

Evaluating the Social Dimension of ZED Certification: A Qualitative Study of MSMEs in Haryana

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Abstract

The growing emphasis on sustainable industrial development has increased attention to integrating economic, environmental and social sustainability within manufacturing systems. In India, the Zero Defect Zero Effect (ZED) Certification Scheme was introduced to improve the quality standards and environmental performance of micro, small and medium enterprises (MSMEs). However, limited research has examined how the framework operationalises social sustainability within workplace settings. This study examines the social sustainability dimension of the ZED framework through qualitative field-based evidence collected from 92 manufacturing MSMEs in Haryana, including 46 ZED-certified and 46 non-certified firms. A matched comparative design was adopted to improve comparability across firms based on size, industrial classification and product similarity. Data were collected through field observations, open-ended interviews and handwritten field notes and analysed using a manual inductive thematic analysis. The findings indicate that while ZED certification contributes to stronger documentation systems, procedural awareness and visible safety compliance, deeper workplace practices relating to labour welfare, safety enforcement, working conditions and contract labour accountability remain unevenly institutionalised. The study further benchmarks the ZED framework against international social sustainability frameworks and reporting systems, including ISO 26000, SA 8000, B Corp Certification, the ILO Better Work Programme and the Business Responsibility and Sustainability Reporting framework. The comparison suggests that ZED lacks measurable social sustainability indicators and structured

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accountability mechanisms necessary for consistent workplace implementation. The findings indicate that the framework appears more effective in improving procedural compliance than in shaping deeper workplace practices. The study concludes by proposing policy reforms aimed at strengthening the social sustainability dimension of the ZED framework within MSME contexts.

Keywords

ZED Scheme, triple bottom line, MSMEs, social sustainability, qualitative analysis, worker welfare

Introduction

Sustainability in manufacturing has increasingly evolved beyond narrow concerns of productivity and environmental compliance to include broader questions of labour welfare, workplace equity and long-term social responsibility (Blandino & Montagna, 2025). Contemporary sustainability discourse emphasises that industrial systems cannot be considered sustainable if economic and environmental gains are achieved at the cost of worker well-being and social protection (Zafar et al., 2023). This broader understanding is reflected in the triple bottom line (TBL) framework, which conceptualises sustainability through the interconnected dimensions of profit, planet and people (Elkington, 1998). While the economic and environmental dimensions of sustainability often receive greater institutional and policy attention, the social dimension remains comparatively underdeveloped, particularly within manufacturing systems operating under resource constraints (Mies & Gold, 2021). Social sustainability includes issues such as occupational safety, fair wages, worker welfare, training, inclusivity, reasonable working hours and equitable labour practices, all of which contribute to organisational resilience and long-term industrial sustainability (Gamberini & Pluchino, 2024).

The importance of social sustainability becomes particularly significant within micro, small and medium enterprises (MSMEs), which represent a major source of industrial employment in developing economies such as India (Mani et al., 2020). Despite their economic importance, many MSMEs operate through informal labour arrangements, weakly formalised workplace systems and limited administrative capacity (Pham & Srivastava, 2024). Existing research by Sharma et al. (2026b) and Johanes et al. (2022) has shown that workplace practices in MSMEs are often characterised by inconsistent safety implementation, informal labour management and uneven welfare systems. Such conditions may affect both worker well-being and broader organisational stability.

In response to these challenges, sustainability certifications and governance frameworks have increasingly emerged as institutional mechanisms intended to shape organisational behaviour and encourage firms to adopt more structured operational practices (Wörner et al., 2025). International frameworks such as ISO 26000, SA 8000, B Corp Certification, the ILO Better Work Programme and Fair Trade or Ethical Trading Initiative (ETI) standards attempt to institutionalise

social sustainability through measurable indicators, periodic audits, reporting systems and structured compliance mechanisms (El-Said et al., 2022). These frameworks operationalise social sustainability through structured indicators and accountability mechanisms relating to workplace practices and labour conditions (Torres et al., 2023).

Within the Indian context, the Government of India introduced the Zero Defect Zero Effect (ZED) Certification Scheme to improve the quality standards and environmental performance of MSMEs while enhancing their global competitiveness. ZED certification is organised across Bronze, Silver and Gold levels and evaluates firms across multiple operational parameters related to manufacturing quality, environmental management, process efficiency and workplace systems. The scheme has contributed to increasing awareness regarding quality management and environmental responsibility among MSMEs and has encouraged greater documentation and procedural standardisation in several operational areas.

The distribution of operational parameters across certification levels is illustrated in Table 1.

As illustrated in Table 1, the majority of ZED parameters focus on operational efficiency, quality management and environmental processes, while comparatively fewer parameters directly address social sustainability and labour-related workplace systems. The specific social sustainability parameters embedded within the framework are summarised in Table 2.

However, despite its broader sustainability orientation, the social sustainability dimension within the ZED framework remains comparatively weakly operationalised. Although the framework includes parameters relating to occupational safety, human resource management and workplace organisation, these provisions remain broadly defined and supported by limited measurable indicators or implementation guidance. In highly informal MSME environments, such ambiguity may result in uneven implementation of workplace practices across firms (Nautiyal et al., 2025).

Despite the growing policy significance of the ZED Scheme, limited research has examined how its social sustainability provisions function within workplace settings. Existing studies have focused primarily on quality improvement, environmental performance and manufacturing competitiveness, while comparatively little attention has been devoted to labour practices and workplace welfare systems within certified MSMEs. In addition, limited comparative evidence exists regarding differences between ZED-certified and non-certified firms in relation to social sustainability practices.

Against this background, the present study critically examines the social sustainability dimension of the ZED Certification Scheme through field-based evidence collected from manufacturing MSMEs in Haryana. Drawing upon qualitative field inquiry across 92 MSMEs, including 46 ZED-certified and 46 non-certified firms, the study investigates how social sustainability practices are operationalised within workplace environments and evaluates the extent to which ZED contributes to the institutionalisation of meaningful social practices. The study further benchmarks the social sustainability orientation of ZED against

Table I. Distribution of ZED Certification Parameters Across Bronze, Silver and Gold Levels.

S. No.	Parameters	Bronze	Silver	Gold
1	Leadership	✓	✓	✓
2	Swachh Workplace	✓	✓	✓
3	Occupational (Workplace) Safety	✓	✓	✓
4	Measurement of Timely Delivery	✓	✓	✓
5	Quality Management	✓	✓	✓
6	Human Resource Management		✓	✓
7	Daily Works Management		✓	✓
8	Planned Maintenance & Calibration		✓	✓
9	Process Control		✓	✓
10	Product Quality & Safety (Testing / Certification)		✓	✓
11	Material Management		✓	✓
12	Energy Management		✓	✓
13	Environment Management		✓	✓
14	Measurement and Analysis		✓	✓
15	Supply Chain Management			✓
16	Risk Management			✓
17	Waste Management (Muda, Mura, Muri)			✓
18	Technology Selection & Upgradation			✓
19	Natural Resource Conservation			✓
20	Corporate Social Responsibility			✓

Source: MSME sustainable (ZED) certification framework and guidelines, Government of India.

Notes: The table illustrates the distribution of operational parameters across the three certification levels within the ZED framework. Parameters directly associated with social sustainability remain limited in comparison to quality, process and environmental management dimensions.

major international frameworks and sustainability reporting systems in order to identify structural gaps and potential areas for policy reforms.

The study is guided by the following objectives:

1. To examine how the social sustainability dimension of the ZED Scheme is operationalised within MSMEs
2. To compare social sustainability practices between ZED-certified and non-certified MSMEs
3. To evaluate the extent to which the ZED framework institutionalises social sustainability practices in comparison to established international frameworks
4. To propose policy reforms for strengthening the social sustainability dimension of the ZED framework

Table 2. Operationalisation of Social Sustainability Within the ZED Framework.

Parameter No.	ZED Parameter	Social Sustainability Dimension	Certification Level	Operational Depth Within ZED	Institutional Limitation
3	Occupational safety	Workplace safety and worker protection	Bronze, Silver, Gold	Basic safety visibility and compliance expectations	Limited emphasis on behavioural enforcement and safety culture
6	Human resource management	Workforce administration and employee management	Silver, Gold	Encourages HR documentation and record maintenance	Lacks measurable welfare and employee protection indicators
7	Daily work management	Workplace coordination and labour organisation	Silver, Gold	Focuses on operational workflow management	Limited guidance on labour conditions and worker participation
20	CSR and community engagement	Social responsibility and external stakeholder engagement	Gold	Broad expectation of social contribution	No structured framework for worker-centred social accountability

Source: Authors' compilation based on the MSME sustainable (ZED) certification framework and guidelines.

Note: The table summarises the principal ZED parameters associated with social sustainability and highlights the operational limitations affecting their institutional implementation within MSMEs.

To situate these concerns within existing scholarship, the following section reviews the literature on social sustainability, MSME workplace systems and the role of certification frameworks in shaping organisational practices.

Literature Review

Triple Bottom Line and Social Sustainability

The understanding of sustainability within industrial systems has expanded beyond economic growth to include environmental protection and social responsibility (De Almeida Barbosa Franco et al., 2024). This broader perspective is reflected in the TBL framework proposed by Elkington (1998), which conceptualises sustainability through the interconnected dimensions of profit, planet and people. While economic and environmental sustainability often receive greater institutional attention due to their measurable nature, the social dimension remains comparatively difficult to operationalise within organisational systems (Bentley, 2025).

Social sustainability within manufacturing environments includes issues relating to occupational safety, labour welfare, training, equitable treatment, working conditions and worker well-being (Firescu & Filip, 2025). Existing research suggests that industrial sustainability initiatives frequently prioritise environmental compliance and production efficiency while treating labour welfare primarily as a compliance obligation rather than an integrated organisational objective (Montesano et al., 2023). Scholars have therefore argued that meaningful social sustainability requires structured organisational systems capable of embedding labour protections and welfare practices into everyday workplace routines (Amrutha & Geetha, 2019).

The importance of social sustainability becomes particularly significant within labour-intensive manufacturing systems where worker welfare directly affects productivity, organisational stability and long-term operational resilience (Kumari & Singh, 2024). Studies have shown that safe working environments, structured training systems and stable labour practices contribute not only to worker well-being but also to improved operational efficiency and reduced workforce instability (Firmansyah et al., 2024).

MSMEs, Informality and Workplace Systems

The challenges associated with implementing social sustainability are especially pronounced within MSMEs, which operate under conditions of financial constraints, informal managerial systems and limited administrative capacity (Gonçalves et al., 2024). In developing economies such as India, MSMEs represent a major source of industrial employment but often rely on flexible labour arrangements and weakly formalised workplace systems (Hammer et al., 2022).

Research on MSMEs has consistently highlighted the prevalence of informal labour relations, discretionary management practices and inconsistent implementation of worker welfare systems (Au et al., 2023; De Carvalho et al., 2021). Many enterprises lack structured human resource systems, formal grievance

mechanisms or standardised workplace policies relating to safety, working hours and employee welfare (Graham et al., 2020). Instead, workplace decisions frequently depend on owner discretion and operational pressures associated with fluctuating production demands.

The widespread use of contract labour further complicates accountability structures within MSMEs. Outsourced labour arrangements may reduce operational costs and increase flexibility for firms but often create fragmented responsibility for worker welfare and workplace protection (Singh et al., 2019). Such conditions can weaken the implementation of consistent social sustainability practices across workplaces.

Given these structural limitations, scholars have argued that external governance mechanisms such as sustainability certifications and reporting systems may play an important role in encouraging organisational formalisation and improved workplace governance within MSMEs (Nautiyal et al., 2025).

Sustainability Certifications and Social Sustainability Governance

Sustainability certifications increasingly function as governance mechanisms designed to shape organisational behaviour through standards, monitoring systems and compliance procedures (Martinez, 2025). In the context of social sustainability, certification frameworks attempt to translate broad ethical principles into operational workplace practices through measurable indicators and accountability mechanisms.

Research suggests that the effectiveness of certification systems depends significantly on the extent to which sustainability expectations are clearly operationalised within organisational processes (Rector et al., 2022). Frameworks incorporating measurable indicators, audits, reporting systems and worker accountability mechanisms are generally more effective in encouraging sustained organisational implementation of labour-related practices (Torres et al., 2023). In contrast, systems relying primarily on broad normative expectations may encourage symbolic compliance in which visible documentation improves without substantial transformation of workplace practices (Durand et al., 2017).

International frameworks such as SA 8000, ISO 26000, B Corp Certification and the ILO Better Work Programme operationalise social sustainability through structured standards relating to occupational safety, labour rights, welfare systems, training and worker participation (Chiarini & Vagnoni, 2017). Similarly, the Business Responsibility and Sustainability Reporting (BRSR) framework in India requires structured disclosure relating to employee welfare, workplace safety, contract labour and grievance mechanisms. These systems demonstrate the importance of measurable indicators and accountability structures in institutionalising workplace sustainability practices.

ZED and the Social Sustainability Gap

The ZED Certification Scheme was introduced by the Government of India to improve manufacturing quality, operational efficiency and environmental

responsibility among MSMEs. The framework seeks to strengthen the competitiveness of Indian MSMEs through structured certification processes linked to manufacturing and sustainability performance.

Although the framework includes certain parameters relating to occupational safety, human resource management and workplace organisation, its social sustainability dimension remains comparatively broad and weakly operationalised. Unlike international social sustainability frameworks that rely on measurable labour indicators and structured accountability mechanisms, the social provisions within ZED provide limited guidance regarding implementation and performance evaluation.

Despite the increasing policy importance of the ZED framework, limited research has examined how its social sustainability dimension functions within actual workplace settings. Existing discussions have largely focused on manufacturing quality, environmental performance and competitiveness, while comparatively little attention has been devoted to labour-related practices and workplace governance systems within certified MSMEs.

Accordingly, the present study examines how social sustainability practices are operationalised within ZED-certified and non-certified MSMEs and evaluates the extent to which the framework contributes to the institutionalisation of workplace sustainability practices. The study further benchmarks ZED against major international social sustainability frameworks in order to identify structural limitations and potential areas for policy reforms.

Building on these conceptual concerns, the study adopts a comparative field-based research design to examine how social sustainability practices are operationalised within ZED-certified and non-certified MSMEs.

Methodology

Research Design

This study adopts a qualitative comparative research design to examine how the social sustainability dimension of the ZED Certification Scheme is operationalised within manufacturing MSMEs in Haryana. A qualitative approach was considered appropriate because the study seeks to understand workplace practices, organisational behaviour and labour-related experiences that cannot be adequately captured through quantitative indicators alone (Awasthy, 2015; Lall, 2023). Social sustainability within MSMEs often operates through informal managerial arrangements, undocumented practices and workplace routines that require direct field-level engagement to be examined meaningfully. Consequently, field-based qualitative inquiry provides greater insight into how social sustainability practices are interpreted, implemented and experienced within everyday workplace settings.

The study further adopts a matched comparative framework to enable systematic comparison between ZED-certified and non-certified MSMEs operating under relatively similar structural conditions. Comparative designs are particularly important in MSME research because firms often differ substantially in terms of size, industrial processes, managerial structures and operational

complexity, all of which may influence workplace practices independently of certification status (Dewi et al., 2025; Sun & Cheng, 2002). Without appropriate matching, observed differences between certified and non-certified firms may reflect broader structural variation rather than the potential influence of certification systems. The matched comparative design, therefore, improves internal comparability by reducing observable differences between firms and allowing the analysis to focus more directly on variation in workplace practices and organisational routines associated with certification status.

The study is interpretive rather than causal in orientation. The objective is not to establish direct causal effects of certification but to critically examine how social sustainability practices are organised within workplace settings and whether certification appears associated with greater institutionalisation of such practices. Accordingly, the findings are interpreted as comparative and exploratory rather than causal.

Sampling Strategy and Matched Comparative Framework

The study draws upon field evidence collected from 92 manufacturing MSMEs located across five districts of Haryana: Faridabad, Gurugram, Panipat, Karnal and Sonapat. Haryana was selected as the study region because it contains a relatively high concentration of ZED-certified manufacturing MSMEs, particularly at higher certification levels, making it an appropriate empirical setting for examining certification-related workplace practices. The selected districts also represent important industrial clusters characterised by diverse manufacturing activities, including textiles, engineering products, food processing, machinery manufacturing, fabricated metal products and apparel production.

The final sample consisted of 46 ZED-certified MSMEs and 46 non-certified MSMEs. The study employed a structured one-to-one matching strategy designed to improve comparability between certified and non-certified firms. Matching was conducted sequentially using three criteria: (a) firm size category (micro, small and medium); (b) two-digit National Industrial Classification (NIC) sector classification; and (c) product-level similarity. The profile of the matched ZED-certified firms included in the study is presented in Table 3. This matching strategy was adopted to minimise structural variation across firms and ensure that comparisons were conducted between enterprises operating within relatively similar production environments.

The ZED-certified sample was restricted to firms holding Silver or Gold certification levels. Bronze-certified firms were excluded because Bronze certification relies primarily on self-assessment procedures without mandatory external verification. Since the study aims to evaluate whether certification contributes to the institutionalisation of workplace practices, the inclusion of externally verified Silver and Gold firms was considered methodologically more appropriate. In addition, only firms that had held certification for more than 1 year were included in the study. This criterion was introduced to reduce the likelihood of capturing temporary audit-driven adjustments immediately following certification and instead examine more established organisational practices.

Table 3. Profile of Matched ZED-certified MSMEs Included in the Study ($n = 46$).

Category	Classification	Number of Firms	Percentage
Firm size	Micro	12	26.09
	Small	28	60.87
	Medium	6	13.04
Certification level	Silver	21	45.65
	Gold	25	54.35
Sector (NIC-2)	Food products (10)	6	13.04
	Textiles (13)	10	21.74
	Wearing apparel (14)	9	19.57
	Leather (15)	2	4.35
	Chemicals (20)	1	2.17
	Rubber & plastics (22)	1	2.17
	Fabricated metals (25)	5	10.87
	Electronics (26)	1	2.17
	Electrical equipment (27)	3	6.52
	Machinery (28)	4	8.70
	Motor vehicles (29)	3	6.52
	Furniture (31)	1	2.17
District	Faridabad	17	36.96
	Gurugram	10	21.74
	Panipat	8	17.39
	Karnal	6	13.04
	Sonipat	5	10.87

Source: Authors' fieldwork data collected from manufacturing MSMEs in Haryana (January–May 2025).

Note: The sample includes only Silver- and Gold-certified MSMEs that had maintained certification status for more than 1 year. Bronze-certified firms were excluded because Bronze certification relies primarily on self-assessment without mandatory external verification.

The identification of certified firms was based on official government records relating to ZED-certified enterprises. Non-certified firms were subsequently selected through the matching framework to ensure comparability across sectoral and operational characteristics. During the fieldwork process, two initially identified ZED firms could not be visited due to non-participation, and their corresponding matched non-certified firms were also excluded in order to maintain balance within the comparative design.

Although the matched framework improves internal comparability, it does not eliminate the possibility of selection bias arising from unobserved organisational characteristics such as managerial orientation, internal leadership quality or prior commitment to formalisation practices. Consequently, the findings should be

interpreted cautiously as comparative associations rather than definitive evidence of certification effects.

Data Collection Procedures

Data collection was conducted between January and May 2025 through field visits to participating MSMEs. A field-based approach was considered particularly important because social sustainability practices within MSMEs are frequently informal, partially undocumented and embedded within day-to-day workplace interactions. Direct observation and workplace engagement, therefore, provided important contextual insights that would have been difficult to capture through structured surveys alone.

Data were collected primarily through open-ended unstructured interviews and workplace observations. The use of open-ended interactions allowed respondents to discuss operational realities, workplace challenges, labour practices and organisational routines in greater depth than would have been possible through highly structured interview formats. This approach was especially useful given the diversity of MSME organisational structures and the highly informal nature of many workplace practices.

Interviews were conducted with multiple categories of respondents, including firm owners, plant heads, supervisors, managers and workers. In several micro enterprises where managerial and operational roles overlapped, interviews were conducted with individuals directly responsible for day-to-day operational activities. Each field interaction lasted approximately 1 hour on average, allowing sufficient time for workplace observation and discussion regarding labour practices, safety systems, working conditions, welfare arrangements and organisational procedures.

The interviews focused on themes relating to occupational safety, working hours, human resource practices, leave systems, wages, welfare benefits, training arrangements, contract labour management and workplace organisation. In addition to interviews, workplace observations were conducted to examine visible operational practices such as the use of protective equipment, safety signage, workplace organisation, employee interactions and evidence of formalised management systems. Observational methods were particularly important because they allowed the study to compare formal organisational claims with observable workplace conditions.

Due to concerns regarding confidentiality and organisational sensitivity, many respondents were unwilling to participate in audio-recorded interviews. Consequently, detailed handwritten field notes were taken during and immediately after field interactions. A structured field diary was also maintained throughout the fieldwork process to document recurring observations, workplace conditions and comparative reflections across firms. The absence of audio recording may have limited verbatim documentation; however, reliance on field notes facilitated more open discussion among respondents regarding sensitive labour-related issues.

A pilot field exercise conducted in Bangalore Urban prior to the primary field-work helped refine the observational approach, interview structure and thematic focus areas used during the Haryana field visits.

Analytical Approach

The study employed a manual inductive thematic analysis approach based on an iterative review of field notes and observational records. An inductive analytical strategy was considered appropriate because the study aimed to identify recurring workplace patterns and organisational practices emerging from field observations rather than test predetermined hypotheses through rigid coding categories (Elo & Kyngäs, 2008; Pearson et al., 2025).

Following field visits, handwritten notes and observational records were reviewed repeatedly to identify recurring themes and comparative patterns across firms. The analysis specifically focused on differences and similarities between ZED-certified and non-certified MSMEs in relation to workplace organisation and social sustainability practices. During this process, recurring issues relating to occupational safety, informal human resource systems, welfare practices, working hours, contract labour management and organisational formalisation emerged consistently across field observations.

The analytical process involved manually grouping recurring observations and interview insights into broader thematic categories. Themes were refined iteratively through repeated comparison across field records and between certified and non-certified firms. This comparative review process helped identify patterns relating not only to the presence of workplace practices but also to the degree of organisational institutionalisation underlying such practices.

The use of thematic interpretation enabled the study to move beyond isolated workplace observations and identify broader structural patterns relating to social sustainability practices within MSMEs. The analysis further incorporated selected respondent quotations to strengthen contextual interpretation and illustrate recurring workplace experiences identified during fieldwork.

Ethical Considerations

Given the sensitivity associated with workplace practices, labour conditions and organisational disclosure, ethical safeguards formed an important component of the research process. Participating firms were provided with informed consent information sheets, consent forms and signed non-disclosure agreements clearly stating that neither firms' nor respondents' identities would be disclosed in any form. These measures were introduced to encourage candid discussion regarding workplace practices and organisational challenges.

To maintain confidentiality, firm identities were anonymised following data collection and replaced with numerical identifiers within field records. Respondents were also assured that the findings would be presented in an aggregated form without identifying individual firms or participants. Wherever possible, organisational claims relating to workplace systems and operational practices

were cross-checked through workplace observations and available organisational records in order to improve data reliability and reduce reporting inconsistencies.

The study remained attentive to issues of respondent comfort and voluntary participation throughout the fieldwork process. Participation was entirely voluntary, and respondents retained the right to decline the discussion of sensitive organisational matters during interviews.

The following section presents the findings emerging from a comparative field analysis of ZED-certified and non-certified MSMEs.

Findings

The findings indicate that while ZED certification contributes to greater procedural awareness and workplace documentation, its influence on deeper social sustainability practices remains uneven. Although certified firms generally displayed stronger visible compliance measures and better documentation systems, many labour-related practices remained weakly institutionalised and dependent on managerial discretion.

Occupational Safety and Workplace Compliance

Occupational safety was one of the few areas where visible differences emerged between certified and non-certified firms. ZED-certified MSMEs were generally more likely to display safety signage, maintain basic protective equipment and demonstrate awareness of workplace safety requirements. However, implementation often remained inconsistent.

In several certified firms, protective equipment was available but not regularly used during production activities. Safety compliance frequently depended on supervisory monitoring rather than embedded workplace behaviour. A supervisor from a certified fabrication unit stated:

Workers wear safety gear when supervisors are around, but during busy hours many remove it because it slows the work.

Similarly, while fire extinguishers and emergency signage were commonly present in certified firms, workers in smaller enterprises often demonstrated limited awareness regarding emergency procedures. Non-certified firms generally displayed weaker safety systems with minimal visible safety arrangements beyond basic legal compliance.

These observations suggest that certification may improve visible safety compliance without necessarily producing deeper behavioural integration of workplace safety practices.

Informal Labour Systems and Uneven Welfare Practices

Human resource systems across many MSMEs remained weakly formalised. Although certified firms often maintained better attendance records and

workplace documentation, labour management practices continued to rely heavily on informal decision-making processes.

In several firms, leave approval, work allocation and wage-related decisions were handled directly by owners or supervisors without formal written procedures. A worker from a non-certified textile unit explained:

If we need leave, we ask directly. Sometimes it is allowed, sometimes not.

Even within certified enterprises, documentation did not always translate into consistent workplace implementation. Some firms appeared to maintain records primarily for compliance purposes, while operational practices remained flexible and informally managed. An owner from a certified manufacturing unit remarked:

We now keep records properly because certification requires it, but daily management still depends on practical situations.

The use of contract labour further fragmented workplace accountability. In many firms, outsourced workers received weaker welfare support and limited integration into workplace systems compared to permanent employees. A supervisor from a certified textile unit stated:

Company workers receive benefits, but contract workers are managed separately by contractors.

Training practices also remained largely informal across both certified and non-certified firms. Most workers learned operational tasks through observation and direct supervision rather than structured training programmes. Similarly, formal inclusion or diversity initiatives were largely absent across the surveyed enterprises.

Overall, the findings suggest that although certification may encourage procedural formalisation, workplace welfare systems and labour protections remain unevenly institutionalised within MSMEs.

Documentation Without Deep Institutionalisation

One of the most consistent patterns emerging from the field evidence was the distinction between procedural documentation and substantive workplace transformation. Certified firms generally demonstrated stronger documentation systems, greater compliance visibility and improved workplace organisation compared to non-certified firms. However, many underlying labour practices remained informal and inconsistently implemented.

Several respondents acknowledged that certification encouraged firms to improve record-keeping and procedural organisation. A manager from a certified manufacturing unit stated:

Before certification, many things were handled informally. Now at least records and procedures are more organised.

At the same time, the findings provide limited evidence that certification consistently transformed deeper organisational practices relating to labour welfare, working conditions or workplace accountability. Informal labour management, uneven welfare systems and flexible enforcement of workplace rules remained common even among certified firms. A comparative summary of the observed workplace patterns across certified and non-certified firms is presented in Table 4.

These findings suggest that the current structure of the ZED framework may strengthen procedural compliance and documentation practices more effectively than the institutionalisation of substantive social sustainability practices within workplace environments.

To further contextualise these findings, the following section benchmarks the ZED framework against selected international social sustainability frameworks and reporting systems.

Benchmarking ZED Against Social Sustainability Frameworks

The field findings suggest that while the ZED framework contributes to procedural formalisation and greater compliance visibility within MSMEs, its social sustainability provisions remain less operationally developed than those found in major international social sustainability frameworks. This becomes particularly evident when the framework is compared with systems such as SA 8000, ISO 26000, B Corp Certification, the ILO Better Work Programme and the BRSR framework in India.

A key difference lies in the use of measurable indicators and structured accountability mechanisms. International frameworks typically operationalise social sustainability through clearly defined standards relating to occupational safety, working conditions, labour rights, welfare systems, training practices and worker participation (Hofstad, 2023). Many of these frameworks also incorporate audits, reporting systems, grievance mechanisms or periodic assessments designed to monitor implementation and encourage organisational accountability. Table 5 summarises the comparative differences between the ZED framework and selected international social sustainability frameworks.

By contrast, the social sustainability provisions within ZED remain comparatively broad and weakly specified. Although the framework includes parameters relating to occupational safety, human resource management and workplace organisation, it provides limited operational guidance regarding implementation and evaluation.

This limitation was reflected during field interactions. Several respondents indicated that expectations relating to worker welfare and labour practices were less clearly defined than requirements relating to production systems or quality management. An owner from a certified engineering unit remarked:

For quality and machines, the requirements are clear. For workers and welfare, it is more general.

Table 4. Comparative Patterns of Social Sustainability Practices Across ZED-certified and Non-certified MSMEs.

Social Sustainability Dimension	ZED-certified MSMEs	Non-certified MSMEs	Comparative Pattern	Institutional Interpretation
Occupational safety	Visible safety signage and basic PPE systems more common	Limited safety visibility and weak procedural systems	Certification improves visible compliance measures	Safety systems remain weakly embedded in workplace routines
Human resource practices	Better documentation and attendance records	Predominantly informal labour management	Formalisation improves at the procedural level	HR systems remain dependent on managerial discretion
Wages and leave	More structured leave practices in medium firms	Leave practices mostly verbal and informal	Some procedural improvement among certified firms	Welfare implementation remains uneven across firm sizes
Training practices	Limited structured training; mainly on-the-job learning	Informal skill transfer systems	Minimal distinction across groups	Skill development remains weakly institutionalised
Contract labour management	Welfare protections stronger for permanent workers	Similar fragmentation of labour accountability	Contract labour excluded from structured welfare systems	Outsourcing weakens organisational accountability
Working hours	Monitoring exists but extended hours during production peaks	Frequent informal extension of work hours	Production demands override formal systems	Operational pressures dominate labour regulation
Inclusivity and diversity	No formal inclusion systems observed	Similar absence of inclusion practices	Inclusivity remains largely absent	Social sustainability narrowly interpreted
Overall organisational Pattern	Stronger procedural documentation and compliance awareness	Informal and weakly documented systems	Certification improves procedural visibility	Limited transformation of deeper workplace practices

Source: Authors' fieldwork and thematic analysis (2025).

Note: The findings are based on qualitative field observations, open-ended interviews and a comparative thematic analysis conducted across 92 manufacturing MSMEs in Haryana.

Table 5. Comparative Benchmarking of ZED Against Major Social Sustainability Frameworks.

Social Sustainability Dimension	ZED Framework	International Frameworks (ISO 26000, SA8000, B Corp, Better Work, ETI)	BRSR Framework	Institutional Implication
Occupational safety	Basic compliance-oriented provisions	Structured safety systems with monitoring and audits	Safety disclosure requirements	Weak operational enforcement within ZED
Working hours	Limited operational guidance	Explicit working-hour standards and monitoring	Limited reporting requirements	Informal labour control remains unchecked
Wages and welfare	Broad welfare expectations	Measurable labour welfare and wage standards	Wage disclosure requirements	Lack of measurable welfare indicators
Human resource systems	Basic HR documentation focus	Structured labour governance systems	Employee reporting obligations	Procedural formalisation without deeper institutionalisation
Worker training	Weakly specified	Formal training and capability development systems	Partial reporting requirements	Limited organisational learning structures
Inclusivity and non-discrimination	Minimal emphasis	Explicit diversity and anti-discrimination standards	Gender and inclusion disclosures	Inclusion remains weakly operationalised
Contract labour accountability	Limited accountability provisions	Strong labour accountability mechanisms	Mandatory contract labour disclosures	Fragmented labour responsibility persists
Grievance mechanisms	Weakly defined	Formal worker grievance and participation systems	Disclosure-based accountability	Limited worker voice structures
Reporting and accountability	Limited documentation requirements	Strong audit and reporting systems	Structured mandatory disclosures	Weak monitoring and implementation consistency

Source: Authors' compilation based on ZED documentation, international social sustainability frameworks and BRSR reporting guidelines.

Note: The comparison focuses specifically on dimensions relating to workplace governance and social sustainability institutionalisation within manufacturing systems.

The comparison also highlights differences in accountability structures. Frameworks such as SA 8000 and the ILO Better Work Programme incorporate stronger mechanisms for monitoring labour conditions and workplace compliance. Similarly, the BRSR framework requires structured disclosure relating to employee welfare, contract labour, occupational safety and grievance systems. Such mechanisms create stronger organisational accountability for workplace practices.

The absence of comparable accountability structures within ZED may contribute to inconsistent implementation across MSMEs, particularly in highly informal industrial environments where workplace systems already depend heavily on managerial discretion. Under such conditions, certification may improve documentation and procedural visibility without necessarily producing deeper transformation in workplace practices.

Overall, the benchmarking analysis suggests that stronger operational guidance, measurable social indicators and clearer accountability mechanisms may be necessary if the ZED framework is to more effectively institutionalise social sustainability practices within MSMEs.

These comparative differences raise broader questions regarding the capacity of certification frameworks to shape workplace practices within highly informal MSME environments.

Discussion

The findings suggest that the ZED framework contributes more strongly to procedural formalisation than to the deeper institutionalisation of social sustainability practices within MSMEs. Certified firms generally demonstrated better documentation systems, greater compliance visibility and stronger awareness of workplace procedures than non-certified firms. However, many labour-related practices remained informal, inconsistently implemented and shaped by operational pressures and managerial discretion.

This pattern reflects a broader challenge associated with implementing social sustainability within MSME environments characterised by limited administrative capacity, informal labour systems and fluctuating production demands. In many firms, workplace management continued to prioritise operational flexibility and immediate production requirements over the development of structured labour governance systems. Under such conditions, certification alone may be insufficient to transform workplace practices unless supported by clearer operational standards and accountability mechanisms. These findings also suggest that the institutional effectiveness of certification systems may depend not only on the existence of standards but also on the organisational capacity of firms expected to implement them. In highly resource-constrained MSME environments, firms may prioritise visible compliance requirements that are easier to document and audit, while more complex labour-related practices remain unevenly implemented within everyday workplace operations.

The findings also indicate that broad sustainability expectations without measurable indicators may produce uneven implementation across firms. While ZED

encourages attention towards workplace systems and procedural organisation, the absence of clearly operationalised social sustainability indicators allows substantial variation in how firms interpret labour-related requirements. This may partly explain why visible compliance measures improved more consistently than deeper workplace practices relating to welfare systems, worker protection and labour accountability.

The widespread use of contract labour further complicated the implementation of social sustainability practices across both certified and non-certified firms. Responsibility for worker welfare was often fragmented across contractors and firms, limiting organisational accountability for labour conditions within production environments. The findings therefore suggest that social sustainability frameworks operating within MSME contexts must address not only direct employment practices but also the broader labour structures through which industrial work is organised.

At the same time, the findings indicate that certification may still function as an important mechanism for encouraging organisational formalisation within MSMEs. Several firms acknowledged that certification contributed to improved record-keeping, procedural organisation and greater awareness regarding workplace systems. However, the evidence suggests that stronger institutional mechanisms may be required if such procedural improvements are to translate into sustained workplace transformation.

Overall, the findings suggest that the effectiveness of social sustainability governance within MSMEs depends not only on the presence of certification systems but also on how labour-related expectations are translated into operational workplace practices. In highly informal industrial environments, broad sustainability commitments alone may be insufficient to produce consistent organisational change unless supported by clearer implementation standards and accountability mechanisms. The findings, therefore, indicate that the challenge is not only whether firms adopt certification systems but also whether such systems are capable of shaping everyday workplace practices beyond procedural compliance requirements.

Policy Implications

The findings suggest that strengthening the social sustainability dimension of the ZED framework requires clearer operational structures capable of supporting workplace-level implementation within MSMEs. However, given the financial and administrative limitations faced by many small enterprises, reforms must remain practical and adaptable to MSME operating conditions.

Introducing a Structured Social Sustainability Index

One of the major limitations identified in the study is the absence of measurable social sustainability indicators within the current ZED framework. Broad and weakly specified provisions allow inconsistent interpretation across firms, contributing to uneven implementation of workplace practices.

To address this gap, the framework could introduce a simplified Social Sustainability Index for MSMEs focusing on core indicators such as occupational safety practices, working hours, welfare provisions, training systems and grievance mechanisms. A phased structure could allow firms to gradually strengthen workplace systems across certification levels rather than imposing highly complex compliance requirements from the outset.

Such a system would provide a clearer operational direction for firms while improving consistency in certification assessment and workplace evaluation.

Strengthening Accountability for Contract Labour

The findings also highlight significant gaps in accountability relating to outsourced and contract labour systems. In several firms, contract workers operated under weaker welfare and safety arrangements than permanent employees, while responsibility for labour conditions was often shifted toward contractors.

The ZED framework could therefore incorporate clearer accountability provisions requiring firms to demonstrate minimum welfare and safety protections for all workers operating within production facilities, irrespective of employment classification. Even limited accountability requirements relating to safety access, welfare coverage and workplace monitoring could strengthen worker protection within labour-intensive MSME environments.

Together, these measures may help shift the social sustainability dimension of the ZED framework from broad procedural expectations towards more consistent workplace-level implementation practices.

Limitations

This study provides field-based insights into the social sustainability dimension of the ZED Certification Scheme; however, several limitations should be acknowledged.

First, the study is limited to manufacturing MSMEs located within selected industrial districts of Haryana. Workplace practices and organisational conditions may differ across other regions and industrial contexts within India.

Second, the study adopts a qualitative interpretive approach based on field observations, open-ended interviews and handwritten field notes. Although this approach enabled contextual understanding of workplace practices and encouraged an open discussion among respondents, the absence of recorded interviews may have limited the capture of complete verbatim responses.

Third, despite the use of a matched comparative framework, the study cannot eliminate the possibility of selection bias arising from unobserved organisational characteristics such as managerial orientation or prior commitment to formalisation practices. The findings should therefore be interpreted as comparative rather than causal.

Finally, the study captures workplace conditions during a specific period and does not examine how organisational practices evolve over time. Future research may adopt longitudinal approaches or incorporate quantitative validation across larger MSME samples and regional contexts.

Conclusion

This study examined the social sustainability dimension of the ZED Certification Scheme through comparative field-based evidence from manufacturing MSMEs in Haryana. By comparing ZED-certified and non-certified firms, the study explored how social sustainability practices are implemented within workplace settings and assessed the extent to which the framework contributes to the institutionalisation of labour-related practices within MSMEs.

The findings suggest that while ZED certification contributes to greater procedural awareness, workplace documentation and visible compliance measures, its influence on deeper workplace practices remains limited. Certified firms generally demonstrated stronger procedural systems than non-certified firms; however, labour management practices, welfare arrangements and workplace accountability structures often remained informal and unevenly implemented.

The benchmarking analysis further showed that international social sustainability frameworks typically rely on measurable indicators, monitoring systems and accountability mechanisms that are less developed within the ZED framework. This difference may partly explain why certification appears more effective in improving procedural compliance than in encouraging deeper workplace transformation.

At the same time, the findings suggest that certification frameworks such as ZED may still play an important role in encouraging organisational formalisation and greater awareness regarding workplace systems within MSMEs. However, stronger operational guidance and accountability structures may be necessary if the framework is to more effectively support the institutionalisation of social sustainability practices.

The study therefore suggests that strengthening the social sustainability dimension of the ZED framework may require greater emphasis on measurable workplace indicators and labour accountability mechanisms, particularly in relation to welfare systems and contract labour arrangements. Such reforms may improve the consistency of workplace-level implementation while remaining sensitive to the operational realities of MSMEs.

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