

A COMPARITIVE ANALYSIS OF DEMOGRAPHIC, FERTILITY AND URBAN TRANSITION IN PAKISTAN AND THE WORLD AROUND

MUHAMMAD IRFAN GILL & FAIZA SAQIB

Department of Geography, Govt. College University Faisalabad, Pakistan

irfangilllecturer@gmail.com

ABSTRACT

Pakistan is well behind in demographic, fertility and urban transition and seems unsuccessful in controlling its higher population growth rate due to greater Crude Birth Rate (28.7 /1000 as compared to world average of 18.6 /1000, which is the product of higher Total Fertility Rate 3.6 births per woman as compared to world average of 2.4 in 2017). A noteworthy fact here is that the Crude Death Rate in Pakistan was 7 per thousand (lower than world average) as compared to the world average 7.541 per thousand in 2017. If the current circumstances continue to prevail, its population will be doubled in next 29 years and may reach at 405 million (as compared to 208 million in 2017) till 2093 when it is expected to complete its demographic transition and achieve replacement level TFR (2.1 births per woman). A little more than 1/3rd of the total population is urbanized in Pakistan (as compared to the world average 55%) at present and nearly half of this urban population (45.5%) live in slums. This study aimed to analyze the trends of demographic, fertility and urban transition in Pakistan from 1951 to 2017 and to compare these trends with that of some selected countries (India, Bangladesh, China, Brazil, Norway and United Kingdom) and world averages. This comparison was expected to help to identify the position of Pakistan in demographic, fertility and urban transition scenario.

KEYWORDS: Demographic Transition, Fertility Transition, Urban Transition, Total Fertility Rate (TFR), Crude Birth Rate (CBR), Crude Death Rate (CDR), Population Growth Rate (PGR)

INTRODUCTION

Demographic transition means the drop in fertility and mortality rates over time (Fahim Nawaz, 2019). Muslim majority countries (except for Tunisia, Lebanon, Turkey and Iran, who have achieved replacement level fertility recently) continue to show very high population growth rates since the long ago due to their greater Total Fertility Rates (which in turn caused higher CBRs) as compared to the world averages while CDRs declined considerably, so the rate of natural increase remained very high (Roudi-Fahimi et al., 2013). Same is the case in Pakistan, the crude birth rate (CBR) was very high in 1960-70s and early 1980s but reached to 36.5 births per 1000 population by the year 1998 and 28.7 births per 1000 population by the year 2017. As far as the crude death rate (CDR) is concerned, the figure was 28.9 in 1951 which dropped to 7 in 2017. Resultantly, the total population have grown at a faster rate (rate of natural increase was 28 per 1000 in 1960s, 29.6 in 1970s, 27.7 in 1980s-1990s) from 34 million in 1951 to 208 million in 2017. However, the annual population growth rate in Pakistan is approximately 2.1 percent for the last two decades (*Pakistan - population estimates,*

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2020)(Pakistan Bureau of Statistics, 2019). This higher population growth shows that, if current demographic rates continue to prevail, population of Pakistan will be doubled in next 29 years, on the other hand, the average population doubling time for South Asian region is about 58 years (A. Wazir, 2020).

Fertility Transition

Pakistan is far behind in fertility transition with TFR 3.596 births per woman as compared to the world's average 2.428 births per woman in 2017. According to UN projections, Pakistan is expected to achieve replacement level TFR somewhat around 2093, and the total population will continue to grow to 405 million till that time. Total fertility rate was 6.6 births per women in 1960s, 70s & 80s and 5.4 births per women in 1998, but declined to 3.6 births per women in 2017. There was a smoother but very slower decline in fertility rate as compared to world averages which were 5 per woman in 1960s, 4.5 in 1970s, 3.6 in 1980s, 2.7 in 1990s and 2.4 in 2017 (*Pakistan - population estimates*, 2020)(Statistics, 2017). Moreover, since the beginning of 1980s the fertility rate has shown a sharp decline and 1990s was the start of demographic dividend period for Pakistan. According to Durr-e-Nayab (2006), the duration of demographic dividend (higher proportion of working class in a population) in Pakistan started from 1990 and it will last till 2045.

Pakistan remained unable to move forward in demographic transition and can be placed at the end of second stage of the demographic transition modal while its neighboring countries (India, Bangladesh and China) have made enough improvement (Mahmood, 2014).

Contraceptive prevalence rate increased from 13% in early 1990s to 35% in 2012-13 due to the establishment of Lady Health Workers Program to provide primary health care to the unserved population at community level in Pakistan which was started in 1994 but overall family planning continued pathetic, moreover, in 2017-18, this rate decreased to 34%, with only 25% of all married women using modern contraceptives. Unmet need for family planning was 17%, which was highest in South Asia in 2017. About 6 million married women (aged 15-49) would like to stop pregnancies but they were unable to do so because they had no access to modern contraception. Education, income level and rural-urban difference affect greatly the unmet need for family planning and contraceptive usage which in turn causes prevalence of higher fertility rate (A. Wazir, 2020; Arshad et al., 2017).

Urban Transition

Urbanization is a multifarious process, it can be beneficial when it takes place in a planned manner because then it offers high density of economic activities, shorter trade links, consumption of human capital, common infrastructure and division of labour (Black & Henderson, 1999).

The rate of Urbanization can also be a forecaster of upcoming economic growth. Urbanization is strongly correlated with income earned by masses. Access to electricity, sanitation, clean drinking water, better nutrition and to other civic services act as value adders in urban settings. However, there can also be noteworthy disparities within urban areas. It is a fact that a significant proportion of the urban population live in slums across many developing countries (who are deprived of access to most of the basic resources) (Bloom et al., 2008).

Alongside the smaller proportion of urban population and quicker rate of urbanization in Pakistan, the already urbanized population is facing serious problems. 51 % of the urban population in Pakistan was living in slums in 1990, the condition got improved a slight till 2014 when this share decreased to 45.5 %. A slum household is that when a set of people living under the same roof and lacking access to improved water, access to improved sanitation, sufficient living area, and durability of housing (Ritchie, 2020).

Mehmood, (2016) pointed out four main urban transition boom periods during the whole history of Pakistan; the first was following the independence of Pakistan in 1947 when 6 to 8 million Muslim migrants moved towards the major cities of Punjab and Sindh provinces, second was during 1965 war with India till around 1971 civil war, third started in 1979 following Soviet attack on Afghanistan which resulted the incoming of 4 million Afghan refugees and the fourth includes the internal displacement from western bordering areas to eastern cities and to Karachi especially following the 9/11 incident and American attack on Afghanistan which disturbed the security environment in western parts of Pakistan.

Urban transition took place under the influence of security threats in the past in Pakistan like terrorism and international conflicts (internal displacement of masses due to soviet invasion in Afghanistan which affected Pakistan as well, and war against terrorism) but at present it is largely the result of natural increase of the urban centres (Mehmood, 2016).

Internal migration has a vital impression on the distribution of the population across provinces of Pakistan. Recent labour force surveys reveal that most of the migrants from Khyber Pakhtunkhwa and Sindh moved towards cities of Punjab. Similarly, considerable rural-urban migration is taking place in Punjab and Sindh. There are two cities with more than 10 million dwellers in Pakistan. The most populated city of Pakistan is Karachi (Sindh) with 14.9 million residents while its average annual urban growth rate is 2.5%. The second one is Lahore (Punjab) where 11.1 million inhabitants reside, its population has grown more than double in 19 years (1998-2017) at an average annual urban growth rate of 4.1% (much higher than that of Karachi). According to 2017 census, around 50% of urban

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population of Pakistan live in 10 cities and half of them are concentrated in Punjab province only (Negaard et al., 2007).

MATERIAL AND METHODS

The work in hand is based on secondary data, collected from “Macrotrends.net” website. Tabular dataset was regenerated using Microsoft Excel, line and bar graphs were made for convenient analysis. Data of only Pakistani census years (1951, 1961, 1972, 1981, 1998 & 2017) was collected for Pakistan, selected countries and world averages. China was selected being the most populous country of the world as well as neighbour of Pakistan. India (2nd populous in the world) and Bangladesh (7th populous in the world) had similar political, cultural and geographical settings to that of Pakistan in 1951, so, comparison with these two may have more meaningful conclusion. Brazil (5th populous in the world) was selected as a representative of medium developed countries, it had also similar fertility trend to that of Pakistan in 1951. Norway and United Kingdom were included as the representatives of developed world and World Averages incorporated to have a global touch.

RESULTS AND DISCUSSION

Demographic Settings in 1951

Demographic transition modal of Pakistan (figure 1) reveals that it was on the ending edge of first stage during its initial years (late 1940s and early 1950s) when CBR (41.6 / 1000) and CDR (28.9 / 1000) both were high, resulting in a lower level of natural increase and a smoother population growth in 1951 (the first ever census conducted in Pakistan after its inception). It was lower than Brazil and neighboring countries; India, Bangladesh and China.

India's CBR was 44.0, CDR was 27.6 and natural increase was 16.4 in 1951. India was also on the first stage of demographic transition model. When we see the world's most populous country China, CBR was 44.9, CDR was 23.1 and the rate of natural increase was 21.8, it was highest among all Asian Countries and was double than that of Pakistan. China was seen in second stage by the high birth rate and low death rate resulted natural increase grown up briskly.

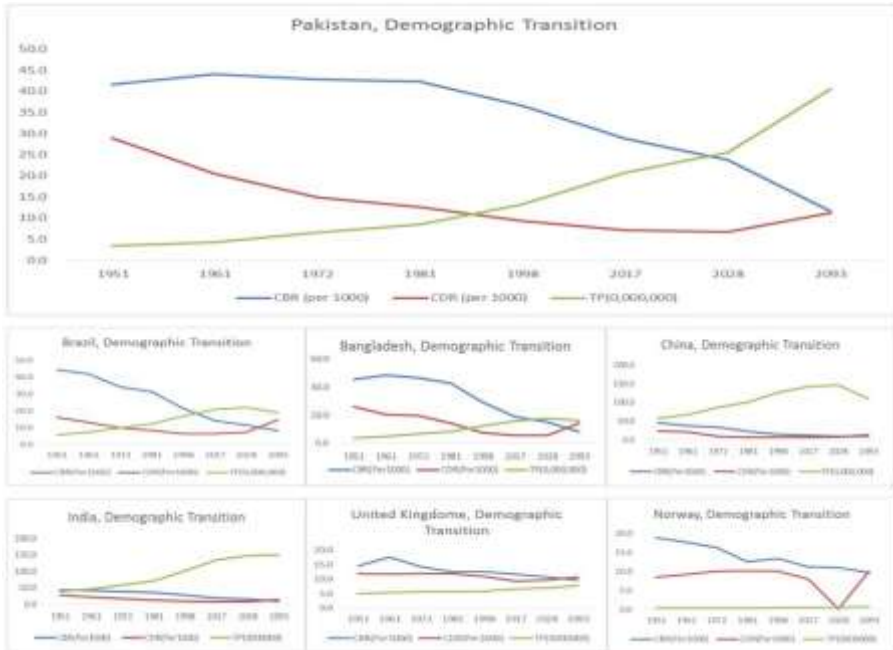


Figure 1: Source; Made by Author

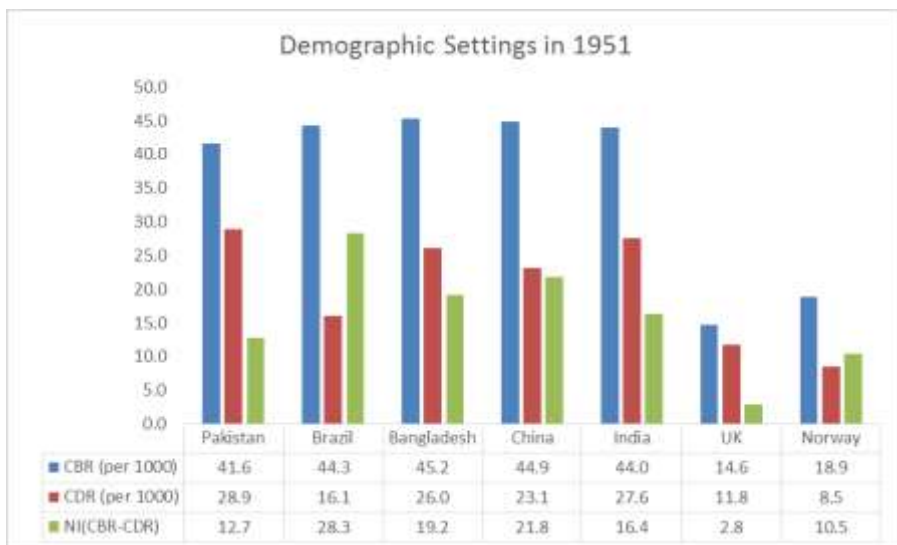


Figure 2: Source; Made by Authors

Bangladesh's CBR was 42.5 and CDR was 26.0 and natural increase (19.2), it had higher natural increase than that of Pakistan and India. CBR of Brazil was 44.3, CDR was 16.1 and rate of natural increase was 28.2 much higher, it seemed at the middle of the second stage of demographic transition model where natural increase observed very high. When we talk about the demographic transition trend of United Kingdom, the CBR was 14.6 and CDR

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was 11.8, we can say that UK was laying in 4th stage of demographic transition model, with the natural increase of 2.8 and remained stable. Norway was at the end of 3rd stage of demographic transition model with CBR (18.9) and CDR (8.3) and natural increase 10.5. In 1951 most populous Asian Countries were almost in the same condition of demographic transition with minor change except China.

Demographic Settings in 1961

In 1961, Pakistan surpassed India, China and Brazil in terms of CBR which grown up from earlier decade and reached 44.0 and CDR declined to 20.5 (at almost the same level of India and China but higher than Brazil), so, the rate of natural increase was doubled (23.5) than that of previous decade and it entered into second stage of DTM in which CDR had been controlled due to the introduction of advanced medical facilities but birth rates gone higher; the result was a rapid population growth compared with the world's rates, CBR (31.032) and CDR (14.999) and natural increase was 16.033.

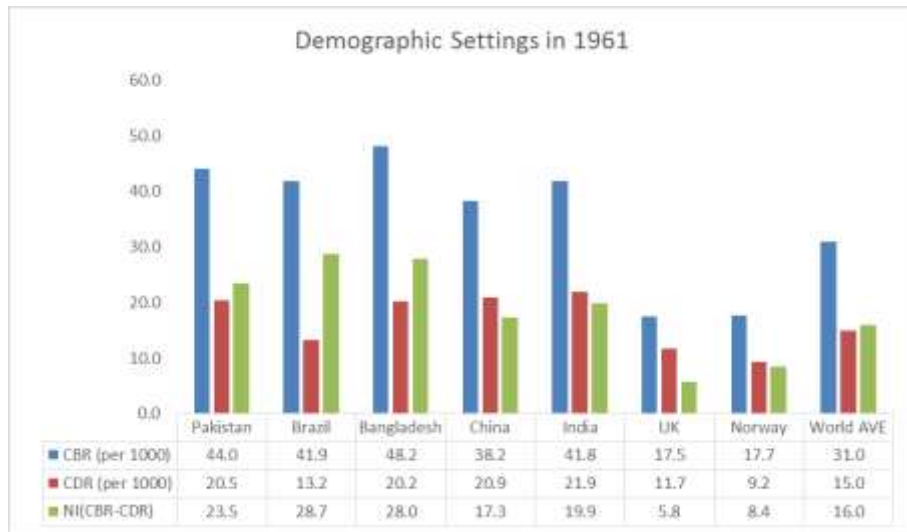


Figure 3: Source: Made by Author

CBR of India was 41.8 and CDR was 21.9 in 1961, it was the decade in which India entered in early phase of 3rd stage of DTM with the rate of natural increase of 19.9. Birth rates gradually decreased and population growth lowered. When we look at the Bangladesh, CBR was 48.2, CDR was 20.2 and rate of natural increase was stayed at 28.2, so, it stayed at 2nd stage of DTM with minor change from previous decade. China was seen entering in 3rd stage of DTM with decline in both CBR (38.2) and CDR (20.9) and the natural increase was recorded 17.3. Brazil recorded CBR (41.9), CDR (13.2) and rate of natural increase was 28.7, with the decline in both rates, Brazil entered

in 3rd stage of DTM. Pakistan's natural increase was thrice compared with that of Brazil in 1961. Norway was approaching 4th stage of DTM with CBR (17.7) and CDR (9.2) and natural increase was 8.4. UK was recorded as CBR (17.5), CDR (11.7) and rate of natural increase was 5.8, and it displayed somewhat negative progress surprisingly with increased rates compared with the previous decade.

Demographic Settings in 1972

From 1972 onwards, Pakistan had shown an all-time higher rates of natural increase and CBR (except CBR of Bangladesh) among the rates of selected countries (here in this study) and world averages. Pakistan continued to stay at 2nd stage of DTM with higher CBR (42.8) and declined CDR (14.8) which resulted higher level of natural increase (28.0). Pakistan surpassed even Bangladesh this time in terms of natural increase (although, it was mainly due to lower CDR as compared to that of Bangladesh). The world's natural increase rate was 19.4 with the CBR (31.072) and CDR (11.662).

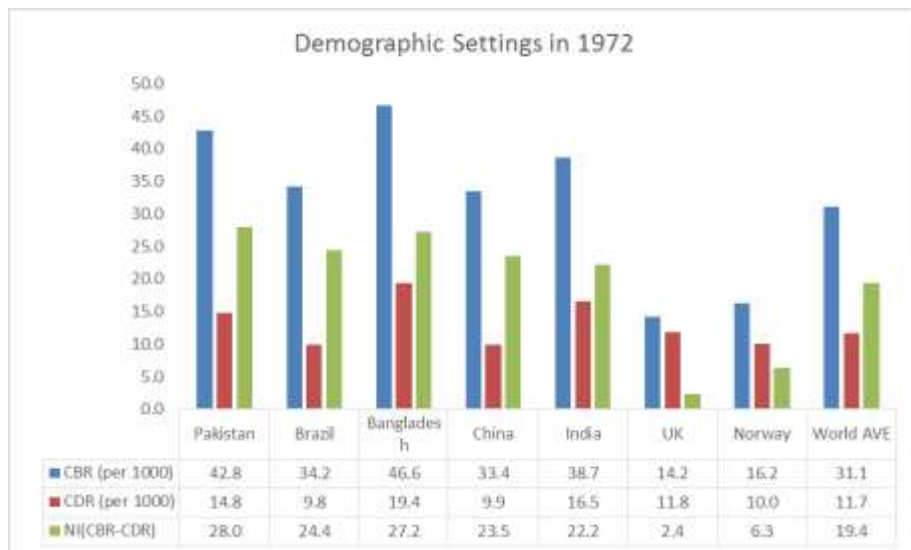


Figure 4: Source; Made by Author

India's CBR was 38.7, CDR was 16.5 and natural increase was 22.2 in 1972, so, it continued to stay at start of 3rd stage of DTM. China CBR was 33.4, CDR was 9.9 and rate of natural increase was 23.59, so, it continued to stay in 3rd stage of DTM with decline in both CBR and CDR. Bangladesh continued to stay at 2nd stage of DTM with higher CBR (46.6) and declined CDR (19.4) and rate of natural increase was 27.2. The rates of natural increase of Pakistan and Bangladesh were nearly parallel, so, it can be said that Bangladesh stayed in the 2nd stage of DTM. In 1972 Brazil CBR was 34.2, CDR was 9.8 and rate of natural increase was 24.4. So both rates of Brazil

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suddenly lowered as compare to Pakistan and it seemed approaching 3rd stage. Norway's CBR was 16.2 and CDR was 10.0 and rate of natural increase was 6.3, it was further less than the previous three decades of its history and it seemed entering into 4th stage of DTM. United Kingdom appeared completing demographic transition with CBR (14.2) and CDR (11.8) while rate of natural increase was only 2.4.

Demographic Settings in 1981

Pakistan and Bangladesh touched peak of natural increase rate in 1981 and seemed at the middle of 2nd stage while Brazil and India were at 3rd stage and China seemed approaching 4th stage.

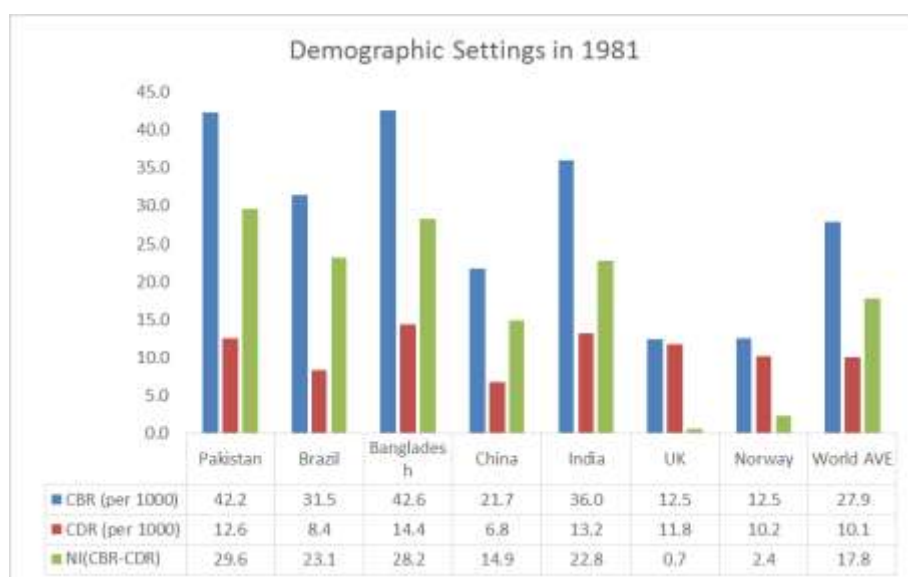


Figure 5: Source; Made by Author

In Pakistan, CBR was 42.2, CDR was 12.6 and the rate of natural increase was 29.6 (unparalleled highest in the history of Pakistan). World's CBR (27.893) observed very little decline since 1951-1981 and in CDR (10.1) declined also which was the cause of high natural increase (17.781).

India's CBR was 36.0, CDR was 13.2 and natural increase was 22.8. China's CBR was 21.7, CDR was 6.8 and rate of natural increase was 14.9, it was observed that CDR was much lower, CBR was also controlled but rate still remained high to some extent. Although China was most populous country but its rate of natural increase was much less than that of neighboring Asian countries like Pakistan, India and Bangladesh. Bangladesh's CBR was 42.6, CDR was 14.4 and rate of natural increase was 28.2. Brazil's CBR was 31.5, CDR was 8.4 and rate of natural increase was 23.1, rates were higher than the rates of China and India but less than the rates of Pakistan and

Bangladesh. Norway's CBR was 12.5, CDR was 10.2 and rate of natural increase was 2.4, it were much less than previous three decades of its history. It entered into the 4th stage of DTM and rate of natural increase was stable and growth became very slow. The natural increase (0.7) of UK declined fastly with CBR (12.5), CDR (11.8), it seemed near to cross the 4th stage and entering 5th stage of DTM and showed very little growth.

Demographic Settings in 1998

In 1998, Pakistan observed CBR (36.5), CDR (9.3) and natural increase (27.2), with these rates, Pakistan continued to stay at 2nd stage of DTM. Both CBR and CDR were in decline state and natural increased also declined in this decade from previous years comparatively. The rates of the world on average were, CBR (22.337), CDR (8.661) and natural increase (13.676).

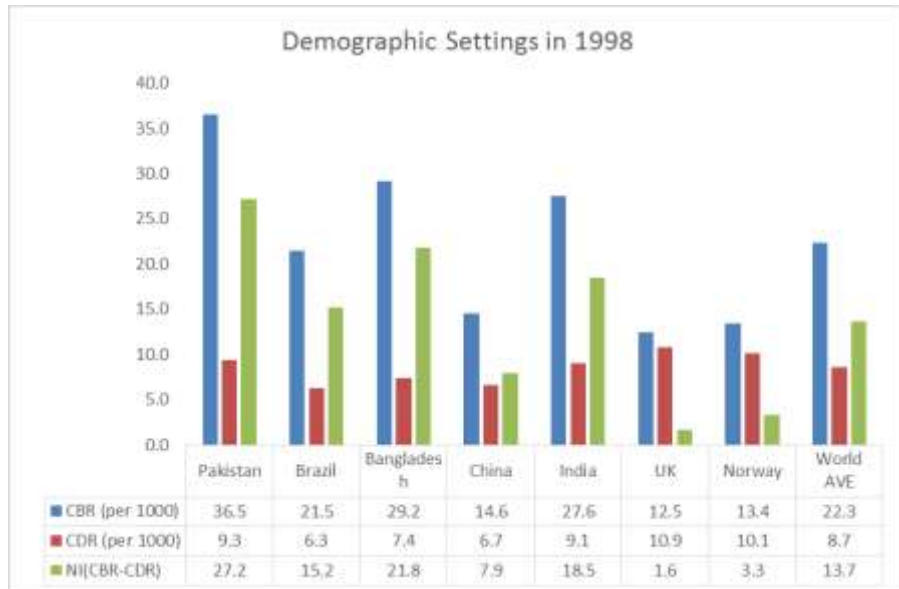


Figure 6: Source; Made by Author

India's CBR (27.9) and CDR (9.1) had shown a rapid fall, with rate of natural increase (18.5) that was also less than Pakistan's rate of natural increase. China was crossing the 3rd stage of DTM because of decrease in CBR (14.6) and CDR (6.7). With the control of natural increase rate (7.9), its population was increasing slowly. Bangladesh stayed with the rate of natural increase of 21.8 which was less than the rate of 1981. In Brazil, CBR (21.5) was much under control and CDR (6.3) was also declining in 1998, its population was increasing but slowly with the natural increase of 12.5. Norway had fallen in 4th stage of DTM because of less natural increase (3.3) with CBR (13.4) and CDR (10.1). UK's CBR (12.5) and CDR (10.9) were very lower by this time.

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Demographic Settings in 2017

In 2017, Pakistan's CBR (28.7) and CDR (7.0) were more declined resulting nature increase of 21.7, although the rates were declining as compared to the past but still they were above the rates of the world. Average natural increase of the world was 11 while CBR was 18.6 and CDR was 7.5.

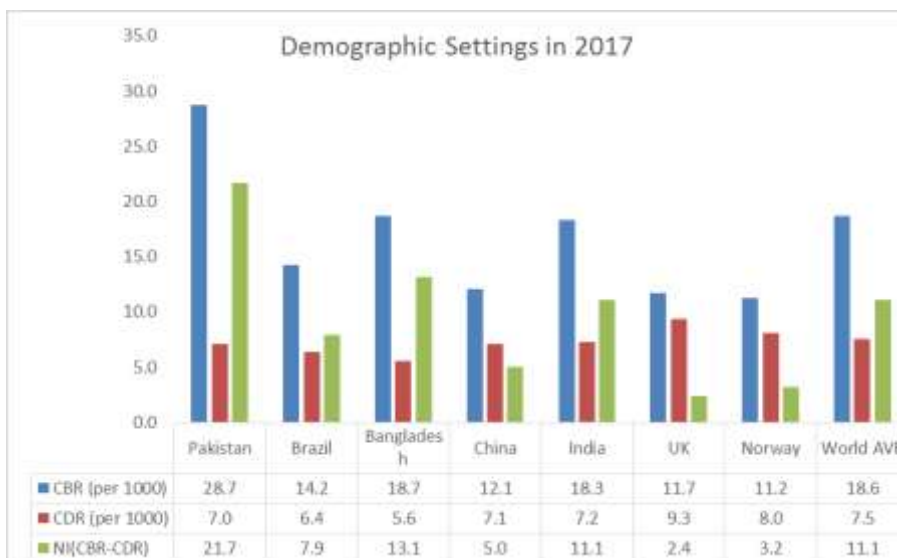


Figure 7: Source; Made by Author

India seemed approaching the end of the 3rd stage of DTM by decline in both CBR (18.3) and CDR.7.2, and natural increase was 11.1 which was the same as the natural increase of the world on average. China had entered into 4th stage of DTM with CBR 12.1, CDR 7.1 and natural increase 5.0. Bangladesh observed CBR of 18.7 and CDR of 5.6 which resulted in much less natural increase of 13.1, so, it was also approaching 4th stage of DTM rapidly. Brazil's CBR was viewed at 14.2, CDR was 6.4 and natural increase was 7.9, it had also entered into the 4th stage of DTM with minor growth. Norway was crossing 4th stage and seemed approaching 5th stage of DTM, its CBR was 11.2, CDR was 8.0 and natural increase was 3.2. UK's CBR (11.7), CDR (9.3) and natural increase (2.4) were fewer than all discussed countries in this study.

Fertility Transition

Total fertility trend in Pakistan shows a very slow decline from 1951 to 2017. There was no change in total fertility rate which continued to prevail at 6.6 births per women from 1951 to 1972. A very slight decrease was observed in 1981 when the rate decreased to 6.5 births per women, the next two decades observed 5.4 births per women TFR. It declined at a very slower rate as compared to previous three decades while a considerable decrease

was noted in 2017 (3.6 births per women) but the rate continued to persist above the world total fertility rate. It is expected that Pakistan would achieve replacement level fertility till 2093 (1.8 births per woman) according to UN projections which is very alarming for government of Pakistan and demographic analysts.

India used to have 5.9 births per women total fertility in 1951 which remained persistent in 1961 but declined to 2.3 births per women in 2017 and it is expected to achieve replacement level total fertility (2.1 births per women) in 2028. As far as the case of Bangladesh is concerned, it had 6.3 births per women total fertility rate in 1951 which risen up to 6.9 births per woman in 1972 (record high in the history of Bangladesh). From 1972 onwards, total fertility rate in Bangladesh declined considerably, achieving replacement level fertility rate in 2017(2.1 births per women).

China was also experiencing high total fertility rate at 6.4 births per women in 1951 (a little less than that of Pakistan at that time), from 1951 onwards fertility rate continued to decline at a very faster rate especially during 1970s, 1980s and 1990s. It achieved replacement level fertility rate somewhere between 1981 and 1998. It seems that 'one child policy' of government of China worked efficiently and total fertility rate gone down from replacement level even in 1998 (1.6 births per women). Since 1998 to 2017, the total fertility rate raised a little to 1.7 births per woman.

Brazil also used to experience very high level of total fertility rate 6.1 births per women in 1951 but a rapid decline was observed onwards and it achieved replacement fertility level somewhere amid 1998 (2.5 births per women) and 2017 (1.7 births per women). It is expected according to UN projections that it would continue to maintain this level during the whole course of the current century (2093, 1.7 births per women).

Norway was near to replacement fertility level in 1951 (2.5 births per woman). It increased to 2.9 births per women till 1961 but kept declining onwards and it achieved replacement level fertility somewhere between 1972 (2.4 births per women) and 1981 (1.7 births per woman). From 1981 onwards the rate remained below the replacement fertility level (1.7 births per women) and expected to remain the same during current century.

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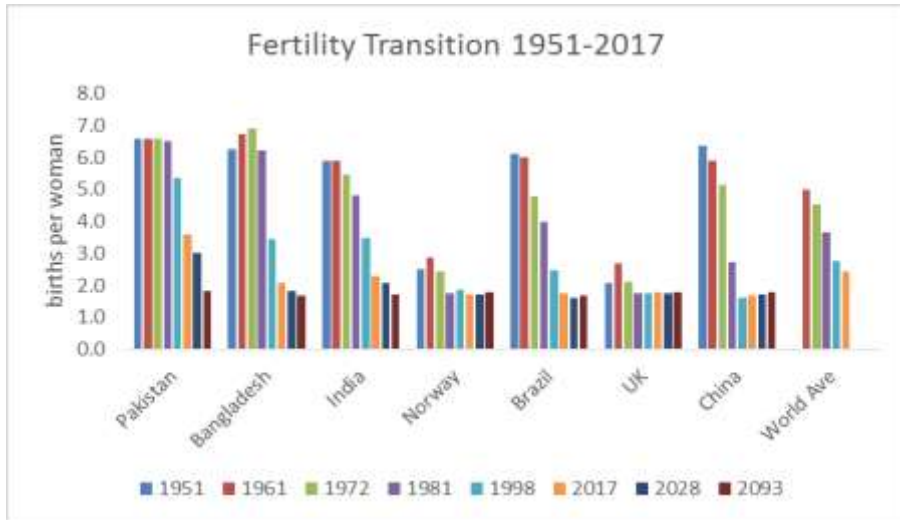


Figure 8: Source; Made by Author

UK was already on replacement level of total fertility rate (2.1 births per women) in 1951 which increased a bit to 2.7 births per women till 1961 but came down to replacement level again in 1972 (2.1 births per women) and remained (and expected to remain as well during current century) below replacement level fertility (1.8 births per women) till 2017.

Urban Transition

Economically developed countries of the world have 80% to 90% urban segment of their total population. Higher percentage of urban population in a country indicates that more people are engaged in secondary and tertiary activities while the countries with lower level of urbanization are seen as less developed, as more of their population get engaged in primary activities like agriculture, mining, fishing etc.

Analysis of the data reveals that about a quarter (22.5%) of the total population of Pakistan was living in urban centers in 1961, 1/3 (25.4%) in 1972, 28.4% in 1981, 32.6% in 1998 and 36.4% in 2017, so, overall increase in the proportion of urban population remained 13.9% as compared to the world averages which increased from 34.2% to 55% (20.8% increase) in the meanwhile. Bangladesh and India has shown considerable increase (Bangladesh 5.3% in 1961, 35.9% in 2017, so, 30.6% increase observed) and (India from 18% in 1961 to 33.6% in 2017, so, 15.6% increase observed) although these two countries are still behind than Pakistan (36.4%) in terms of urban percentage of the total population.

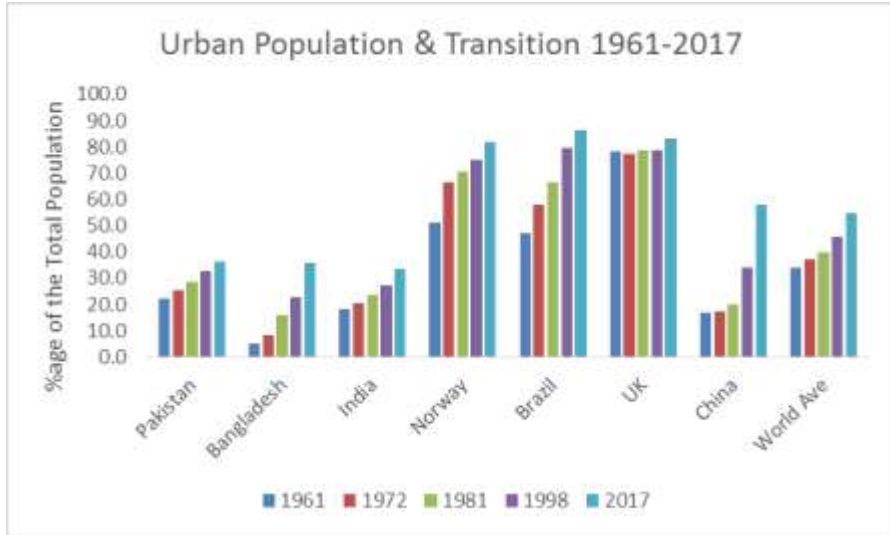


Figure 9: Source; Made by Author

Brazil had almost half of its population (47.1%) in 1961 living in urban areas and its proportion jumped to 86.3% in 2017, surpassing Norway (81.9%) and UK (83.1%) even.

China have had 16.7% urban proportion of population in 1961 (less than Pakistan even) which increased to 58% in 2017, it had shown 41.3% increase but most of this increase occurred during 1981 to 2017 (during last four decades).

CONCLUSION

The data analysis exposes that Pakistan entered the demographic transition during 1980s, much later than the rest of South Asian countries. Moreover, the fertility rate in Pakistan is still high in comparison with its regional counterparts. With the current fertility rate of 3.6, Pakistan stands second in the region while the crude birth rate is at 28.7 / 1000. Consequently, Pakistan has a population of 207.774 million persons, with an average annual growth rate of 2.4%. This higher growth incorporates changes in age structure together with differences in working and dependent age populations. High fertility rate supplemented by decreasing mortality rate is resulting in the accretion of younger people at this time in Pakistan.

An important description for the process of depopulation is the 'replacement level fertility', that is the total fertility rate below 2.1 which in turn results in less population in future than the past. This spectacle is seen in Western European countries but this is not the case in Pakistan where the fertility rate surpasses the above-mentioned standard. A strict implementation of one-child policy (like China) may work to control

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population growth in Pakistan as the social environment here don't support the idea of depopulation or population planning even.

Although, the process of urbanization remained faster in Pakistan than its regional counterparts but it was slower than other emerging economic powers like China. Moreover, a large proportion of its urban population live in katchi abadis which shows that the urbanization took place without planning. A more genuine description of the urban transition in Pakistan is the rural relocation that necessitates rural-urban migration as less labour force is required in primary activities (mostly carried out in rural areas) due to the introduction of machines. Sindh and Punjab provinces in Pakistan have the largest proportion of urban populations, which is 52.02% and 36.71% respectively, because most of the industrial / economic development has taken place in the urban centers of these two, attracting the rural unemployed. Khyber Pakhtunkhwa, Balochistan, Gilgit-Baltistan and Azad Kashmir are largely rural which, in turn, display the lack of industrial base as well as an overall favorable situation for economic activities.

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