

From Farm to Non-Farm: Livelihood Diversification and Labour-Market Transition in the Char Areas of Dhubri District, Assam

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Abstract: The char lands of the Brahmaputra system in Assam are among the most environmentally precarious and economically disadvantaged rural territories of the state, subject to recurrent flooding, riverbank erosion and displacement. This paper examines the changing pattern of farm and non-farm employment among 202 char households in Dhubri district, drawn from four settlement categories - oldest chars with settlement, chars of 20-30 years without settlement, highly vulnerable chars and newly formed chars. Household and individual-level descriptive analysis shows that 61.88 % of households were engaged in non-cultivation activities and 44.05 % were classified as non-farm households, marginally exceeding the 41.60 % classified as farm households; a further 14.35 % combined both. At the individual level, cultivation and other services each accounted for 24.5 % of the working-age population and construction for 18.5 %. This non-farm orientation coexists with a severely constrained agrarian base: 44.6 % of households are landless, 50 % are marginal cultivators with an average holding of 0.33 hectares single cropping remains the dominant practice. The paper argues that the observed shift is best read not as a voluntary withdrawal from agriculture but as a differentiated livelihood adjustment to resource scarcity and environmental uncertainty, whose intensity varies systematically with settlement history rather than with vulnerability alone. The findings point to the need for a dual strategy that strengthens feasible agricultural production while improving the quality, skill content and accessibility of non-farm employment in char settlements.

Keywords: Char areas, Rural labour, Agricultural Constraints, Labour-market transition, Landlessness, Occupational structure, Environmental vulnerability, Assam.

INTRODUCTION

Agriculture has traditionally anchored the rural economy of India, but the labour market has diversified steadily, with non-farm activity assuming a growing share of rural employment and income, particularly among economically weaker households (Kumar, Singh and Shivjee, 2011). This diversification is not a uniform process. Some households combine cultivation with non-farm work to spread livelihood risk, while others depend on non-farm employment primarily because access to land is limited, the distinction matters because non-farm employment can signify either an opportunity linked to rural economic transformation or an adaptation to constraints within agriculture (Abraham, 2023). Recent work on the Indian rural non-farm sector similarly identifies construction as its single most important component confirms a slow but steady movement of households out of pure agricultural dependence (Abraham, 2023).

This question acquires particular significance in the char areas of Assam, riverine islands and sandbars, whose physical form is continuously reshaped by flooding, erosion, deposition and shifting river channels. These processes bear not only on settlement stability but on the availability and security of productive land itself, so that

livelihood choice in char settlements cannot be read solely through the conventional farm/non-farm dichotomy developed for stable agrarian settings. Existing evidence on rural non-farm employment is overwhelmingly national or state level, while this establishes the broad significance of occupational diversification, it can obscure substantial variation within environmentally distinctive rural economies. Emerging Assam-specific evidence confirms considerable livelihood diversification among riverine and sandbar households (Hoque and Hazarika, 2015), underscoring the need for a district-level analysis attentive to char typology.

This paper contributes to that gap by examining the farm-non-farm employment structure of char households in Dhubri district. Rather than assuming that char livelihoods remain predominantly agricultural, it asks whether the observed occupational structure already reveals a substantial non-farm orientation% whether this orientation varies with the settlement history and environmental exposure of different char categories. Three questions guide the analysis - what is the relative weight of farm and non-farm livelihoods among surveyed households; what does the occupational structure of the working-age

population reveal about the emerging labour market and how do landholding, cropping pattern and cropping intensity help explain the growing salience of non-farm employment. The central argument is that the non-farm orientation of char livelihoods is best understood as a differentiated occupational transition shaped jointly by opportunity and constraint, rather than as either an unambiguous sign of structural transformation or a simple retreat from agriculture.

Conceptual Background

The expansion of non-farm employment is a well-established feature of rural economic change in India. Kumar *et al.* (2011) document a sustained increase in rural employment diversification toward the non-farm sector using national sample survey data through 2009-10, while Saha and Verick (2016) show that this diversification has been concentrated disproportionately among economically weaker rural households and is closely associated with access to land. Abraham (2023) frames the movement toward non-farm employment as encompassing two distinct processes - shift and diversification- in which diversification is better understood as risk mitigation and shift as a search for higher earnings and identifies construction as the most important single source of rural non-farm employment in India.

Access to agricultural land conditions occupational choice in a fundamental way. Where landholding is adequate and cultivation viable, agriculture continues to absorb household labour; where holdings are absent or marginal, its absorptive capacity is correspondingly reduced. Evidence from eastern and northern India indicates that landless and marginal households have been disproportionately drawn into non-farm work (Chand, Srivastava and Singh, 2018), a relationship that is likely to be sharper still in char settlements, where land is not merely scarce but environmentally unstable. Unlike the conventional agrarian economy, the char economy is built on a productive base that can itself disappear or reform within a single agricultural cycle, so that livelihood insecurity in char areas is jointly determined by land scarcity and land impermanence. This paper accordingly treats the farm-to-non-farm transition as a labour-market phenomenon embedded in ecological uncertainty, rather than assuming that all movement away from

cultivation represents economic advancement; construction, casual wage work and low-productivity services are, after all, heterogeneous in the security and returns they offer.

STUDY AREA, DATA AND METHODS

Study Area and Sampling

The study is confined to char areas of Dhubri district, within the Brahmaputra river system, an area characterised by marked heterogeneity in settlement history and environmental exposure. For analytical purposes, sampled chars were classified into four categories -oldest chars with settlement, chars of 20-30 years without settlement, highly vulnerable chars and newly formed chars.

The analysis draws on a household survey of 202 households distributed across the four char categories - 50 in the oldest settled chars, 50 in the 20-30-year chars without settlement, 52 in the highly vulnerable chars and 50 in the new chars - to permit comparison across categories.

Analytical Approach

The analysis is descriptive. At the household level, households reporting cultivation and allied activities as their primary occupation are classified as farm households, those reporting occupations outside cultivation as non-farm households and those combining both as a mixed category. At the individual level, the occupational profile of the working-age population (15-59 years) is examined separately, since household classification alone cannot capture the occupational differentiation of individual members within the same household. Landholding, cropping pattern and cropping intensity are analysed as indicators of the agricultural resource base underlying the observed occupational structure.

RESULTS AND DISCUSSION

Household Occupational Orientation

Table 1 reports the broad occupational orientation of surveyed households. Of the 202 households, 125 (61.88 %) were engaged in non-cultivation activities, while 94 (46.53 %) were classified as agricultural households, of which 69 were purely agricultural and 18 combined cultivation with other occupations; 59 households (29.21 %) reported pure cultivation as their occupational category.

Table 1: Household Occupational Orientation

Occupational category	Households	%age
Pure cultivation	59	29.21
Agricultural household	94	46.53
Pure agricultural household	69	34.15
Cultivation + other occupation	18	8.91
Non-cultivation	125	61.88

Source: Author's calculation using field survey information.

This finding qualifies the assumption that the char economy remains predominantly cultivation based, a majority of surveyed households are already engaged in non-cultivation activity, even though agriculture retains substantial weight within the livelihood system. The pattern sharpens under a

farm/non-farm classification (Table 2), where non-farm households constitute 44.05 % of the sample, marginally exceeding the 41.60 % classified as farm households, with a further 14.35 % combining both.

Table 2: Farm and Non-Farm Livelihood Orientation

Livelihood orientation	Households	%age
Farm household	84	41.60
Farm + non-farm household	29	14.35
Non-farm household	89	44.05
Total	202	100.00

Source: Author's calculation using field survey information.

Non-farm employment in the char economy can therefore no longer be treated as a residual activity taken up only when agricultural work is unavailable, for a substantial share of households it constitutes the principal livelihood orientation. At the same time, the sizeable mixed category indicates that the transition is not a clean movement from one sector to another: for a meaningful segment of households, agriculture and non-farm work coexist as complementary sources

of income, consistent with a pattern of pluriactivity rather than sectoral displacement.

Variation across Char Categories

The aggregate pattern conceals considerable heterogeneity across char types (Table 3). Non-cultivation households constitute 82 % of the 20-30 year chars without settlement, compared with 58 % in both the oldest settled and new chars and 50 % in the highly vulnerable chars.

Table 3: Farm/Non-Farm Orientation across Char Categories (%)

Char category	Farm	Farm + non-farm	Non-farm
Oldest settled chars	32.00	16.00	52.00
Highly vulnerable chars	44.23	15.38	40.38
20-30 years without settlement	42.00	8.00	50.00
New chars	48.00	18.00	34.00

Source: Author's calculation using field survey information.

The strongest non-farm orientation is found in the 20-30 year chars without settlement, where half of all households are non-farm and 82 % report non-cultivation activity under the broader classification. New chars display the opposite tendency, with the highest share of farm households (48 %) and the lowest share of non-farm households (34 %), most plausibly because recently deposited land offers more immediately cultivable area rather than because these chars are less environmentally exposed. The contrast

indicates that the farm-to-non-farm transition is not uniform across char environments that settlement history - and the security of access to productive resources associated with it - shapes occupational outcomes independently of raw environmental exposure.

Landholding and the Agricultural Resource Base

The landholding structure underlying these patterns is markedly constrained (Table 4). Of the

202 households, 90 (44.6 %) reported no agricultural land, a further 101 (50 %) were marginal holders with less than one hectare, averaging only 0.33 hectares. Only nine

households were small farmers and two semi-medium farmers; the overall average owned holding was 0.25 hectares.

Table 4: Distribution of Households by Owned Landholding

Landholding category	Households	%	Average holding (ha)
No agricultural land	90	44.60	-
Marginal farmer (< 1 ha)	101	50.00	0.33
Small farmer (1-2 ha)	9	4.50	1.49
Semi-medium farmer (2-4 ha)	2	1.00	2.14
Total	202	100.00	0.25

Source: Author's calculation using field survey information.

Agriculture has a structurally limited capacity to absorb household labour when nearly half of households own no land and most owners hold only marginal plots, agricultural wage labour remains open to landless households, but the narrow owned resource base restricts the viability of cultivation as a principal livelihood for a large proportion of the sample. This constraint is compounded by riverbank erosion, which recurrently erodes cultivable land and undermines secure tenure, particularly in the less stable char categories. The emergence of non-farm employment is thus better interpreted against a background of restricted agricultural resource access than as an autonomous occupational preference.

Cropping Pattern and Cropping Intensity

Agricultural production is concentrated within a narrow crop base. As per the field survey, Paddy and jute dominate Kharif cultivation, while paddy and matimah (black gram) are the principal Rabi crops; vegetables, oilseeds and pulses remain marginal, reflecting limited crop diversification. The pattern varies by char category: winter paddy and jute dominate Kharif cultivation in the oldest settled chars, with summer paddy and matimah important in Rabi; jute dominates Kharif cultivation in the highly vulnerable chars, with winter paddy and matimah prominent in Rabi; and in the 20-30 year and new chars, jute remains important while Kharif paddy is cultivated by only a small share of households. These differences suggest that crop choice is closely adapted to the

physical character of each char environment - particularly waterlogging and the composition of newly deposited alluvial soils - even as the overall crop structure remains narrow.

Cropping intensity reinforces this picture of a constrained agrarian base. Among the 128 cultivating households, 58 (45.31 %) cultivated a single crop, 44 (34.37 %) cultivated two crops and 26 (20.31 %) cultivated three crops. Although 54.69 % thus practised double or triple cropping, single cropping remained the single most common pattern was especially pronounced in the new chars, where 81.48 % of cultivating households grew only one crop. Taken together, the landholding and cropping evidence indicates that agriculture, while far from absent, is structurally ill equipped to serve as a comprehensive livelihood base for char households.

Individual-Level Occupational Structure

Household classifications capture livelihood orientation but not intra-household occupational differentiation, since members of the same household may work in different sectors. Among the 400 individuals aged 15-59 years covered by the occupational analysis, cultivation and other services each accounted for 24.5 % and construction for 18.5 % (Table 5); agricultural labour accounted for 6.8 %, trade and commerce for 6.3 %, livestock and fisheries for 3.8 %, transport and communication for 2.8 % household manufacturing for 1.0 %.

Table 5. Occupational Structure of the Working-Age Population

Occupation	Frequency	%age
Cultivation	98	24.5
Agricultural labour	27	6.8
Livestock/fishing	15	3.8
Household manufacturing	4	1.0
Construction	74	18.5

Trade and commerce	25	6.3
Transport and communication	11	2.8
Other services	98	24.5
Non-work	48	12.0
Total	400	100.0

Source: Author's calculation using field survey information.

Cultivation thus remains one of the two largest individual occupational categories, matched exactly by other services, while construction absorbs almost one-fifth of the working-age population. The labour market cannot therefore be characterised as either exclusively agricultural or fully non-agricultural; it exhibits a dual structure in which cultivation coexists with an expanding range of non-farm occupations. The prominence of construction is consistent with wider Indian evidence identifying it as a principal entry point into rural non-farm employment for workers with limited land access and modest formal qualifications (Abraham, 2023).

A Differentiated Transition across Char Categories

Individual-level occupational composition varies substantially by char type (Table 6). In the oldest settled chars, cultivation accounts for 27.6 %, other services for 25.7 %, trade and commerce for 12.4 % and construction for only 9.5 %. The 20-30 year chars without settlement display a markedly different profile, with construction at 31.6 %, other services at 24.1 % and cultivation at just 16.5 %. The highly vulnerable chars retain a stronger agricultural component - cultivation at 32.5 % alongside other services at 33.3 % with construction at only 8.8 %. In the new chars, construction is again prominent (28.4 perent), alongside cultivation (18.6 %) and a comparatively high share of agricultural labour (14.7 %).

Table 6: Selected Occupational Shares across Char Types (%)

Occupation	Oldest settled	20-30 years of settlement	Highly vulnerable	New chars
Cultivation	27.6	16.5	32.5	18.6
Agricultural labour	3.8	10.1	0.0	14.7
Construction	9.5	31.6	8.8	28.4
Other services	25.7	24.1	33.3	13.7
Trade & commerce	12.4	1.3	6.1	3.9

Source: Author's calculation using field survey information.

The contrast between the 20-30 year chars without settlement and the highly vulnerable chars is analytically instructive, although both categories are environmentally constrained, their occupational structures diverge sharply, indicating that environmental vulnerability alone does not determine occupational outcomes. Settlement history and the security of access to land evidently exert an independent influence on local labour-market structure, with the 20-30 year unsettled chars showing the clearest orientation toward non-farm work - particularly construction - while cultivation retains greater relative importance in the highly vulnerable and oldest settled chars, new chars retain a comparatively stronger farm component that includes agricultural wage labour.

Shift or Diversification?

The evidence calls for a cautious reading of the phrase “from farm to non-farm.” Non-farm households form the single largest household category (44.05 %), but farm households (41.60

%) and mixed households (14.35 %) together account for a comparable share and cultivation remains one of the two largest individual occupations. The data therefore do not support a claim that agriculture has been displaced by non-farm employment. Three processes instead appear to coexist: persistence of agricultural dependence, particularly in the highly vulnerable and oldest settled chars; ongoing diversification, in which individual household members participate in different occupational sectors, a markedly stronger non-farm orientation in specific char categories, above all the 20-30 year chars without settlement. Following Abraham's (2023) distinction between shift and diversification, the pattern documented here is better described as an emerging labour-market transition embedded within a broader process of livelihood diversification, rather than as complete deagrarianisation.

DISCUSSION

These findings contribute to the broader literature on rural employment diversification in three respects. First, they confirm that non-farm employment is no longer peripheral to rural livelihoods even in an environmentally vulnerable and historically agrarian setting, the 44.05 % share of non-farm households places non-farm livelihoods marginally above farm-only households in the sample. Second, they underline the importance of land constraints in shaping this transition, with nearly 45 % of households landless and half holding only marginal plots, the agricultural resource base is insufficient to support cultivation as the primary livelihood for a large proportion of char households - consistent with broader evidence that land access is closely associated with participation in rural non-farm employment (Saha and Verick, 2016; Chand, Srivastava and Singh, 2018). Third, the char context demonstrates that environmental and settlement characteristics jointly mediate the farm-non-farm transition, since the highest dependence on non-cultivation activity occurs not in the newest chars but in the 20-30 year chars without settlement, indicating a non-linear relationship between environmental vulnerability and occupational choice.

The findings caution against reading all movement toward non-farm employment as evidence of successful structural transformation. A substantial share of observed non-farm employment is concentrated in construction and other service activities whose earnings, security and long-term welfare implications this study's data cannot establish. The appropriate policy response is therefore not a choice between agriculture and non-farm employment but a dual livelihood strategy, strengthening productive agriculture where land and environmental conditions permit, while simultaneously improving the quality and accessibility of non-farm work.

POLICY IMPLICATIONS

The findings point to five priorities for char-area development policy. Rural development interventions should move beyond an agriculture-only livelihood strategy and explicitly recognize the growing weight of non-farm employment in household income. Skills development should be aligned with actual local and regional labour demand, given the dominance of construction and other relatively low-entry occupations, with training directed toward construction trades,

electrical and mechanical work, transport-related services, repair activities and digital services. Small non-farm enterprises and petty trade merit support through credit access, market information and transport connectivity, enabling informal activity to convert into more stable livelihood sources without requiring households to abandon their settlements. Where environmentally feasible, agricultural productivity should be strengthened through improved irrigation, crop diversification and input access, since landholding and cropping evidence show that a substantial share of households continue to depend on cultivation. Finally, employment policy in char areas cannot be separated from flood and erosion risk; programmes should factor in the settlement stability of target households, since more secure local employment opportunities could reduce dependence on precarious non-farm work undertaken as a response to environmental stress.

CONCLUSION

The char economy of Dhubri district is undergoing a significant reconfiguration of its rural labour market. Agriculture remains a major source of employment, but non-farm activity is now the marginally larger primary orientation (44.05% versus 41.60% farm households). This does not indicate a wholesale withdrawal from agriculture, however — cultivation remains a major individual occupation, mixed farm-non-farm livelihoods are common, and agriculture retains particular importance in specific char environments. The transition is closely tied to a constrained agricultural resource base — 44.6% landlessness, 50% marginal holdings, narrow crop diversification and widespread single cropping — that interacts with environmental instability to limit agriculture's capacity to provide secure livelihoods for all households. It is also spatially differentiated: non-farm employment, especially construction, is strongest in the 20–30-year chars without settlement, while cultivation retains greater relative importance in the highly vulnerable and more established chars.

The movement toward non-farm employment should therefore be understood neither as a straightforward decline of agriculture nor as an unambiguous marker of structural transformation, but as a livelihood response at the intersection of limited land, agricultural uncertainty and environmental vulnerability. Char development policy should accordingly combine feasible agricultural support with better-quality non-farm

employment, emphasising skills, enterprise development, market access and locally accessible work.

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Source of support: Nil; **Conflict of interest:** Nil.

Cite this article as:

Seal, C. & Baruah, J. "From Farm to Non-Farm: Livelihood Diversification and Labour-Market Transition in the Char Areas of Dhubri District, Assam." *Sarcouncil Journal of Economics and Business Management* 5.9 (2026): pp 1-7.