

Population and Status of Women*

Women do not enjoy equal status with men in most respects, and play only a limited role in national socio-economic development

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Women are not accorded equal status with men in practically all countries of the world. Compared with men, women have very limited opportunities in most spheres of economic and social activities (Sadik, 1986; Curtin, 1982). However, there is a close association between various aspects of women's status or position in society and demographic patterns of fertility, mortality and migration. This association is shown to be more pronounced with regard to fertility and the social processes associated with it (United Nations, 1975).

While a systematic study of the interrelations between population dynamics and the status of women is hampered by the absence of an unambiguous

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operational definition of “status of women”, there is some agreement regarding its theoretical definitions.* Yet there is no consensus regarding the social indicators to be used for establishing the ranking of the position of women *vis-a-vis* that of men. Consequently, it is difficult to assess accurately the status of women within a society, and more so across societies.

However, it is generally agreed that indices relating to educational attainment, health levels and labour force participation are particularly important for studying the association between population and the status of women. For example, a number of studies have shown that the level of education of the mother is a crucial element in the success of activities aimed at reducing fertility rates, improving health and reducing mortality, particularly infant and child mortality. In addition, it has also been shown that greater participation of women in non-traditional roles of economic activity, greater access to health care and subsequent decline in infant and child death rates influence the level of birth rates, and have played a part in their declines (Cleland, 1987).

It has, however, to be noted that some of the indicators used for assessing women’s status have important limitations. For instance, women’s participation in economic activity is often measured in terms of the proportion of women in the labour force. But a wide range of activities traditionally performed by women are by definition excluded from the ambit of gainful employment (Jose, 1987).

The debate continues as to whether such activities as home management, cooking, household cleaning, fetching water for domestic use, bearing and rearing of children, tending and feeding animals, or looking after home vegetable gardens, should be considered as having economic value or not. In many countries, labour force data tend to exclude large numbers of female unpaid workers on farms and other family-operated economic enterprises, home-based produc-

* Theoretically, women’s status has been defined, for example, “as the degree of women’s access to (and control over) *material* resources (including food, income, land, and other forms of wealth) and to *social* resources (including knowledge, power and prestige) within the family, in the community, and in society at large” (Dixon, 1978), or as “the ranking, in terms of prestige, power, or esteem, according to the position of women in comparison with, relative to, the ranking – also in terms of prestige, power, esteem – given to the position of men” (Buvinic, 1976). These definitions suggest that “women’s status” is a multidimensional phenomenon, or a composite of several different and perhaps interdependent variables. Several authors prefer to adopt the term “female autonomy” because it indicates “the ability (technical, social and psychological) to obtain information and to use it as the basis for making decisions about one’s private concerns and those of one’s intimates. Thus, equality of autonomy between the sexes . . . implies equal decision-making ability with regard to personal affairs” (Dyson and Moore, 1983). Further, this term is considered to be more amenable to empirical measurement than the concept of status (ESCAP, 1987d).

tive work for cash income, as well as several activities undertaken jointly with men, thus resulting in an understatement of the number of economically active women. However, since relatively many female workers are part-time workers, a complete enumeration of all activities engaged in by women irrespective of the extent of their involvement may exaggerate their contribution to the labour force.

Current situation

Education

During the past two decades or more, most countries in the Asian and Pacific region have made vigorous efforts to expand their educational facilities, raise enrolment ratios for both boys and girls as well as narrow sex-disparities in enrolment and reduce illiteracy levels. However, not all countries have succeeded in achieving substantial progress in these directions. Equal education has proved to be an elusive goal even in countries where equality is guaranteed by law. By and large, women remain under-represented within the educational system; they constitute less than half of the school population in several countries and their proportions decline rapidly at the highest levels of training. Concomitantly, women dominate the ranks of the illiterate in most countries.

The situation in East and South-east Asia, however, appears to be encouraging. Most countries and areas in these two sub-regions have succeeded in attaining gross female enrolment ratios in excess of 90 per cent at the primary level, and in considerably narrowing the gap between the two sexes (table 1). At the secondary level, enrolment rates tend to equalize, but in Hong Kong, Japan, Mongolia, the Philippines and Singapore, the rates for females exceed those of males. Among the developing countries and areas in these two sub-regions, Hong Kong, Malaysia, Mongolia, Philippines, Republic of Korea and Singapore record female secondary enrolment rates higher than 50 per cent. At the tertiary level, the female enrolment rate exceeds the male rate only in Mongolia and the Philippines (ESCAP, 1987a).

But in South Asia, with the exception of Sri Lanka and some States of India, female primary and secondary enrolment ratios are still very low in both absolute and relative terms. Primary enrolment rates of 50 per cent and below have been recorded for Afghanistan, Bangladesh, Bhutan and Pakistan. Disparities in male-female enrolments are also very large in most South Asian countries. Although the South Asian sub-region has achieved considerable progress in enrolment ratios over the years, parity in education still remains a distant goal in most of these countries owing to historical disadvantages. Government efforts to push up female enrolments and literacy appear to be compounded by centuries' old prejudices and social attitudes.

Table 1: Gross school enrolment ratios^{a/} at primary, secondary and tertiary levels in selected countries and areas

Country/area	Year	Primary		Secondary		Tertiary	
		Female	Male	Female	Male	Female	Male
Afghanistan	1985	11	24	5	11	–	–
Australia ^{b/}	1985	105	106	97	94	27.0	28.40
Bangladesh	1985	50	70	10	26	1.9	8.3
Bhutan	1985	18	32	1	6	0.01	0.10
Burma	1980	81	87	18	22	–	–
China ^{b/}	1985	116	132	32	45	1.0	2.20
Fiji ^{b/}	1985	128	129	55	53	3.0	3.50
Hong Kong ^{b/}	1984	104	106	12	66	9.30	16.30
India	1984	16	107	24	45	–	–
Indonesia ^{b/}	1984	116	121	34	45	4.2	8.9
Japan ^{b/}	1984	101	100	95	94	20.1	30.2
Lao People's Democratic Republic	1984	79	101	15	23	0.80 ^{c/}	1.60 ^{c/}
Malaysia	1985	99	100	53	53	5.3	8.70
Mongolia ^{b/}	1981	106	106	92	84	32.3	18.80
Nepal	1984	43	100	10	34	1.9	7.40
New Zealand ^{b/}	1983	106	107	86	84	28.7	34.20
Pakistan	1984	32	61	9	24	2.8	6.2
Philippine ^{b/}	1985	106	105	66	63	40.3	35.5
Republic of Korea ^{b/}	1986	94	94	93	98	20.3	44.5
Singapore ^{b/}	1983	110	115	69	68	10.2	13.3
Sri Lanka ^{b/}	1985	102	105	67	60	3.6	5.5
Thailand	1980	96	99	19	30	3.10	–

Source: UNESCO, *Statistical Year Book 1987*.

- Notes: ^{a/} Percentage of those in the appropriate age groups who are actually enrolled.
^{b/} Ratios in excess of 100 per cent recorded in respect of primary level enrolment reflect the participation of children of older ages.
^{c/} Refers to the year 1982.

In practically all countries, there appears to be a tendency for students to pursue fields of study conforming to socially defined female and masculine roles, although the degree of sex-typing varies considerably between countries. Particularly at the tertiary level, there is a continuing concentration of female students in liberal arts and education, while the preference of the male students are for law, business administration, and the pure and applied sciences, especially engineering.

Although many countries of the Asian and Pacific region have achieved considerable progress in reducing illiteracy levels, female illiteracy continues to be a major problem in South Asia, where, with the exception of Sri Lanka, more than 75 per cent of the female population in these countries are illiterate. The problem is more acute in the rural areas of those countries (table 2).

Table 2: Illiteracy rates of population aged 15 years and over, by sex and residence for selected countries and areas

Country/area	Year	Total population		Urban population		Rural population	
		Male	Female	Male	Female	Male	Female
Asia							
Afghanistan	1979	69.7	95.0	47.7	79.2	73.7	97.8
Bangladesh	1981	60.3	82.0	42.0	65.9	64.5	84.7
Burma	1973						
China	1982	20.8	48.9	9.5	26.4	23.1	53.2
Hong Kong							
India	1981	45.2	74.3	23.6	48.1	52.7	82.4
Indonesia	1980	22.5	42.3	8.8	24.0	26.8	47.7
Islamic Republic of Iran	1976	51.8	75.6	32.7	56.5	72.3	93.4
Lao People's Democratic Republic ^{a/}	1985	8.0	24.2				
Malaysia	1980	20.0	36.0	12.0	26.0	24.0	41.0
Nepal	1981	68.3	90.8	40.3	67.0	70.4	92.4
Pakistan	1981	64.0	84.8	43.1	65.3	73.4	92.7
Philippines	1980	16.1	17.2	6.1	7.7	22.4	23.9
Republic of Korea	1970	5.6	19.0	2.0	9.3	8.5	26.6
Singapore	1980	8.4	26.0	—	—	—	—
Sri Lanka	1981	8.7	18.0	4.4	8.9	10.0	20.5
Thailand	1980	7.7	16.0				
Pacific							
Fiji	1976	16.0	26.0	—	—	—	—
Papua New Guinea ^{b/}	1971	60.7	75.6				
Samoa	1971	2.2	2.1	1.3	1.2	2.5	2.4
Tonga	1976	0.3	0.5				

Source: UNESCO, *Statistical Year Book 1987*.

Notes: ^{a/} Refers to the age group 15-45 years only; ^{b/} Refers to the proportion aged 10 years and over.

Table 3: Expectation of life at birth for selected countries and areas in the Asian and Pacific region, 1987

Country/area	Life expectancy (years)	
	Male	Female
Afghanistan	40.6	41.6
Australia	72.5	79.5
Bangladesh	50.5	49.8
Bhutan	48.1	46.8
Burma	51.9	55.0
China	67.8	70.7
Democratic Kampuchea	46.5	49.4
Fiji	68.0	72.4
Hong Kong	73.0	78.5
India	56.7	57.6
Indonesia	54.4	57.2
Islamic Republic of Iran	58.9	59.3
Japan	75.3	81.0
Lao People's Democratic Republic	50.3	53.3
Malaysia	68.0	72.7
Mongolia	61.4	65.5
Nepal	53.9	51.1
New Zealand	71.8	77.8
Pakistan	53.7	51.9
Papua New Guinea	53.0	54.6
Philippines	61.7	64.9
Republic of Korea	65.6	71.8
Singapore	70.0	76.3
Sri Lanka	68.3	71.5
Thailand	61.6	67.6
Viet Nam	58.5	62.9

Source: ESCAP, 1987 ESCAP Population Data Sheet.

Among the developing countries in East and South-east Asia, China has the highest female illiteracy rate; nearly 70 per cent of the 200 million illiterates and semi-illiterates in China are female.

Health conditions

Over the past three or four decades, most countries in the region have gradually expanded their health infrastructure facilities and services to cover an increasingly wider section of the population. Consequently, the health status of the population has improved significantly and there has been a steady and substantial decline in the mortality rates. In most countries women have apparently benefited more from improvement in health care, their health concerns being largely addressed through family planning programmes, maternal and child welfare and nutrition education.

In East Asia, China has built up an extensive network of health care facilities and personnel, particularly in the field of maternal and child health, thereby raising the proportion of child deliveries performed with trained assistance and lowering the maternal mortality rate (ESCAP, 1987a). In the Republic of Korea, the maternal death rate has been considerably lowered while the rate of child delivery assistance by trained mid-wives, clinics and hospitals increased dramatically between 1971 and 1982 (ESCAP, 1987a). Female life expectancy at birth is currently about 71 in China and 72 in the Republic of Korea (table 3). In all East Asian countries, females now have a higher life expectancy than males.

In South-east Asia, the Philippines designed its maternal and child health programme to minimize the health risks associated with pregnancy and child-birth through special care and supervision. Consequently more than 50 per cent of the births now occur with medical assistance, and there has been appreciable reductions in maternal and infant mortality rates. In Malaysia, despite considerable progress, rates of maternal mortality, still-birth and perinatal mortality remain high, particularly in districts in which rural poverty is comparatively higher, where acceptance of national family planning has been low and where the proportion of home deliveries continues to be higher (ESCAP, 1987b). In rural Indonesia, over 80 per cent of the deliveries still take place at home with the assistance of traditional birth attendants. Consequently maternal mortality in rural areas is estimated to be quite high: 80 per 10,000 in 1984 (Utomo and Iskandar, 1986). In all South-east Asian countries, however, female life expectancy is higher than male life expectancy.

In the South Asian region, the health and mortality situation with regard to women remains unsatisfactory. In most countries, with the exception of Sri Lanka, female mortality has long been consistently higher than male

mortality. In Bangladesh, female life expectancy is lower than that of men; the female infant mortality rate is estimated at 155 per 1,000, and malnutrition is substantially higher among female than male children (Ahmed, 1986). In India, the absence of, or limited access to, pre-natal care and trained birth attendants, particularly in the rural areas, is still the cause of high neonatal and maternal mortality (ESCAP, 1987b). In Pakistan, maternal mortality is around 7 per 1,000 live births; 30 per cent of babies are born underweight and 60 per cent of mothers lose a child within a year of its birth. Anaemia afflicts nearly a third of all women, the incidence being higher among those pregnant and lactating (ESCAP, 1987a). A shorter average life span of women has been observed for many decades in countries of the Indian sub-continent, i.e. Bangladesh, Bhutan, India, Pakistan and, until about the early 1960s, Sri Lanka (Ruzika and Kane, 1987). However, the expectation of life at birth for females exceeds that of males in Afghanistan, India, Islamic Republic of Iran and Sri Lanka. In most of these countries, one could expect a further lowering of maternal and child mortality rates with the gradual increase in contraceptive practice, birth spacing and postponement of first births.

Employment patterns

Since the mid-1960s, developing countries in the Asian and Pacific region have witnessed an unprecedented expansion in their labour force, resulting largely from the high rates of population growth which these countries experienced since the early 1950s. A noteworthy feature of this expansion has been the rapid growth in the volume of the female labour force. The gradual expansion of opportunities for female education also contributed to the increased influx of women into the labour market. Further, recent fertility decline in several countries also means that women spend less time in family-building roles and have more time to take on economically productive activities (ESCAP, 1987c). In most countries, increasing participation of women in the labour force has continued to date.

Yet, in most countries of the region, the reported female labour force participation rates are substantially lower than the male rates. In these countries, while the male participation rates are 70 per cent or more, the female rates, with the exception of China, are very low, i.e. less than 55 per cent. Further, whereas the rates of male labour force participation vary little from country to country, rates of female participation differ enormously between countries and between different data sources. It may also be noted that, with the exception of Sri Lanka and Nepal, countries in South Asia have very low female participation rates, the rates being extremely low for Bangladesh, the Islamic Republic of Iran and Pakistan.

Several factors have contributed to the relatively low female participation rates in countries of the region. Firstly, since women are still largely

responsible for domestic work and child-rearing, they are not as free as men to enter the labour market. The vast majority of the Asian women who work do so for economic reasons, and practically all of them, except for highly educated and career-oriented women, would prefer to stay at home and look after their children (Whyte and Whyte, 1982). In societies where it is difficult to combine child care with wage employment outside the home, women often withdraw from the labour force after marriage or the start of child-bearing (ESCAP, 1986). Further, since leisure has status, middle- and high-income educated women often choose not to work (ESCAP, 1987c). Secondly, as noted previously, in most countries labour force data tend to underestimate the number of economically active women especially in the category of unpaid helpers on farms and other family-operated economic enterprises. A major reason for underestimation of women in rural employment appears to be the reluctance of male household heads to acknowledge the economic activities of their wives and daughters outside the household (Youseff, 1977; Krishnamurthy, 1983). This is particularly so in those countries where the Muslim custom of *purdah* (seclusion) inhibits the employment of women (Husain, 1958). These cultural traits may affect not only the extent to which women actually engage in income-producing work but also the reporting of these activities in the census or labour force surveys (United Nations, 1973).

In the developed and in most developing countries, the majority of the female workers have been reported as employees, although these proportions vary from country to country. It is only in Afghanistan and Nepal that a typical woman worker is reported as employer and/or own account worker (more as own account worker), and in Indonesia as unpaid family worker. Further, unpaid family labour is a more commonly reported category for females than males in practically all countries.

Over the years, there appears to have been a transition in the pattern of female employment status with an increasing number being reported as employees instead of as unpaid family workers. To some extent, this trend may be regarded as genuine in view of the expansion in the number of women working outside their homes as opportunities for paid employment have been increasing in recent years with socio-economic development (Eisold, 1984). To some extent, this shift may be due to an increasing number of women engaging in home-based piece-rate work which they can combine along with their unpaid domestic tasks, as well as a large number of women casual employees who tend to be reported as paid employees (Singh and Kelles-Viitanen, 1987).

In terms of occupation, a majority of the female workers are engaged in agriculture and related occupations in most developing countries, and in production and service occupations in the developed and newly industrializing countries (table 4). However, in the Republic of Korea, a newly indus-

Table 4: Distribution of the employed population by occupation for selected countries (percentages)

Country/area	Professional, technical and related workers		Administrative and managerial workers		Clerical and related workers	
	M	F	M	F	M	F
Afghanistan (1979)	2.4	4.4	–	–	3.0	2.5
Australia (1986)	15.2	16.3	8.0	5.2	8.7	32.6
Bangladesh (1983/84)	2.4	3.2	0.7	0.2	2.5	1.6
China (1982)	5.6	4.4	2.5	0.4	1.7	0.7
Hong Kong (1986)	6.1	8.1	4.2	1.0	10.5	26.4
India (1981)	3.1	2.3	1.2	0.1	3.9	0.8
Indonesia (1985)	3.2	3.9	0.2	–	5.0	1.9
Japan (1986)	8.3	10.8	5.6	0.6	12.6	25.2
Nepal (1981)	1.2	0.5	0.1	0.0	1.0	0.1
New Zealand (1981)	11.8	17.9	4.8	0.8	7.7	32.7
Pakistan (1981)	3.4	16.6	1.4	0.8	3.2	2.7
Philippines (1985)	3.2	9.6	1.2	0.5	3.4	6.1
Republic of Korea (1986)	6.4	5.6	2.3	0.1	12.2	10.5
Singapore (1986)	10.8	11.4	7.5	3.4	7.6	29.3
Sri Lanka (1985)	3.8	8.7	0.7	0.1	5.9	4.6
Thailand (1984)	3.1	3.2	1.8	0.5	2.5	2.2

Table 4: (continued)

Sales workers		Services workers		Agricultural and allied workers		Production/related workers, transport equipment operators		Unclassified	
M	F	M	F	M	F	M	F	M	F
6.0	0.7	3.0	1.0	66.0	3.4	24.0	88.0	-	-
6.2	13.7	10.8	9.4	8.7	3.9	42.4	18.4	-	-
11.3	5.6	3.6	45.9	63.5	8.9	14.9	31.7	1.2	2.9
1.7	1.9	2.0	2.4	68.0	77.1	18.3	13.0	0.1	0.1
12.1	9.1	17.2	16.6	1.8	1.4	48.2	37.4	-	-
5.3	1.1	3.1	1.9	64.2	57.5	16.3	6.8	2.9	29.6
11.2	20.9	2.4	5.9	55.3	53.7	21.1	13.4	1.4	0.3
15.7	14.2	6.6	12.0	7.3	10.0	43.5	26.8	0.4	0.3
1.6	0.5	0.3	0.1	88.9	96.1	3.9	1.7	2.3	1.0
8.6	11.5	5.8	12.5	13.3	6.7	44.8	14.9	3.2	2.9
8.4	4.7	4.1	8.4	51.9	38.2	25.5	26.0	2.2	2.5
6.4	23.5	5.5	13.6	56.6	34.5	23.7	12.1	-	0.1
13.3	18.1	6.9	16.6	21.5	26.2	37.4	22.7	-	-
14.3	12.2	8.4	17.6	1.4	0.7	42.1	25.2	7.9	0.2
9.9	5.7	4.2	5.9	45.0	53.4	30.3	21.6	0.3	-
5.6	10.2	3.0	3.6	67.9	72.4	16.1	7.9	-	-

Sources: ILO, *Year Book of Labour Statistics, 1987* for all countries excepting Afghanistan. Figures for Afghanistan were obtained from ESCAP, *Achievements of the United Nations Decade for Women in Asia and the Pacific*, table 8; for Nepal, from Central Bureau of Statistics, *Population Monograph of Nepal*, Kathmandu, 1987.

trializing country, agricultural occupations are still common, followed by production jobs. In most of the countries of the region, women workers in the modern sector tend to concentrate in four occupational groups: professional and technical, clerical, service and production (Khoo, 1987).

The proportions of total female labour force reported as engaged in professional and technical occupations exceed the corresponding proportions for males in all countries in the region, except China, India and Nepal. However, in absolute terms, women's share in these categories is smaller than that of men except in the Philippines where nearly 65 per cent of the workers in these occupations are women. In most countries, the majority of females reported as "professional and technical" are employed in low paying jobs such as nursing and teaching, which are of relatively low status, carry low salaries and perhaps involve quite limited training requirements.

Despite their increasing participation in the labour force, the pattern of women's employment has changed very little over the years. Even today most women workers have only a limited range of job opportunities and are engaged in occupations characterized by low skills, low productivity, low wages and hence low status. On the other hand, male workers are represented in



Despite their qualifications, these nurses from Sri Lanka earn low salaries and thus are considered low-status professionals.

a wider range of occupations including those that involve higher skills and generate higher incomes (Mahajan, 1987; Benerjee, 1983). This inherent segregation of jobs based on sex, thus has two important aspects: horizontal segregation whereby women's choice or opportunities are limited to very narrow range of mostly traditional or female occupations, and vertical segregation whereby within the same industry, occupation or profession, men tend to occupy the higher, and women the lower, ranks of the occupational hierarchy (Mitchell, 1987).

Gender segregation with regard to occupation is not new, nor is it a phenomenon peculiar only to the developing countries; indeed, the degree of this segregation is greater in some of the developed than in developing countries (Khoo, 1987). Whatever the cause, segregation has serious consequences for women as well as national socio-economic development efforts. It contributes to wage differentials between men and women, restricts women's occupational mobility in the labour market, and increases their rate of unemployment. It has also been observed that when an occupation or profession becomes preponderantly "female", its economic and social status diminishes (ILO, 1985).

Interrelationships between population and status of women

In any society, determinants and consequences of population trends affect, and in turn are affected by, the status of women, or the degree of equality between men and women. However, the interrelationships between population and status of women are complex, involving the interaction of a multiplicity of factors. Hence, it is not possible to isolate particular aspects of the population process in order to identify their influence on women's status. Nor can one be definite as to which aspect or dimension of women's status has a bearing on any of the components of population change.

Impact of population on status of women

Continued high rates of population growth pose a serious challenge to the achievement of national objectives and targets with regard to socio-economic development.

It would appear that rapidly growing populations in developing countries, by increasing the dependency burden and exerting pressures on limited material and social resources, have hindered the advancement of women. There are parallels between demographic characteristics such as high growth rates, high fertility, and high dependency on the one hand, and low levels of female educational attainment, high infant and maternal mortality, lower female life expectancy and low rates of female labour participation on the other.

It would appear that rapidly growing populations, by increasing the dependency burden and exerting pressures on limited material and social resources, have hindered the advancement of women in these countries. There are also highly visible examples of countries where population growth rates are low, fertility moderate or low, dependency burden high, and where women are approaching equal status with men with regard to education, literacy and employment, and where the life expectancy of women exceeds that of men. The Governments of such countries have invested adequately in maternal and child health care, social security, maternity benefits and other essential social services. However, even including the extremes, it is obvious that demographic conditions may play only a minor role in determining the absolute and relative positions of women in the family and in society at large, as compared with the role played by economic conditions, stages of development, political and social structures, cultural values and beliefs, and governmental priority for policy and action (United Nations, 1975).

Fertility and status of women

Fertility and the social process associated with it, marriage, affect the status of women in several ways. In societies where home-making is still considered to be the main function of women, there are strong social pressures for women to marry when they are young. This is particularly true in a large number of Muslim countries, and in some areas of India and Nepal.*

In these societies, an unmarried daughter past a certain age may be considered a disgrace to the family. Nevertheless, marriage is normally an obstacle to the continued education of women; the younger the average age at marriage, the sooner girls terminate their schooling. Thus, most women are denied the

* For example, a study in Bangladesh reported that girls marry between the ages of 8 and 16, and the presence of an unmarried woman over the age of 16 is often a sign of poverty (Ellickson, 1976). However, another study states that marriage of girls occurs between the age of 12 and 16 years, with restrictions on their movement from the age of 10. There is less urgency in marrying off a daughter who is attending school (Abdulla, 1976). In India, it was for a long time considered a sign of one's affluence, influence or status to get one's daughter married before she reached the age of puberty (Kapadia, 1966). However, in recent years there has been a tendency towards increasing age at marriage owing to changes that have occurred in socio-economic, cultural and behavioural attitudes in many parts of the country. A recent study reported that even in rural areas, the concept of childhood, dependency and immaturity have currently gained great importance. Parents and family members are apprehensive about their sons marrying girls who have not attained menarche, or those who have done so recently, on the grounds that they are too immature to play the role of wife, mother and daughter-in-law (Kadi, 1987). In Nepal, the tradition of child marriage is still prevalent in some rural areas. Some orthodox people believe that giving away a daughter before her first menstruation when she is a virgin provides religious merit (Majupuria, 1982).

opportunity for improving their status through continued education and training which would have qualified them for employment and income.

It has also been observed that in societies where girls marry early, the age difference between brides and grooms may average 10 to 12 years, and in some instances be as much as 20 years. This would imply that the woman's already subordinate position at the time of her marriage is further compounded by the additional advantage her husband has accrued with his age and experience. Further, the average age at first marriage for women is much higher, and the age difference between bride and groom narrower, among educated and employed women in most countries (United Nations, 1975). The substantial age difference between wife and husband is also considered to be one of the reasons for early widowhood of women in Nepal (Majupuria, 1982; p. 115).

The high fertility pattern obtaining in most developing countries means that women are burdened with the task of frequent child-bearing as well as the responsibility of caring for and rearing the many children they produce. Since alternative arrangements, such as day-care centres, for assisting women with their family responsibilities are not available in most countries, women are engaged full-time in their traditional roles, and are not free to upgrade their knowledge and skills or to participate in economic production. However, in the rural agrarian setting in many countries, it is often possible for the mother to combine child-rearing with work on the farm or other family-operated enterprises because of the availability of extended family, kin, and neighbourhood support networks for child care, and the location of farm work and market activity near the home (Mahajan, 1987). However, large family size may compel a woman to seek employment to augment family incomes to support the large number of children (Hamalatha and Suriyanarayana, 1983).

High fertility is a phenomenon usually associated with low income families who constitute a substantial proportion of national populations. Among these people, given their limited incomes and resources, there is a tendency to accord preferential treatment to male children in the matter of education, food and nutrition, health care etc. (Sen, 1988; Bardhan, 1988). This is to a large extent due to the traditional preference for male children. In many of these societies, the inferior position of girls is acknowledged from the moment of birth when, for example, the attendant midwives are given a better reward for the delivery of a baby boy than for a baby girl. In countries where education is not free, low income families often give priority to investing in the education of boys from whom they can expect a higher rate of return than from investments in the education of girls (ILO, 1985). For instance, in India, the education of girls is sacrificed in favour of boys; there is also some fear that education may alienate girls from their traditional role and submissive behaviour (ICSSR, 1975).

In those societies where social values and customs favour large family size, high fertility confers high status or prestige on the mothers. Among these communities, a woman's status is defined largely in terms of the number of her children, or by the number of her sons.

Mortality and status of women

In the absence of an adequate number of empirical studies, it is not possible to state precisely the nature and extent of the effects of changing mortality conditions on the status of women. However, the experience of several developing countries in the region that have completed, or are in the



Frequent pregnancies have prematurely aged this young mother of six children.

process of completing, their mortality transition clearly indicates that high mortality conditions have been associated with high infant and child mortality as well as higher female than male mortality at practically all ages, particularly in the reproductive age groups. In these countries, the decline in mortality has been accompanied by substantial declines in infant and child mortality as well as female mortality.

It is often argued that high infant and child mortality is a cause of high fertility in many societies; mothers have to produce more children in order to ensure the survival of a few of them. However, evidence with regard to the effects of infant and child mortality on fertility is mixed (Preston, 1978). Loss of their children and frequent pregnancies seriously damage the health and lives of mothers.

In several countries, higher female than male life expectancy results in an increase in the number of widows, particularly at the older ages. In others, early marriage of women coupled with wide age disparities between bride and groom has resulted in early widowhood (Khartum and Begum, 1975). In many parts of India, among certain communities, social customs forbid the re-marrying of widows although legislation permits such re-marriage. Further, a widow, economically dependent on members of her husband's family, could be ill-treated and abused; she has to work hard and put up with all kinds of indignity and humiliation from senior, and sometimes even junior, household members (Altekar, 1959).

However, many societies permit the re-marriage of widows. In Bangladesh, young widows and divorcees often re-marry, but older widows generally remain in their husband's home to ensure receiving a share of his property (Abdulla, 1976). In China, widows have the right to re-marry, even though some still feel this to be wrong, and young men are reluctant to marry a widow (Parish and Whyte, 1978). Although there is no objection to the re-marriage of widows in the Republic of Korea, in practice this is rare; there is still adherence to the Confucian ideal of the chaste widow. Further, women do not wish to lose the access to their children which re-marriage automatically involves (Singh, 1980).

Migration and status of women

In a large number of South Asian countries, rural-urban migration streams are often dominated by males who leave behind their wives and children in the village. It is likely that the remaining female population may "improve" its status by taking over many activities formerly performed by men and by acquiring a major decision-making role in the family and in the community. For example, it has been reported that the migration of Korean males from

villages to cities in search of industrial jobs has forced women to assume agricultural tasks for which they were not trained or prepared (Roh, 1987). In societies where the responsibilities of looking after family matters in the absence of the husband is entrusted to another senior male or elderly female, the status of the wife may be weakened or lowered as a result of the out-migration of the husband.

For some women who migrate to urban areas from the village, the move may free her from the conservative and constraining traditions of village life, and accord opportunities for higher education and paid employment. For example, in many South-east Asian countries, a very large number of rural females (single and married) have found employment in the urban "bazaar economy", and in domestic service in urban households (Hackenburg, 1979; Piampiti, 1979). In several countries, there is also an increasing number of unmarried females migrating to urban centres in response to new employment opportunities for women in the industrial sector created by activities of the transnational corporations and local industrial entrepreneurs (Wong, 1979; Ariffin, 1979; Huang, 1979). Although most of the female migrants from rural areas may be employed in low-paid, low-status jobs without any long-term benefits and job security, yet their earnings are invariably much higher than they would have been in the home village. Also, since their regular remittances help to support their parents and siblings, they enjoy better status and recognition within the family and in the village.

For many other women who move to the city, particularly those who accompany their husbands, the move may isolate them from their formerly supportive environment, and deprive them of child care and household assistance, as well as their earlier productive role in agriculture, handicrafts or marketing. In many South Asian countries, women who move to the city do not find themselves in a freer environment but end up practising seclusion to a greater degree than in the village (Shah, 1979). For many women in search of employment, the urban destination, with its usually high unemployment rates, may offer very limited opportunities to them compared with men, and may even have a negative impact on their social status (Singh, 1980).

Rural-rural migration is of special importance to women; for instance, in India 69 per cent of all migration is rural-rural and 77 per cent of rural migrants are females (Singh, 1980). Since demographers tend to label this comparatively greater volume of migration as marriage or dependency migration, the consequences of such migration for women and the family are also assumed to be linked to the fate of the provider (Premi, 1979; Singh, 1980). However, female labour migration may also constitute a substantial proportion of total female rural migration (Government of India, 1974). It has also been reported that, in several parts of China and India, marriage migration

often results in a loss of autonomy for women during the prime child-bearing years. This is because, upon marriage, she has not only to live away from her natal kin, but also invariably to subject herself to the authority of her mother-in-law or older sister-in-law in her new household (Mason, 1984).

Impact of women's status on population

Status of women and fertility

A large number of studies undertaken in various countries have focused on the analysis of the status of women, particularly their access to education and employment, in relation to fertility. Very often these studies have reported contradictory findings, especially when woman's labour force participation has been used as an index of status and examined in relation to fertility (Safilios-Rothschild, 1985). This is because the relationships are many and complex, and they seem to vary according to place and time (Farooq and Simmons, 1985). Hence great caution needs to be exercised in utilizing those findings for purposes of policy formulation.

According to numerous studies, the level of education of the wife is more strongly correlated with a couple's fertility than the educational level of the husband. Female education helps to "prevent" marriage and child-bearing or postpone it beyond the average age of family formation so long as the woman stays in school (Karim, 1986). Education also exposes women to family planning knowledge, attitudes and practices. Education is also considered to be associated with an increase in women's domestic power and their participation in extra-domestic employment before marriage (Mason, 1984).

Most studies indicate that fertility declines with an increase in the level of women's education (Goldstein, 1972; Rodriguez and Cleland, 1980; Jain, 1981). This inverse relationship tends to be strongest when factors such as husband's education, women's employment, type of education and place of residence are uncontrolled. Monotonic inverse patterns of fertility by educational level and substantial differentials have been reported for those developing countries with high per capita income, high literacy and high levels of urbanization. For instance, in the Republic of Korea, fertility rates have declined by 7.9 per cent after primary education; by 14.2 per cent after secondary; and 16.3 per cent after higher education (Lee and Cho, 1986). In India, this inverse relationship between education and fertility occurs only after matriculation (Rao, 1979).

It has often been argued that participation of women in the labour force helps to lower fertility through such factors as delayed marriage, increased

education, reduction of preferred family size and increased adoption of family planning practices (Conception, 1974). However, as noted previously, a review of available evidence does not seem fully to support these conclusions. While the inverse relationship between female labour force participation and fertility appears to be strong in most developed countries, this relationship tends to be either weak or absent in many developing countries. However, in the developing countries, the probability of an inverse relationship appears to be higher in the urban than in the rural areas, and in the "modern" than in the "traditional" sectors of society. Moreover, studies show that labour force participation *per se* may not be so important as the *type* of employment that is engaged in by the woman (Conception, 1974). Equally important is the compatibility or incompatibility of a woman's employment with her maternal role (Safilos-Rothschild, 1985).

In the rural setting of the developing countries, a woman's employment, whether paid or unpaid, has little impact on fertility for two reasons. Firstly, the value of large numbers of children still remains strong. Secondly, the nature of the employment engaged in (mostly of the agricultural, marketing or cottage industry type) is compatible with her role as mother as she could either keep the young children with her or entrust them to other family members while she is at work. By contrast, a woman's employment in an urban setting is more likely to be incompatible with her maternal role, because that employment is outside her home and normally no alternate arrangements are available for taking care of her young children while she is away at work. However, an urban woman worker is more likely to learn about birth control and have relatively easy access to family planning services (United Nations, 1975).

Pre-marital employment tends to increase a woman's age at first marriage. In cultures which require married women to contribute to her in-law's rather than her parental household, parents whose daughter is working may try to delay her marriage in order to enjoy the benefit of her earnings (Saloff and Wong, 1977). In societies where parents are required to provide adequate dowry when giving their daughter in marriage, the young woman may have to work long enough to accumulate the necessary amount (Lindenbaum, 1981). Pre-marital employment also may influence a woman's aspirations and attitudes towards marriage (Saloff and Wong, 1977). Drawing a regular and assured income may give her a taste for independence thereby fostering greater female autonomy and a later age at marriage (Mason, 1984).

Status of women and mortality

An important factor contributing to the success of activities aimed at improving health and reducing mortality, particularly infant and child mortality, appears to be the level of education of mothers. Several studies have

reported strong differentials by educational level of the mother in the utilization of health care, in the practice of family planning, in the physical and mental development of children and in community development (Salas, 1984).

There are three aspects of mortality that have been argued to reflect variation in the status of women or some aspect thereof. These are (a) level of infant and child mortality; (b) level of maternal mortality; and (c) sex-differentials in mortality, especially among children (Mason, 1984). Female education is said to influence infant and child mortality in several ways. The first is through birth spacing; better educated women are more likely to practise birth control methods than less educated women (Cochrane, 1983). Birth control practices may, in turn, lengthen birth intervals and this tends to reduce infant and child mortality.

The second is through greater gender equality or women's domestic autonomy. More education enables a woman to acquire a great deal of autonomy which helps to undermine traditional feeding practices and ensure a more equal distribution of food within the family. This would mean that mothers and children experience improved nutrition. Greater female autonomy also enables a mother to detect in time when a child falls ill, to decide that something must be done immediately, to go out and obtain appropriate and adequate treatment, to understand the medical advice and take responsibility for carrying it out. Further, an educated mother is able to understand the need for and practise hygienic forms of child care (Caldwell, 1981).

Nutritional status and birth parity levels appear to be important determinants of maternal mortality in most developing countries of the region (Chen, 1974). In these countries, a major determinant of women's nutritional status, apart from the family's socio-economic status and certain traditional beliefs, is the feeding priority given to adult men in the households (Katono-Apte, 1975). This gender system results in nutritional deficiency among young girls and old women; it also contributes to the poor nutritional status of pregnant women, thereby contributing to maternal mortality levels (Caldwell, 1981; Katono-Apte, 1975).

Policy implications

Although women constitute nearly half of the population in practically all countries of the region, they do not enjoy equal status with men in most respects, and play a very limited role in national socio-economic development. However, it is being increasingly recognized that the full and unfettered participation of women is essential for the success of any development scheme. In particular, women's active participation is absolutely necessary for the for-

mulation of population policies and implementation of programmes, because they have as much at stake as men, if not more, in whatever action is taken in this area.

The full participation of women in population programmes and other development activities is possible only if they enjoy a considerable measure of autonomy or equality with men. This, in turn, is possible, only if serious efforts are made to eliminate discrimination and remove obstacles to their advancement in the field of education, training, employment and career prospects. The examples of Sri Lanka and Kerala (India) clearly demonstrate that when such barriers and obstacles are eliminated, and women brought into the mainstream of national life, there is a distinctive improvement in the content and pace of development as well as in the quality of life of the entire community (Salas; 1984).

In Sri Lanka, women enjoy a much higher status than their counterparts in South Asia. During the last decade or so, the expectation of life at birth for females has been higher than that of males. Because of their educational attainment, large numbers of women are engaged in paid employment outside the home. Wage earnings are preferred and education is considered an important preparation for employment (Murdock, 1982). These developments have resulted in raising women's age at first marriage, widespread adoption of family planning, increased utilization of health services and facilities, and consequently a considerable reduction in fertility and mortality, particularly maternal, infant and child mortality.

The measures adopted in Sri Lanka can be suitably adapted and applied in other countries of the region as well. Various international strategies and action plans focusing on the integration of women and development have provided valuable guidelines for national action in this regard. It has been generally accepted that special attention should be given to measures which broaden the scope of education and vocational training for females, and increase their employment opportunities. Since numerous studies have clearly indicated that the level of female education is a determining factor in reducing fertility and mortality, national policies should aim at expanding educational facilities and opportunities for women, especially in the rural areas where illiteracy levels are high and enrolments very low. Further, reduction in family size may also be achieved by the adoption of policies specifically related to the provision of new roles and interests for women supplementary or alternative to those of marriage. The participation of women in paid employment not only helps to bring them into the economic mainstream, but also gives them prestige and security in the family and the community (Sadik, 1986). Policies should therefore be directed at fostering greater participation of women in non-traditional employment outside the home (Conception, 1974).

References

- Abdulla, Tahrunessa A. (1976). *Village Women As I Saw Them* (Bangladesh Academy for Rural Development, Comilla).
- Ahmed, Ashraf Uddin, (1986). *Analyses of Mortality Trends and Patterns in Bangladesh*, ESCAP, Asian Population Studies Series No. 72, (Bangkok).
- Altekar, A. S. (1959). *The Position of Women in Hindu Civilization from Pre-historic Times to the Present Day*, Second Edition, (Delhi, Mottias Banarsidass).
- Ariffin, Jamilah (1979). 'Survey approach to female migrant adjustment in Malaysia', paper prepared for Women in the Cities Working Group, (East-West Population Institute, Hawaii).
- Bardhan, Pranob K. (1988). "Sex disparity in child survival in rural India" in T. N. Srinivasan and Pranob K. Bardhan (eds.), *Rural Poverty in South Asia*, (Delhi, Oxford University Press).
- Buvinic, Mayra (1976). *Women and World Development: An Annotated Bibliography*, (Washington, D.C., American Association for the Advancement of Science, and Overseas Development Council), p. 2.
- Caldwell, John C. (1979). "Education as a factor in mortality decline: an examination of Nigerian data", *Population Studies*, vol. 3, No. 3.
- _____ (1981). "Routes to low mortality in poor countries", *Population and Development Review*, vol. 12, No. 2.
- _____ P.H. Reddy and P. Caldwell (1983). "Demographic change in rural South India", *Population Studies*, vol. 37, No. 3, pp. 343-361.
- Chen, Lincoln C. *et al.* (1974). "Maternal mortality in rural Bangladesh", *Studies in Family Planning*, vol. 5, pp. 334-341.
- Cleland, John G. (1987). "Socio-economic determinants of fertility: an assessment of recent findings and their implications", *Population Policies and Programmes Current Status and Future Directions*, ESCAP, Asian Population Studies Series No. 84, (Bangkok), pp. 43-58.
- Cochrane, Susan H. (1983). "Effects of education and urbanization on fertility" in R. A. Bulatao *et al.* (eds.), *Determinants of Fertility in Developing Countries*, (Washington, D.C., National Academy Press), pp. 992-1026.
- Conception, Mercedes B. (1974). "Female labour force participation and fertility", *International Labour Review*, vol. 109, Nos. 5 -6.
- Curtin, Leslie B. (1982). *Status of Women: A Comparative Analyses of Twenty Developing Countries*, (Washington, D.C., Population Reference Bureau, Reports on World Fertility Survey).
- Dixon, Ruth B. (1978). *Rural Women at Work*, (Baltimore, John Hopkins University Press), p. 6.
- Dyson, Tim and Mick Moore (1983). "On kinship structure, female autonomy, and demographic behavior in India", *Population and Development Review*, vol. 9. No. 1, pp. 35-60.
- Eisold, E. (1984). *Young Women Workers in Export Industry: The Case of the Semi-Conductor Industry in South-east Asia*, (ILO, Geneva).

- Ellickson, J. (1976). "Women of Rural Bangladesh Variation in Problems of Self-perception", paper presented at Women and Development Conference, Wellesley, Mass., U.S.A.
- ESCAP (1986). *Women in the Economy: Employment, Status of Women in Asia and the Pacific Region*, Series No. 1, (Bangkok), p. 7.
- _____ (1987a). *Achievements of the United Nations Decade for Women in Asia and the Pacific*, (Bangkok).
- _____ (1987b). *Mortality and Health Issues in Asia and the Pacific*, Report of a seminar held at Beijing in collaboration with the Institute of Population Research, People's University of China, 22-27 October 1986, Asian Population Studies Series No. 78.
- _____ (1987c). *Women's Economic Participation in Asia and the Pacific*, (Bangkok), p. 1.
- _____ (1987d). "Female autonomy and fertility: an overview of the situation in South Asia", *Asia-Pacific Population Journal*, vol. 2, No. 4, pp. 43-52.
- Farooq, Ghazi M. and George B. Simmons (eds.), (1985). *Fertility in Developing Countries: An Economic Perspective on Research and Policy Issues*, (ILO, Geneva).
- Goldstein, Sidney (1972). "The influence of labour force participation and education on fertility in Thailand" *Population Studies*, vol. 26, No. 3.
- Government of India (1974). *Towards Equality: Report of the Status of Women in India* (New Delhi, Department of Social Welfare).
- Hackenbergh, Beverly (1979). "Migration and mobility among women in the Philippines", paper prepared for Women in the Cities Working Group, (East-West Population Institute, Hawaii).
- Hamalatha, P. and M. Suryanarayana (1983). "Married working women: a study on their role interactions", *The Indian Journal of Social Work*, vol. 44, No. 2.
- Husain, A.F.A. (1958). *Employment of Middle Class Muslim Women in Dacca*, (Dacca University, Socio-economic Research Board), p. 65.
- ICSSR (Indian Council of Social Science Research), (1975). *Status of Women in India*, (New Delhi, Allied Publishers).
- ILO (1985). *World Labour Report*, vol. 2, Geneva, p. 218.
- Jain, Anrudh (1981). "The effect of female education on fertility: a simple explanation", *Demography*, vol. 18, No. 4.
- Jose, A. V. (1987). "Employment diversification of women in Asian countries" in *Diversification of Women's Employment and Training*, ILO/Japan Tripartite Seminar Report on Diversification of Women's Training and Employment, Tokyo, 8-12 December 1986, (ILO, Bangkok).
- Kadi, A.S. (1987). "Age at Marriage in India", *Asia-Pacific Population Journal*, vol. 2, No. 1, pp. 41-56.
- Kapadia, K.M. (1966). *Marriage and Family in India and Bombay*, (Delhi, Oxford University Press).
- Karim, Mehtab S. (1986). "Differentials in age at first marriage" in Iqbal Alam (ed.), *Fertility in Pakistan: A Review of the Findings from the Pakistan Fertility Survey*, (Voorburg, Netherlands: International Statistical Institute).

- Katono-Apte, Judith (1975). "The relevance of nourishment to the reproductive cycle of the female in India", in Dano Raphael (ed.), *Being Female*, (The Hague, Monton).
- Khartun, S. and K. Begum (1975). "Life of urban middle class widows" in *Women for Women*.
- Khoo, Siew-Ear (1987). "Development and women's participation in the modern economy: Asia and the Pacific" in ESCAP, *Women's Economic Participation in Asia and the Pacific*, p. 20.
- Krishnamurthy, J. (1983). "The investigator, the respondent and the survey: the problem of getting good data on women", in Devaki Jain and Nirmala Benerjee (eds.), *Tyranny of the Household: Investigative Essays on Women's Work*, (New Delhi, Shakti Books).
- Lee, Hyo-chai and Hyoung Cho (1986). "Fertility and Women's Labour Force Participation in Korea," *Recent empirical findings in fertility in Korea, Nigeria, Tunisia, Venezuela and the Philippines*, (Washington, D.C., Smithsonian Institution).
- Lindenbaum, Shirley (1981). "Implications for women of changing marriage transactions in Bangladesh", *Studies in Family Planning*, vol. 12, pp. 394-401.
- Mahajan, Inez Wyngaarde (1987). "Family related responsibilities of women workers and diversification of training and employment" in *Diversification of Women's Employment and Training*, (ILO, Bangkok).
- Majupuria, Indra (1982). *Nepalese Women*, (Kathmandu, M. Devi Publisher).
- Mason, Karen Oppenheim (1984). "The Status of Women: A Review of its Relationships to Fertility and Mortality", paper prepared for the Population Science Division of the Rockefeller Foundation, Population Studies Center, University of Michigan, (mimeo), p. 6.
- Mitchell, Ayse G. (1987). "Diversification of women's occupations: a regional overview" in *Diversification of Women's Employment and Training*, (ILO, Bangkok).
- Murdock, William W. (1982). *The Poverty of Nations: The Political Economy of Hunger and Population*, (Baltimore, Johns Hopkins University Press), p. 41.
- Parish, W. L., Jr. and M. K. Whyte (1978). *Village and Family in Contemporary China*, (University of Chicago Press, Chicago and London).
- Piampiti, Suwanlee (1979). "Policies and programs for female migration in Thailand", paper prepared for Women in the Cities Working Group, (East-West Population Institute, Hawaii).
- Premi, Mahendra K. (1979). *Patterns of Internal Migration of Females in India*, (Indian Council of Social Science Research, New Delhi).
- Preston, Samuel H. (1978). *The Effects of Infant and Child Mortality on Fertility*, (New York, Academic Press).
- Rao, Kamala (1979). "Status of women: factors affecting status of women in India", in *ILO Sub-Regional Seminar on Status and Role of Women in the Organized Sector*, (ILO, Bangkok).
- Rodriguez, German and John Cleland (1981). Socio-economic Determinants of Marital Fertility in Twenty Countries: A Multivariate Analysis, *World Fertility Survey Conference, 1980: Record of Proceedings*, vol. 2, (Voorburg, Netherlands, International Statistical Institute).

- Roh, Mihye (1987). "A case study on the diversification of women's training and employment in Korea" (Oct. 1986) reported in *Diversification of Women's Employment and Training*, (ILO, Bangkok), p. 51.
- Ruzicka, Lddo and Penny Kane, "Trends and patterns of mortality in the ESCAP region: comparative analysis", in *Mortality and Health Issues*, ESCAP, Asian Population Studies Series No. 78, (Bangkok), p. 37.
- Sadik, Nafis (1986). "Integration of women in population and development programmes", ESCAP, *Asia-Pacific Population Journal*, vol. 1, No. 3.
- Safilios-Rothschild, Constantina (1985). *The Status of Women and Fertility in the Third World in the 1970-80 Decade*, Working paper No. 118, (Center for Policy Studies, Population Council, New York), p. 3.
- Salas, Rafael M. (1984). *Reflections on Population*, (New York, Pergamon Press), p. 82.
- Saloff, Janet W. and Aline K. Wong (1977). "Chinese women at work: work commitment and fertility in the Asian setting", in S. Kupinsky (ed.), *The Fertility of Working Women*, (New York, Praeger), pp. 81-145.
- Sen, Amartya K. (1988). "Family and food: sex bias in poverty" in T. N. Srinivasan and Pranob K. Bardhan (eds.), *Rural Poverty in South Asia*, (Delhi, Oxford University Press).
- Singh, Andrea Menefee (1978). "Rural-urban migration of women among the urban poor in India", *Social Action*, vol. 28, No. 4.
- _____ (1980). "The impact of migration on women and the family: research, policy and programme issues in developing countries", *Social Action*, vol. 30, No. 2.
- _____ and Anita Kelles-Viitanen (eds.), (1987). *Invisible Hands; Women in Home-based Production*, Women and the Household in Asia Series, vol. I, (New Delhi, Sage Publications).
- Shah, N.M. (1979). "The female migrant in Pakistan", paper prepared for Women in Cities Working Group, (East-West Population institute, Hawaii).
- United Nations (1973). *The Determinants and Consequence of Population Trends: New Summary of Findings on Interaction of Demographic, Economic and Social Factors*, vol. 1, (New York), (ST/SOA/SER.A/SO), p. 303.
- _____ (1975). "Women rights and fertility" in United Nations, *The Population Debate: Dimensions and Perspectives*, Papers of the World Population Conference, Bucharest, 1974, vol. II (New York), p. 370.
- Utomo, Budo and Meiwita B. Iskandar (1986). *Mortality Transition in Indonesia 1950-1980*, ESCAP, Asian Population Studies Series No. 74, (Bangkok).
- Whyte, Robert Orr and Pauline Whyte (1982). *The Women of Rural Asia*, (Boulder, Colorado, Westview Press), p. 12.
- Wong, Aline (1979). "Problems and adaptive strategies of female rural-urban migrants: a selective review", paper prepared for Women in the Cities Working Group, (East-West Population Institute, Hawaii).
- Youseff, Nadia (1977). "Women and agricultural production in Muslim societies", *Studies in Comparative International Development*, vol. 12.
- _____ (1979). "Women in development: urban and labour" in Irene Tinker and Michele Bo Bramsen (eds.), *Women and World Development*, (Overseas Development Council, Washington, D.C.).

70 Years of Fertility Change in Korea: New Estimates from 1916 to 1985

*The Republic of Korea is among the few countries of
Asia which have nearly completed
the transition from high to low fertility*

By J.R. Rele*

Among the countries of Asia, the Republic of Korea presents an outstanding example of rapid and sustained fertility decline. Within the short span of a quarter century, fertility in the Republic of Korea has changed from a level typical of traditional familistic societies to a level resembling that of the more developed countries. Thus, Korean fertility levels and trends and their estimation continue to be of interest because of their implications to other developing countries currently seeking to achieve fertility reductions.

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This article attempts to study historical as well as recent trends in fertility in the Republic of Korea, by giving new estimates through a uniform methodology. The country fortunately benefits from a long history of census-taking; the first modern census of Korea was conducted in 1925. Since then censuses have been conducted at approximately five-year intervals, providing a long, continuous and uninterrupted series, with the latest census having been taken in 1985.

These censuses provide a valuable source of consistent data for fertility estimation, as alternative reliable sources of data are practically non-existent, except for the recent period. In the first half of this century, registration of vital statistics in Korea had been incomplete and deficient. However, in recent years the Republic of Korea has developed demographic statistics through surveys.



Since 1965, the Republic of Korea has conducted annual or biennial national surveys on family planning.

The first national survey on family planning was conducted in 1965; it was followed by similar surveys every year or two thereafter. While these and other demographic surveys provide valuable bases for fertility estimation at the national level, the sample size is not large enough to give reliable estimates at the provincial level. Although the quality of surveys has been improving, there has been a continuing need to test the fertility estimates derived from the surveys with estimates based on alternative sources. Therefore, census-based estimates of fertility at national and sub-national levels, remain important.

The dearth of Korean fertility estimates is most apparent for the earlier period, especially before 1955. The estimates available for that period are those given by Kwon (1977), whose estimates are for quinquennial years from 1925-1930 to 1960-1965, which were derived from census data.

Kwon's estimates from the censuses of 1925 through 1949 are calculated from the population at age 0 using the reverse survival ratio method. The use of this method required the adjustment of the population at age 0 in 1944 and the estimation of population aged 0 from quinquennial age data in 1949.

However, the 1955 and later censuses of the Republic of Korea showed significant under-reporting of the population at age 0. Hence, for the censuses of 1955, 1960 and 1966, the fertility estimates were obtained indirectly from the estimates of the intercensal rates of natural increase and the crude death rates. The resultant series of estimated crude birth rates (CBR) and total fertility rates (TFR) is a unique contribution to historical Korean fertility trends. However, their reliability is unknown and there is a need for alternative estimates for comparison.

The greatest contribution to fertility estimation in the Republic of Korea since 1955 is through the census-based own-children method (Coale, Cho and Goldman, 1980; Cho, Arnold and Kwon, 1982; Retherford, Cho and Kim, 1983; Cho, Retherford and Choe, 1986; United Nations, 1985). The methodology is based on special tabulations of census household data on "own-children" under age 15 living with their mothers, classified by both the age of the children and the mothers.

The unique advantage of this methodology is that it gives fertility estimates by women's age and by single calendar years. Such estimates of fertility, especially CBR and TFR, are available for the Republic of Korea from the years 1955 to 1980; however, as they vary from Kwon's estimates for a part of the overlapping period, it is worthwhile to compare these estimates with estimates derived from other methods.

Objectives

The primary objective of this paper is to provide independent estimates of fertility, or the total fertility rate (TFR), for the current territory of the Republic of Korea by quinquennial years from 1916- 1920 to 1981-1985. This includes an analysis of the recently available data of the 1985 census to ascertain the most recent trends. The estimates are obtained by a uniform methodology – not previously attempted – with a focus on both the levels and trends of fertility. To study fertility differentials, the TFRs are given separately for cities, towns and villages, and for the 11 provinces which constitute the first major sub-division of the country, for the five-year periods from 1961-1965 to 1981-1985. The patterns of variation in fertility levels and trends among the provinces are analyzed and discussed to provide an interpretation of the recent trends and to examine their implications.

Data and quality

The data used for the estimation of fertility are the age-sex distributions from the quinquennial censuses, beginning with the first modern census of Korea in 1925 to the latest census of the Republic of Korea in 1985. For the pre-partition era, the age-sex distributions have been separated for northern and southern Korea, and these are used to give separate fertility estimates for the two resulting countries: the Democratic People's Republic of Korea and the Republic of Korea, respectively. The census data on age during the period when Korea was under Japanese administration were unusually accurate for sociological reasons. Local custom requires an accurate record of the age of each member of the family. The country followed the Chinese dating system, using the lunar calendar to determine age, and traditionally placed great significance on the date and time of birth (Cho, Arnold and Kwon, 1982, pp. 25-29). Therefore, lunar dates in the census were converted into solar ages using a simple method of conversion. The most likely errors that could result from this conversion would be far greater for single-year age distributions than for quinquennial ones (Kwon, 1977, pp. 7-9). All this suggests that the quinquennial age distributions from the censuses are reasonably satisfactory. They may have been relatively less satisfactory in some censuses than in others, but the influence of variation in quality on estimated fertility is minimized by the methodology suggested and used in this article.

Methodology and refinement

The methodology is based on the linear relationship which is shown mathematically to exist between the child-woman ratio (CWR) and the gross reproduction rate (GRR), at any given level of mortality (Rele, 1976). Accordingly, linear regression equations have been fitted to a set of stable popu-

Table 1: Coefficients for the estimation of total fertility rate (TFR) from child-woman ratio (CWR)

Type of child-woman ratio	Coefficient*	e_0^o					
		20	30	40	50	60	70
C(0-4)	a	0.1121	0.0582	0.0264	-0.0121	-0.0373	-0.0633
W(15-49)	b	9.7744	8.8751	8.3265	7.9107	7.5087	7.1399
C(5-9)	a	0.0502	0.0217	0.0043	-0.0226	-0.0463	-0.0707
W(20-54)	b	11.2158	9.5116	8.6637	8.0934	7.5879	7.1383

Source: Derived from the coefficients for the estimation of gross reproductive rate (GRR) from CWR given in Rele (1976, p. 22).

* *Notes:* The estimate of the total fertility rate is obtained by $Y = a + b X$ for given e_0^o , where Y is the total fertility rate and X is the child-woman ratio (per woman). C = child; W = woman.

lations with a wide range of fertility and mortality levels. Also, the coefficients to estimate GRR from CWR at fixed levels of expectation of life at birth (e_0^o) are given (Rele, 1976, p. 22). The corresponding coefficients to estimate TFR from CWR, obtained by multiplying by 2.05, are shown in table 1. Using these coefficients, TFRs are estimated from CWR for suitable values of e_0^o given in the table; then they are interpolated for the value of e_0^o in the given population. Two types of CWR are used, namely, children aged 0-4 years divided by women aged 15-49 (CWR1), and children aged 5-9 divided by women aged 20-54 (CWR2). The e_0^o that is used corresponds to the period when the children in the CWR were born, and the fertility estimates obtained also refer to the same periods. Thus, from each census, it is possible to obtain two estimates of fertility corresponding to the two consecutive periods, one up to five years, and the other from five to ten years, before the census.

The methodology is applicable in general, and can be used for national as well as sub-national populations. However, it has certain strengths and weaknesses. Among the former, the estimated fertility is rather insensitive to the errors in e_0^o , so that an approximate value of e_0^o gives a fairly accurate estimate of fertility. It is estimated that normally a variation of one year in e_0^o has an effect of less than 0.8 per cent on the estimated value of TFR. Among the weaknesses of the methodology, the derived fertility estimates depend directly on the accuracy of the CWRs. Thus, the methodology, when applied to developed countries, gives excellent results. In developing countries, how-

ever, the results may be affected by errors in age reporting, especially under-reporting of the number of young children in the age group 0-4 years. In such a situation, it is sometimes preferable to use a smoothed age distribution. Alternatively, it is possible to use a refined methodology which has been suggested recently (Rele, 1987).

This article provides a refinement of the methodology which is useful for countries with a quinquennial series of censuses. The methodology is therefore applicable to the Republic of Korea which has had a long series of censuses taken at approximately five-year intervals. With such censuses, it is possible to obtain two estimates of fertility for each five-year period, i.e. one based on CWR1 of one census and the other based on CWR2 of the following census.

Through systematic examination of these two sets of estimates and other available evidence, an assessment is made of the relative qualities of these two types of estimate and the corresponding CWRs. The assessment may reveal that one type of estimate is usually superior to the other, or that both tend to be in error and the real estimate may lie somewhere in between. From the experience of developing countries, the estimate from CWR1 is usually an under-estimate, while that from CWR2 may be an over-estimate. Therefore, a better estimate would be a weighted mean of the two estimates.

The weighted mean approach seems to have one advantage, i.e. the adjustment is based not on the assessment of individual estimates, but on their relative merits. In the usual situation, the under-enumeration in the age group 0-4 years is higher than the over-enumeration in the age group 5-9. Hence, to arrive at the correct estimate for a given period by combining the two estimates derived from CWR1 and CWR2, the latter normally will have to be given a higher weight than the former. Furthermore, if the five-year age data are reasonably satisfactory, and the two estimates are not too far apart, the variation in the weights has only a modest influence on the combined estimate. For example, for the country under review, of the 12 estimates obtained for the five-year periods from 1921-1925 to 1976-1980, the change of weights from 0.5:0.5 to 0.4:0.6 changes the TFR estimates by a maximum of 0.05. Similarly, the change of weights from 0.4:0.6 to 0.3:0.7 changes the TFR estimates by a maximum of 0.06. Both of the maximum changes occur in the period 1951-1955; for other periods, the changes are less, being under 0.02 since 1966-1970.

The Korean censuses of 1925 through 1949 show no significant or consistent pattern of under- or over-enumeration of the populations aged 0-4 and 5-9 years. Hence, during that time, the weights used for computing the final estimates from the two preliminary estimates for each five-year period are 0.5:0.5.



Under-enumeration of the population aged 0-4 years has been a problem since the 1955 and later censuses.

However, for the 1955 and later censuses, the population aged 0-4 years seems to have been consistently under-enumerated; the population aged 5-9, somewhat over-enumerated. After a general assessment of their relative errors, from 1951-1955 onward the weights used are 0.4:0.6.

The methodology for the derivation of the final estimate for the first and the last five-year periods (i.e. 1916-1920 and 1981-1985 in this example) is different because there is only one preliminary estimate for these periods. Since the estimate for the interval 1916- 1920 is based on CWR2, its final estimate is obtained by multiplying it by the ratio of the final estimate to the CWR2-based estimate in the adjoining interval 1921-1925. Similarly, the estimate for 1981- 1985 is based on CWR1. Hence, the final estimate for 1981-1985 is derived by its multiplication by the ratio of the final estimate to the CWR1-based estimate in the adjoining interval 1976-1980.

Fertility estimates: 1916-1985

The fertility estimates given in this article relate to the 70 years from 1916 to 1985. Since Korea was partitioned in 1945 into the Democratic People's Republic of Korea to the north and the Republic of Korea to the south, the presentation of data in this paper is divided accordingly. The first brief discussion relates to the period from 1916 to 1944; the TFR estimates are given separately for Korea prior to partition, northern Korea and southern Korea. The major focus of the article, however, is southern Korea in the past and the Republic of Korea in the present, for which TFR estimates are given for the entire period from 1916 to 1985. (The details of computation of the estimates of TFR for that area from 1916-1920 to 1981-1985 – in accordance with the methodology previously outlined - are presented in [table 2](#)).

Table 2: Details of estimation of total fertility rate (TFR) for the Republic of Korea from 1916-1920 to 1981-1985

Census year	Period	\dot{e}_0	CWR1 x 1000	CWR2 x 1000	Estimated TFR	
					Preliminary	Final
1925	1916-1920	30.0		613	5.85	5.92
1925	1921-1925	35.0	697		6.04	5.97
1930	1921-1925	35.0		648	5.90	
1930	1926-1930	37.5	693		5.90	5.87
1935	1926-1930	37.5		656	5.83	
1935	1931-1935	40.2	720		6.01	6.02
1940	1931-1935	40.2		696	6.03	
1940	1936-1940	41.0	729		6.06	6.18
1944	1935-1939	41.0		733	6.31	
1944	1940-1944	43.4	722		6.33	6.08
1949	1940-1944	43.4		689	5.83	
1949	1945-1949	44.0	690		5.64	5.59
1955	1946-1950	44.0		657	5.54	

1955	1951-1955	40.0	655	5.47	5.79
1960	1951-1955	40.0	693	6.01	
1960	1956-1960	54.6	759	5.84	6.09
1966	1957-1961	54.9	802	6.26	
1966	1962-1966	56.7	681	5.17	5.40
1970	1961-1965	56.1	719	5.56	
1970	1966-1970	59.0	591	4.43	4.58
1975	1966-1970	59.0	618	4.68	
1975	1971-1975	61.3	491	3.62	3.76
1980	1971-1975	61.3	518	3.85	
1980	1976-1980	64.8	385	2.77	2.84
1985	1976-1980	64.8	398	2.88	
1985	1981-1985	67.7	332	2.34	2.40

Sources: Estimates of \hat{e}_0 for the period 1926-1930 to 1940-1944 are taken from Kwon *et al.* (1975, p. 23); for 1956-1960 to 1976-1980 from Kim (1986, pp. 204-207); and for 1981-85 from United Nations (1986, p. 280).

The CWRs are computed from age-sex distributions: for the 1925 to 1944 censuses from Kwon (1977, pp. 281-288); for the 1949 to 1960 censuses from Kwon *et al.* (1975, pp. 134-141); and for the 1966 to 1985 censuses from the Korean Economic Planning Board (1969, 1972, 1977, 1982 and 1987).

The basic methodology used for preliminary estimates of TFR is from Rele (1976); the coefficients for estimation are given in table 1. The methodology for the final estimates is discussed in the text.

Table 3 : Estimates of total fertility rate (TFR) for the whole of Korea prior to partition, northern Korea and southern Korea, 1916-1920 to 1940-1944

Period	Whole of Korea	Northern Korea	Southern Korea
1916-1920	5.99	6.14	5.92
1921-1925	6.02	6.14	5.97
1926-1930	5.87	5.86	5.87
1931-1935	6.05	6.10	6.02
1936-1940	6.19	6.20	6.18
1940-1944	6.05	6.00	6.08

Source : The age-sex distributions used for the computation of TFR are from Kwon, *et al.* (1975, pp. 124-133), and Kwon (1977, pp. 281-285).

Korea: 1916-1944

The estimates of TFR for Korea prior to partition, from 1916-1920 to 1940-1944, are given in [table 3](#). TFR seems to have remained high and fairly constant at around 6.0 during this entire period for all of Korea. The major exception is the period 1936-1940 when the TFR rose to about 6.2. The difference in fertility between the northern and southern part of the country appears minor, except for the period 1916-1925 when TFR was about 0.2 higher in the northern part of the country than in the southern part. At the time of partition, the levels of TFR in both parts were about equal at around 6.0.

Southern Korea: 1916-1985

The TFR estimates from 1916-1920 to 1981-1985 for the area that is currently the Republic of Korea are summarized in [table 4](#); computational details are provided in [table 2](#). Other available estimates for specific periods are also provided in [table 4](#) for the sake of comparison. Estimates of TFR show that fertility in southern Korea remained high and fairly constant until partition in 1945, but began to show major changes immediately thereafter.

Soon after partition, during the period 1945-1949, TFR plunged by about 0.5 to 5.6. This drastic decline in TFR is not shown in the estimates of Kwon (1977), but is supported by Luther and Cho (1988). The immediate impact of partition and the unsettled conditions associated with that era, however, make such a decline seem likely. Moreover, the two estimates of TFR based on CWR1 and CWR2 for the period 1945-1949 are almost identical. While it may be worth exploring this issue further, Cho, Arnold and Kwon

Table 4: Estimates of total fertility rate (TFR) for southern Korea from 1916-1920 to 1981-1985, percentage change in TFR, and comparison with other estimates.

Period	Estimated TFR	Percentage change	Other estimates		
			Kwon ^{a/}	Cho, Arnold, and Kwon ^{b/}	Luther and Cho ^{c/}
1916-1920	5.92	-	-	-	-
1921-1925	5.97	0.8	-	-	-
1926-1930	5.87	-1.7	6.20	-	-
1931-1935	6.02	2.6	6.13	-	-
1936-1940	6.18	2.7	6.21	-	-
1940-1944	6.08	-1.6	6.07	-	-
1945-1949	5.59	-8.1	5.96	-	5.63
1951-1955	5.79	3.6	5.60	-	5.08
1956-1960	6.09	5.2	6.30	5.72	5.53
1961-1965	5.40	-11.3	5.99	5.17	5.55
1966-1970	4.58	-15.2	4.60	4.40	4.64
1971-1975	3.76	-17.9	-	3.81	4.17
1976-1980	2.84	-24.5	-	2.90	-
1981-1985	2.40	-15.5	-	-	-

Notes: a/ From Kwon (1977, p. 347), and Kwon *et al.* (1975, p. 12).

b/ From Cho, Arnold and Kwon (1982, p. 35).

c/ From Luther and Cho (1988). The reference periods for these estimates are 1945-1949, 1950-1954, to 1970-1974, which differ from those of other estimates by one year.

(1982, p. 34) call the decade from 1945-1955 “the demographic dark age” of the Republic of Korea.

TFR remained relatively low, at about 5.8, during the period 1951-1955 owing to the hostilities of 1950-1953. TFR rose to 6.1 during the period 1956-1960 which was the period of the “baby boom” which followed the end of hostilities and the return of soldiers to normal family life. There are some significant discrepancies between the estimates of Kwon (1977) and Cho, Arnold and Kwon (1982) for the years 1956-1960 and 1961-1965; the estimates obtained in this article fall in between them. With the few exceptions

that have been cited, in general, the estimates compare well with the other estimates for the periods for which the latter are available.

The period beginning with the early 1960s is a period of rapid, sustained and accelerating fertility decline in the history of the Republic of Korea. This coincides with the beginning in the early 1960s of rapid economic and social development and urbanization, and the initiation by the Government in 1962 of the national family planning programme. From the level of 6.09 TFR during the period 1956-1960, TFR declined to 5.40, 4.58 and 3.76 in the subsequent five-year periods, reaching the level of 2.84 for the period 1976-1980. The corresponding percentages of the decline were 11.3, 15.2 and 17.9, reaching 24.5 during the period 1971-1975 to 1976-1980, thus showing distinct progressive increments in the decline.

The TFR in the Republic of Korea during the recent period of 1981-1985 was 2.40. (Alternative census estimates are not yet available for this period; thus, comparison is not possible at this stage.) The percentage of decline was clearly lower at 15.5 during the period 1976-1980 to 1981-1985, possibly because TFR was already so low. The estimated gross reproduction rate (GRR) for the period 1981-1985 is 1.17, and the corresponding net reproduction rate (NRR) is 1.11, which is close to the replacement level.

Fertility differentials

The methodology described in this article is also useful for the study of fertility differentials. Here it is utilized to estimate fertility levels and differentials by urban-rural residence and by province. One of the inputs in the analysis is the value of e^0_{00} , which is known fairly accurately over time at the national level, but not for population sub-divisions. However, Kwon and others

Table 5: Estimates of total fertility rate (TFR), and percentage decline in TFR, for cities, towns and villages, from 1961-1965 to 1981-1985

Period	TFR				Percentage decline			
	Cities	Towns	Villages	Towns and villages	Cities	Towns	Villages	Towns and villages
1961-1965	4.17	5.58	6.57	6.43	-	-	-	-
1966-1970	3.71	4.90	5.63	5.48	11.0	12.2	14.3	14.8
1971-1975	3.34	4.09	4.51	4.39	10.0	16.5	19.9	19.9
1976-1980	2.65	3.16	3.24	3.22	20.7	22.7	28.2	26.7
1981-1985	2.27	-	-	2.74	14.3	-	-	14.9

(1975, p. 28) conclude that there is no significant difference in mortality between urban and rural areas or between provinces. Therefore, for the sake of this analysis, it is assumed that e°_o , for the whole country is applicable to these population sub-divisions at any given time. Mortality differences, to the extent that they may actually exist, could introduce some errors in the estimates of TFR and their differentials; however, they may be expected to be minimal because the estimates given by the methodology are not very sensitive to variations in e°_o . Moreover, e°_o has reached fairly high levels since the 1960s, but the differentials in e°_o have narrowed in recent years.

Urban-rural differentials

The urban-rural differentials in fertility are analyzed from 1961-1965 to 1981-1985 by estimating TFR separately for cities (*si*), towns (*eub*) and villages (*myeon*). The results are shown in table 5 and figure 1, with the computational details in table 6. The fertility differentials are clearly visible for

Figure 1: Trends in estimated total fertility rate (TFR) for the Republic of Korea, and separately for cities, towns and villages, from 1961-1965 to 1981-1985

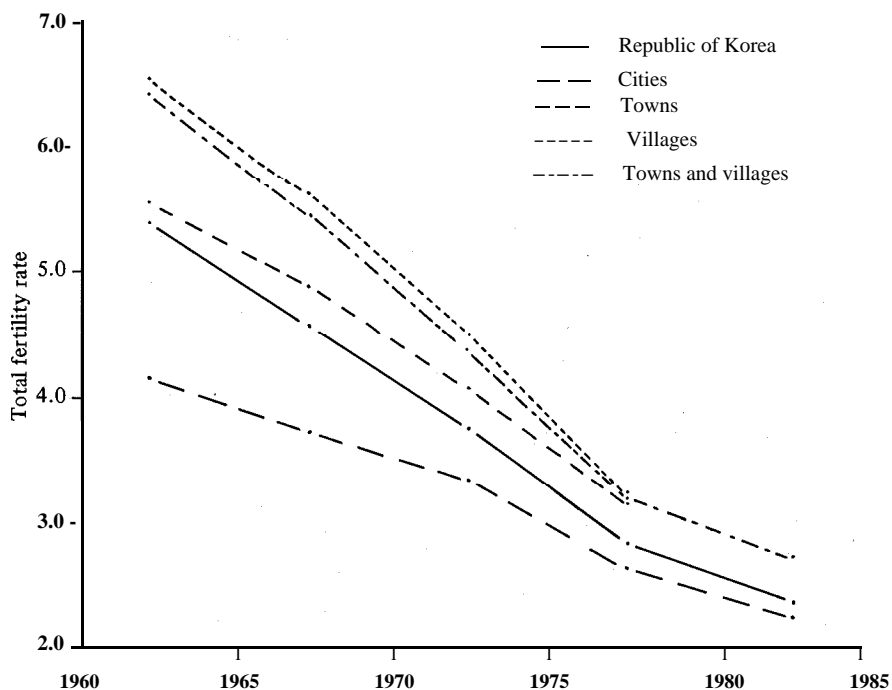


Table 6: Details of estimation of total fertility rate (TFR) for cities, towns and villages, from 1961-1965 to 1981-1985

Census year	Period	CWR1 x 1000	CWR2 x 1000	Estimated TFR	
				Preliminary	Final
Cities					
1970	1961-1965		554	4.28	4.17
1970	1966-1970	476		3.56	3.71
1975	1966-1970		505	3.81	
1975	1971-1975	439		3.23	3.34
1980	1971-1975		459	3.41	
1980	1976-1980	366		2.63	2.65
1985	1976-1980		369	2.66	
1985	1981-1985	320		2.25	2.27
Towns					
1970	1961-1965		744	5.75	5.58
1970	1966-1970	623		4.67	4.90
1975	1966-1970		667	5.05	
1975	1971-1975	529		3.91	4.09
1980	1971-1975		566	4.21	
1980	1976-1980	419		3.02	3.16
Villages					
1970	1961-1965		878	6.80	6.57
1970	1966-1970	711		5.33	5.63
1975	1966-1970		769	5.83	
1975	1971-1975	564		4.17	4.51
1980	1971-1975		636	4.74	
1980	1976-1980	416		3.00	3.24

Table 6 : (continued)

Census year	Period	CWR1 x 1000	CWR2 x 1000	Estimated TFR	
				Preliminary	Final
Towns and villages					
1970	1961-1965		856	6.63	6.43
1970	1966-1970	696		5.22	5.48
1975	1966-1970		746	5.65	
1975	1971-1975	556		4.11	4.39
1980	1971-1975		615	4.58	
1980	1976-1980	417		3.01	3.22
1985	1976-1980		464	3.36	
1985	1981-1985	362		2.56	2.74

Source : [Same as table 2.](#)

the period 1961-1965 when TFR was 4.17 in cities, 5.58 in towns and 6.57 in villages.

In the succeeding periods, TFR declined in all areas, but the decline was quite rapid in villages, followed by towns, but was slower in cities. The pace of decline accelerated sharply in all areas, especially in towns and villages, during the period 1961-1965 to 1976-1980. As a result, the differentials in TFR narrowed considerably during the period 1976-1980, varying within a range of 0.6, i.e. 2.65 in cities, 3.16 in towns and 3.24 in villages.

The percentage decline in TFR slowed during the period 1976-1980 to 1981-1985, being about the same in cities as in towns and villages (combined data from the 1985 census are not available separately for towns and villages). During the period 1981-1985, the TFR was 2.27 in cities and 2.74 in towns and villages; the differential was noticeably small.

Differentials among provinces

The fertility differentials among provinces are analyzed by estimating their TFR from 1961-1965 to 1981-1985. There were 11 provinces, including the cities of Seoul and Busan, in the Republic of Korea in 1980. Their num-

Table 7 : Estimates of total fertility rate (TFR), and percentage decline in TFR, for provinces, from 1961-1965 to 1981-1985

Period	Provinces									
	Seoul	Busan	Gyeonggi	Gangweon	Chungbugnam	Jeonbug	Jeonnam	Gyeongbug	Gyeongnam	Jeju
	TFR									
1961-1965	3.77	4.17	5.47	6.19	6.73	6.30	6.32	6.33	5.78	5.76
1966-1970	3.40	3.72	4.25	5.50	5.34	5.11	5.61	5.78	4.85	5.61
1971-1975	3.10	3.34	3.51	4.42	4.12	4.23	4.64	4.71	3.93	4.79
1976-1980	2.38	2.68	2.82	3.27	3.06	3.13	3.27	3.44	3.10	3.20
1981-1985	1.98	2.18	2.65	2.70	2.65	2.58	2.56	2.80	2.76	2.58
	Percentage decline in TFR									
1961-1965 to 1966-1970	9.8	10.8	22.3	11.1	20.7	18.9	11.2	8.7	16.6	2.6
1966-1970 to 1971-1975	8.8	10.2	17.4	19.6	22.8	17.2	17.3	18.5	20.6	14.6
1971-1975 to 1976-1980	23.2	19.8	19.7	26.0	25.7	26.0	29.5	27.0	25.4	33.2
1976-1980 to 1981-1985	16.8	18.7	6.0	17.4	13.4	17.6	21.7	18.6	15.9	19.4

increased to 13 in 1985 with the separation of the city of Taegu from the province of Gyeongbug, and the city of Incheon from the province of Gyeonggi. In this article, those cities have been retained in their provinces, and the 11 provinces analyzed through 1985 for the sake of uniformity in comparing trends. The effect of this on the provinces of Gyeonggi and Gyeongbug will be considered separately. The results of the analysis on fertility differentials among provinces are shown in [table 7](#) and [figure 2](#), with computational details in [table 8](#).

During the period 1961-1965, TFR varied a great deal among the 11 provinces. As expected, TFR was the lowest in the cities of Seoul, at 3.77, and Busan, at 4.17. A long and continuous belt of high fertility (TFR above 6.0) stretched diagonally across the country from Gangweon in the north-east to Jeonnam in the south-west, including the intermediate provinces of Chungbug, Chungnam and Jeonbug, as shown in [figure 3](#). TFR was relatively lower (between 5.5 and 5.8) in the north-western province of Gyeonggi which surrounds the city of Seoul, the eastern provinces of Gyeongbug and Gyeong-

Figure 2: Trends and differentials in estimated total fertility rate (TFR) by province from 1961-1965 to 1981-1985

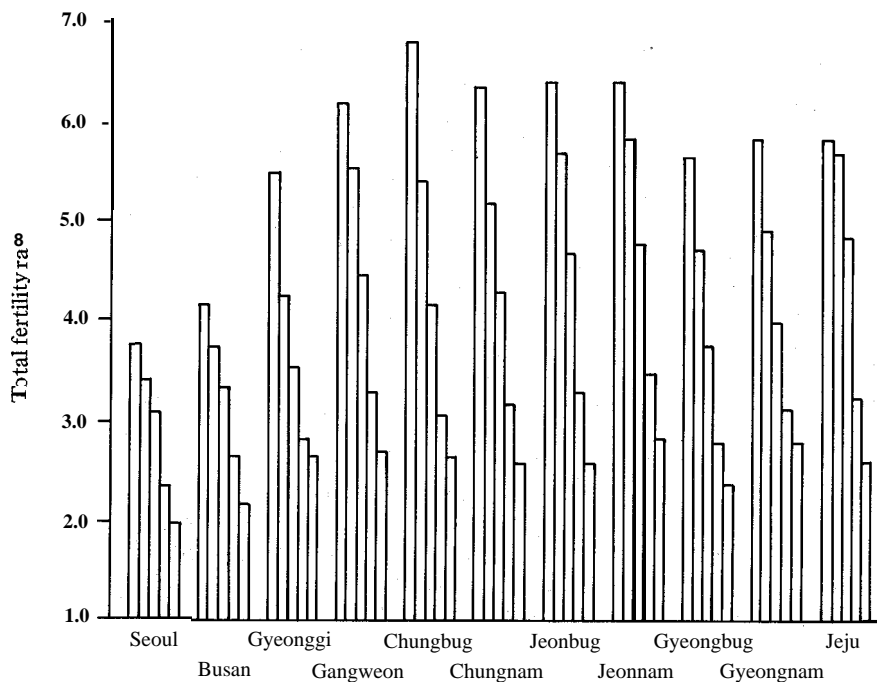
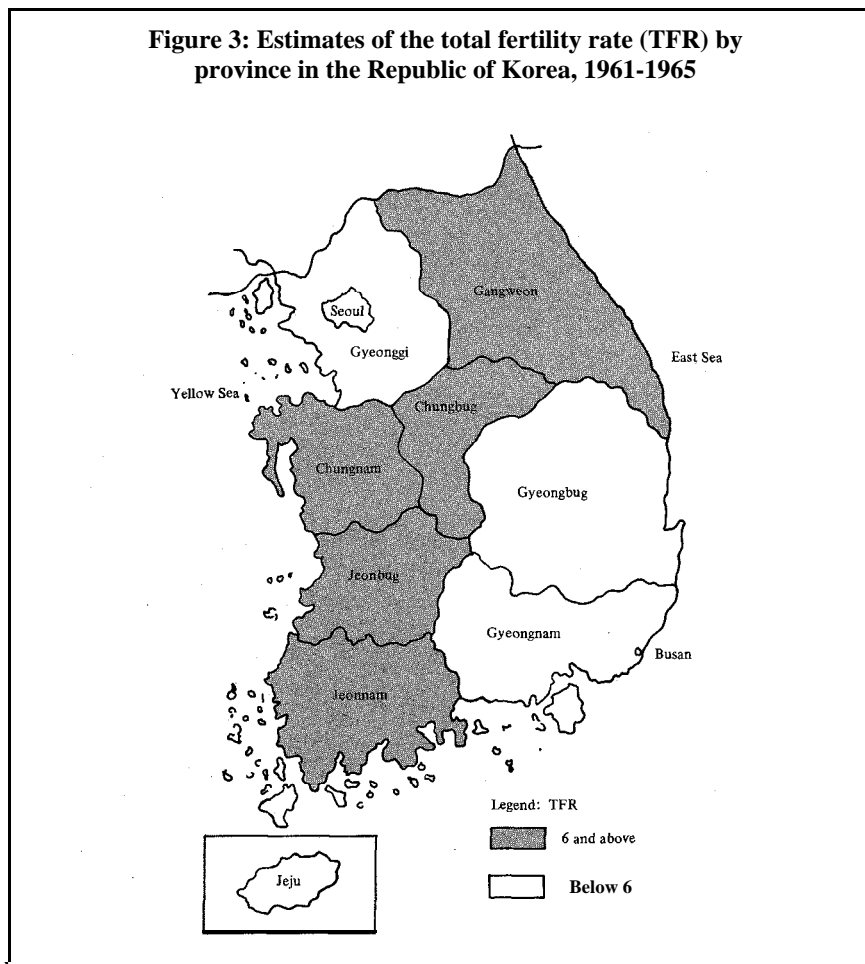


Figure 3: Estimates of the total fertility rate (TFR) by province in the Republic of Korea, 1961-1965



nam, and the island province of Jeju. Thus, the fertility differentials presented a distinctive topographical pattern.

During the period 1961-1965 to 1981-1985, TFR declined throughout the country, achieving a high degree of convergence at the end of the period. During the period 1981-1985, except for the two cities of Seoul and Busan which had TFR of 1.98 and 2.18 respectively, TFR in the nine other provinces converged within a narrow range from 2.32 to 2.80. The range may be further reduced to between 2.55 and 2.80 if the city of Taegu is separated from Gyeongbug province. Taegu had an estimated TFR of 2.05 during the period

1981-1985. Thus, when it is separated from Gyeongbuk, the latter's TFR moves up from 2.32 to 2.55 for the period 1981-1985. The estimated TFR for the city of Incheon during the period 1981-1985 was 2.63, compared with 2.65 for the province of Gyeonggi. Thus, on separating Incheon from Gyeonggi, the latter's TFR barely changes, rising from 2.65 to 2.67.

There has been a continuous fertility decline in all the provinces from the period 1961-1965 to 1981-1985, although the actual pattern may vary from province to province. The general pattern followed by the majority of the provinces in accelerated rates of percentage decline by quinquennial periods from the period 1961-1965 to 1976-1980, with a lowering of the percentage declines during the period 1976-1980 to 1981-1985.

Strikingly, in all but one province, the greatest reduction in TFR was achieved during the period 1971-1975 to 1976-1980. Gyeonggi is the only exception where the most rapid decline occurred during the period 1961-1965 to 1966-1970. The decline in TFR for the island province of Jeju was slow initially, but later rose dramatically to high levels during the period 1971-1975 to 1976-1980. This phenomenon may be attributed directly to the Korean Population Policy and Program Evaluation Study, a project designed to increase contraceptive acceptance and bring about lower fertility; the project began in Jeju province in 1976 (Palmore *et al.*, 1987).

Table 8: Details of estimation of total fertility rate (TFR) for provinces, from 1961-1965 to 1981-1985

Census year	Period	CWR1 x 1000	CWR2 x 1000	Estimated TFR	
				Preliminary	Final
Seoul					
1970	1961-1965		500	3.86	3.77
1970	1966-1970	440		3.29	
1975	1966-1970		462	3.48	3.40
1975	1971-1975	406		2.99	
1980	1971-1975		428	3.17	3.10
1980	1976-1980	329		2.36	
1985	1976-1980		334	2.40	2.38
1985	1981-1985	279		1.96	

Table 8 : (continued)

Census year	Period	CWR1 x 1000	CWR2 x 1000	Estimated TFR	
				Preliminary	Final
Busan					
1970	1961-1965		546	4.21	4.17
1970	1966-1970	489		3.66	3.72
1975	1966-1970		498	3.76	
1975	1971-1975	441		3.25	3.34
1980	1971-1975		458	3.40	
1980	1976-1980	370		2.66	2.68
1985	1976-1980		373	2.69	
1985	1981-1985	307		2.16	2.18
Gyeonggi					
1970	1961-1965		711	5.50	5.47
1970	1966-1970	562		4.21	4.25
1975	1966-1970		565	4.27	
1975	1971-1975	478		3.53	3.51
1980	1971-1975		472	3.50	
1980	1976-1980	403		2.90	2.82
1985	1976-1980		384	2.77	
1985	1981-1985	386		2.73	2.65
Gangweon					
1970	1961-1965		818	6.33	6.19
1970	1966-1970	710		5.32	5.50
1975	1966-1970		741	5.62	
1975	1971-1975	575		4.25	4.42
1980	1971-1975		609	4.54	
1980	1976-1980	438		3.16	3.27
1985	1976-1980		461	3.34	
1985	1981-1980	369		2.61	2.70

Table 8: (continued)

Census year	Period	CWR1 x 1000	CWR2 x 1000	Estimated TFR	
				Preliminary	Final
Chungbug					
1970	1961-1965		884	6.84	6.73
1970	1966-1970	695		5.21	} 5.34
1975	1966-1970		716	5.43	
1975	1971-1975	527		3.89	} 4.12
1980	1971-1975		575	4.28	
1980	1976-1980	398		2.87	} 3.06
1985	1976-1980		440	3.19	
1985	1981-1985	352		2.49	2.65
Chungnam					
1970	1961-1965		838	6.49	6.30
1970	1966-1970	651		4.88	} 5.11
1975	1966-1970		694	5.26	
1975	1971-1975	536		3.96	} 4.23
1980	1971-1975		592	4.41	
1980	1976-1980	408		2.94	} 3.13
1985	1976-1980		449	3.25	
1985	1981-1985	343		2.42	2.58
Jeonbug					
1970	1961-1965		844	6.53	6.32
1970	1966-1970	709		5.32	} 5.61
1975	1966-1970		765	5.80	
1975	1971-1975	587		4.34	} 4.64
1980	1971-1975		650	4.84	
1980	1976-1980	426		3.07	} 3.27
1985	1976-1980		470	3.41	
1985	1981-1985	340		2.40	2.56

Table 8: (continued)

Census year	Period	CWR1 x 1000	CWR2 x 1000	Estimated TFR	
				Preliminary	Final
Jeonnam					
1970	1961-1965		860	6.66	6.33
1970	1966-1970	712		5.34	} 5.78
1975	1966-1970		802	6.08	
1975	1971-1975	586		4.33	} 4.71
1980	1971-1975		667	4.97	
1980	1976-1980	442		3.19	} 3.44
1985	1976-1980		497	3.61	
1985	1981-1985	368		2.60	2.80
Gyeongbug					
1970	1961-1965		744	5.75	5.59
1970	1966-1970	595		4.46	} 4.66
1975	1966-1970		633	4.79	
1975	1971-1975	478		3.53	} 3.70
1980	1971-1975		514	3.82	
1980	1976-1980	369		2.66	} 2.76
1985	1976-1980		390	2.82	
1985	1981-1985	318		2.24	2.32
Gyeongnam					
1970	1961-1965		769	5.95	5.78
1970	1966-1970	619		4.64	} 4.85
1975	1966-1970		659	4.99	
1975	1971-1975	507		3.74	} 3.93
1980	1971-1975		544	4.05	
1980	1976-1980	417		3.01	} 3.10
1985	1976-1980		437	3.16	
1985	1981-1985	379		2.68	2.76

Table 8: (continued)

Census year	Period	CWR1 x 1000	CWR2 x 1000	Estimated TFR	
				Preliminary	Final
Jeju					
1970	1961-1965		754	5.83	5.76
1970	1966-1970	735		5.51	} 5.61
1975	1966-1970		750	5.68	
1975	1971-1975	637		4.71	} 4.79
1980	1971-1975		650	4.84	
1980	1976-1980	434		3.13	} 3.20
1985	1976-1980		449	3.25	
1985	1981-1985	357		2.52	2.58

Source : Same as table 2.

Analysis of provincial variation

The fertility trends in the Republic of Korea can be studied further by examining the nature of variation in fertility levels and trends among the provinces. More specifically, an attempt is made to study the variation in the level of and percentage decline in TFR among the 11 provinces and to determine how the variation has changed over time. Also examined in this article is the height-slope relationship between TFR and the percentage decline in TFR, which may assist in the interpretation of fertility trends. The results of this analysis are shown in table 9; the individual aspects are discussed separately.

Variation in TFR and its decline

Among the 11 provinces into which the Republic of Korea is administratively divided, the two provinces comprising the cities of Seoul and Busan are distinctly different from the remaining ones; moreover, they had lower fertility rates than the others even during the 1960s. During the period 1961-1965, the coefficient of variation (per cent) of TFR among the 11 provinces was 15.6, but it drops drastically to 6.5 when Seoul and Busan are excluded. Thus, the remaining nine provinces were fairly uniform in their higher fertility. The coefficient of variation (CV) among the 11 provinces shows a progressive decline since the period 1966-1970, but especially after that of 1971-1975, reducing CV to 9.7 during the period 1981-1985. Thus, the trend has

Table 9 : Mean and coefficient of variation (CV) of total fertility rate (TFR) and percentage decline of TFR, and height-slope relationship (r) between TFR and percentage decline in TFR among provinces

Period	TFR		Percentage decline in TFR		Height-slope relationship
	Mean (unweighted)	CV (per cent)	Mean (unweighted)	CV (per cent)	r*
1961-1965	5.67	15.6	-	-	-
1966-1970	4.89	15.7	13.53	41.6	0.25
1971-1975	4.04	13.6	16.91	23.9	0.68
1976-1980	3.01	9.9	25.15	15.5	0.81
1981-1985	2.52	9.7	16.05	26.2	0.27

* *Note:* The height-slope relationship is measured by the correlation coefficient (r) between the TFR in the previous period, and the percentage decline in TFR from the previous to the present period, among the provinces.

been rapid TFR decline among the provinces, converging at the lowest levels for Seoul and Busan.

Simultaneously, the mean percentage decline in TFR among the 11 provinces reached its peak during the period 1971-1975 to 1976-1980, but began dropping off during the period from 1976-1980 to 1981-1985. During the period when the percentage decline in TFR reached its peak, its coefficient of variation also reached its lowest level. This reveals a greater uniformity in the percentage decline in TFR among the provinces at the time when it achieved its peak decline. Such a concerted and uniform change, occurring over a relatively short period of time, contributed greatly to the convergence of TFR among the provinces at lower levels of fertility.

Height-slope relationship

One of the striking features of the decline in fertility among the provinces of the Republic of Korea is the height-slope relationship shown in [table 9](#). It is measured by the correlation coefficient (r) between the TFR at the beginning of any period and the percentage decline in TFR during the period, among the provinces. As seen in [table 9](#), the relationship gains in strength in successive periods, until it reaches its peak with a correlation coefficient of 0.81 during the period 1971-1975 to 1976-1980.

One of the implications of this occurrence is that the small family norm had already become a national phenomenon during the 1970s. It is likely that the trend was assisted by the ethnic and cultural homogeneity of the Korean population. The provinces with higher TFR responded more strongly and with faster declines in TFR than others to achieve low and more uniform levels

of fertility. This seems to have accelerated the process of convergence of TFR among the provinces.

The height-slope relationship among the 11 provinces seems to have lost its strength during the period 1976-1980 to 1981-1985, when the mean TFR had already reached a fairly low level. But it persisted among the nine provinces (excluding Seoul and Busan), where the value of r was 0.84 during the period 1971-1975 to 1976-1980 and 0.65 during the period 1976-1980 to 1981-1985 (not shown in the table). Among those nine provinces, the coefficient of variation (per cent) of TFR was as low as 5.0 during the period 1981-1985, with a mean (unweighted) TFR of 2.62. This indicates fairly low and uniform levels of TFR among these provinces.

Conclusions

The Republic of Korea is among the few countries of Asia which have nearly completed the transition from high to low fertility. During the quarter century from 1956-1960 to 1981-1985, TFR declined by 61 per cent, which was much faster than in the developed countries at a similar stage of fertility transition. Thus, this occurrence demonstrates the prospects for rapid fertility decline in the Asian context.

The theory of fertility change stipulates the appearance of fertility differentials at the beginning of the fertility decline, and the diminishment of those differentials as fertility approaches low levels. The fertility differentials in the Republic of Korea presented in this article confirm such changes. The differentials in fertility between cities, and towns and villages, and among the provinces, were prominent during the period 1961-1965, but they narrowed with the convergence of TFR at the low levels of 1981-1985. What seems to be a new observation in relation to fertility change is the height-slope relationship, shown in this article for the Republic of Korea. During the transitional stages in any period, the higher the initial level of TFR, the sharper was the percentage decline in TFR among the provinces. This seems to have accelerated the process of convergence of TFR among the provinces. It could imply that the strength of causation was more national than provincial, and that the small family norm and the programme effort had already become national phenomena. With regard to age-specific mortality and its decline in the developing countries, the height-slope relationship was observed previously to be associated with rapid declines of mortality. It would be interesting to observe if such a phenomenon could occur with regard to fertility decline among other Asian countries at least at some stage in their fertility transition.

References

Cho, Lee-Jay, Fred Arnold and Tai Hwan Kwon (1982). *The Determinants of Fertility in the Republic of Korea*, (Washington, D.C., National Academy Press).

- Cho, Lee-Jay, Robert D. Retherford and Minja Kim Choe (1986). *The Own-Children Method of Fertility Estimation*, (Honolulu, Hawaii, East-West Center).
- Coale, Ansley J., Lee-Jay Cho and Noreen Goldman (1980). *Estimation of Recent Trends in Fertility and Mortality in the Republic of Korea*, (Washington, D.C., National Academy of Sciences).
- Kim, Nam-II (1986). A Statistical Analysis of Death Registration in Korea. (Ph.D. dissertation submitted to the University of Hawaii, unpublished).
- Korea, Economic Planning Board (1969). *1966 Population Census Report of Korea*, 12-1 Whole Country, (Seoul, Economic Planning Board).
- _____ (1972). *1970 Population and Housing Census Report*, Vol. 1 Complete Enumeration, 12-1 Republic of Korea, (Seoul, Economic Planning Board).
- Korea, National Bureau of Statistics, Economic Planning Board (1977). *1975 Population and Housing Census Report*, Vol. 1 Complete Enumeration, 12-1 Whole Country, (Seoul, National Bureau of Statistics).
- _____ (1982). *1980 Population and Housing Census Report*, Vol. 1 Complete Enumeration, 12-1 Whole Country, (Seoul, National Bureau of Statistics).
- _____ (1987). *1985 Advance Report of Population and Housing Census Based on Two Percent Sample Tabulation*, (Seoul, National Bureau of Statistics).
- Kwon, Tai Hwan (1977). *Demography of Korea: Population Change and Its Components 1925-66*, (Seoul, Population and Development Studies Center, Seoul National University).
- Kwon, Tai Hwan, Hae Young Lee, Yunshik Chang and Eui-Young Yu (1975). *The Population of Korea*, (Seoul, Population and Development Studies Center, Seoul National University).
- Luther, Norman Y., and Lee-Jay Cho (1988). "Reconstruction of birth histories from census and household survey data," *Population Studies*, (forthcoming).
- Palmore, James A., Chai Bin Park, Mui Teng Yap and Lee-Jay Cho (1987). *Family Planning Accessibility Adoption: The Korean Population Policy and Program Evaluation Study*, Papers of the East-West Population Institute, No. 108, (Honolulu, East-West Center).
- Rele, J. R. (1976). *Fertility Analysis Through Extension of Stable Population Concepts*, (Westport, Connecticut, Greenwood Press). (Originally published in 1967 by International Population and Urban Research, University of California, Berkeley).
- _____ (1987). "Fertility levels and trends in India, 1951-81," *Population and Development Review*, vol. 13, No. 3, pp. 513-530.
- Retherford, Robert D., Lee-Jay Cho and Nam-II Kim (1983). "Estimates of current fertility derived from the 1980 census of the Republic of Korea," *Asian and Pacific Census Forum*, vol. 9, No. 3, pp. 12-15.
- United Nations (1985). *Levels and Trends of Fertility for Small Geographical Areas in the Republic of Korea: Using Census Data of 1970, 1975 and 1980*. Asian Population Studies Series No. 62-C, (Bangkok, Economic and Social Commission for Asia and the Pacific).
- _____ (1986). *World Population Prospects: Estimates and Projections as Assessed in 1984*, Population Studies No. 98, (New York, Department of International Economic and Social Affairs).

Community Characteristics, Leaders, Fertility and Contraception in Bangladesh

*Community and religious leaders should be
educated about the consequences of
rapid population growth*

By A.K. Ubaidur Rob*

Fertility behaviour is determined mainly by the characteristics of individuals, but also by social, cultural, community and institutional factors. The primary aim of this article is to investigate the influence of social and economic institutions on fertility and contraception.

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In general, there are three cases in which individual fertility behaviour is influenced by outside factors. Firstly, individual fertility behaviour is influenced by social norms, particularly norms about desired family size. The importance of these norms with regard to decision-making cannot be underestimated, as they affect values and attitudes during childhood and remain influential during adulthood. Moreover, social and cultural norms are not static; many societies have modified their socio-cultural norms as they modernized.

Secondly, behaviour concerning intermediate fertility variables and fertility itself is influenced by the special features present in the community, which in turn may affect the costs and benefits of children. For instance, economic opportunity within a community plays an important role in fertility decisions. Perceived positive gains in the near future from having children may encourage parents to maximize their fertility. Similarly, the accessibility or the availability of clinical facilities can positively influence the community members' willingness to adopt contraception.

Thirdly, community characteristics indirectly influence fertility through households; household socio-economic characteristics have always influenced individual fertility by altering the economic value of children. The availability of certain types of facility also plays a major role in determining household socio-economic characteristics such as the years of schooling and, occupational status of both husband and wife, and household income.

In an extensive review of Bangladesh's family planning programme activities, Arthur and McNicoll (1978) concluded that the motivating factors for high fertility lie in the uncertainty and insecurity of rural life in Bangladesh. They attributed the current high fertility situation to the people's dependence on rain-fed agriculture and to the socio-cultural environment. Without a drastic change in the functioning patterns of social institutions, they suggested that a reduction in fertility in Bangladesh would be impossible.

In addition, several authors have reported that, at the community level in Bangladesh, people's daily activities are guided by various social norms (Rhaman, 1986; Maloney *et al.*, 1981). Furthermore, those social norms are maintained through the formation of both formal and informal institutions, which are an integral part of community life and have been in operation for a long period of time. The operative mechanisms of these institutions are complex and differ substantially from one community to another, but generally have considerable authority over community activities. In rural areas, these institutions are headed by village elders and supported by local political elites. Although the political institutions are primarily concerned with political and administrative tasks, in several instances political and social institutions have worked together in maintaining social norms.

To examine the influence of these social and economic institutions on community members, detailed information on several aspects of community life was collected from the guardians of these institutions, i.e., community leaders.

Data collection

The definition of a community is not unique and varies from country to country, but the basic concept is to identify a unit which is closely connected socially and economically. In Bangladesh, the smallest geographic unit is the village. The geographic area and the population size vary significantly from one village to another. In most cases, it is difficult to identify the geographic boundaries of the villages; moreover, the same village may have several names. In general, however, a collection of villages is called a *mouza*; several *mouza* form a ward. Approximately 4,000-7,000 people live in a ward. Government records are kept either on a *mouza* or ward basis. Three wards constitute a union, and several unions form an *upazila*.

For the past 30 years, the Government of Bangladesh has considered the ward to be the smallest administrative unit for all kinds of government activity. For example, development programmes are assigned on a ward basis. Since 1960, each ward has been represented by three elected representatives known as union council members in the *upazila* administration. Union council members have considerable influence over their communities and the *upazila* administration. Of the several government workers posted at the ward level, one is the family planning worker.

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) recently conducted an operations research project in four rural *upazila*, namely Sirajgonj, Gopalpur, Abhoynagar and Fultala. In a survey conducted as part of that project, wards were treated as communities and the leaders were interviewed in groups to collect information on community characteristics, and their attitudes and knowledge about several aspects of social life, particularly those concerning fertility and contraception. In total, there are 15 wards in Sirajgonj *upazila*, four wards in Gopalpur; 13 wards in Abhoynagar and four wards in Fultala. Based on geographic location and fertility level, Sirajgonj and Gopalpur were considered a single region as were Abhoynagar and Fultala.

In each ward, union council members were selected along with the union council chairman, if the chairman's residence was in that particular ward. The other two to three members were selected from among the local school teachers and political leaders. The selection of community leaders was done by ICDDR,B officials.

In rural Bangladesh, *imam* (leaders of daily prayers and other religious activities) are among the religious figures who have an influence on community members. They were considered religious leaders in the study. The most respected religious leader in each ward, i.e. the *imam* of the largest mosque, was interviewed to collect the required information. Nineteen religious leaders were interviewed in Sirajgonj and Gopalpur; 17 religious leaders, in Abhoynagar and Fultala. The information which they provided is presented separately from that of the community leaders.

As one of the principal purposes of the survey was to collect detailed information about the knowledge and attitudes of the community and religious leaders with respect to fertility and contraception, several questions related to attitudes were asked. The answers were recorded on a five-item scale:

- “Yes”
- “Controversial but ‘yes’ ”,
- “Controversial but no consensus”,
- “Controversial but ‘no’ ”, and
- “No”

In addition, several open-ended questions were asked and the answers recorded in detail. In each instance, the respondents were asked to give three reasons in support of their answers. Two interviewers and the principal investigator were present for each group interview and they recorded the answers independently. On average, a group interview continued for two to three hours and was conducted on location, inside each community. The religious leaders were interviewed in their homes, a typical interview lasting 20 to 30 minutes.

Variations in socio-economic infrastructure

Community leaders were asked whether certain facilities were available in their respective communities and if not, how far a typical community member had to travel to reach one, and the average travel time involved. When a facility was available, the respondents were also asked whether that facility was available; the respondents were also asked whether that facility had been there five years previously. The following are the facilities referred to in the survey:

- Educational institutions, including primary, secondary, and religious schools and colleges;
- Health facilities such as governmental and non-governmental health clinics;
- Shops and pharmacies where contraceptives are sold;

- Service facilities such as post offices, cold storage, fertilizer dealerships, marketplaces etc., and
- Transportation facilities.

Table 1 presents the percentage distribution of the communities according to the availability of education, health, transportation and public service facilities. Except for one community in Sirajgonj, each community had at least one primary school, all of which were functioning five years previously. It is worth noting that owing to the small sample size, i.e. 19 communities in the Sirajgonj region and 17 communities in the Abhoynagar region, the results presented in this article should not be generalized.

Table 1: Percentage distribution of communities according to availability of selected public facilities, by region

Facility	1986		1981	
	Sirajgonj	Abhoynagar	Sirajgonj	Abhoynagar
Primary school	94.7	100	94.7	100
Boys' high school	57.9	64.7	52.6	58.8
Girls' high school	0	17.6	0	17.6
Religious school	42.1	76.5	42.1	58.8
Govt. health centre	26.3	35.3	21.1	17.7
Private health clinic	5.3	23.5	5.2	17.7
Private pharmacy	36.8	41.2	31.6	35.3
All-weather road	68.4	94.1	a	a
Paved road to nearest town	68.4	94.1	a	a
Railway road	36.8	29.4	a	a
Motorboat service	26.3	5.9	a	a
Electricity	26.3	58.8	a	
Cinema hall	5.3	5.8	0	5.8
Post office	47.4	58.8	47.4	58.8
N	19	17	19	17

Note: a = Not asked.

In both regions, secondary schools for boys are located in more than half of the communities. However, in Sirajgonj, there is no secondary school for girls. In Abhoynagar, three communities have secondary schools for girls.

According to community leaders, in the absence of secondary schools exclusively for girls, parents send their daughters to boys' schools. However, approximately half of the community leaders in Sirajgonj are not in favour of co-education. In Abhoynagar, approximately two-thirds of the community leaders support co-education, but suggested that separate secondary schools for girls would encourage more parents to send their daughters to school. There is no college in either region. Interestingly, Abhoynagar has more religious schools than Sirajgonj, and they were there five years previously. [Table 1](#) shows that, with respect to the availability of educational facilities, Abhoynagar has an advantage over the Sirajgonj region.

Health facilities, particularly the government health centres, are available in the same proportion in both regions. Besides the existence of government health facilities, jute mills located in Abhoynagar operate health clinics for their workers. Approximately one-third of the communities in both regions are served by government health centres. Shops and pharmacies selling contraceptives are located in less than half of the communities in both regions. However, five years ago no shop in Sirajgonj and only a few shops in Abhoynagar sold contraceptives. The increase in the number of shops selling contraceptives can be attributed to the activities conducted by the Social Marketing Programme. Although family planning workers are supposed to be recruited from the same community, it was observed that 15 per cent of the communities have no family planning workers.

Approximately 68.4 per cent of the communities in Sirajgonj and 94.1 per cent of those in Abhoynagar have all-weather roads through their respective communities. Most of communities are connected with the nearest district town by roads which remain open during the rainy season. Sirajgonj has better railway and motorboat services than Abhoynagar. Community members travel on foot within the communities, but use a bus or other motor vehicle to visit the nearest district town.

In both regions, the main economic activity is agriculture, mainly the cultivation of rice, jute and pulses, although sugar-cane is grown in parts of Sirajgonj. Community leaders reported that agricultural productivity has increased, particularly in Sirajgonj where irrigation facilities are more widely available. [Table 2](#) shows that two-thirds of the communities in Sirajgonj have irrigation facilities. Although crop yields have increased during the last 10 years, none of the communities is self-sufficient in food. According to community leaders, more cash is needed now than 20 years ago, primarily for

Table 2: Percentage distribution of the communities according to agriculture-related topic, by region

Topic	Sirajgonj	Abhoynagar
Irrigation facility		
Yes	68.4	23.5
No	31.6	76.6
Crop yield increased during the last 10 years		
Yes	68.4	47.1
Remained same	5.3	17.6
No	26.3	35.3
Self-sufficient in food		
Yes	15.8	17.7
No	84.2	82.3
N	19	17

fertilizer and pesticides. The average land-holding, which is small in both areas, is cultivated by owners themselves. In both regions, approximately half of the communities have access to financial institutions. Data indicate that less than 10 per cent of the community members in both regions are engaged in non-agricultural activities.

Internal migration is common in both regions. In Sirajgonj, community leaders reported that during the major rice harvest season, a significant proportion of the male labour force migrates to nearby districts for extended periods. In Abhoynagar, very few male workers migrate for extended periods. Although industrial workers from Abhoynagar reside near their factories, they regularly visit their homes in the villages.

In both regions, approximately one-third of the communities have factories where more than 20 people are employed. In Abhoynagar, in the communities where factories are not located, there are usually factories within a three-mile radius. The average travel time to these factories is less than an hour in the rainy season.

The Government of Bangladesh gives priority to rural development programmes, primarily road construction and rural electrification. The road construction programme has helped to improve transportation facilities in rural areas, and to create jobs during the slack season for a large group of people in rural areas.

Table 3: Percentage distribution of communities according to availability of selected development programme during the previous five-year period, by region

Development programme	Sirajgonj	Abhoynagar
Road construction project	68.4	82.4
Agriculture co-operatives	31.6	35.3
Rural development societies	31.6	35.3
Women's co-operative	31.6	5.9
N	19	17

Although the Government of Bangladesh started the rural electrification programme at the beginning of 1978, only 26.3 and 58.8 per cent of the communities have access to electricity in Sirajgonj and Abhoynagar, respectively. However, less than 20 per cent of the households are electrified. According to community leaders, less than 10 per cent of the community members in Sirajgonj and 40 per cent of those in Abhoynagar have radios in their homes.

Another component of the government development programme is to encourage people to form co-operative societies, the three most active being agriculture, rural development and women's co-operatives (table 3).

Fertility, family planning and women's status

Community leaders

In every society, both formal and informal leaders are catalysts of change, and their attitudes and knowledge have a considerable influence on community and individual behaviour. Particularly in societies where the vast majority of the population is illiterate and isolated from the outside world, these leaders' understanding and perceptions can have a profound impact on individual community members. In general, community leaders are older and better educated than most of the community members, and rural people often seek their advice and help in all important aspects of social life.

The community leaders in Sirajgonj and Abhoynagar were asked several questions regarding fertility, contraception and women's status; their responses are presented in table 4. To test their knowledge of the fertility situation they

Table 4: Percentage distribution of the community leaders on selected topics, by region

Topic	Sirajgonj	Abhoynagar
Typical family size		
Three	0	5.9
Four	21.1	64.7
Five	52.6	23.5
Six	26.3	5.9
Average number of children during the last 10 years		
Decreased	79.0	94.1
Remain same	10.5	5.9
Increased	10.5	0
Should adopt family planning after having three children (2 sons and 1 daughter)		
Yes	100	100
Male children are considered as old-age security		
Yes	100	100
Children are less dependable compared with 20 years ago		
Yes	94.7	100
No	5.3	0
Religious leaders speaking against family planning		
Yes	26.3	47.0
No	73.7	53.0
Most popular contraceptive method		
Oral pill	63.2	58.8
Condom	26.3	0
IUD	0	23.5
Sterilization	0	17.8
Acceptable for married women from good social background to work outside the home		
Yes	68.4	58.8
No	31.6	41.2
N	92	79

were asked to estimate the number of children in a typical family in their respective communities. Approximately 65 per cent of the community leaders in Abhoynagar reported that a typical family there has four children. In contrast, approximately 53 per cent of the community leaders in Sirajgonj reported that a typical family there has five children. In a few instances, the community leaders mentioned that there are some families who have more than seven children. Answers given by the community leaders closely coincided with the actual fertility situation observed in the respective localities.

The respondents were also asked whether they thought that fertility had increased or decreased during the previous 10 years. The vast majority of community leaders reported that fertility had fallen during that period; however, approximately 11 per cent of the respondents in Sirajgonj suggested that fertility had increased.

When asked whether a person would be considered strange or different if he or she practised contraception, over 80 per cent of the community leaders from both regions gave a negative reply. According to them, the practice of contraception is currently accepted behaviour, but they mentioned that some couples find it difficult to express their desire to practise contraception owing to perceived objections from religious and social groups. The respondents stated that many women were not reporting their use of contraceptives out of shame, or fear related to religious objections.

The community leaders were uniformly in favour of contraception for women who already have three children. They suggested that both permanent and temporary methods should be used to regulate fertility. In general, they tended to favour temporary over permanent methods. Mainly economic reasons were cited by the respondents as justification for limiting the size of one's family; in a few cases, health reasons were also mentioned. The community leaders stated that the contraceptive use rate has increased during the last five years.

According to these leaders, the most popular method of contraception in both regions is the oral pill. In Sirajgonj, approximately 63 per cent of the respondents reported oral pills as the most widely used method, and the condom as the second most popular method. In Abhoynagar, approximately 59 per cent of the respondents reported oral pills as the most popular method, followed by IUDs and condoms.

Security, particularly old-age security, has been cited as the most important factor leading to high fertility in countries where social security programmes are either non-existent or unreliable. Several authors have suggested that in Bangladesh, where there is no old-age security programme, children are viewed as an important source of support for their parents when they

become old (Cain, 1982). The risk of unemployment, natural disasters, the dependent position of women, and high morbidity and mortality are incentives for high fertility in Bangladesh (Cain, 1982). The author also stated that children, especially boys, are an important source of income and a form of security against the death or illness of the head of household or other family members with important economic responsibilities; this view was borne out in the survey of community leaders. In addition to economic reasons, the respondents stated that male children are necessary for arranging funerals and for maintaining the family lineage.

In a follow-up question, the respondents were asked whether they think that children are less dependable today compared with 20 years ago; the answers were always positive.

More than 90 per cent of the respondents in Abhoynagar and Sirajgonj reported that economic hardship, the lack of religious teaching, and the negative impact of modernization have contributed significantly to a situation in which children are less willing and able to support their parents than 20 years ago. Nevertheless, children continue to be considered old-age security. Community leaders reported that owing to the increased cost of living, child-rearing has become more costly today compared with 10 years ago.

At what age do children start to work? The answer to this question has several interpretations. In a society where child labour is considered a responsibility of children to their parents, children start working at the age of seven or eight years, by participating in routine household activities such as cleaning the house and courtyard, washing utensils and collecting fuelwood. The community leaders were asked how old most children are when they begin working, either at home or in the paddy fields. They said that, depending on the types of activity, boys begin productive jobs (work related to crop production) starting from age 11. In contrast, girls generally participate in household activities as soon as they are physically able, i.e. from six or seven years of age. Similar results were also reported by Cain (1977) in a study conducted in rural Bangladesh. According to Cain, the median age at which male children started working with their parents varied between 8.3 and 14.1 years. In both Sirajgonj and Abhoynagar, no significant difference was found in the perceived role of children either as old-age security or as a source of labour for the family.

Despite the influence of religious leaders on other aspects of life, the community leaders reported that religious leaders had little influence on an individual's fertility decisions. The respondents stated that because several religious leaders had spoken publicly against family planning, this might have discouraged some people from adopting contraception. At the same time,

community leaders mentioned that a few religious leaders have supported family planning activities by speaking in favour of birth control.

In Bangladesh, the status of women is lower than men in all aspects of life. Social and religious sanctions discourage women's participation in the labour force. Moreover, the occupational structure and the paucity of jobs for women make it difficult for women who want to break with tradition to enter the labour force. Community leaders in both regions expressed strong opposition to women working outside the home. Particularly in Sirajgonj, respondents stated that it is against social norms for an unmarried woman to work outside the home.

When asked whether it is acceptable for married women from "good" social backgrounds to work outside the home, more than half of the respondents in both regions replied positively. But the jobs they suggested as acceptable are primarily "white collar". Interestingly, the leaders are in support of poorer women working outside the home. In Abhoynagar, the community leaders reported that women from the poorer socio-economic groups worked outside the home in recent years, particularly in the "Food for Work" Programme.

These findings suggest that the leaders' perceptions and attitudes with respect to fertility, contraception and women's status do not vary widely. In both regions, they support family planning. The leaders in Sirajgonj tend to be more conservative in allowing women to work outside the home. Nonetheless, the same respondents expressed their support in favour of poorer women working outside the home. In general, community leaders are less supportive of unmarried women working outside the home. However, it should be kept in mind that the sample size does not permit generalization about the findings; further research is needed in order to draw conclusions.

Religious leaders

It is widely held that Islam is opposed to birth control, and that Muslim religious leaders are against family planning. Although there are no direct injunctions against contraception in the Quran, evidence from the *hadith*, the explanatory tradition, would seem to favour contraception.

The Government of Bangladesh and non-governmental organizations working in the family planning field have reported that religious restrictions are an important barrier to family planning activities in rural areas.

In rural Bangladesh, individuals get their religious teachings and interpretation of the Quran from *imam*. Thus, an attempt was made to interview one *imam* from each community to learn of their attitudes towards family

planning and contraception. A total of 36 religious leaders from Sirajgonj and Abhoynagar were interviewed, using the same questionnaire but with necessary modifications.

At the early stages of the survey, several researchers from the ICDDR,B and other research organizations suggested that religious leaders would not express their opinions on such controversial subjects as fertility and contraception. Except in a few instances, the opposite was found to be true. In general, these leaders were co-operative and expressed their opinions freely. A large majority of the religious leaders said that they would participate in family planning activities if asked to do, so by the Government.

In general, the religious leaders are aware of the high fertility and low contraceptive use rates in their respective communities. [Table 5](#) presents the percentage distribution of religious leaders' opinions on selected topics. According to these leaders, a typical family in Sirajgonj has five children; in Abhoynagar, four children.

A large majority of the religious leaders in Abhoynagar stated that fertility had decreased during the previous 10 years, whereas less than half expressed this opinion in Sirajgonj. A large percentage of the religious leaders strongly favoured family planning for those couples who already have more than three children. However, 32 per cent of the respondents in Sirajgonj and 29 per cent of those in Abhoynagar said that they were against family planning. Those who favoured family planning also approved of permanent methods of contraception. Approximately 25 per cent of the respondents in Sirajgonj and 6 per cent of those in Abhoynagar reported that contraception violated the tenets of Islam.

The oral pill was reported to be the most popular method in both regions; it was followed in popularity by the condom. According to these leaders, a significant number of couples do not report their use of contraceptives out of shame.

In general, religious leaders recognized that they had little influence on the daily lives of people, particularly with regard to the number of children a couple should have.

Approximately one-third of the religious leaders admitted that they have spoken against family planning in public. Another third have supported family planning, while the remainder were neutral. The religious leaders who opposed family planning did so mainly because of their belief that contraception is contrary to the tenets of Islam. Economic reasons were cited as important by the group favouring family planning.

When asked whether they consider male children as old-age security,

Table 5: Percentage distribution of religious leaders' views on selected topics, by region

Topic	Sirajgonj	Abhoynagar
Typical family size		
Three	5.3	11.8
Four	10.5	52.9
Five	57.9	35.3
Six	26.3	0
Average number of children during the last 10 years		
Decreased	47.4	82.4
Remained same	10.5	17.6
Increased	42.1	0
People should adopt family planning after having three children (2 sons and 1 daughter)		
Yes	63.2	76.5
No	36.8	23.5
Male children are considered as old-age security		
Yes	100	100
Children are less dependable compared with 20 years ago		
Yes	94.7	100
No	5.3	0
Have spoken about family planning		
In favour of	42.1	23.5
Neutral	26.3	35.3
Against	31.6	29.4
No information	0	11.8
Most popular contraceptive method		
Oral pill	63.2	64.8
Condom	5.2	0
IUD	5.2	17.7
Sterilization	5.3	5.8
No information	21.1	11.8
N	19	17

they were unanimously positive. However, according to these leaders, children are less dependable today than they were 20 years ago. The lack of religious schooling was cited as the main reason for this perceived phenomenon.

It is clear that the religious leaders from both regions have nearly the same perceptions and understanding of social life. Although a higher proportion of the religious leaders in Abhoynagar expressed opinions in favour of family planning, not as many of them did so in public. The higher concentration of religious schools in Abhoynagar could be an important reason for the lower level of public support of family planning. In Sirajgonj, religious leaders are more supportive of family planning activities. However, as the results are derived from a very small sample, they should not be generalized.

Community characteristics and contraception

Nevertheless, development programmes with non-demographic objectives have had important demographic consequences. In general, development programmes which have generated changes in communication, education and transportation at the community level have in turn stimulated changes at the household and individual levels. It has been argued that improved communication and transportation facilities provide individuals with exposure to western values, and it is assumed that eventually, some individuals adopt "modern" ideas. Moreover, it has been suggested that access to modern facilities such as electricity, higher education and modern consumable items encourages people to modify their behaviour, fertility regulation being one such modification.

The distribution of communities by contraceptive prevalence rate (CPR) is presented in table 6. In Sirajgonj, only six communities have rates in the range of 20 to 29 per cent; in contrast, all communities in Abhoynagar have rates higher than 20 per cent. The CPR in more than half of the communities

Table 6: Distribution of the communities according to contraceptive prevalence rate (CPR) in 1985, by region

CPR	Sirajgonj	Abhoynagar
0-9	1	0
10-19	12	0
20-29	6	7
30-39	0	7
40-49	0	2
50-60	0	1
Total	19	17

in Abhoynagar is above 30 per cent, and one community has a prevalence rate as high as 51 per cent. In general, it was observed that the contraceptive prevalence rate is higher in geographically smaller communities. Presumably, the family planning workers in smaller communities may have a smaller work load and would therefore be able to visit households more frequently.

Table 7 presents community-level contraceptive prevalence rates by availability of selected public institutions and development programmes. The availability of secondary schools shows an inconsistent relationship with the CPR in Abhoynagar. However, in both regions, the presence of religious schools is negatively related to contraceptive use rates. In contrast, the availability of government health centres shows a clear positive association with the CPR in each region. Results suggest that the contraceptive use rate is significantly higher in those communities where government health centres are located. However, it should be remembered that the information was collected from fewer than 20 communities in each region; therefore, the findings are subject to the sampling errors.

The availability of community development programmes showed an unexpected variation in relation to contraceptive prevalence rates. In Abhoynagar, the CPR was consistently higher in those wards where development programmes had been in progress during the previous five years. The opposite pattern was observed in Sirajgonj. One explanation of this unexpected finding in Sirajgonj may be that institutions dealing with rural development aim primarily at increasing agricultural production, basically through the introduction of high-yielding-variety seeds, fertilizers and irrigation. In general, family plan-

Table 7: Contraceptive prevalence rates in 1985 by the availability of selected public institutions and development programmes in the communities, by region

Facility	Sirajgonj		Abhoynagar	
	Present	Absent	Present	Absent
Secondary school	17.1	14.5	31.4	35.3
Religious school	14.8	18.7	31.8	35.8
Govt. health clinic	19.9	15.3	39.0	29.8
Co-operative societies	16.2	17.7	33.3	28.0
Electricity	15.4	17.2	34.9	28.6
Road construction project	16.0	17.8	33.5	23.1
N	19		17	

ning activities are not included as a component in such development programmes.

Another possible explanation of the inconsistent relationship between the development programmes and contraceptive use derives from the operative mechanism of those programmes. In rural areas, development programmes are implemented through the formation of co-operative societies. Given the rural power structure, rich farmers dominate these co-operatives and benefit from government-sponsored development projects. In Sirajgonj, less than 10 per cent of the total households belong to co-operatives. Rahman (1986) also found inconsistent patterns of association between the development programmes and the contraceptive prevalence rate in another part of the country.

Summary and conclusions

Results presented in this article suggest that there are no major infrastructural differences between the communities in the Sirajgonj and Abhoynagar regions.

In both regions, a large majority of the community leaders support the use of modern contraceptives. However, they expressed strong opposition to women's participation in jobs outside the home. Male children are considered as old-age security in both regions. However, community leaders also recognize that owing to worsening economic conditions, children are less dependable for this purpose than they were in previous times. Beyond old-age security, children, particularly male children, are valued for fulfilling funeral duties and performing other religious activities following the death of parents.

Approximately a third of the religious leaders in both regions are against family planning. The religious leaders in Sirajgonj are more supportive of family planning than those in Abhoynagar. However, in both regions, a large proportion of the religious leaders report that they have little or no influence on the individual's fertility decision. At the same time, they recognized that, owing to perceived religious objections, people are not practising contraception. As with the community leaders the religious leaders in the two regions are also against women's participation in any job outside the home. Some religious leaders expressed a willingness to participate in family planning activities.

No consistent relationship was observed between the availability of educational facilities and contraceptive use. However, the presence of a religious school has a depressing impact on the contraceptive use rate. In both regions, the presence of government health clinics has a strong positive association with the contraceptive use rate. Community development programmes, such as road construction and the operation of co-operatives, showed an inconsistent relationship with the contraceptive use rate.

However, owing to the small sample size, the findings presented in this article cannot be generalized, particularly with regard to the relationships between the availability of educational facilities and contraception, and community development programmes and contraception. But several suggestions can be put forward for consideration. It is evident that a large percentage of the religious leaders have not directly supported family planning, but expressed their desire to participate in such activities. Therefore, the Government should take the necessary steps to encourage religious leaders to participate in family planning activities. Similarly, community and religious leaders should be educated about the consequences of the rapid population growth. In addition, appropriate policy measures should be undertaken to improve women's status in the rural areas. Also, clinical facilities should be made more widely available in the communities in order to provide health care and family planning services.

References

- Alauddin, M. (1979). "Rural Development and Family Planning Behavior in Bangladesh Villages". (Ph.D. dissertation), Department of Population Planning, University of Michigan, Ann Arbor.
- Arthur, W. B. and G. McNicoll (1978). "An Analytical Survey of Population and Development in Bangladesh", *Population and Development Review*, 4:23-80.
- Cain, M. T. (1977). "The Economic Activities of Children in Villages in Bangladesh", *Population and Development Review*, 3:201-228.
- _____ (1981). "Risk and Insurance Perspective on Fertility and Agrarian Change in India and Bangladesh", *Population and Development Review*, 7:435-474.
- _____ (1985). "Intensive Community Studies", in J.B. Casterlin (ed.), *The Collection and Analysis of Community Data*, (Voorburg, Netherlands, International Statistical Institute).
- Casterlin, J. B. (ed.), (1985). *The Collection and Analysis of Community Data*, (Voorburg, Netherlands, International Statistical Institute).
- Freedman, R. (1974). *Community-level Data in Fertility Surveys*, World Fertility Survey, Occasional Paper No. 8, (Voorburg, Netherlands, International Statistical Institute).
- Maloney, C., K.M.A. Aziz and P.C. Sarker (1981). *Beliefs and Fertility in Bangladesh*, (Dhaka, International Centre for Diarrhoeal Disease Research, Bangladesh).
- Nizamuddin, M. (1979). "The Impact of Community and Program Factors on the Fertility-related Behaviour of Rural Pakistani Women", (Ph.D. dissertation), Department of Population Planning, University of Michigan, Ann Arbor.
- Potter, J. (1983). "Effects of Societal and Community Institutions on Fertility", in R. A. Bulatao and R. D. Lee (eds.), *Determinants of Fertility in Developing Countries*, (New York, Academic Press).
- Rahman, M. (1986). *Tradition, Development, and Individual: A Study of Conflicts and Supports to Family Planning in Rural Bangladesh*, Asia Population Change Series No. 1, (Department of Demography, Australian National University).

Integration of Population and Development

Because of the complexity of development planning, demographic factors inevitably enter into the planning process. The integration of those factors is widely recognized as an effective strategy in both development planning and population planning.

However, progress in integration has been slow. Among the reasons for this are the lack of useful and ready-to-use scientific information in the areas of population and development for planners, and the lack of analytical frameworks for researchers and planners to help them to identify the crucial information that should be readily available. Thus the synthesis of research findings and the preparation of analytical frameworks to plan for research in these areas need to be developed.

In an attempt to enhance the integration process in countries of the region, the ESCAP Population Division is organizing the Regional Seminar on Frameworks for Population and Development Planning to be held at Bangkok from 6 to 10 June 1988. The Seminar is part of a project which involves the preparation of status reports on population and development in selected countries of the region. It is aimed at providing up-to-date and scientifically sound descriptions, analyses and interpretations of significant population and development trends and their interrelationships, and assessments of the implications of these trends and relationships for the formulation and improvement of public policy.

The country studies were begun in February 1987 following the Workshop on an Analytical Framework for Population and Development Research

and Planning, which was held at Bangkok from 16 to 20 February 1987. The preliminary results were then reviewed at a study directors' meeting also held in Bangkok during September 1987, and subsequently revised.

The main purpose of the Seminar is to review and discuss analytical frameworks and to formulate recommendations for the effective integration of population and development policy and programmes. The specific objectives of the seminar are to (a) review existing knowledge on the interrelationships between population change and selected development issues in selected ESCAP countries; (b) consider policy implications of the interrelationships between population change and selected development issues; (c) discuss analytical frameworks for population and development planning; (d) discuss analytical frameworks for population and development research and (e) recommend strategies for integrated population and development planning and policy formulation as well as research priorities.

The report of the Seminar together with the country study reports will be published thereafter.



The formulation of effective population policies by a national Government can help to shape the decisions of individuals such as this young woman. The integration of population factors in development planning is essential for fostering industrialization or for attempting to delay the age at marriage by increasing the status of women through education and equality in the labour force. (UNICEF photograph)