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Intergenerational Social Mobility among Construction Labourers in Varanasi city (India)

Dharma Raj[1,*], *Bhanu Pratap Singh*[1], *Brijesh Pratap Singh*[1] *and Niraj Kumar Singh*[2]

[1] Department of Statistics, Institute of Science, Banaras Hindu University, Varanasi, India
[2] Department of Statistics, Amity University, Noida, India

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Abstract: India is a country where 69 per cent of its total population still lives in villages. The biggest challenge for them is an employment. According to all India unemployment rates by National sample survey office (NSSO, 2011-12); in the rural area unemployment rate is 2.3 per cent as compared to urban areas, 3.8 per cent. The present study aims to assess the social mobility in two sections; the first one is intergenerational educational mobility and the second one is intergenerational occupational mobility of the workers engaged in construction work in Varanasi City, India. A primary survey conducted during the period of June-September, 2016, individual level primary data has been collected from the targeted population using multi-stage cluster sampling method. Education is a major barrier to develop the status of a people i.e. labourer were economically and socially backward for a long duration and still were in the same situation. These finding may help the planners in designing policies. Apart from these facts, many studies have shown that in India, a huge difference exists in the mobility prospects between rural and urban population and also among the different caste of Hindus and among different religion. This paper recommends that there is an urgent need to pay attention to the educational system to improve the overall socio-economic and working conditions of the construction workers.

Keywords: Construction, educational, labourers, mobility, occupational

1 Introduction

Mobility is measured by the association between parent & adult children socioeconomic standing, where higher association means lesser mobility. Socioeconomic standing is captured by different measures-the most common are social class, educational level, occupational status, individual earnings and family income. Social mobility is defined as the movement of individuals, families, households, or other categories of people within or between layers or tiers in an open system of social stratification. Open stratification systems are those in which at least some value is given to achieve status characteristics in a society.

Educational Mobility: Measures of status include all sources of socioeconomic advantage into a single scale. Education level are instead categorical groupings based on specific occupational assets that determine life chances as expressed in outcomes such as income, health and wealth [6], and which are differentially affected by economic and institutional factors such as technological change, labour market and welfare policy. The availability of at least some social mobility can be important in providing pathways to greater equality in societies with high social inequality. Access to education continues to expand worldwide but the socio-economic divisions between tertiary-educated adults and the rest of society are growing. Governments must do more to ensure that everyone has the same opportunity to good education early in their life [16]. One of the main reasons why education is valued so highly in modern societies is the role it plays in relation to social mobility and reproduction. This role has long been debated between those who emphasize its contribution to social mobility and who focus on its contribution to social reproduction. In order to understand this debate, it is useful to review the key concepts and theoretical perspectives before considering the empirical evidence and then offering a resolution.

* Corresponding author e-mail: discoverability.drp@gmail.com

Occupational Mobility: Sociological investigation of mobility relies on occupations, misshapen into highly aggregated classes or on rank into a one-dimensional status hierarchy. Occupational status is weighted average of the mean level of earnings and education of detailed occupations. Occupational status has important advantages as a measure of economic fame: collecting information about occupations is relatively easy and faces much less issues in terms of recall, reliability, refusal, and stability than measures of earnings of income. Information about parents can be reported looking back of labourers, circumventing the call for long panels. Status strongly correlates with other social and economic variables, and it remains relatively stable over the individual occupational career, so a single evaluation provides adequate information of long-run standing [9]. Some economists have claimed that status may be a better indicator of long term economic standing than single-year income measures [7]. Occupational mobility is nothing but a part of social mobility. Most of the authors have tried to study the Intergenerational occupational mobility.

More than two decades of transition, the post-communist generations set at the forefront of supporting, economic and social life in their respective countries [8]. Families play a fundamental role in the social reproduction of inequality in particular in the process of educational attainment and for the occupational choice. There are many studies, covering developed and less-developed countries, which have documented the persistence of economic and social inequalities across generations based on outcome indicators such as income, earnings, occupation, and level of education. In the literature on social mobility, occupation is considered a good indicator of social status, incomes, and living standards [5], [10] and [19]. Usually, research investigation on educational stratification has shown how family background shapes final educational attainment [4] and how social origins influence school progression over the life course [11], [12] and [17]. Parent‘s characteristics (e.g. education & occupation) were central in these analyses; consequently, research in educational stratification has broadened to study the effect of grandparents on children‘s educational outcomes [13]. Demographic research also highlights on intergenerational mobility has continued to presume that parental education is a stable feature of family background on parents‘ education and children‘s attainments), and there has been limited investigation into whether an increase in mother‘s education can improve children‘s opportunities for socioeconomic mobility [3].

Unemployment is costly for individuals and hampers labor market efficiency. Studies based on data from developed countries have shown that increases in inequality tend to limit social mobility [1] using earning data on individuals and their adult children shows the strong negative correlation between cross-sectional inequality and intergenerational mobility.

More recently used data from the India Human Development Survey, 2005, jointly conducted by the University of Maryland and the National Council for Applied Economic Research (NCAER), to study intergenerational occupational mobility. This study showed that a substantial proportion of sons of low-skilled and low-paid workers remained in the same occupations as their fathers at the all-India level, for urban and rural areas combined [14].

India is a country where 69 per cent of its total population still lives in villages. The biggest challenge for them is an employment. According to all India unemployment rates by National sample survey office (NSSO, 2011-12); in rural area unemployment rate is 2.3 per cent as compared to urban areas, 3.8 per cent. Though the World Bank report shows India‘s overall unemployment rate dropped to 3.46% in Dec 2016 from previously reported number of 3.49 per cent in Dec 2015 [15].

In recent years, the rapidity and magnitude of different modern developments in rural India have not only effectively operated in changing the occupational and educational status of individual person and changing status from father to son, but it has also effectively operated in changing the occupation structure among two generation. Due to the modern development, the occupational statuses among the generations have changed significantly over time. It may be due to the development of the society, climatic condition, rural-urban migration, constant land resource for cultivation and increasing population growth spread of education in rural areas, development of new industrial job opportunities in the last decades, governmental policies, complete household migration, dissolution of households, etc.

In particular, the migration, from rural to urban and the flow of money as a consequence, from urban to rural areas have played a decisive role in the social and economic activities of the rural households. Some people are being motivated to sell their agricultural properties while others, mostly migrants are buying them. As a consequence of these forces set in motion, the structure of rural households is undergoing a transition.

Since the education and occupation plays a very important role in determining the social mobility of a collection of people among the all issues i.e. demographic, socio-economic, cultural, environmental, spiritual etc. This paper aims to find out the pattern of intergenerational social mobility i.e. changing pattern of education and occupation with the help of Markov Chain Approach, of the labourers working in construction industry of the Varanasi city. The Markov Chain Model and estimated transition probabilities were used to examine the pattern of occupational mobility.

2 Study Area and Data

The data was collected at individual level by surveying 508 construction labourers those working in Varanasi city. The individual level primary data has been collected from the target population using multi-stage cluster sampling method during June-September, 2016. The survey was carried out in the different wards and labourer mandi of Varanasi city. Some respondents belonged to Varanasi district while others were immigrates from neighbour district and other state; the study areas were labourers working as well as seeking for work at different places of the city. Varanasi district is partitioned in total 7 sectors as Lanka, Bhelupur, Sigra, Sarnath, Chetganj, Cant and Rajghat. The information on education was collected by labourer including to education level of their father and literacy of their grandfather was asked from each individuals. The education of the fathers and sons are classified into four categories viz. no education, primary, middle and metric above; along with the literacy status of grandfather as illiterate and literate. Similarly, the information on occupation was collected by each labourer. The information regarding occupation of the labourer, their grandfather and their father were asked from each individual. To have a significant number of observations in each cell, the occupations of the fathers and sons are classified into three categories according to their main occupation viz. Agricultural, Construction labourer and others.
Educational as well as occupational mobility is a special case of social mobility. India is vast developing country, Occupational and social mobilities are responsible for changing pattern of social and cultural values. Various studies are conducted in different areas leaving intergenerational social mobility untouched.

3 Method Used and Objectives

This paper is described social mobility in two sections; the first one is intergenerational educational mobility and the second one is intergenerational occupational mobility. The main objective of this paper is to study the pattern of intergenerational social mobility among labourers.

Markov chains, named subsequent to Andrey Markov, are mathematical systems that jump from one “state” (a situation or set of values) to another. For the present study we made a Markov chain model of a labourer‘s educational and occupational mobility, that include “Agriculture”, “Construction”, and “Others” as states, which collectively with their father‘s occupation form a ‘state space’: a list of all possible states. In addition, on pinnacle of the state space, a Markov chain tells the probability of “transitioning?, from one state to any other state e.g., the chance that an offspring of construction labourers will work same occupation. Actually, modellers don’t always portray out Markov chain diagrams while they prefer a “transition matrix” to mark the transition probabilities. Every state in the state space is included once as a row and again as a column, and each cell in the matrix tells you the probability of transitioning from its row‘s state to its column‘s state.

The Markov Chain Model: Let the chosen samples be divided into k social (education/ occupation) category henceforth, known as states of a Markov Chain model. Let the process of mobility of fathers and sons according to their social status is represented as the following transition matrix:
Where, $p_{ij} \geq 0$ for every i and j; & $\sum_{j=1} p_{ij} = 1$; for i, j = 1,2,...,k Where, p_{ij} is the transition probability showing that

$$P = \begin{pmatrix} p_{11} & p_{12} & \cdots & p_{1j} & \cdots & p_{1k} \\ p_{21} & p_{22} & \cdots & p_{2j} & \cdots & p_{2k} \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ p_{i1} & p_{i2} & \cdots & p_{ij} & \cdots & p_{ik} \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ p_{k1} & p_{k2} & \cdots & p_{kj} & \cdots & p_{kk} \end{pmatrix}$$

the fathers and sons belonging to the social state $i(i = 1,2,3,...,k)$ at the initial period is found to the social state $j(j = 1,2,3,....,k)$ at the existing period.
It is obvious from the matrix P, that from any state the fathers and sons may change to any other state with positive probability. Thus, the transition matrix as proposed is a regular matrix and it is also, a transient because every state can be entered from any state. One of the properties of such a transition matrix is that the probability of going from the is i^{th} state to j^{th} state does not depend on how it has got the j^{th} state and only the initial structure of the process determines the

existing structure, i.e.

$$P[X_n = j] = \sum_i P[X_{n-1} = i]P[X_n = j/X_{n-1} = i] = \sum_i P_j(n-1)P_{ij} = P_j(n) \tag{1}$$

It implies that the process in the state j at the n^{th} generation (unit of change under observation) is equal to the sum of overall probabilities that the process is in state i at the $(n-1)^{th}$ generation; in the next generation the process moves from state i to state j.
For $n = 1$, we get,

$$p_j^1 = p_j^0 p_{ij} \tag{2}$$

If $p_i^{'}(0)$ and $p_i(n)$ are transposes of $p_i(0)$ and $p_i(n)$ respectively with $p_i(0)$=($p_1(0)$, $p_2(0)$,...,$p_k(0)$), the initial class structure and $p_i(n)$=$(p_1(n), p_2(n), ..., p_k(n))$, the existing class structure (then, it may be easily seen that)

$$p^{'}(n) = p_j^{'}(0)\pi_{j=1}^n = p_j \tag{3}$$

If the chain in process is the homogeneous Markov Chain (i.e. one step transition probabilities are stationary) then $p_1 = p_2 = ... = p_k = p$ and

$$p_j^{'}(n) = p_j^{'}(0)p^n \tag{4}$$

Relationship (4) provides a solution that the structure of system after n generation is only dependent on the initial $p(0)$ and nth power of the transition matrix p.

Estimation of the parameters

Here the parameters involved are the initial absolute state distribution $p^{'}(0)$ (i.e. the initial class structure), the one-step absolute state distribution $p^{'}(1)$ (i.e. the existing class structure) and the transition matrix p. It is seen that once the general mathematical model is taken as the homogeneous Markov Chain, the problem of estimating the parameter account to estimation of the various probabilities from a two way contingency table Goodman (1965). The simplest and the most commonly used method is the usual minimum chi-square method, discussed below:

Suppose the row marginal totals $n_1, n_2, n_3, ..., n_k$ are fixed in that case we take k independent random samples of households, one from each class, n_i $(i = 1, 2, ..., k)$ being the size of the sample from the i^{th} class, then, the cell frequencies $n_{i1}, n_{i2}, n_{i3}, ..., n_{ik}$ of the i^{th} row have joint $(k-1)$ dimensional multinomial distribution, and we get, $E(n_{ij}) = n_i.p_{ij}$ and $E(n_{i.}) = np_i(0)$ for $i, j = 2, 3, ..., k$

$$E(n_j) = np_j(0) \tag{5}$$

where, n_{ij} = Number of fathers whose occupational category was in state i (in the initial structure) and sons occupational category at j (in the existing structure).
$n_{i.} = \sum_j n_{ij}$ = Total number of sample of fathers found in state j (in the existing structure) who were distributed in state $(i = 1, 2, ..., k)$ in initial structure. $n_{.j} = \sum_i n_{ij}$ = Total number of sample of sons found in state j (in the existing structure) who were distributed in state $(i = 1, 2, ?., k)$ in initial structure.
And $n = \sum_i n_{i.} = \sum_j n_{.j}$ = Total size of sample.
Thus, the minimum chi-square estimates of the transition probabilities p_{ij} the initial class structure $p^{'}(0)$ and existing class structure $p^{'}(1)$ are respectively.
$P_{ij} = \dfrac{n_{ij}}{n_{i.}}$

$$p_i(0) = \frac{n_{i.}}{n}; i, j = 1, 2, 3, ..., k \tag{6}$$

then, $p_i(1) = \dfrac{n_{.j}}{n}$
where, a_{b^c} stands for estimates. Thus, we have,

$$p_i^{'}(1) = (p_1(1), p_2(0), ..., p_k(0)) \tag{7}$$

$$p_j^{'}(1) = (p_1(1), p_2(1), ..., p_k(1)) \tag{8}$$

Mobility Ratios

It is considered as the probabilistic measures of mobility and it gives an idea about the mobility circumstances as whole, especially it measures pure mobility in the society. This mobility ratio is obtained as:

$$MR = \frac{p_{ij}}{p_j} \tag{9}$$

Where, $p_{i.}$ and p, are the transition probability and the existing probability of the system respectively.

4 Results and Findings

Table 1: Characteristics of labourer in Varanasi city, India

Variables	Category	Frequency	Percent
Residence	Varanasi	340	66.93
	Other District	121	23.82
	Other State	47	9.25
Main Occupation	Agriculture	68	13.39
	Construction	333	65.55
	Others	107	21.06
Education	No Education	373	73.43
	Primary	71	13.98
	Middle	22	4.33
	Metric & above	42	8.27

Table 1 shows the percentage distribution of labourer‘s characteristics according to their residence, main occupation and education level. Out of 508 labourers, about two third of labourers are from the Varanasi district and other one third have migrated from other districts of Uttar Pradesh or from other neighbouring states. Main occupations of labourers are construction work with 65.55 per cent followed by agriculture and others. Nearly, three fourth of the labourers are uneducated and only 8.27 per cent of labourers have metric & above education.

Section 1:Intergenerational Educational Mobility From Table 2, it is clear that about 41 per cent of labourer‘s there were no any education among three consecutive generations. Less than 5 per cent of labourers were educated in this three generation. This indicates that education is major barrier to develop the status of a people i.e. labourer were economically and socially backward from a long duration and still continue in present. Literate Grandfather is more likely to provide education to their next generation.

Table 3 depicts respondents and their father‘s frequency distribution of education level by residence categorized into Varanasi district, other district and other state. Also education is categorized into no education, Primary, Middle and Metric above. In Varanasi district the labourer and their father with no education level among 338 labourers is 150 i.e. about to 44 per cent. More than half of labourers were not educated and less than 13 per cent of labourers were educated up to metric. Among migrated labourers from others district of Uttar Pradesh in Varanasi city; one fourth of labourers were uneducated and one third of labourers were educated up to metric. Similarly, among the migrated labourers from other state of nation in Varanasi city; one fourth of labourers were uneducated and one fifth of labourers were educated up to metric.

From Spearman‘s rho methods for ordinal variable the association between labourers and their father‘s education are 0.318, 0.285 and 0.711 for Varanasi district, other district and other state respectively with statistically significant. This indicates that educational mobility is high in neighbouring district of Varanasi city and low in other state‘s labourer community. From Table 4 the maximum likelihood estimate of the transition probabilities for education $p_{ij}(i, j = 1, 2, 3, 4)$

Table 2: Percentage distribution of labourer as according to education pattern in three generation

Grandfather's Literacy Status	Father's Education Level	Labourers Education Level				Total
		No Education	Primary	Middle	Metric & above	
Illiterate	No Education	40.94	15.35	9.45	7.49	73.23
	Primary	3.35	2.36	2.76	2.75	11.22
	Middle	1.18	0.39	0.59	1.19	3.35
	Metric & above	0.20	0.59	1.77	3.54	6.10
Literate	No Education	0.20	0.00	0.00	0.00	0.20
	Primary	1.18	0.79	0.20	0.59	2.76
	Middle	0.20	0.59	0.00	0.19	0.98
	Metric & above	0.00	0.39	0.39	1.38	2.16
Total		47.24	20.47	15.16	17.13	100.00

Table 3: Frequency distribution of fathers and sons as according to their education level by the residence.

Residence	Father's education	Your education level				Total
		No Education	Primary	Middle	Metric & above	
Varanasi District	No Education	150	57	28	21	256
	Primary	19	13	10	8	50
	Middle	5	3	2	4	14
	Metric & above	0	3	6	9	18
	Total	174	76	46	42	338
Other District	No Education	41	15	15	17	88
	Primary	4	2	3	7	16
	Middle	1	2	1	2	6
	Metric& above	1	0	2	10	13
	Total	47	19	21	36	123
Other State	No Education	18	6	5	0	29
	Primary	0	1	2	2	5
	Middle	1	0	0	1	2
	Metric & above	0	2	3	6	11
	Total	19	9	10	9	47

are given by the status of residence as Varanasi district, other district and other state. In Varanasi district father's education at category 1 (i.e. no education); the son joining the same education level of their father was found 0.586. For instance p_{22}=0.260 explain that in state 2, i.e. primary level; fathers education has a chance of 0.260 to continue up to primary education of his sons and a chance of p_{12}=0.223 to move on to state 2 and a chance of p_{13}=0.019 to move on to state 3. Similar interpretation has been given for other elements of the transition matrix. The diagonal elements of transition probability matrix were (0.586, 0.260, 0.143, 0.500), (0.466, 0.125, 0.167, 0.769) and (0.621, 0.200, 0.00, 0.545) for the Varanasi district, other district and other state respectively; which indicate the inheritance education status is no education.

For estimated transition matrix presented in table 3 indicates that the fathers having to the educational levels as no education; the sons have a greater chance of no education to another states as compare to those belonging to states 2, 3 and 4. The estimated initial class structure $(n_{i.} = 1,2,3,4)$ and existing class structure $(n_{.j} = 1,2,3,4)$ for Varanasi district, other district and other state are respectively as: It may be noted that $p^{'}(1)$ defers significantly from each row

$\hat{p_{i.}}(0) = (0.757, 0.148, 0.041, 0.053)$ and $\hat{p_{j.}}(1) = (0.515, 0.225, 0.136, 0.124)$,
$\hat{p_{i.}}(0) = (0.715, 0.130, 0.049, 0.106)$ and $\hat{p_{j.}}(1) = (0.382, 0.154, 0.171, 0.293)$ &
$\hat{p_{i.}}(0) = (0.617, 0.106, 0.043, 0.234)$ and $\hat{p_{j.}}(1) = (0.404, 0.191, 0.213, 0.191)$

of p which shows, perhaps, an indication that the existing class structure has a long way to go for attaining its predicted

Table 4: The estimated transition probability matrix of fathers and sons as according to their education level by the residence.

Residence	Father's education	Your education level				Total
		No Education	Primary	Middle	Metric & above	
Varanasi District	No Education	0.586	0.223	0.109	0.082	0.757
	Primary	0.38	0.26	0.2	0.16	0.148
	Middle	0.357	0.214	0.143	0.286	0.041
	Metric & above	0	0.167	0.333	0.5	0.053
	Total	0.515	0.225	0.136	0.124	
Other District	No Education	0.466	0.17	0.17	0.193	0.715
	Primary	0.25	0.125	0.188	0.438	0.13
	Middle	0.167	0.333	0.167	0.333	0.049
	Metric& above	0.077	0	0.154	0.769	0.106
	Total	0.382	0.154	0.171	0.293	
Other State	No Education	0.621	0.207	0.172	0	0.617
	Primary	0	0.2	0.4	0.4	0.106
	Middle	0.5	0	0	0.5	0.043
	Metric & above	0	0.182	0.273	0.545	0.234
	Total	0.404	0.191	0.213	0.191	

equilibrium in the study population. Table 5 portrays the estimated values of educational mobility ratios of fathers and

Table 5: The Mobility Ratio of fathers and sons as according to their education level by the residence

Residence	Father's education	Your education level			
		No Education	Primary	Middle	Metric & above
Varanasi District	No Education	1.14	0.99	0.8	0.66
	Primary	0.74	1.16	1.47	1.29
	Middle	0.69	0.95	1.05	2.3
	Metric & above	0	0.74	2.45	4.02
Other District	No Education	1.22	1.1	1	0.66
	Primary	0.65	0.81	1.1	1.49
	Middle	0.44	2.16	0.98	1.14
	Metric & above	0.2	0	0.9	2.63
Other State	No Education	1.54	1.08	0.81	0
	Primary	0	1.04	1.88	2.09
	Middle	1.24	0	0	2.61
	Metric & above	0	0.95	1.28	2.85

sons. A value equal to unity of the mobility ratio in the table indicates perfect mobility. A value more than unity, indicates a pure mobility for that cell, whereas a value less than unity, indicates the frequency in that cell which means there has no mobility in the cell (Aryal, 2002). This table shows the educational mobility. The entries in the main diagonal cells (1.14, 1.16, 1.05, 4.02), (1.22, 0.81, 0.98, 2.63) and (1.54, 1.04, 0.00, 2.85); for labourers belong from Varanasi district, other district and other state respectively. For education level of father as metric and above; the mobility ratios were found greatest. This implies that sons attained the education level influenced by the educational level of fathers.

5 Intergenerational Occupational Mobility

Table 6 represents occupational relationship between labourer and their father by their residence categorized in to Varanasi city, other district and other state. Where agriculture, construction, other are taken as occupational category in three generation. About to 62 per cent of labourers; their main occupation is construction work, in this space approximately 5 per cent of total labourers? three generation involved in the same occupation. Less than 1 per cent of labourer involved in occupation of agriculture i.e. most horrible economically condition of the society from which they belongs. About 18 per cent of labourer?s grandfather were involved in the construction work and near about 23 per cent of labourer‘s father were in the same occupation of construction work.

Table 6: Percentage distribution of labourer as according to occupation pattern in three generation

Grandfather's main occupation	Father's main occupation	Subject main occupation			Total
		Agriculture	Construction	Others	
Agriculture	Agriculture	0.98	8.27	4.33	13.58
	Construction	0	0.79	1.18	1.97
	Others	0	0.59	0.39	0.98
Construction	Agriculture	0.2	0	0	0.2
	Construction	0	5.31	2.76	8.07
	Others	0	0.98	0	0.98
Others	Agriculture	0.2	2.17	1.38	3.74
	Construction	0.98	8.66	3.54	13.19
	Others	6.5	34.84	15.94	57.28
Total		8.86	61.61	29.53	100.00

The proportion of agriculture work in the generation of grandfather‘s of labourer was about 33 per cent and it was about 18 per cent in the generation of labourer‘s father; at present scenario it is less than 9 per cent. It may be concluded that agriculture is followed down to succeeding generation. It was found that construction work is followed by first to three generation to generation as about to 19, 23 and 62 per cent respectively. It may be conclude that in present time; majority of labourers get involved in construction industry, rather than agriculture so agriculture is the least favoured occupation. Agriculture is least followed occupation by labourer generation followed by construction and other occupation. Table 7

Table 7: Frequency distribution of fathers and sons as according to their occupation by the residence.

Residence	Father's occupation	Subjects occupation status			
		Agriculture	Construction	Others	Total
Varanasi District	Agriculture	3	24	10	37
	Construction	3	51	26	80
	Others	24	135	62	221
	Total	30	210	98	338
District Other	Agriculture	3	19	13	35
	Construction	1	18	10	29
	Others	9	39	11	59
	Total	13	76	34	123
State Other	Agriculture	1	10	6	17
	Construction	1	6	2	9
	Others	0	11	10	21
	Total	2	27	18	47

depicts respondents and their father‘s frequency distribution for their type of main occupation viz. agriculture, construction and others; by residence categorization in Varanasi district, other district and other state. In Varanasi district the labourer and their father having same occupation as construction work about to 15 per cent i.e. 51 out of 338 labourer. Among migrated labourers from others district of Uttar Pradesh and other state in Varanasi city; about one fifth of labourers were involved in their father?s same occupation. Similarly, among the migrated labourers from other state of nation in Varanasi city; one third of labourers have same occupation as their father.

From Chi-square test for nominal variable the association between labourers and their father‘s occupation are 3.946, 6.608 and 3.350 for Varanasi district, other district and other state respectively with statistically insignificant, which implies that labourers have tendency to accept same state of occupation as of their fathers. From Lambda values 0.00, 0.018 & 0.022 for Varanasi district, other district and other state respectively measure of association that reflects the proportional reduction in error when values of the independent variable are used to predict values of the dependent

variable. A value of 1 means the independent variable perfectly predicts the dependent variable while 0 means the independent variable has no help in predicting the dependent variable.

From Table 8, the maximum likelihood estimate of the transition probabilities for occupation $p_{ij}(i,j=1,2,3)$ are given by the status of residence as Varanasi district, other district and other state. In Varanasi district father's occupation at category 1 i.e. agriculture, the son joining the same occupation (as agriculture) of their father was found 0.081. For instance p_{22} = 0.638 explain that in state 2, i.e. construction; fathers occupation has a chance of 0.638 to continue in the same occupation of his sons and a chance of p_{12} = 0.649 to move on to state 2 and a chance of p_{13} = 0.270 to move on to state 3. Similar interpretation has been given for other elements of the transition matrix. The diagonal elements of transition probability matrix in table 6 was (0.081, 0.638, 0.281), (0.086, 0.621, 0.186) and (0.059, 0.667, 0.476) for the Varanasi district, other district and other state respectively; which indicate the inheritance occupation status of their father in construction workforce. For estimated transition matrix presented in table 8 indicates that the fathers belonging to the occupational states as agricultural labourer the sons have a greater chance of moving to a another states as compare to those belonging to states 2 and 3. The reason behind that occupation is construction labourer as grandfather's occupation; it means they have no land and no other necessary equipment of daily uses.It may be noted that $p'(1)$ differs significantly from each row of p which shows, perhaps, an indication that the existing class structure has a long way to go for attaining its predicted equilibrium in the study population.

Table 8: The estimated transition probability matrix of fathers and sons as according to their occupation by the residence

Residence	i (Occupation of father's)	j (Occupation of subjects)			
		Agriculture	Construction	Others	Total
Varanasi District	Agriculture	0.081	0.649	0.27	0.109
	Construction	0.038	0.638	0.325	0.237
	Others	0.109	0.611	0.281	0.654
	Total	0.089	0.621	0.29	
District Other	Agriculture	0.086	0.543	0.371	0.285
	Construction	0.034	0.621	0.345	0.236
	Others	0.153	0.661	0.186	0.48
	Total	0.106	0.618	0.276	
State Other	Agriculture	0.059	0.588	0.353	0.362
	Construction	0.111	0.667	0.222	0.191
	Others	0.000	0.524	0.476	0.447
	Total	0.043	0.574	0.383	

The estimated initial class structure $\left(\frac{n_{i.}}{n_i}=1,2,3\right)$ and existing class structure $(n_{.j}=1,2,3)$ for Varanasi district, other district and other state are respectively as:

$\hat{p_i}.(0) = (0.109, 0.237, 0.654)$ and $\hat{p_j}.(1) = (0.089, 0.621, 0.290)$,
$\hat{p_i}.(0) = (0.285, 0.236, 0.480)$ and $\hat{p_j}.(1) = (0.106, 0.618, 0.276)$ &
$\hat{p_i}.(0) = (0.362, 0.191, 0.447)$ and $\hat{p_j}.(1) = (0.043, 0.574, 0.383)$

Table 9 represents the entries in the main diagonal cells (0.91, 1.03, 0.97), (0.81, 1.00, 0.67) and (1.38, 1.16, 1.24); for labourers belonging to Varanasi district, other district and other state respectively. For main occupation as construction labourer the mobility ratios were found more than unity. This implies that sons started their occupation as same construction work in which their fathers had started the occupations; it may be due to low economic status with non-availability of agriculture land in Varanasi and other districts while in other state the agriculture occupation is preferred.

Table 9: The Mobility Ratio of fathers and sons as according to their occupation by the residence

Residence	i (Occupation of father's)	j (Occupation of subjects)		
		Agriculture	Construction	Others
Varanasi District	Agriculture	0.91	1.04	0.93
	Construction	0.42	1.03	1.12
	Others	1.22	0.98	0.97
Other District	Agriculture	0.81	0.88	1.34
	Construction	0.33	1.00	1.25
	Others	1.44	1.07	0.67
Other State	Agriculture	1.38	1.02	0.92
	Construction	2.61	1.16	0.58
	Others	0.00	0.91	1.24

6 Perspective

Education is major barrier to develop the status of a people i.e. labourer were economically and socially backward since a long duration and still were in same situation. Literate Grandfather is more likely to provide education to their next generation as so on. Educational mobility is high in neighbouring district of Varanasi city and low in other state?s labourer community. If the education level of father is metric and above; the mobility ratios were found highest. This implies that education level of sons was influenced by the education level of fathers. Mostly, sons had started their occupation as same profession as construction work in which their fathers was involved; it may be due to low economic status with non-availability of agriculture land in Varanasi and other districts while in other state the agriculture occupation is preferred. The patterns of intergenerational social mobility among the workers of Varanasi city is about 15 per cent of labourers in second generation were worked in construction industry as their father work in same industry at first generation.
These finding may help the planners and policy makers in designing policies. Apart from these facts, many studies have shown that in India, a huge difference exists in the mobility prospects between rural and urban population and also among different caste of Hindus and among different religion. Since this study has been conducted in a small city of India, it has some limitations. The authors suggest for some kind of studies on a large data set. Although this study has some limitations, it suggests that necessary remedial measures should be taken to uplift the prevailing situation of the labourers. These finding may help the planners and policy makers in designing policies for the betterment of the society and the labourers.

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Dharma Raj is Research Fellow in the Department of Statistics, Institute of Science, Banaras Hindu University, Varanasi, India. He awarded CSIR-JRF in Mathematical Sciences, ICMR-JRF in Social Sciences and UGC-JRF in Population Studies. He has obtained M.Sc. (Statistics) degree from Banaras Hindu University, Varanasi and Master of Population Studies, degree from International Institute for Population Sciences, Mumbai, India. His research interests are in the areas of Demography and Public Health. He has published 7 research articles in reputed National and International journal.

Bhanu Pratap Singh is currently working as Professor in the Department of Statistics, Institute of Science, Banaras Hindu University, Varanasi, India. Did M.Sc.(Statistics) and Ph.D.(Statistics) from Banaras Hindu University in 1975 and 1992 respectively. Having more than 40 years of teaching and research experience in the subject. He has Published more than 15 research papers in various reputed journals of India and abroad. Also, written 4 chapters in study material of U.P. Rajarshi Tondon Open University, Allahabad, India. Recently; as Co. Principal Investigator, successfully completed UGC sponsored project entitled ”Sustainable Birth Registration: A case Study of Eastern UP (2009-2012)”.

Brijesh P. Singh is currently working as Associate Professor in the Department of Statistics, Institute of Science, Banaras Hindu University, Varanasi, India. He has obtained Ph. D. degree in Statistics form Banaras Hindu University, Varanasi and has more than 15 years experience of teaching and research in the area of Statistical Demography. He has published 108 research papers in the refereed journals and books of national and international repute. He edited 2 books containing research papers and presently serving as Managing Editor of Demography India (An official journal of IASP). His research interests are in statistical modelling and analysis of demographic data specially fertility, mortality, reproductive health and domestic violence with its reason and consequences.

Dr. Niraj Kumar Singh is Assistant Professor, Department of Statistics, Amity University, Noida, India. He has obtained Ph.D. degree in Statistics form Banaras Hindu University, Varanasi and has more than 5 years experience of teaching. He has published a number of papers in journals of national and international repute. His interest lies in the area of mathematical Demography, Applied Statistics and Biostatistics.