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OUT-MIGRATION FROM A RURAL AREA OF BANGLADESH¹

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Urbanization in Bangladesh is in its initial stages and rural-to-urban migration can be expected to increase in the future. (The census of 1961 indicates that 95 percent of the population of Bangladesh lives in rural areas. Because Bangladesh has one of the highest population densities in the world, with over 1,500 persons per square mile of arable land, population redistribution or a shift to urban areas through migration obviously creates new problems in areas already suffering from overcrowding and pressures such as those on labor forces, schools, and health facilities.

Unfortunately, migration has been a neglected area of research in Bangladesh. Censuses taken in 1951 and 1961 did not include questions on migration other than "place of birth." Hence, research has been limited to estimates of migration inferred from shifts in age structures or total numbers in a locality between the two census periods (Krotki, 1963, 1964; Obaidullah, 1967) or to estimates of international migration made by comparing changes in total populations from the census of Pakistan with the census of India (Jillani, 1962). Consequently, the present investigation represents a unique approach to the study of migration by reporting a portion of the results of an ongoing prospective study of vital events in Matlab thana (an area of about 100 square miles, roughly equivalent to a county) in Bangladesh. Specifically, it deals with 4,040 out-migrants from 111 villages (population, 109,054) of the thana and focuses upon three basic aspects of their migration: (1) the selectivity of migrants, that is, what kinds of persons tend to be disproportionately selected for migration, (2) the reasons for migration, and (3) the destination of the migrants.

METHODS

An "out-migrant," as defined here, is anyone who has moved outside of the study area of 111 villages and has not returned in six months. The intent of this definition is to identify as closely as possible movers who have "permanently" left the study area.

The data required to identify an out-migrant is collected in a registration system which records all vital events in the 111 villages. This system involves the following: a local female resident (field worker) of each village visits each household daily to check whether anyone has left or is leaving the village (she also checks for all births and deaths). When someone leaves

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He reports the event to a male field assistant (who supervises three to five field workers), who records the date of the event. He is then responsible for keeping the date of departure under observation, that is, for making weekly checks to see whether the person has returned. If the person does not return in six months, then the field assistant records the event as an out-migration. ✓

These assistants visit each family an average of once weekly, recording the vital events on standard forms which are checked against the information provided by the female resident. Supervision of the work of the field assistant is conducted by sanitary inspectors who visit each household twice a month to check on the completeness of the registration. These workers in turn are supervised by the field surveillance supervisor and his deputy, who are responsible for the coordination of the field work.

Temporal linkage between a census taken in March and April of 1968 and the migration records of April 1968 to May 1969 was utilized for matching migrants with their appropriate characteristics, that is, age, sex, occupation, religion, family type, and household size. These records include all those persons who moved out of the study area in the last six months of the year which extended from April 1968 to May 1969 and did not return in the succeeding six months. Hence, their records were under observation from May 31 to December 1 of 1969.

The out-migration rate, R , for the various social and demographic groups was calculated by the simple formula,

$$R = \frac{M_y}{P_{y-k}} \times 100,$$

where M_y is the total number of out-migrants from the group in the year y (April 1968 to May 1969) of P_{y-k} , the population P of the group enumerated in the census in $y-k$, where k is the constant of 11 months. In this formula, P_{y-k} conforms to the established criterion that "the base population must correspond exactly to the population exposed to the event in question" (Tomlinson, 1962:358).

A point concerning the formulation of the out-migration rate should be made clear. The base population is measured at the beginning of the exposure period and treated as a fixed cohort, and out-migrants are only those persons leaving the cohort during the period. Hence, the out-migration rate does not represent the rate for an entire year in the conventional sense. It represents a rate for a fixed population which has been exposed to risk of out-migration for one year.

Shortcomings of the data with regard to "reasons" for migration and destination of the migrant should be noted. Information on these items is not always collected from the migrant before he leaves the village. In over half the cases it is collected from the next of kin who has remained behind or, if an entire family leaves, from its nearest neighbor. Although the reliability of these secondary responses can be questioned, it should be emphasized that the responses are obtained in an area and culture characterized predominantly by primary group associations, where the mouth-to-mouth communications system is dominant and most events, particularly moves, are discussed extensively.

Table 1. Rates of out-migration (per 100 population) from 111 villages of Matlab thana by age and sex in 1968-69

Age	Male		Female		Total	
	Rate	N	Rate	N	Rate	N
0-4	2.7	263	2.4	233	2.5	496
5-9	1.9	197	2.0	193	2.0	390
10-14	4.7	359	5.8	369	5.2	728
15-19	9.2	392	9.2	362	9.2	754
20-24	11.0	288	4.4	171	7.1	459
25-29	7.5	239	2.7	113	4.8	352
30-34	6.7	215	1.7	53	4.2	268
35-39	4.7	156	1.6	46	3.3	202
40-44	3.9	94	1.7	36	2.9	130
45-49	3.1	72	1.3	26	2.3	98
50-54	2.3	39	1.0	17	1.7	56
55-59	1.9	25	0.8	9	1.5	34
60 and over	1.4	48	0.9	25	1.2	73
All ages	4.3	2,387	3.1	1,653	3.7	4,040

Note: Total base population = 109,054.

With this kind of secondary reporting, some of the reasons given for migration are necessarily general. For example, reasons such as "occupational opportunities" and "better living conditions" do not allow an identification of the specific opportunities or conditions. However, this information still provides an indication of the factors which are probably taken into account in the decision to migrate.

Finally, there is a possibility that in the process of migration the migrant may change his destination. Unfortunately it has not been possible to follow migrants to see whether they actually have moved to the locale reported.

RESULTS AND DISCUSSION

Selectivity of migrants

Age.—As seen in Table 1, age selectivity for men appears to be concentrated in the groups from 15 to 34 years, with those 20-24 having the highest rate. For females the highest rate occurs among those 15-19 years, followed by the 10-14 group. Although the differences between the sexes in rate of out-migration for the entire age structure is rather small, the rate for males is double the rate for females in the 20-24 group and triple the rate at ages 25-39.

Occupation.—Among employed males 15-19 years of age the "servant" occupations have the highest rate of out-migration, followed by the "mill and office" occupations (Table 2). In contrast, two occupational groups, "farming"

Table 2. Rates of out-migration (per 100 population) from 111 villages of Matlab thana for the population 15-49 years by occupation and sex, 1968-69

Occupation	Male		Female		Total	
	Rate ¹	N	Rate	N	Rate	N
Business	8.7	119	11.1	2	8.7	121
Self-employed	14.1	282	0	0	14.1	282
Unemployed	8.6	58	0	0	8.6	58
Fishing or boatman	3.8	62	100.0	1	3.9	63
Farming	4.1	319	2.0	1	4.0	320
Laborer	5.8	300	0	0	5.8	300
Servant	21.6	52	11.2	11	18.6	63
Unemployed	9.8	179	3.5	759	4.0	938
Unemployed	18.5	62	4.3	17	9.2	79
Unknown	14.7	23	29.1	10	18.5	33
Total	6.8	1,456	3.7	807	5.2	2,263

Note: Total base population = 43,412.

and "fishing and boatman," show the lowest rates. The low rates for these latter occupations are not wholly unexpected. Of the entire range of occupations, these two would require skills which would be the least acceptable or of the most restricted applicability for work outside a rural area.

The out-migration rates for females in the occupational structure will not be analyzed because 90 percent of females are "unemployed" and the remaining numbers too low for meaningful analysis.

Religion, family type, and household size.—There does not appear to be any religious selectivity in out-migration (Table 3). The rates for Muslim and Hindu females are equal, and the rates for Muslim and Hindu males differ by only two-tenths of a percent. Similarly, family type shows no selectivity for out-migrants, with rates between single and joint families for both males and females differing by 0.8 and 0.6 percentage points, respectively. In contrast, there does appear to be some selectivity of out-migrants classified by household size. The variation in rates suggests a curvilinear relation with household size for both sexes, beginning with a high rate in the smallest size, declining through sizes of seven to nine members and then increasing in the largest sizes. The high rate among the smallest sizes may be due to the presence of large numbers of unrelated or single individuals who generally represent the most mobile segments of a population. The high rate in the largest sizes may result from size itself acting as a push factor; that is, in the larger households it may be more difficult to support adequately (feed and clothe) all its members, with the result that members would be encouraged to leave or would leave because of "substandard" support. ✓

Table 3. Rates of out-migration (per 100 population) from 111 villages of Matlab thana by religion, family type, and household size, all by sex, 1968-69

Variable	Male		Female		Total	
	Rate	N	Rate	N	Rate	N
Religion						
Muslim	4.3	2,186	3.1	1,522	3.7	3,708
Hindu	4.5	201	3.1	131	3.8	332
Total	4.3	2,387	3.1	1,653	3.7	4,040
Family type						
Single	3.9	1,160	2.7	771	3.4	1,931
Joint	4.7	1,191	3.3	851	4.0	2,042
Other	9.2	34	4.4	29	6.1	63
Unknown	—	2	0	2	0	4
Total	4.3	2,387	3.1	1,651	3.7	4,040
Household size						
1-3 members	6.0	256	4.6	235	5.2	491
4-6 "	4.2	1,006	3.0	686	3.6	1,692
7-9 "	3.7	729	2.6	475	3.2	1,204
10+ "	5.0	396	3.6	257	4.3	653
Total	4.3	2,387	3.1	1,653	3.7	4,040

Note: Total base population = 109,054.

Reasons for migration

As seen in Table 4, the majority of males left their villages because of "occupational opportunities," followed by those who left as "dependents" and those seeking "better living conditions."

Females show a rather marked contrast to males in reasons for migration. Only about one-eighth as many females as males move because of "occupational opportunities" but over twice as many leave as "dependents." Although less than 1 percent of males leave their villages because of "marriage" (these are marriages arranged by the family) over one-fourth of the females leave for the same reason. Finally, the ratio of females to males leaving to attend school is about one to seven, but the reverse is true for those leaving to "live with relatives."

Destination of migrants

The residential type of the destination of out-migrants is shown in Table 5. Two-thirds of the male migrants moved to urban areas, whereas slightly less than a quarter moved to another rural area. In contrast, the proportions of females moving to urban and rural areas were almost equal at 44 percent

Table 4. Percentage distribution of reasons for out-migration from 111 villages of Matlab thana by sex, 1968-69

Reason	Male	Female	Total
Occupational opportunities	56.8	7.4	36.6
Better living conditions	9.9	6.8	8.6
Marriage	0.2	27.6	11.4
Force or separation	0.0	4.7	2.0
Leaving home	3.1	0.1	1.9
Live with relatives	0.8	7.1	3.4
Attend school	7.0	1.5	4.7
Dependent	20.9	43.5	30.1
Other	0.8	0.8	0.8
Unknown	0.6	0.5	0.5
Total	100.0	100.0	100.0
Number	2,387	1,653	4,047

Note: Total base population = 109,054.

and 46 percent, respectively. Thus, the proportion of females moving to another rural area is twice that of males, whereas males out-move females to urban areas at a ratio of 3 to 2.

These differences can be partially explained by the differences between males' and females' reasons for migration and their relation to urban and rural areas: that is, the largest proportion of males moving to urban areas are because of occupational opportunities whereas the largest proportion of women moving to rural areas move because of marriage (Table 6). Thus, it would appear that urban and rural areas hold selective opportunities for male and female migration.

Table 5. Percentage distribution of out-migrants from 111 villages of Matlab thana by type of receiving population and sex, 1968-69

Residence type	Male	Female	Total
Urban*	73.2	51.2	64.2
Rural*	23.6	46.2	32.8
Unknown*	3.2	2.7	3.0
Total	100.0	100.0	100.0
Number	2,387	1,653	4,040

*Urban was defined as "Municipalities, Civil lines, and Cantonments not included within municipal limits etc. and any other continuous collection of houses inhabited by not less than 5,000 persons" (Pakistan Ministry of Home Affairs, 1961: 11).

*Rural is defined simply as the residual, that is, the population not defined as urban (Pakistan Ministry of Home Affairs, 1961:13).

*Includes locations in India.

Table 6. Percentage distribution of reasons for out-migration from 111 villages of Matlab thana by type of receiving population and sex, 1968-69

Reason	Urban		Rural		Unknown	
	Male	Female	Male	Female	Male	Female
Occupational opportunities	62.5	10.4	42.0	3.9	35.1	9.1
Better living conditions	9.8	7.4	10.1	5.8	10.4	11.4
Marriage	0.1	9.5	0.5	49.4	0	0
Divorce or separation	0	0.9	0	9.2	1.3	0
Returning home	0.6	0.1	11.0	0.1	1.3	0
Live with relatives	0.5	9.2	1.8	5.1	0	0
Attend school	6.6	1.5	9.0	1.6	1.3	0
Dependent	19.5	60.2	22.5	23.6	40.3	68.2
Other	0.2	0.5	2.5	1.2	0	0
Unknown	0.2	0.2	0.5	0.1	10.4	11.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,746	846	564	763	77	44

Note: Total base population = 109,054.

Urbanization

Rapid rural-to-urban shifts in population can have severe consequences for the social structure of a population, particularly in an area already characterized by high unemployment, overcrowded schools, and sprawling slums. Although very little is known about these shifts, several of the findings discussed above provide the basis for drawing inferences about the process of urbanization in Bangladesh. It has been shown that 64.2 percent of all rural out-migrants move to urban areas, a percentage which equals a rural-to-urban migration rate of 2.4 per 100 rural population. Data on in-migration to the Matlab area in 1968-69 indicate that of 2,907 in-migrants, 1,449 came from urban areas. It will be recalled that of 4,040 out-migrants, 2,592 moved to urban areas. Thus, the proportion of the increase in the urban population which results from rural out-migration is reduced by about 56 percent, and as a result, the net gain to the urban population is 1.1 persons per 100 rural population. We will assume that this rate can be applied to the total rural population to obtain an estimate of the proportional increase in the urban population which could result from rural-to-urban migration. Admittedly, the data arising from this assumption must be treated with caution. However, in the absence of other information on migration rates, the present data can provide a crude estimate of the amount of urban growth which is due to interarea migration streams.

Table 7. Estimated proportional increase in urban population of Bangladesh in 1969 resulting from net in-migration from rural areas

Net in-migration (from rural areas (per 100 persons))	Percentage urban in 1969				
	6.0	6.9	7.7	8.5	9.4
Percentage increase in urban					
1.1	16.4	14.3	12.4	11.3	10.2
0.7	10.9	9.5	8.3	7.5	6.8

In order to make the urban growth estimate on the conservative side, a second rate of migration at a lower level will also be applied. The rationale for including a lower rate is that the Matlab villages have slightly higher than average population density, which may act as a push factor that would increase the out-migration rate to a level above that of populations with lower densities. Also, Matlab's relatively close proximity to two of the four urban areas, Dacca and Narayanganj, may mean that Matlab is subject to a stronger pull factor than are those rural areas located at greater distances from urban areas. Although it is not possible to convert these factors into weights, we will assume that they may exert such an effect that the net gain in the urban area from migration is about 30 percent lower than the rate found in Matlab, thus reducing the rate from 1.1 to 0.7 per hundred rural population.² These rates are utilized in the following formula, which calculates the proportional increase in the urban population in 1969 due to net out-migration from rural to urban areas:

$$UI = \frac{[P - (P)(EU_1 \dots 5_i)] \cdot Rn}{(P)(EU_1 \dots 5_i)}$$

where *UI* is the proportional increase in urban population in 1969; *P* is the total population of East Pakistan in 1969 projected from the 1961 census population at a 3-percent rate of natural increase per year; *EU*₁ ... *5*_i is the expected percentage of urban population in 1969, obtained by projecting the percentage of urban population in 1961 by the annual intercensal (1951-1961) rate of increase, *i*, of the proportion urban; and *Rn* is the net rate of out-migration from the rural to the urban area.

As seen in Table 7, if the urban population were 6 percent of the total in 1969 (that is, if the proportion had increased at the same annual rate for the intercensal period *i* = 2%) it would increase by 16 percent from rural in-migration if the net rural-to-urban migration rate for all rural areas of Bangladesh were the same as that for Matlab. Under the lower rate of migration, the urban population would still increase by almost 11 percent in 1969. Further, even if the urban population reached a proportion which was three

² Both of these rates may underestimate the net gain in rural out-migrants to the urban population, because the proximity of Matlab to the urban area could also produce a higher rate of urban-to-rural migration, thus reducing the net gain to a lower level than might be expected for rural areas at greater distances from urban areas.

times the annual rate of growth in the intercensal period ($3i = 6\%$) resulting in an urban population which was 8 percent of the total in 1969, the proportional growth added by net rural migration under the two rates would be equal over 12 percent and 8 percent, respectively.

It should again be noted that the intent of this analysis is simply to provide a crude range of estimates of urban growth which could result from net rural-to-urban migration. However, the consequences of even the most conservative estimate of net rural-to-urban migration for an area already under severe population pressure without concurrent economic expansion are obvious. For example, because most of the migrants to urban areas are males seeking better occupational opportunities, new positions in the existing occupational structure will have to be created to accommodate the surplus labor force. Housing facilities and educational institutions will also have to be expanded. Failure of the urban social structure to accommodate to these increased needs will further contribute to the already familiar problems of unemployment, slums, and overcrowded schools.

CONCLUSIONS

The findings indicated the following:

(1) Out-migration is selective of (a) the youthful portion of the age structure, (b) males employed in the "servant," "mill and office," "business," and "self-employed" occupations, and (c) members of the smallest and largest household sizes.

(2) "Occupational opportunities" are given as reasons for out-migration by the majority of males, whereas the majority of females migrate as dependents and for marriage.

(3) Males move to urban areas in greater proportions than females, but females move in greater proportions to rural areas. These differences are due to the urban selectivity of males for occupational opportunities and the rural selectivity of females for marriage.

(4) Under the most conservative assumptions, the urban population of Bangladesh would have grown by at least 10 percent in 1969 from rural out-migration alone.

The implications of this last finding, with all of its consequences for the urban social structure, cannot be overemphasized. That is, it would appear that population redistribution to urban areas is a problem of more immediate concern than the high rate of natural increase (3 percent per annum) produced by high birthrates and relatively stable death rates. Growth from net migration in urban areas may well be over three times as great as growth from natural increase and will then exert a much greater impact in the short run. Although population control programs within the context of other developmental inputs are a necessity, the present data illustrate the importance of implementing programs which would meet the needs of the urban social structure created by the rapid increases in population, such needs as occupational opportunities and health, housing, and educational facilities.

Unhappily, the civil war in Pakistan precludes making any generalizations from the findings beyond 1970. Certainly the selectivity of migrants and

pattern of redistribution will be altered by this event. However, the present data provide the only reliable base for a future comparison which can estimate the impact of the war on the population and generate information which can be used to direct new development programs.

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