

# Population, Health and Environment in South Asia

Jalandhar Pradhan\*

## Abstract

*The south Asia region - Afganistan, Bangladesh, Bhutan, India, Maldives, Pakistan, Nepal, Sri-Lanka-possesses an extra ordinary diversity of landforms and climatic regimes. Deepening nature of poverty and its impact on the process of environmental degradation is one of the major concerns in this area. In this context, the first part of this paper deals with the state of south Asian economy and environment and the second part examines a few likely scenarios of long term demographic change and their implications for regional economic relationship. Results suggested that the principal causes of environmental degradation in the sub continent are: demographic pressure, which has worsened the man-land ratio causing severe strain on the ecological support base and developmental activities. Also, a poor health profile and the low level of human resource development in all the countries with the exception of Sri Lanka will impose severe constraints.*

*Key words: south Asia, population, health, environment*

## Introduction

South Asia is known to constitute one of the critical regions in the world primarily due to the fact that most of the Asian states are engrossed in varying degrees of inter-state disputes and conflicts. Also, the south Asia region – Afghanistan, Bangladesh, Bhutan, India, Maldives, Pakistan, Nepal, Sri-Lanka possesses an extraordinary diversity in land forms and climatic regimes ranging from the highest mountains, hottest plains, wettest and driest places and dissected valleys to coral Islands. With a total population of 1379.8 Millions (World Development Report 2003), the major concern of the region has been the deepening nature of poverty and it's impact on the process of environmental degradation. With 22 per cent of the world population, and that too with high rate of density, it is plagued by high level of illiteracy, prevalence of poor health conditions and a poor degree of gross national product. The extent of human deprivation in South Asia is also colossal. About 260 million people lack access to even rudimentary health facilities, 337 million lack safe drinking water, 830 million have no access to basic sanitation facilities, and over 400 million go hungry each day. Despite all this, South Asia is one of the most militarised regions in the world. The widespread human deprivation contrasts sharply with large armies, modern weapons, and expanding military budgets. Indeed, two of the largest armies in the world are in South Asia

---

\* Research Scholar, International Institute for Population Sciences, Deonar, Mumbai-400088, India  
Email: jalandhar\_pradhan@hotmail.com

and it is also the only region where military spending (as a proportion of GNP) has gone up since 1987; it declined substantially in all other parts of the world after the end of the Cold War. Historically, the region has been the profitable hinterland for several colonial powers, which perhaps remained as major reasons for backwardness in all sectors from education to health, from agriculture to industries, etc.

On the other side, the potentials of the region are not too bad. In fact, the region is rich in terms of natural resources, which, if harnessed appropriately, could perhaps change the entire scenario. However, this is the particular area where there is tremendous flaw despite the known facts of the opportunities.

It is true that there is great amount of disparity in the distribution of economic resources in the region. It is also true that all the countries in the region are striving to accumulate as much physical and human capital to achieve and accelerate their economic development. Against this backdrop and particularly in the face of growing competition in global trade, economy and investment, concerted cooperation among the countries of the region has become imperative. The process of globalization has also spearheaded the concept and practice of interdependence. Economic and trade liberalization policies enforce stronger bilateral and multilateral cooperation. This has infused the trend for regional and sub-regional cooperation in many parts of the world and, as we have been seeing, such moves resulted in substantial benefits. The case in point could be the ASEAN, EU, SAARC, SAFTA and NAFTA etc.

There have also been several attempts in the region to stage such cooperative endeavours. But regrettably nothing has worked well so far and the situation tends to remain as dim as ever. The need for a strong regional or more specifically sub-regional cooperation has always been orchestrated well. Unfortunately, the real work has never surfaced.

Formation of regional or sub regional cooperative endeavours is indeed imperative when resources are shared by the concerned countries and more so, when opportunities for accumulating common benefits are in place. While we should not ignore the possibilities of benefit from such cooperation, we must also ensure that these endeavours are based on natural and due advantages for each and every participating country. In this context the countries of region need to examine carefully the development option available to them and cooperate in designing strategies, which promote the sustainable development. This paper is

organized into two parts. The first part deals with the state of south Asian economy and environment. It begins with an overview of the main structural features of the region as a whole and thereafter examines the national trends. This is followed by an analysis of the emerging environmental problems. The second part examines a few likely scenarios of long term demographic change and their implications for regional economic relationships on the one hand and the sustainability of regions ecosystems on the other.

### Sources of data

For the present study the data has been extracted from World Development Report 2003, various rounds of Human Development Report, and subsequent reports of Human Development in South Asia, and Asian Development Outlook.

### Macro aspects of south Asian countries

The human development index (HDI), the Gender related Development Index (GDI) and the Human Poverty Index (HPI), provides summary information about human development in a country. Table 1 shows the various indices of human development or deprivation in the countries of the South Asian region.

**Table-1: Comparison of human development indices among South Asian regions**

South Asian countries	Human development index (HDI)	Gender development index (GDI)	Gender empowerment measure (GEM)	Human poverty index (HPI-1), (%)
India	0.619	0.600	-	31.3
Pakistan	0.551	0.525	0.377	36.2
Bangladesh	0.547	0.539	0.379	40.5
Sri Lanka	0.743	0.735	0.369	17.8
Nepal	0.534	0.520	0.351	38.1
Maldives	0.741	0.744	0.437	17.0
Bhutan	0.579	-	-	38.9

*Source:* Human Development Report 2007-08, UNDP

Sri Lanka outweighs all the South Asian countries in terms of GDI and HPI-1. In terms of HDI Sri Lanka ranked first followed by and India. However in terms of GDI Maldives is on the top followed by Sri Lanka. Massive poverty is a common feature among south Asian countries. Bangladesh characterized as high level of poverty followed by Bhutan and Nepal and it is lowest for Maldives (17.0%).

### Structural features

The share of GDP and population to the aggregate level reveals a blue picture among the south Asian countries. The national proportion of GDP and population of the south Asian region as a whole is shown in Table-2.

**Table-2: South Asia GDP and National Share 2001**

Regions	GDP million US \$	Share (%)	Mid year population	Share (%)
South Asia	615,308	100 <sup>a</sup>	1379.8	100
India	477,555	77.61	1033.4	74.79
Pakistan	59,605	9.68	141.5	10.24
Bangladesh	46,652	7.58	133.4	9.65
Sri Lanka	16,346	2.65	19.6	1.41
Nepal	5525	0.89	23.6	1.70
Maldives	-		2.83	0.20
Afganistan	-		27.24	1.97

*Source:* World Development Report 2003, World Bank.

Note: <sup>a</sup> percentage calculated excluding Maldives and Afganistan.

India accounts nearly 78 percent of GDP followed by Pakistan, by nearly about 10 percent. Similarly, India accounts for 75 percent of the total population of the region. Vast inequalities of size, economically territorially and demographically put the countries of the region into three distinct categories. First, there is India, which outweighs by four all other countries (except Pakistan and Bangladesh) and is around three times their sum total. Second, there are still the two countries, which in terms of population are among the ten countries with population above 100 millions. Thirdly, Nepal, Sri-Lanka Maldives and Afghanistan are comparatively quite small proportion of population.

### National Income vs. population growth trends

In the previous section we have discussed the overall scenario of south Asia region. But it is not sufficient see the process of long-term development in this region. Table-3 shows the average annual growth rate of GDP in comparison to average annual growth rate of population.

**Table-3: National economic trends**

Regions	Average annual growth rate of GDP (1990-2001)	Average annual growth rate of population (1990-2001)
South Asia	5.5	1.9
India	5.9	1.8
Pakistan	3.7	2.5
Bangladesh	4.9	1.8
Sri Lanka	5.1	1.3
Nepal	4.9	2.4
Maldives	-	2.6
Afganistan	-	3.9

*Source:* World Development Report 2003, World Bank.

In south Asia, the average annual growth rate of population is 1.9 compared to average annual growth rate of GDP at 5.5. India, Bangladesh, Sri-Lanka and all other countries were experienced higher growth rate of population during the period 1990-2001, but in GDP growth rate, only India outweighs aggregate growth rate of south Asian region.

The prospect of sustaining the south Asian growth effort that has been evidence in the recent past will depend on a number of critical preconditions. The first among these are regional political stability and peace along with stability and order within the nation. The related political issues lie outside the scope of this paper. These issues however are relevant to the extent that economic growth will increase income and employment and alleviate poverty. This will help to reduce internal tensions, which fuel unrest and sharpen ethno-religious conflicts that spill over the inter governmental relations.

### **The state of environment**

The richness and the diversity of both the physical and the human environment of south Asia hold the promise of significant growth possibilities for the region. But the absence of social vision, political leadership and enlightened economic policies, together with the presence of a huge population base and burgeoning poverty continue to hamper south Asia's progress.

The region is sufficiently endowed with natural resources, although their distribution is skewed country wise. In terms of mineral resources India's reserves are extensive and diversified, Bangladesh has huge reserves of natural gas and coal, while Pakistan has reserves of coal, natural gas and crude oil. Natural resources like rubber, bauxite and marble are found

in Nepal, Bhutan and Sri Lanka. Forest resources, which cover 19 percent of the total area, are scattered throughout the subcontinent. But of the total land area, the forest area is 8 percent in Bangladesh land area, 35 percent in Nepal, 59 percent in Bhutan and 22 percent of India. The region is also rich in bio-diversity.

### ***Environmental issues***

There are a plethora of environmental problems facing the region, among which are destruction of forest, soil, aquifers, reefs, fisheries and biological species, pollution of air, land, subterranean and marine resources through human and industrial activities; and unsustainable environments caused by both anthropogenic activities and natural disasters.

**Table-4: The state of environment among south Asian countries**

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia
Land area (1000ha), 1997	297319	77088	13017	14300	6463	4700	30	412,917
Percentage of land area under, 1997								
-Forest and woodland	22	2	8	35	28	59	3	19
- crop land	57	28	63	21	29	3	10	54
Irrigated land (1997) (as a % of crop land)	34	81	45	38	32	25	-	40
Deforestation (1000 ha per year) 1980-89	1500	9	8	84	58	1	-	1106
Annual rate of deforestation (%) 1990-95	0	2.9	0.9	1.1	1.1	0.3	-	1
Reforestation (1000 ha per year) 1980-89	138	7	17	4	13	1	-	103
Internal renewable water resources per capital (1000m <sup>3</sup> per year), 1998	1896	1678	10940	7338	2341	49557	-	2937
*Carbon dioxide emission (millions of tons), 1998	1061	97.1	23.4	3.0	8.1	-	-	1194.4

Sources: \*Human Development Report 2003, UNDP.

Human Development in South Asia 2001, Mahbub ul Haq Human Development Center.

Among the principal cause of environmental degradation in the sub continent are: demographic pressure, which has worsened the man-land ratio causing severe strain on the ecological support base; developmental activities, which have resulted in indiscriminate attacks on the natural resource base; absence of adequate environmental legislation or the failure to implement such legislation to guarantee minimum protection to the environment;

and natural disasters, whose frequency and ferocity appears to have increased in recent decades. The impact of any one of these factors is bad enough but cumulative effect is proving to be disastrous. Table-7 shows that, though south Asian economies are characterized by the predominance of agricultural sector still then the percentage of irrigated land is very less, except Pakistan (81%), with high annual rate of deforestation (2.9%). The impact of green house effect on the availability of croplands, cropping patterns, crop productivity, human settlement, rainfall and its special distribution, to name just a few, will become a major concern for all the countries of the region. Most of these environmental problems, finally, link up with desperate poverty of people in South Asia; for want of any viable alternatives for sustaining their livelihoods, they have no choice but to denude and destroy the very land, forests, and water resources that they live on –little realizing that these resources are not ever-lasting (South Asia and the United States: After the cold War, A study mission Report, 1994)

### **Demographic profile**

Table-8 below gives the demographic profile for the countries of the regions, which provides both long-term and short-term process of development.

High levels of fertility characterize the south Asian regions. Though CBR has declined, but it is so marginal. Total fertility rate was higher than replacement levels of fertility i.e. TFR= 2.1. There is no significant change in the growth rate of labor force in the south Asian region with the exception of Sri Lanka. Most of the regions are characterized by agrarian economy. At the current growth rate India is going to achieve double of its population by 2047, Pakistan by 2030, Bangladesh by 2036, Nepal by 2033, Sri Lanka by 2088, Bhutan by 2024, and Maldives by 2024.

The demographic scenario that unfolds is therefore for bidding in the magnitudes that emerge. The new high yielding varieties that are likely to be developed and the second green revolution, which is being predicted on the basis of ongoing international research, would suggest that these yield levels could well be within the reach of these countries. But almost all these increases will have to come from increases in the productivity of already cultivated land. This would imply that more intensive farming, higher inputs of agro chemical and more irrigation all of which will lead to environmental stresses of various types.

**Table-5: Demographic profile of South Asian countries**

	India	Pakistan	Bangladesh	Nepal	Sri-Lanka	Bhutan	Maldives	South Asia (weighted average)
Population (in millions)								
-1960	442	50	51	9	10	1.0	0.1	563
-2001	1033	146	141	24	19	2.1	0.3	4951
Population doubling date (at current growth rate)								
2001	2047	2030	2036	2033	2088	2024	2024	2041
Crude Birth Rate (per 1000 live birth)								
-1960	43	49	47	44	36	42	41	44
-2001	25	37	31	35	17	35	36	27
-% Decline (1960-99)	42	24	34	20	53	17	12	39
Crude Death Rate (Per 1000 live birth)								
-1960	21	23	22	26	9	26	21	21
-2001	9	10	9	10	6	9	6	9
-% Decline (1960-99)	57	57	59	62	33	65	71	57
Total Fertility Rate								
-1960	6.0	7.0	6.7	6.0	5.4	6.0	7.0	6.1
-2001	3.1	5.2	3.6	4.6	2.1	5.2	5.5	3.4
-% Decline (1960-99)	48	26	46	23	61	13	21	44
Life expectancy at birth (in year)								
-1960	44	43	40	38	62	37	44	44
-2001	63	60	61	59	72	63	67	63
-% increase (1960-01)	43	40	53	55	16	70	52	43
Infant mortality rate								
-1970	127	117	145	165	65	156	157	144
-2001	67	84	51	66	17	74	58	66
-% Decline (1960-99)	47	28	65	60	74	53	63	54
Under five mortality (per 1000 live births)								
-1970	202	181	239	250	100	267	255	235
-2001	93	109	77	91	19	95	77	92
-% Decline (1960-99)	54	40	68	64	81	64	70	61
Maternal mortality ratio reported (per 100000 live births) 1985-2001								
	540	340	400	540	90	380	350	505
Total labour force (in millions)								
-1980	300	29	40	7	5	--	--	382
-2001	461	54	71	11	8	--	--	604
Female labour force (% of labour force)								
	14.9	16	30	5	3	--	--	20.3
% Annual Growth in Labour Force								
-1980-2001	2.0	2.9	2.7	2.1	2.0	-	-	2.0
-2001-2010	1.8	3.2	2.2	2.4	1.7	-	-	2.0

*Sources:* Human Development in South Asia 2003, Mahbub ul Haq Human Development Center.



Another consequence of the rapidly growing population is the corresponding increase in the economically active population and the large cohorts of new entrants to the work force. If all countries of the region are unable to achieve and sustain high rates of economic growth sufficient to absorb the growing work force in gainful employment in each of their economies, not only will there be social unrest and instability in the country itself but also the movements of population across national borders which has already become a problem in the region and is likely to intensify and become a serious destabilizing factor in the region. Rate of economic growth in the region of 6 percent to 7 percent should be quite sufficient to absorb a workforce, which is growing at the rates of 1.8 percent (India), 3.2 percent (Pakistan), 2.3 (Bangladesh), 2.5 percent (Nepal), 1.7 percent (Sri Lanka), allowing for the increases in the productivity of labour and the rise in real wages.

Life expectancy at birth shows the levels of long-term development process. It varies within the region with highest of 72 (Sri Lanka) to the lowest of 59 (Nepal). Infant mortality rate is the highest in Pakistan (84) and the lowest in Sri Lanka (17). Under five mortality ranging from 109 in Pakistan to 19 in Sri Lanka compared to the regional average of 92. Maternal mortality ratio shows the dynamics of health services in the society. It is highest in Nepal and India (540) compared to the lowest figure of 60 in Sri Lanka.

### **Health Profiles**

Table-6 presents the health profiles for the countries of the region. With the exception of Sri-Lanka the other countries indicate one major deficiency in the foundation of basic human capital required for development- the relatively poor level of health indicators. The health profile in south Asian region is also not so good. Population access to health services is very low in Pakistan (55%) and Bangladesh (45%) as compared to the other countries. Population per doctor and nurse indirectly shows the health status of the country. But table 6 shows that it is not so favorable for the improvement of the health status of the society. Percent of GDP spent on health sector is very low, having a south Asian average of one percent pf the GDP. Anemia status of the women plays a crucial role for the survival status of the children. As per the table pregnant women aged 15-48 with anemia is higher in India i.e. 88 percent.

**Table-6: Health Profiles of South Asian Countries**

	India	Pakistan	Bangladesh	Nepal	Sri Lanka	Bhutan	Maldives	South Asia (weighted average)
Population with access to health services (%) 1995	85	55	45	--	93	65	75	78
Population with access to safe water (%), -2000	84	90	97	88	77	62	100	86
Population access to sanitation (%) -2000	26	62	48	28	94	70	56	35
Population per doctor (in thousands) -1992-95	2083	1923	5555	20000	4348	5000	5263	2273
Population per nurse -1993	3323	3330	11549	2257	1745	6667	-	4091
Public expenditure on health (as % of GDP) -2000	0.9	0.9	1.5	1.6	1.8	3.7	6.3	1.0
Birth attended by trained health personnel (%) -1995-2001	43	20	12	11	97	15	70	39
Children immunization rate (% of children under age one) -Measles 2001	56	54	76	71	99	--	--	59
-DPT 2001	64	56	83	72	99	--	--	66
Underweight children (% under 5) -1995-2001	47	38	48	48	29	19	30	46
Pregnant women aged (15-49) with anaemia, 1985-00	88	37	53	65	39	30	-	79
People living with HIV/AIDS Adult (% age 15-49) 2001	0.8	0.1	<0.1	0.5	<0.1	<0.1	0.06	--

*Source:* Human Development in South Asia 2003, Mahbub ul Haq Human Development Center.

## Conclusions

The present paper examined the regional dimensions of the linkage that have implications for either conflict or cooperation among South Asian countries. Demographically, population growth will be high to moderate in most countries, again the exception of Sri Lanka, resulting in continuing pressure of population on scarce resources and environment, which is already under great stress. This creates conditions which if they persist without rapid amelioration can result in political instability and social unrest within countries spilling over to the region as a whole.

The state of the environment in South Asia resembles the familiar features of a poor region in which the population is burgeoning and low-income livelihoods in increasing number are being extracted with technologies, which are at low levels of productivity. The combination is leading to environmental degradation of a high order. The degradation of these ecosystems is causing serious economic and environmental problems for all these countries. The resulting poverty and economic deprivation are partly responsible for the cross boarder migration.

In sum, rapid economic growth for South Asia as a whole is an essential condition for the peace and stability in the region. Achieving and sustaining high rates of growth require a high level of regional economic cooperation, which in turn can transform the present conflict ridden inter-country relations.

## References

- Asian Development Bank (2001), *Asian Development Outlook 2001*: Oxford University Press.
- Asian Development Bank (2004), *Asian Development Outlook 2004*: Oxford University Press.
- Mahbub ul Haq Development Center (2001), *Human Development in South Asia 2001*: Oxford University Press.
- Mahbub ul Haq Development Center (2003), *Human Development in South Asia 2003*: Oxford University Press.
- Narain, Virendra (1993), India and South Asian Region: Hegemonism versus Mutually Beneficial Relationship, in Ramakant (ed.), *South Asia: Some Reflections*, Jaipur: Aalekh Publishers.
- South Asia and the United States: After the cold War, A study Mission Report, New York: *The Asia Society Publication*, 1994.
- UNDP (United Nations Development Programme) .2000. *Human Development Report 2000*: Oxford University Press.
- UNDP (United Nations Development Programme) .2004. *Human Development Report 2004*: Oxford University Press.
- UNDP (United Nations Development Programme) (2007-08), *Human Development Report 2008*: Oxford University Press.

World Bank 2003. *World Development Report 2003*, A Co publication of World Bank and Oxford University: Oxford University Press.