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Institutional role in preventing involuntary labour: Evidence from workplaces in Pune district

¹Sampada Karbhari Shinde and ²AA Gadhave

¹Researcher, Division of Agribusiness Management, Dr. Sharadchandra Pawar College of MBA (Agri.), Baramati, Mahatma Phule Krishi Vidyapeeth, Rahuri, Maharashtra, India

²Assistant Professor, Agricultural Development Trust's College of Agriculture Business Management, Baramati, Maharashtra, India

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Corresponding Author: Sampada Karbhari Shinde

Abstract

Involuntary labour can take place without visible physical force. It may develop through delayed wage payments, excessive or forced overtime, restrictions on movement, retention of personal documents, debt-related dependence, or a lack of knowledge about available rights and remedies. Addressing these practices requires involvement from institutions that can inspect workplaces, enforce labour standards, support workers and create awareness. This study assessed the role of government bodies, labour institutions and non-governmental organizations (NGOs) in preventing involuntary labour in Pune district, Maharashtra. Primary information was obtained through a structured five-point Likert-scale questionnaire from 25 institutional respondents: 9 NGO representatives, 8 government labour officials and 8 labour union/institution representatives. The respondents formed a specific institutional subgroup within a larger study of 130 respondents. Pearson's correlation coefficient and multiple regression were used to examine the association between six institutional measures and prevention of involuntary labour. All six measures showed positive and statistically significant correlations, with coefficients ranging from 0.4144 to 0.7116. In the regression analysis, regular and effective government labour inspections ($\beta = 0.2344$, $p = 0.0107$) and awareness programmes ($\beta = 0.2716$, $p = 0.0075$) were significant predictors. The model was statistically significant ($F = 14.3906$, $p < 0.001$) and explained 82.75% of the variation in the prevention measure ($R^2 = 0.8275$). The results indicate that institutional protection is strengthened when workplace oversight is supported by practical worker awareness. The findings also point to the need for better coordination among government agencies, labour institutions and NGOs rather than relying on any one intervention.

Keywords: Involuntary labour, forced labour, government bodies, labour institutions, NGOs, labour inspection

1. Introduction

Involuntary labour describes situations in which a person works because of coercion, deception, threats or restrictions that make leaving employment difficult. Such conditions may include withholding wages, retaining identity documents, forcing excessive overtime, restricting movement and using debt to keep workers dependent on an employer. The problem is not always immediately visible. In some workplaces, pressure develops over time through insecure employment arrangements, delayed payment, excessive working hours or limited knowledge of workers' rights and available remedies ^[1].

Institutional protection is therefore important because prevention involves more than identifying a violation after it has occurred. Government authorities can establish and enforce labour standards, investigate complaints and conduct workplace inspections. Labour institutions can support compliance, settle disputes and connect workers with appropriate remedies. NGOs and worker-oriented organizations can add an independent channel for awareness, monitoring, advocacy and assistance, particularly when workers hesitate to approach employers or public authorities directly ^[2].

The effectiveness of these roles depends on how well the different mechanisms work together. Public enforcement and private monitoring can complement one another, while labour inspection is more effective when resources are directed towards workplaces and practices where the risk is greatest ^[34].

Social intermediaries can also help bring worker concerns to the attention of organizations and regulators, especially where conventional compliance systems do not reveal problems on their own ^[5].

Evidence from cross-country research further suggests that institutional quality, including accountability and the rule of law, is linked with vulnerability to modern slavery. Recent work on global supply chains likewise emphasizes coordination among state actors and the contribution of NGOs and worker-rights organizations ^[678].

Although the institutional dimension of labour protection is well recognized, there is comparatively limited empirical evidence showing how specific institutional measures are associated with prevention outcomes in Indian workplace settings. The present study addresses this issue using responses from institutional stakeholders in Pune district, Maharashtra.

1.1 Objective of the Study

To assess the role of government bodies, labour institutions and NGOs in preventing involuntary labour.

1.2 Hypothesis

H₀ (Null Hypothesis): There is no significant relationship between institutional role and prevention of involuntary labour.

H₁ (Alternative Hypothesis): There is a significant relationship between institutional role and prevention of involuntary labour.

2. Review of Literature

Weil and Mallo examined the regulation of labour standards through supply chains and found that public enforcement and private monitoring can reinforce each other. Their work suggests that government agencies and private organizations are more effective when their responsibilities complement rather than duplicate one another ^[3].

Weil's study of labour inspection emphasized that effectiveness is not simply a matter of increasing the number of inspections. Inspection systems need to prioritize significant risks, use resources strategically and maintain credible deterrence ^[4].

Raj-Reichert's analysis of Verité's work in the electronics industry showed how a social intermediary can use information, expertise and relationships to identify and expose forced labour. This illustrates the added value that NGOs and specialized organizations can bring when routine compliance systems are insufficient ^[5].

Moussa and colleagues found that institutional conditions such as voice and accountability, the rule of law and control of corruption are important in understanding vulnerability to modern slavery. The findings reinforce the broader importance of capable institutions in labour protection ^[6].

Wilhelm and colleagues argued that conventional compliance-based governance has limitations and highlighted the role of social intermediaries in connecting workers, companies and other actors. Their findings suggest that sustained relationships and alternative forms of influence can improve the response to forced labour risks ^[7].

Brown and colleagues, examining forced labour risks in the Malaysia–Nepal–UK medical gloves supply chain, identified the need for cooperation among producer states, migrant-sending states and regulatory or buyer states. Their study demonstrates that labour protection can extend across institutional and national boundaries ^[8].

Taken together, the literature indicates that workplace protection is shaped by several connected mechanisms—inspection, enforcement, monitoring, worker representation, awareness and deterrence. The present study tests these mechanisms using evidence from institutional respondents in Pune district.

3. Research Methodology

3.1 Research Design and Area of the Study

The study used a descriptive and analytical research design and was carried out in Pune district, Maharashtra. The district has a varied industrial and service-sector base, including manufacturing, automobile and engineering units, textiles

and garments, food processing, construction and logistics. Employment arrangements in these sectors may include permanent, contractual, temporary and migrant workers. Pune was selected because of this workplace diversity and the availability of government officials, NGO representatives, labour union representatives and other relevant stakeholders.

3.2 Data Sources

The analysis used both primary and secondary information. Primary data were collected through a structured questionnaire based on a five-point Likert scale. The institutional questions covered regular labour inspections, enforcement of labour laws, NGO monitoring, support from labour unions or institutions, worker awareness programmes and the deterrent effect of penalties. Secondary material from the International Labour Organization, World Bank, OECD, government labour departments and peer-reviewed literature was used to develop the study framework and support interpretation of the results.

3.3 Sampling and Sample Size

Convenience sampling was used to reach respondents with direct knowledge of institutional labour practices. From the 130 respondents included in the parent study, 25 institutional or professional respondents were selected for the present analysis. They comprised 9 NGO representatives, 8 government labour officials and 8 labour union/institution representatives. The smaller institutional sample was used because these respondents were specifically positioned to comment on the institutional mechanisms examined in this paper.

3.4 Variables and Measurement

Six institutional measures were treated as explanatory variables: (X₁) regular and effective government labour inspections; (X₂) strict enforcement of labour laws; (X₃) active NGO monitoring and reporting of violations; (X₄) effective support for worker rights by labour unions/institutions; (X₅) reach of government/NGO awareness programmes; and (X₆) strength of penalties in deterring employers. The outcome variable (Y) was prevention of involuntary labour. Responses were recorded using a five-point Likert scale.

3.5 Statistical Analysis

Pearson's correlation coefficient was used to examine the direction and strength of the relationship between each institutional measure and prevention of involuntary labour. The coefficient ranges from −1 to +1, with the sign indicating direction and the magnitude indicating strength.

Multiple regression was used to examine the combined relationship and the individual contribution of the six explanatory variables while holding the other variables constant. The estimated model was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

where Y is prevention of involuntary labour; β_0 is the intercept; β_1 to β_6 are the regression coefficients for the six institutional measures; X₁ to X₆ represent the respective institutional variables; and ε is the error term.

3.6 Ethical Considerations

The research was approved by the Student Advisory Committee at the time of the Outline of Research Work (ORW). Data were collected from respondents through their voluntary participation. Before submission, the corresponding author should confirm that the participant consent procedure and any applicable institutional ethics requirements have been fully documented.

4. Results

4.1 Correlation between Institutional Measures and Prevention

The correlation results show a positive association between each of the six institutional measures and prevention of involuntary labour. The coefficients range from 0.4144 to 0.7116, indicating that respondents who rated institutional measures more favourably also tended to report stronger prevention outcomes.

Table 1: Correlation between institutional interventions and prevention of involuntary labour.

Sr. No.	Institutional intervention	Correlation coefficient (r)
1	Government labour inspections are regular and effective	0.6561*
2	Labour laws are strictly enforced in this industry	0.7116*
3	NGOs actively monitor and report violations	0.5200*
4	Labour unions/institutions support worker rights effectively	0.4144*
5	Awareness programmes by government/NGOs reach workers	0.6703*
6	Penalties for violations are strong enough to deter employers	0.4774*

The highest correlation was recorded for strict enforcement of labour laws ($r = 0.7116$). This suggests that having labour provisions on paper is not sufficient; respondents associated stronger implementation with better prevention. Awareness programmes ($r = 0.6703$) and government labour inspections ($r = 0.6561$) also showed relatively strong relationships. Together, these results point to the importance of both informing workers about their rights and maintaining visible workplace oversight.

NGO monitoring and reporting showed a moderate positive relationship ($r = 0.5200$). Penalties ($r = 0.4774$) and labour union/institutional support ($r = 0.4144$) had lower

coefficients, but their relationships remained positive and statistically significant. Their comparatively smaller coefficients may indicate that these mechanisms work more effectively when supported by inspection, awareness and other forms of institutional action.

4.2 Multiple Regression Analysis

Correlation results describe pairwise relationships. To determine which institutional measures retained an independent association with prevention when the six measures were considered together, a multiple regression analysis was conducted.

Table 2: Regression coefficients for institutional interventions and prevention of involuntary labour.

Sr. No.	Independent variable	β	p-value / result
1	Government labour inspections are regular and effective	0.2344*	0.0107 — Significant
2	Labour laws are strictly enforced	0.0948	0.4932 — Not significant
3	NGOs actively monitor and report violations	0.0955	0.2858 — Not significant
4	Labour unions/institutions support worker rights effectively	0.1288	0.1629 — Not significant
5	Awareness programmes by government/NGOs reach workers	0.2716**	0.0075 — Significant
6	Penalties for violations are strong enough to deter employers	0.1320	0.1288 — Not significant

* Significant at 5% level; ** Significant at 1% level.

Government labour inspections had a positive and statistically significant coefficient ($\beta = 0.2344$, $p = 0.0107$). Awareness programmes recorded an even larger coefficient ($\beta = 0.2716$, $p = 0.0075$), making awareness the strongest significant predictor in the model. In contrast, labour-law enforcement, NGO monitoring, labour union/institutional support and penalties did not reach the 5% significance level after the other measures were taken into account.

The non-significant coefficients should not be interpreted as evidence that these mechanisms are ineffective. Each of the

four measures had a positive and significant bivariate relationship with prevention. Their lack of independent significance in the combined model may reflect overlap among the institutional functions. For example, stronger enforcement may accompany inspections, while NGO monitoring and worker representation may operate through awareness and reporting channels.

4.3 Regression Model Summary

Table 3: Summary of the multiple regression model.

Particular	Value
Multiple R	0.9097
R ²	0.8275
Adjusted R ²	0.7700
Standard Error	0.4263
F-value	14.3906
Significance F	5.31×10^{-6}
Observations	25

The model produced a Multiple R of 0.9097, showing a strong overall association between the institutional measures and the prevention outcome. The R^2 of 0.8275 indicates that the six variables together accounted for 82.75% of the variation in the prevention measure. After adjustment for the number of predictors, the adjusted R^2 remained high at 0.7700. The F-value of 14.3906 with a significance value of 5.31×10^{-6} shows that the regression model as a whole was statistically significant.

Because the overall significance level is below 0.05, the null hypothesis is rejected. The findings therefore support the alternative hypothesis that institutional role is significantly related to prevention of involuntary labour.

5. Discussion

The results show that institutional involvement is associated with better prevention of involuntary labour, but the strength of the relationship differs across mechanisms. The strong correlation for labour-law enforcement indicates that respondents place considerable importance on implementation. This is consistent with the literature emphasizing the role of effective public enforcement and strategic inspection rather than the mere presence of regulations^[34].

The regression results add an important distinction. Once all six institutional measures were entered together, regular inspections and awareness programmes remained statistically significant. This suggests that workers' access to information and the visibility of workplace oversight may be particularly important in the setting studied. Awareness can help workers recognize unacceptable practices and understand where to seek assistance, while inspections provide an institutional route for identifying and addressing problems^[57].

The remaining variables—law enforcement, NGO monitoring, union or institutional support and penalties—were significant in the correlation analysis but not in the regression model. One reasonable interpretation is that these mechanisms are interconnected rather than operating independently. Enforcement may depend on inspection, NGO monitoring may feed into reporting and awareness, and penalties may have little preventive effect unless workers can report violations and authorities can act on them. This interpretation is also consistent with research that views institutional quality and governance as a combination of related capacities rather than isolated actions^[6].

The findings also support the broader argument that prevention requires coordination. Research on labour standards and forced labour has shown that public authorities, private actors and social intermediaries can perform complementary roles. The present results similarly suggest that strengthening one institutional channel should be accompanied by functional links to the others^[378].

6. Key Findings

- All six institutional measures had positive and statistically significant correlations with prevention of involuntary labour, with r values ranging from 0.4144 to 0.7116.
- Strict enforcement of labour laws had the strongest bivariate relationship ($r = 0.7116$), followed by awareness programmes ($r = 0.6703$) and government labour inspections ($r = 0.6561$).

- In the combined regression model, government labour inspections ($\beta = 0.2344$, $p = 0.0107$) and awareness programmes ($\beta = 0.2716$, $p = 0.0075$) were significant independent predictors.
- The six institutional measures jointly explained 82.75% of the variation in the prevention outcome ($R^2 = 0.8275$), and the overall model was statistically significant ($F = 14.3906$, $p < 0.001$).
- The null hypothesis was rejected, indicating a significant relationship between institutional role and prevention of involuntary labour.

7. Conclusion

The study indicates that government bodies, labour institutions and NGOs all have a meaningful place in efforts to prevent involuntary labour. Every institutional measure considered in the analysis was positively associated with the prevention outcome. However, the regression results show that regular government labour inspections and awareness programmes had the clearest independent relationships with prevention.

For practice, this means that labour protection should focus not only on regulations and penalties but also on whether workers know their rights and whether workplace oversight is regular enough to detect problems. NGO monitoring, worker representation, enforcement and penalties remain relevant, but their effectiveness may depend on how well they connect with inspection, reporting and awareness mechanisms. A coordinated institutional approach is therefore more appropriate than treating each intervention as a separate activity.

Because the study is based on a small, non-probability sample and self-reported responses, the results should be interpreted as evidence of association rather than proof of causality. Even with this qualification, the findings provide useful direction for strengthening institutional responses to involuntary labour in workplace settings.

8. Recommendations

- Labour departments and competent authorities should strengthen the regularity, coverage and quality of workplace inspections, with particular attention to sectors that employ large numbers of contract, temporary and migrant workers.
- Government agencies, NGOs and labour institutions should conduct coordinated awareness programmes in language and formats that workers can easily understand, covering employment rights, prohibited practices and grievance channels.
- NGOs and labour unions should maintain independent channels for reporting suspected violations and should have clear referral links with relevant government authorities.
- Penalties should be reviewed periodically to ensure that they remain credible deterrents, while enforcement outcomes should be communicated appropriately to reinforce compliance.
- Government bodies, labour institutions and NGOs should develop practical coordination mechanisms, such as referral protocols, shared complaint pathways or regular inter-agency meetings, so that information can move from awareness and monitoring to inspection and

corrective action.

9. Limitations and Scope for Further Research

The study is based on 25 institutional respondents selected through convenience sampling in Pune district. The small, non-probability sample limits the extent to which the results can be generalized to other districts, industries or institutional settings. In addition, the analysis relies on respondents' perceptions rather than independently verified inspection, complaint or enforcement records. The cross-sectional design also limits conclusions about cause and effect.

Future studies can use larger samples covering multiple districts and sectors and can compare the views of institutional stakeholders with those of workers and employers. Administrative records, inspection histories and complaint data could also be incorporated to provide objective measures of institutional performance. Longitudinal research would further help determine whether improvements in inspection, awareness and coordination are followed by sustained reductions in involuntary labour risks.

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Declarations

Ethics approval and consent

The research was approved by the Student Advisory Committee at the time of the Outline of Research Work (ORW). Data were collected from respondents on a voluntary basis.

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Conflict of Interest

The author declares that there is no conflict of interest.

Data availability

The study data were recorded and maintained in an Excel spreadsheet. The data were collected from respondents on a voluntary basis. Data may be made available by the author on reasonable request, subject to applicable confidentiality considerations.

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