RESEARCH NOTES
AND STATISTICS

Wealth Mobility: Notes from Two Villages of Bihar

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Introduction

In volume 12, issue 1, of the *Review of Agrarian Studies* (RAS), a special section focussed on features of contemporary agrarian Bihar drawing on data from village studies conducted as part of the Project on Agrarian Relations in India (PARI).[1] One of the issues highlighted by these papers was the extreme inequality in the ownership of land and other assets, with a "high correlation between land ownership and caste and class status in the study villages." (Dhar, Pandey, and Kumar 2022). This Note explores a further aspect of wealth inequality, namely the extent to which inequality is moderated by mobility. Using a small panel of households from these two villages for the period 2012-18, we construct mobility matrices with respect to ownership of wealth, and examine the extent and type of mobility, in particular, the type of upward mobility experienced by households from the oppressed castes.

Data and Methodology

This paper is based on data from the PARI household surveys conducted in 2012 in two villages of north Bihar, Katkuian in West Champaran district and Nayanagar in Samastipur district. In 2018, a resurvey was conducted of a sample of 44 households in Katkuian and 63 households in Nayanagar, with sampling based on levels of asset ownership (though all the rich landlords were included). We use the resultant panel for an analysis of mobility.

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[1] See Dhar, Pandey, and Kumar 2022; Kumar 2022; Swaminathan and Nagbhushan 2022; and Baksi and Mahato 2022.

In the PARI survey, the schedule on assets covered agricultural land, orchard land, homestead land, non-agricultural land, house and buildings, means of production including agricultural and non-agricultural machinery, livestock, durable goods, means of transport, inventories, and trees owned by the household. The PARI survey did not collect information on financial assets and jewellery (for this reason, the estimated asset holdings of the rich households are substantial underestimates). Assets have been valued at the current market value, as reported by the respondent at the time of the survey. All data are at 2011-12 prices.[2]

The PARI survey is more comprehensive in its definition of wealth than recent independent surveys undertaken in Bihar.[3] The survey by the Institute for Human Development (IHD) in 2009-12 (see Rodgers *et al.* 2013) covered land, other productive assets, and consumer durables in total wealth, but excluded housing. As we argue later, the exclusion of housing (homestead land and house structure) can make a big difference to the wealth of Scheduled Caste and other marginalised households.

In the official classification of the Government of Bihar, there are four social groups: Scheduled Castes, Scheduled Tribes, Backward Classes, and Other Castes. Castes which are constitutionally classified as Backward Classes (BC) have been further disaggregated into the Extremely Backward Classes (EBC), also termed BC1, and Other Backward Classes (BC), also termed BC2.

We construct mobility matrices for each village by ranking panel households by total household wealth and dividing all households in to five quintiles.

Description of Villages

Katkuian

Katkuian is in West Champaran district, in the north-west alluvial Gangetic region. Katkuian had 350 households with a population of 2163 persons and a sex ratio of 954. Katkuian had a very low literacy rate, 48 per cent (the female literacy rate was abysmal, 35 per cent), which was also much lower than the overall literacy rate for rural Bihar (61.8 per cent according to Census of India 2011 (GoI 2011)). The major landowning castes in the village were Yadav (Ahir), Kushwaha, and Kurmi, all belonging to BC-2. The Dalits or Scheduled Castes, 12 per cent of the population, were mostly landless, and worked as agricultural and non-agricultural workers. A significant proportion of the population (18 per cent) of the village was Muslim. Agricultural land in the village was irrigated from the Gandak irrigation project, and the main crops cultivated were sugarcane, paddy, wheat, and pulses.

[2] Respondents were asked what would the asset value would be if they sold the asset in the market. Where respondents were unable to report a value, a standard price for the asset, based on observations in the village, was used.

[3] We have not included the value of homestead land in cases where households did not have full ownership rights.

Nayanagar

Nayanagar is in Samastipur district, in the north-west alluvial Gangetic region. After a house listing survey that covered 1205 households, a socio-economic survey of 352 sample households was conducted. The population of Nayanagar was 5656 with a sex ratio of 934 females per 1000 males. The overall literacy rate in Nayanagar was also low (53 per cent), with female literacy being 41 per cent. The primary source of irrigation in this village was groundwater. In addition to rice and maize, horticulture, particularly the production of litchi and mango, was a significant contributor to the village economy of Nayanagar. The major land owners in the village were from the Bhumihar caste. Scheduled Castes comprised about a third of the population.

A detailed account of the agricultural economy and socio-economic composition of households in the two villages can be found in Dhar, Pandey, and Kumar (2022).

Wealth Mobility

We attempt an exploration of patterns of change in wealth accumulation drawing on a small panel from the two villages for a relatively short period of six years, that is, from 2012 to 2018.

The first indicator used to measure relative wealth accumulation is the ratio of mean per household wealth of each quintile to the mean household wealth of the lowest quintile, Q1. Secondly, we construct mobility matrices for the sample households.

The first feature of note is that absolute levels of wealth (adjusted for inflation) rose for all quintiles between 2012 and 2018, although the growth in wealth per household was very uneven across quintiles (Appendix Table 1). As a result, the gap between the poor and rich widened: in Nayanagar, the ratio of average per household wealth of Q5 to Q1 was 1597 in 2011, and rose to 2279 in 2018. A household in the top quintile (Q5) was over 2000 times wealthier than one in the first quintile. In Katkuian too, relative wealth inequality rose, though less than in Nayanagar.

Tables 1 and 2 are quintile-based mobility matrices for the two villages. The first row of Table 1 can be read as follows: of all households in the lowest quintile (in terms of asset ownership) in 2012, 22 per cent remained in the same quintile in 2018, 22 per cent moved to the next quintile (Q2), and the remaining 56 per cent moved to Q3.

From these mobility matrices, we observe that a substantial proportion of households – 41 per cent in Katkuian and 49 per cent in Nayanagar – remained in the same wealth quintile in both years (the sum of the diagonal terms). The distance measure, a commonly used aggregate measure of mobility, uses distance from the diagonal of a matrix to measure the degree of mobility.[4] It ranges from zero to one. The distance

[4] Distance measure is to understand the degree of mobility; how far the diagonal elements of the mobility matrix have moved from diagonal elements of the immobility matrix (Swaminathan 1991).

Table 1 *Mobility matrix for households ranked by total wealth, in quintiles, Katkuian village, Bihar, 2012 to 2018*

	Wealth Quintile 2018					
Wealth Quintile 2012	Q1	Q2	Q3	Q4	Q5	All
Q1	**0.22**	0.22	0.56	0	0	1
Q2	0.56	**0.33**	0	0.11	0	1
Q3	0.22	0.44	**0.22**	0.11	0	1
Q4	0	0	0.22	**0.56**	0.22	1
Q5	0	0	0	0.25	**0.75**	1
Number of households	9	9	9	9	8	44

Note: Diagonal terms are in bold. The rows sum to one.
Source: PARI data

measure was estimated to be 0.0962 for Katkuian, and 0.0517 for Nayanagar, implying that in both villages, observed mobility was less than 10 per cent of maximum mobility.

At the same time, the data show that some households gained wealth in absolute and relative terms.

The matrices illustrate the limits to mobility. No household from the lowest two quintiles or bottom 40 per cent shifted in to the top two quintiles of wealth ownership. Similarly, no household from the top 40 per cent moved to the lowest 40 per cent. Sixty-seven per cent of households remained in Q1 and Q2 in Katkuian; the proportion was even higher, 88 per cent, in Nayanagar. The share of Scheduled Caste households in the poorest quintiles (Q1 and Q2) was high in the two villages; nearly 30 per cent in Katkuian and 50 per cent in Nayanagar (Appendix Tables 2 and 3). There was no Scheduled Caste or Extremely Backward Class household in the highest quintile (Q5) in either village in either year.

Table 2 *Mobility matrix for households ranked by total wealth, in quintiles, Nayanagar village, Bihar, 2012-18*

	Wealth Quintile 2018					
Wealth Quintile 2012	Q1	Q2	Q3	Q4	Q5	Total
Q1	**0.46**	0.46	0.08	0	0	1
Q2	0.46	**0.38**	0.15	0	0	1
Q3	0.08	0.17	**0.42**	0.33	0	1
Q4	0	0	0.31	**0.46**	0.23	1
Q5	0	0	0	0.25	**0.75**	1
Total	13	13	12	13	12	63

Note: Diagonal terms are in bold. The rows sum to one.
Source: PARI data

Upward and Downward Mobility: Some Examples

To understand changes in household wealth, we take a few examples of upward and downward mobility.

First, a quarter of households in Q5 moved one rank below, to Q4, in both villages. The important feature to note is that all these households reported an absolute rise in wealth owned, but their relative position fell. To illustrate, a rich moneylender household of Nayanagar village (from Q5 in 2012) did not cultivate his agricultural land in 2018. He leased out some his land, and sold around seven acres of it just before the survey of 2018 since he planned to start a small factory and needed funds.[5] Another rich peasant household in Nayanagar also sold some agricultural land between 2012 and 2018 for a variety of reasons.

In another case, the extent of agricultural land owned by a household in Katkuian fell from 24 acres in 2012 to 7 acres in 2018 as the household split in the intervening years and agricultural land was divided among three brothers. In another big capitalist farmer household in Katkuian, the agricultural land was divided between three sons, but since two of them were not engaged in agriculture (one son had a salaried job, and another was a self-employed professional) and had moved out of the village, their land was not included as a share of the respondent household's assets. The elderly head of household lived with his eldest son and cultivated large parcels (more than 60 acres) of leased-in land.

Downward mobility among households in the richest quintile in Katkuian (who were mainly Yadavs and Koiris) was on account of changes in household composition and diversification of avenues of income generation, not necessarily reflecting any real worsening of living standards or position in the village socio-economic hierarchy.

Upward mobility among richer households was through acquisition of agricultural land. All four households in Nayanagar that moved from Q3 to Q4 reported an increase in the extent and value of agricultural land owned.

In the lowest two quintiles, households mainly belonged to Scheduled Caste or Extremely Backward Class groups. Those who remained in Q1 in Nayanagar and Katkuian in both years were households without operational holdings of land, households dependent on incomes form manual wage work. However, there was some upward mobility from Q1 to Q3 that was observed in Katkuian, and from Q2 to Q3 in Nayanagar.

Our data show that a rise in household wealth among the poor was mainly on account of improved housing, and much of the improvement in housing was on account of public policy. As part of the Government of India's housing policy, Indira (now Pradhan Mantri) Awas Yojana, households received between Rs. 10,000 and 100,000 as government assistance for construction of their houses and/or latrine. A second

[5] The land transaction may have been in cash; details were not disclosed during the survey.

contributing factor was that between 2012 and 2018, some households were able to officially register their homestead land and obtain a land deed (*patta*). This led to an accretion in wealth (as land without title deeds was not counted as part of household wealth in 2012). Having land deeds and titles opened up a market for homestead land, another possible reason for the value of homestead land doubling by 2018. Thirdly, once land was officially in their possession, families were willing to invest more in improvements in housing.

Of the five households that moved from Q1 to Q3 in Katkuian, one household acquired agricultural land. For the remaining four households, the increase in wealth was due to improvement in housing and increases in the value of homestead land. To illustrate, a Scheduled Caste, landless, manual worker household in Katkuian did not have a land deed in 2012, but by 2018, the household had registered its homestead land in the woman's name. They then constructed a new, pucca (or permanent structure) house, using funds from the Pradhan Mantri Awas Yojana. These changes led to a significant rise in the value of housing assets.

Similarly, in Nayanagar, all seven households that moved up from Q1 did so by either purchasing homestead land or registering homestead land, or improving housing structures with government assistance under the Pradhan Mantri Awas Yojana. To illustrate, a landless Scheduled Caste household in Nayanagar reported higher wealth in 2018 because of the registration of homestead land, and improved housing, on account of government assistance under the Pradhan Mantri Awas Yojana. However, three of the seven households who moved up from Q1 had taken loans from informal lenders (at high interest rates) either to buy homestead land or construct or repair houses. Another landless household in the lowest quintile in 2011 lived on homestead owned by the village head (Mukhiya) in the first survey. This household bought 0.059 acres of homestead land for Rs. 350,000 in 2013, using a loan of Rs 250,000 from a money lender in the village borrowed at 60 per cent interest per year. The debt had not been repaid at the end of the survey period.

Summary

Earlier research on the PARI villages in Bihar established that the ownership of wealth was highly unequal and closely tied to a household's position in the socio-economic class and caste hierarchy (Dhar, Pandey, and Kumar 2022; Kumar 2022; Swaminathan and Nagbhushan 2022). To what extent is this extreme inequality in wealth moderated by mobility?

This question was explored using data from a small panel of households from the two Project on Agrarian Relations in India (PARI) villages, for the years 2012-18. The first major finding from the mobility matrices for wealth is of relative immobility, especially at the two ends of the wealth distribution. In Nayanagar, no household from the bottom 40 per cent moved to the top 40 per cent, and vice versa, no household from the top 40 per cent moved to the poorest 40 per cent.

However, there was some upward mobility of households from the poorest two quintiles (Q1 and Q2) in 2012 to Q3 or Q4 in 2018. This was mainly on account of a rise in the value of housing, which in turn was on account of legal changes in respect of ownership of homestead land as well as benefits from government assistance for construction and improvements to housing. When a household registered and received legal status (patta) for their homestead land, it raised the value of land and resulted in their investing in house improvement. House construction and improvement was also supported by public policy. Acquisition of agricultural land by poor households was a rare occurrence.

Investment in housing has emerged as an important component of wealth accumulation among the poor in rural India.[6] It is thus important that scholars include housing and homestead land in studies of economic mobility.[7]

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[6] A similar observation was made by Jha (2004) in Purnea district of Bihar.

[7] Rodgers *et al.* (2013), an important resource on villages in Bihar, have discussed improvements in conditions of housing but not included the value of housing in total assets.

Appendix

Appendix Table 1 *Ratio of assets of each quintile to Q1, 2012 and 2018, Katkuian and Nayanagar*

Asset Quintile	Katkuian		Nayanagar	
	Ratio of quintile to Q1_2012	Ratio of quintile to Q1_2018	Ratio of quintile to Q1_2012	Ratio of quintile to Q1_2018
1	1	1	1	1
2	2	3	3	6
3	4	6	19	22
4	31	33	90	110
5	749	1049	1597	2279

Source: PARI data

Appendix Table 2 *Distribution of households by social group, by quintile classes (column percentages), Katkuian, 2012*

Social group/ Quintile class	1	2	3	4	5	Population share
SC	29	20	7	4	0	12
BC-1/EBC	51	49	53	47	33	47
BC-2/BC	13	26	31	39	64	35
Other	4	3	4	7	3	4
ST	3	3	4	3	0	3
Total	100	100	100	100	100	100

Note: SC stands for Scheduled Castes, EBC for Extremely Backward Classes, BC for Backward Classes, ST for Scheduled Tribes, and Other for all other castes.
Source: PARI data

Appendix Table 3 *Distribution of households by social group, by quintile classes (column percentages), Nayanagar, 2012*

Social group/ Quintile class	1	2	3	4	5	Population share
SC	49	47	41	4	0	34
BC-1/EBC	36	38	29	35	3	31
BC-2/BC	14	14	10	3	0	10
Other	1	1	21	58	97	25
Total	100	100	100	100	100	100

Note: SC stands for Scheduled Castes, EBC for Extremely Backward Classes, BC for Backward Classes, and Other for other castes.
Source: PARI data

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