World Population Situation with Special Reference to SAARC Countries

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Abstract

The main objective of this article is to analyze the demographic situation of SAARC countries. This article is based on descriptive analyses of the data derived from the World Population Data Sheet (Population Reference Bureau) 2006 and 2016. The world population reached 7.4 billion in 2016. It is unevenly distributed because less developed countries occupied 83 percent and more developed countries had 17 percent. Asia only occupied three-fifth (60.53%). In the SAARC region, India and Maldives are the countries with the highest and lowest population. Afghanistan had the highest fertility and mortality whereas Sri Lanka and Maldives had the lowest fertility and mortality. Sri Lanka, Maldives, and Bangladesh had life expectancy over 70 years. Afghanistan and Sri Lanka had the highest (44%) and lowest (25%) shares of the young population. However, the share of the old dependent population (65+ years) in the SAARC region was very low. Similarly, the highest and lowest urban percentages were found in Maldives (46%) and Sri Lanka (18%).

Keywords: Population, SAARC, fertility, mortality, urbanization

1. Introduction

Population denotes all individuals living together in a specific geographical area at a specified time. The population is changed with the interplay of birth, death, and migration as they are the vital elements/components for population change. Demographic measurements based on such components are helpful to analyze demographic data. The world population was estimated to be 256 million in 1 AD which reached 0.5 billion in 1650 (Bhende & Kanitkar, 1999). For the first time in human history, the world population reached 1 billion in 1804. It took 123 years to reach 2 billion in 1927; however, it took just 34 years for another billion to reach 3 billion in 1960. The duration for an increment of one billion had further decreased. Consequently, it took just 39 years for an additional 3 billion and it reached 6 billion in 1999. In 2011, it reached 7 billion (National Health Training Centre/Nepal, 2008).

The South Asian Association for Regional Cooperation (SAARC) was established in 1985 to promote the welfare of the people of South Asia through regional cooperation. Seven countries Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka are the founder members of the organization from its establishment. The number of member States reaches eight when Afghanistan became a member of SAARC in 2007 (CBS, 2016). The countries forming the regional cooperation, SAARC, are diverse in their natural resource endowment, size, population, economy, as well as many other characteristics. India is the largest (70% land of SAARC) country in all respects and touches all SAARC countries except Afghanistan. Bhutan and Nepal are landlocked whereas Maldives and Sri Lanka are island states. Pakistan shares its boundary with Afghanistan (Chowdury, 2004, cited in Sawhney, 2010).

2. Objectives

The main purpose of the article is to analyze the situation of the world population with special reference to SAARC countries. It aims at analyzing the demographic situation of SAARC countries regarding population size, age structure, fertility, mortality, and urbanization.

3. Research Design and Methods

This study is based on the descriptive analysis of data from the World Population Data Sheet for the years 2006 and 2016. The comparative tables with a calculation of percentages with the use of Excel were used. Similarly, some charts like trend lines, bar graphs, and pie charts had been used to analyze and present the data effectively. This study is based on secondary data. The main sources of information were the 2006 World Population Data Sheet and the 2016 World Population Data Sheet. Besides, Bhende and Kanitkar (1999), Pressat (1985), Siegel and Swanson (2004), UNFPA (2006), and other internet materials were also used.

4. Analysis and Interpretation

The data were analyzed by selecting some demographic characteristics like population size, fertility, mortality, age structure, and urbanization. The situation of SAARC countries had been compared with world more developed and less developed regions.

4.1 Population Size

The world population has crossed 7.4 billion in 2016. It is unevenly distributed. Out of that population (7418), only 1254 million (16.9%) population has been occupied by more developed regions whereas 6164 million (83.1%) population has been occupied by less developed regions. Only Asia occupies three-fifth (59.8%) or 4437 million of the world population. A decades ago (2006), the world population was 6555 million out of which more developed and less developed region occupied 18.55 percent and 81.45 percent respectively. Asia only occupied 60.53 percent followed by Africa at 14.10 percent. According to the population projection for the year 2050, the world population will be 9869 million out of which 13.4 percent are in more developed countries and 86.6 percent in less developed regions. At that time the share of Asia will be 54 percent followed by Africa (Table 1).
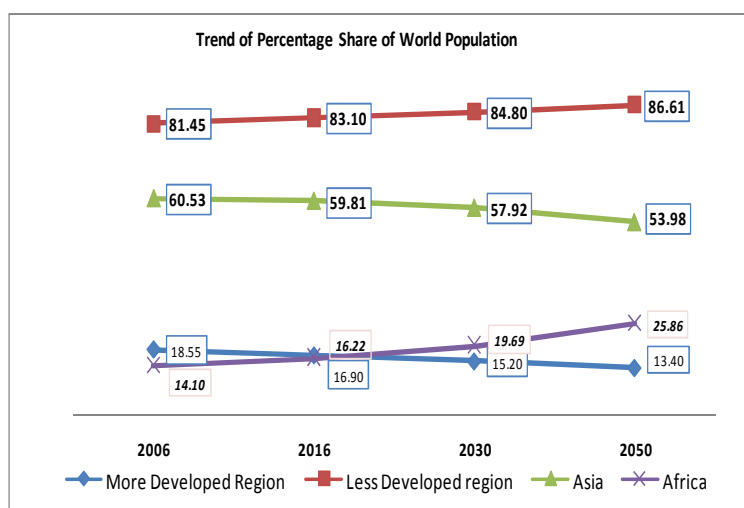

Figure 1: Trend of Percentage Share of World Population
(Source: Table 1)

Table 1: Size of Population by Selected Regions, 2006-2050.

Area	Population(Millions)			
	2006	**2016**	**2030**	**2050**
World	6555	7418	8539	9869
More Developed Region	1216 *(18.55%)*	1254*(16.9%)*	1298 *(15.2%)*	1322 *(13.4%)*
Less Developed region	5339*(81.45%)*	6164*(83.1%)*	7241*(84.8%)*	8548 *(86.6%)*
Asia	3968*(60.53%)*	4437*(59.81%)*	4946*(57.92%)*	5327*(53.98%)*
Africa	924*(14.10%)*	1203*(19.69%)*	1681*(19.69%)*	2527*(25.86%)*

Source: PRB (2006 & 2016), 2006 World Population Data Sheet, and 2016 World Population Data Sheet.

In the SAARC region in 2016, India is the largest country based on population size (1328.9 million) followed by Pakistan (203.4 million) and Bangladesh (162.9 million). Maldives has the least population. In comparison to 2006, the highest change (33.33%) was seen in Maldives, and the lowest change (-11.11%) was in Bhutan in 2016. Similarly, it is projected to be the highest change in Afghanistan followed by Pakistan both in 2025 and 2050, and the lowest change in Sri Lanka, even with a negative value (-3.2%) in Sri Lanka (Table 2).

Table 2: Size of Population by SAARC Countries, 2006-2050.

SAARC Countries	Pop^n(million) 2006	% change	Pop^n(million) 2016	% change	Pop^n(million) 2025	% change	Pop^n(million) 2050	% change
1. Afghanistan	31.1	-	33.4	7.40	45.5	36.23	62.4	37.14
2. Bangladesh	146.6	-	162.9	11.12	186.5	14.49	202.2	8.42
3. Bhutan	0.9	-	0.8	-11.11	0.9	12.50	1.0	11.11
4. India	1221.8	-	1328.9	8.77	1530	15.13	1708	11.63
5. Maldives	0.3	-	0.4	33.33	0.5	25.00	0.6	20.00
6. Nepal	26.0	-	28.4	9.23	33.3	17.25	36.4	9.31
7. Pakistan	165.8	-	203.4	22.68	265.6	30.58	344	29.52
8. Sri Lanka	19.9	-	21.2	6.53	21.9	3.30	21.2	-3.20

Source: PRB (2006 & 2016), 2006 World Population Data Sheet, and 2016 World Population Data sheet.

4.2 Fertility

Fertility is the childbearing performance of individuals, couples, groups, or populations (Pressat, 1985). It can be measured in various ways. Among them, Crude Birth Rate (CBR) and Total Fertility Rate (TFR) are common measures for which data can be available for international comparison. CBR denotes the annual number of births per 1000 population. TFR is the average number of children a woman would have assuming that current age-specific birth rates remain constant throughout her childbearing years, usually considered to be age 15 to 49 (PRB, 2006).

Both the CBR and TFR are found higher in less developed than the average value for the world and the more developed region with a slight decrease in 2016 in comparison to 2006. In the SAARC region, Afghanistan had the highest values of CBR (48, 37) and TFR (6.8 and 5.3) for both 2006 and 2016 followed by Pakistan and Nepal. The lowest value was observed in Sri Lanka for both periods. The highest rate (29%) of decline was observed in Nepal followed by Bangladesh (25.9%) and Afghanistan (22.9%) and the lowest (0%) decline in Maldives in terms of CBR for the period 2006-2016. Similarly, in terms of TFR, the highest rate of decline (37.8%) was found in Nepal followed by Bhutan (27.6%) and Bangladesh (23.3%). As per the data, TFR in Sri Lanka increased by 5 percent. The value for CBR and TFR for the period 2006 and 2016 has been mentioned in Table 3.

Table 3: CBR and TFR in Selected Regions and SAARC Countries, 2006-2016

Area	CBR (per 1000 population)		TFR (Per woman)	
	2006	2016	2006	2016
World	21	20	2.7	2.5
More Developed Region	11	11	1.6	1.7
Less Developed Region	23	22	2.9	2.6
Asia	20	18	2.4	2.1
SAARC Region				
1. Afghanistan	48	37	6.8	5.3
2. Bangladesh	27	20	3.0	2.3
3. Bhutan	20	19	2.9	2.1
4. India	24	22	2.9	2.3
5. Maldives	18	18	2.8	2.5
6. Nepal	31	22	3.7	2.3
7. Pakistan	33	30	4.6	3.7
8. Sri Lanka	19	16	2.0	2.1

Source: PRB (2006 & 2016), 2006 World Population Data Sheet, and 2016 World Population Data sheet.

4.3 Mortality

Mortality is a process whereby deaths occur in a population (Pressat, 1985) and it is another cause of population change. There are various measures and indicators of mortality. Crude Death Rate (CDR), Infant Mortality Rate (IMR), Maternal Mortality Ratio (MMR), and life expectancy at birth are popularly used while comparing the mortality situation among the countries and regions in the world. CDR is the total number of deaths per 1000 mid-year population in a year. According to PRB (2016), IMR is the annual number of deaths of infants under age 1 per

1,000 live births. Maternal mortality is the maternal deaths per 100,000 births. Maternal mortality can be defined as "the death of a woman while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause to or aggravated by the pregnancy or its management but not from accidental or incidental causes" according to WHO. Life expectancy at birth is the average number of years a newborn infant can expect to live under current mortality rates.

CDR: In 2016, higher CDR was found in the more developed region (10 per 1000) than in the less developed region (7 per 1000). This is due to the effect of aging in developed regions. CDR for the World in 2016 is 8 per 1000 mid-year population which is a decrease in comparison to 2006 data. A similar decrease has also been observed in the less developed region (from 8 in 2006 to 7 in 2016). In the SAARC region, Afghanistan has the highest (8) CDR, and the Maldives has the lowest (3). Afghanistan had made tremendous progress (63.6%) to decrease CDR from 22 in 2006 to 8 in 2016 (Table 4).

IMR: It is one of the best indicators of socioeconomic development and health facility in a country. In 2016, there is still a huge gap in IMR between more developed (5) and less developed (39) regions despite the great achievement (31.6% decrease) in IMR in the less developed region (from 57 in 2006 to 39 in 2016 in a decade). Asia also experienced a significant decrease (36.7%) in IMR in a decade from 49 in 2006 to 31 in 2016 (Table 4).

Within the SAARC region in 2016, the highest IMR was observed in Afghanistan (68) followed by Pakistan (67). Similarly, the lowest IMR was found in Sri Lanka and Maldives, both had 8 as the value of IMR. The Highest achievement (59.0%) was observed in the decline of IMR of Afghanistan (166 in 2006 and 68 in 2016) followed by Nepal (64 in 2006 to 33 in 2016) with the achievement of 48.4 percent and Maldives(15 from 2006 to 8 in 2016) with the achievement of 46.7 percent. Despite the global decreasing trend of IMR, Bhutan's IMR was found to be increased (40 in 2006 in comparison to 44 in 2016). There might be an error in estimation because UNFPA (2006) mentions, in its State of World Population 2006 (page 95), that Bhutan had an IMR of 50 (Table 4).

Table 4: Mortality Indicators (CDR, IMR, Maternal Mortality and Life Expectancy at Birth) in Selected Regions and SAARC Countries, 2006-2016

Area	CDR		IMR		Maternal Mortality (Per 100,000 live births)		Life Expectancy at Birth (in years)	
	2006	**2016**	**2006**	**2016**	**(UNICEF,2005)**	**(PRB, 2016)**	**2006 (M, F)**	**2016 (M, F)**
World	9	8	52	36	400	216	65, 69	70,74
More Developed	10	10	6	5	13	12	73, 80	76,82
Less Developed region	8	7	57	39	440	239	64, 67	68, 72
Asia	7	7	49	31	-	122	66,70	71, 74
SAARC region								
1. Afghanistan	22	8	166	68	1600	396	41,42	59, 62
2. Bangladesh	8	5	65	38	380	176	61,62	71, 73
3. Bhutan	7	6	40	44	260	148	63,62	69,70
4. India	8	7	58	40	540	174	63,62	67,70
5. Maldives	3	3	15	8	140	78	64,72	76,78
6. Nepal	9	7	64	33	540	258	62,63	66,69
7. Pakistan	9	7	79	67	530	178	61,63	66,67
8. Sri Lanka	6	6	11	8	92	78	71,77	72,78

Source: PRB (2006 and 2016), 2006 World Population Data Sheet and 2016 World Population Data Sheet

    UNICEF (2005).State of World Children 2006

Maternal Mortality Ratio (MMR): Like IMR, MMR is also another important socio-economic and health indicator. Therefore, there is a huge gap in MMR in more developed regions and less developed regions as it was 12 and 239 respectively as per the data from the 2016 World Population Data Sheet. It was 216 for the world and 122 for Asia. It was about a 46 percent reduction in the MMR in the world and less developed countries in comparison to MMR reported by State of World Children 2006 published by UNICEF (Table 4).

In the SAARC region according to the 2016 World Population Data Sheet (WPDS), the highest MMR was found in Afghanistan (396) followed by Nepal (258). The lowest MMR was found in Sri Lanka and Maldives (78). While comparing the data of 2016 WPDS and the State of World Children (SWC) 2006 published by UNICEF, the highest rate of decline (75.25%) was observed in Afghanistan (from 1600 to 396) followed by India (67.8%) with a decline of MMR from 540 to 174. Similarly, the least rate of decline was observed in Sri Lanka (15.2%) followed by Bhutan (43.1%) (Table 4).

Life expectancy at birth: Like IMR and MMR, life expectancy at birth is also an important indicator of socio-economic development and health condition. It can be increased with the decrease in infant and child mortality. As there is a difference between male and female life expectancy, Table 4 shows the data on life expectancy by sex. Life expectancy at birth in 2016 was found to be over 70 for both sexes in the world (70 for males and 74 for females), in more developed regions (76 for males and 82 for females), and Asia (71 for males and 74 for females). In the less developed region, this value was 68 for males and 72 for females (Table 4).

In 2016, each country in SAARC had a higher life expectancy for females than males. Afghanistan had a life expectancy below 60 years, even if it was for males only. Sri Lanka Maldives and Bangladesh had life expectancy over 70 years. In 2006, only Sri Lanka had a life expectancy of over 70 years. Afghanistan had a life expectancy below 45(41 for males and 42 for females). The highest growth in life expectancy for both males (43.9%) and females (47.6%) was observed in Afghanistan and the lowest growth was observed in Sri Lanka (1.4% for males and 1.3% for females) (Table 4).

Based on the above discussion, it is clear that the mortality situation has changed well. However, still there is a need for hard work to be done to meet the level of more developed countries for the less developed countries.

4.4 Age composition

Age is one of the most important variables in the study of demographic analysis. UN (1998) defines age as "the interval of time between the date of birth and the date of the census, expressed in completed solar years" (Siegel, &Swanson, 2004). Age composition is the distribution of the population by age. Based on age composition, some populations are relatively young and have a large proportion of people in the younger age groups (less than 15 years). Less developed countries have relatively young populations and more developed countries have old or ageing populations (over 65 years). High-fertility countries have a large proportion of young adults and children (Haupt, & Kane, 2000).

Table 5: Percentage of population by age under 15 and over 65 years in Selected Regions and SAARC Countries, 2006-2016

Area	Percent of Population <15 years		% decrease	Percent of Population 65+ years		% increase
	2006	2016		2006	2016	
World	29	26	10.34	7	8	14.3
More Developed Region	17	16	5.88	15	18	42.9
Less Developed Region	32	28	12.50	5	7	28.6
Asia	29	25	13.79	6	8	28.6
SAARC region						
1. Afghanistan	45	44	2.22	2	2	0.0
2. Bangladesh	35	33	5.71	3	6	42.9
3. Bhutan	33	31	6.06	5	5	0.0
4. India	36	29	19.44	4	6	28.6
5. Maldives	33	27	18.18	5	5	0.0
6. Nepal	41	31	24.39	4	6	28.6
7. Pakistan	41	36	12.20	4	4	0.0
8. Sri Lanka	26	25	3.85	7	8	14.3

Source: PRB (2006 and 2016), 2006 World Population Data Sheet and 2016 World Population Data Sheet

In the world in 2016, slightly more than one-fourth (26%) of the population was found to be young dependent with a 10.3 percent decrease in comparison to 29 percent in 2006. The young dependent population was found 16 percent in more developed and 28 percent in less developed countries. Asia had one-fourth (25%) of the population as young in 2016 with a 13.8 percent decline from the value of 29 percent in 2006. Based on this discussion, the burden of young dependents is higher in less developed regions than in more developed regions. However, the scenario is reversed for the old dependent population. It is high in the more developed regions and low in the less developed regions. The percentage of the old dependent population in 2016 was 8 with a 14.3 percent increase from 7 percent in 2006. The more developed regions had an 18 percent old dependent population with an increase of 42.9 percent in the data 2006 with the 15 percent share of old dependent population. It was 7 percent for the less developed regions with a 28.6 percent increase in the data of 2006 (Table 5).

In the SAARC region, Afghanistan had the highest share (44%) of young population whereas Sri Lanka had the least share (25%) followed by Maldives (27%) and India (29%). Though Nepal had a 31 percent share of the young population in 2016, it had the highest decreasing rate (24.4%) from a value of 41 percent in 2006 followed by India (19.4%)from the value of 36 percent in 2006 to 29 percent in 2016. Similarly, Sri Lanka had the lowest decreasing rate(3.8%) from the value of 26 percent in 2006 to 25 percent in 2016(Table 5).

The share of the old dependent population (65+ years) in the SAARC region was very low. In 2016, its highest share was in Sri Lanka(8%) and lowest in Afghanistan (2%). Bangladesh experienced the highest increase (42.9%) followed by India (28.6%) and Nepal (28.6%). Within the 10 years interval, the increase in the share of the old dependent population was zero for Afghanistan, Bhutan, Maldives, and Pakistan (Table 5).

4.5 Urbanization

Urbanization is an increase in the proportion of a population living in urban areas. It takes palce when the urban population is growing more rapidly than the population as a whole (Pressat, 1985). In 2008, the United Nations announced that 50 percent of the world's population lived in urban areas which can be taken as a milestone in demographic history (Haub,2009). In 2016, more than half (54%) of the world's population was found urban whereas it was slightly less than four-fifth (78%) in more developed regions and about half (49%) in less developed regions. Though the less developed region had a lower urban percent, the rate of increment in its value was found higher (19.5%) than the more developed region (1.3%). This shows the increasing trend of urban percent in the less developed regions in the future also (Table 6).

Table 6: Urban percent in SAARC, 2006-2016

Area	Percent Urban		Increase %
	2006	**2016**	
World	48	54	12.50
More Developed Region	77	78	1.30
Less Developed Region	41	49	19.51
Asia	38	48	26.32
SAARC			
1. Afghanistan	22	27	22.73
2. Bangladesh	23	34	47.83
3. Bhutan	31	39	25.81
4. India	29	33	13.79
5. Maldives	27	46	70.37
6. Nepal	14	20	42.86
7. Pakistan	34	39	14.71
8. Sri Lanka	20	18	-10.00

Source: PRB (2006 and 2016)

In the SAARC region, the highest urban percent was found in Maldives (46%) followed by Bhutan (39%) in 2016. Similarly, the lowest urban percentage was found in Sri Lanka (18%) followed by Nepal (20%). In 2006, the highest urban percent was in Pakistan (34%) followed by Bhutan (31%), and lowest in Nepal (14%) followed by Sri Lanka (20%). The rate of decennial increment from 2006 to 2016 was found highest for Maldives (70.4%) followed by Bangladesh (47.8%). Except for Sri Lanka (-10%), all of the SAARC countries had an increase in urban percent in the past 10 years period (2006-1016).

5. Conclusion

The world population (7.4 billion in 2016) is unevenly distributed. Less developed countries have occupied 83 percent. Asia only occupied three-fifth (60.53%). In the SAARC region in 2016, India is the largest country based on population size whereas Maldives has the least population. In terms of fertility in the SAARC region, Afghanistan had the highest values of CBR (37 per thousand) and TFR (5.3 per woman) in 2016. The lowest value was observed in Sri Lanka. For mortality, Afghanistan had the highest CDR(8 per thousand) and Maldives had the lowest (3 per thousand). The highest IMR was observed in Afghanistan (68 per thousand) followed by Pakistan (67 per thousand). Similarly, the lowest IMR was found in Sri Lanka and Maldives, both had 8 per thousand. Afghanistan had the highest MMR (396 per 100,000 live births) followed by Nepal (258). The lowest MMR was found in Sri Lanka and Maldives (78). Similarly, each country in SAARC had a higher life expectancy for females than males. Afghanistan had a life expectancy below 60 years, even if it was for males only. Sri Lanka Maldives and Bangladesh had life expectancy over 70 years. In 2006, only Sri Lanka had a life expectancy of over 70 years. Afghanistan had a life expectancy below 45(41 for males and 42 for females). This shows the improvement in fertility and mortality situations in SAARC countries.

In terms of population by age in the SAARC region, Afghanistan had the highest share (44%) of the young population whereas Sri Lanka had the least share (25%) followed by Maldives (27%) and India (29%). However, the share of the old dependent population (65+ years) in the SAARC region was very low. Similarly, the highest urban portion was found in Maldives (46%) followed by Bhutan (39%) in 2016. Similarly, the lowest urban portion was found in Sri Lanka (18%) followed by Nepal (20%).

References

Bhenda, A., & Kanitkar, T. (1999). *Principles of population studies.* New Delhi: Himalaya Publishing House.

Central Bureau of Statistics [CBS] (2016). *SAARC in Figure 2016.* Kathmandu: CBS.

Haub, C. (2009). *What is a city? What is urbanization?* Retrieved September 16, 2016 from http://www.prb.org/Publications/ Articles/2009/urbanization.aspx

Haupt, A., & Kane, T. T. (2000). *Population handbook* (4th Ed.).Washington DC: Population Reference Bureau

National Health Training Centre/Nepal (2008). *Reference material on population studies in health sector.* Kathmandu: National Health Training Centre/Nepal

Population Reference Bureau [PRB] (2006).*2006 World Population Data Sheet.* Retrieved September 15, 2016 from www.prb.org/pdf06/06worlddatasheet.pdf

PRB (2016). *2016 World Population Data Sheet.* Retrieved September 15 from http://www.prb.org/pdf16/prb-wpds2016-web-2016.pdf

Pressat, R. (1985). *The dictionary of demography*. New York/England: Blackwell Publishing.

Sawhney, U. (2010). Growth and structural change In SAARC economies. *International Journal of Economics and Finance Studies, 2*(2), 95-103.

Siegel, J. S., & Swanson, D. A. (2004). *The methods and materials of demography* [A revised and improved version of a classic book on demographic methods]. California: Elsevier /Academic Press

United Nations Children's Fund [UNICEF] (2005). *The State of World Children 2006.* Retrieved September 16, 2016 from   http://www.unicef.org/sowc/archive/ ENGLISH/The%20State%20of%20the%20World's%20Children%202006.pdf

UNFPA (2006). *The State of World Population 2006*. New York: United Nations Population Fund.