PILOT STUDY ON SOCIAL MOBILITY AND ITS ASSOCIATION WITH FERTILITY IN WEST BENGAL IN 1956

S. Janardan Poti and Subodh Datta

Introduction : Students of human fertility have long suspected some re-lationship between social mobility and reproduction. This hypothesis has been associated with the name of Aresene Dumont[1] for over fifty years, but not until recently has it been studied inductively. Most of the investi-gations during the last fifty years have taken what may be called a 'static' approach to the problem. Having defined the social status of a family in some way, it was usual to assess the fertility in terms of birth rates or average family size of a group of families enjoying a similar social status. It is obvious, however, that people who find themselves in a particular grade or class at the time of enquiry, may have arrived there in a number of ways. Some of them were born in a lower social class and had moved up the social ladder, others might have come down, and yet others might have remained static. Can the direction of this movement, i.e. social pro-motion or demotion, be associated with the number of children born to the families concerned? Again, some persons change their occupational grade during their working life and are subject to what may be called 'personal' social mobility. The effect on fertility of such changes as these is certainly worth investigating.

This dynamic approach to the problem of class differential fertility has received comparatively little attention until recently[2,3] with the result that practically no statistical evidence exists on the basis of which any valid deduction can be drawn. There are two recent empirical studies of European population which have yielded some information about the relationship of social mobility to size of family. Out of these two studies, one by Marcel Bresard[4] is based on data collected from a national sample of about 3,000 males in France. The research concentrated primarily on job-changes and comparisons of grandfathers', fathers', and sons' occu-pational and educational levels. The data collected on size of family were restricted to information about only the actual number of children in the different families, i.e. no information was obtained on the extent of fer-tility planning, and birth control practices.

The other major study, by Jerzy Berent, based on nearly 2,000 mar-riages taken from a nation-wide sample of 10,000 cases which were col-lected by the Social Survey in England and Wales in 1949[5], also analysed the relationship between fertility and inter-generational and personal social mobility. In this investigation also no attempts were made to collect

Note: References are given at the end of this article.

data on either socio-economic ambition or contraceptive practice. The findings of this study are in general agreement with other studies on the subject. When the family size of persons in the same class of origin is considered, those who have moved 'up' have the smallest families on the average, and those who have moved 'down' have the largest families, with static families having an average size intermediate between the two.

Object and scope of the study . The study of social mobility has so far received scant attention in this country. But in the context of the national plans for economic development, and the social changes that they are inevitably bringing about, the study can no longer be relegated to the background. The rural economy of India is undergoing a vital change, and its effects, coupled with the increasing pressure of population on land, are bound to be felt by the rural society. This changing socio-economic pattern of rural India makes the study of social mobility and its demographic implications more than merely academic.

Here it should be made clear that this article does not attempt a comprehensive study of the subject. This is an endeavour to evolve concepts and definitions, and to find out suitable methods for collecting data so necessary before a scheme of comprehensive survey is formulated. This pilot investigation was undertaken by the Indian Statistical Institute, Calcutta, as a methodological study. The results furnished in this paper are based on inadequate information and hence are of limited value, though they consistently point towards certain important tendencies. These tendencies, if substantiated by a more comprehensive investigation, may have far-reaching effects.

A study of social mobility must first try to define the term 'social position'. The social position of an individual may be defined on the basis of a number of criteria such as occupation, education, position in caste hierarchy, etc. In fact, all these criteria should be taken into account as each of these plays a significant role in determining the social position. Yet, in this study, only occupation has been taken into account to determine the social position of an individual. The choice of this criterion, to the exclusion of others, was based on the ground that inclusion of all other criteria would make the collection of data too complicated for a pilot study, and that the mobility of the population under investigation would be far greater with respect to occupation and would furnish adequate data for making the study worthwhile.

The occupational mobility of an individual can be studied in a number of ways according to the time at which the initial position in respect of his occupational status is considered. A person might have changed his occupation a number of times, before arriving at the one at the time of enquiry. Such changes in one's own occupational career may be termed 'personal mobility'. Or a person may leave the occupational class of his father to take up another, and this may be called 'inter-generational mobility'. Again, the father might not have remained static from the birth of his

son to the date of the son's taking up an occupation for the first time. In such circumstances the 'origin' to which the inter-generational mobility has to be referred becomes quite flexible. All these points show clearly that the origin for the reference of social mobility must be fixed in a unique manner before an enquiry on social mobility is instituted. This survey was designed to elicit information both on 'personal' and 'inter-generational' social mobility. So far as the demographic variables are concerned, obviously, we had to select from among all male earners those who were ever married, and their fertility was measured in terms of the number of children born by age of the wife at the time of survey or at her death.

Design of the survey : The coverage of the survey was restricted to rural tracts of eight districts of West Bengal for the selection of rural households, and Calcutta city for the urban sample. The rural sample comprises of three inter-penetrating sub-samples, each sub-sample consisting of eight villages selected at random, one from each district. Similarly the urban sample consisted of two inter-penetrating sub-samples each of 10 census blocks selected at random from Calcutta city. A total of 600 rural households and 500 Calcutta city households were included in the rural and urban samples selected for this study.

A division of the sample into similarly constituted sub-samples provides a quick and valid method of evaluating the accuracy of the statistical comparisons. The advantage of this method over the usual method of evaluating the sampling error is two-fold: firstly, the laborious mathematical calculations involved in the evaluation of the sampling error of certain estimates can be easily avoided, and secondly, the non-sampling errors arising out of the investigational bias are taken account of by this method because each inter-penetrating sub-sample is investigated by a separate team of investigators.

Certain demographic particulars such as age, sex, education, marital status, economic status, etc. of every member of the household were first obtained to ascertain the composition of the household. The first step was to elicit information on the occupational history of each member of the household returned as an earner. If the earner is an ever married male, details of the fertility history such as wife's age at marriage, her age at successive live births, her age at the time of enquiry (or at death), and the number of living children were recorded. Further, particulars of the household's economic enterprise, the extent of participation of the different earners in it, and the gross and net incomes obtained by them were also recorded in the schedule.

One of the main difficulties that arise in the study of the inter-generational mobility is that one has to proceed to collect the data retrospectively, i.e. from the sons to the father, though, more often, the latter might be dead than alive on the date of enquiry. If all the surviving sons of a father had lived in one household, a simple procedure of noting the father's and sons' occupations could have been adopted. In reality, however, it was

found that the grown-up sons had moved apart, especially after father's death, and had established separate households. It was therefore, considered essential to adopt the method of noting the occupations and fertility history of all sons living or dead and those of their fathers' through only one of the living sons to avoid multiple counting. The method of collecting data on occupation and fertility adopted here was first to note down the order among living sons of the father of every male member of the household and if his order was 'one' the occupational and the fertility history of his brothers and father (both dead and alive) were noted in the schedule and if his order were 'two or higher', then merely his occupation and fertility history were noted along with other details relating to household members. It was possible to obtain a complete picture of generational changes in occupation except for a small proportion of the population who did not have even a single living son to be taken account of at the time of enquiry.

The procedure adopted in assessing the occupational mobility and its demographic effects is to ascribe to each individual two occupational limits namely, the 'origin' implying his father's occupation at the time of enquiry or the 'last occupation' followed by his father before retirement or death and the 'destination' implying his present occupation or the last occupation followed by him before retirement or death.

The individuals included are only those male members of the selected households who are on the date of enquiry the eldest living sons of their fathers and the married brothers of such eldest living sons. The latter might be living in different households or might be dead on the date of enquiry, but in any case, as they will not be returned as the eldest living sons, from either this or other households, the possibility of their being included in the data again is eliminated. The father's occupation becomes the 'origin' for all the sons and the individual occupation of the sons becomes their 'destination'.

Results: The discussions in this study are limited to inter-generational occupational mobility, i.e. changes in the occupational status from father to son. As regards personal mobility it was observed that among male earners very few were reported to have had any other principal occupation than the one at the time of the survey. This may be either due to the fact that mobility during one's occupational career is a rarity in India or due to the exclusion from the coverage of this survey of areas where such mobility is expected to be more frequent.

For the purpose of this analysis the rural and urban occupations were lumped together into broad groups as shown below:

Rural

Group 1 : Agricultural labour.
Group 2 : Other agricultural occupations (farmers, cultivators, share-croppers, etc.).

Group 3 : Non-agricultural labour (artisan, handicraft, and transport workers).

Group 4 : Professions, services and trade, etc.

Group 5 : Non-gainful occupations (rentiers, remittance-receivers, etc.).

Urban (Calcutta city)

Group 6 : Manual labour.

Group 7 : Lower services, lower professions, retail trade, etc.

Group 8 : Higher services, higher professions, wholesale trade, etc.

Group 9 : Non-gainful occupations (rentiers, landlords, etc.).

Studies in occupational mobility conducted in countries of Europe and America have graded the occupations in a hierarchy in order to determine the direction of mobility. If one examines the direction of mobility on the basis of the economic aspect, one may grade the occupations on the basis of the average family income and associate an upward mobility with a shift to an occupational class in which a higher average family income is obtained. But in the conditions obtaining in India, particularly in the rural areas, such a grading of occupational classes as 'high' or 'low' cannot reveal the real direction of mobility. The average family income of one occupational group may be higher than that obtaining in another, but a number of families in the former might be enjoying far lower incomes than those enjoyed by a number of families in the latter. It is, therefore, possible that a family might have actually come down to a lower income level when it had shifted to an occupational group enjoying higher average family income. The wider the range within which the family income varies, within an occupational group, the greater will be the possibility of such anomalies.

For the occupational classification of the rural population adopted in this study, the average income and the range of variation in income of families for each of the five groups are shown in Table 1.

Table 1: AVERAGE ANNUAL FAMILY INCOME AND THE RANGE OF ANNUAL FAMILY INCOME BY OCCUPATIONAL CLASSES (RURAL)

	Occupational class	Average annual family income	Range of annual family income
1.	Agricultural labour	Rs. 369	Rs. 165—Rs. 759
2.	Agricultural occupations other than agricultural labour	Rs. 462	Rs. 100—Rs. 2,792
3.	Non-agricultural labour	Rs. 596	Rs. 187—Rs. 1,501
4.	Professions, services, and trade	Rs. 1,114	Rs. 200—Rs. 4,045
5.	Non-gainful occupations	Rs. 867	Rs. 401—Rs. 3,000

The difficulty of determining the direction of mobility explained earlier may be further illustrated by an example. A, whose father belongs to the occupational group 2 (agricultural occupations other than agricultural labour) enjoying a family income of Rs. 2,000 might have been pushed by economic forces out of that group and belongs on the date of enquiry to the occupational group 3 (non-agricultural labour) enjoying a family income of Rs. 500. This is a case of downward mobility if A's actual family income *vis-a-vis* his father's is taken into consideration. On the other hand, judging from the point of view of average family income of the two occupational groups, A's mobility has been in the upward direction.

The second important difficulty in grading the occupational groups by the average family incomes obtained in such groups arises out of the fact that in India social factors compel people to remain in traditional occupations in spite of economic disadvantages. It is, therefore, difficult to say whether the incentive of a higher income acting as a pull from a particular occupational group to which the individual moves or the deteriorating economic conditions serving as a push from the occupational group to which his father belonged is responsible for his mobility. In view of these difficulties it was not possible to fix the direction of mobility.

Table 2 gives the mobility of individuals having rural origin and whose destination is restricted to rural occupational classes. Table 3 gives the mobility of individuals having urban origin.

Table 2: OCCUPATIONAL MOBILITY OF PERSONS HAVING RURAL ORIGIN AND RURAL DESTINATION

ORIGIN	DESTINATION					
	Group 1 (*ag. lab.*)	*Group* 2 (*ag. occu- pations other than ag. lab.*)	*Group* 3 (*non-ag. labour*)	*Group* 4 (*profes- sions, ser- vices, trade*)	*Group* 5 (*non-gain- ful occu- pations*)	*All rural destinations with rural origin*
Group 1 (Ag. lab.)	88	14	8	4	—	114
Group 2 (Ag. occupations other than Ag. labour)	52	358	12	59	6	487
Group 3 (non-Ag. labour)	2	16	37	5	—	60
Group 4 (professions, services, trade)	2	29	6	59	2	98
Group 5 (non-gainful occupations)	—	1	4	8	11	24
All rural origins with rural destination	144	418	67	135	19	783

Table 3: OCCUPATIONAL MOBILITY OF PERSONS HAVING URBAN ORIGIN AND
URBAN DESTINATION

ORIGIN	DESTINATION				
	Group 6 (manual labour)	Group 7 (lower professions, lower services, re- tail trade, etc.	Group 8 (higher pro- fessions, higher services, whole- sale trade)	Group 9 (non-gainful occupations)	All urban destinations with urban origin
Group 6 (manual lab.)	24	—	—	—	24
Group 7 (lower professions, low- er services, retail trade)	15	258	10	7	290
Group 8 (higher professions, higher services, wholesale trade)	—	1	13	—	14
Group 9 (non-gainful occupations)	2	11	1	4	18
All urban origins with urban destinations	41	270	24	11	346

If the rural and urban samples were representative of the entire rural and urban areas of West Bengal, it would have been possible to estimate the frequency of individuals with rural origin moving into urban occupations. But in this enquiry the areas covered were selected arbitrarily and as such mobility towards urban destinations could not be estimated. However, as the purpose of this study is to assess the demographic effects of social mobility, the groups which have rural origin but have moved into urban occupations, as obtained in this survey, (these constitute only a small portion of the rural-urban migrants) are also included in this analysis. Numbers of such individuals in different origin and destination groups are shown in table 4.

The figures entered in the diagonal cells in tables 2 and 3 denote the frequencies of the non-mobile individuals, or, in other words, the number of individuals who remained in their father's occupational group. The figures in the horizontal row, excluding those in diagonal cells, denote the frequency of individuals who moved into rural occupations other than the ones to which their fathers belonged, and the entries in any column, excluding the ones in the diagonal cells, denote the frequencies of individuals drawn from different origins into the particular destination to which the column refers.

Table 4: OCCUPATIONAL MOBILITY OF PERSONS HAVING RURAL ORIGIN AND
URBAN DESTINATION

ORIGIN (rural)	DESTINATION (urban)				
	Group 6 (man. lab.)	Group 7 (lower professions, lower services, retail trade)	Group 8 (higher professions, higher services, wholesale trade)	Group 9 (non-gainful occupations)	All urban destinations with rural origin
Group 1 (Ag. lab.)	11	3	—	—	14
Group 2 (Ag. occupations other than Ag. lab.)	27	32	2	1	62
Group 3 (non-Ag. lab.)	21	7	—	—	28
Group 4 (professions, services, trade)	5	45	11	1	62
Group 5 (non-gainful occupations)	1	15	3	3	22
All rural origins with urban destinations	65	102	16	5	188

In table 2 the marginal column gives the number of individuals belonging to different origins excluding the number having the same origin but moving into urban occupations. Among those who remained within one or the other of the rural occupations, the percentage remaining static varied from one occupational group to another, those recorded for groups 1 and 2 being the highest, 77 per cent. and 73 per cent. respectively, and that for the group 5 being the lowest, 46 per cent. The percentages of individuals who remained static in groups 3 and 4 were 62 and 60 respectively. What exactly is the proportion in each of these rural origin groups that moved into urban occupation groups, could not be estimated for reasons already stated.

The percentages of individuals with urban origin who remained· in their fathers' occupational groups were 100, 87, 93, and 22 for groups 6, 7, 8, and 9 respectively. This indicates that mobility from one occupational group to another rarely occurred among Calcutta city population. - (Due to limited coverage of·this survey each of the occupational groups adopted in this study had necessarily to be so defined as to include a wide range

of occupations. There might have been movements from one occupation to another within any particular group. Such mobility is not revealed in table 3). An exception was, however, observed in the case of non-gainful occupations in the urban areas where a substantial proportion had perforce to take up some gainful occupation as they could no longer follow their fathers' occupations.

In order to assess the demographic effects of mobility in the rural and urban sectors of the population, two indexes have been adopted in this study. The first is the average number of children born and the second is the average number of children surviving on the date of survey. It would have been ideal if these averages were analysed by the present age or the age at death or widowhood of the considered individuals. But as the number of individuals in each origin-destination group was too small for such an analysis, the indexes have been standardized by using the age composition of the total population as weights. Such standardized averages of children born and living in different rural- and urban-destination groups are shown in table 5. It was not possible to calculate such indexes for certain groups due to inadequate sample size, but these are not serious omissions as the mobility within such groups is negligible.

The salient point which emerges from the above analysis is that the static group, i.e., those who remained in their fathers' occupational group, generally recorded a higher fertility. An exception may, however, be noted in the case of the class of agricultural labourers remaining static, wherein a strikingly low fertility rate was observed. Another striking feature observed from this analysis is that the sons of cultivators (group 2) who moved into the agricultural labour class or migrated into cities eventually to become manual labourers or to enter lower professions and services had an appreciably lower fertility. It was also observed that among the groups that moved into the class of agricultural labourers or city manual labourers an appreciably higher child mortality index was recorded. Similarly a lower fertility and a higher child mortality index were observed among the sons of rural non-agricultural labourers who moved into the class of city manual labourers.

Conclusions: In this study generational changes in occupation among rural population showed that nearly a quarter of the working population moved out of their fathers' occupational group into one or other of the rural occupations themselves. How many actually left the rural areas to join the urban labour force could not be ascertained due to limited coverage of the urban sample in this survey. Those who remained static, or, in other words, in their fathers' occupational group recorded generally a higher fertility and lower child mortality index. Those who entered the agricultural labour class or the city manual labour class had strikingly lower fertility and higher child mortality index.

Table 5: AVERAGE NUMBER OF CHILDREN BORN AND SURVIVING STANDARDIZED FOR AGE OF MOTHER FOR DIFFERENT RURAL-URBAN "ORIGIN-DESTINATION" GROUPS

ORIGIN	DESTINATION					
	Group 1 (ag. lab.)	Group 2 (ag. occupations other than agricultural labour)	Group 3 (non-ag. lab. rural)	Group 4 (professions, services, trades, rural)	Group 6 (manual labour urban)	Group 7 (lower professions, lower service-retail trade urban)
Group 1 Ag. lab.)	A: 2.40 B: 1.89 C: 212					
Group 2 (Ag. occupations other than ag. lab.)	A: 2.88 B: 1.85 C: 358	A: 3.41 B: 2.39 C: 299		A: 3.31 B: 2.34 C: 293	A: 2.66 B: 1.55 C: 417	A: 2.58 B: 1.95 C: 244
Group 3 (non. Ag. lab. rural)			A: 3.73 B: 2.42 C: 351	A: 2.87 B: 1.46 C: 491		
Group 4 (Professions, services and trade-rural)		A: 2.57 A: 1.88 C: 268		A: 3.91 B: 2.84 C: 274		A: 3.68 B: 3.00 C: 185
Group 6 (manual lab.-urban)				A: 4.22 B: 2.86 C: 322		
Group 7 (lower professions, lower services, retail trade-urban)						A: 3.45 B: 2.75 C: 203

A : The average number of children born standardized with respect to age of mothers.

B : The average number of children surviving standardized with respect to age of mothers.

C : The average number of dead children per 1,000 born.

References :

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Summary :

It is now generally recognized that an understanding of social mobility and the impact of such mobility on fertility rates is essential for national planning for economic development. Accordingly, an attempt has been made in this paper to relate fertility with social mobility on the basis of an interpenetrating random sample, covering eight rural districts of West Bengal, and the city of Calcutta. The survey was essentially exploratory and aimed primarily at establishing the validity of certain concepts used in a limited number of empirical studies in the field which have been carried out mostly in England, and France. The study does not therefore claim any generally valid findings, but the indications are considered significant. As an instance, it has been found that the notion of 'direction' in inter-generational social mobility is difficult to establish under Indian conditions, because of extensive overlapping of income-distribution between occupational categories.

The broad findings of the study are that nearly a quarter of the working population moved out of their fathers' occupational groups so far as the rural areas and occupations were concerned, and that those who remained in their fathers' occupational group generally recorded a higher fertility and lower child-mortality index. The nature of the sample was not considered adequate for studying the effects of rural-urban shifts

सारांश

पश्चिमी बंगाल में, सामाजिक अभिसरण और जननसंख्या में सन् १९५६ में, संबंध दिखाने के लिये प्राथमिक खोज

एस्. जनार्बन पोटी, सुबोष बत्त

आम तौर पर यह सर्वमान्य है कि आर्थिक विकास की आयोजित "राष्ट्रीय योजना की सिद्धि के लिए यह जानना आवश्यक होता है कि सामाजिक अभिसरण[1] और जननसंख्या की दर पर उसके प्रभाव का स्वरूप क्या है. इस हेतु प्रस्तुत लेख में, परस्पर–निवेशित[2] समसम्भावि नमूनों[3] के आधार पर, जननसंख्या की दर का सामाजिक अभिसरण से संबंध दिखाने का प्रयत्न किया गया है इस निरीक्षण के लिए पश्चिमी बंगाल के आठ ग्रामीण जिलों एवं कलकत्ता शहर के क्षेत्र को चुना गया था. निरीक्षण मुख्यत: आयमिक खोज के स्वरूप का रहा. उसका प्रमुख हेतु यह रहा कि इस क्षेत्र में सीमित मात्रा में जो निरीक्षण विशेषकर इंग्लैंड व फ्रान्स में किये गये ये उनमें प्रयुक्त कई सकल्पनाओं[4] को वास्तवता की कसौटी[5] पर परखा जाए. इस लिए इस निरीक्षण द्वारा आम तौर पर वास्तवदर्शी निष्कर्षों का दावा नहीं किया गया है, पर इसके द्वारा सूचित दिग्दर्शन[6] अभीक्षायोग्य[7] माने गये हैं. उदाहरण स्वरूप, यह पाया गया है कि भारतीय परिस्थिति में पीढ़ियों के संक्रमण के अनुसार सामाजिक अभिसरण की दिशा का सिद्धांत निर्धारित करना इसलिए मुश्किल है, क्यों कि, यहां व्यवसाय-श्रेणियों और आय-श्रेणियां विस्तृत मात्रा में समस्थित[8] हो जाती हैं.

निरीक्षण से यह स्थूल निष्कर्ष निकलता है कि जहां तक ग्रामीण विभागों और व्यवसायों का संबंध है, श्रमक्षम[9] जननसंख्या का लगभग एक-चौथाई हिस्सा पैतृक[10] व्यवसाय-श्रेणियों को त्याग कर अन्यत्र चला जाता है; और अपनी पैतृक व्यवसाय-श्रेणियों में टिके रहनेवाले लोगों में आम तौर पर जननसंख्या की दर का सूचकांक[11] ऊंचे स्तर पर, एवं बालमृत्यु-संख्या की दर का सूचकांक निम्न स्तर पर पाया जाता है. ग्रामीण और नागर जनों के अभिसरण[12] की जांच के लिए इस प्रतिदर्श का स्वरूप पर्याप्त नहीं समझा गया.

१ अभिसरण – mobility
२ परस्पर-निवेशित – interpenetrating
३ समसम्भावि नमूना – random sample
४ संकल्पना – concept
५ वास्तवता की कसौटी – test of validity
६ दिग्दर्शन – indication
७ अभीक्षा-योग्य – significant
८ समस्थित – overlapping
९ श्रमक्षम – working
१० पैतृक – fathers'
११ सूचकांक – index
१२ ग्रामीण और नागर जनोंके अभिसरण – rural-urban shifts