Hosne Ara Begum and A. K. M. Alauddin Chowdhury

Reporting Bias in Marriage Age among Rural Bangladesh Females

Introduction

AGE at marriage is an important factor for determining population growth, where births are confined to marriage. Marriage age affects population growth rates by changing the number of births and the mean generation length. For example, if the average marriage age for Bangladesh females were increased from 17 to 21 years, the birth rate would decline by 15 per cent and the intrinsic growth rate would fall by 30 per cent. Even a 1-year difference in females' mean marriage age has a substantial effect on the intrinsic population growth rate. Since population projections are very sensitive to the assumed growth rate, an accurate estimate of mean marriage age is necessary to make such projections.

The estimates of female mean marriage age in Bangladesh vary from one study to another (Bangladesh Bureau of Statistics, 1977; Ministry of Health and Population Control, 1978). This is so partly due to marriage age changes with time and partly to methodological problems accruing from a lack of birth and marital registration data. Common methodological problems involve cohort interpretation of cross-sectional marriage data, recall inaccuracy, and response bias in reported age related to marital status.

The singulate mean age of 1st marriages for Bangladeshi females, as estimated from census data, increased from 12 years in 1921 to 15.9 years in 1974 (UN, 1981). More recent national data suggests a singulate mean marriage age of 17.2 for rural Bangladeshi females in 1980. A comprehensive study using marriage registration data reported a linear increase of marriage age, from 16.0 in J975 to 16.9 in 1979 (Shaikh, 1982).

Another study which estimated age of 1st marriage by adding mean age of menarche and mean waiting time between menarche and 1st marriage was found to be 17.3, in a small rural Bangladesh area in 1977-78.

These studies were not free of age response biases associated with sex and marital status- In rural Bangladesh society, where there is no age recording system, chronological events, such as menarche, marriage, 1st childbirth, etc., usually are linked with somewhat arbitrary age ranges. The age response of a female at any stage of her life only will be based on remembrances of such events. In Bangladesh, ages of girls often arc deliberately under-reported, especially when they attain puberty and are awaiting marriage. Immediately after marriage, age reporting patterns may be different. This situation results partly from social norms. Early marriage of a girl is thought to enhance the prestige of both her parents and her parents-in-law.

In recent years, more girls in rural Bangladesh have been attending schools, which may have resulted in better age reporting. Moreover, schooling of children may make parents more age-conscious. A recent increase in reported ages at marriage may be due to (1) a real increase in marriage age and (2) better age reporting.

In this paper, time trends of female ages at 1st marriage will be presented, and changes will be evaluated in terms of better age data and real increases.

Methods

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) has been operating a field hospital in a rural area of Matlab Upazila in Bangladesh. With this hospital station as a base, a demographic surveillance of the surrounding areas has been maintained since 1966. In 1966, the population under this demographic surveillance system (DSS) was 110,000 people residing in 132 villages. A house to house census of those villages were done at the beginning the study. In 1968, the DSS increased to cover 233 villages with 277,000 people. The DSS since 1966 has consisted of periodic censuses and bi-monthly registrations of births, deaths and migrations. In 1978, the surveillance population was reduced to 160,000 and the system was continued. In 1975, marriage registration was introduced into the system. This study uses data for 1966, 1970, 1976 and 1982.

As marriage registration started only in 1975, marriage ages for 1966 and 1970 will be estimated by using migration data. Under Bangladesh marriage customs, brides usually move to grooms' houses. This process also develops a pattern of migration. For the years prior to 1975, specifically 1966 and 1970, marriage ages of females who migrated into or out of the surveillance area due to first marriages were calculated based on migration registration data. On the other hand, for 1976 and 1982, marriage registration data were used to estimate marriage ages.

Type of Age **Data**

Age data can be classified by year of marriage and the circumstances of age data collection. The categories (Table I) are described below.

TABLE 1—CIRCUMSTANCES **OF** AGE **DATA COLLECTION**

	Marriage Year	*Category of Age Data*	
		A	*B*
1. Data source		1966 Census	1966 Migration Registration
2. Marital state	1966	Unmarried	Married
3. Migration status		Out-migrants caused by marriage	In-migrations caused by marriage
1. Data source		1966 Census	1970 Migration Registration
2. Marital state	1970	Unmarried	Married
3. Migration status		Out-migrants caused by marriage	In-migrants caused by marriage
2. Marital state Data SOURCE	1976	1966 Census ages > 10 Birth Registry < 10	1976 Marriage Registration
2. Marital state	**1976**	Unmarried	Married
3. Migration status		Out-migrants and non-migrants	In-migrant
1. Data source		1966 Census ages > 16 Birlh Registry < 16	1982 Marriage Registration
2. Marital state	1982	Unmarried	Married
3. Migration status		Out-migrants and non-migrants	In-migrants

Category A consists generally of women from the Matlab DSS area from whom age data was collected before marriage. Category B generally contains women from outside the area from whom age data was collected only after marriage. The specific age collection circumustances differ slightly for each year within categories.

Category A 1966 data cover women who were unmarried at the time of the 1966 census, but who migrated out of the surveillance area that year due to marriage. Category A 1970 applies to women who married and thus migrated out in 1970. For these women, marriage age was estimated using ages reported in the 1966 census.

Group A 1976 differs from groups A 1966 and A 1970 in several important ways. First, since marriage registration information was collected starting in 1976, it was unnecessary to infer 1976 marriages from migration data. Consequently, marriage age could be obtained for both out-migrant and non-migrant brides. Second, for women aged 10 or older in 1976, ages were calculated from the 1966 census as before. However, for girls born between 1966 and 1976, ages were estimated from the birth registration system.

Finally, group A 1982 is similar to group A 1976, except that the former refers to women who were married in 1982. In this case, birth registry information was available for women 16 and less.

Because the age reporting sources differ for the different years of category A, we expect diverse degrees of misreporting. For example, since A 1966 consists of age data collected from women about to be married, age under-reporting is expected to be large. On the other hand, since A 1982 data comes from birth registries and ages reported long before marriage, underreporting should be minimal.

Category B, as described above, consists of women who migrated into the Matlab DSS area for marriage, and for whom ages were collected immediately following marriage.

Group B 1966 is made up of women who migrated for marriage into the area in 1966 after the census. When such migration was registered, age information was obtained. Thus, age data was recorded after marriage.

Group B 1970 only differs from B 1966 in that it refers to women migrating into the surveillance area in 1970. Groups B 1976 and B 1982 referring to women marrying into the area in 1976 and 1982, respectively, differ from the earlier groups in the same way that A 1976 and A 1982 differ from A 1960 and A 1966. Thus, marriage itself was registered, so no assumption about the relationship between a woman's migration and marriage is needed. Age data was collected for these woman at the time marriages were registered.

Unlike the situation in category A, the age is reporting patterns in category B are likely to be relatively consistent from year-to-year, since in each case age data only was available from the period following marriage.

Results

In Table 2, mean and median marriage ages are presented, along with the proportion of 1st marriages occurring after age 19. Thus, mean and median ages

TABLE 2- MEAN AND MEDIAN AGE OF FEMALES AT 1st MARRIAGE **IN** MATLAB, BANGLADESH
(Categories A and B combined)

Year	*n*	*Mean*	*Median*	*Percent of Marriages of Women Above Age 19*
1966	884	14.7	14.2	3,5
1970	907	15.2	15.0	4.6
1976	2238	16.7	16.5	6.2
1982	1799	17.7	17.0	20.3

at 1st marriages in 1966 were 14.7 and 14.2 years, respectively; and the proportion marrying after age 20 that year only was 3.5 percent. The estimated mean age of 1st marriage was 15-2 in 1970, 16.7 in 1976 and 17.7 in 1982. The proportion married after age 20 was 0.20 in 1982, compared to 0.04 in 1966, 0.05 in 1970 and 0.06 in 1976. The data seem to indicate clearly a pattern of increasing age at marriage over time.

Table 3 presents the mean age at 1 st marriage by year and type of age reporting. As described earlier, age reporting was classified into two categories. In

TABLE 3—MEAN AGE OF FEMALES AT 1st MARRIAGES BY TYPE OF AGE DATA **IN** MATLAB, BANGLADESH

Year	*Category*	*Type of Age Data*	n	*Mean*
		Age was asked :		
1966	(A)	Right before marriage	(446)	13.8
	(B)	Right after marriage	(418)	15.7
1970	(A)	4 years before marriage, plus last 4 years birth registration data	(467)	14.0
	(B)	Right after marriage	(444)	16.7
1976	(A)	10 years before marriage, plus last 10 years birth registration data	(1688)	16.9
	(B)	Right after marriage	(550)	16.4
1982	(A)	16 years before marriage, plus last 16 years birth registration data	(1514)	18.2
	(B)	Right after marriage	(285)	17.1

category A, age data from 1966 was thought to be the least accurate, and the most accurate for 1982. Table 3 also shows that in 1966 mean age at 1st marriage was 13.8, while in 1982 it was 18.2- This 4.4 year increase in age at 1st marriage may be attributed to both better age reporting and to real increases in marriage ages. In the category B—where age reporting was uniform throughout the period, and where it is assumed that the age reporting bias when asked right after the marriage was equal in all periods considered—we find an increase in marriage age of only 1.4 years during the 16-year-period. This reflects only real increases in marriage age.

Another fact illustrated in Table 3 is that reported age at 1st marriage, when asked right before marriage, was significantly lower than reported ages collected right after marriage. This is especially apparent for 1966. However, where age was accurately known from birth registration or other methods, mean ages at

1st marriages were higher than mean ages reported by women recently married. This is illustrated in the 1982 data.

Discussion

Data for 1966 and 1970 categorized as "A" included only those brides who migrated out of the area due to marriage. Brides who married during those years and remained in the area were not included in the analysis, because before 1975 there was no marriage registration system. It can be seen from Table 4 that these two groups, out-migrants and non-migrants, are not very

TABLE 4—MEAN AGE OF FEMALES AT 1st MARRIAGES CLASSIFIED BY OUT-MIGRANTS AND NON-MIGRANTS IN MATLAB, BANGLADESH

Year	*Migrants Status*	*n*	*Mean*
1976	Non-migrants	809	16.7
	Out-migrants	879	17.0
1982	Non-migrants	797	18.1
	Out-migrants	717	18.4

different from each other in terms of age at 1st marriage. The out-migrating group was slightly older at 1st marriage; but not large enough to affect the overall marriage age trend. Hence, assumption that females marrying into the Matlab area generally are the same age as those marrying out of the area or remaining in the area, thus increasing trends in marriage age at Matlab, in part reflects better age data and in part is due to real increases in marriage ages. Real increases in the last 16 years only contributed about 1.4 years, while the overall increase in marriage age was 3 years.

When accurate age data (date of birth) is available, age estimates at 1st marriages are seen to be higher than reported ages just after marriages and much higher than reported ages just before marriages.

References

1. Bangladesh Bureau of **Statistics,** 1977, *National Volume **1974,** Bangladesh **Population Census Report, Dhaka,*** Statistics Division, Ministry **of Planning.**
2. Ministry of Health and Population Control, 1978, *World Fertility Survey, Bangladesh Fertility Survey, 1975-76,* First Report, Government of the People's Republic of Bangladesh, Dhaka.
3. Shaikh, M. A. K., 1982, ***M.A.** Thesis,* Australian National **University. Canberra,** Australia.
4. United Nations, 1981, N*auptiality,* Country Monograph Series No. **8. Population of** Bangladesh.