

Problems of Migrant Labourers Working in Stone Quarries : A Study in Tamil Nadu and Uttar Pradesh

¹ Dr.R.Chinnadurai ²Dr.R.Aruna Jayamani

Abstract

Interstate migrant labour forms the backbone of India's construction and infrastructure sector, yet remains among the most invisible and unprotected segments of the workforce. This study examines the multidimensional vulnerabilities faced by migrant workers engaged in stone quarry operations in Tamil Nadu and Uttar Pradesh. Drawing on primary data collected from 357 migrant workers across selected quarry sites, the paper analyses physical, psychological, social, economic, health, cultural and security-related challenges experienced by workers and their families. The findings reveal persistent occupational hazards, chronic health conditions, social disintegration, gender-specific exploitation and severe educational deprivation among children. Despite the hazardous nature of quarry work, migrants continue to remain trapped in this sector due to debt bondage, irregular rural employment and the attraction of relatively higher wages. Weak enforcement of labour laws, absence of social security mechanisms and denial of legal protection due to non-local status further intensify exploitation. The paper argues for urgent policy interventions focusing on labour regulation, health protection, child welfare and interstate coordination to safeguard the dignity and rights of migrant quarry workers.

Keywords: Interstate Migration, Stone Quarry Workers, Occupational Health, Labour Rights, Social Insecurity, Informal Sector

1. INTRODUCTION

Stone quarrying constitutes critical input industry for India's rapidly expanding construction sector, supplying raw materials for roads, bridges, housing and urban infrastructure. While the sector contributes significantly to economic growth and public revenues through royalties and taxes, it relies heavily on informal and migrant labour. Quarry operations—particularly drilling, blasting, stone breaking and transportation—are labour-intensive and hazardous, often undertaken under subcontracting arrangements that dilute employer accountability.

In recent decades, quarry owners increasingly prefer interstate migrant workers due to their availability, willingness to work longer hours and limited bargaining power. Migrants, in turn, are drawn by continuous employment opportunities and comparatively higher wages, despite the severe risks involved. This structural dependence has created labour regime marked by exploitation, poor living conditions and denial of basic rights.

This paper explores the lived realities of interstate migrant stone quarry workers in Tamil Nadu and Uttar Pradesh, focusing not only on workplace hazards but also on broader social, psychological and intergenerational consequences of migration-based quarry employment.

II. OBJECTIVES OF THE STUDY

The study was undertaken with the following objectives:

1. To examine the physical and occupational health problems faced by migrant stone quarry workers
2. To analyse psychological stress, social dislocation and cultural deprivation among migrant families
3. To assess economic vulnerability, security risks and access to welfare measures
4. To understand gender-specific challenges faced by women workers
5. To examine the impact of quarry migration on children's education, health and wellbeing

III. METHODOLOGY

The study is based on primary data collected through extensive fieldwork conducted across ten stone quarries in five districts of Tamil Nadu (Krishnagiri, Dharmapuri, Tiruvallur, Dindigul and Theni) and five districts of Uttar Pradesh (Varanasi, Prayagraj, Sonbhadra, Mirzapur and Chandauli). A total of 357 migrant workers were interviewed, comprising 184 respondents from Tamil Nadu and 173 from Uttar Pradesh.

Data were collected using structured interview schedule covering demographic characteristics, labour arrangements, wage patterns, working conditions, health status, housing facilities, access to services, social security, gender issues and child-related concerns. The study also incorporated informal discussions and field observations to capture sensitive issues that workers were hesitant to disclose formally

¹ Associate Professor, National Institute of Rural Development and Panchayati Raj, Government of India, Hyderabad, e.mail duraichinna1967@gmail.com

² Assistant Professor, National Institute of Rural Development and Panchayati Raj, Government of India, Hyderabad,

IV. REVIEW OF LITERATURE

Existing scholarship consistently highlights the heightened vulnerability of migrant labourers to exploitative recruitment systems. Srivastava's work draws attention to the manner in which labour contractors and intermediaries attract workers from economically fragile regions by offering advance payments and exaggerated assurances of secure and well-paid employment. Such arrangements often result in conditions resembling bonded labour, particularly when migrants are poorly informed about the nature of work and repayment obligations.

Research undertaken by the International Labour Organization further demonstrates that deceptive recruitment practices are no longer isolated incidents but have become defining feature of forced labour across the globe. These exploitative mechanisms affect both internal and cross-border migrants, reinforcing patterns of dependency and coercion within informal labour markets.

Estimates provided in a 2009 United Nations Development Programme study indicate that India alone accounts for nearly 100 million circular migrants. The study identifies tribal and forest-dependent regions of Madhya Pradesh among the country's most persistent poverty zones. In these regions, migration has emerged as a critical livelihood strategy, with empirical evidence showing that nearly two-thirds of households in southern Madhya Pradesh depend on migration, primarily within the construction sector.

Subsequent research in the same region revealed a sharp intensification of migration patterns, with entire villages experiencing large-scale seasonal out-migration between November and June. Until the mid-2000s, labour recruitment was largely mediated by local agents, commonly referred to as *mukkaddams*. These intermediaries provided migrants with cash advances to support households left behind and to cover travel expenses. Repayment of these advances through wage deductions often prolonged migrants' dependency on employers, reinforcing exploitative labour relations.

A study conducted by the NGO DISHA in Gujarat exposed the precarious living conditions of migrant workers, noting that majority either slept in open spaces or resided in unsafe and temporary shelters. Migrants frequently encountered harassment, eviction, theft and abuse at the hands of local authorities and law enforcement agencies. The study also documented widespread sexual exploitation of women workers by contractors and supervisors—incidents that largely remained unreported due to fear of job loss and violence. Children were found to be even more susceptible to abuse and neglect. Although trade unions have attempted to address these issues, migrant workers often remain outside organised labour structures due to their constant mobility.

De Haan's analysis of migration and remittances reveals the complex and uneven outcomes of migrant earnings. While remittances stimulated local entrepreneurial activity in regions such as Jullundur in India, similar financial inflows in Mirpur, Pakistan contributed to economic dependency and stagnation. This divergence highlights the context-specific nature of migration outcomes and challenges assumptions that remittances automatically lead to development.

A comprehensive meta-analysis on migration in India conducted in 2009 challenges conventional narratives linking migration solely with poverty. The study found no direct correlation between state-level poverty ratios and out-migration rates. Instead, migration was more prevalent among households with higher per capita consumption expenditure. Furthermore, socially marginalised groups such as Scheduled Castes and Scheduled Tribes did not exhibit disproportionately higher migration rates. These findings suggest that migration decisions are often strategic and informed by perceived economic opportunities at destination areas.

Investigations by national and international NGOs into sandstone quarrying in Rajasthan during the mid-2000s documented severe labour and human rights violations, including the prevalence of child labour, bonded labour practices, wage discrimination, unsafe working environments and restrictions on freedom of association. These studies underscore the systemic nature of exploitation within the quarry sector.

The dynamics of India's interstate labour market have continued to evolve, influenced in part by policy interventions such as the National Rural Employment Guarantee Act (2005), implemented through the Mahatma Gandhi National Rural Employment Guarantee Scheme. While the scheme legally guarantees 100 days of wage employment to rural households, field-based studies, including research from Jhabua district, reveal significant gaps in implementation that limit its effectiveness in reducing distress migration.

Comparative international studies further reinforce concerns regarding quarry-related health risks. Research conducted in Nigeria on granite quarry workers and nearby residents identified high prevalence of respiratory ailments, including nasal infections, cough, catarrh and sinusitis. Similar health patterns were observed among both quarry workers and surrounding communities, indicating broader environmental impacts of quarrying activities.

Mortality-focused research on sandstone quarry workers in Jodhpur revealed alarmingly high death rates, particularly among workers suffering from silicosis and those exposed to prolonged dust inhalation. The relatively young average age at death underscores the urgent need for preventive occupational health measures and dust-control interventions.

A large-scale study conducted in 57 granite quarries in Tamil Nadu highlighted persistent ethical and legal violations by quarry operators. Migrant workers were found to receive inadequate wages, minimal statutory benefits and substandard housing with limited access to clean water and healthcare. Unsafe working conditions and absence of protective equipment contributed to frequent accidents and chronic illnesses. The study also documented the confinement of workers through exploitative wage and credit practices, along with the employment of children, particularly in waste stone processing.

While existing literature extensively documents the occupational hazards and exploitative conditions within quarry

and construction sectors, there remains a significant research gap concerning interstate migrant quarry workers and their families. In particular, the experiences of migrant children—who face educational disruption, cultural dislocation, language barriers and loss of community ties—have received limited scholarly attention. Addressing these gaps is essential for informing inclusive policy frameworks that protect migrant workers and ensure the wellbeing of future generations.

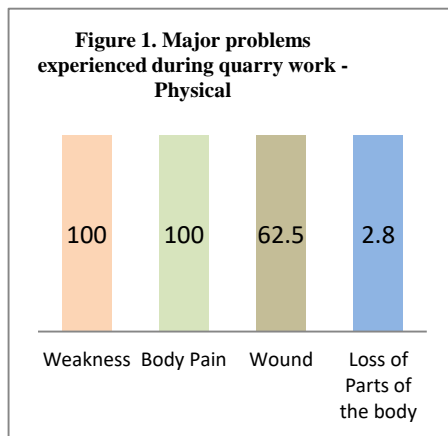
V. FINDINGS AND DISCUSSION

One of the primary objectives of the present study is to examine the wide range of problems experienced by interstate migrant workers employed in stone quarries. The findings, presented through the subsequent figures, indicate that migrant workers are exposed to multiple forms of deprivation that extend beyond conventional workplace concerns. Evidence from this study, supported by earlier research, shows that many of the difficulties faced by migrant quarry workers fall outside the effective coverage of existing labour legislations, including the Labour Acts and the Interstate Migrant Workmen Act in India.

The workers included in the present study receive wages for the work performed; however, there are no compensatory mechanisms to address the less visible severe challenges related to physical strain, psychological stress, social exclusion, economic insecurity, health risks, cultural dislocation and personal safety. These issues remain largely unrecognised by employers and regulatory authorities, resulting in the absence of targeted remedial measures. The responses collected across different categories of problems are systematically analysed and presented to provide a comprehensive understanding of the lived realities of migrant quarry workers and to assist policymakers and stakeholders in formulating appropriate strategies to protect the wellbeing of workers and their families.

A. Responses related to Physical Problems Faced by the Sample Population

Quarry work involves intense physical labour carried out under hazardous conditions, including the use of heavy tools and the manual breaking of hard rock both below ground and on elevated rock surfaces. In an effort to maximise earnings, entire families often participate in quarry activities for extended hours without adequate rest. This prolonged physical exertion, combined with insufficient intake of nutritious food, results in widespread musculoskeletal strain and related health problems. All respondents in the study reported experiencing persistent fatigue and bodily pain by the end of the working day.



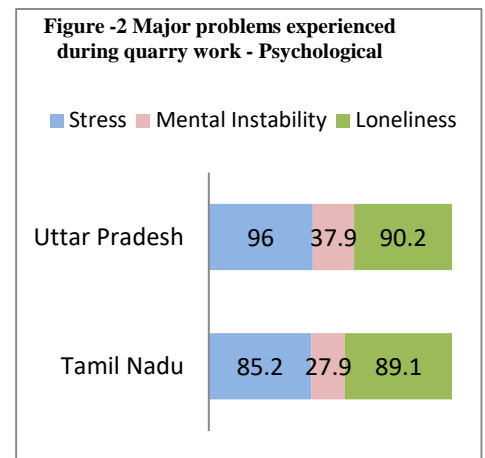
The risk of injury is particularly high during stone-breaking activities, where workers are frequently struck by flying stone fragments. According to the data presented in Figure 1,

approximately 62.5 per cent of the workers reported sustaining minor or major injuries leading to open wounds. In the absence of timely medical treatment, some of these injuries progressed into severe physical impairments, with 2.8 per cent of the respondents reporting partial loss of body parts. These findings underscore the severe occupational hazards associated with quarry work and the lack of effective safety measures at worksites.

B. Responses related to Psychological Problems Faced by the Sample Population:

Existing migration studies have consistently documented the psychological vulnerabilities experienced by migrant workers and their families. In line with this body of literature, the present study examines the mental health challenges faced by interstate migrant quarry workers, with the findings summarised in Figure 2. The analysis reveals high prevalence of psychological distress among the sample population, indicating that mental health concerns constitute significant but often overlooked dimension of migrant vulnerability. Nearly 90 per cent of the respondents reported experiencing persistent mental stress and feelings of loneliness, while approximately one-third indicated symptoms of mental instability.

These psychological challenges are closely linked to the nature of quarry work, which involves prolonged physical exertion, irregular working hours and inadequate nutrition. In addition, migration-induced separation from family members, relatives and familiar social environments intensifies emotional strain. Long-distance migration restricts workers' ability to participate in family rituals, cultural practices and significant life events in their places of origin, leading to a sense of detachment and social isolation. This sustained psychological unrest not only affects emotional wellbeing but also contributes to the deterioration of physical health, thereby reinforcing the cycle of vulnerability among migrant quarry workers.



C. Responses related to Social Problems Faced by the Sample Population:

In rural settings, social life is typically organised around strong community bonds, where individuals collectively share both hardships and celebrations through family ceremonies, festivals and life-cycle events such as births and deaths. These networks of mutual support contribute significantly to a sense of social security and emotional wellbeing. However, migration for quarry work disrupts these traditional social structures, often resulting in long-term social alienation.

Evidence from the present study indicates that migrant families who return to their native villages after prolonged periods of employment elsewhere frequently experience social distancing and weakened community ties. This social rupture has tangible consequences, particularly in matters such as arranging marriages for their children, where community acceptance and social networks play crucial role. As reflected in Figure 3, nearly 90 per cent of the respondent families reported feeling socially fragmented, while all respondents indicated growing distance from relatives and persistent sense of insecurity arising from the absence of trusted social relationships. These findings highlight the profound social costs of migration that extend beyond economic outcomes and affect the long-term cohesion of rural communities.

D. Responses related to Economic Problems Faced by the Sample Population:

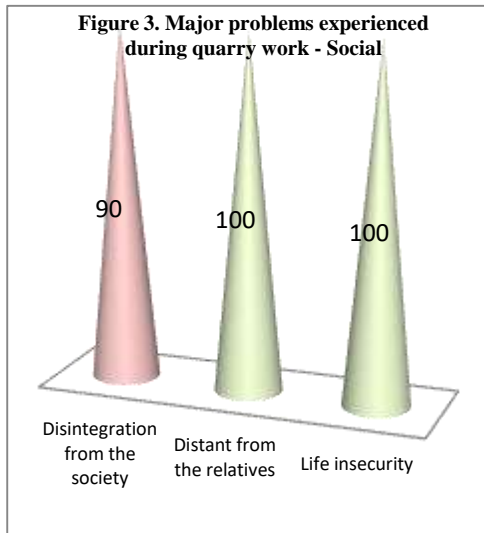


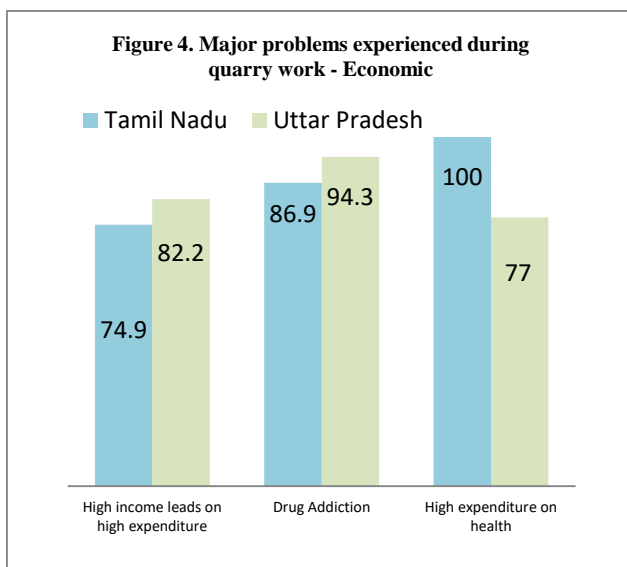
Figure 4 presents the responses related to the economic challenges faced by the sample respondents. Although stone quarry employment provides comparatively higher income than many other forms of rural work, the findings indicate that this financial gain is accompanied by several adverse consequences. Increased earnings were frequently associated with higher levels of expenditure, particularly on alcohol and other intoxicating substances. The study reveals that substance use is often perceived by workers as a means of coping with the intense physical strain and psychological stress inherent in quarry work.

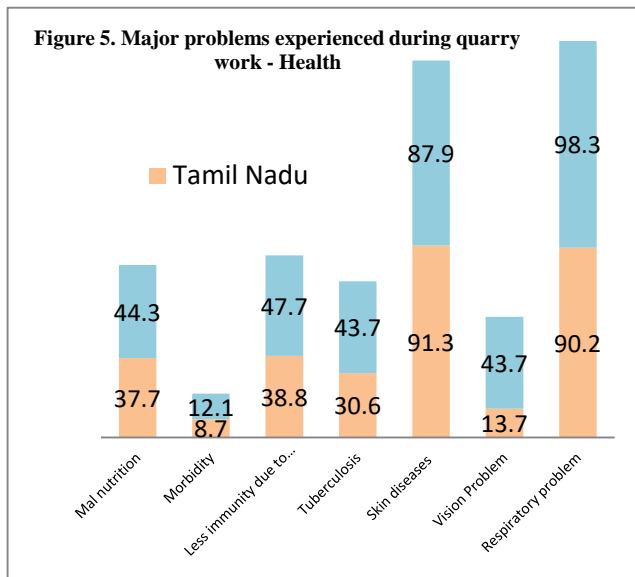
The analysis further suggests that parental substance dependence has indirect but serious implications for children within migrant households. As children contribute to family income through work, parents tend to overlook or normalise their engagement in similar habits, prioritising short-term economic survival over long-term wellbeing. Empirical evidence shows that 78.4 per cent of respondents acknowledged that higher income resulted in increased overall expenditure, while more than 90 per cent reported widespread substance use among workers. In addition, health-related expenses were reported to be exceptionally high by 88.8 per cent of the respondents, largely due to frequent injuries and occupational illnesses. These findings highlight that economic gains from quarry work are offset by hidden social and health costs, reinforcing financial vulnerability rather than improving household security.

E. Responses related to Health Problems Faced by the Sample Population:

The widespread prevalence of unhealthy habits among quarry workers significantly contributes adverse health outcomes, placing additional financial pressure on migrant households. Field evidence indicates that nearly all working members of the surveyed families regularly consume locally brewed alcohol and various forms of tobacco, and in some cases marijuana. These substances are commonly used as coping mechanisms to manage physical exhaustion and work-related stress, yet they exacerbate health risks, particularly for individuals engaged in strenuous manual labour.

Figure 5 illustrates the major health problems reported by the respondents, providing critical insights for identifying preventive and remedial interventions. The most frequently reported condition was respiratory impairment caused by prolonged exposure to quarry dust, with 94.1 per cent of workers indicating breathing-related difficulties. Skin-related ailments such as rashes, itching and skin shrinkage were reported by 89.6 per cent of the respondents. Nutritional deficiencies were also widespread, with 40.9 per cent reporting malnutrition and 41.3 per cent indicating weakened immunity. Furthermore, 37.0 per cent of workers reported tuberculosis, attributed to continuous exposure to polluted work environments and inhalation of stone dust and blasting fumes. Vision-related problems were reported by 28.3 per cent of the respondents, while nearly 10 per cent indicated chronic morbidity among elderly family members.



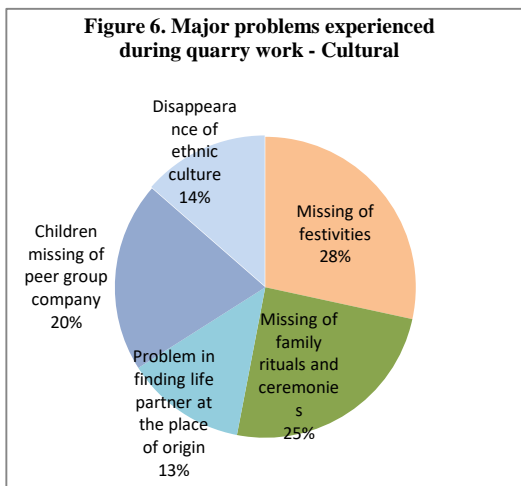


These health conditions are closely linked to the hazardous nature of quarry work, where workers are exposed to dense dust, chemical fumes from explosives and unsanitary living conditions. Inadequate access to nutritious food further intensifies malnutrition, anaemia and general morbidity, particularly among women and children. Additionally, excessive alcohol consumption contributes to gastrointestinal disorders, while habitual tobacco use results in dental and oral health problems. Collectively, these findings underscore the cumulative health burden borne by migrant quarry workers and highlight the urgent need for occupational health safeguards and targeted public health interventions.

F. Responses Related to Cultural Problems Faced by the Sample Population:

In rural societies, cultural practices such as participation in village festivals, communal rituals, marriages and family ceremonies play central role in sustaining social cohesion and reinforcing collective identity. These occasions provide emotional support, strengthen interpersonal relationships and promote unity within village communities and ethnic groups. However, prolonged migration and residence in distant quarry locations significantly disrupt participation in these cultural processes.

The findings of the study indicate that physical separation from native communities leads to multiple forms of



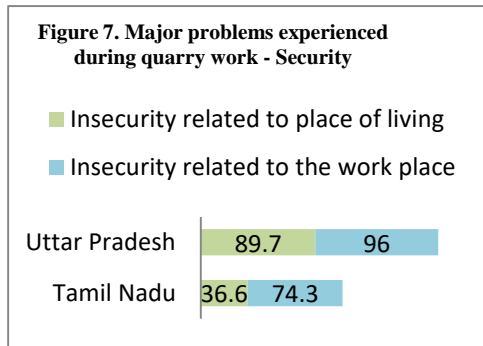
cultural and social deprivation. As reported by the respondents, 65.3 per cent of children and adolescents experience the absence of peer group interaction, while 41.5

per cent of families face difficulties in identifying suitable marriage alliances at their place of origin. Additionally, 43.4 per cent of respondents perceived a gradual erosion of ethnic and cultural traditions. A substantial majority of workers expressed emotional distress arising from cultural disconnection, with 91 per cent reporting that they were unable to participate in festivals and 78.7 per cent indicating that they missed important family rituals and ceremonies.

These forms of cultural exclusion have deeper psychological and intergenerational implications. Women workers, in particular, reported feelings of isolation and emotional insecurity due to prolonged detachment from familiar social environments. Children face long-term consequences as they grow up without meaningful exposure to their cultural roots, making social reintegration difficult when families return to their native villages. The lack of opportunities to learn customary social norms, language practices and community values further limits their ability to effectively engage with society, highlighting the enduring cultural costs of migration-driven quarry employment.

G. Responses Related to Security Problems Faced by the Sample Population

Physical security emerged as critical concern among interstate migrant workers, particularly those employed in stone quarries. The findings indicate that workers experience a constant sense of threat to their personal safety, both at the workplace



and within their living environments. The hazardous nature of quarry operations, combined with the absence of adequate safety measures, significantly increases the risk of accidents and injuries during working hours. At the same time, insecure housing arrangements and unhygienic living conditions further exacerbate feelings of vulnerability.

These conditions contribute to a persistent climate of fear and insecurity, reinforcing the precarious nature of migrant quarry employment. The lack of basic protective infrastructure in both work and residential settings underscores the need for comprehensive safety regulations and improved living standards to safeguard the wellbeing of migrant workers.

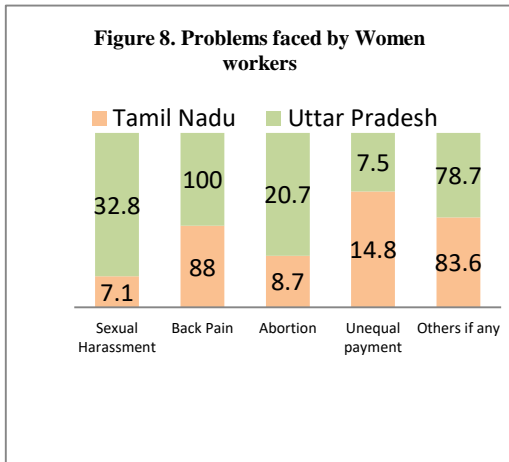
H. Problems Faced by Women Workers

Figure 8 presents data on the gender-specific challenges faced by women workers in the study regions. Although quarry work is largely designed around male

physical capacity, women are increasingly involved in these activities, exposing them to distinct and disproportionate risks. Due to the physically demanding nature of quarry operations, women reported high prevalence of work-related health issues, particularly musculoskeletal problems, with 93.8 per cent experiencing chronic back pain. Reproductive health concerns were also evident, as 14.6 per cent of women reported incidences of abortion, often linked to prolonged exposure to extreme heat, continuous physical strain and frequent bending during work. Wage inequality was reported by 11.2 per cent of the respondents, indicating persistent gender-based discrimination in earnings.

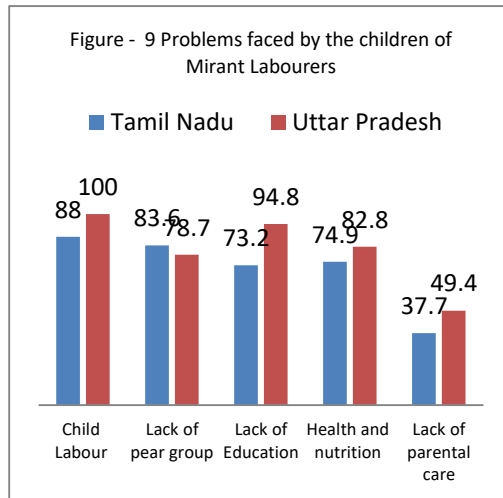
In addition to occupational health risks, women workers face significant social and personal vulnerabilities. Approximately 20 per cent reported experiencing sexual harassment at the workplace. Moreover, over 81 per cent indicated that they encounter multiple forms of distress that they were unwilling or unable to disclose during formal interviews, reflecting the sensitivity and fear associated with reporting such experiences. While no formal cases of rape or physical assault were reported, informal discussions suggested the possibility of such incidents. Several women reported unwanted advances and pressure from contractors and male co-workers, which often go unreported due to fear of job loss, eviction from worksites or breakdown of family relationships.

The findings further reveal that women workers are exposed to domestic violence, frequently exacerbated by alcohol consumption among male partners. Women are burdened with multiple roles, including quarry labour, household responsibilities and emotional compliance within marital relationships. Resistance to these expectations often results in physical abuse. Prolonged engagement in physically strenuous work, particularly during extreme summer conditions, has also been linked to reproductive health complications, including repeated abortions and, in some cases, infertility. These findings highlight the compounded gendered vulnerabilities faced by women migrant quarry workers and underscore the urgent need for gender-sensitive labour protections and support mechanisms.



I. Problems Faced by Children

One of the most critical challenges faced by interstate migrant workers is the upbringing of children in environments that are neither safe nor developmentally supportive. Economic insecurity and the struggle for daily survival compel migrant families to prioritize immediate income over the long-term wellbeing of their children. As the result, limited access to educational institutions and high levels of parental illiteracy severely constrain children's opportunities for learning and social development.



The findings reveal that children of quarry workers are frequently drawn into child labour, disrupting their natural learning processes and denying them essential childhood experiences.

The absence of peer group interaction, coupled with inadequate nutrition, exposes children to multiple health risks at an early age and negatively affects their physical and cognitive growth. Data presented in Figure 9 indicate that child labour is widespread among quarry worker families. In Uttar Pradesh, all surveyed households reported the involvement of their children in labour activities, while similarly high prevalence was observed among the Tamil Nadu sample.

Educational exclusion emerges as a key driver of child labour, as migrant children face barriers in accessing schools due to frequent mobility and administrative challenges in securing admission in host states. Furthermore, approximately 80 per cent of respondents reported the absence of peer group engagement for children in both states, highlighting a serious deficit in socialisation and play-based learning. The nature of quarry work, which demands long and continuous working hours from parents, further deprives children of adequate parental care and supervision. Collectively, these factors contribute to the intergenerational transmission of poverty and vulnerability among migrant quarry worker families.

J. Conclusion

The evidence-based findings of this study reveal a deeply concerning reality regarding the conditions faced by interstate migrant labourers and their dependent family members. Although the empirical investigation is confined to selected regions, the nature of the problems identified and their long-term implications extend well beyond the study area, perpetuating vulnerability across generations. The interlocking cycles of hazardous employment, economic insecurity and social exclusion are closely embedded within the broader cycle of poverty, making upward mobility increasingly unattainable for migrant quarry workers.

The study demonstrates that quarry labour is characterised by extremely unsafe working conditions and insecure living environments, while existing labour protection mechanisms remain largely ineffective. Weak enforcement of labour laws, compounded by the political and economic influence of quarry operators, has rendered legal safeguards largely symbolic rather than substantive. Despite relatively higher wages, workers remain trapped in cycles of debt and dependency, often unaware of the long-term consequences of quarry employment on their health and the educational prospects of their children.

Addressing these structural vulnerabilities requires proactive intervention from government institutions through strict enforcement of labour regulations, occupational safety standards and social security provisions. Equally important is the role of social service organisations in ensuring access to healthcare, education and child protection services for migrant families. Without coordinated policy action and institutional accountability, the exploitation of migrant quarry workers will continue to reproduce intergenerational poverty and social marginalisation.

References

1. De Haan, A. (2002). Migration and livelihoods in historical perspective: A case study of Bihar, India. *Journal of Development Studies*, 38(5), 115–142. <https://doi.org/10.1080/00220380412331322461>
2. DISHA. (2007). Status of migrant labourers in the construction sector in Gujarat. Development Initiatives for Social and Human Action (DISHA).
3. International Labour Organization. (2017). Global estimates of modern slavery: Forced labour and forced marriage. ILO.
4. International Labour Organization. (2014). Profits and poverty: The economics of forced labour. ILO.
5. National Rural Employment Guarantee Act. (2005). The National Rural Employment Guarantee Act, 2005. Government of India.
6. Srivastava, R. (2011). Labour migration in India: Recent trends, patterns and policy issues. *Indian Journal of Labour Economics*, 54(3), 411–440.
7. Srivastava, R. (2012). Internal migration in India: An overview of its features, trends and policy challenges. UNESCO–UNICEF National Workshop on Internal Migration and Human Development in India.
8. United Nations Development Programme. (2009). India human development report 2009: Towards employment and human development. UNDP India.
9. World Health Organization. (2007). Global plan of action on workers' health 2008–2017. WHO.
10. Tamil Nadu NGO Consortium. (2009). Labour conditions in granite quarries of Tamil Nadu. Chennai: Author.
11. Singh, S. K., & Chowdhury, S. (2015). Occupational health hazards among sandstone quarry workers in Rajasthan. *Indian Journal of Occupational and Environmental Medicine*, 19(1), 20–25. <https://doi.org/10.4103/0019-5278.157011>
12. Aigbedion, I., & Iyayi, S. E. (2007). Environmental effect of mineral exploitation in Nigeria. *International Journal of Physical Sciences*, 2(2), 33–38.

Copyright & License:



© Authors retain the copyright of this article. This work is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0), permitting unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.