

Fertility Trends in South Asian Countries

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Abstract: This paper is an attempt to explore the current and future fertility trends in South Asian countries, 1980-2040s. The demographic impact of rapid declination in the general fertility pattern has been studied and obtained a significant change in the fertility rates in South Asian countries. The results of this study also show the fertility transitions that have begun in South Asian countries, its impact varies from country to country. As the fertility and crude birth rates reduce, the growth rate of South Asian countries also reduces in parallel. Afghanistan shows an extraordinary nature in the 1980s to 1990s.

Key words: Population, total fertility rate, crude birth rate, growth rate, south Asian countries

Introduction

Fertility in demography refers to the actual birth performance of a group of women or to the relative frequency with which the births occur in total population or in the population exposed to it. It is a result of 'fecundity', the physiological capacity to reproduce. Obviously, it is not offspring; it can only be guessed with the help of the maximum levels of fertility ever observed in a non-contraceptive population.

The analysis of fertility is of vital interest in the field of demography. Its importance, in the light of the role it plays in giving shape to age-sex structure and in producing the alterations in the size of a population, is more sensitive to the changes in fertility behaviour than to the changes in the force of mortality. The proportion of a population that is young or old depends mainly on the birth rate and not on the death rate. This is because as people live longer, the population structure, as a whole, becomes somewhat younger rather than unless fertility rates also fall. It also means that when a population has an increasing proportion of older people, it is essentially because the birth rates have fallen and not because the death rates have fallen. In most undeveloped countries, reducing fertility is often stated as a goal for family planning (Misra, 1981).

South Asia is one of the few regions of the world where fertility transition is facing its utmost challenges. There is therefore continuing interest in the study of fertility levels and trends in South Asia from the perspectives of both science and policy. Contrary to demographic expectation and in defiance of historical experience elsewhere, widespread and continuing son preference in much of Asia has not proved to be an impediment to progressive or rapid fertility decline. Indeed, one of the most significant features of the twentieth century has been the dramatic decline in fertility and explicit preference for smaller families in much of East and South Asia, which far from reducing, has exacerbated son preference, leading to increased discrimination against daughters (Elisabeth, 2002). The aim of the study is to explore the current situation and future fertility trends in South Asian countries. The study has been based on secondary sources of data. The secondary data have been taken from different published surveys.

Total Population, TFR and CBR of South Asian Countries: Table 1 shows the total population of South Asian countries, 1980-2040s, namely, Bangladesh, India, Pakistan, Afghanistan, Maldives, Nepal, Bhutan and Sri-Lanka. They are all bound by common historical tradition, culture heritage and share linguistic affinity. Together they contain 94.1 percent of the population of South-Asia, and 35.2 percent of the population of Asia in 1985. Their populations vary greatly. Their expected populations in 2000 are 137.439 million in Bangladesh, 1008.937 million in India, 141.256 million in Pakistan, 21.765 million in Afghanistan, 0.291 million in Maldives, 23.043 million in Nepal, 2.085 million in Bhutan and 18.924 million in Sri-Lanka. The projected population of these countries during years 2010 will be 167.926 million in Bangladesh, 1164.020 million in India, 181.385 million in Pakistan, 31.308 million in Afghanistan, 0.393 million in Maldives, 28.922 million in Nepal, 2.707 million in Bhutan and 20.699 million in Sri-Lanka. Again in the year 2030s the population will be 222.613 million in Bangladesh, 1408.923 million in India, 272.604 million in Pakistan, 50.542 million in Afghanistan, 0.644 million in Maldives, 41.723 million in Nepal, 4,224 million in Bhutan and 22.887 million in Sri-Lanka. Again in the year 2040s, the population will be 245.850 million in Bangladesh, 1503.345 million in India, 309.056 million in Pakistan, 61.824 million in Afghanistan, 0.762 million in Maldives, 47.144 in Nepal, 4.926 in Bhutan and 23.244 million in Sri-Lanka.

The United Nations estimates and projected total fertility (TFR) and crude birth rate (CBR) for Asia and its sub regions for the periods 1980-2040s is given in Tables 2 and 3 respectively. It is noticeable from both growth rate (GR), TFR and CBR that throughout the period, not only has fertility been the lowest but its rate of decline the fastest in East Asia, South Asia and West Asia in that order. The growth rates of South Asian countries observably

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decline for each decade. Thus, historical evidence shows that in Asia the process of fertility transition has already begun. The decline has been generally acceleration in the regions. In the initial stage of the transition, the decline is somewhat faster in CBR than in TFR. It is because at this stage the age distribution changes in such way that continually there is decrease in the proportion of children and an increase in the proportion in reproductive ages of the total population. Consequently, CBR becomes less effective in measuring the full impact of the decline of fertility as shown by TFR. The TFR of South Central Asia is in third position in the Asia and the minimum i.e. lowest in East Asia. In South Central Asia TFR were 4.79 in 1980s, 3.25 in 2000s and it will be 2.33 in 2020s, 2.13 in 2040s. Among the countries of South Asia we observed that 5.30 in 1980s, 3.56 in 2000s, 2.32 in 2020s and 2.10 in 2040s of Bangladesh; 4.48 in 1980s, 2.97 in 2000s, 2.10 in 2020s and 2040s of India; 6.23 in 1980s, 5.08 in 2000s, 3.25 in 2020s and 2.10 in 2040s of Pakistan; 7.40 in 1980s, 6.80 in 2000s, 5.22 in 2020s and 3.30 in 2040s of Afghanistan; 6.80 in 1980s, 5.37 in 2000s, 3.62 in 2020s and 2.10 in 2040s of Maldives; 5.51 in 1980s, 4.48 in 2000s, 2.92 in 2020s and 2.10 in 2040s of Nepal; 5.90 in 1980s, 5.10 in 2000s, 3.50 in 2020s and 2.10 in 2040s of Bhutan; 3.40 in 1980s, 2.09 in 2000s, 1.90 in 2020s and 2040s of Sri-Lanka. All over the period 1980-2040s TFR of Sri-Lanka is minimum and Afghanistan is highest. The TFR of Sri-Lanka will be remaining unchanged during the period 2010s to 2040s. The declines of fertility rate are clearly shown by the Fig. 1. Where over all fertility decline of South Central Asia have shown in the Fig. 2.

The Table 3 shows that the crude birth rate (CBR) of South Asian countries and different regions of this continent, 1980s-2040s. The CBR of all over the Asia was and will be 28.2 in 1980s, 24.7 in 1990s, 20.5 in 2000s, 18.2 in 2010s, 16.6 in 2030s and 13.8 in 2040s. It remains minimum compared to other sub continent of Asia. In South-Central Asia the CBR was 35.8 in 1980s, 30.8 in 1990s, 25.8 in 2000s and it will be 21.5 in 2010s, 18.8 in 2020s, 16.5 in 2030s and 15.0 in 2040s, which indicating that the CBR is decline all over this region. In South Asia, the CBR is steadily decline up to 2040s. The CBR of Bangladesh 41.3 in 1980s, 25.1 in 1990s, 29.9 in

Table 1: Total population of South Asian countries (in 1000), 1980-2040s

Country	Year						
	1980	1990	2000	2010	2020	2030	2040
Bangladesh	85438	110025	137439	167926	197642	222613	245850
India	688856	844886	1008937	1164020	1291290	1408923	1503345
Pakistan	81230	109811	141256	181385	227781	272604	309056
Afghanistan	15035	13675	21765	31308	40206	50542	61824
Maldives	158	216	291	393	516	644	762
Nepal	14559	18142	23043	28922	35449	41723	47144
Bhutan	1318	1696	2085	2707	3453	4224	4926
Sri-Lanka	14603	17022	18924	20699	22057	22887	23244

Source: World population Prospects: The 2000 Revision, Volume II: The sex and Age Distribution of Population, United Nations, New York, 2001.

Table 2: Total fertility of South Asian (selected) countries, 1980-2040s

Country	Year						
	1980	1990	2000	2010	2020	2030	2040
Asia	3.66	2.95	2.54	2.29	2.19	2.11	2.09
Eastern Asia	2.46	1.88	1.76	18.6	1.88	1.89	1.90
South-Central Asia	4.79	3.99	3.25	2.59	2.33	2.18	2.13
South Eastern Asia	4.24	3.24	2.52	2.17	2.11	2.08	2.08
Western Asia	4.98	4.23	3.57	3.25	2.97	2.70	2.49
Bangladesh	5.30	4.30	3.56	2.90	2.32	2.10	2.10
India	4.48	3.70	2.97	2.27	2.10	2.10	2.10
Pakistan	6.23	5.83	5.08	4.16	3.25	2.33	2.10
Afghanistan	7.40	7.00	6.80	6.18	5.22	4.26	3.30
Maldives	6.80	6.10	5.37	4.49	3.62	2.75	2.10
Nepal	5.51	5.07	4.48	3.70	2.92	2.24	2.10
Bhutan	5.90	5.75	5.10	4.30	3.50	2.70	2.10
Sri-Lanka	3.40	2.40	2.09	1.94	1.90	1.90	1.90

Source: World Population Prospects: The 2000 Revision, Volume I: Comprehensive tables United Nations, New York, 2001.

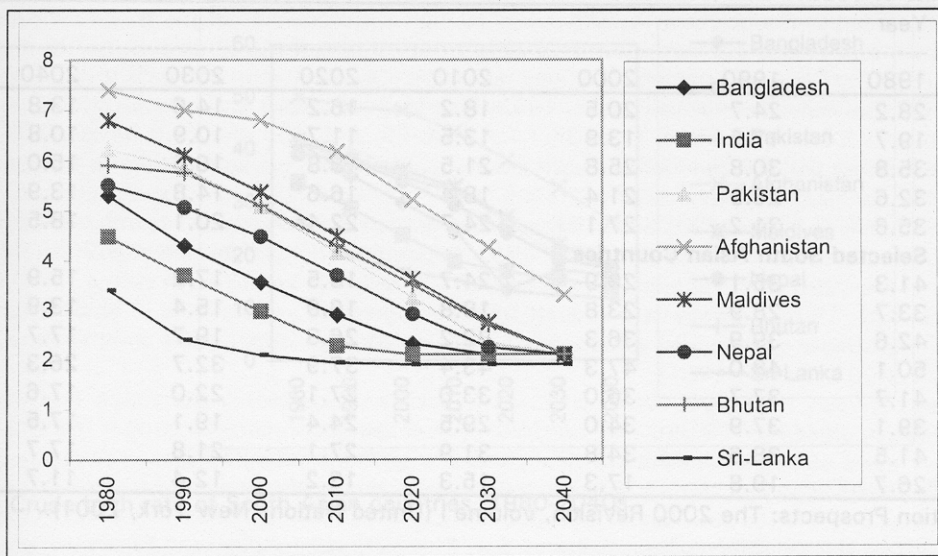


Fig.1: Total fertility rate of South Asian countries, 1980-2040s

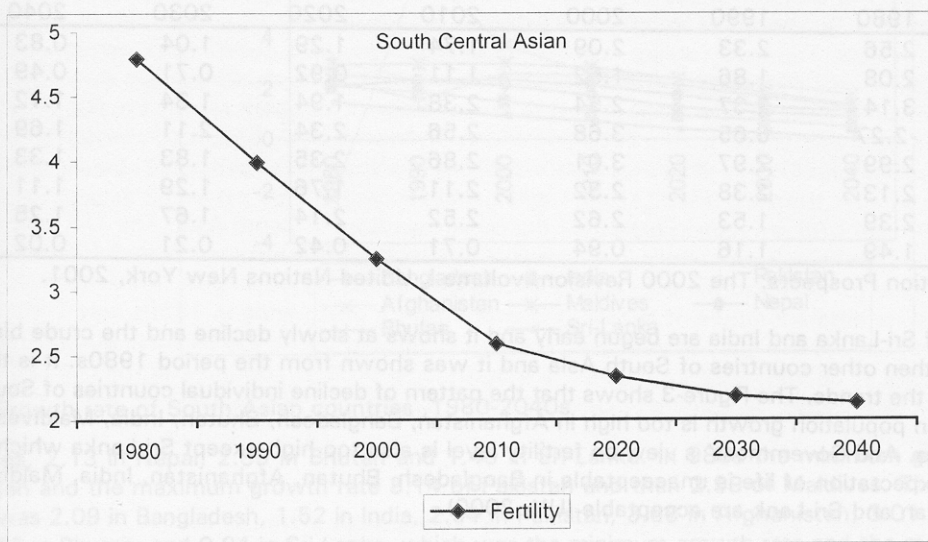


Fig.2: Total fertility of South Central Asia, 1980-2040s

2000s, 24.7 in 2010s, 13.5 in 2020s, 17.2 in 2030s and 15.9 in 2040s. The CBR of India was 33.7 in 1980s, 23.8 in 2000s and it will be 16.9 in 2020s, 13.9 in 2040s. The CBR of Pakistan was 42.6 in 1980s, 36.3 in 2000s and it will be 26.3 in 2020s, 17.7 in 2040s. In Afghanistan it was 50.1 in 1980s, 47.3 in 2000s and it will be 37.9 in 2020s, 26.3 in 2040s. In Maldives it was 41.9 in 1980s, 36.0 in 2000s and it will be 27.1 in 2020s, 17.6 in 2040s. In Nepal it was 39.1 in 1980s, 34.0 in 2000s and it will be 24.4 in 2020s, 17.7 in 2040s. In Bhutan it will be 41.5 in 1980s, 34.8 in 2000s and it will be 27.1 in 2020s, 17.7 in 2040s. In Sri-Lanka it was 26.7 in 1980s, 17.3 in 2000s and it will be 13.2 in 2020s, 11.7 in 2040s.

and Among the country of South Asia the CBR varied between 50.1 in Afghanistan and 26.7 in Sri-Lanka during the period 1980s; 47.3 in Afghanistan and 17.3 in Sri-Lanka during the period 2000s. It will be highest in Afghanistan 43.0 in 2010s, 37.9 in 2020s, 37.7 in 2030s and 26.3 in 2040s and minimum in Sri-Lanka 15.3 in 2010s, 13.2 in 2020s, 12.4 in 2030s and 11.7 in 2040s. The nature of the CBR is clearly shown by Figure-3. However, the CBR is more relevant in the context of the growth of population.

Table 3: Crude Birth rate of South Asian (selected) countries, 1980-2040s

Country	Year						
	1980	1990	2000	2010	2020	2030	2040
Asia	28.2	24.7	20.5	18.2	16.2	14.6	13.8
Eastern Asia	19.7	17.5	13.9	13.5	11.7	10.9	10.8
South-Central Asia	35.8	30.8	25.8	21.5	18.8	16.5	15.0
South Eastern Asia	32.6	26.9	21.4	18.4	16.6	14.8	13.9
Western Asia	35.6	31.2	27.1	24.7	22.4	20.1	18.5
Selected South Asian Countries							
Bangladesh	41.3	35.1	29.9	24.7	13.5	17.2	15.9
India	33.7	28.9	23.8	18.8	16.9	15.4	13.9
Pakistan	42.6	39.9	36.3	32.2	26.3	19.7	17.7
Afghanistan	50.1	48.0	47.3	43.4	37.9	32.7	26.3
Maldives	41.7	37.7	36.0	33.0	27.1	22.0	17.6
Nepal	39.1	37.9	34.0	29.5	24.4	19.1	17.5
Bhutan	41.5	38.6	34.8	31.9	27.1	21.8	17.7
Sri-Lanka	26.7	19.8	17.3	15.3	13.2	12.4	11.7

Source: World Population Prospects: The 2000 Revision, volume I (United Nations New York, 2001).

Table 4: Population-growth rates of South Asian (selected) countries, 1980-2040s

Country	Year						
	1980	1990	2000	2010	2020	2030	2040
Bangladesh	2.56	2.33	2.09	1.74	1.29	1.04	0.83
India	2.08	1.86	1.52	1.11	0.92	0.71	0.49
Pakistan	3.14	2.37	2.54	2.38	1.94	1.34	1.12
Afghanistan	-2.27	6.65	3.68	2.56	2.34	2.11	1.69
Maldives	2.99	2.97	3.01	2.86	2.35	1.83	1.33
Nepal	2.13	2.38	2.32	2.11	1.76	1.29	1.11
Bhutan	2.39	1.53	2.62	2.52	2.14	1.67	1.25
Sri-Lanka	1.49	1.16	0.94	0.71	0.42	0.21	0.02

Source: World Population Prospects: The 2000 Revision, volume I, United Nations New York, 2001.

The crude birth rate of Sri-Lanka and India are begun early and it shows at slowly decline and the crude birth rates of India is the lowest then other countries of South Asia and it was shown from the period 1980s. It is therefore useful to discuss both the trends. The Figure-3 shows that the pattern of decline individual countries of South Asia. Government' s view on population growth is too high in Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri-Lanka. And Government' s view on fertility level is also too high except Sri-Lanka which fertility level is satisfactory. Expectation of life is unacceptable in Bangladesh, Bhutan, Afghanistan, India, Maldives, and Nepal where in Pakistan and Sri-Lank are acceptable (UN, 2000).

Fertility Trend: In South Asia, the TFR in quinquennial periods from 1960-65s to 1985-90s was 6.03, 5.96, 5.76, 5.27, 5.14 and 4.72 respectively (UN, 1989) and in South-central Asia, the TFR in quinquennial periods from 1980-85s to 2040-45s are 4.79, 3.99, 3.25, 2.59, 2.33, 2.18 and 2.13 respectively (UN, 2001). This figures indicates that the fertility transition is already taking place in South Asia, which will tremendous decline in future time in 2040s and that it did not begin until about 1960-70s for the region as a whole. Fertility declines in most countries have generally been concomitant with the rise in pace of industrialization and relative economic prosperity. Socio-economic factors such as the spread of education, particularly bringing down fertility below-replacement levels in several Asian countries (Caldwell, 1982). The more rapid declines of fertility in East and Southeast Asia and its observed westward movement may give some external indications of prospective in South Central Asia. However, there are great variations in the levels and trends of fertility even within South Asia (Rele, 1987). Among these countries, in 1980s, the TFR varied between 7.4 in Afghanistan to 3.4 in Sri-Lanka; here top of the second highest TFR is 6.23 in Pakistan. However, Sri-Lanka was the only country where the TFR had begun to decline even before 1960-65s, with the TFR of 5.74 in 1950-55s. Thus the initial level of fertility among these countries varied within a fairly narrow range (Rele, 1992).

Table 4 shows the population growth rates of South Asian countries, 1980-2040s. The table indicate that the growth rate in the period 1980s 2.56 in Bangladesh, 3.14 in India, 3.14 in Pakistan, -2.27 in Afghanistan, 2.92

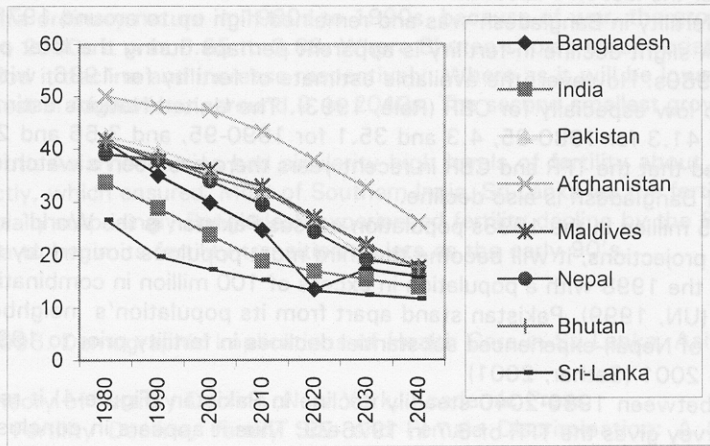


Fig. 3: Crude birth rate of South Asian countries, 1980-2040s

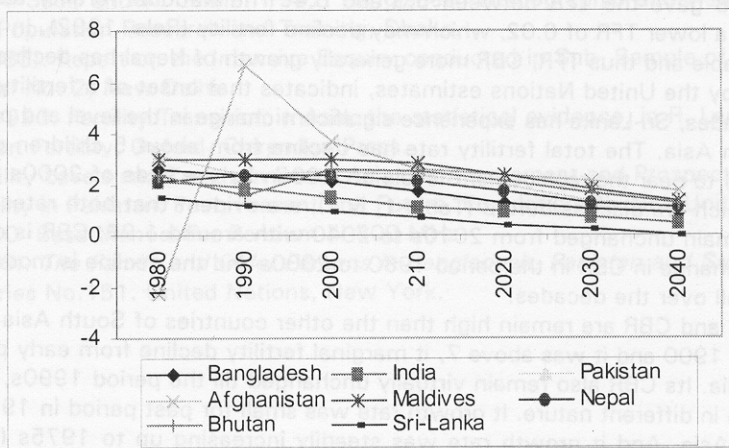


Fig. 4: Growth rate of South Asian countries, 1980-2040s

In Maldives, 2.13 in Nepal, 2.39 in Bhutan and 1.49 in Sri-Lanka. In 80s the minimum growth rate -2.27 of Afghanistan and the maximum growth rate 3.14 of Pakistan and then 2.99 of Maldives. The recent past period 2000s it was 2.09 in Bangladesh, 1.52 in India, 2.54 in Pakistan, 3.68 in Afghanistan, 3.01 in Maldives, 2.32 in Nepal, 2.62 in Bhutan, and 0.94 in Sri-Lanka, which was the minimum growth rate and the maximum growth rate was 3.68 in Afghanistan. In the period after the four decades i.e. in 2040s 0.83 in Bangladesh, 0.49 in India, 1.12 in Pakistan, 1.69 in Afghanistan, 1.33 in Maldives, 1.11 in Nepal, 1.25 in Bhutan and 0.02 in Sri-Lanka, which will be minimum in that period and the maximum growth rate will belongs to Afghanistan, 1.69.

In the Fig. 4 Afghanistan show an extra ordinary nature in 1980s to 1990s growth rate jumped -2.27 to 6.65. Again from 1990s to 2000s it was dramatically decline 6.67 to 3.68, which was the almost half of 6.67. Bhutan shows small variation in 1980s to 1990s and to 2000s in that period it decline and increased. Other countries of the region, it was and will be decline all the countries in the region.

The levels and trends of fertility in India as revealed by both TFR and CBR by decade's periods from 1980-2040 are shown in Table 2 and 3. The TFR in India remain high around 6 until 1961-66. It was only after 1966 that began with the TFR of 5.78 in 1966-71, 5.37 in 1971-76 and 4.65 in 1976-81 correspondingly; the CBR during the 1950s was around 45, which is constant with the earlier estimates (Rele, 1982), though the United Nations estimates for the period are somewhat lower. The TFR estimate for 1978 is 4.5, which remains virtually constant through 1984; the estimate for 1986 is 4.2 (Register General, India, 1983). It may noticeable that the CBR remained virtually unchanged for the whole period 1978 to 1984. Since the TFR and CBR have been declining. So the growth rate is then begun to decline.

The fertility levels and trends in Bangladesh can be ascertained through several sources. Bangladesh has undergone

a remarkable transition over the last two decades. The TFR has decline from 6.3 in early 1970s to 3.4 in the early 1990s (Mitra, 1997). The fertility in Bangladesh was and remained high up to around 1975s, with a TFR of about 7 and CBR of about 50. A slight decline in fertility is apparent perhaps during the later part of 1970s, but more convincingly during the 1980s. However, the available estimate of fertility for 1986, with TFR of 5.55 and CBR of 38.0, appear rather too low especially for CBR (Rele, 1993). The United Nations estimate of fertility and CBR respectively are 5.30 and 41.3 for 1980-85, 4.3 and 35.1 for 1990-95, and 3.56 and 29.9 for 2000-05. From various source we observed that the TFR and CBR in recent years there has been a watchful decline in Bangladesh that is why the growth of Bangladesh is also decline.

With a population of 130.5 million in the 1998s population census Pakistan is the World' s seventh most populous country. According to UN projections, it will become the third most populous country by the year 2050. It is one of only ten countries as of the 1998 with a population in excess of 100 million in combination with a TFR in excess of five births per woman (UN, 1999). Pakistan stand apart from its population's neighbors in South Asia, all of which (with the exception of Nepal) experienced substantial declines in fertility prior to 1990s and therefore shows markedly lower fertility in 2001 (Sathar, 2001)

Intercensal growth rates between 1980-2040 steadily decline in Pakistan (Figure-4) it reduces to 1.12 in 2040. The population growth survey gives the TFR of 6.7 in 1976-79. Thus it appears in conclusion that there has been noticeable change in the levels of fertility in Pakistan throughout the period in early 1980s.

The fertility has declined over the period 1980-2040 in Nepal. In Nepal during the period 1970 to 1980 the TFR between 5.92 to 5.79, thus the TFR has been begun modest decline after the period 1970s. The survey conducted in Nepal during 1971-78 gave the TFR between 6.3 and 6.4. The National fertility and Family survey (NES) conducted in 1986 gave a lower TFR of 6.02, which may decline fertility (Rele, 1992). In 1980, the estimates of TFR appear more acceptable and thus TFR, CBR more generally growth of Nepal has decline for each decades. Our assessment at present, by the United Nations estimates, indicates that onset of a fertility decline in Nepal.

During the past four decades, Sri-Lanka has experience significant change in the level and pattern of fertility unlike other countries of South Asia. The total fertility rate has decline from about 5 children per woman in the early 1960s (Abeykoon, 2000) to near the replacement levels of 2.09 in by the ends of 2000s. The total fertility rates and crude birth rates which are discuss before (Table-1, & 2), are evident that both rates have shown a steadily decline and, virtually remain unchanged from 2010s to 2040 with around 1.90, CBR is continuously decline till 2040s. Here noticeable change in CBR in the period 1980 to 2000s and the decline is modest. So the growth rate is continuously decline all over the decades.

In Afghanistan both TFR and CBR are remain high than the other countries of South Asia. The TFR was virtually unchanged before period 1900 and it was above 7, it marginal fertility decline from early period 1990s. It's CBR also highest in South Asia. Its CBR also remain virtually unchanged till the period 1990s, which was around 50, but it growth rate shown in different nature. It growth rate was small for past period in 1950s was 1.99 than the other country in South Asia. And it growth rate was steadily increasing up to 1975s (UN, 2001) and than it dramatically declined 0.98 in 1970s, -2.27 in 1980s and it again jump 6.65 in 1990s. After the period 1990s its growth rate was begun to declined. According to United Nations estimates it will reach 1.96 which close to the other countries of South Asia.

Conclusion

In Asia, the process of fertility transition seems to be moving progressively from the East to West. Accordingly, since early 1960s, not only has fertility been the lowest, but its rate of decline the fastest in East Asia, followed by Southeast Asia, South Asia, and West Asia. South Asia' s higher fertility in relation to East and Southeast Asia is associated with its lower economic and social development.

Although the fertility transition has begun in South Asia, its impact varies from country to country. The analysis suggested that their initial levels of fertility in the period 1960-65s were smaller, with TFRs around 6 to 7. However, in period 1980s their fertility levels were varied greatly with the TFR still around 7.4 in Afghanistan to 3.4 in Sri-Lanka and in the period 2040s its will be around 2.1 except the Afghanistan with 3.3. The fertility was the fastest in Sri-Lanka, moderate in India and Bangladesh, marginal in Maldives, Nepal, Bhutan, Afghanistan, and Pakistan.

The crude birth rate (CBR) of South Asian countries are decline and it varies country to country and among in Asia region to region. In South Asia CBR were 35.8 in 1980s and it will be 15 in 2040s, which indicate that the CBR is decline over the region. In South Asia, the CBR in steadily decline up to 2040s. Among the countries of South Asia CBR varies between 50.1 in Afghanistan and 26.7 in Sri-Lanka during the period 1980s; 47.3 in Afghanistan and 17.3 in Sri-Lanka during the period 2000s. It will be highest in 26.3 and will be minimum in Sri-Lanka 11.7 in 2040s. The CBR of India and Sri-Lanka decline early and it shows at slowly and CBR of Sri-Lanka is the lowest and then India.

As the fertility and crude birth rate reduce the growth rate of South Asian countries are also reduce in parallel way. Afghanistan shows an extra ordinary nature in 1980s to 1990s, because of war, the growth rate jump -2.27 to 6.65. Again from 1990s to 2000s it was 6.65 to 3.68. Where Bhutan shows small variation in 1980s to 1990s and to 2000s, in that period it decline and increase respectively. Where as it will be lowest in Sri-Lanka, around to 0.02, and it will be highest in Afghanistan, around 2, in 2040s. The second smallest growth rate is 0.49 of India and then Bangladesh.

While the most of the South Asian countries had similarity high levels of fertility about four decades ago, few would have predicted directly, which ensured. Most of Southern India, Sri-Lanka led the fertility transition, but most other areas followed especially surprisingly Bangladesh experienced fertility decline by the 80's, Pakistan was the largest block in South Asia to begin its fertility transition as lets as the early 90's.

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