

Institutional Adaptation in Rural Labour Markets: Evidence from Meerut and Ballia

Dr. Vijaya Rajni

*Associate professor Department of Economics
College of Vocational Studies
University of Delhi, New Delhi-110017*

ABSTRACT: *This paper analyses the transformation of rural labour contracts in India using a longitudinal comparison of village-level data from Meerut and Ballia districts of Uttar Pradesh. It combines field surveys conducted in 1999–2000 with Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) data from 2025 to trace how labour institutions responded to major policy change. The earlier surveys document region-specific labour regimes, including the persistence of attached labour in Ballia and its earlier decline in Meerut. The analysis shows that MGNREGA constituted an institutional break by introducing a statutory floor of employment and income, thereby reshaping bargaining relations. In Ballia, guaranteed employment reduced joblessness risk, weakened land- and credit-based patronage, and undermined the material basis of attached labour. In Meerut, MGNREGA served as an outside option, strengthening bargaining power and accelerating casual, wage-based employment. The findings show employment guarantees act as instruments of institutional change conditioned by local agrarian structures.*

KEYWORDS: *Labour contracts in agriculture, Rural labour market, MGNREGA, attached labour.*

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I. INTRODUCTION

The analysis presented in this paper is based on a comparative analysis of my field surveys conducted during 1999–2000 in four villages of Uttar Pradesh (Rajni, 2002) and the Mahatma Gandhi National Rural employment guarantee Act (MGNREGA) data reported in 2025 from the same villages. The field survey data of 1999-2000 is analysed to understand the transformation and adaptation of labour contracts in rural India over the last two decades. Since the early 2000s, rural labour markets have undergone significant institutional and policy changes, particularly expansion of non-farm employment and implementation of MGNREGA in 2006 which have increased casualization of agricultural labour. The paper re-examines field survey data of 1999-2000 along with MGNREGA data of 2025 from the study villages of Meerut and Ballia to situate the micro-level diversity and adaptation of labour contracts within the broader trajectory of agrarian change.

The paper proceeds as follows: Section II discusses theoretical framework of the paper, Section III lays out methodology; section IV analyses the nature and changes in long-term labour contracts in Meerut and Ballia from the field survey; Section V analyses MGNREGA reports, 2025 from the same villages which were surveyed in 1999-2000 and reflects on the findings in the light of recent developments in rural markets and Section VI concludes by situating the 1999-2000 evidence within the broader processes of institutional adaptation in rural labour markets and agrarian transformation in India.

II. THEORETICAL FRAMEWORK

Changes in the nature of agricultural contracts have been analyzed through different theoretical perspectives. One approach, prominent in the 1960s and 1970s, viewed these changes as part of an evolutionary process associated with the advance of capitalist relations. It argued that the coexistence of attached and casual labour contracts represented pre-capitalist features that would gradually disappear with economic development. As the capitalist relations advanced, it was assumed that the attached labour contracts would give way to casual wage labour contracts and piece rate arrangements that would reduce supervision cost and induce self-discipline among workers, thereby allowing employers to increase the general intensity of labour and expropriate more surplus labour.

However, empirical evidence from several regions of India challenged this linear view in 1980s and 1990s. Various field studies demonstrated that long-duration labour contracts continued to exist alongside casual wage labour contracts even in advanced regions such as in Haryana and Punjab.

Another theoretical framework for analyzing changes in the nature of agricultural contracts draws from institutional and choice theory, which emphasizes the role of individual agency and institutional adaptation.

In this view, individuals make choices based on the information and options available to them, shaped by the broader institutional environment.

Institutional arrangements understood as the rules and norms governing exchange between economic agents evolve in response to shifts in the demand and supply of labour. When these fundamental conditions change, institutions either adjust or give rise to new forms of contractual arrangements. As described (Williamson, 2000, p. 598; North, 1991, p. 97), these institutions operate within a “formal rules of the game” framework defined by constitutions, political systems, property rights, and their allocation. This results in either formation of newer institutional arrangements or alteration /modification of the existing ones.

According to Douglas North (1993), individual choices are mediated by mental models or belief systems that help interpret the world but are bounded by limited knowledge, information or local experience which is particular to specific environment. These are shaped by social, political, and cultural belief systems transmitted across generations and vary drastically across different societies and ethnic groups. This results in different mental models and perceptions of the world sometimes conflicting with each other. However, the mental models do change with time whenever the outcomes are inconsistent with their expectations. But as Frank Hahn says mental models may not change and “agents can hold and act upon without ever encountering events which lead them to change their theories” and, in that case, it may result in multiple equilibria (1987, p. 324).

Moreover, economic change is an ongoing incremental process that is a consequence of individual choices. Most of the choices are routine but some involve altering existing contracts between individuals. This occurs because individuals perceive that the altered or restructured contracts are better for them. The source of the changed perception may be due to their experiences or exogenous changes such as changes in demand for labour or supply of labour.

In more recent analyses of rural labour markets in India, however, changes in labour arrangements have also been linked to broader processes of informalization, rural-urban migration, and state interventions such as MGNREGA, which altered the bargaining environment for casual workers (Himanshu, 2011; Jodhka, 2014; Srivastava, 2019). These developments suggest that contractual diversity may persist not merely as a residue of pre-capitalist forms but as adaptive institutional responses to changing economic opportunities and policy environments. Such an approach would allow us to comprehend the continuity and change in the forms of agricultural contract not as a pre-capitalist survival but as a reflection of adaptive responses to evolving economic and institutional conditions (Adnan, 1985).

This approach provides foundation for analyzing contractual arrangements in the rural labour markets at a village level. In this paper field evidence from four villages in Uttar Pradesh, namely Bharouli and Baghouna Kala in Ballia district, and Dulhra Chauhan and Dhanjoo in Meerut district surveyed during 1999–2000 are re-examined (Rajni, 2002). The two regions represent contrasting agrarian trajectories: the eastern region (Ballia), characterized by fertile alluvial plains and a historically landlord-dominated system, and the western region (Meerut), shaped by canal irrigation, commercial cropping, and the non-landlord-based system that encouraged direct peasant cultivation. These differences stem from the British land settlements and infrastructural changes of the nineteenth century, which led to distinct patterns of agrarian development (Stone, 1984; Stokes, 1978).

III. METHODOLOGY

In all 278 households were randomly surveyed both from east and west Uttar Pradesh in 1999-2000 (Rajni, 2002). Details of sample size are given in table 1 below. Agricultural households were divided into two strata, cultivator households who employ/hire labourers and agricultural labour households. Twenty five percent of households from each stratum were surveyed in each village as per 1991 census. In Meerut, however, seventeen in-migrant individual long-term labourers were surveyed separately. Both the labourers who hire themselves out for wages and the cultivator families, which employ labourers, were surveyed to get a clear picture of the hired labour market and nature of contracts in east and west Uttar Pradesh (Rajni, 2002). Randomization method used in this study is the same as used by Ashok Rudra (1989, p. 225) in his detailed village surveys in West Bengal villages. This particular method includes visits to the fields rather than houses. This randomization method is based on the principal that the population is arranged in a random manner and the selection of first few from arrangement will lead to random selection. Rudra finds this randomization technique to be superior to others which also minimizes the respondent biases. We followed this and visited fields and caught hold of cultivators and labourers who were either found working in the fields or were going to or coming from the fields. MGNREGA data for each village have been taken from MoRD website, *Scheme- At a glance*, where panchayat level data is available.

Table 1: Sample Size

| Region/ Panchayat | Cultivator HHs | Casual Labour HHs | Long-Term Labour HHs | Agricultural labour HHs | Grand Total of HHs |
|--------------------------|----------------|-------------------|----------------------|-------------------------|--------------------|
| Dhanjoo | 16 | 22 | 15 | 22 | 053 |
| Dulhra Chauhan | 32 | 21 | 02 | 21 | 055 |
| West U.P (Meerut) | 48 | 43 | 17 | 60 | 108 |
| Bharouli | 24 | 68 | 15 | 83 | 107 |
| Baghouna Kala | 16 | 25 | 22 | 47 | 063 |
| East U.P (Ballia) | 40 | 93 | 37 | 130 | 170 |
| Grand Total | 88 | 136 | 54 | 190 | 278 |

Source: Rajni, 2002, Field Survey, 1999-2000.

IV. LONG-TERM LABOUR CONTRACTS: FINDINGS FROM THE FIELD SURVEY

Long-term or attached labourers or farm servants or regular workers refer to workers who are tied to a single employer for an extended period, often between three months to a year, with limited or no freedom to work elsewhere. Historically, these contracts combined economic and extra-economic obligations, however, at the time of survey in 1999-2000 their persistence reflected adaptation to then changing agrarian structures rather than simple feudal continuity.

In Ballia (1999–2000), about 28 per cent (Table 1) of agricultural labour households were attached or semi-attached. (Rajni, 2002) The majority were *Halwahas* (43%) and *Charwahas* (41%), followed by *Halwaha* + *Charwaha* (*H+C*) (11%) and tractor drivers (5%). While traditional *Halwaha* and *Charwaha* arrangements continued, their functions had evolved from bullock ploughing and cattle tending to general agricultural work as a result of mechanised ploughing. *Halwahas* received small plots of land measuring between 0.5–0.8 Bigha and *Charwahas* received between 1.2 - 1.6 bigha in lieu of attachment. The work obligation included 30 unpaid days (*begar*) on priority basis, followed by paid work at standard daily or piece rates. Newly emerging contracts such as *H+C* and tractor-driver arrangements involved fixed monthly wages (Rs. 300–600) with food three times a day.

In Meerut, long-term labour contracts were widespread as reported by R.C Saxena (1969, pp. 94-99) and even by the 1980s many received monthly wages or land grants in lieu of attachment (Singh, 1992). By 1999–2000, my survey (Rajni, 2002, p. 205) found no local agricultural labour household engaging in this type of labour arrangement. In fact, it was found that at least one third of landowners owning more than two hectares of land employed time bound *in-migrant* labourers from eastern Uttar Pradesh, Bihar, Assam, and Madhya Pradesh. These migrants, hired for three to six months during peak agricultural seasons, were paid Rs. 300–850 per month with food and essentials. Their relations were purely contractual and impersonal, renewed annually with no long-term ties.

IV- A. DEMAND DYNAMICS FOR LONG-TERM LABOUR

The persistence and transformation of attached labour differed sharply between Ballia and Meerut. In Ballia, 45 per cent (18/40) of landowners employed farm servants, compared with 33 per cent (13/39) in Meerut. Yet while Ballia's contracts reflect historical continuity as far as terms and conditions of such contracts are concerned, in Meerut such contracts with *in-migrant* labour represent a newer response to labour scarcity, uneven regional development and lack of employment opportunities in the source regions of migrants.

In Ballia, *Halwaha* and *Charwaha* relations accounted for 84 per cent of long-term contracts, persist primarily to ensure a stable labour supply during slack seasons when casual labour is scarce. As out-migration and non-farm engagement in work reduce labour availability during off peak seasons, landowners seek attached workers to lower search costs and maintain control over supply. The rationale for attachment has thus shifted from feudal loyalty to economic security. Employers now used land grants and offer of credit to bind labourers, creating interlinked labour, land, and credit contracts. More than 80 per cent of attached workers received land, while 75 per cent also borrowed from employers, mainly for agricultural inputs but also for other needs. (Rajni, 2002, p. 164) These interlinkages functioned as mechanisms of labour control and contract enforcement rather than debt bondage as noted by B. B. Chaudhury (1982, p. 166) and Dharma Kumar (1984, p. 22) in the 1980s.

In Meerut, the demand for long-term labour arose mainly from seasonal tightness during sugarcane and paddy operations. Double cropping, high irrigation intensity, and the nature of commercial crops increased labour requirements, while family labour supply declined due to socio-cultural withdrawal and other engagements mainly dairy farming (Rajni, 2007). This gap was met by temporary *in-migrant* workers. Landowners recruited them through informal channels—city clusters, contractors, or personal networks. Wages to such labourers were paid only after the completion of contract. Similar observations have also been made by other scholars. (Jodhka, 1994; Brass, 1990; Srivastava, 1999; Lerche, 1999).

IV- B. SUPPLY DYNAMICS OF LONG-TERM LABOUR

In Ballia, the supply of attached labour in 1999-2000 remained confined to lower castes, mainly *Chamars* and *Dusadhs* with negligible land or cattle ownership confirming historical continuity (Rajni, 2002). Of the attached labourers, 54 per cent (20/37) had worked as farm servants for over ten years, and 40 per cent (15/37) were with the same employer for a long time. Younger workers, however, preferred casual work but often entered such contracts for security amid limited opportunities, family pressure and joblessness. Contrary to Ben Rogaly's (1996, p.143) finding that the poorest households or the households with larger number of male members are most likely to enter into dependent relations, Ballia's evidence showed that almost all labour households were landless and poor, but only the most risk-averse workers chose long-term attachment, as the search cost of employment is huge due to information asymmetry, lack of work availability and limited mobility. Land grant (81 per cent) and access to credit worked as key insurance mechanisms against unemployment and were the most important reason for seeking such contracts (Rajni, 2002).

Attached contracts in Ballia thus involved multiple interlinked transactions both explicit and implicit. Most attached and semi-attached labour contracts explicitly involve land and labour market *interlinkage* where rent of land granted is paid in terms of labour on the employer's land. Credit market implicitly enters into the picture once the initial land-labour contract is established. Labourers repay loans through labour and crop shares, while employers extend credit to secure goodwill and enforce dependability. More than two-thirds of large employers employed farm servants precisely to ensure labour availability during non-harvest months, confirming the strategic use of interlinkages for labour control and stability. Around 80 per cent contracts showed explicit land - labour linkage whereas 75 per cent confirmed credit linkages as well (Rajni, 2002).

In Meerut, by contrast, almost all labour households owned small pieces of land as well as milch cattle. Dairying has spread significantly in this region and was an important source of secondary income to these households (Rajni, 2007). Labour household were relatively well off and did not seek attachment with landowners. The supply of long term labourers in Meerut entirely comprised of in-migrants. Driven by poverty and joblessness in the source area, these single males aged between 18–25 belonging to various eastern states such as Bihar, Assam, Madhya Pradesh or east Uttar Pradesh called *Biharis or Purabiyas* in general migrate in search of such work in Meerut and nearby regions. Recruitment remains informal and largely unregulated, and they received wages only after completion of their contract. Food and smoke was provided to such workers on site and a temporary place was assigned for resting and sleeping. Despite harsh conditions, migrants perceive such work as an opportunity given wage differentials and chronic unemployment in the source regions. Similar phenomenon was observed in Haryana (Bhalla, 1976; Jodhka, 1994; Brass, 1990).

IV- C. PATTERNS OF TRANSITION

The coexistence of continuity in Ballia and new contract formation in Meerut indicates that long-term labour contracts are not merely remnants of pre-capitalist relations but adaptive institutional responses. While Ballia's contracts have shed much of their extra-economic coercion, they persist through economic interlinkages and risk-sharing mechanisms. Meerut's contractual relations, by contrast, represent a more mobile, impersonal form of labour commodification linked to regional inequalities and agrarian capital accumulation.

This evidence challenges the classical assumption that attached labour is incompatible with capitalist development. Instead, consistent with Bardhan's (1984, p. 78) hypothesis, that the phenomenon of long-term labour is compatible with and may even expand under capitalist agriculture, particularly where peak-season labour shortages and risk asymmetries prevail. Similar trends have been observed across post-Green Revolution regions such as in Haryana (Patnaik, 1976; Bhalla, 1976; Brass, 1999), Punjab (Singh & Iyer, 1985; Jodhka, 1994), and western Uttar Pradesh (Srivastava, 1999; Lerche, 1999).

V. MGNREGA PERFORMANCE: EVIDENCE FROM FIELDWORK VILLAGES

MGNREGA was implemented across India between 2006 and 2008. In Uttar Pradesh, it was rolled out in three distinct phases. Phase I was launched in most backward districts in 2006, which included 31 districts of Uttar Pradesh, primarily located in the eastern and southern regions of the state, such as Allahabad, Mirzapur, Hardoi, Jaunpur, and Raebareli, areas historically marked by agrarian distress and high rural poverty. Phase II was launched in 2007 which included additional 17 districts including Bahraich, **Ballia**, Balrampur, Basti, Mau, and Sultanpur etc. This phase covered almost the entire rural areas of the state. Finally, Phase III was launched in 2008 bringing all 70 districts of Uttar Pradesh under its coverage. This section analyses panchayat-level administrative data from the MGNREGA for the study villages in **Ballia district** (Bharouli and Baghouna Kala) and **Meerut district** (Dulhra Chauhan and Dhanjoo) in Uttar Pradesh, using official records as of December 2025 (MoRD, 2025). The comparison allows us an inter-temporal and inter-regional assessment of labour market conditions influenced by the functioning of MGNREGA in eastern and western Uttar Pradesh.

Across both districts, a wide gap exists between job card issuance and active participation (Table 2). In Ballia, although formal coverage is high, only around one-fifth of issued job cards are active, indicating constrained but significant dependence on MGNREGA. In Meerut, participation is far more limited: in both panchayats fewer than ten workers are active despite job card issuance. This suggests that MGNREGA plays a **supplementary role in eastern Uttar Pradesh**, whereas in **western Uttar Pradesh it has become largely residual**, crowded out by more developed agricultural and non-farm labour markets.

Table 2: Registration and Active Participation under MGNREGA

| District | Panchayat | No. of Workers | Job Cards Issued | Active Job Cards | Active Workers |
|----------|----------------|----------------|------------------|------------------|----------------|
| Ballia | Bharouli | 944 | 721 | 152 (21%) | 158 |
| Ballia | Baghouna Kala | 310 | 243 | 42 (17%) | 51 |
| Meerut | Dulhra Chauhan | 82 | 47 | 7 (15%) | 7 |
| Meerut | Dhanjoo | 56 | 51 | 9 (17%) | 9 |

Source: Ministry of Rural Development, 2025.

The social composition of employment highlights MGNREGA's self-targeting character in both regions (Table 3). Scheduled Castes account for a disproportionately high share of active workers and person days in all four panchayats. This dependence is especially pronounced in Baghouna Kala, where over 70 per cent of active workers belong to Scheduled Castes. Notably, even in Meerut, where overall participation is extremely low, MGNREGA employment remains concentrated among Scheduled Caste households. This indicates that socially marginalised groups continue to rely on public employment even in relatively developed labour markets (MoRD, 2025).

Table 3: Social and Gender Composition of MGNREGA Employment

| District | Panchayat | SC Share of Active Workers (%) | Women's Share of Person days (%) |
|----------|----------------|--------------------------------|----------------------------------|
| Ballia | Bharouli | 37.97 | 59–91 |
| Ballia | Baghouna Kala | 70.59 | 40–77 |
| Meerut | Dulhra Chauhan | 71.43 | Mostly below 20 |
| Meerut | Dhanjoo | 66.67 | Mostly below 10 |

Source: Ministry of Rural Development, 2025.

Gender outcomes reveal sharp regional contrasts. Ballia, particularly Bharouli, confirms strong feminisation of MGNREGA employment, reflecting limited alternative employment for women and male out-migration. In contrast, women's participation in Meerut is negligible, underscoring the availability of male-dominated non-farm work and weaker reliance on public employment.

Employment intensity remains low across both districts. Average days of employment per household rarely approach the legal entitlement of 100 days and are particularly weak in Meerut, where they often remain in single digits. Although nominal wages have increased over time, real wage gains remain modest, limiting MGNREGA's capacity to function as a strong wage floor. Overall, the evidence confirms that MGNREGA operates as a protective mechanism in labour-surplus eastern Uttar Pradesh, while its relevance in western Uttar Pradesh is minimal and highly residual (MoRD, 2025).

V- A. ANALYSES OF DEVELOPMENTS SINCE 2000

Over the last two decades, several forces have reshaped the economic context within which such long-term attachments operated till the end of 1990s. The implementation of the MGNREGA, which guaranteed a minimum level of wage employment in public works, contributed to a higher floor for rural wages and reduced workers' dependence on employer advances.

While the direct impact of MGNREGA varied by region, studies suggest that the practice of annual or seasonal attachment declined sharply in most parts of Uttar Pradesh after 2010, particularly as rural workers gained access to alternative income sources (Himanshu, 2011; Dreze & Khera, 2017; Srivastava, 2016; Himanshu & Stern, 2016).

At the same time, migration, both seasonal and long-term emerged as a major alternative to attached labour (Himanshu & Stern, 2016). In eastern Uttar Pradesh, male migration to cities such as Delhi, Mumbai, and Surat expanded rapidly after 2000, reducing the supply of locally available permanent labour (Srivastava, 2016). However, partial or implicit forms of attachment remain in specific sectors, such as sugarcane harvesting and brick-kiln work, where labour intermediaries or "thekedars" continue to bind workers through advances.

Thus, while the classic form of *halwaha* or *kamia* labour has largely disappeared, its functional equivalents persist under more flexible and mobile arrangements. The persistence of dependence-based

employment, albeit in new forms, underscores the resilience of local institutions and social hierarchies within which labour markets are embedded.

National Sample Survey (NSS) and Periodic Labour Force Survey (PLFS) data show a steady decline in the share of male agricultural labourers and a simultaneous increase in female and elderly participation in agricultural tasks (Chand & Srivastava, 2014; Thomas & Jayesh, 2016). The growing casualization and feminization of agricultural labour have been accompanied by a greater prevalence of piece-rate payments, especially in tasks like transplanting, harvesting, and weeding.

The influence of MGNREGA, along with rising rural construction employment, has altered the wage bargaining environment (Thomas & Jayesh, 2016). Agricultural employers, facing higher reservation wages and labour shortages during peak seasons, increasingly rely on group-based or contractor-mediated labour arrangements (Rajni, 2007). Consequently, while the nature of contracts has become more monetized and flexible, the underlying heterogeneity persists.

Thus, two and a half decades after the original fieldwork, the essential feature identified then coexistence of multiple forms of labour contracts remains a defining characteristic of rural labour markets, though operating within a more mobile, monetized, and state-influenced framework.

VI. CONCLUSION

While the evolutionary approach emphasizes structural transformation driven by capitalist development, the institutional-choice perspective foregrounds the role of agency, learning, and context-specific adaptation. Contrary to the expectation that capitalist development would replace multi-stranded agrarian labour relations with uniform wage labour, the evidence from Ballia and Meerut in 1999–2000 reinforced that agrarian transition had not resulted in a linear movement toward fully casualised wage labour, but instead Indian agriculture continued to display a co-existence of diverse contractual forms across regions with different levels of development. Similar observations have been made by Rudra and Bardhan (1983), Binswanger and Rosenzweig (1984), Sarap (1991), and Srivastava (1996).

In Ballia, where non-agricultural opportunities remain limited, labour households continue to rely on agriculture and choose among available contracts according to their risk-bearing capacity. As shown in the Ballia village analysis (Section III), attached labour contracts with strong traditional features continued to persist at the turn of the century. Their endurance was closely tied to land-based patronage, such as land grants and access to credit and bound labourers to specific employers over extended periods. Consistent with the classical conception of attached labour, these contracts were sustained not by coercion alone but by unequal access to productive assets and the absence of viable alternative employment.

In contrast, by 2000, Meerut's expanding non-farm economy has led to the withdrawal of local labour from long-term attachments, replaced by in-migrant workers under fixed-term contracts rather than land - credit linked patronage.

The introduction of MGNREGA marked a significant institutional break by establishing a statutory floor of employment and income that altered bargaining relations in both districts (see Section IV). In Ballia, MGNREGA reduced risk of joblessness and thereby weakened the material foundations of attached labour by reducing dependence on land-credit-based patronage and providing an alternative source of employment within the village. In Meerut, MGNREGA functioned primarily as an outside option within an already segmented labour market, strengthening bargaining power for casual and migrant workers, exerting upward pressure on wages, and further narrowing the scope for long-term informal contracts.

Overall, the comparative analysis demonstrates that labour contracts in 1999–2000 were shaped by region-specific structural constraints, but that MGNREGA introduced a common institutional intervention capable of reshaping local labour markets. Its effects were most transformative in contexts such as Ballia, where attached labour had persisted, while in Meerut it consolidated an ongoing shift toward flexible, wage-based employment relations. This underscores the importance of viewing employment guarantees not merely as welfare measures but as instruments capable of altering labour institutions, especially when combined with broader interventions in asset access and labour regulation.

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