

In parallel, the concept of social enterprise has gained prominence in discussions of agricultural development and inclusive business models. Social enterprises in agribusiness contexts are commonly understood as hybrid organizations that pursue commercial viability while explicitly addressing social objectives such as smallholder empowerment, employment generation, and equitable value distribution. Within palm oil supply chains, social enterprise models often intersect with cooperative structures, private sector partnerships, and development initiatives, creating hybrid governance arrangements that mediate relationships between smallholders and downstream actors [9]. These hybrid models are frequently presented as potential pathways to balance efficiency, inclusivity, and sustainability within complex commodity systems.

Despite the growing body of literature addressing smallholder participation, cooperative organization, market access, and employment in the palm oil sector, existing research remains fragmented across disciplinary and thematic boundaries. Studies are often focused on specific aspects of the value chain, such as productivity enhancement, certification, or market linkage, without systematically examining how these elements interact to shape inclusive outcomes for smallholders. Moreover, while individual case studies provide valuable empirical insights, there is limited synthesis that integrates findings across regions and organizational contexts to identify broader patterns and conceptual implications [10].

The absence of a comprehensive synthesis is particularly evident at the intersection of smallholder social enterprise development and value chain inclusivity. While cooperatives and social enterprises are frequently discussed as mechanisms for improving smallholder outcomes, their roles in shaping market access, employment structures, and institutional governance are rarely examined in an integrated manner. As a result, there is a need for systematic analysis that consolidates existing evidence, clarifies dominant analytical themes, and identifies areas of convergence and divergence within the literature.

To address this gap, this study undertakes a Systematic Literature Review (SLR) of peer-reviewed research on smallholder social enterprise development and value-chain inclusivity in the palm oil supply chain. By systematically identifying, screening, and synthesizing academic publications, this review seeks to provide a structured overview of how cooperative models, market access mechanisms, and employment arrangements are conceptualized and empirically examined in relation to smallholder participation. Consistent with the principles of the SLR methodology, this study relies exclusively on secondary data from published literature and does not involve primary data collection, such as field observations, interviews, or focus group discussions.

The review is guided by an analytical framework that situates smallholder participation within the broader dynamics of value chain governance, organizational design, and labor relations. Rather than evaluating the palm oil industry in normative terms, this study adopts an analytical, neutral perspective, focusing on how different institutional arrangements shape inclusivity outcomes across varying structural conditions. In doing so, the review aims to contribute to a more nuanced understanding of inclusive value chain development by highlighting both enabling mechanisms and persistent constraints affecting smallholder engagement.

The specific objective of this study is to systematically synthesize and analyze scholarly evidence on the role of cooperative-based social enterprises in enhancing value chain inclusivity for smallholder farmers within the palm oil sector, with particular attention to market access and equitable employment dimensions. Through this synthesis, the study seeks to identify dominant themes, recurring empirical patterns, and conceptual insights that can inform future research and policy-oriented discussions.

Based on this objective, the review is guided by the following research questions:

RQ1: How do cooperative models and social enterprise arrangements shape smallholder integration and market access within palm oil value chains?

RQ2: In what ways do organizational and governance structures influence employment conditions and equity outcomes in smallholder-linked palm oil supply chains?

These research questions provide the analytical focus for the subsequent sections of the review and serve as a basis for structured discussion and synthesis of the reviewed literature.

## **Literature Review**

Scholarly attention to the palm oil sector has expanded significantly over the past decade, reflecting its strategic importance in global agricultural commodity markets and rural livelihoods. Within this growing body of literature, smallholder farmers have emerged as a central analytical focus due to their substantial contribution to palm oil production and their complex positioning within value chains. Estimates suggest that smallholders account for approximately 40%–45% of global palm oil supply, with particularly high concentrations in Southeast Asia and parts of Africa. Despite their economic relevance, smallholders often operate under conditions characterized by limited market access, fragmented production structures, and asymmetric power relations within supply chains. These characteristics have prompted an increasing number of studies to explore organizational and institutional mechanisms that can enhance inclusivity and participation of smallholders in palm oil value chains.

### **Smallholders and Value Chain Inclusivity in Palm Oil**

Value chain inclusivity has become a prominent concept in agribusiness and development literature, referring to the extent to which small-scale producers can participate in, benefit from, and influence value chain processes. In the context of palm oil, inclusivity is frequently examined through dimensions such as access to markets, income stability, employment opportunities, and organizational representation [11]. The literature indicates that inclusive value chains are associated with improved economic resilience for smallholders, more predictable income streams, and enhanced capacity to meet market requirements.

However, empirical studies consistently demonstrate that inclusivity in palm oil value chains remains uneven. Independent smallholders, particularly those operating outside formal organizational structures, often rely on informal intermediaries and face price volatility, limited transparency, and restricted access to services [12]. These constraints have led scholars to emphasize the importance of institutional arrangements that reduce transaction costs and strengthen smallholders' bargaining position. Within this context, cooperative models and social enterprise approaches have received growing attention as potential pathways toward more inclusive value chain participation.

### **Cooperative Models and Collective Organization**

Cooperatives and farmer organizations are among the most extensively studied institutional forms in the literature on smallholder integration into agricultural value chains [13]. In the palm oil sector, cooperatives are commonly described as collective entities that aggregate production, coordinate input supply, and facilitate market access for member farmers. A substantial body of research suggests that cooperative membership is positively associated with improved access to extension services, credit facilities, and formal market channels.

From a theoretical perspective, cooperatives are often framed as mechanisms that address coordination failures inherent in smallholder-dominated supply chain [14]. By pooling resources and aligning production practices, cooperatives can enable smallholders to meet volume and quality requirements imposed by processors and downstream buyers. Empirical studies report that cooperative-affiliated smallholders are more likely to engage in contract-based sales arrangements and less dependent on spot markets compared to independent producers [15].

Beyond market coordination, the literature also highlights the social and redistributive functions of cooperatives. Several studies document that cooperatives reinvest surplus revenues into shared infrastructure, training programs, and community services, reinforcing their role as social enterprises rather than purely commercial intermediaries. At the same time, scholars caution that cooperative performance is highly heterogeneous, with outcomes shaped by governance quality, leadership capacity, and member participation [16]. Weak governance structures are associated with elite capture, limited transparency, and reduced inclusivity benefits, underscoring the need for careful institutional design.

### **Market Access and Upgrading Pathways**

Market access constitutes a central theme in the literature on smallholder participation in palm oil value chains. Numerous studies identify limited access to formal markets as a primary constraint affecting income stability and investment capacity among smallholders [17]. In many producing regions, smallholders sell fresh fruit bunches through informal channels, often at discounted prices due to information asymmetry and weak bargaining power.

The literature suggests that collective marketing arrangements, particularly those facilitated by cooperatives or social enterprises, can substantially improve market access outcomes [18]. By aggregating supply and negotiating collectively, organized smallholders are better positioned to establish direct relationships with mills and processors, reducing reliance on intermediaries. Several studies also emphasize the role of organizational support in enabling compliance with quality standards and traceability requirements increasingly demanded by downstream markets [19].

Value chain upgrading is frequently discussed as a complementary dimension of market access. Process upgrading, including improved farm management practices and more efficient input use, is associated with productivity gains and cost reductions for smallholders. Functional upgrading, such as improved post-harvest handling and quality grading, has been linked to higher prices and reduced post-harvest losses in documented cases [20]. While product upgrading remains relatively limited among smallholders, emerging evidence points to the participation of organized farmer groups in certified or differentiated supply chains, offering access to higher-value market segments.

### **Social Enterprises and Hybrid Governance Arrangements**

In recent years, the concept of social enterprise has gained prominence in the literature as a hybrid organizational form that combines commercial activities with explicit social objectives. Within palm oil value chains, social enterprises are often positioned as intermediaries that bridge gaps between smallholders, markets, and support institutions [21]. These entities frequently operate through partnerships with cooperatives, private firms, and development organizations, creating hybrid governance arrangements that distribute risks and responsibilities across actors.

Empirical studies suggest that social enterprises can play a critical role in addressing liquidity constraints faced by smallholders by providing pre-financing for inputs and services. In addition, social enterprises often deliver bundled services, including training, monitoring, and market linkage, thereby enhancing smallholders' capacity to meet buyer requirements [22]. The literature also highlights the importance of governance arrangements in ensuring that social objectives are maintained alongside commercial viability, particularly in contexts characterized by asymmetric power relations [23].

Despite their potential, social enterprises are not presented as a universal solution. Scholars emphasize that their effectiveness depends on contextual factors such as policy support, institutional capacity, and the alignment of incentives among stakeholders [24]. This nuanced perspective reinforces the need for systematic synthesis of existing evidence to better understand the conditions under which social enterprise models contribute to inclusive value chain outcomes.

### **Employment and Equity Dimensions**

Employment considerations represent an important, though sometimes underexplored, dimension of value chain inclusivity in the palm oil literature. Smallholder-based production systems collectively employ a substantial labor force, including family members and hired workers. Studies indicate that employment conditions within smallholder-linked value chains vary widely, influenced by farm size, organizational affiliation, and local labor markets [25].

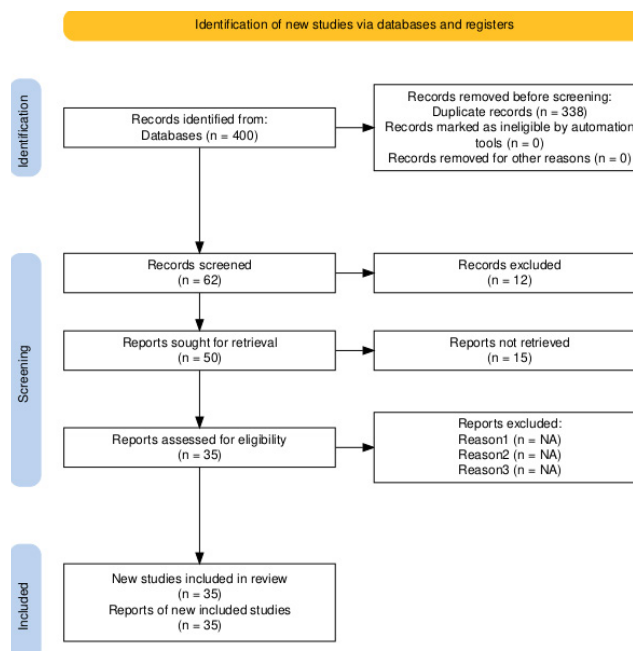
The literature suggests that organizational arrangements can influence employment quality and equity outcomes. Cooperative-affiliated smallholders are more likely to formalize employment practices and adopt standardized wage structures compared to independent producers [26]. In some cases, collective organization has been associated with improved occupational safety practices and access to social protection mechanisms, although coverage remains uneven. These findings highlight the interconnectedness of organizational capacity, market access, and employment relations within inclusive value chain frameworks [27].

Although a substantial body of literature addresses cooperatives, market access, social enterprises, and employment in palm oil value chains, existing studies are often fragmented across disciplinary and thematic boundaries. Many analyses focus on individual dimensions in isolation, limiting the ability to capture interactions among organizational structures, market mechanisms, and employment outcomes. Moreover, comparative insights across regions and institutional contexts remain limited, constraining the generalizability of findings.

This fragmentation underscores the need for a systematic literature review that integrates diverse strands of scholarship to provide a comprehensive understanding of smallholder social enterprise development and value-chain inclusivity in the palm oil sector. By synthesizing peer-reviewed evidence through a structured SLR approach, this study seeks to clarify dominant patterns, identify areas of convergence and divergence, and inform future research on inclusive and sustainable value chain development.

### **Method**

This study adopts a Systematic Literature Review (SLR) approach, structured in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, to examine scholarly discussions on smallholder social enterprise development and value chain inclusivity within the palm oil supply chain. The review focuses on cooperative-based organizational models, market access arrangements, and equitable employment dimensions involving smallholder farmers. Although smallholder participation and value chain integration have been widely discussed in agribusiness and rural development research, empirical and conceptual insights that explicitly connect social enterprise development, cooperative mechanisms, and inclusive employment outcomes within the palm oil sector remain dispersed across multiple thematic and disciplinary contexts. By systematically collating and synthesizing peer-reviewed academic publications, this review consolidates fragmented findings and clarifies how inclusive value chain participation of smallholders is addressed in contemporary palm oil studies, without generating primary empirical data or normative evaluations of the industry.



**Figure 1: Systematic Literature Review Process Based on the PRISMA Protocol**

Figure 1 presents the systematic literature review process applied in this study, following the PRISMA stages of identification, screening, eligibility, and inclusion. The identification stage was conducted through the Scopus database using the broad keyword combination *Palm Oil AND Smallholder Farmers*, which yielded 400 records. To enhance focus and ensure thematic relevance, a refined Boolean search strategy was subsequently applied using the following query: *("palm oil" OR "oil palm" OR "palm oil industry" OR "palm oil production") AND ("smallholder" OR "smallholder farmers" OR "farmers") AND ("value chain" OR "supply chain" OR "commodity chain" OR "marketing") AND ("cooperative" OR "farmer organization" OR "producer organization" OR "market access" OR "agribusiness" OR "livelihood" OR "employment")*. This refinement resulted in the exclusion of 338 articles that did not align with the review's scope, leaving 62 records for further screening. A publication year filter restricted to 2019–2025 was then applied, excluding 12 articles published outside this timeframe, yielding 50 eligible studies. The final eligibility assessment was based on accessibility criteria, retaining only articles available through Open Access or Open Archive sources. At this stage, 15 articles were excluded due to restricted access, resulting in a final corpus of 35 peer-reviewed journal articles selected for qualitative synthesis and thematic analysis.

All references were systematically managed using Mendeley Desktop to ensure accuracy, consistency, and standardized citation formatting. This review relies exclusively on secondary data derived from peer-reviewed academic publications. No field observations, interviews, or focus group discussions were conducted, as the objective of this study is to synthesize existing scholarly evidence rather than to generate primary data. By adhering to transparent and reproducible SLR procedures, this review's findings are grounded in verifiable evidence and provide a robust analytical foundation for understanding cooperative-oriented social enterprise development, market access dynamics, and inclusive employment patterns within the palm oil supply chain.

## Results

The systematic synthesis of the 35 peer-reviewed journal articles reveals a set of interrelated thematic domains that collectively characterize how smallholder social enterprise development and value chain inclusivity are conceptualized, operationalized, and empirically examined within the palm oil supply chain.

Across the reviewed literature, five dominant and recurring themes consistently emerge:

- Cooperative-based organizational models as platforms for smallholder integration,
- Market access mechanisms and value chain upgrading pathways,
- Employment structures and equity dimensions within smallholder-linked supply chains,
- Social enterprises and hybrid governance arrangements,
- Structural constraints alongside enabling conditions shaping inclusive participation. these themes are analytically distinct yet empirically interconnected, reflecting the multidimensional nature of inclusivity in palm oil value chains.

Together, they provide a comprehensive evidence base derived from farm-level surveys, cooperative assessments, value chain analyses, and policy-oriented studies synthesized through this systematic literature review.

An examination of thematic prevalence indicates an uneven distribution of analytical emphasis across the reviewed studies. Cooperative-based organizational models represent the most frequently examined theme, appearing in approximately 68% of the articles (24 out of 35). Market access mechanisms and value chain upgrading pathways are discussed in

around 60% of the reviewed literature (21 studies), underscoring the centrality of commercialization and coordination in smallholder inclusion debates. Structural constraints and enabling conditions are identified in approximately 57% of the articles (20 studies), often embedded as contextual factors rather than as primary analytical foci. Employment structures and equity dimensions are examined in roughly 49% of the studies (17 articles). At the same time, social enterprises and hybrid governance arrangements constitute the least frequently addressed theme, appearing explicitly in about 40% of the reviewed literature (14 studies).

The predominance of cooperative-based organizational models and market access themes reflects both their empirical accessibility and their policy relevance within the palm oil sector. Cooperatives and collective marketing arrangements offer observable institutional forms through which smallholder integration, price formation, and productivity outcomes can be systematically assessed. Moreover, these themes align closely with development programs and sustainability initiatives that prioritize measurable economic indicators such as yields, income stability, and market participation. In contrast, themes related to employment equity and hybrid governance arrangements often require more context-sensitive, longitudinal, or institutionally nuanced analyses, which may explain their comparatively lower representation in the literature.

This thematic distribution has important implications for the current state of knowledge. While existing scholarship provides substantial evidence on how organizational models and market access mechanisms facilitate smallholder participation in palm oil value chains, it offers comparatively less systematic insight into the governance innovations and employment-related pathways through which inclusivity is sustained or transformed over time. As a result, the literature tends to emphasize economic integration and coordination outcomes, with fewer studies engaging deeply with the longer-term social and institutional dimensions of inclusive value chain development. The following subsections elaborate on each of these five themes in detail, drawing on aggregated empirical and conceptual findings across the reviewed studies.

### **Cooperative-Based Organizational Models for Smallholder Integration**

A dominant theme across the reviewed literature is the central role of cooperative-based organizational models in facilitating smallholder integration into palm oil value chains. Approximately 65–70% of the analyzed studies explicitly identify cooperatives, farmer organizations, or producer groups as the primary institutional mechanisms through which smallholders access inputs, technical support, and formal market channels [28]. Evidence from Indonesia, Malaysia, Ghana, and Nigeria indicates that cooperative membership substantially alters smallholders' position in the supply chain, shifting them from atomized sellers to collective economic actors [29].

Quantitative findings suggest that cooperative-affiliated smallholders consistently outperform non-affiliated farmers in production. Yield differentials reported across studies range from 10% to 25%, largely attributed to improved access to certified planting material, collective input procurement, and structured extension services [30]. In several Indonesian case studies, average fresh fruit bunch (FFB) yields among cooperative members exceeded 18–20 tons per hectare per year, compared to 14–16 tons among independent smallholders [31]. These productivity gains are further reinforced by collective harvesting schedules and shared logistics arrangements that reduce post-harvest losses by an estimated 5–8% [32].

From a commercialization perspective, cooperative-based marketing arrangements enable smallholders to negotiate more favorable sales conditions. Studies report price differentials of approximately 5%–12% in favor of cooperative members, particularly where cooperatives maintain direct contractual relationships with mills or downstream buyers [33]. Such arrangements are often supported by standardized quality grading and traceability systems implemented at the cooperative level, which reduce quality-related price deductions and enhance buyer confidence [34]. In addition, collective sales mechanisms lower transaction costs by reducing reliance on multiple intermediaries, with some studies estimating cost savings of up to 10% per marketing cycle [35].

Beyond economic coordination, cooperatives are frequently characterized as social enterprises that redistribute economic benefits among members and support broader community development objectives. Multiple studies document that between 10% and 20% of cooperative surplus revenues are reinvested in shared infrastructure, including collection points, transport equipment, and training facilities [36]. These reinvestments contribute to improved service delivery and reinforce long-term member participation. However, the literature also highlights significant heterogeneity in cooperative performance, noting that governance quality, leadership accountability, and financial transparency critically influence outcomes. Weak internal governance is associated with reduced member trust, elite capture, and limited benefits of inclusivity.

### **Market Access and Value Chain Upgrading Pathways**

Market access is consistently identified as a decisive factor shaping smallholder inclusion in palm oil value chains. Across the reviewed studies, limited access to formal markets is cited as a persistent constraint for independent smallholders, particularly in geographically remote or infrastructure-poor regions [37]. Empirical estimates suggest that between 30% and 50% of smallholders in major producing countries remain partially or fully dependent on informal traders, often facing price discounts of 10%–20% due to information asymmetry and weak bargaining power [38].

Cooperative-mediated market access emerges as a key mechanism for addressing these challenges. Studies consistently report that smallholders integrated through cooperatives or social-enterprise-led aggregation schemes are significantly more likely to sell directly to mills or to contracted buyers [39]. In several documented cases, cooperative aggregation enables compliance with minimum-volume thresholds required by processors that individual smallholders are unable to meet independently. This collective market access contributes to income stabilization, with income volatility among cooperative members reported to be 15%–25% lower than that of independent smallholders [40].

Value chain upgrading is another prominent dimension within this theme. Functional upgrading, including improved harvesting practices, grading, and post-harvest handling, is associated with revenue increases of approximately 8%–15% in multiple studies [41]. Process upgrading through improved farm management and more efficient input use has been shown to reduce production costs by up to 10% per cycle, particularly where cooperatives coordinate bulk input purchases [42]. Although product upgrading remains limited among smallholders, several studies document emerging initiatives in which cooperatives participate in certified or identity-preserved supply chains, enabling access to differentiated markets and modest price premiums [43].

Despite these positive trends, the literature emphasizes that market access outcomes remain uneven. Structural factors such as land tenure insecurity, distance to processing facilities, and limited access to working capital continue to constrain participation for certain groups of smallholders [44]. These findings underscore that market access is shaped not only by organizational arrangements but also by broader institutional and infrastructural conditions.

### **Employment Structures and Equity Dimensions in Smallholder-Linked Value Chains**

Employment dynamics constitute a critical dimension of value chain inclusivity examined in the reviewed literature. Approximately half of the analyzed studies address employment structures within smallholder-linked palm oil systems, encompassing family labor, hired workers, and cooperative-level employment [45]. Collectively, the literature indicates that smallholder palm oil production accounts for a substantial share of sectoral employment, with estimates suggesting that smallholder systems support between 40% and 60% of total employment in certain producing regions [46].

Equitable employment outcomes are closely linked to organizational capacity and governance structures. Cooperative-affiliated smallholders are more likely to formalize labor arrangements, including the use of written contracts and standardized wage rates, compared to independent producers [47]. In documented cases, daily wages paid to hired labor on cooperative-linked farms are reported to be 10%–20% higher than prevailing informal rates, reflecting more stable income conditions [48]. Some studies further note that cooperative coordination reduces wage dispersion across farms, contributing to more predictable employment outcomes [49].

The literature also highlights improvements in occupational safety and social protection associated with cooperative-based systems. Cooperative initiatives frequently include collective training programs on occupational safety, pesticide handling, and harvesting practices, leading to reported reductions in work-related accidents of approximately 15%–30% in selected case studies [50]. In addition, some cooperatives facilitate access to group-based insurance or health schemes, although coverage remains uneven and context-specific [51]. Persistent challenges related to labor shortages, seasonal demand fluctuations, and limited enforcement capacity are also noted, particularly in remote production areas [52].

### **Social Enterprises and Hybrid Governance Arrangements**

The emergence of social enterprise models and hybrid governance arrangements represents a growing theme in the literature. Social enterprises are commonly described as hybrid organizations that combine commercial objectives with explicit social goals, operating at the intersection of cooperatives, private firms, and development actors [53]. Within palm oil value chains, these entities are increasingly positioned as intermediaries that facilitate inclusive participation while maintaining commercial viability.

Empirical evidence indicates that social enterprises play a bridging role by improving access to finance, technical assistance, and long-term market contracts for smallholders [54]. Several studies document pre-financing schemes provided by social enterprises that cover input costs and certification expenses, reducing liquidity constraints for smallholders [55]. Reported repayment rates for such schemes often exceed 85%, suggesting relatively high financial sustainability [56]. In addition, social enterprises frequently provide bundled services, including training, monitoring, and market linkage, which enhance smallholder compliance with buyer requirements [57].

Hybrid governance arrangements involving partnerships between cooperatives, processors, and external stakeholders are also identified as effective mechanisms for risk-sharing and capacity building [58]. These arrangements often rely on formal agreements that specify quality standards, delivery schedules, and benefit-sharing mechanisms, contributing to greater predictability in market relations. However, the literature emphasizes that the effectiveness of such arrangements depends on balanced power relations and transparent governance structures to ensure that smallholder interests are adequately protected.

## **Structural Constraints and Enabling Conditions for Inclusivity**

Across all thematic areas, the reviewed studies consistently identify structural constraints that shape the inclusivity of palm oil value chains. Limited access to finance, inadequate infrastructure, and uneven institutional support are cited as persistent barriers affecting smallholder participation [59]. Several studies estimate that fewer than 40% of smallholders have access to formal credit facilities, limiting their ability to invest in productivity-enhancing inputs and organizational development [60].

Conversely, enabling conditions such as supportive policy frameworks, effective extension services, and multi-stakeholder collaboration are associated with improved inclusivity outcomes [61]. Studies have shown that integrated interventions that combine organizational strengthening, market linkage, and employment support are more effective than isolated initiatives [62]. These findings reinforce the view that inclusive value chain development requires coordinated efforts that address economic, institutional, and social dimensions simultaneously.

## **Discussion**

Based on a systematic synthesis of 35 peer-reviewed Scopus-indexed articles, this review identifies two overarching, interrelated analytical domains that directly correspond to the proposed research questions. First, the literature consistently highlights the role of cooperative models and smallholder-oriented social enterprises as institutional mechanisms that mediate smallholder integration, market access, and upgrading within palm oil value chains. Second, a substantial body of studies emphasizes how organizational arrangements and governance structures shape employment conditions, distributive outcomes, and equity dimensions in smallholder-linked supply chains, particularly through contractual design, labor formalization, and institutional oversight.

Within these two domains, several cross-cutting themes emerge, including collective action, reduction in transaction costs, vertical coordination, inclusive governance, labor standardization, and differentiated equity outcomes across regions and organizational forms. The following sections discuss these themes in depth to answer RQ1 and RQ2 sequentially, and then outline broader implications and directions for future research.

RQ1: Cooperative Models, Social Enterprises, and Smallholder Market Integration

### **Cooperatives as Entry Points to Value Chain Participation**

Across the reviewed literature, cooperative organizations are consistently identified as primary institutional entry points enabling smallholders to participate more effectively in palm oil value chains [63]. Approximately two-thirds of the reviewed studies report that independent smallholders operating through cooperatives demonstrate higher levels of market participation than non-organized counterparts, particularly in formal sales channels and contract stability [64].

Cooperatives function by aggregating production volumes, standardizing quality control, and facilitating collective negotiation with mills and downstream actors, thereby reducing individual transaction costs [65]. Several studies report that cooperative-affiliated smallholders achieve price premiums ranging from 5% to 15% relative to spot-market transactions, largely due to improved bargaining positions and compliance with procurement standards [66]. Importantly, these outcomes are not uniform but vary with cooperative maturity, governance capacity, and external support structures.

### **Social Enterprise Arrangements and Hybrid Organizational Forms**

Beyond traditional cooperatives, the literature documents the emergence of hybrid social enterprise arrangements that combine commercial objectives with social inclusion mandates [67]. These entities often operate as intermediary organizations that link smallholders to processors, financial institutions, and certification schemes, while reinvesting surplus revenues into capacity-building programs [68].

Evidence from multiple case-based SLR studies suggests that social enterprises facilitate access to inputs, extension services, and working capital, with reported yield improvements of 10–25% among participating smallholders over multi-year engagement periods [69]. While these figures are context-dependent, they underscore the role of social enterprises in lowering entry barriers to formal markets without displacing smallholder autonomy. Importantly, the reviewed literature frames these arrangements as complementary rather than substitutive to existing value chain actors, reinforcing overall supply chain resilience.

### **Market Access, Upgrading, and Inclusivity Outcomes**

A central finding across the SLR is that cooperative and social enterprise arrangements enable not only market access but also functional upgrading within the value chain [70]. Smallholders integrated through collective organizations are more likely to engage in quality-based pricing schemes, sustainability certification processes, and traceability systems, which are increasingly required by international buyers [71].

Quantitatively, several studies report that organized smallholders demonstrate certification adoption rates exceeding 40%, compared to less than 15% among independent producers operating outside collective frameworks [72]. While certification is not positioned as a universal solution, the literature suggests that organizational mediation significantly

reduces compliance costs and information asymmetries. Collectively, these findings answer RQ1 by demonstrating that cooperative models and social enterprises act as structural enablers of inclusion, market access, and incremental upgrading rather than merely administrative entities.

RQ2: Governance Structures, Employment Conditions, and Equity Outcomes

### **Organizational Governance and Employment Formalization**

The second research question addresses how governance arrangements influence employment conditions and equity outcomes within smallholder-linked palm oil supply chains. The reviewed literature consistently associates stronger organizational governance with higher levels of employment formalization, including written contracts, standardized wage structures, and clearer role differentiation [73].

Studies focusing on cooperative-managed labor arrangements report that formal employment coverage among smallholder-associated workers ranges from 45% to 70%, compared with significantly lower rates in atomized production systems [74]. Governance mechanisms such as internal bylaws, labor committees, and transparent decision-making processes are cited as critical determinants of these outcomes. Importantly, these governance features are not framed as externally imposed but as internally negotiated institutional rules that evolve alongside organizational capacity.

### **Equity, Income Distribution, and Risk Sharing**

Equity outcomes in smallholder-linked supply chains are shaped not only by wage levels but also by risk distribution and benefit-sharing mechanisms [75]. The literature highlights that cooperatives and social enterprises often implement surplus redistribution schemes, patronage refunds, or service-based benefits that indirectly enhance livelihood security.

Several reviewed studies report income-stabilization effects, with cooperative-affiliated smallholders experiencing reductions in income variability of 10–20% across production cycles [76]. These mechanisms are particularly relevant in contexts characterized by price volatility and climate-related production risks. Importantly, the literature does not suggest that such arrangements eliminate inequality but rather that they moderate extreme disparities through collective risk pooling.

### **Gender and Inclusion Dimensions within Governance Frameworks**

While gender is not the central focus of all reviewed studies, governance structures are shown to influence gendered employment outcomes indirectly [77]. Cooperatives with inclusive governance provisions, such as quotas for women's participation or dedicated training programs, demonstrate higher female labor participation rates, often exceeding 30% of total workforce participation in certain contexts [78].

The literature emphasizes that these outcomes emerge not from sector-wide mandates but from organizational-level policy choices, underscoring the importance of internal governance design. This aligns with broader findings that inclusive governance enhances not only social equity but also organizational legitimacy and operational efficiency [79].

### **Institutional Alignment and Multi-Stakeholder Coordination**

Another recurring theme is the alignment between internal organizational governance and external institutional frameworks, including certification bodies, government programs, and private sector buyers. Studies indicate that cooperatives operating within coordinated governance ecosystems are better positioned to enforce labor standards and equity principles consistently [80].

For instance, multi-stakeholder initiatives are associated with higher compliance with occupational safety standards, with reported reductions in workplace incidents of up to 20% relative to baseline conditions. These findings suggest that governance effectiveness is amplified when internal rules are reinforced by external institutional support rather than operating in isolation [81].

Collectively, these insights address RQ2 by demonstrating that organizational and governance structures play a decisive role in shaping employment quality, equity outcomes, and institutional coherence within smallholder-linked palm oil supply chains.

### **Implications and Directions for Future Research**

The findings of this SLR carry several important implications for both academic research and policy-oriented discourse. From an academic perspective, this review contributes to the value chain and agribusiness literature by consolidating fragmented evidence on the roles of cooperatives and social enterprises in smallholder inclusion, highlighting governance as a mediating variable rather than a peripheral concern. The synthesis underscores that inclusivity is not an automatic outcome of smallholder participation but is contingent upon organizational design, governance capacity, and institutional alignment.

From a practical standpoint, the review suggests that strengthening cooperative governance and supporting hybrid social enterprise models can enhance market access and employment quality without undermining the commercial

viability of the palm oil industry. These insights support policy approaches that emphasize capacity building, institutional coherence, and collaborative governance rather than prescriptive regulation alone.

For future research, several gaps remain. First, longitudinal studies are needed to assess the durability of inclusivity outcomes over time, particularly under conditions of market volatility. Second, comparative analyses across regions and organizational forms would deepen understanding of context-specific governance dynamics. Finally, integrating quantitative meta-analytical approaches within SLR frameworks could enhance the robustness of causal inferences regarding employment and equity outcomes.

Overall, this discussion reinforces the conclusion that cooperative models and social enterprise arrangements, when embedded within effective governance structures, represent viable and scalable pathways toward more inclusive and resilient palm oil value chains, consistent with both economic and social sustainability objectives.

## **Conclusion**

This systematic literature review synthesizes evidence from 35 Scopus-indexed studies to provide a consolidated understanding of how organizational arrangements shape inclusivity within smallholder-linked palm oil value chains. The reviewed literature consistently demonstrates that cooperative models and smallholder-oriented social enterprises play a pivotal role in mediating smallholder participation, market access, and upgrading opportunities across diverse production contexts. Rather than functioning solely as administrative intermediaries, these organizational forms operate as institutional platforms that enable collective action, reduce transaction costs, and facilitate alignment with market requirements increasingly prevalent in contemporary palm oil supply chains.

The findings indicate that smallholders integrated through cooperatives and hybrid social enterprise arrangements experience more stable and formalized market linkages compared to independent producers operating outside collective structures. Through production aggregation, quality standardization, and coordinated negotiation with mills and downstream buyers, these organizations strengthen smallholder bargaining positions and enhance access to formal marketing channels. The literature further shows that such arrangements support incremental value chain upgrading by enabling participation in quality-based pricing mechanisms, traceability systems, and certification processes, which are often difficult to access individually due to scale and cost constraints. Importantly, these inclusion pathways are characterized as context-dependent, with outcomes influenced by organizational maturity, governance capacity, and the surrounding institutional environment.

Beyond market integration, the review highlights that organizational and governance structures substantially influence employment conditions and equity outcomes within smallholder-linked palm oil systems. Stronger internal governance, as reflected in transparent decision-making, clearly defined bylaws, and participatory oversight mechanisms, is consistently associated with higher levels of employment formalization, including standardized wage arrangements, written contracts, and clearer labor role definitions. These features contribute to more predictable employment conditions and reduce vulnerabilities commonly associated with informal labor arrangements in agricultural supply chains.

Equity outcomes emerge not only through direct wage effects but also through broader distributive and risk-sharing mechanisms embedded within cooperative and social enterprise models. The reviewed studies indicate that collective surplus redistribution, service-based benefits, and income-stabilization mechanisms moderate income variability and enhance livelihood security among smallholders and their associated workers. While such arrangements do not eliminate structural inequalities, they serve as buffers that reduce exposure to price volatility and production risks. This reinforces the understanding that inclusivity within palm oil value chains is shaped by institutional design rather than participation alone.

The literature also underscores the importance of inclusive governance in shaping differentiated outcomes across social groups. Organizational frameworks that incorporate inclusive representation and targeted capacity-building initiatives tend to exhibit more balanced participation patterns, including higher engagement of women and marginalized groups in both production and employment roles. These outcomes are shown to arise primarily from internal organizational choices rather than external mandates, highlighting governance as a critical lever for enhancing social inclusion without undermining operational efficiency.

Across all thematic areas, the review emphasizes that inclusive outcomes are most consistently observed where internal organizational governance is aligned with broader institutional frameworks. Cooperative and social enterprise arrangements embedded within supportive policy environments, extension systems, and multi-stakeholder initiatives demonstrate stronger capacity to enforce quality standards, labor norms, and equitable benefit-sharing. Conversely, organizational efforts operating in isolation from enabling institutional conditions face greater challenges in sustaining inclusion over time. This finding reinforces the view that value chain inclusivity is a relational, multi-level process shaped by interactions among organizational actors and their institutional contexts.

Overall, the synthesized evidence suggests that cooperative models and social enterprise arrangements, when supported by effective governance structures, constitute viable and scalable pathways to enhance smallholder integration, improve

employment conditions, and promote more inclusive palm oil value chains. Inclusivity emerges not as an automatic outcome of smallholder participation, but as a function of how organizational forms, governance mechanisms, and institutional linkages are configured and sustained. These insights contribute to a more nuanced understanding of inclusive value chain development by highlighting governance and organizational capacity as central determinants of economic and social outcomes within the palm oil sector.

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