Draft National Population Policy

Revised January 2013

Royal Government of Bhutan

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I.   Introduction

Bhutan has made significant strides in economic, social, and demographic achievements ever since the launch of planned development in 1961. All along the course of development, owing to the mountainous terrain and limited natural resources, the perceived high growth of population was considered as an obstacle to progress. Under such circumstances, cautious policies and plans helped in achieving much of the progress without depleting the natural environment.

Following the International Conference on Population and Development held in Cairo in 1994, to which Bhutan is signatory, the Royal Decree on population planning was issued by His Majesty the Fourth King in 1995. The Royal Decree on Population Planning states that:

"For the Royal Government of Bhutan, where the spiritual and temporal system exist in harmony: To ensure continuing peace, prosperity and happiness for our people, to ensure successful implementation of the Government's policies and development plans, and to avoid complications of the population explosions faced by other countries in the near future, it is very important for every Bhutanese high and low, to understand and support the population planning activities initiated by the health services."

Bhutan 2020 – A Vision for Peace, Prosperity and Happiness, stipulated that a National Population Policy be developed with targets of reducing population growth to 2.08% by 2002, 1.63% by 2007 and 1.31% by 2012. Some of the key strategies highlighted were the inclusion of population education programmes, targeting young people and achieving positive synergies in the areas of health, nutrition, employment, basic education and reproductive health including family planning.

In order to further strengthen the positive synergies amongst the key related sectors and address emerging population and development challenges, the need to develop a population policy was expressed during the 5th Session of the erstwhile Planning Commission (now the GNH Commission). A Brainstorming Workshop was held in March 2008 with key stakeholders and a Taskforce was established with representation from all relevant ministries, agencies and institutions. The Population Situation Analysis Report, Population Perspective Plan and Action Plan were presented to the 13th GNH Commission meeting held in August 2010.

It is critical to understand the demographic dimensions of development since population and development are highly correlated. Recognizing the close inter-linkages of population and development, the country needs to continue with the integration of population policies effectively with development programmes within the framework of Gross National Happiness.

II. Population Scenario of Bhutan and Future Trends

A set of three population projection[1] scenarios were prepared based on three alternative assumptions on fertility and one assumption on mortality[2]. The population projections cover the period from 2005 to 2050. The first one (low variant) assumes that the total fertility rate[3] (which equates to the average number of births per woman) will decline from the current rate of 3.6 to 2.1 in 2012 (F_1) and then stabilize at that level until 2050. The second (medium variant) assumes that the current rate of 3.6 will decline to 2.1 in 2020 (F_2) and then stabilize at that level. The third one (high variant) assumes that the current rate of 3.6 (F_3) births per woman per year will remain at this level over the period. The first and the last ones recommend slower and rapid population growth respectively.

Table 1: Projected population based on three scenarios

Scenario Option	2020	2030	2050
Low Variant Total Population	783,624	860,530	972,907
Pop.under 15 yrs.	216,583 (27.6%)	203,829(23.7%)	206,373(21.2%)
Pop. 15-64 yrs	522,968(66.7%)	597,393(69.4%)	644,706(66.3%)
Pop. above 65 yrs	44,073 (5.6%)	59,308 (6.9%)	121,828 (12.5%)
Medium Variant Total Population	818,791	896,962	1,038,445
Pop.under 15 yrs.	251,750(30.7%)	214,860(24%)	230,230(22.2%)
Pop. 15-64 yrs	522,968(63.9%)	622,794(69.4%)	686,387(66.1%)
Pop. above 65 yrs	44,073(5.4%)	59,308(6.6%)	121,828(11.7%)
High Variant Total Population	882,923	1,05,8819	1,572,030
Pop.under 15 yrs.	315,882(35.8%)	351,109(33.2%)	542,195(34.5%)
Pop. 15-64 yrs	522,968(60.4%)	648,402(61.2%)	908,007(57.8%)
Pop. above 65 yrs	44,073(68.8%)	59,308(5.6%)	121,828(7.7%)

Source: Working Committee for the National Population Policy of Bhutan, 2011

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[1]Computation of future changes in population numbers, given certain assumptions about future trends in the rates of fertility, mortality, and migration. Demographers often issue low, medium, and high projections of the same population, based on different assumptions of how these rates will change in the future.

[2]A measure of the number of deaths in a given population.

[3]The average number of children that would be born alive to a woman (or a group of women) during her lifetime if she were to pass through her child bearing years conforming to the age-specific fertility rates of a given year. This indicator shows the potential for population growth in the country.

Figure 1. Graphical presentation of table 1

2020

2030

2050
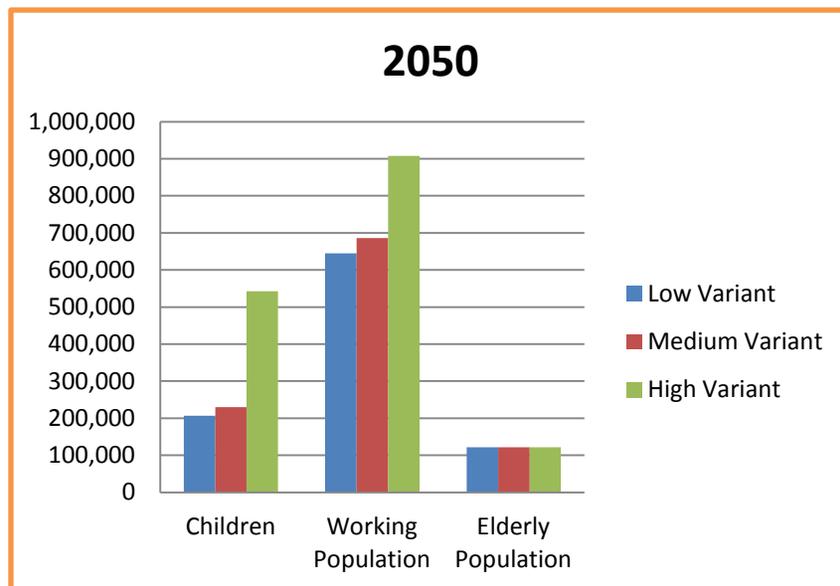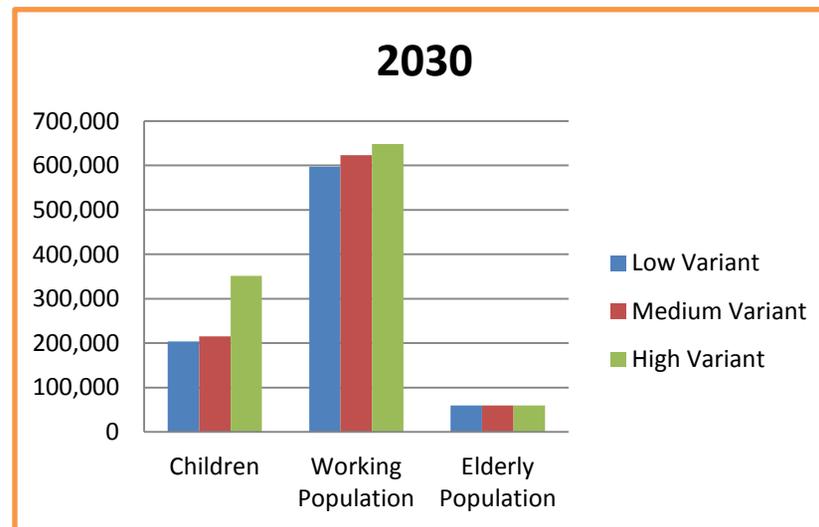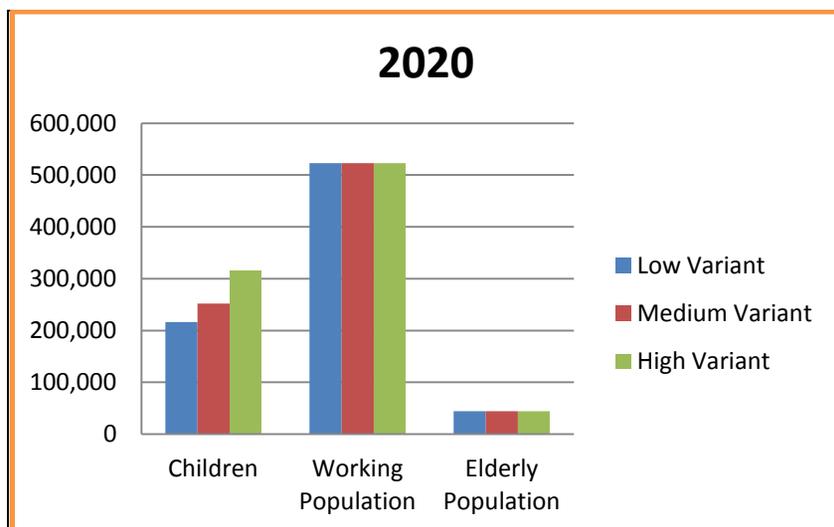
The Bhutan Vision 2020 targeted to reach the replacement rate (Total Fertility Rate (TFR) of 2.1) by 2012. However, based on current projections by the National Statistics Bureau, we have a TFR of 2.6 in 2012. As such, the low variant projection is under-estimated.

The high variant projection assumes a constant TFR of 3.6 which is unlikely as with development interventions the TFR is expected to change.

The medium variant scenario of TFR 2.1 by 2020 is deemed the most likely as it takes account of current trends and the most likely future behavior of the components. Further, the medium variant is used as the most probable proposition worldwide.

Table 2: Comparison of TFR in SAARC countries

Country	Total Fertility Rate (2010 estimated.)
Afghanistan	6.62
Bangladesh	2.38
India	2.73
Bhutan	2.80*
Pakistan	3.65
Nepal	2.95
Maldives	1.9
Sri Lanka	2.36

Source: UN, Population Prospects, 2010 revision (* Source: National Statistics Bureau, Population Projections, Bhutan (2005-2030)

Table 3: Population indicators for Bhutan based on medium variant projection*

	2005(PHCB)	2020(NP)	2030(NP)	2050(NP)
Total Population	634,982	818,791	896,962	1,03,8445
Pop. Growth rate	1.8%	1.1%	0.9%	0.4%
Density (Persons per sq km)	16	21	23	27
Total Fertility Rate	3.6	2.1	2.1	2.1
Population under 15 years	33.1%	30.7%	24%	22.2%
Population aged 15 to 64 years	62.2%	63.9%	69.4%	66.1%
		*Demographic Bonus****		
Elderly Population(65+ years)	4.7%	5.4%	6.6%	11.7%
Youth 15-24 years	145,807	129,403	171,563	145,053
Dependency ratio***	60%	56.6%	44%	51.3%
School going children (5-14 years)	23.2 %	21.2%	16%	15%
Median Age	22.3	26.9	30.2	35.3
Life expectancy at birth (E)				
Males	64.7	69.4	71.6	75.0
Females	65.8	71.6	74.3	78.3

Source: Working Committee for the National Population Policy of Bhutan, 2011

*   Medium variant projection: The most likely hypothesis (proposition) or middle variant is the one constructed with the most likely future behavior of the components (sometimes just fertility is used). Generally medium variant projectionis the one which would have analytical interest for the policy makers, researchers, academia and planners.

** Demographic Bonus is the increase in the number and proportion of population in the productive ages.
*** Dependency ratio is the ratio of children (< 15 years of age) and elderly population (65+ years) to the size of the working population (15-64 years).
NP- New Projection based on Medium Variant.

Based on the medium variant projection (table 3), despite the gradual decrease in population growth rate, the population is expected to reach 818,791 persons by 2020, and will further increase to 1,038,445 persons by 2050.The average annual growth rates implied in the projection is going to decrease during the projection period from a high of 2.1% in 2006 to a low of 0.4% by 2050, if the fertility is brought to the replacement level of 2.1 (two surviving children per woman) during the period 2005-2020 and remains unchanged thereafter.

The population density is projected to increase from 16 persons per sq km in 2005 to 27 persons per sq km by 2050. During the period 2005-2050, the working age population is estimated to grow by around 73.6 per cent. This is a window of opportunity resulting into demographic dividend[4] or bonus if accompanied by adequate savings, investments and sound public policies. The youth (15-24 years) population is expected to increase from 129,403 in 2020 to 171,563 by 2030.

The young population indicated by the median age[5] of 22 years (PHCB 2005) implies that the population will continue to increase in the near future due to population momentum[6] effect. Moreover, the elderly population (65 years and above) is projected to increase from 7% in 2005 to 11.7% by 2050 and further grow with the improvement of health status and increasing life expectancy. Overall life expectancy at birth in the country had increased from 47.5 years in 1984 to 66.3 years in 2005 and is projected to reach 75 years for male and 78.3 years for females by 2050. The age dependency ratio is expected to decline from 60% in 2005 to 56.6% in 2020 and 44% by 2030. However, it is expected to rise beyond 2030 as the working age population moves into the older age group leading to a high old age dependency ratio.

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[4]The rise in the rate of economic growth due to increase in the number and proportion of population in the working age or productive ages (15-64 years).
[5]Median Age: The age that divides a population into two numerically equal groups; that is, half the people are younger than this age and half are older. It is a single index that summarizes the age distribution of a population.
[6]Population momentum refers to population growth at the national level which would occur even if levels of childbearing immediately declined to replacement level.

Figure 2: Population Pyramids based on medium variant population projection
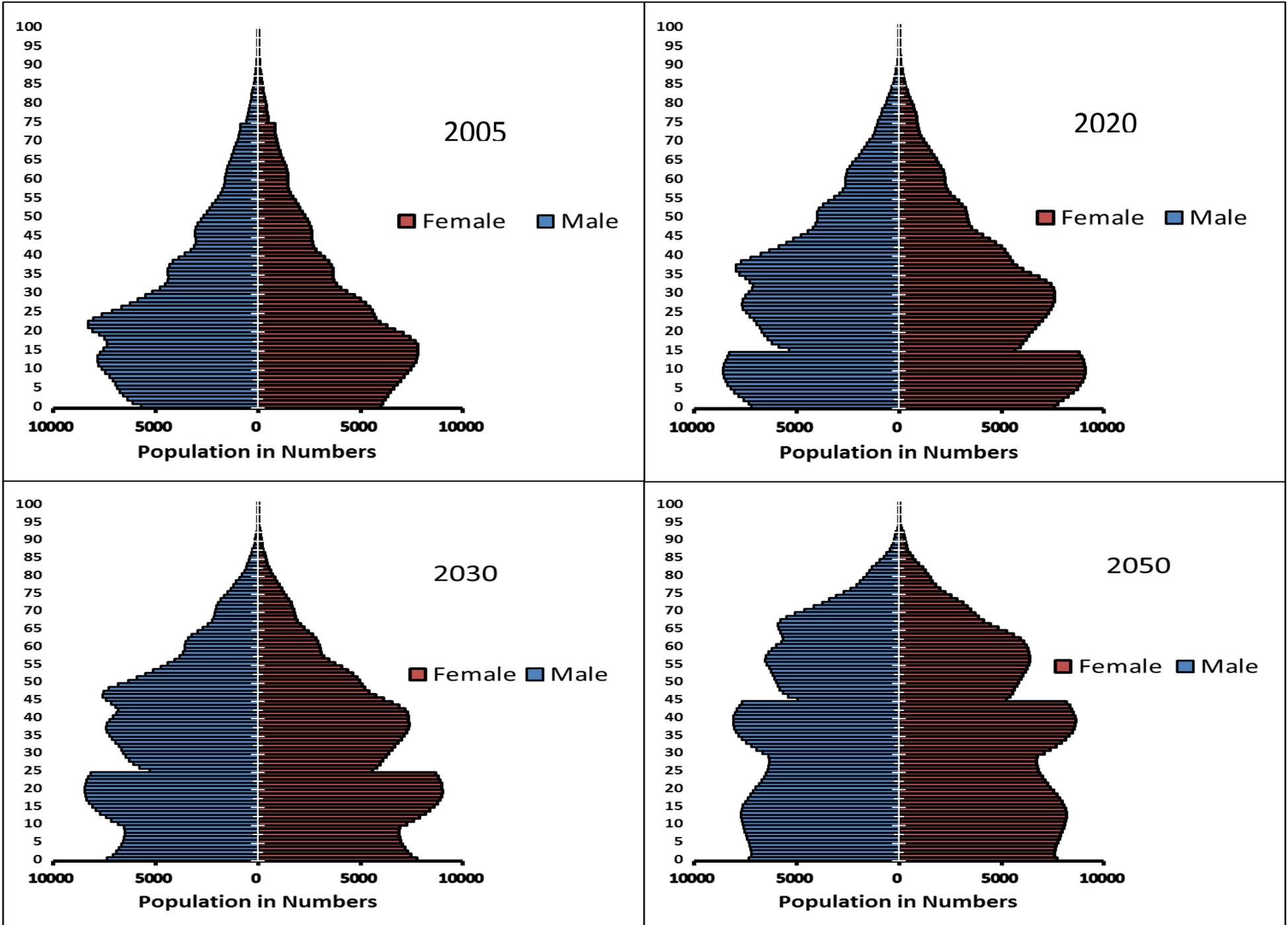
III.   Vision

The vision of the National Population Policy is:

"To achieve a stable population growth to ensure sustainable socio-economic development for the wellbeing of the people inBhutan."

IV.   Overall Objectives:

1. To provide guidelines that would strengthen the process of integrating population variables in the formulation and implementation of people centered and sustainable socio-economic development.
2. To achieve a stable population growth and underpin national development towards meeting the needs and improving the quality of life of present and future generations.

Figure 3: National Population Policy Results Framework

Goal

Achieve a Stable Population Growth

Improved Quality of Life & Human Wellbeing

Strategic Objective

Sustainable & Equitable Development

Strategic Objective

Preservation & Promotion of Culture

Strategic Objective

Good Governance

Strategic Objective

Sustainable Management & Conservationof the Environment

Intermediate Results

-Improved health outcomes through universal access to quality basic free health care services
-Improved human development outcomes through universal access to quality education with priority to primary & technical education & job training
-Sustained economic growth in the context of balanced, sustainable development
-Improved living standards and livelihoods of rural and urban residents

-Reduced inequalities in incomes & access to social services & reduced rural-urban migration
-Enhanced quality of life & welfare of the elderly
-Wellbeing & potential of all children, adolescents & youth promoted including their special needs

Intermediate Results

- Strengthened existing traditional familial relations & value systems
- Safe, culturally vibrant and environmentally friendly infrastructure promoted
- Enhanced indigenous knowledge & practices including local arts & crafts development
- Participation & involvement of communities

Intermediate Results

- Strengthened information, education, communication & partnerships at all levels
- Enhanced data collection, analysis & dissemination
- Gender equality, equity & empowerment strengthened
- Institutional & organizational coordination enhanced

Intermediate Results

- Population, environment & poverty eradication integrated in policies, plans & programmes
- Environmentally destructive changes in land use patterns prevented
- Effective environmental management strategies for urban & rural settlements promoted with focus on water, waste & air management
- Environmentally sound energy & transport systems promoted
- Enhanced quality of life through poverty eradication & protection & sustainable management of natural resources
-Strengthened risk management & mainstreaming of climate change to mitigate natural calamities

V.   Policy Statements

1.   Population and Development

Population is an important component in the pursuance of sustainable people centered socio-economic development.. The interplay of fertility, mortality, and migration are the three important factors affecting not only economic and social development but also social cohesion.

The causes and consequences of demographic changes and possible ways of influencing population dynamics in terms of 'demographic sustainability' have repeatedly been the subject of debate within science, politics and the public. However, as far as population dynamics and its connection to sustainability is concerned, the body of knowledge needed for an integrated, problem-oriented understanding of these matters is quite fragmented, dispersed over a broad spectrum of disciplines, embracing a variety of theories, paradigms, models and methodologies.

Links between development per se and demographic change and dynamics have been studied for a long time. However, attempts to address connections between demography and sustainable development continue to spark fundamental controversies, both within science and society.

Therefore, the conduct of such a demographic situation assessment underlines the importance of challenges and opportunities that lie ahead with changing population dynamics. It provides an empirical basis for effective evidence-based planning and policy formulation. Such assessments highlight the current situation of economic development, social issues, employment, labor, agriculture, gender, adolescents and youth, and reproductive health.

1.1   Demographic Trends (Fertility &Mortality)

The population growth rate in Bhutan has declined from 3.1 percent per annum in the 1990s (National Health Survey (NHS), 1994) to 1.8 percent in 2005 (PHCB 2005). The mortality rate, specifically the crude death rate (CDR)[7] has declined from 13 per 1000 persons in 1984 (NHS 1984) to 7 per 1000 persons in 2005 (PHCB 2005). Similarly, with the decline in mortality, total fertility rate (TFR) has also constantly declined over the period, from around 6 children per woman during the 1990s (NHS 1994) to 2.6children in 2012 (NSB, Population Projections 2005-2030).

Despite decline in both mortality and fertility rates, the total population will experience an incremental growth for a few decades, mainly due to the population momentum[8] effect. However, if the current trend in fertility decline persists over a longer period and the TFR drops below the replacement level (average 2.1 surviving children per woman); it is most likely that Bhutan will experience much slower population growth as in most developed countries. This would result in more devastating demographic and socio-economic impacts as opposed to positive population growth.

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[7]No. of people dying in a given year divided by the number of people in the population mid-way through that year
8 Tendency where population continues to grow even after birthrates have declined substantially

The Infant Mortality Rate (IMR)[9]declined from 102.8 deaths per 1000 live births in 1984 to 40.1 in 2005 and currently stands at 47 (BMIS, 2010). The Under- Five Mortality Rate (U5MR) has declined from 162.4 per 1000 live births in 1984 to 61.5 over the same period. The maternal mortality ratio (MMR) has also declined from 770 deaths per 100,000 population in 1984 (National Health Surveys, 1984, 1994, 2000) to 255 in 2005(PHCB 2005)). However, IMR and MMR are considered high in the context of public health indicators achievement.

Policy Objective: Sustain declining trends in fertility rate to achieve a stable population growth by 2050.

Policy statement 1.1.1: Achieve replacement level fertility rate (2.1 births per woman) by 2020 and maintain constant thereafter.

Policy Objective: Sustain declining mortality trends.

Policy statement 1.1.2: Reduce Mortality Rates (IMR, U5MR, and MMR) from current levels of 40.1, 60.1 and 2.55 per 1,000 population respectively.

1.2   Reproductive Health[10]

Remarkable progress has been made in addressing reproductive health (RH) issues, including safe motherhood, family planning, child survival and care for newborn, prevention and management of abortions related complications, prevention and management of infertility, screening and prevention of cervical cancer, early detection and management of breast cancer, and reproductive tract infections (RTIs).

The progress made in reducing both infant and U5[11] mortality is largely due to the reduction of deaths after the neonatal period. Administrative data available suggests that neonatal mortality (deaths occurring within 4 completed weeks of birth) has not been reduced at the same pace and therefore now contributes to an increasing proportion of all child deaths. According to the 2011 UNICEF State of the World's Children Report, the estimated neonatal mortality rate (NMR)[12] in Bhutan is 33 deaths per 1,000 live births.

Policy Objective: Strengthen maternal and child health.

Policy statement 1.2.1: Enhance access to equitable, quality and basic free reproductive health and family planning information and services.

Policy statement 1.2.2: Improve provision of RH services to the unreached population.

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[9]The number of deaths of infants under age 1 per 1000 live births in a given year.

[10] Within the framework of WHO's definition of health as a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity, reproductive health addresses the reproductive processes, functions and system at all stages of life.

[11] Probabilityof a child born in a specific year dying before reaching the age of five, if subject to age-specific mortality rates of that period.

[12] Number of deaths during the first 28 completed days of life per 1,000 live births in a given year or period(World Health Organisation).

Policy statement 1.2.3: Promote participation and involvement of communities in the provision of reproductive health and family planning services.

Policy statement 1.2.4: Intensify provision of comprehensive and quality infant and child health care services.

1.3   Adolescent Sexual and Reproductive Health (ASRH)

Bhutanese youth and adolescents today face new challenges such as risky sexual and reproductive health behavior, prostitution, mental health disorders, nutritional imbalances, sexually transmitted infections (STIs), HIV/AIDS, unwanted pregnancies, increasing use of tobacco and other psychoactive substances, higher prevalence of injuries and violence, and juvenile delinquency.

Social changes due to urbanization and mass communication have brought in new challenges and intensified the need for interventions. According to the Bhutan Multiple Indicator Survey (BMIS) 2010, women in the 15-24 age group who were interviewed reported that 3.7% had sex before the age of 15 and 30.8% were married before the legal age of 18 (6.7% married before the age of 15). Unregistered and illegal underage marriages are still known to occur, especially in the rural areas despite being signatory to the Convention on the Rights of the Child and the Convention on the Elimination of All Forms of Discrimination Against Women and amendment of the Marriage Act in 1996.

Policy Objective: Promote adolescent sexual and reproductive health.

Policy statement 1.3.1: Promote public awareness of sexual and reproductive health rights for adolescents and youth.

Policy statement 1.3.2: Strengthen youth and adolescent friendly health and education services and promote youth participation in ASRH decision-making and development.

1.4   HIV/AIDS and STIs

The reported cases of HIV infection in Bhutan are still modest at a prevalence rate of 0.1 percent but the cases are increasing annually. According to the National AIDS Control Programme (NACP), STI cases had risen from 1,243 in 2008 to 1,754 in 2010. The latest epidemic updates report 2011 of the NACP reveals that there are 270 reported cases of confirmed HIV infection, out of which 135 are females and 135 males. Out of these total reported cases 22 are children in the age range 1 to 12 years who acquired the infection from their infected parents (mother to child transmission).

Almost 91% of HIV infections are attributed to heterosexual (unsafe sexual practices, multiple sexual partners, casual sex and low condom use).The dominant mode of transmission is through sexual route followed by vertical transmission of HIV from infected mother to their child, which accounts to almost 8% of the total infected population. Overall, 50% of the infected populations are within the age range of 15 to 29 years strongly indicating the vulnerability of the youth population.

According to the BMIS 2010, 83.7% women aged 15-49 years had heard of HIV/AIDS. The knowledge about modes of transmission was however low at just about half (51%). Overall, only 17.5% of women had comprehensive knowledge about HIV/AIDS; with younger, unmarried and urban women possessing a higher knowledge.

Policy Objective: Halt and reverse the spread of HIV/AIDS and STIs.

Policy statement 1.4.1: Reinforce measures to reduce HIV/AIDS prevalence, and intensify STI and HIV prevention through multi-sectoral (such as public private partnerships, CSOs, etc.) and multi-disciplinary approaches.

Policy statement 1.4.2: Achieve zero vertical transmission of HIV, zero AIDS related deaths, and zero discrimination.

Policy statement 1.4.3: Enhance access to treatment, care and support for people living with HIV and AIDS.

1.5   Ageing population[13]

Life expectancy at birth increased from 47.5 years in 1984 to 66.3 years in 2005 and the percentage of elderly people (65+ years) is projected to increase from 4.7 percent of the total population in 2005 to 5.4 percent by 2020, and 11.7percent by 2050. This would mean an increase in the old-age dependency ratio[14]which will increase from 7.5 in 2005 to 9.5 in 2030 and 17.7in 2050.This would result in an increase in the need for services and facilities to enable healthy and active ageing.

This in turn indicates emergent social and financial burdens associated with ageing like: a) financial and social burden on younger generations; b) fiscal implications; c) labour force contraction and decline in investment, d) public health burden; and e) burden on public infrastructure and services.

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[13]A process in which the proportions of adults and elderly increase in a population, while the proportions of children and adolescents decrease. This process results in a rise in the median age of the population. Ageing occurs when fertility rates decline while life expectancy remains constant or improves at the older age.

[14] Dependency ratio is the ratio of children below 15 years of age and elderly population (65+ years) to the size of the working population (15-64 years)

Policy Objective: Provide adequate health care and welfare services for the elderly.

Policy statement 1.5.1: Promote adequate awareness and knowledge on emerging ageing issues.

Policy statement 1.5.2: Establish/strengthen social security schemes.

Policy statement 1.5.3: Strengthen existing traditional familial relations and value systems.

Policy statement 1.5.4: Promote healthy and active ageing.

Policy statement 1.5.5: Integrate and strengthen geriatric[15] healthcare services.

1.6   Differently-abled people

The Population and Housing Census of Bhutan (PHCB) 2005 revealed that 3.4 percent (21,894 persons) of the country's total population are differently-abled, among which 45.7 percent were females and 54.3 percent were males. The prevalence by type and timing within the general population (in %) is shown below:

Table 4: People with disabilities in Bhutan, 2005

Timing/Sex	Visual	Speech	Hearing	Mobility	Mental	Total
Acquired since birth						
Male	0.1	0.5	0.3	0.1	0.1	**1.1**
Female	0.1	0.5	0.3	0.1	0.0	**1.0**
Acquired after birth						
Male	0.8	0.2	0.9	0.6	0.1	**2.5**
Female	0.8	0.2	0.8	0.4	0.1	**2.4**

Source: Disability Patterns in Bhutan (based on PHCB 2005), Bholanath Bhattarai, 2010.

This shows that the most common forms of disability acquired since birth are speech and hearing. On the other hand the most common forms of disability acquired after birth are visual and hearing followed by mobility. The key issues that need to be addressed to overcome the difficulties faced by the differently abled people are the lack of disabled-friendly infrastructure, public transport services and attitudes of people towards differently-abled people. The Ministry of Education in collaboration with the NSB and the UNICEF have recently conducted a disability assessment survey(Two-Stage Child Disability) to assess the type, extent and severity of disability in children aged 2-9 years as a follow up to the Bhutan Multiple Indicator Survey (BMIS) 2010. Out of the sample of 11,370 children, 3,500 children were screened as having

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[15]The branch of medicine concerned with the diagnosis, treatment and prevention of disease in older people and the problems specific to aging.

potentially a functional impairment or disability. In the second stage the 3,500 children screened positive in the first stage and an additional 787 children randomly selected and representing 10 percent of the children, who were screened negative, were assessed.

Policy Objective: Provide adequate social care and services for differently-abled people.

Policy statement 1.6.1: Promote adequate awareness and knowledge on differently-abled people.

Policy statement 1.6.2: Provide accessible and quality economic and social services including welfare support for differently-abled people.

Policy statement 1.6.3: Ensure that all important infrastructures are accessible and differently-abled people friendly.

2. Demographic Change and Human Capital

As the Bhutanese population continues to grow through the middle of 21st century, development of human capital will be crucial to its sustainable efforts. Human capital development requires investments on education and health. Like any other capital for economic production, human capital is the added value and is often operationalized and measured as education, training and experience. Therefore, human capital development should be the cornerstone of long-term development strategies.

The Constitution of Bhutan mandates the provision of "free (basic) education to all children of school going age", especially considering it to be critical for "improving and increasing knowledge, values and skills of the entire population with education being directed towards the full development of the human personality". These provisions have implications on the delivery of educational services, which in turn have implications on the demographic trends themselves and the formation of social capital and their utilization or employment.

The age composition of the population determines the size of the school by indicating the demand for education at various levels, particularly the number of classrooms, teachers and supporting resources required, while the distribution and migration patterns would impact upon and determine the types of facilities such as multi-grade schools, boarding schools, extended classrooms, closing down of schools, expansion of schools, etc. depending on the change in catchment population. "Knowing the distribution of the working population by economic sector and by levels of qualification helps assess the labour needs and, hence, determine the goals of technical, vocational and higher education". (Bella and Belkachla).

2.1 Access to Basic and Quality Education

Early Childhood Care and Development (ECCD) is a fundamental part of education and is the first critical stage towards achieving the goals of basic education and any efforts towards

enhancing the quality of education in general. As such, ensuring healthy child development is an investment in a country's future workforce and capacity to thrive economically and harmoniously.

The prevalence of children with disabilities is evident from the Disability Assessment Report, 2011 which reveals that at least 21.7 % of children aged two to nine years in Bhutan have mild to severe disability. More focused plans and strategies are required to provide an enabling and responsive environment for children with special educational needs.

As of 2011, the net primary enrolment ratio (NPER) was 95% while the gross secondary enrolment ratio was 88% and the net secondary enrolment ratio stood at 52%, indicating that most of the children of school going age were in school at the primary level and at the secondary level. The gender parity index at primary and secondary levels is 1, indicating that there is parity in education at those levels. However, the skewed gender parity at tertiary levels is cause for concern.

The quality of education plays an important role firstly in enrolment and retention of children, at the same time, it leads to good outcomes such as graduates with the relevant competencies and learning outcomes, with the right attitude, work ethics and competency and skills required for the world of work or training.

Although inconclusive with the limited studies in hand, the declining trend in population growth rate and TFR in Bhutan may in fact be attributed to rapid progress in education and particularly in the participation of girls in education.

The table below projects the number of children who require education facilities in the period 2011-2050 at various levels based on the medium variant projectionscenario:

Table 5: Projected number of children who require education facilities

Age Group	Current Spaces(enrolment) in 2011	Population in 2012	Population in 2020	Population in 2050	Additional Spaces required in 2020 based on space in 2012	Additional Spaces required in 2050 based on space in 2012
6-12(Pry)	111,173	91691	113470	92568	1162	-195,331
13-16(Secondary)	48834	56396	56910	53296	6938	3396
17-18(Higher Secondary)	10230	30167	24813	25925	-503	-67
19-21(Tertiary)	6315	46081	39520	37892	9493	12631

Source: Annual Education Statistics, 2011 and population projection based on medium variant.

Policy Objective: **Improve Access to Quality Basic Education for all citizens of the country**

Policy Statement 2.1.1: Ensure access to quality early childhood care and education through public, private and community ECCD programmes.

Policy Statement 2.1.2: Ensure that children with special educational needs have equal access to quality education that is more appropriate, enabling and responsive.

Policy Statement 2.1.3: Review the existing educational facilities in light of demographic patterns and trends and consolidate the facilities to provide better quality education.

Policy Statement 2.1.4: Institute need based scholarships and interventions for children and youth from disadvantaged and minority groups, including nomadic and special educational needs, to enable them to overcome the challenges and barriers resulting from their circumstances.

Policy Statement 2.1.5: Explore public private partnerships to encourage private participation in the delivery of education services and to reduce burden on tertiary resources.

Policy Statement 2.1.6: Conduct situational analysis of the teaching-learning and living conditions of the children in the monastic education system and put in place interventions to ameliorate their situation including teacher quality of instruction, pastoral care, living conditions, etc.

Policy Statement 2.1.7: Provide gender responsive quality education to produce GNH graduates with the right skills, life skills, attitude and ethics.

2.2   Higher Education, Vocational and Technical Education

As a knowledge based society, and in order to foster intellectual growth and the formation of social capital, it is important that the population policy also look into the need for increased spaces for higher education. This is important more than ever in the context of the balance of payments issues that the nation faces. Moreover, the shortage of key human resources such as medical professionals, engineers, teachers, etc. remains an issue. Therefore, a policy, aimed at increasing the places at the tertiary level through public private partnership is of critical importance.

Given the current scenario where there is a youthful population, and an estimated 7000-8000 young people in the age group 17-18 years looking for work or training, it is imperative that vocational and technical education be diversified and enhanced to provide employable skills to this group of population. Currently, there are 7 VTIs catering to this group. However, it is found that young people do not find the training appealing as a result of which the VTIs are underutilized and even those youth who complete training from these institutes do not necessarily take up the trade that they received training in and may remain unemployed.

Policy Objective 2.2 Enhance the capacity for quality tertiary education by 9500 by 2020 and 12600 by 2050.

Policy Statement 2.2.1: Establish mechanisms to facilitate the establishment of additional universities and colleges in the country including through Foreign Direct Investment (FDI) and Public Private Partnerships (PPP).

Policy Statement 2.2.2: Establish mechanisms for quality assurance, standards and rules and regulations to ensure quality of programmes offered in the country.

Policy Statement 2.2.3: Continue the provision of scholarships in priority fields to achieve cross fertilization of ideas.

Policy Statement 2.2.4: Provide need based scholarships and interventions for youth from disadvantaged and minority groups to enable them to overcome the challenges and barriers resulting from their circumstances.

Policy Statement 2.2.5: Enhance the relevance and quality of adequate numbers of vocational skills training.

3. Demographic Change and Environment

Environmental change has historically had important effects on various demographic rates, including fertility. Going by the current trends of rural urban migration and urbanization, population distribution will continue to be skewed exerting pressure on the local environment therefore adequate mitigation and adaptation measures would have to be put in place. The increased number of people can pose a serious threat to the environment. If the aggregate of arable land is taken as the denominator, the density of population increases to 269-290 persons per square kilometer.

It is the effect of changing population composition and life style patterns, including patterns of consumption and the carbon footprint left by these changing lifestyles that requires attention, along with the effect of environmental change on population.

Climate change will expose large populations to different environmental hazards like drought and increased variability of weather. It could reduce agricultural productivity and increase mortality from sudden natural calamities like flash floods and outbreak of diseases which would adversely impact the demographic profile of the country.

3.1 Land Use Pattern

Development activities continue to convert a major portion of the agricultural and forest lands with very little or no consideration of the land capability. For instance, between 1998 and 2007,

about 161 hectares of prime agricultural land have been converted to other forms of land use. The area under rice cultivation in Bhutan is about 18 thousand hectares, according to data from the 2009 Agricultural Census. This represents a decline from the 19 thousand hectares recorded in the 2000 Agricultural Census, or a decline of about 1% per year.

Food self sufficiency target of 75% has been set for the 11 plan period (MoAF,2011). This has taken into consideration on two factors:

1. Area availability for expansion – information from Land Cover Map 2010 is used as basis.
2. Productivity increase potential.

Further, more than 22,235 acres of forest land have been cleared between July 2008 and June 2011(Forest Facts, Figures & Trends, June 2011) for various infrastructure development activities such as roads and power transmission lines.

Other activities such as mining operations have direct physical impact on the environment. With modernization, the need for conversion of agricultural and forest lands is increasing. Therefore, it is important to ensure that irreversible negative impacts on the environment are prevented and mitigated.

Policy Objective: Prevent and mitigate the environmentally destructive changes in land use patterns and their associated negative effects.

Policy statement 3.1.1: Ensure that the ecosystem is not fragmented.

Policy statement 3.1.2: Ensure appropriate sustainable land management practices to minimize land degradation and conversion of cultivable land.

Policy statement 3.1.3: Ensure conservation of agricultural land for food self sufficiency.

3.2   Rural-Urban Migration[16] and Urbanization[17]

The PHCB 2005 estimated that 111,770 lifetime migrants had migrated from rural to urban settlements. Adjusting the estimate to include the number of out migrants to rural areas, the net urban migrants in 2005 was 91,778 (47% of the urban population). According to the Bhutan National Urbanization Strategy (BNUS) 2008, rural-urban migration is likely to continue and, in the absence of prevention and mitigation measures, can lead to increasing congestion, environmental degradation, conflict of interests, and socioeconomic problems in the cities. This would also result in the continued loss of the active segment of the rural society.

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[16]The movement of people across a specific boundary for the purpose of establishing a new or semi-permanent residence.

[17] Growth in the proportion of a population living in urban areas.

About 44% of the country's population is concentrated in the western region (in 20% of the area). The distribution of the urban population is even more skewed with 65% of the country's urban population in the western region.

Table 6: Bhutan's urbanization by region, 2005

S. No.	Aspects	Bhutan	Regions			
			Western	Central-western	Central Eastern	Eastern
1	Population 2005	634,982	281,244	88,855	89,720	175,163
2	Contribution to total population (%)	100	44.3	14.0	14.1	27.6
3	Urban Population, 2000	137,864	75,449	14,954	17,942	29,519
4	Urban Population, 2005	196,111	127,677	13,840	22,880	31,714
5	Growth rate in urban Population, 2000-2005 (avg. annual %)	7.3	11.1	-1.5	5.0	1.4
6	Urbanization level, 2005	31	45	16	26	18

Source: BNUS, 2008

Table 7: Bhutan's Urbanization: Existing Situation and Future Prospects

Total Population		*Urban Population*	
Population, 2005 (census)	634,982	Urban popln., 2005 (census)	196,111
Growth Rate	1.3%	Growth Rate	7.3%
Popln., 2020 @ current growth rate	770,731	Urban Popln., 2020 @ current growth rate	564,000
Implied addl. Popln, by 2020	135,749	Implied addl. Urban Popln, by 2020	367,889
Urbanization level by 2020 (%)			73

Source: BNUS, 2008

Policy Objective: Promote balanced regional development to achieve environmentally friendly and sustainable urbanization.

Policy statement 3.2.1: Promote regional growth centers.

Policy statement 3.2.2: Ensure coordinated and planned development of human settlements (urban and rural).

Policy statement 3.2.3: Promote rural-urban linkages.

Policy statement 3.2.4: Ensure sustainability and quality of urban infrastructure and services.

3.3   Solid Waste, Water and Air Pollution

Management of waste, water and air pollution is an emerging environmental issue. According to NEC, only about12 towns out of the 54 urban settlements had some form of solid waste management in place. Other towns used open trucks and tractors to transport garbage, while domestic waste-water was managed through individual septic tanks with soak pits. The operation of the waste management system is crude at best, and lacks an integrated management system.

While the Environment Outlook 2008 indicates that the general state of water quality in the country is quite healthy, unless adequate precautionary measures are implemented, the pristine rivers and other water sources can easily become degraded with rapid socio-economic growth. The other issues related to water are the drying up of water sources all over the country, lack of capacity and water management research, information, planning and technology.

Owing to the small population, low industrialization and large forest cover, the country has enjoyed relatively clean air. However, with accelerating economic development, and urbanization, increasing air pollution is a concern.

Policy Objective: Carbon neutral development to minimize pollution resulting from increasing population, economic development, and unsustainable changes in consumption patterns in both urban and rural areas.

Policy statement 3.3.1: Ensure that environmental concerns are mainstreamed into development policies, plans and programmes and enhance green growth.

Policy statement 3.3.2: Protect and conserve the riparian and watershed areas to maintain ecological balance.

Policy statement 3.3.3: Reduce traffic congestion and promote eco-friendly transportation.

Policy statement 3.3.4: Promote safe, eco-friendly and space-optimized housing and waste management and sanitation facilities.

Policy statement 3.3.5: Promote awareness and programmes on proper waste management and reduction of air and water pollution.

3.4   Climate Change and Disaster Management

Climate change exposes the population to different environmental hazards like drought and increased variability of weather. It could reduce agricultural productivity and increase mortality from sudden natural calamities like flash floods and outbreak of diseases which would adversely impact the demographic profile of the country.

Bhutan is vulnerable to disasters like earthquakes, glacial lake outburst floods (GLOF), windstorms, landslides and fire hazards (forest and human settlement). The impact of the 1994 GLOF threatened the lives and livelihoods of people living in the valleys downstream in Gasa, Punakha, Wangdue, Tsirang and Dagana. There is increasing concern of GLOF frequency and intensity as a result of climate change. The earthquakes of September 2009 and September 2011 caused major damage to life and property across the country.

Policy Objective: Strengthen Disaster Managementand Mitigate Impact of Climate Change

Policy statement 3.4.1: Set up disaster risk management planning approach

Policy statement 3.4.2: Strengthen the institutionalization of a sustainable and decentralized disaster management mechanism at all levels.

Policy statement 3.4.3: Improve public awareness of climate change and disaster management

Policy statement 3.4.4: Promote mitigation and adaptation and increase resilience to disaster and climate change

4. Demographic Change and Poverty

Poverty is a consequence of economic and demographic conditions in the country. The degree of poverty a society might experience depends on the volume and distribution of resources and on the size and distribution of the population among households.

The size and age structure of a population are consequences of fertility decisions taken over past decades which were influenced by the prevailing economic conditions. On the other hand, the volume of resources available today is influenced by the size and age composition of the labor force.

Demographic factors have both direct and indirect impacts on the distribution of income. As the size and age composition of the population change, the relative size of the labor force and the number of dependents also change, modifying the dependency ratio of families, and therefore their level of poverty. This is the direct effect of demographic changes. It captures the effect that demographic changes have on quantities: number of children, size of the labor force, and the number of elderly persons. These changes in quantities will influence prices in general, the population growth rate and the age structure, which may have important impacts on labor supply and on savings. As a consequence, demographic changes may have considerable impact on the level of wages and on interest rates. Since these prices are important determinants of family income, they are bound to have a profound influence on the level of poverty. These are the indirect impacts of demographic changes on poverty, since they occur through the indirect effects of demographic changes on the level of labor supply, savings, wages and interest rates.

4.1   Poverty

According to the Poverty Analysis Report (PAR), poverty levels have declined from 36.3% in 2000 to 31.7% in 2003 and 23.2% in 2007. It was found that 98.1 % of those under the poverty line resided in the rural areas and 5.9% of the population suffered from food poverty. The prevalence of chronic malnutrition is high, affecting 33.5% of the children (BMIS 2010). Between 2004 and 2007 there has also been a decline in the levels of income inequality from 0.416 to 0.352. In keeping with the GNH philosophy of viewing development more holistically, poverty is being considered multi-dimensionally which captures more than income poverty. The multidimensional poverty index (MPI) has three domains namely health, education and living standards. According to Bhutan's MPI model, 25.8% is deemed to be MPI poor and deprived of at least 4 of the 13 indicators. The education MPI domain contributes highest to poverty followed by living standards and health.

Policy Objective: Eradicate poverty by 2030

Policy statement 4.1.1: Promote Micro, Small and Medium Enterprises (MSMEs).

Policy statement 4.1.2: Reduce vulnerability of the poor to natural calamities.

Policy statement 4.1.3: Ensure sustainable livelihoods of people in remote areas.

Policy statement 4.1.4: Increase income generating opportunities and access to housing and basic services for the urban poor.

Policy statement 4.1.5: Institute well defined poverty indicators and monitoring mechanisms.

Policy statement 4.1.6: Enforce human nature conflict management strategy.

5.   Demographic Change and Gender

Gender disparities and the extent of gender equality in the country directly influence the timing and shape of demographic change. As differences between males and females lessen and women are able to control their reproductive lives, maternal and child health improves, and fertility and mortality tend to decline. Consequently, population growth slows as women have more access to knowledge on reproductive health and effective ways of controlling the timing and number of childbirths. This translates into enabling women to broaden their horizons and participate in the public sphere. As such, gender equality programmes are vital in shaping the demographic profile.

Currently, the female adult literacy rate of 38.7% stands much lower than the male adult literacy rate of 65%. There is gender parity till the secondary level in terms of enrolment in schools but there is a gap at the higher education levels with the ratio of 67 girls for every 100 boys. Likewise, in the technical and vocational education level there are only 49 girls for every 100 boys (Annual Education Statistics, 2011).

There is very low female participation in governance and decision-making roles with women making up only 13.9% of the parliament. Similarly, the female labour force participation is low at 67.4% compared to that of men at 72.3%. The female unemployment rate (4.5%) and female youth unemployment rate (10.9%) is higher than the male unemployment rate (1.8%) and male youth unemployment rate (6.8%) (LFS, 2011). Studies also indicate that violence against women is high and on the rise. According to figures that Respect, Educate, Nurture and Empower Women (RENEW) compiled, between 2008 and 2011, more than 1,200 people came seeking its help from violence. Of that, 49 percent, the highest, was lodged for physical abuse followed by 30 percent with denial of resources, opportunities and services and 11 percent of extra marital affairs.

Policy Objective: Strengthen gender equality, equity and empowerment of women.

Policy statement 5.1: Mainstream gender issues into all development policies, plans and programmes.

Policy statement 5.2: Strengthen information, education and communication, and advocacy on gender.

Policy statement 5.3: Enhance involvement and participation of women in the decision-making process.

Policy statement 5.4: Strengthen institutional and organizational coordination in cross-sectoral approaches to gender issues and adopt special temporary measures where necessary.

Policy statement 5.5: Promote entrepreneurial skills and employment opportunities for women.

6. Demographic Change and the Economy

During recent years there has been an increasing awareness of the direct influence of population age structure on the macro economy. People's economic behavior and needs vary at different stages of life and as such, changes in a country's age structure can have significant effects on its economic performance. While young people require investment in health and education, prime-age adults supply labour and savings, and the elderly require health care and retirement income. As countries move from a steady state with high mortality and high fertility to an equilibrium with low mortality and fewer children, several factors change in a way that is conducive to economic growth: working age adults have to support fewer children and are thus richer in terms of per capita income; fewer children signify more resources per child and higher capital investment; fewer children also imply more time for parents to work; longer life expectancy and less reliance on within-family support implies higher investment in physical capital.

According to National Accounts Statistics, 2012, the nominal GDP grew by 18.05 % recording Nu. 85,580.58 million in 2011 as compared to Nu. 72,496.64 million in 2010. The tertiary sector noted the highest share to the total GDP in 2011 with 43.69 % followed by secondary sector with 38.41% (Nu. 32,873.0 million) and primary sector with 18.% (Nu. 15,401.10 million).

The hotel and restaurants under the tertiary sector registered a huge growth from Nu. 608.01 million to Nu. 948.645 million due to the increased number of tourist arrivals and the growth in hotels and restaurants in 2011. The secondary sector which includes hydropower noted a decline of 6.68% in 2011 with total contribution of Nu. 11,911.61 million as compared to Nu. 12,763.60 million in 2010. The per capita income in 2011 is estimated at USD 2590 (Nu. 120,876.53) by taking a projected population of 0.71 million in 2011.

The total outlay for the 10 Five Year Plan was 153,020.92 million and the projected figure for the 11 Five Year Plan is 201,030.32 million. This shows the growing investment by 31.37% as well as expenditure over the period of time(11 Five Year Plan guidelines).

Policy Objective: Enhance employability of the population as a nation's resource to ensure effective deployment of human resources in socio-economic development

Policy statement 6.1: Ensure sustainability of macro-economic stability by ensuring market efficiency, budget support, provision of social services and expansion of pro-poor interventions in different sectors.

Policy statement 6.2: Strengthen entrepreneurship promotion programmes.

Policy statement 6.3: Improve working conditions and living standards.

Policy statement 6.4: Ensure social welfare of the unemployed and the retired employees of the agencies outside the civil service sector.

Policy statement 6.5: Expand employment security and benefits.

7. Demographic Change and Youth

With half the country's population under the age of 22.3 years this large number of young people has the potential to be a tremendous asset for the country provided the right conditions are created. While the current unemployment rate is 2.1 percent (Labour Force Survey, 2012) down from 3.1 percent in 2011, the youth unemployment rate is 7.3 percent. The unemployed youth mostly comprise of those with university degrees and living in the urban areas.

With the current fertility rates, Bhutan's economy will have to sustain continuous expansion in order to keep pace with and provide sufficient jobs for the growing population. If sound policies are in place, growing youth cohorts can become an asset for economic growth as long as fertility levels and dependency ratios are declining.

As the current population ages, and approaches retirement age, larger cohorts of workers will be retiring while the numbers of new labour market entrants will be insufficient to replace them. As a result, a major labour shortage would be expected, which will pose a serious threat to macroeconomic performance, despite productivity and technological advances.

The projection figures show that since 2005, the life expectancy would increase for both males and females by ten and thirteen years respectively by 2050. For example, a girl born in 2020 and 2050 can expect to live six and thirteen years longer than a girl born in 2005. This increase in life expectancy therefore leads to an increase in the number of people living above 65 years (11.7%) which would exert more pressure on the health and pension systems in the country.

Currently, a large proportion of the population is of working age and there are relatively few people aged 65 or older. Although the decline in fertility has been observed, Bhutan would still have the great majority of her population in the age range of 15-64 creating a demographic bulge. This demographic bulge would create an especially large generation of individuals who, when they reach the working years, will supply greater amounts of labor and savings, and be healthier and better educated. This translates to more human and physical capital, which would push out the frontier of production possibilities of the economies in which they take place. Therefore, if Bhutan could adopt right policies and take advantage of this demographic dividend, the country can attain considerably more rapid improvements in the living standards of the people.

Policy Objective: Create an enabling environment and opportunities for young people to realize their full potential.

Policy statement 7.1: Create economic opportunities to reap the demographic dividend.

Policy statement 7.2: Ensure availability of adequate human resources both in terms of number and quality.

Policy statement 7.3: Create an enabling environment for private sector development especially in rural areas.

Policy statement 7.4: Increase employability of and employment opportunities for the youth.

Policy statement 7.5: Improve the existing information dissemination system for the labor market and enhance nationwide job-matching services.

Policy statement 7.6: Expand youth development activities through the identification and promotion of best practices.

8. Institutional Arrangement

The National Population Policy shall be translated into strategies and action plans and an institutional framework established to ensure that it is systematically implemented, using international, regional and national good practices. A good coordination mechanism will be required, involving civil society, private sector, media and other stakeholders.

Policy Objective: Set up an effective Institutional Framework

Policy Statement 8.1: Establish an independent Commission on Population and Development to focus on the coordination and implementation of the National Population Policy.

Policy Statement 8.2: Prepare strategies, action plans, and a monitoring and evaluation framework for the National Population Policy to identify the specific activities, responsibilities, time frames and coordination mechanisms for implementation.

Policy Statement 8.3: The policy shall be reviewed after every Population and Housing Census or every 10 years to incorporate the changing needs of the country.