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RESEARCH ARTICLE

MIGRATION EXPECTANCY IN NORTH-EASTERN BIHAR

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ABSTRACT

In spite of lot of research work in last few years, much information still lacks in our knowledge about migration. Expectancy table procedure gives the expectancy of various demographic events such as to determine the probable life time earnings of a person in a given industry or in a given occupation. Expectancy tables of migration gives information on the expected number of moves a person may make during his remaining life time. In the present study, we have tried to find out the nature and pattern of migration expectancy characterized by age and sex.

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INTRODUCTION

In spite of lot of research work in last few years, much information still lacks in our knowledge about migration. One of this information is the idea on the moves a person might be expected to make during his life time. Initially Jaffe (1960) explained the expectancy table procedure to find out the expectancy of various demographic events such as to determine the probable life time earnings of a person in a given industry or in a given occupation. Many studies have been done in past to explain the expectancy tables such as the expectancy of a person being marrying or remaining single (Grabill, 1945), the expectancy of a person being admitted to a mental hospital (Ogburn and Winston, 1928-29), the expectancy table for school going population with dropout rates (Stockwell and Nam, 1963). Long (1970) had measured the volume of geographical mobility within countries in a way that would permit comparisons between countries using the data of United States Census. Welfbein (1949) showed the average number of years a person can expect to be part of the work force with the help of working force life tables. One important example of an expectancy table is net reproduction rates, which shows the probability of a birth occurring to a female of a given age and the average number of births to be expected during the life time of a female cohort. Thus, the average number of occurrences of some event to be experienced by a cohort during its life time can be shown by expectancy table. The oldest type of expectancy table is life table. It shows the probability of dying and surviving at a given age as well as the average number of years of life remaining at the beginning of a specific age. An expectancy table may be handle with two kind of events. First, there are events which can occur but once and are non-reversible. Death happens only once in a life time of a person and we can calculate the probability of person dying. The life table yield expectancies for the first kind of event. Secondly, there are some events which may occur more than once in a life time of a person and therefore may be reversible and recurrent. Migration, morbidity, marriage, unemployment, etc., are such kind of events. For example, morbidity may be completely reversible if a person makes a complete recovery and recurrent if illness strikes again.

In recent past migration had attracted the attention of policy makers, planners, social scientists and researchers as having special significance in the context of rural development. Expectancy tables of migration gives information on the expected number of moves a person may make during his remaining life time. Wilber (1963) and Long (1973) have constructed the migration expectancy tables for the united states using the census data for the year 1958 under the assumption that (1) a maximum of one move per person per time period and (2) non-migration for persons reporting the same address at both the beginning and end of the period involved. Both assumptions include some degree of error since undoubtedly some move more than once and others have returned to their original place at the time of interview. Expectancy tables are able to give the answers to the questions:

(i) What are the chances of a person moving during his remaining life time?
(ii) How many times will he move during his remaining life time?

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Expected future mobility behavior data may be useful in projecting migration trends as well as gaining additional insights into policy measures that might control population movement. If the population redistribution is assessed in relation to different levels of socio-economic and demographic developments, Migration as a tool in the development process will be better achieved. In the present study, we have tried to find out the nature and pattern of migration expectancy characterized by age and sex.

Calculation of migration expectancy

Procedure for calculation of migration expectancy is a straightforward operation involving a few simple steps. It may be calculated by following the same routine from Jaffe's illustration (1960, p.50) of calculating the average number of admissions to a mental hospital for the survivors of a cohort during the course of their life time. For completeness, the procedure of migration expectancy is given below:

In table age interval has been given in column 1. Since migration is a rare event and it is difficult to obtain one year migration rate for a small area, data has been taken in five year age interval. Fortunately, the data for the number of migrants during (2005-2010) have been collected. Column two gives the number of migrants during last five years. Dividing it by 5 we get the number of migrants for one year. Column three gives the total number of male population in the respective age-interval. The migration rate in column four has been achieved by dividing the number of migrants by corresponding population by each age group. Life tables are generally made for a larger geographical area like state or country as a whole and therefore the reliable life tables for smaller units like district are not available. Since the computations require the knowledge of the life table for some larger unit such as that of the state (here Bihar) or the appropriate model life table, consistent with the mortality conditions of the area. Here we have taken Coale and Demeny's (1966) 'Model Life Table' to represent the mortality conditions of the area.

The rate of increase, the birth rate and death rates of the area and the model stable population decides the appropriate model life table. Here in our case, it was found that the level 16 of the "South Model" was most appropriate and hence it is taken to be the appropriate life table for the area. The figures in column five and six i.e. lx and Lx were taken directly from 'Model Life Table'. The lx values in column five shows survivors, the number of persons alive at the beginning of an age interval out of 100,000 born alive. Lx values is the number of years lived in the aggregate by the cohort of l_0 persons between age x and (x+1). The values of Lx at ages 60, 65, 70, 75 and 80 are 273664, 231236, 177208, 114673 and 78200 respectively. Thus, we can obtain the values of Lx at age 60 and above by adding all the above five values. In a specified age period, the expected number of moves may be obtained by multiplying the migration rate in column four by the stationary population in column six for the appropriate age interval. This values is given in column seven. The expected number of moves in the given age group and all older ages in column 8 are directly comparable to the T_x column of an ordinary life table. By accumulating figures in column 8, from highest to the lowest ages, we may get these expected moves.

To find out the expected number of moves per person in a specified age group and for all later ages, the cumulative moves in column 8 are divided by the survivors given in column 5. Migration expectancy is same to life expectancy as far as computation and interpretation are concerned.

Computation of migration expectancy may be symbolized as

$$ {}_xM_{x+n} = \sum_{L=x}^{L=x+n} \frac{(P_x)({}_xL_{x+n})}{l_x} $$

Where ${}_xM_{x+n}$ is the average number of moves during the remaining lifetime of a person at age x or the moves between age x and x + n years.

P_x is the migration rate for the population at age x.

${}_xL_{x+n}$ is the stationary population between age x to x + n years.

l_x is the number of survivors at age x.

$\sum_{L=x}^{L=x+n}$ refers to the summation of the product of P_x and ${}_xL_{x+n}$ from x to x+n years.

It is well known that in India rural to urban migration is mainly male dominant. Male migration is mainly motivated by better job opportunities at destination to improve and maintain economic condition. Better education and health facilities at urban areas may be another important pull factors to motivate rural to urban migration.

Table 1. Migration Expectancy for male in the Study Region

Age Group	Male migration (in 5 Year)	Male Population in 2010	1 year migration rate	lx	Lx	Expected no of moves		
						In the age interval	In the age interval and all older ages	average no of moves at birth and all older ages
0-4	7	253	0.0055	100000	430794	2384	46933	0.47
5-9	6	276	0.0043	82893	411626	1790	44549	0.54
10-14	4	249	0.0032	81758	407074	1308	42759	0.52
15-19	10	207	0.0097	81072	402815	3892	41451	0.51
20-24	16	179	0.0179	80054	396478	7088	37560	0.47
25-29	14	166	0.0169	78537	388943	6560	30472	0.39
30-34	12	145	0.0166	77040	380972	6306	23911	0.31
35-39	6	132	0.0091	75349	372018	3382	17605	0.23
40-44	4	109	0.0073	73458	361275	2652	14223	0.19
45-49	3	93	0.0065	71052	347648	2243	11572	0.16
50-54	1	81	0.0025	68008	329780	814	9329	0.14
55-59	2	52	0.0077	63905	305853	2353	8515	0.13
60 and above	2	142	0.0028	58436	874983	2465	6162	0.11

Conclusion

Since a migration expectancy table gives the average number of moves per person during his remaining lifetime, we can do comparisons between the expected moves of persons at a given age at different point in time, and between persons at the same point in time who have different characteristics (Wilber, 1963). In addition to comparisons by age and sex, we may find out the expectancy by rough distance categories, employment status, marital status and occupation status too. Wherever we have an appropriate life table and accessible migration data, we can make an expectancy table. Table shows the average number of moves at birth and at older ages. The results reveal that with the increase in age, migration expectancy decreases. Highest migration expectancy is seen in the age interval 5 to 19 and then it starts to decrease.

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