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Country presentation

by

THE ROYAL GOVERNMENT OF BHUTAN

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COUNTRY PRESENTATION



BHUTAN
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Presentation of the Royal Government of Bhutan

ACTION PROGRAMME FOR THE DEVELOPMENT OF BHUTAN, 2001-2010

Note: This report has been prepared under the responsibility of the Department of Aid & Debt Management, Ministry of Finance, after consultation with members of the National Preparatory Committee consisting of all the agencies in the Royal Government.

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Abbreviations

AAC	Annual Allowable Cut
ADB	Asian Development Bank
BOB	Bank of Bhutan
BHU	Bhutan Health Unit
BCCL	Bhutan Carbide and Chemical Ltd.
BCCI	Bhutan Chamber of Commerce and Industries
BBS	Bhutan Broadcasting Service
BDFC	Bhutan Development Finance Corporation
CSO	Central Statistical Office
DADM	Department of Debt and Aid Management
ESCAP	Economic and Social Commission for Asia and the Pacific
EU	European Union
FDI	Foreign Direct Investment
GATS	General Agreement on Trade and Services
GATT	General Agreement on Tariffs and Trade
GDI	gross domestic investment
GDP	gross domestic product
GDS	gross domestic savings
GNH	gross national happiness
GNP	gross national product
GoI	Government of India
IDA	International Development Assistance
IMF	International Monetary Fund
LDC	least developed country
MoA	Ministry of Agriculture
MTI	Ministry of Trade and Industry
NEC	National Environment Commission
NRTI	National Resource Training Institute
NTTA	National Technical Training Authority
ODA	official development assistance
PCAL	Penden Cement Authority Ltd.
PPP	purchasing power parity
RNR	renewable natural resources
RTM	Round Table Meeting
RGoB	Royal Government of Bhutan
RSPN	Royal Society for Protection of Nature
RCSC	Royal Civil Service Commission
RIM	Royal Institute of Management
RMA	Royal Monetary Authority
SAARC	South Asian Association for Regional Co-operation
SME	small and medium sized enterprise
STCB	State Trading Corporation of Bhutan
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

CHAPTER 1: THE COUNTRY CONTEXT

1.1 Introduction

The Kingdom of Bhutan with a population of 637,777 (CSO, 1998) covers an area of 46,500 square kilometers in the Eastern Himalayas. The rugged terrain rises from an elevation of 160 m above sea level from the plains in the south to more than 7,500 m in the north, all in less than 175 km. Given this significant altitudinal variation and combined with the high degree of precipitation, water resources are abundant. The powerful and fast flowing rivers afford the country enormous hydropower potential estimated at 30,000 MW, which remains still largely untapped. Bhutan is also well endowed with other natural resources with a rich forest cover of 72.5 %, and various mineral resources that include limestone, dolomite, gypsum, coal, copper, talc, marble, quartzite, zinc and lead. Bhutan's pristine nature, bio-diversity and unique cultural heritage also make for an attractive and exotic tourist destination.

1.2 Development Background

Bhutan has successfully completed four decades of planned development. The development process in the Kingdom was initiated in 1961, the year it was first classified as the country with the lowest GDP per capita in the world at US\$ 51. The economy then was basically a closed rural-based barter economy with its population fully dependent on subsistence agriculture and livestock rearing. Virtually no physical or social infrastructure existed and there was a complete absence of modern communication facility. Additionally, an administrative system in the sense of a modern civil service was only just developing and the country suffered from a dire shortage of educated and trained personnel.

The health and education system at the time comprised only 11 primary schools with 500 students and four small hospitals. Health indicators were abysmal with life expectancies at less than 35 years and extremely high infant/maternal mortality rates, attributable largely to readily preventable and treatable diseases. And while no surveys had been done, literacy rates were probably among the lowest in the world with school enrollment figures equally dismal.

However, in that short development period, the economy emerged from a small and traditional rural base to a relatively modern one. Even more dramatic was the improvement in the quality of life of the people through the introduction and rapid expansion of basic health care and education

facilities. This impressive socio-economic transformation was largely effected through a series of five-year development plans with generous assistance from donor countries and organizations, and these improvements can be discerned from the comparative figures in *Table 1.1*.

Bhutan: Selective Socio-Economic Indicators 1960-1999				
Indicators	1961	1970	1980	1999
Life Expectancy	35	45	46.1	66
Infant Mortality Per live 1000 births	203	158	142 (1984)	70.7
Number of Schools	11	98	150	343
Enrollment	400	11,000	37,682	104870
Adult Literacy Rate	n.a. ⁵	10%	17.5%	54%
Human Development Index	n.a.	n.a.	0.325 (1984)	0.581
GNP per capita	US\$ 51	n.a.	US\$ 116	US \$ 556.

Table 1.1 Source:, CSO, Planning Commission

1.3 Development Philosophy and Outlook

Bhutan’s development philosophy has been remarkably consistent and has always been marked by a quest for a balance between “*the need to have and the need to be,*” between preserving its rich cultural heritage and natural environment and pressing forward with economic development. While the basic goal as in other developing countries is to improve the living standards and material prosperity of its people, development in Bhutan is not judged merely in terms of income growth but is viewed in terms of happiness, contentment and the spiritual and emotional well being of its people. The outlook essentially is that modernization and progress should be evaluated more by “Gross National Happiness” than simply by GNP or other economic indicators; and that development should take place at a pace consistent with it’s capacity and needs. These considerations figure prominently in policy decisions of the government and will remain important priorities. This national vision is elaborated in Chapter 4.

1.4 The Five Year Plans

The five-year plans (FYP) initiated in 1961 were the instruments of socio-economic development in Bhutan and were devoted to building up the institutions of a modern economy and state. The initial two plans focussed on building basic infrastructure within the country, mainly a road network and on laying the foundations of a modern health infrastructure and developing education and human resources. These two plans were completely financed by the Government of India and largely implemented with Indian technical assistance.

The 3rd FYP (1972-1977) maintained these priorities but allocations for road construction were reduced relatively. The 4th FYP (1977-1982) saw a significant shift in priorities with the agriculture, forestry and industry sectors allocated over 55% of the total development resources.

⁵ No surveys were carried out at the time but would possibly have been among the lowest in the world.

In the 5th (1982-1987) and 6th (1987-1992) FYPs, the priority areas were the energy and industry sectors and the period was an important development phase during which the mega Chukha Hydro power project (336 MW) was commissioned. From this period onwards, major investments were made towards expanding the country's air links and telecommunication networks. The 7th (1992-1997) and the 8th (1997-2002) FYPs concentrated on strengthening the social and infrastructural facilities, while laying the foundation for the expansion of income generating programmes and the startup of other hydropower projects.

1.5 Overview of the Socio-Economic Situation and Constraints

Despite the impressive transformation of the national economy, Bhutan's economy with a GDP value of Nu. 18.810 billion in 1999 (*National Account Statistics 1999*) is still among one of the world's smallest. It is to all extents, a least developed economy with significant and special structural constraints and vulnerabilities. While its GNP per capita has climbed to US\$ 556, it belies the fact that corporate incomes figure highly and disproportionately in such estimations of national wealth.

Bhutan's development is hampered by the country's land-lockedness, distance from seaports, and its rugged and mountainous topography. The bulk of the population live in small, remote and scattered settlements which serve to increase the unit cost for development infrastructure and provision of social services. In spite of these difficulties, infrastructural and human development achievements have been significant. Maintaining existing levels of social services and infrastructural build up, and further expansions and improvements, however, will require ever increasing social spending and infrastructural outlays, particularly in the context of the high population growth rate of 3.1%.

The Bhutanese economy is dominated by two contrasting sectors, the traditional sector comprising agriculture and forestry, and a fast growing modern sector comprised of energy and industries. The harnessing of hydropower and the development of power-allied industries are seen as the strategic key to unlock Bhutan's future economic prospects and to serve as the engine of growth. The successful development of the hydropower potential, however, contains within itself the inherent possibilities that this special opportunity could undermine the competitiveness of other non-power based economic sectors. The excessive reliance on a single commodity exported to a single market also increases the country's economic vulnerability and hence the imperative for diversifying the economy and giving it more depth.

The employment generation possibilities offered by the power and allied sectors too are also limited and this assumes particular significance in the context of a large number of educated Bhutanese youth entering the job market in the future. A related but paradoxical situation is that Bhutan continues to face a shortage of trained and skilled manpower across all sectors and this will probably remain a significant future constraint as the majority of the educated youth coming into the job market are untrained and unskilled. These effects are to a certain extent ameliorated by the gradual development of the tourism industry that could provide a much-needed diversification and balance to the economy, while generating valuable foreign exchange and job opportunities.

The Renewable Natural Resources (RNR) sector is not expected to grow as rapidly as the modern sector, but agriculture and its allied activities nevertheless remain critical to the economy

as a source of sustenance and gainful employment for most Bhutanese. However, agriculture production though is significantly constrained by limited arable land, the difficult terrain that reduces the scope for mechanization and thereby higher productivity, and the rural to urban migration trend that has resulted in severe farm labour shortages. Expansion of agriculture and forestry are further limited due to the risks of environmental degradation in a sensitive mountain eco-system.

On the external front, much of Bhutan's trade has been with and is still with India, though there has been a slight diversification following the expansion of trade ties with Bangladesh. Exports and revenue generation activities are limited to a few commodities such as electricity, cement, calcium carbide, ferro-alloys, agro and wood-based products and horticulture crops. The country's trade balance and current account have consistently been in deficit, but the overall balance of payments has been positive due to net inflows of foreign aid. Bhutan remains highly dependent on foreign aid even though the position has improved over the years to a point, where today the recurrent expenditures are now fully met through domestic resources. Private inflows of foreign direct investment have been negligible which partly explains why the country has not been able to take advantage of existing global trade concessions for LDCs. However, with the improvements in the country's investment climate and increasing willingness to participate in the globalization process, Bhutan can benefit considerably.

CHAPTER 2: PERFORMANCE IN THE 1990s

2.1 DEVELOPMENT PLANNING AND EVENTS OF THE 1990S

The 1990s spanned three plan periods, the 6th (1988-1992) 7th (1992-1997) and 8th (1997-2002) plan periods. The broad priorities and objectives of the development plans for the 1990s were on maintaining growth, working towards self reliance, achieving sustainable and balanced development, improving the quality of life - particularly in rural areas, effecting decentralization and enhancing people's participation, privatization and development of the private sector, strengthening HRD, and the conservation of the cultural and natural environment.

The total expenditure outlay between 1990/91 to 1998/99 amounted to Nu. 34.62 billion of which capital expenditures accounted for 51% and recurrent expenditures for 49%.

Highlighting some of the development events of the 1990s were the government's privatization of the tourism and surface transport sectors, corporatization and divestitures of various state-owned enterprises and the liberalization of the foreign trade and currency regimes. Emphasis was also maintained on the continued development of the hydropower and industries sector with several hydropower projects including the mega Tala project starting construction towards the end of the decade.

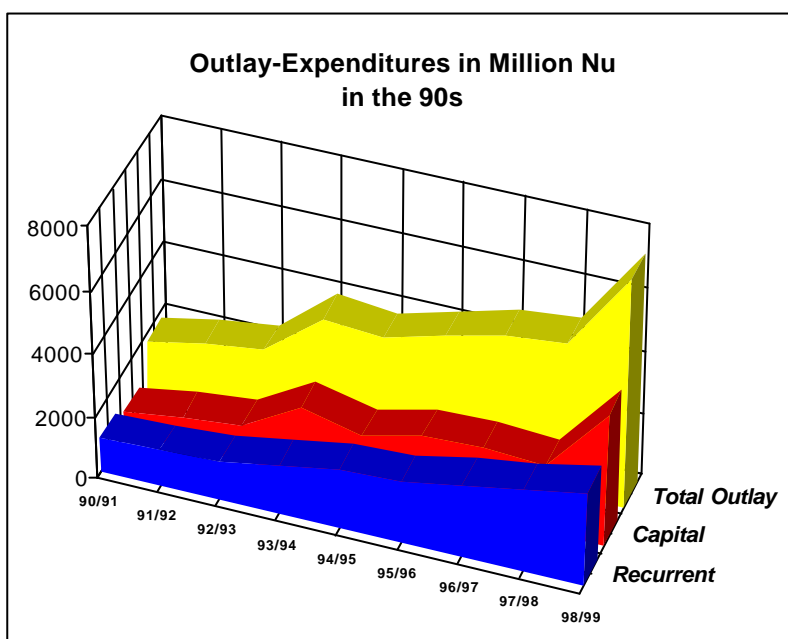


Fig 2.1: Source: National Budget and Accounts & National Accounts Statistics

2.2 ECONOMIC GROWTH

Bhutan's GDP in 1999 was valued at Nu. 18.810 billion in current prices and at Nu.3.49 billion in 1980 prices. Economic growth has largely been sustained at projected levels in the 1990s as a result of an export-oriented energy sector and the development of a few energy-based enterprises. Significant aid inflows for various development projects also provided significant boosts to the economy in the 1990s.

Real GDP growth for Bhutan in the 1990s averaged out to 5.8 % p.a, falling slightly short of the projections and targets of 6-6.5% set for the decade. The growth rate for the 1990s was erratic and did not match the 8% growth rate achieved in the 1980s, an event that was largely foreseen. It would have been unrealistic to have expected the high growth rates of the 1980s which were

from a much lower base and experienced a singular quantum growth of 18% in 1986/87, when the Chukha power project was commissioned and started generating power for export.⁶

Real growth rates for the early part of the 1990s averaged 5% but after 1995, picked up due to the commissioning of a ferro-alloy plant, the expansion of the production capacity of the Chukha hydropower project and the Penden cement plant, and the increase in tariff for exported energy. With the startup of the mega Tala Hydropower Project

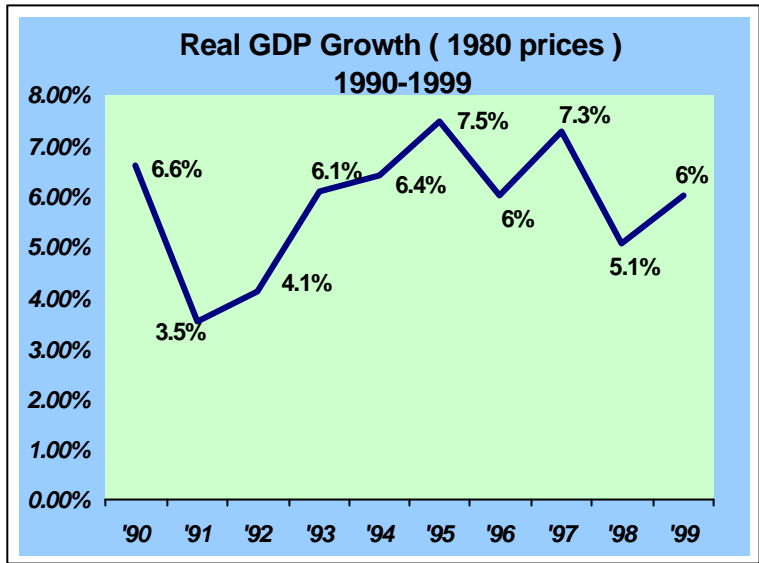


Fig 2.2 Source National Accounts Statistics

construction activities in mid 1998, the economy experienced a small boost, which pushed up the growth rate to 6% in 1999. However, the full benefits of the Tala power project to the national economy will only be felt when the project is commissioned in around 2005/6.

The GDP structure continued the trend of the 1980s with a decline in the contribution of the traditional or primary sector of agriculture and forestry from 43% in 1990 to 34.8% in 1999, with the modern sector comprising manufacturing, energy and construction, growing from 25% in 1990 to 35% of GDP in 1999.

Total consumption for the 1990s declined from 73% of GDP in 1990 to 56% in 1995 but increased to 67% in 1999. Private sector consumption declined from nearly 57% of GDP in 1990 down to 32% in 1995 but increased thereafter to 61.8% of GDP in 1999.

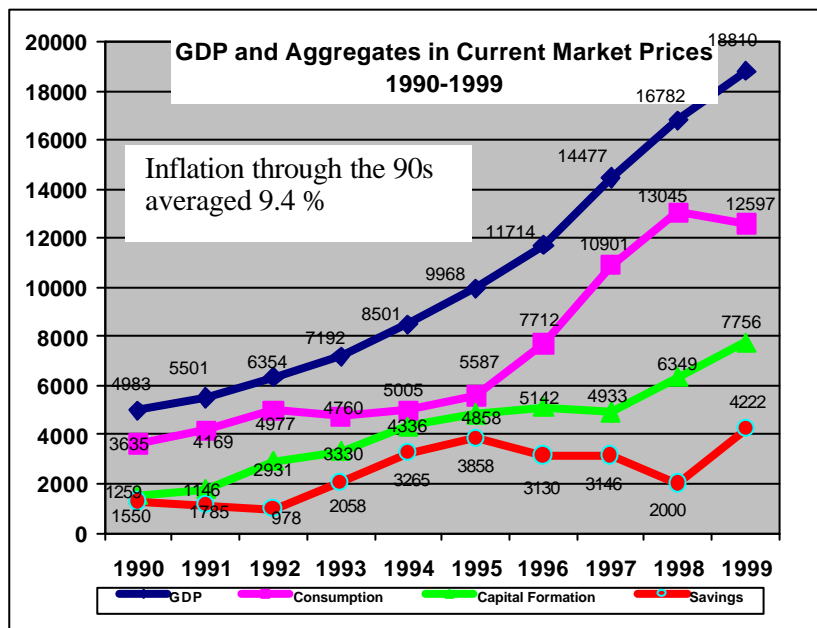


Fig 2.3 Source: National Accounts Statistics

Government consumption averaged around 21 % of GDP through the 1990s.

Total real investment for the 1990s grew at an average of 12

³ Owing to the small base of the growth sectors, there is a noticeable impact on GDP indicators whenever an enterprise or project comes on stream which explains the fluctuations in GDP growth

%, with an average capital formation for the 1990s amounting to 40% of GDP. Bhutan has been able to maintain such high investment rates due to the gap being financed by foreign aid inflows. In the early part of the 1990s, capital investments made were for a sewerage system, telecommunications, and the renovation of the Punakha dzong. The latter part of the decade experienced a flurry of construction activities on account of the hydropower projects.

Gross domestic savings grew strongly from a deficit situation of Nu. -110 million in 1980 to Nu. 3.586 billion in 1995 and Nu. 4.222 billion in 1999. In terms of the ratio of savings to GDP, savings were 30% in the early 1990s and 25% in the latter part of the 1990s. Additionally, the substantial savings accrued in the last decade were largely private savings (mostly from a few large corporations) with government savings for most years being either small or negative due to the high recurrent expenditures on account of social services costs. Private sector savings grew significantly principally due to the development of the financial sector and the emergence of a few highly profitable enterprises.

2.3 FISCAL AND MONETARY DEVELOPMENTS

In the Final Review of the Implementation of the Programme of Action for the LDCs for the 1990s – South Asia, the study pointed out that Bhutan was possibly “*fiscally speaking, the best governed state in South Asia.*” IMF and World Bank reports also referred positively to Bhutan’s conservative but prudent fiscal management over the decade which has consistently reflected an overall positive balance of payments, increase in revenue generation and growing reserves that in 1999 was in the region adequate to cover 19 months of imports.

Broadly explained, Bhutan’s fiscal policy in the 1990s focussed essentially on meeting recurrent expenditures from mobilization of domestic resources, which it has successfully been able to do in the last four years. However, capital development expenditures have traditionally been met from ODA and loans from donor countries and organizations.

2.3.1 Balance of Payments

Bhutan’s balance of payment in the 1980s and 1990s has been characterized by large deficits in the current account. In 1998/99, the current deficit account increased significantly due to rising imports for the three power projects. This widening deficit is expected to continue until the completion of these projects. However, due to substantial foreign aid and capital inflows, the overall balance of payments position has consistently been positive throughout the 1990s. Fig 3.3 depicts Bhutan’s current account deficit and the overall balance of payments position for the 1990s.

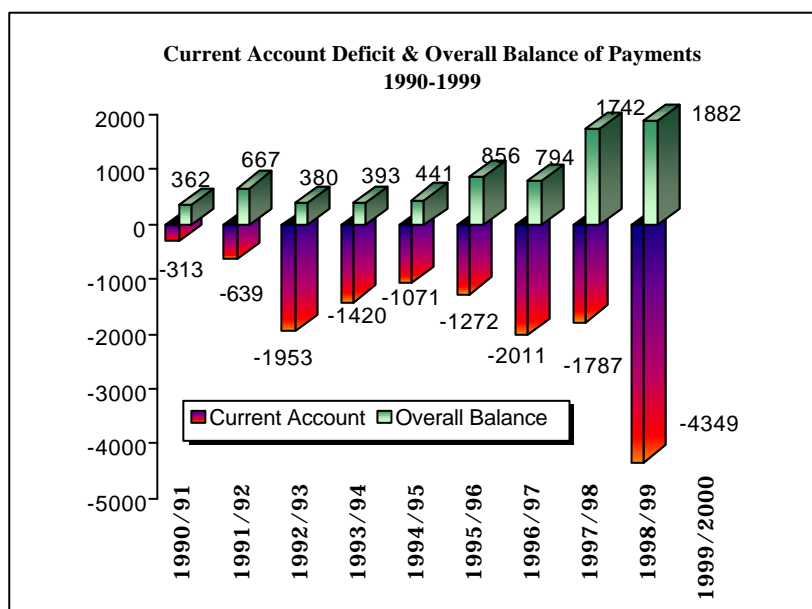


Fig: 3.3: Source: RMA Annual Reports

Bhutan's international reserves have been growing steadily in the 1990s. Indian Rupee reserves as of June 2000 stood at Rs. 3.356 billion and foreign exchange reserves grew to US\$ 217.5 million (RMA, *Annual Report 1998/1999/200099*), which are estimated to cover over 19 months of imports. In comparison, at the end of the 1980s (1989/90), foreign reserves stood at US\$ 65 million and Rupee reserves at 418 million at about 11 months of imports.

2.3.2 Monetary Developments

With Bhutan's economy closely integrated to the Indian economy, and with the Bhutanese Ngultrum (Nu), pegged at par with the Indian Rupee, the scope for an independent monetary policy has been limited. However, there has been significant development in the monetary framework ranging from introduction of monetary instruments to strengthening of prudent regulations and improving efficiency and greater competition in the banking and financial system.

A prominent issue in the 1990s was the significant build up of excess liquidity with the various financial institutions in the country largely due to credit policies. Towards improving the financial system and intermediation, several key reforms were introduced in the 1990s, such as the introduction of various securities and instruments to mop up excess liquidity, liberalization of interest rates, the creation of a second fully commercial bank, revision of cash reserve ratios, the introduction of RMA discount bills and government bonds, and a reserve repurchase scheme. Notable monetary developments in the 1990s has been the deregulation of foreign exchange, the establishment of a stock exchange, the introduction of the Bankruptcy Act and the Moveable and Immovable Property Act. The RMA is also in the process of formulating a comprehensive strategy for the financial sector.

Monetary expansion in the 1990s has averaged a growth of 25% per year. During the decade, broad money (M2) ratio to GDP rose from 22% in 1990/91 to 32% in 1994/95 and 43% of GDP in 1998/99. This rapid money growth due to an accumulation of foreign assets resulting from the overall positive balance of payments, combined with a moderate average inflation rate of 9.4% during the decade, indicated a brisk pace of monetization of the economy.

2.4 RENEWABLE NATURAL RESOURCES

The Bhutanese economy is an agrarian one with 79% of its people engaged in and dependant on agriculture and related activities. However, the share of agriculture, livestock and forestry's contribution to the GDP has been steadily declining from the 1980s. In the 1990s the trend continued with the share decreasing from 43 % in 1990 to 34.8 % in 1999. It nevertheless still remains the single largest contributor to GDP.

2.4.1. Agriculture

The share of agriculture proper of GDP has declined from 27.8% in 1980 to 21.6 % in 1990 to 6.8% of GDP in 1999, which was largely attributable to the faster growth of other sectors. It nevertheless remains a priority sector for the national economy on the basis of its importance as a source of livelihood, income and employment for most Bhutanese, and in view of the need to maintain a certain degree of food sufficiency and security.

Agriculture growth in the 1990s averaged 2.2 % per annum in real terms. The principal cereal crops grown are rice, maize and wheat. Between 1989/90 and 1999, paddy production rose from 39,790 MT to 59,602 MT largely due to intensification of cropping. Wheat production also increased from 3,630 MT to 6,817 MT in that period. Production of maize increased from 31,080 MT in 1990 to 57,507 MT in 1999. While production figures in the 1990s for these staple crops show increases in physical production, but this has not been enough to keep up with increasing domestic food consumption. The reasons attributed are population growth, increase in average consumption, and a diversification of agriculture activity into cash crop cultivation. As such, significant amounts of these cereals have been imported. The country presently has a 65% self-sufficiency in food grains, which is projected to go up to 70% in 2002.

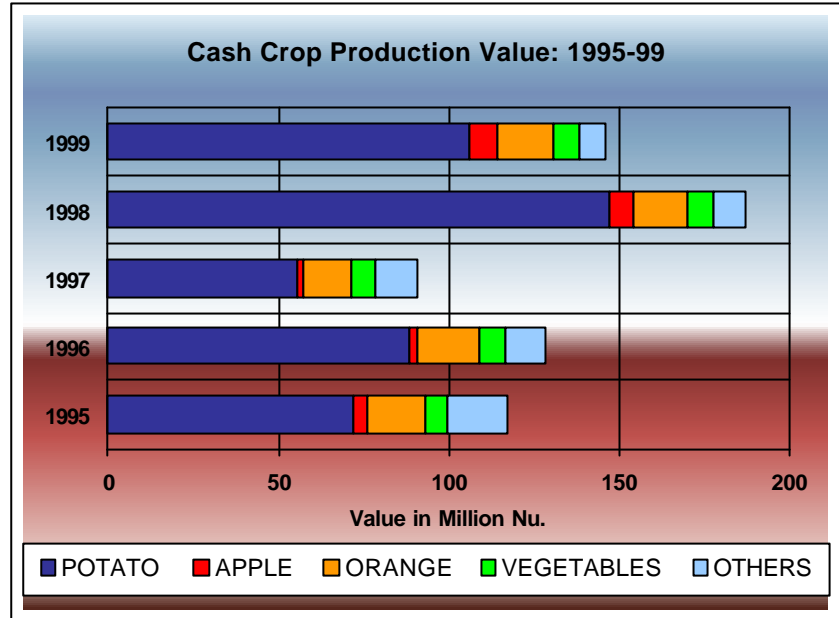


Fig 2.4: Source: MoA

Imports of cereals, and livestock products have generally been offset by the exports of cash crops resulting in an overall positive balance in agriculture trade. The production of cash crops also grew faster than cereals in the 1990s. Potato and horticulture crops are important cash crops that have contributed to rural incomes through sales in both the local and regional markets. However, cash crop value has been subjected to significant price fluctuations influenced by the demand and supply situation in the neighboring export markets

In the past, major capital investments were made in the agricultural sector. The government had established by 1998, an extensive network of 4 RNR centres with 8 sub centres, 38 RNR extensions centres, 155 agricultural extension centres, one agricultural machinery centre with 3 regional farm mechanization centres, The government, however, is now moving away from such large-scale capital investments into a programme framework approach where investments are directed into realistically sized projects and programmes.

2.4.2. Livestock

Bhutan’s livestock contribution to the GDP was around 8% of GDP throughout the 1990s, and constituted 7.5% of GDP in 1999 and is an integral part of the Bhutanese farming system. Livestock comprises mainly cattle, yaks, sheep and goats, horses and poultry. However, livestock growth is viewed as a matter of concern as an uncontrolled increase in numbers could lead to environmental degradation through overgrazing. Controlling livestock numbers is generally managed through the introduction culling of unproductive cattle and progressive cattle taxes.

Livestock product is largely for personal consumption but small surpluses are marketed. It is estimated that about 22% of household incomes for farmers are derived from livestock products. Livestock productivity though is generally acknowledged to be low due to poor animal health and poor breeds. In an effort to upgrade livestock quality, improved breeds have been introduced, suitable feed and fodder practices promoted and veterinary coverage extended. The eradication of the rinder pest disease in the country was a significant achievement.

By 1999, there were 20 veterinary hospitals, 108 livestock extension centres, 8 breeding farms, four regional and 2 satellite laboratories, 3 quarantine stations and a national referral centre. A germplasm bank for mithun cattle has also been established for the conservation of genetic resources. Vaccine production for protection against major livestock and poultry diseases has also been initiated in the country.

2.4.3. Forestry

Bhutan's forests covering 72.5% of the total land area are not only important for providing resource potential, but are also vital for maintaining the fragile mountain eco-systems and the rich bio-diversity that exists therein. In view of the latter and the national policy to maintain 60% of the land under forest cover at all times, exploitation of forest resources is only secondary, and this is reflected in the changing role of the forest department, evolving from a harvester to a guardian of forests.

The contribution of forestry and logging to GDP went down from 11.5% in 1990 to 10.5% in 1999, with revenue contributions for the entire forestry services dropping from Nu. 111.66 million in 1994-95 to Nu. 60.12 million in 1998-99. The forestry sub-sector grew at an average rate of 4.3% in the 1990s, but towards the latter part of the decade, its growth rate slowed down to 2.8% between 1997 and 1999. Logging royalty revenues also declined from Nu. 51.6 million in 1993/94 to Nu. 31.51 million in 1998/99 (*National Revenue Reports, 1993/94 & 1998-1999*) despite consistent forestry royalty rates.

The explanation lies in the intentional downscaling and increased control of forestry logging activities and limiting exports of raw timber and logs. While the extraction of timber has always been kept well within the sustainable AAC (*annual allowable cut*) extraction rates, there have been serious concerns due to over concentration of logging activities near roads, excessive fuel wood consumption and deforestation in certain areas due to over extraction or overgrazing. For these reasons, the RGoB has exercised caution on the commercial exploitation of its forests. In 1995, the RGoB introduced a 10% tax on exports of raw timber and logs and in January 1999, a full ban was imposed on such exports, to reduce forest exploitation and also to increase domestic supply for value addition in Bhutan. As such, the contribution of the forestry sector to the economy is expected to decline even further in the future in view of the national environment policy considerations.

2.5 INDUSTRIES

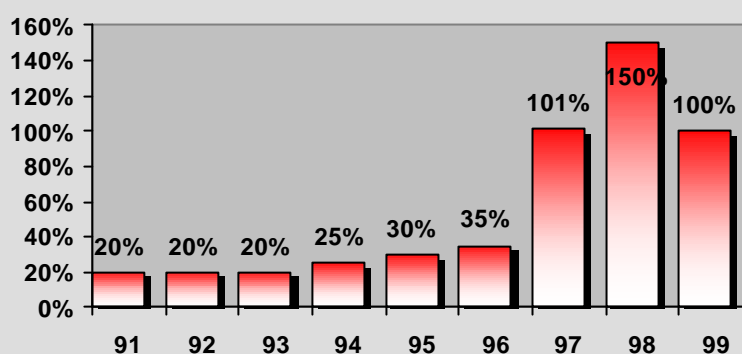
2.5.1 Manufacturing and Mining

The Manufacturing sector witnessed a general broadening of its industrial base through an increase in the number of activities as well as the diversification of product range and capacity addition. The number of manufacturing establishments rose from 168 in 1989 to 486 by 1999. While most of the new enterprises were small sized ventures, there were also a few large and medium scale enterprises commissioned, such as a ferro-silicon project, two furniture production units, an agro-based factory, and two mini cement plants. The Penden Cement Plant's production capacity was doubled from 400 tpd to 800 tpd.

Bhutan Carbide & Chemicals Ltd.

Bhutan Carbide & Chemicals Ltd. consistently increased its turnover from Nu. 356.82 million in 1993 to Nu. 583.58 million in 1998. The return on investment was impressive and record dividends of 101, 150 and 100 percents were declared in 1997, 1998 and 1999. The dividend chart below provides an indication of the company's profitability during the decade.

Dividends declared by the BCCL in the 1990s



Box 2.1: Source: MTI

Manufacturing contributed only 3.2% of GDP in 1980 and 7% in 1989, but grew to a high of 12.1% in 1996 and then to 9.5% in 1999. Real growth for the manufacturing sector moved at an average of 11% a year through the 1990s. The performance of the power intensive industries, namely calcium carbide, ferro-alloys and cement, were particularly strong, having emerged as the major exports after electricity.

Mining and quarrying grew erratically during the 1990s with an overall average real growth rate of 8.8%. However, in 1997 and 1998, there was a decline in growth of -5.4% and -2.5% respectively due to the decline in the production of dolomites, limestone and quartzite. The number of mining licenses increased from 11 in 1989 to 33 in 1999. Mining operations have been streamlined with the enactment and adoption of the Mining and Mineral Management Act of 1995.

2.5.2 Energy

The major sources of energy in the country comprise fuel wood, electricity and fossil fuels. Of these, fuel wood accounted for 75% of energy consumption, predominantly in rural areas for lighting, heating and cooking purposes. Electricity though has emerged as the major alternative source of energy and consists mainly of hydropower, but also includes, to a small extent, diesel generation and solar power. Electricity comprised 0.2% of GDP in 1980 but has grown to 11.6% of in 1998 and figures even more importantly in revenue generation, comprising 46 % of the total national revenues.

The installed electricity generation capacity including diesel generation reached 350.17 MW in 1997/98, which came mostly from the Chukha hydropower project. The completion and commissioning of the 2.2 MW Rangjung Hydro-power project and the construction of the tailrace tunnel for CHPC improved the generating capacity from 1556.90 GWh in 1990 to 1972.18 GWh in 1999. Three micro hydels of 200 KW capacity were also completed and commissioned. The renovation and rehabilitation of older mini-hydel projects was undertaken to improve their efficiency and synchronize these

CHUKHA HYDROPOWER PROJECT

In the 1990s, the Chukha Hydro-power Project exported 75.70% of its electricity to India, besides meeting domestic requirements. It also featured as the top revenue earner in the country's economy contributing 1,244.62 million or 35.4% of total revenues in 1998/99. Total generation was 1,943.70 MU out of which 1,472.20 MU was exported in 1999.

Hydropower sales value was boosted by the increases in export tariff from Nu 0.20 to Nu 1.50/kwh during the 1990s. Domestic tariff structure was also revised from Nu 0.40/kwh to Nu.0.70/kwh as of 2000.

independent systems with the transmission grid. Electricity supply and accessibility

Box 2.2. DoP, MTI

were expanded significantly during the 1990s in rural as well as in urban areas. The number of villages with electricity connection increased from 171 in 1989 to 331 in 1996. The combined improvement in the generation and distribution resulted in a manifold increase in the per capita consumption of electrical energy from 90 units in 1989 to 604.40 units in 1996.

A significant development in the energy sector was the increase in export price of hydropower. The export tariff increased from Nu 0.20/kwh in 1991 to Nu 1.50/kwh by the close of the decade. The revenue generated consequently increased from Nu 376.81 million in 1989 to Nu 1,481 million in 1998/99. Domestic consumption also registered a sharp increase from 144.665 MU in 1989 to 342.791 MU in 1996, attributable to the establishment and commissioning of power intensive industries as well as a wider coverage of electrical supply. The domestic industrial sector was the predominant consumer accounting for 85.15% of total domestic electricity sales.

The development of hydropower generation facilities received a further impetus in the 1990s with the finalization of major hydropower projects and commencement of some of these in the late 1990s. Construction of three major projects namely Kurichu (60 MW), Basochu (60.8MW) and Tala (1020 MW) started towards the end of the decade and are at various stages of construction. Feasibility studies of additional hydropower projects have also been completed and, thereby providing a comprehensive inventory and a base for future investments.

2.5.3 Tourism

Tourism has become an increasingly important service industry that has performed well in the 1990s despite a cautious approach towards tourism development. Bhutan opened to international tourism as late as in 1974 with a very modest figure of 287 arrivals. Guided cultural tours were the only packages available then but gradually more destinations and activities were added and developed. In keeping with the government's objective of promoting the private sector, tourism was privatized in 1991 with thirty three operators being granted licenses to operate tours. In 1998, the government liberalized the tourism license system even further.

In 1989, convertible currency paying tourists numbered 1,480 which by 1999 reached 7,158 and foreign exchange earnings grew from US \$1.95 million to US \$ 8.87 million in 1999. Concerned about the possible negative effects of mass tourism, the government from the beginning adopted a high value tourism policy that used tariff and a pricing mechanism to limit numbers while ensuring a healthy flow of income. The policy has worked effectively and tourism now ranks as the third highest foreign exchange earner and the fifth largest revenue earner while there has been a minimal impact on the culture or the environment.

Tourism Arrivals and Foreign Exchange Earnings

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Arrivals	1538	2106	2763	2984	3971	4765	5138	5363	6337	7158
Earnings in million US \$	1.91	2.30	3.30	3.23	3.97	5.66	6.51	6.50	7.98	8.87

Table 2.2: Source: Tourism Authority of Bhutan

Cultural tours are the major kind of tourism in Bhutan and accounts for around 75% of the business in the 1990s. While trekking had grown to constitute about 25% of the total tourism business till 1996, it declined substantially in 1997 and 1998. Between 1990 to 1999 tourists from Europe constituted over 47% of the total arrivals, followed by Japanese (23%) and Americans (22%). Both tour and trekking activities have always been highly seasonal and are concentrated in the months of September-October in autumn and March-April in spring.

2.6 TRADE & COMMERCE

Bhutan's total exports grew from Nu. 1308 million in 1990/91 to Nu. 4,460 million in 1998/99. The average growth rate of exports during the 1990s was 17.4 % and averaged 31.8 % of GDP through the decade. As of 1999, export value to GDP stood at 28%. Ten commodities constituted as high as 90% of total exports. These included electricity, mineral based products, agro and forest based products, and horticultural items. Of these, electricity remained predominantly the top export item throughout the decade.

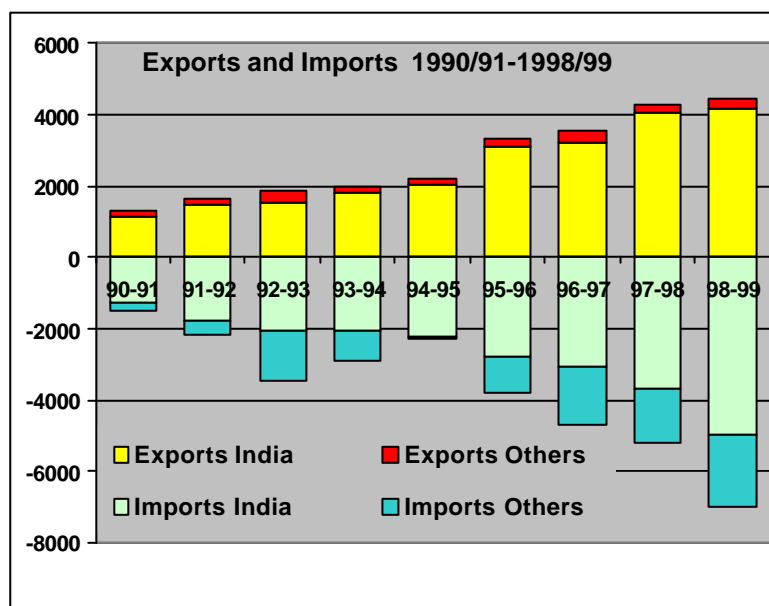


Fig 2.3 : Source, National Accounts statistics

Total imports also grew from Nu. 1.525 billion in 1990/91 to Nu. 6.988 billion in 1998/99 and average imports in the 90s grew faster than exports averaging a growth rate of 22.6%. Import value as measured against GDP stood at an average of 44% through the 1990s and was at 51% of GDP in 1999. The main import items comprised of essential food commodities, petroleum

products, construction materials, capital goods, automobiles and spares. The prominent sources of imports besides India were Japan, Singapore, Thailand, the EU and Bangladesh.

Total trade for Bhutan has consistently been in the deficit. Trade deficit increased considerably from Nu. 217 million in 1990/91 to Nu. 1.634 million in 1992/93 and decreased down to Nu. 952 million in 1997/98 but picked up dramatically to Nu. 2.528 billion in 1998/99.

India remains Bhutan's main trading partner. 91 % of Bhutan's total exports went to India and 72% of total imports were made from India on average through the 90s. Exports to India grew significantly from Nu. 1.130 million in 1990/91 to Nu. 4.181 million in 1999 while imports from India also grew from Nu. 1.525 billion to Nu. 4.994 billion in 1999. Towards the end of the decade export values rose due to a considerable revision in the power tariff but these gains were offset by rising import costs on account of the Tala hydropower and other projects.

From 1995/96 to 1997/98, Bhutan enjoyed a minor trade surplus of Nu. 269 million with India. This was a major breakthrough considering that India has been the major trading partner and that the balance of trade has always favoured India in the past. However, in 1998/99, the balance of trade tilted back in favour of India due to rising cost of imports for the power projects, particularly for Tala, and this is expected to continue upto the completion of the projects in 2005/6.

The niche market identified in Bangladesh for horticulture products during the 1980s was consolidated and expanded in the 1990s. While exports to Bangladesh constituted only 4 % of total exports in 1998, this introduced a much needed market diversification. Bhutan has consistently enjoyed a positive balance of trade situation vis-à-vis Bangladesh.

Internal trade registered an expansion in the number and type of activities from 5034 in 1992 to 10,596 in 1999. A shift to a more competitive environment with greater reliance on market mechanisms was evident in the domestic trade, and restructuring through the breakup of existing monopolies and privatization formed the basis for improving the efficiency of this sector such as privatization of the State Trading Corporation of Bhutan. Other activities undertaken also included de-monopolization of wholesale trade and introduction of consumer awareness and protection activities. Additional dealers were appointed to improve the supply of essential commodities.

Towards the promotion and coordination of export activities, the Bhutan Export Promotion Centre was established in 1998. Some of the initiatives undertaken by this Centre included developing a Freight Transport Study, National Export Development Strategy, and International Trade Policy for Bhutan, Market study for Lemon grass and Traditional Medicines and Training Programme for Exporters. The draft International Trade Policy also marked the process for the establishment of necessary legal framework for export.

2.7 INFRASTRUCTURE

2.7.1 Transport & Communications

As the country is dependent on road transport, the sector has received a high priority since the inception of planned development. The four North South national highways constitute the economic lifeline while the East-West highway cutting across interior districts links to North-South roads and facilitates internal mobility and provide alternative routes. As of 1990, the total road length including feeder and forest roads were at 2,336 km out of which 1,453 km were highways.

While the construction of new roads continued in priority areas during the nineties, there was a major shift to qualitative improvement of the existing network. These included strengthening of road maintenance, mechanization, and widening/broadening of roads, realignment and the involvement of the private sector in road maintenance. By the close of the decade, 3,690.5 km of roads spanned the length and breadth of the country and all the district headquarters, except for one are now connected by motorable roads. The maintenance of major highways also witnessed a gradual transition to Bhutanese agencies in the private sector. The widening/broadening, resurfacing and realignment of highways lowered the incidence and duration of road blockage during monsoons drastically.

The Royal Government privatized surface transport and developed necessary institutional and legal infrastructure. The Road Safety and Transport Authority was established to promote a safe, efficient and reliable transport system with collective responsibility for promotion, monitoring and regulation of all passenger service operations. A Road Safety and Transport Act was also enacted.

Druk Air, the national airline consolidated its operations with the increase in the capacity of flights and streamlined operations. Two 80-seat BAe 146 jet planes were added to its fleet, which allowed for an increase in the frequency of flights and services to different destinations. The volume of passenger increased from 15,818 in 1990 to 40,408 in 1999. Similarly, the turnover increased from Nu 62.85 million in 1990 to Nu. 280.63 million in 1997. The exposure to weather related risks however continued to affect the smooth operations of the services and has adversely affected the profitability of the airline. A new air terminal and control tower were added to the airport in Paro, in addition to river protection works along the airport. The feasibility study for an alternative all weather airport was undertaken and completed.

The communications sector underwent major restructuring during the decade. The Postal service, the national newspaper Kuensel, and the Bhutan Broadcasting Service were corporatized and the Development Support Communication Division closed. The Department of Telecommunication was corporatized in July 2000 and, the Bhutan Telecommunication Act was enacted in 1999 and a Bhutan Telecommunications authority instituted to regulate the sector.

With the completion of domestic telecom network, and installation of digital switching system, all the district headquarters are now connected with the latest state of the art digital communication technology. At the same time, the installed capacity of connections has been enhanced with the telephone connection capacity increased from 4,090 in 1990 to 14,332 in 2000. The consolidation and improvement of telecom infrastructure has enabled the country to

introduce IT facilities such as e-mail and Internet in 1999. In the same year, the country opened up to satellite television services while at the same time establishing a national television network under the Bhutan Broadcasting Service. The country in this manner opened the doors to full satellite communications on the eve of the new millennium.

2.8 HUMAN DEVELOPMENT

Bhutan’s human development index or HDI has improved from .351 in the mid 80s to .581 in 1998 (*Bhutan National Human Development Report 2000*) that would actually rank the country in at 128th position out of 175 countries.⁷ The consistent and systematic expansion of basic health services, primary health care, education, and water supply has had a major impact on the overall health and well being of the people. This progress and positive development has been made possible by the government’s commitment to the principle of development as social transformation and its translation into action through significant investments.

Bhutan in the 1990s has consistently devoted between 22-27 % of donor resources that it received and around 21% of it’s own resources for “social spending” that includes expenditures for health, education, welfare, water & sanitation and housing. The 20/20 compact recommended at the World Summit on Social Development (WSSD) in Copenhagen in 1995 can then be considered to have been achieved in Bhutan’s context.

2.8.1 Health

There have been dramatic health improvements across the board and many health milestones have been achieved in the 1990s such as 90% health coverage and 90% child immunization. Except for rural water supply, the country has achieved the minimum targets for the Health for All Goals for eight components of primary health care. These achievements are strong indications that the country should be able to comfortably attain most of the targets set at the International Conference on Population and Development (ICPD) in Cairo in 1994.

<i>Health Sector Comparative Indicators Against ICPD and FYP Targets</i>				
Indicators	1990	2000	ICPD/ FYP 2005	ICPD/ FYP 2015
Life Expectancy	48.9	66.0	70 (ICPD)	75 (ICPD)
Health coverage	65%	90%		
Immunization coverage	84%	90%		
Infant Mortality Rate	120	60.5		35
U5Mortality Rate	134(89)	84		45
Population Growth TFR	2.5	3.1%	2.26 (FYP)	1.44 (FYP)
Hospitals	26	28		
Basic Health Units	71	149		
Outreach clinics	350	454		
Access to potable water (rural)	38%	63%	80% (FYP)	
Access to safe sanitation (rural)	60%	83%	75% (FYP)	

Health infrastructure in the country was improved and expanded through new construction activities and the expansion and renovation of hospitals, BHUs, and supporting facilities. Most

⁷ The 1999 UN Human Development Report using lower figure however puts Bhutan’s HDI at .459 and ranks the country’s HDI position at 145.

notably, the Thimphu General Hospital was upgraded to a national referral hospital and two other referral hospitals created in the east. The services of indigenous hospitals were expanded to 13 indigenous units in different parts of the country besides the main hospital in the capital.

Provision of health services in rural areas was also broadened with the establishment of additional BHUs and outreach clinics. The number of BHUs doubled from 71 to 145, and outreach clinics increased from 350 to 454 during the decade. Greater community participation and improved delivery of services were fostered through the introduction of the concept of village health workers (VHW), who now number 1093 in 1999. The government also focussed on expanding coverage of services through strengthening and consolidation of existing activities and facilities. Specific programs, based on the incidence and vulnerability of the population, controlling or eradicating diseases like leprosy, tuberculosis, malaria, diarrheal diseases, STD/AIDS and acute respiratory infections were implemented.

A Health Trust Fund was established during the 1990s with the aim of making the priority health services sustainable as it ensures the availability of a permanent source of fund to meet the cost of the highest priority health care services on a long term basis. The income generated from the seed capital of the trust fund will be used to purchase the most essential vaccines and medicines required for the hospitals and BHUs in the country.

With the general improvement in the reproductive health and maternal and child health services, the population growth rate increased to 3.1%. Population planning has since emerged as one of the critical activities of the health sector and the government has set itself the task to reduce the population growth down to 1.44% by 2015, and the Royal Decree on Population in 1995 formed the basis for strengthening population planning. Accordingly, population planning programs were revamped during the mid-decade through improvement of access to facilities, education, advocacy, strengthening of maternal and child health services and fostering greater community participation.

2.8.1.2 Water and Sanitation

Public health facilities were broadened in the rural as well as urban areas. The construction and renovation of rural water supply schemes during the decade increased to 1,944 thus providing potable water access to 63% of the population. Other areas included improvement of sanitation with a coverage of 80% of population with access to safe sanitation and installation of smokeless stoves. A Water Act is also under consideration by the government towards developing a legal framework for the supply of safe drinking water.

In the urban sectors, water supply and sewerage, solid waste disposal management and river protection works were undertaken.

Charges for Water Supply in Urban Areas

With the completion of urban water supply and sewerage schemes in major townships, for the first time, water and sewerage charges were levied to consumers in selected townships. The imposition of these charges were introduced more to raise awareness of the cost of the services and curtailment of wastage rather than for revenue generation. Consequently, the reliability of water supply showed marked improvement while also ensuring significant reduction in wastage.

- ❖ Per capita consumption has reduced from 210-300 lt. to 103-178 lt. a day.
- ❖ Water wastage has come down from 50-75% to 24-30%.

Box 2.4. Source: Ministry of Communications

Urban water supply for six towns and sewerage

scheme for Thimphu and Phuentsholing were completed. Similarly, river training work in Phuentsholing and solid waste disposal management in Thimphu were implemented.

2.8.2 Education

As in the health sector, there has been considerable progress in education over the decade, reflecting the government's strong commitment and the considerable investments.

Enrollment figures have been steadily increasing at an average of 6% a year in the decade and climbed from 70,354 in 1990 to 104,870 in 1999. It is now envisaged that Bhutan will soon be able to achieve universal primary education by 2007. The enrollment

growth rates for females at all levels has consistently been higher than for males and at 46% is already close to the 50% ideal.

The growth in enrollment is reflective of the priority given to the expansion of primary level enrollment in the 1990s. Upgrading the quality of education and relevance of curriculum at all levels, and the expansion of secondary education and vocational training were also important priorities. The reconstituting of the Technical and Vocational Education System (TVES) as an autonomous organization, the National Technical Training Authority (NTTA), was effected to strengthen technical and vocational education. More recently, the government has taken a decision to upgrade the Royal Bhutan Polytechnic to an Engineering College and is considering the establishment of a national university.

While adult literacy rates have improved, they are still quite low and so considerable efforts have been directed towards non-formal education. Non-Formal Education started in 1992 in six centres with 300 learners, which by 1999 had grown to 105 centers with 2,922 learners. These programmes are attended mostly by women who constitute 70% of the enrollment. In 1996, in view of the interest generated, 17 post literacy courses were additionally introduced in continuation to the non-formal education process.

Achievements in Education in Bhutan

Education Indicators	National Achievements		Global Compact Indicators (<i>Jomtein, WSSD</i>) & National Targets for Education
	1990	1999	2000-2015
Enrollment Rates	65%	72%	90% by 2002 (RGoB)
Primary Completion Rates		62%	80% by 2005 (<i>Jomtein, WSSD</i>)
Gender Gap (Primary)	38%	47.5%	Close Gender Gap in enrollment (50% ideal)
Gender Gap at all levels	39%	46%	
Adult Literacy	32%	54%	
Teacher Pupil Ratio	1:28	1:37	
Number of Schools	223	343	
Total Enrollment in Schools	70,354	104,870	

Table 2.4

CHAPTER 3: DEVELOPMENT OPPORTUNITIES AND CHALLENGES

3.1 OVERVIEW OF DEVELOPMENT OPPORTUNITIES AND CHALLENGES

As Bhutan moves into the 21st century, it can reasonably look to the future with a measure of hope and optimism, endowed as it is with several natural and self-created opportunities. The all round socio-economic progress achieved till date coupled with the effective and responsible administration in the country further places the country in a favourable and vantage situation. The peace and political stability that the country enjoyed also provided favourable conditions under which rapid socio-economic progress was possible.

While past development efforts have created a favourable and enabling environment with regard to the establishment of a basic infrastructure and the creation of a relatively modern economic production base, the focus now will need to shift towards developing a more diversified, sophisticated, monetized and globally integrated economy that grows sustainably, while ensuring and upgrading the quality and equitable spread of public social services. The RGoB has further set itself the task of fulfilling these important development objectives without undermining its natural environment and cultural heritage.

In facing up to these challenging development tasks, Bhutan is handicapped by several chronic supply-side constraints, including some voluntarily imposed ones, and also faces a new set of challenges that could possibly affect the fulfillment of its development expectations and aspirations. There certainly are numerous risks and difficulties for Bhutan associated with economic globalization and the constantly evolving and often volatile international and regional trading environments.

3.2 DOMESTIC FACTORS

3.2.1 A Positive and Favourable Environment

3.2.1.1 Peace and Stability

Bhutan has enjoyed peace and stability in the country since 1917, and it was this stable environment that made possible the rapid progress that it has achieved. In the early 1990s however, there were disturbances and acts of terrorism in southern Bhutan that began after the government's attempts to stem illegal immigration. Development activities were affected for a while but were resumed and are continuing with greater impetus than ever. A more recent cause of concern and threat to Bhutan's stability is the incursion of militants from Assam into south-eastern Bhutan.

3.2.1.2 Social Equity

Bhutan is a relatively egalitarian society where social inequity has never been a major issue. Many social problems such as gender bias and poverty issues are either non-issues or less accentuated in the country as compared to in the region.

Bhutan is a “gender-balanced” country which partly explains why there have been no specific policies or strategies targeting the upliftment of women. Women enjoy equality under the law and in society, and their active involvement in all spheres of socio-economic development has contributed immensely to the rapid progress achieved in the country. While women are presently underrepresented in the higher levels of the civil service, they have been notably successful in business as leading entrepreneurs and enjoy a high degree of participation at the community civil governance levels, that are assuming increasing importance in the national decision making process. School enrollment figures for girls in primary schools are at 47.6% and female enrollment has grown more rapidly at all levels than for males.

There have been no specific baseline socio-economic surveys on poverty in Bhutan and as such there is a paucity of information available about poverty. However, a study on poverty assessment and analysis has been conducted and the report will be published soon. Bhutan however does not suffer from abject or extreme poverty and the incidence of poverty has been cushioned to a great extent by the Bhutanese welfare system of free education and health services and traditional safety nets. However, surrogate indicators related to nutritional intake, incidences of malnutrition and stunting in children, seasonal food insecurity, etc. would however support an assumption of relative deprivation, particularly in remote and isolated communities.

With the increasing monetization of the economy and the emergence of market forces, there is the possibility that poverty and income disparities could emerge as concerns requiring relevant interventions. The country though is in a relatively favourable situation in that it needs to focus its attention more on preventing the growth of inequities rather than removing them.

3.2.1.3 Governance

An important factor that underlies Bhutan’s capacity to implement development projects and achieve concrete results has been the long term political stability in and responsible governance of the country. Various donor organizations have commended Bhutan for its dedicated, professional political leadership and efficient administrative system in this regard.

Development planning and the formulation processes have always had a strong element of people’s participation since the 1980s. This decentralized approach to planning and people’s participation in development is expected to be further deepened with significant geog or block level inputs, particularly in the ninth plan period.

Governance: Sound Development Management

Bhutan accords high priority to the development of institutions and innovative systems of governance and deserves appreciation for its efforts towards good governance. The civil service is dedicated and conscientious. Ministers are generally from the civil service and show a high level of competence and professionalism. The Government is relatively small, but effective in many ways. There is little corruption in the country. In the limited instances where this has taken place, corrective and punitive actions have been swift. Moreover, discussion of policy and governance issues-including politically sensitive issues-can be conducted in an open and frank manner.
ADB Report on Bhutan (1999)

The Government has a long standing and well-deserved reputation for honesty, professionalism, and dedication, and remuneration of the civil service is being restored to levels that make the civil service a reasonably attractive career.
IMF Report on Bhutan (1999)

Bhutan’s government is dedicated, professional, and honest.
World Bank Report on Bhutan (1999)

Box 3.1

At the block level, committees comprised of elected members will continue to determine the needs and priorities of their areas and help implement and monitor development activities.

Public sector reforms have also been regularly effected in a gradual manner towards improving and fine tuning the system. The Planning Commission in 1998 was restructured and reconstituted with seventeen members appointed on the basis of their professional and individual capacity. Similar reforms and restructuring processes were implemented through the ministries of the government and other arms such as the judiciary and legislative bodies. At the highest level, in 1998, His Majesty the King devolved executive authority to an elected Council of Ministers. The Government further undertook a major restructuring process beginning in 1999 that will see significant changes effected towards improving the efficiency, transparency and accountability of the government.

3.2.2 Macro-Economic Opportunities

The country's future growth areas are in the modern sector. The development of hydropower and power intensive industries are expected to provide a significant boost to the economy in the next ten years. The tourism sector is also expected to grow to become an important sector that not only will provide a much needed diversification to the economy but will also contribute significant foreign exchange earnings and creates employment opportunities. Horticulture exports are also promising. Given these prospects, GDP growth has been projected to grow at 7% through 2000 to 2010.

3.2.2.1 Hydro-power generation

Hydro-power has been the country's largest export for the last fifteen years and now accounts for over 35% of the country's total revenue, even though the present installed capacity of 360 MW represents a mere fraction of the theoretical economically viable potential estimated at around 30,000 MW. In the Power System Master Plan (PSMP) carried out between 1900-93, 91 possible hydropower sites with capacities above 10 MW were identified. Even this is now generally regarded as a conservative estimate, as the survey was not exhaustive. An updated study in 1995 put the techno-feasible potential at 16,280 MW. Table 3.1 outlines the hydro-power projects that are being implemented or in the pipeline.

Tala Hydro-power Project (1020 MW)

The construction of the Tala Hydro-power Project with an envisaged generating capacity of 4865 MU a year, began in 1997/98 and is on schedule for completion in 2004-2005. It is expected to boost GDP growth to 18.1%, accounting fully for 13% of the growth on its own. The power project is projected to cost approximately 750 million US \$ and is being financed by India.

The other hydro- power projects being constructed presently are the Kurichu (60MW) and the Basochu project (60 MW), both of which are expected to be commissioned by the end of 2001.

Box 3.2: Source: THPA

Given the country's enormous hydro-power potential and the demand and ready market for energy in India, the exploitation of this important resource is seen as a long term viable strategy that has minimal consequences on the environment as the hydro-projects are run-of-the-river schemes that do not require large displacements of habitants or the extensive flooding and inundation of valleys. The widespread availability of cheap electricity, especially in rural

communities, is also expected to decrease the enormous consumption of fuel wood and thereby helping environmental conservation.

While the development of hydropower resources and power intensive industries is seen as a strategic key to unlocking Bhutan's future economic prospects, there are a few associated constraints. Associated constraints for hydro-power development relate to the shortage of skilled and technical manpower to construct, commission and operate these projects. The domestic absorption capacity is small and the hydro-power sector largely remains exposed to single market risk for optimal price realization.

Hydro Power Project	Capacity	Startup Year	Status and Expected date of Commissioning
Basochhu I	22.20 MW	1996	June 2001
Basochu II	38.60 MW		2003
Kurichu	60 MW	1995	September 2001
Tala	1020 MW	1997	2004-2005
Mangdechu	360 MW		<i>Feasibility study completed</i>
Punatsangchu	900 MW		<i>Feasibility study completed</i>
Bunakha	180 MW		<i>DPR completed in 1994</i>
Wangchu	900 MW		<i>DPR completed in 1994</i>
Sankosh	4060 MW		<i>DPR completed in 1995</i>

Table 3.1: Source: *Department of Power*

3.2.2.2 Industries

The development of hydro-power capacity will not only generate substantial revenues for Bhutan through direct exports but will have a cascade effect on the establishment of several industries, particularly through value addition of energy to various power intensive ventures. The trends indicate that the industries sector will continue to grow at the current growth rate of 11% and will benefit immensely from the comparative advantage of cheap electricity.

However, the industrial base is very narrow, underdeveloped and dominated by a few enterprises that manufacture a limited range of products such as cement, wood & plywood, furniture, calcium carbide, ferro-silicon and agro-based food products.

Power Intensive Industries

Activated carbon production began in Bhutan with the establishment of the Bhutan Carbide and Chemical Ltd. (BCCL) Company in 1989. With the benefit of cheap electricity, the venture was extremely successful as the dividend declaration of the company in Fig 2.3 shows. With the commissioning of new power projects and given the potential demand for this relatively high value product in India, Japan and Europe, setting up similar enterprises in the future will offer great prospects. Ferro-Silicon and Silicon Carbide are medium value products that are energy intensive and so are opportunity areas. With many Indian companies facing loss of competitiveness due to high cost of domestic electricity, and with assured markets in India, these mineral based energy intensive industries have great potential.

Agro-Based Industries

Due to the high quality of Bhutanese fruits and vegetables, there is a considerable potential for expanding the food processing export industries. The Druk brand of Bhutan Fruit Products is

already a recognized and successful brand in Nepal, India and Bangladesh. In addition, market opportunities though are being explored in other countries other than the region as the present markets do not command the best prices. Initial studies of such potential indicate that Hong Kong and Singapore represent potential markets for such products as well as for fresh fruits.

3.2.2.3 Horticulture

Bhutan has varied agro-climatic zones that allow the development of a variety of horticultural crops. Bhutan also enjoys a seasonal advantage in having different horticultural production seasons than regional markets, particularly for temperate fruits and potatoes. Additionally, in the future the image of Bhutanese products being grown organically in a pristine environment could give it added value and command higher prices both in international and regional markets.

Recognizing this opportunity, the government is strengthening horticulture through various promotional programmes, training of farmers, and the development of post-harvest and marketing services. Efforts are also being put into the development of such crops as asparagus, strawberries, wasabi, mushroom and stone fruits that have distinctive high value-to-weight ratios. In the last three years alone about 750 acres have been increased for horticulture development.

Horticulture development, also provides much needed cash incomes to farmers. The production of essential oils has greatly increased incomes in those areas where production units and distilleries were set up. Similarly, opportunities also exist for remote communities to produce non-perishable products such as medicinal herbs, nuts and dried fruits.

As the Bhutanese horticulture products are mainly for exports, many of the constraints faced are related to export factors. Some of the constraints are related to i) high road transport costs, compounded by temperate product harvest seasons coinciding with the monsoons, making road conditions even more difficult; ii) absence of a refrigerated road transport network; iii) relatively low volumes with high production costs; and iv) poor post-harvest handling, packaging and quality control. There are also tremendous volatility of prices in the market for horticulture products entailing high risks for growers and traders.

3.2.4 Geographic Constraints

Bhutan's geography has invariably shaped its destiny in many significant ways. In the development context, Bhutan's rugged mountainous terrain with its remote and scattered settlements has imposed a high cost towards instituting and maintaining development activities and social services. The situation is further compounded by its landlocked nature with the nearest sea-port about 800 km away in the Indian city of Calcutta. Transportation costs are consequently high, which is not helped in any way by the relatively low volumes of exports, and imports, which prevent economies of scale in transportation.

The nature of the terrain also leaves a very limited arable land for agricultural production with per capita availability of agriculture land in Bhutan among the lowest in the world. The scope for expansion of agriculture land is accordingly limited, and further compounded by concerns over the possible impact on the sensitive mountain eco-systems. The land itself being of a highly undulating nature does not lend itself easily to mechanized and high yield technological farming processes to intensify cropping.

The terrain also exacts high costs in establishing basic infrastructure facilities. While the government has made every effort to improve the situation, many rural communities are still severely strapped by a harsh and unforgiving environment, and are bereft of transport and communication facilities, which hinder their access to markets.

3.2.5 Environment, Culture and Human Development

Concerns for the environment and culture have in a manner been constraints for economic growth and development. Providing free health care and education towards improving human development, is a tremendously expensive proposition that will continually eat up the surpluses that may accrue. While all these can be seen as short-term constraints, the government has viewed them in a long-term perspective as potential opportunities and the sacrifices it makes in foregoing immediate gains, simply as opportunity costs. Therefore, the commitment to protecting the environment and conserve its culture, and to providing welfare and social benefits to its people is a long-term strategic policy. This approach has been in keeping with the overall development philosophy that adheres strongly to the view of development as social transformation.

3.2.5.1 Environment

Bhutan has been identified as part of one of the ten global “hot-spots” for the conservation of bio-diversity, given the extremely rich bio-diversity and the potential danger to an invaluable global resource. The RGoB however has taken firm steps to ensure that the threats to this ecological system in the eastern Himalayas are effectively countered through strong conservation measures. While the environment in Bhutan is still in a relatively pristine condition, there are slowly emerging environmental problems of soil erosion, land and forest degradation and growing urbanization.

On the Environment

“Throughout the centuries, the Bhutanese have treasured their natural environment and have looked upon it as the source of all life. This traditional reverence for nature has delivered us into the twentieth century with our environment still richly intact. We wish to continue living in harmony with nature and to pass on this rich heritage to our future generation”

His Majesty King Jigme Singye Wangchuck

Box 3.3

While environmental protection and conservation in Bhutan is not to deny economic development, it seeks to ensure that the environmental costs are minimized and resources used sustainably. The costs involved in exercising self restraint in refusing to fully exploit resources for short term gains is a voluntary sacrifice given that Bhutan is still a least developed economy. There are also other additional costs in maintaining and managing this pristine environment with its rich bio-diversity. There is a need for capacity development and institutional building in this special area, particularly as there is a shortage of resources, financial and manpower, and a lack of management skills and knowledge for the effective and realistic implementation of these conservation goals.

The RGoB has also maintained some very high goals of keeping 60% of forest cover for perpetuity including 26% as protected areas, sanctuaries, reserves or parks. More recently

additional areas have been designated as biological corridors. The government, being aware of its limitations, requested for and received a tremendous response matched by considerable funding. An Environmental Trust Fund mooted in the late 1980s was operational by 1992, and now has an endowment of US \$ 30.4 million, the income from which is being used to support Bhutan's conservation programmes. The Bhutan Trust Fund or BTF was the first of its kind in the world involving a partnership of donors and the government, specifically for environmental conservation, and is a model being replicated elsewhere.

The 1990s also saw the emergence of various institutions and frameworks for sustainable development with specific focus on environment. The National Environment Committee set up in 1989 was upgraded to National Environment Commission. The Forest and Nature Conservation Act of 1995 adopted by the National Assembly, decrees that 60% of the country be kept under forest cover for perpetuity. A national environment strategy was developed in 1998 that articulates the long term environmental visioning and management. While Environmental Impact Assessment (EIAs) have already been made mandatory for the establishment of all projects, the Environmental Assessment Act was passed by the National Assembly in July 2000. On the global front, Bhutan signed the Biological Diversity and Climate Change in 1992 and the Sustainable Development Agreement with the Netherlands in 1994. Similar agreements were also negotiated between the Netherlands and Benin and Costa Rica.

The environment also affords some long-term opportunities that are fully in harmony with sustainable principles. There is potential to market high value environmentally clean and organic products and generate revenue through their sales. Additionally, Bhutan could develop its own pharmaceutical companies that produce medicinal herbs and decorative flora. Bhutan has also worked out with the Netherlands an innovative *debt-for-nature* swap scheme, by which the government close down the large Gedu Wood Manufacturing Corporation to reduce logging operations in exchange for the assistance to pay off the loan taken for the project. The country could also participate in carbon trading arrangements with its forests acting as designated "carbon sinks," as and when such innovative proposals are implemented.

3.2.5.2 Culture

Bhutan takes great pride in its culture as the last remaining Mahayana Buddhist Kingdom. The culture has served as an effective bulwark in cushioning and balancing out the negative impacts of rapid development and change; and has provided a perspective that has shaped its own particular vision of development. The preservation of culture and religion is also important in the context of the spiritual and emotional well being of the people, goals that are, in the government's development philosophy, equally as significant as the fulfillment of material needs. The relevance of culture also lies in the sense of identity and unity that it confers to its people, which is invaluable to a small country like Bhutan.

As with environmental considerations, the government has often chosen deliberately to overlook immediate gains in the interest of preserving the sanctity of the culture. Such considerations are likely to weigh strongly in the future too, for the very reasons expressed. The efforts to foster the country's cultural heritage will also continue to ensure that it is not eroded in the process of development.

3.2.5.3 Human Development Issues

Education

A major concern about education in the country has been the cost effectiveness and long-term sustainability of a free education system, right from primary to tertiary levels. The concept of free education is more than just free tuition, but includes the provision of stationery, text books, sports items, and also free board and food in boarding schools. As there will continue to be a rapid expansion in school enrollments at all levels and given limited resources, the educational system is expected to be severely burdened in the future.

The Government is encouraging the establishment of private schools to help meet the increasing demand on education, encourage cost sharing and toward an enrichment of the curriculum. Private schools have though has grown slowly and at present there are only seven private schools with 2020 students. The measures taken also have only had a nominal impact and the government continues to bear over 90% of total recurrent costs and 80% of capital costs for primary levels and 100% of recurrent and capital costs for secondary schools and tertiary levels. (*Education in Bhutan, 1999 Annual Statistical Report*)

The other constraints faced by the education sector are mostly related to the increase in demands on the system. With the high growth of population, and increasing aspiration and expectations for education, virtually all educational institutions are facing a huge pressure on their intake capacities, particularly in urban centres due to the high rate of rural-urban drift. While efforts are on to both maintain and improve education standards and quality, the increased demands are making this difficult. Teacher shortages in schools are an additional concern that compounds the situation further.

Health and Population

Bhutan's high population growth rate of 3.1 % is a major concern. This has actually happened as a result of the success of Bhutan's health programmes that have reduced mortality rates across the board, which has not been accompanied by a corresponding drop in fertility or birth rates. Even with an accelerated drop in total fertility rates now, the population is expected to grow fast and unabatedly due to the young age structure of the population with 43% of it being under 15 years. Even with an assumption of dramatic reduction in fertility rates, the population is likely to double by 2020, which will entail implications for considerable social sector expenditure. Any future growth increments in the national economy could also be negated.

The population growth also has serious implications for environment, food security, nutrition, and particularly employment creation. Bhutan's past success in achieving significant improvements in human development can partly be attributed to having a small population base to provide for.

Health services like education are provided free of cost to all Bhutanese, and such services are quite comprehensive and also involves paying for patients to be treated abroad when they cannot be treated in the country. As such, health expenditures have grown more than tenfold, from Nu. 77 million (5.3% of government expenditure) in 1987 to Nu.883 million (11.4%) in 1997. The cost of referrals outside the country particularly has increased over three times in the last five years and this is expected to cost around Nu. 150 million by 2005 (*8th FYP Mid term Review*)

Report). Therefore, sustaining free health services to meet the ever increasing demand will be a major challenge with huge resource implications. The government, however, is determined to maintain its health commitments as long as possible, given that it sees health as an end in itself.

Considerable efforts are being made to promote sustainability and cost effectiveness in the health sector. In the past, efforts were focused on reducing the need for health treatment through preventive care. The government has also taken a decision to introduce user fees on selective health services on the basis of equity and access, and now concentrates on consolidating and improving the existing health facilities rather than their expansion. A health trust fund with the support of donors is also in the process of being operationalised.

Community participation has also been encouraged in health care activities, and over a thousand village health workers (VHWs) have been trained and undergoes regular refresher course and will undergo further training for facilitating health services in their communities. The VHWs have been instrumental in the promotion of preventive and promotive services and the high level of achievements in the promotion of rural sanitation, immunization and antenatal services.

As indicated in the health section in Chapter 2, there have been dramatic health improvements across the board and many health milestones have been achieved. However, still greater attention needs to be focussed on population control measures and population planning in view of the high population growth rates and TFRs. Diarrhoeal and respiratory diseases also remain a major problem in the country.

The health sector is severely constrained by the scarcity of trained health technicians and workers and doctors, which has been presently addressed by the employment of expatriates. The coverage of and access to health services have also been compromised by the difficult terrain and the isolated and dispersed nature of many settlements.

3.2.6 Private Sector Development

The private sector in Bhutan is in a nascent stage of development. Besides the general and common bottlenecks and constraints affecting the national economy, the private sector has been constrained by the shortage of skilled labour, high costs of non-tradable goods such as land and domestic labour, the lack of managerial and entrepreneurial capacity, problems of credit accessibility, and the lack of information and knowledge about export markets.

In the past, the private sector's involvement was limited to trading and informal activities where the requirement of specialized knowledge and sophisticated technology were not necessary. The public sector dominated economic activities in virtually all sectors. However, from the 6th FYP (1987-1992) onwards, the government has emphasized the importance of privatization and the development of the private sector. It has worked towards developing an enabling environment for the fledgling private sector through partial or full privatization of many state-owned enterprises (SOEs) and by removing government monopolies. The private sector in the long run is expected to take a dominant role in the commercial areas of the economy, while the government sees its own role gradually shifting towards providing for social and human development needs and establishing physical infrastructure.

In the early part of the 1990s, the government privatized several SOEs and sold off its controlling shares in many enterprises. Between 1900/91 and 1994/95, the government sold a

total of Nu. 392 million worth of its holdings in public corporations. Surface transport had been privatized by the end of 1990 and the tourism industry privatized in 1991, with the latter as one of the important areas of the success for the private sector. While there was a loss in momentum of privatization due to concerns of the absorptive capacity of the domestic industry, the government has remained committed to privatization. As of 1999, the total number of enterprises had increased from 189 to 4851 with over 95% of them owned by the private sector. Many SOEs were also corporatized for improving efficiency and giving management flexibility such as Bhutan Posts and Druk Air.

By way of providing an enabling environment, the government began to develop legal framework for private sector operations, and the process is being further strengthened. So far the following relevant acts and regulations have been introduced: i) Companies Act (1989), ii) Bankruptcy Act (1998-9), iii) Moveable and Immoveable Properties Act (1999), iv) Industrial Property Regulations v) Financial Institutions Act (1992), and vi) Commercial Sale of Goods Regulations of Bhutan (1997). The government is also in the process of considering the following: i) Revised Companies Act ii) Industrial Policy iii) Foreign Investment Policy iv) International Trade Policy and v) Cooperative Act.

3.2.7 Human Resource Development & Employment

Development in Bhutan has always been hindered by the shortage of professionals and technically trained and highly skilled manpower across all sectors. With the increase in scope and number of development activities being implemented, this will continue to be a significant constraint. To ameliorate this shortage, Bhutan has consistently attached a high priority to HRD, but as a stop gap measure has had to rely on expatriate manpower. This shortage is particularly acute in the private sector, with non-nationals estimated to account for some 60% of employee strength in some of the large industries (*HRD MasterPlan*).

Bhutan in the future is expected to have a very large number of educated youth coming into the job market. It is projected that by 2017, the country will have to create somewhere between 267,000 additional jobs even at present employment levels to accommodate the large numbers of job seekers. While many of these new entrants into the labour market will be educated, most will be untrained and unskilled. The economy will therefore face the dual constraint of having to absorb such large numbers and the mismatch between the needs of the economy and the professional and skills base of job seekers.

The civil service, the largest employer of formally educated people, with a current strength of 13,695 in 1999, has shown a marginal increase of less than a percent over 1996 figures. As the government intends to retain a small, compact and efficient civil service, there is little scope that the government will be the main provider of employment as in the past. This leaves the private sector as the principal employment provider in the future. Even then, creating that many jobs is expected to require a minimum of 7-9% of national income a year (*8th FYP*) as reinvestment to maintain productivity at present levels, let alone providing for increments.

3.2.8 Domestic Resource Mobilization

Bhutan's capacity for mobilizing domestic resources has improved significantly over the years but the revenue base is still narrow and inelastic. In the early part of its development period, Bhutan was unable to generate adequate financial resources to even meet its recurrent

expenditure, which had to be met through external financing. It was only in 1971 that the country was able to start generating internal revenues significantly, and by the 5th FYP period (1982-1987), it was able to meet 85% of its recurrent expenditures through domestic revenues. This has progressed to a situation where the country is now able to fully finance its recurrent expenditures on its own for the last four years. However, Bhutan is still highly dependant on external financing for meeting its capital expenditures for development activities, especially as the levels of investment outlays required are immense.

3.2.8.1 Revenues

Growth of revenues over the last ten years between 1989/90 and 1998/99 has grown on an annual average of 18 % from Nu. 956 million in 1989/90 to Nu. 3.547 billion in 1998/99. Growth in some years has ranged as high as 51% resulting from increases in the price of electricity exports and improvements in collection of domestic revenue.

Tax revenues constitute a relatively small portion of the GDP since Bhutan's tax rates are low and the tax base is small. On the whole, however, tax revenues have been increasing gradually from 4.8 % of GDP in 1990 to 8% in 1998 as evident from the following table.

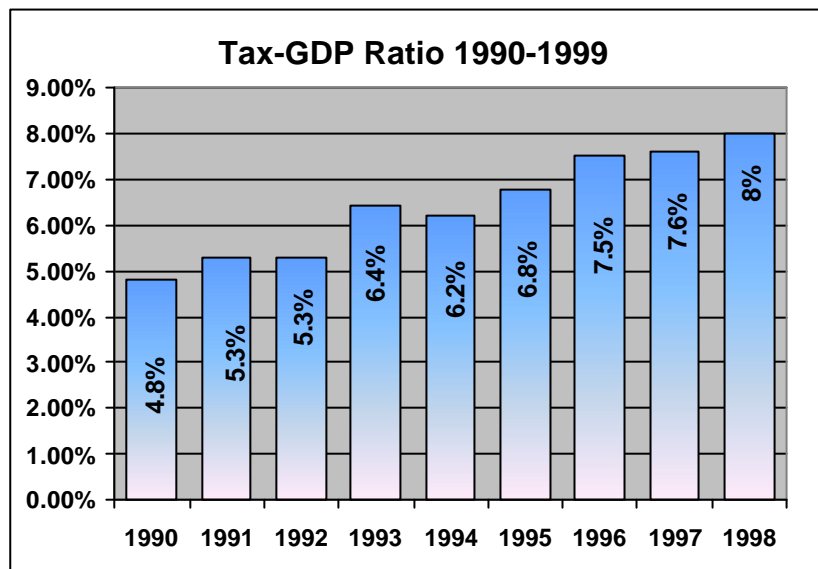


Fig 3.2

Tax revenues constituted about 41% of total revenues in 1998/99, up from 27.5% in 1989/90, and averaged 36% in the 1990s. The major sources of tax revenues are corporate income tax, excise duty, royalties from tourism and forestry, and Bhutan sales tax.

Non-tax revenues, which constituted around 64% of total revenues through the 1990s, steadily declined from 72.5% in 1989/90 to 59% in 1998/99. Most of non-tax revenues come from transfer of profits from public enterprises, dividends, and the revenue of government departments.

Both tax and non-tax revenues significantly have come from a few enterprises such as the Chukha Hydro-Power Corporation, Royal Bhutan Lotteries, Bhutan Ferro-silicon, Calcium Carbide, Bank of Bhutan and Penden Cement Authority Ltd. Tourism has also steadily grown to emerge as the fourth largest revenue generator in the 1990s. Activity wise, the sale of energy exports dominated revenue composition in the 90s with over 41% of total revenues.

In an effort to expand the tax base, a proposal to implement a personal income tax is under consideration and has so far been deferred due to the absence of appropriate legislation and in

view of significant additional revenues expected from the revised export power tariff in 1999. However, personal income tax is expected to be implemented in the near future.

3.3 EXTERNAL FACTORS

3.3.1 Regional & International Trade

With the likelihood of economic relations in the future being between trading blocs rather than countries, regional economic cooperation becomes significant for Bhutan in its efforts to expand and diversify its trading arrangements, even though it already enjoys preferential trade agreements with India and Bangladesh. Under the SAARC umbrella, Bhutan and its South Asian neighbours are already cooperating in 11 areas ranging from agriculture and rural development to science & technology. Additionally, an agreement on SAPTA (*South Asian Preferential Trading Arrangement*) towards a gradual reduction of and eventual elimination of tariffs between member countries was agreed upon and came into effect in December 1995 when all countries met the stipulated conditions. Trade cooperation though has been limited to handicrafts and cottage industries and a study is being undertaken on the transport infrastructure and transit facilities. While the progress has been gradual, SAPTA is expected to lead up towards creating a SAFTA (*South Asian Free Trade Area*), a draft agreement of which is expected to be on the table possibly by 2001-02. However, the implementation will realistically be operational only towards the end of the decade.

Towards facilitating its integration into the global economy, Bhutan has submitted an application for full membership in WTO, which was discussed at the General Council Meeting in October 1999. A Working Party has been constituted to prepare for Bhutan's membership, and the necessary national preparatory efforts are being made towards admission sometime by 2002-03.

3.3.2 Official Development Assistance

Foreign aid has played a critical role in the socio-economic development of the country. Most of the assistance is in the form of grant and is used towards the funding of development expenditures that require massive capital outlays and cannot be funded from domestic resources. Bhutan has not experienced major difficulties in mobilizing aid for its development activities, and the task has been made easier with the country's solid reputation for being able to utilize aid resources efficiently and effectively.

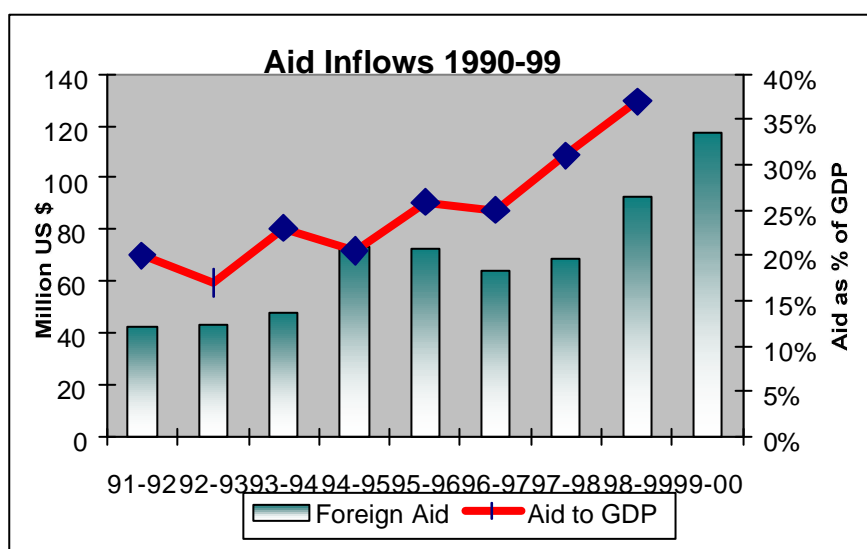


Fig 3.3: Source: Department of Aid & Debt Management

Bhutan's heavy reliance on aid is evident from the aid to GDP ratios. In the 1980s, aid ratio to GDP averaged 50%. In the 1990s, while foreign aid increased, overall aid to GDP ratio has dropped averaging around 25% of GDP. Bhutan has received on an average of US \$ 79 million a year in foreign aid for the 1990s⁸

Traditionally, India has been Bhutan's major development partner for the last 40 years. While Indian aid has been increasing, as a percentage of total aid inflows its overall percentage has declined over the years. In the 1990s, bilateral donors provided about 62% of the total aid. The UN Systems collectively provided roughly 15% of total aid. .

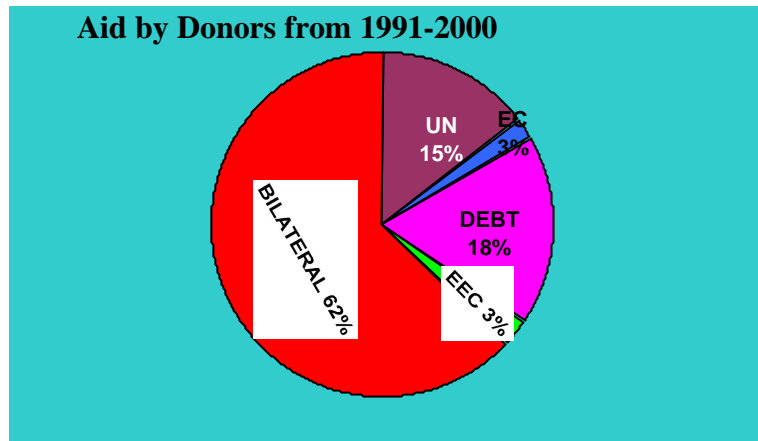


Fig 3.4: Source :Department of Aid & Debt

The RNR sector has over the decade received the lion's share of aid with about 19% of the total, followed by Transport & Communications (16%), HRD (14%), Health (11%), Development Administration (11%), Energy (8%) & Industries (4%), and Social Development (7%).

Most of the aid during the decade was in the form of Free Standing Technical Co-operation (FTC: 48%) and Investment Project Assistance (IPA: 34%). Programme Budget Support (8%), Food Aid (5%) and Investment Related Technical Assistance or TA (4%).

3.3.3 Debt

Given Bhutan's preference for grant aid and its caution about incurring debt even on concessional terms, its overall debt situation has been relatively comfortable with debt servicing at manageable levels. Indebtedness has however increased over the 90s as has debt servicing requirements. In 1989 debt liability was at 28% of GDP, which by 1999 had increased to 39.2% due to increased borrowing for the construction of power and other infrastructure projects.

Bhutan has availed a total of 36 loans so far since the first loan in 1974 for the Chukha Hydro Power Project. The present outstanding debt portfolio shows an indebtedness of US \$ 92.74 million and Rs. 2.197 billion. The largest lenders to Bhutan are the Government of India, the ADB, and the World Bank. With the amortization of its commercial loan for the aircraft in September 1998, Bhutan's entire foreign debt is on concessional terms.

⁸ The following data is incomplete in some respects as these do not reflect certain disbursements from India for turnkey project that are outside the plan budget.

Bhutan's Debt Profile

	1990/ 1991	1991/ 1992	1992/ 1993	1993/ 1994	1994/ 1995	1995/ 1996	1996/ 1997	1997/ 1998	1998/ 1999	1999/ 2000 ⁹
Debt: Hard Currency US\$ million	77.7	79.47	79.92	80.3	80.91	79.31	83.17	89.63	92.74	98.7
Debt: Indian Rs.	986.22	1,271	1,784	1,842	1,735	1,257	1,244	1,715	2,684	3276.9
Debt Servicing Ratio	5.4%	6.7%	18%	20.5%	13.93%	20.6%	8.2%	6.8%	10.2%	4.2%
Debt:GDP Ratio	44.3%	55.8%	51.5%	53.3%	45%	41.4%	37%	32.9%	38%	39.4%

Table 3.2 Source: *National Budget and Accounts*

On the overall portfolio, of the total loan commitment in hand of USD 366.852 million, disbursement outstanding is around 43% (USD 158.740 m), 75% of which is rupee loans.

The energy sector has a commitment of US \$ 194.896 million, equivalent to more than 50% of total loans commitment in hand. Of this, 90% are Rupee loans from India for the three hydropower projects (*Chukha, Tala & Kurichu*). The second largest loan commitment of US \$ 42.674 million has been made to the RNR sector from the ADB, World Bank and IFAD. The Industries sector also received USD 30.698 million.

Bhutan's debt policy has been judicious and the RGoB would like to maintain its borrowings comfortably within its capacity to service debt, and avoid taking loans not meant for development programmes. To this end the government has also adopted certain strict evaluation procedures and criteria that take into account grant elements, repayment schedules, foreign exchange risks, hidden costs, economic rates of return, viability etc.

3.3.4 Foreign Direct Investment

Bhutan has not received any significant private inflows apart from a few cases in the financial institutions and the ferro-alloy project and Wasabi plantation. The country has preferred to use its privatization process to divest government holdings to local ownership than to seek foreign direct investment, which were only considered on a case by case basis. FDI proposals were processed and cleared based on the merit of the proposal and the perceived needs. Each case was also assessed to determine the benefits of foreign participation in critical areas of the project like marketing, inputs, technology, transfer of technology etc. However, there were no concerted efforts made to promote the country as an investment destination and as such total FDI amounted to only Nu. 139.23 million to date since development started.

The country does not possess the conventional attractions for private investors such as a large domestic market, cheap labour, developed infrastructure or strategic trading location. Constraints that apply to industrial development in Bhutan are also relevant to FDI as these can hamper

⁹ Provisional

profitable operation of commercial ventures. Other constraints for FDI are the very small domestic market, inadequate infrastructure, the lack of skilled and unskilled manpower, gaps in the resource inventory, trade and transit constraints, limited private sector capacity and capability,

However, with the gradual opening of the economy and moving towards global integration and participation, a more conducive policy for foreign investment is emerging. The policy for foreign investment is presently under formulation and will take into consideration the need for a more open and transparent policy framework for encouraging foreign investment. The consultation process on the draft policy framework has commenced and the specific guidelines are expected to be operational soon.

The analysis of operations of projects with foreign partnership is also optimistic. The majority of companies established with foreign equity participation are operating successfully, namely the Bank of Bhutan, Bhutan Ferro-Alloys Ltd. & Bhutan National Bank. The focus on development of private sector, political stability and consistency of policies, integration into regional and global trading blocs, all point out to a favourable climate for investment. The level of inquiries and interest from foreign companies for possible business ventures in the country provides an optimistic outlook for flow of external private investment.

3.4 VULNERABILITIES

Applying the vulnerability index developed by the Commonwealth Secretariat, Bhutan has been identified as one of 28 most vulnerable states and is grouped under the highly vulnerable category.¹⁰ The combination of Bhutan's small size, various domestic constraints and external dependencies collectively make up for this high vulnerability. As with other highly vulnerable small states, Bhutan's challenging physical surroundings, scattered settlements and remoteness from major markets impose significant transportation costs and high unit costs for developing infrastructure, initiating and maintaining development activities. This also translates into high public expenditures for providing necessary social services. While huge natural disasters are not common in Bhutan, the chronic and massive landslides on mountain slopes during the monsoons affect road conditions, human settlements and severely disrupts communications each year. While, there have not

Groupings of Asian Countries by Vulnerability

High Vulnerability	Higher Medium Vulnerability	Lower Medium Vulnerability	Vulnerability Low
Bhutan	Bahrain	Jordan	Bangladesh
Maldives	Papua NG	Nepal	China
<i>(Most other non-Asian highly vulnerable states are small island countries in the Caribbean and Pacific)</i>		Oman	India
			Indonesia
			Iran
			Malaysia
			Myanmar
			Pakistan
			Philippines
			Singapore
		Thailand	

Table 3.3 Source: Commonwealth/World Bank Report

¹⁰ *Small States: Meeting Challenges in the Global Economy*. Report by Commonwealth Secretariat/World Bank Task Force, 1998.

been any major devastating earthquakes in more modern times, the country is in a highly earthquake prone area, lying as it does on the Indo-Eurasian fault line.

Bhutan's small market does not allow for economies of scale and prevents the formation of "critical mass" in the economy. Additionally, a small domestic market discourages direct foreign investment. Bhutan's economy is undiversified, with much of the revenues being derived from a few enterprises, a common trait characteristic of highly vulnerable states. This in many such economies has led to shrinking employment opportunities, which may in the future become a serious concern in Bhutan despite the shortage of highly skilled and technically trained manpower.

Paradoxically, Bhutan's vulnerability also stems from its high dependence on its comparative opportunities, i.e. reliance on power and power intensive exports and foreign aid inflows, both of which dominate the economy. While the Bhutanese economy has grown as a result of these factors, an undesirable side effect has been the undermining of the competitiveness of the non-power economic sectors. The World Bank in its 1999 report on Bhutan, points out to symptoms of a variation of the "dutch disease syndrome" that could affect the country in the future.

CHAPTER 4: PROGRAMME OF ACTION 2001-2010

4.1 The Development Vision of Gross National Happiness

The central unifying development concept that is preferred above all others to guide Bhutan's future direction has been articulated in *Bhutan 2020: A Vision for Peace, Prosperity and Happiness*, as the goal of maximizing gross national happiness. This concept propounded by His Majesty King Jigme Singye Wangchuck has always been at the core of the nation's development philosophy and will provide the underlying rationale for development objectives in the future.

But the Future cannot be what it brings to us. It must be how we want it to be. The socio-economic changes must be what we seek, not what the forces beyond our control compel us to accept.

**Bhutan 2020: A Vision for
Peace, Prosperity and Happiness**

Box 4.1 Source: *Bhutan 2020*

The national development vision¹¹ broadly stated is to promote and maximize the happiness of all its people through human development, sustainable economic progress and good governance, within a framework that takes into consideration the holistic well-being of Bhutanese society with due regard for the country's culture and environment and other non-material components of development aspirations and hopes. Additionally, an important precondition for any meaningful development would be the preservation of the national security.

The government is fully cognizant that no nation can actually guarantee human happiness and that people are ultimately responsible for their own happiness. It views its role in working towards the dream of gross national happiness as creating the right and conducive conditions and an enabling environment for human fulfillment and happiness.

4.2 Guiding Principles

The guiding principles identified for achieving the overarching goal to ensure the sovereignty and security of the country and the central development vision of gross national happiness are:

- ❖ Identity
- ❖ Unity and Harmony
- ❖ Stability
- ❖ Self Reliance
- ❖ Sustainability
- ❖ Flexibility¹²

¹¹ *The vision seeks to address certain shortcomings in the conventional notions of "development" and its indicators, and expand on some of the dimensions hitherto neglected. Instead of being preoccupied with consumption, production, and growth, it attempts to focus on a more purposeful direction with the intent to balance various competing human needs.*

¹² *Flexibility is understood in terms of the country's ability to adapt to changes by responding effectively to challenges and opportunities.*

4.3 Overall Development Objectives

The vision of gross national happiness is to be pursued essentially through the interrelated platforms and the overall objectives of **human development, culture and heritage, balanced and equitable development, governance and environmental conservation**. These five major objectives articulate the necessary substantive content central to the development concept of gross national happiness.

4.3.1 Human Development

Human development – (expanding potential, opportunities, choices and well-being of the population) - is a key objective in the development vision of gross national happiness. It involves improving the quality of life not only through enhancing income-generating capacities of people but through improving access to and quality of social services such as education, health, water & sanitation. Any future improvements in human development will most certainly require significant social spending and corresponding reduction in population growth rates.

4.3.2 Culture and Heritage

In keeping with the quest for all rounded progress, the objective of preserving and promoting the country's culture and heritage is considered an important priority. Besides its relevance towards meeting spiritual and emotional needs of the Bhutanese, it acts as a source of values for a society in transformation and is expected to help cushion the negative impacts of rapid modernization. For a small vulnerable country, the preservation of its distinct culture also provides a very important means to safeguard and strengthen national identity, unity, and security.

4.3.3 Balanced and Equitable Development

The objective is to ensure that the benefits of development are distributed equally through different income groups and regions across the country so as to promote social harmony, stability and unity. Equal access to basic services and facilities is to be ensured as far as possible. In the further consolidation and improvement in efforts to distribute industrial and income generating activities, the government must also take into consideration the comparative advantages and economic viabilities of different locations. Fulfilling this objective will also require bringing into the mainstream of the development process those who may have been inadvertently bypassed, including disadvantaged and vulnerable groups.

4.3.4 Governance

Good governance will be effected through the continued development and evolution of relevant institutions, processes and systems and human capabilities for managing development activities, expanding opportunities and choices for people and their participation in decision-making processes. The principles and pillars of good governance are efficiency, transparency and accountability in public affairs, which are to be fully supported by the appropriate legal framework.

4.3.5 Environmental Conservation

Conservation of the environment seeks to ensure that the development choices made will embody the principle of environmental sustainability, without endangering or impairing the environment and its biological diversity therein. The environment must be regarded as a valuable asset with global significance and be conserved in the interests of the present and future generations.

4.4 The Broad Development Policy and Strategy

Bhutan's development policy and strategy have evolved over successive plan periods in response to the constraints and challenges that it has faced, but have generally been highly consistent with the main goals, principles and overall objectives mentioned above. A consistent aspect of the national strategy has been the quest for a balance and middle ground between material and human psychological needs, towards creating conducive and favourable conditions for the fulfillment and happiness of its people. This strategy is often articulated as the wisdom of following the middle path.

The specific economic strategy would focus on the expansion of hydropower generation, increasing agricultural self-sufficiency, and the development of industrial capacity in areas of national comparative advantages and the service industry. The private sector is expected to take up a lead role and emerge as the engine of growth in the productive sector wherever it is more efficient and effective. While still playing an important role in steering the economy, the government perceives its future role increasingly as a facilitator for creating an “*enabling environment*.”

The broader strategic objectives in public finances will include enhancing revenue growth through various measures: containing inflation and managing money supply through appropriate fiscal & monetary policies, and implementing financial sector reforms. National public finance will be managed in a prudent and effective manner. The overall balance of payments account is expected to be in a healthy surplus position, particularly after the various ongoing hydropower projects are commissioned in mid-decade resulting in increase export earnings.

The human development strategic objective is essentially to promote the quality of life of the Bhutanese, not simply as a means but as an end in itself. The government will therefore, continue to invest heavily in the social sector in spite of the spiraling costs of providing free social services, though in the future some aspect of cost sharing will need to be incorporated. Much of the costs for social services will have to be defrayed through the surpluses that will accrue from the productive sectors and from external aid resources.

4.5 A Perspective to 2010

The 8FYP document projects a broad outlook and perspective regarding GDP and population parameters up to 2017 and they are summarized in the following table for up to 2010. The GDP values are in 1980 prices.

Projected Estimates for National Income and Population 2001-2010

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/2010
Total GDP (Million Nu)	4,016 ¹³	4,262	4,466	4,689	4,923	5,169	6,106	6,873	7,127	7,393
GDP Growth	8.1 %	6.1 %	5.0 %	5.0 %	5.0 %	5.0 %	18.1 %	12.6 %	3.7 %	3.7 %
Population	0.687	0.707	0.725	0.742	0.759	0.775	0.792	0.808	0.823	0.838
Population Growth Rate	2.65 %	2.56 %	2.43 %	2.35 %	2.26 %	2.17 %	2.08 %	1.99 %	1.91 %	1.82 %
Real GDP PerCapita(Nu)	5,994	6,028	6,159	6,319	6,486	6,670	7,709	8,507	8,660	8,822

Table 4.1 Source: 8FYP Vol. I.

The projected population from a base figure of 687,000 in 2001 is expected to reach 838,000 by the year 2010. This projection is however based on the assumption that the government is able to effect a reduction of about 0.1 % in growth rates every year over the decade. This would require an increase in contraceptive prevalence rates (CPR) so as to reduce total fertility. A notable demographic aspect is that the proportion of the population below the age of 15 is likely to increase (47% in 1999) and stay around 50%. This implies the growing pressures of providing gainful employment, together with higher expenditure for social services.

The national income is projected to grow at an average of 7 %-7.5 % over the decade. This is based on the assumption of a 4.5%-5 % underlying growth that is further boosted by the large power projects, particularly Tala in 2006/7. The underlying base growth assumes the steadily growing private, financial, tourism and horticultural sector. The national income projection also depends a great deal on the implementation and commissioning of the hydropower projects.

4.6 Sectoral Objectives and Priorities

4.6.1 Trade and Industry Sector¹⁴

The broad strategic objective of the Trade and Industry sector is to promote and enhance the sectoral contribution to the national revenue, foreign exchange and employment generation so as to facilitate sustained economic growth. This is expected to be achieved through export promotion and diversification of both products and markets, privatization and support for the private sector through the creation of an enabling environment, human resource development in both the public and private sectors, and the development of the necessary policies and legal frameworks to facilitate trading and industrial activities.

¹³ In current market prices the GDP is Nu. 18,835 million

¹⁴ In Bhutan the Trade and Industry Sector which are under the administrative domain of the Ministry of trade and Industry includes- the Energy and the Service (Tourism) sub sectors.

Industries

The specific objectives and strategies for the industries sector over the period covered by the programme of action are contained summarized form in the following table:

Industrial Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> • <i>Create an enabling environment including industrial infrastructure</i> • <i>Foster sustainable & environment friendly industrial development with broad based ownership & increase sector's contribution to GDP</i> • <i>Increase exports of industrial products</i> • <i>Continue private sector development & increase its involvement in industrial development</i> • <i>Increase employment opportunities in the industrial sector</i> • <i>Promote small, cottage and micro-enterprises towards stimulating growth in the rural economy</i> • <i>Enhance the institutional & professional capability of the Department of Industry and its functional units</i> <p>Strategies</p> <ul style="list-style-type: none"> • <i>Promote broad based industrial ownership through privatization of public sector enterprises and support for entrepreneurs & formation of companies.</i> • <i>Develop enabling policies and legal & regulatory framework for industries</i> • <i>Establish industrial estates, service centres, business incubators, export Processing zones (EPZ) & improve existing industrial infrastructure facilities</i> • <i>Improve working health and safety environment in the industries</i> • <i>Integrate environmental concerns in industrial development, encourage Environment friendly processes/technologies in new ventures & introduce Environmental management systems & cleaner technology in existing ventures</i> • <i>Identification of & preparation of feasibility studies on prospective industries</i> • <i>Develop Human Resources in both the public and private sector</i> 	<p><i>Increase share of manufacturing to 30% of GDP</i></p> <p><i>Private Sector to emerge as the major engine of economic growth</i></p>	<p>2012</p> <p>2020</p>

Box 4.2

Future Priorities and Programmes

Creation of Enabling Environment/Policy Studies

The creation of an enabling environment is critically important for helping the private sector fulfill its potential as the engine of growth in the future. Towards this end, various policy documents such on FDI, Industrial Policy and Industrial Master Plan have been or are being drafted and will form the ground work for the development of the industrial act. The process of developing similar frameworks and studies forms a vital aspect in creating an enabling environment for private sector development

Feasibility Studies of Medium and Large Indigenous Resource Based Industries

Detailed feasibility studies on various indigenous resource based industries (medium and large), would help the government and more importantly, the private sector in identifying and evaluating the commercial viability of potential industries for investment. These feasibility studies would take into consideration the comparative advantages that the country enjoys and the scope of value addition. The development of such industries would also contribute significantly to revenue and employment generation and the diversification of the economy.

Infrastructure Development

Infrastructure development as treated in the appropriate section is important to the economic development of the nation, but is also a key to the economic integration of the different regions and also promotes private sector development. Besides the broader infrastructure development priorities, business infrastructure also requires to be developed such as industrial estates, business incubators, dry port and warehousing facilities in different parts of the country.

Development of Industrial Estates and Service Centers

Given the geo-physical constraints and the scattered nature and small size of markets in and around the country, the development of industrial estates was initiated to render low cost investment opportunities to help ease some of the constraints faced by the private sector. It is envisaged that such groupings of industries will also limit and reduce the ecological damage and allow for more effective pollution control measures. The initial part of the activity will focus on selecting appropriate sites within each region. Land acquisition costs will be borne by the government but funding will be required for the development of necessary infrastructure.

As various service industries grow, the development of service centers in properly planned and designated municipal areas becomes important to improve the efficiency of services for the public and avoid undesirable congestion and related problems. The Chamzamtog Service Center in Thimphu is a model along which other service centers around the country are being planned. Land acquisition and partial infrastructure development has already begun in the major towns, and the government intends to procure land to develop such service centers in four other secondary towns. As with the proposal for industrial estates, the costs for land acquisition will be borne by the government with funding required for infrastructure development.

Private Sector Development

The priority of private sector development is centred around achieving the three objectives of fostering greater economic efficiency, enhancing private sector participation and generating employment opportunities. The main strategic activities over the PoA decade would include involving private sector participation in joint ventures, strengthening the process of privatization and disinvestments of SoEs, corporatization where relevant to improve management and efficiency, enhancing institutional development and capacity, developing infrastructure and the creation of an enabling environment through adoption of or reforms in relevant legal and policy frameworks.

Human Resource Development

The dire shortage of semi-skilled and skilled workers, particularly managerial, technical and entrepreneurial skills in the private sector, due to the lack of adequate training and skills development has always been a severe constraint to its growth. To a certain extent, the situation has been ameliorated by the special training courses organized by the Entrepreneurial Promotion Centre (EPC). To impart quality trainings and help develop human resources and industrial capacity, the industrial officers themselves must participate in seminars and workshops as well as full-time higher studies in relevant fields.

Entrepreneurship Promotion Programme

The Entrepreneurship Promotion Centre (EPC) established in 1991 has been providing basic entrepreneurial and vocational training which has contributed significantly to the skills and professional development of the private sector and broadened employment opportunities for nationals. The EPC will require continued future donor support and will focus on the three programme areas of *a) Entrepreneurship Development, b) Cottage and Rural Industry Support and c) Vocational Skills Development.*

Essential Oils Development Programme

For rural communities, the lemon grass oil industry has proved to be a successful revenue and employment generator for rural communities (*See Box*). Commercial production of other potential essential oil bearing plants would complement the existing lemon grass industry and further enhance the cash income of farmers. Detailed research has already been undertaken regarding not only potential plants, but also production technology, quality controls, and possible markets. Besides diversification in the production of essential oils from lemon grass, the downstream processing of essential oils or value adding by improving quality, decomposing oils into various elements for commercial use and creating a variety of fragrance and flavour blends, could further enhance export sales and rural income and employment.

Environmental Management

All industries in Bhutan comply with stringent environmental norms in accordance with the Environmental Assessment Act. As nearly all industries have been established without due environmental considerations, most are without any waste treatment facilities. Therefore, the effective implementation of environmental regulations by way of extending logistical/technical support, creating awareness and dissemination of relevant knowledge/information would require considerable investments. The following activities are essential prerequisites to facilitate sound environmental management in industries.

- *Establishment of a Cleaner Technology Fund for creating awareness and disseminating knowledge and information on cleaner production technologies and processes.*
- *Capacity building of institutional & industrial manpower in environmental management.*
- *Establishment of sampling and analysis stations equipped with relevant equipment and tools.*
- *Construction of waste treatment facilities in selected industrial estates and sites.*

Some of the other industrial sector projects envisaged are the relocation of automobile workshops, the establishment of a Bhutan Standards Institute, the formulation of appropriate legislation for occupational safety and health, institutional strengthening of company registry and the construction of a building to house the different divisions of the Department of Industry.

Trade

The following table summarizes the objectives, strategies and performance indicators of the trade sector.

Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> Stimulate the growth & diversification of exports and reduce trade deficit Create a more open, liberal & stable policy environment conducive for growth of private sector trade and employment Promote growth and efficiency of foreign and internal trade Promote integration of Bhutan into the regional and International trading system Promote fair trade practices within the country Strengthen institutional/professional capacity of the Department of Trade <p>Strategies</p> <ul style="list-style-type: none"> Develop long term trade relations with principal trade partners & negotiate preferential trade treaties with new partners Diversify export markets and the range of export products Promote exports and provide full support to exporters Reduce trade constraints such as high transport costs and improve trade/ export credit & other support facilities Reform, streamline & simplify trade regimes, regulations & procedures Develop relevant legal/regulatory frameworks for the sector Monitor internal prices of essential commodities, enforce maximum retail prices (MRP), increase consumer awareness, and institute measures to protect consumers from unfair trading practices Encourage foreign investment as outlined in the FDI policy(draft) Work towards the regional free trade arrangement under SAFTA Human Resource Development in both public & private sector Develop a Measurement, Testing, Standards & Quality System (MSTQ) 	<p><i>Develop & operate the dry port at Phuentsholing</i></p> <p><i>Increase third country exports by 50%</i></p> <p><i>Complete accession to WTO</i></p> <p><i>Increase third country exports by 100%</i></p> <p><i>Completely eliminate trade deficit</i></p>	<p>2002</p> <p>2005</p> <p>2007</p> <p>2010</p> <p>2010</p>

Box 4.3

Future Priorities and Programmes

In keeping with the sectoral objectives and strategies, one of the immediate and broad priorities will be to develop and create appropriate policy frameworks and an enabling environment conducive to the growth of export oriented and industrial ventures. Another important priority for Bhutan will be to further integrate into regional and global markets and an important milestone in this regard would be achieved when its application for a WTO membership is granted. Bhutan now enjoys modern and excellent telecommunications, a growing pool of educated graduates and the advantage of abundant and low cost electricity. Therefore, an emerging priority for the trade sector is the development of industries based on available technology in the country. Specific trade-related programmes are summarized as followed.

Diversification of Export Markets

Trade relations with existing countries will be strengthened and enhanced such as through deepening the preferential access to the Bangladesh market and developing better road access. Efforts will also be directed towards negotiating trade treaties with several countries, including Thailand and other members of ASEAN, and other SAARC countries such as Nepal and Sri Lanka. International trade for Bhutan is expected to receive an impetus following negotiations on accession to the WTO, and when the South Asian Free Trade Area (SAFTA) is established.

Support for the Export Promotion Centre (EPC)

Given that the Bhutanese exporters are relatively inexperienced, export promotion and the development of related knowledge, and know how, particularly of those related to third country markets, is important in achieving the objective of expanding and diversifying trade. The Export Promotion Centre (EPC) has been established for providing supportive measures on market information, product development, quality and standards, etc. The centre will require to be strengthened to enable it to support exporters in a comprehensive manner.

Construction of Dry Ports

The government envisages the development of three dry ports at Phuentsholing, Gaylephug and Samdrupjongkhar to offset transportation and transit costs for third country trade. While the construction of three dry ports is a long-term priority, the development of at least one Dry port and Warehousing at Phuentsholing is an important and urgent priority for the country. The project is envisaged to be carried out in three phases, with the first phase estimated to cost US \$ 2.7 million. Phase II and III are expected to be undertaken later when goods traffic increase.

Tariff and Regulatory Reforms

The government will progressively reduce import tariffs on third country imports to match the progressive liberalization of the Indian tariff regime to ensure prices of third country imports in India and Bhutan do not significantly differ.

The administrative processes required for import/export licenses will be simplified to the extent that an applicant (with the expression for prescribed articles) can ideally be responded within a week. The government will also remove all export taxes and abolish the minimum export price for specific horticultural produce to increase export revenue.

Strengthening Capacity of the Department of Trade including HRD

The Department of Trade is presently severely constrained by a shortage of both manpower and relevant expertise to carry out the numerous and often highly technical tasks and responsibilities under its mandate. Strengthening capacity, particularly through HRD, will greatly improve the department's ability to cope and manage effectively in fulfilling its functions. The department is drawing up the resource requirements, including training needs.

Accession to WTO

Bhutan has taken the decision to join the multilateral trading system. The government is aware that compliance to WTO Agreement will take time and that it must start the adjustment required as soon as possible. While much of the requirement for compliance will be based on various agreements under WTO, Bhutan has the flexibility in setting the time-table for compliance and using the principle of special and differential treatment in obtaining special dispensation for particular sector of the economy.

Bhutan needs technical assistance to undertake a thorough review of its legislative and regulatory framework to assess the required changes for compliance. It needs guidance also on how best to reach an accession agreement with the WTO that would allow it sufficient time to make the adjustment required for it to take place in the WTO. The country does not have the expertise for undertaking these tasks.

Market Information

Exporters currently have limited knowledge of international markets. This is a major constraint in the development of appropriate market channels such as India and Bangladesh, as well as in the opening of new markets overseas. Judicious use of commercial and public sector sources of information can help to provide commercially useful information, using on-line service and electronic data bases that can be accessed with office computers. Linkages with other information systems can help reduce the time and expense of building a system from scratch. What is required is not only the ability to access data, but that the system should also be able to pinpoint potential customers for exporters and to provide an understanding of market trends, market channels, product specifications, standards, packaging and terms and conditions of doing business. Technical assistance is required in developing this market information system.

Some of the other activities envisaged to be taken up in the future under the trade sector include building of capacity in the Bhutan Chamber of Commerce and Industry, establishment of an export credit guarantee scheme and promotion of knowledge-based industries.

Power

Electricity has been and will continue to be the single most important input for the overall socio-economic development of the country. Not only will it stimulate and facilitate economic development through increasing energy availability for domestic utilization, but the revenues from its exports will make possible the financing of the nation's socio-economic development to a significant extent. Furthermore, hydropower as an alternative, renewable and clean energy is expected to contribute to safeguarding of the environment with users shifting away from traditional sources of energy such as fuel wood and petroleum products. The activities of the sector are thereby very important priorities and hydropower development will remain a crucial thrust area for the government. In the context of the PoA framework (2001-1010), the projected strategic objectives and developments in the power sector are detailed in the following Box 4.4.

Power Sector Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> • Generate and transmit hydroelectric energy for export and revenue earnings • Contribute to reduction of global green house gas emission by providing alternative clean energy • Fulfill electricity service demands through a safe, reliable & efficient supply system • Encourage use of renewable & environmentally clean hydro-electric energy • Extend rural electrification¹⁵ <p>Strategies</p> <ul style="list-style-type: none"> • Construct large hydel projects to cater to domestic needs and for export • Construct small/mini hydroelectric projects to supply electricity to remote and isolated areas • Upgrade existing electricity supply infrastructure & facilities to meet increased load demand & improve reliability & quality of electricity supply • Development of transmission grids interconnecting regions to ensure reliable power flow from one area to another and out for export to India • Extension of in-country transmission & distribution power lines for urban and rural electrification • Undertake feasibility studies of new power projects • Develop Hydropower policy guidelines and Electricity Acts for the systematic development of hydro-power resource and its utilization 	<p><i>Corporatization of the Department of Power</i></p> <p><i>Creation of a Ministry of Energy & Water Resources</i></p> <p>Achieve an installed capacity of: - 1584 MW - 2000 MW</p> <p><i>Completion of the following hydro-power projects:</i> - Basochu (60MW) - Kurichu (60MW) - Tala (1020MW)</p> <p><i>Implement Mangechu (360 MW)</i></p> <p><i>Achieve rural electrification of:</i> - 40% - 100%</p>	<p>2002</p> <p>2002</p> <p>2005 2012</p> <p>2002 2002 2004/5</p> <p>2002/7</p> <p>2010 2020</p>

Box 4.4

Future Priorities and Programmes

Power Generation and Transmission

By the end of the PoA decade (2001-2010), the hydro-power projects presently at various stages of construction, will start generating power (total capacity will increase to 1600 MW)). The Mangdechu hydropower project, (360 MW), for which the feasibility study has been completed is a priority project that is slated to be started during the 9th FYP period (2002-2007). The government will also seek to develop other power projects for which detailed project studies have been completed.

The total power generating capacity is envisaged to be at around 2000 MW, up from the present capacity of 380 MW. The longer-term plan envisages comfortably achieving a 3000 MW capacity by 2020.

The long-term objective is to complete connecting all the dzongkhags to the national East-West Transmission Grid, which with the necessary resources can be achieved by 2010. Some of the

¹⁵ *This would help improve the quality of life and alleviate poverty, especially in rural areas, and help reduce rural urban migration*

more pressing and immediate transmission priorities that are to be undertaken under the PoA decade are listed in the following table:

Transmission Programme	Expected Date of Completion
<i>132 KV Kilikhar-Tangmachu line (48 km) with 33/11 KV power sub-station at Lhuentse</i>	2002
132 KV Tingtibi-Trongsa line (57 km) with 33 KV power sub-station at Trongsa & 33 KV line from Trongsa-Bumthang	2003
<i>220 KV Basochu-Chirang (40 km).Initially 66 KV lines</i>	2003
<i>66 KV Chirang-Dagana (25 km) line</i>	2003

Table 4.6

While the above-mentioned transmission programmes are of the more immediate priorities, the long term transmission priorities relate to connecting Gasa dzongkhag to the national grid by possibly tapping the 66 KV Simtokha-Lobesa line and drawing power to Gasa (40km); and completing the East-West Transmission 220 KV line grid linkage (*Basochu-Bumthang-Kurichu*). These programmes can also be achieved within the decade should the resources be available.

Rural Electrification

The long-term goal is to provide electricity to all households by 2020 and this important objective will be achieved largely through the rural electrification programme, which enjoys a high priority. The rural electrification capacity at present is 1500 households and at this capacity and assuming for a 2% growth in population, it is expected that electricity for all will be achieved only by 2030. The capacity requires to be increased to above 2000 households in 5-10 years towards achieving the 2020 target date.

Institutional Development

In view of the paramount significance of the power sector to the country's economic development, strengthening the institutional capacity remains an important priority. The *in-house research and development capacity* requires to be enhanced through training of professionals to prepare master plans, and conduct feasibility & investment/development studies related to energy and water resources. A *long term HRD Master Plan* therefore, has been deemed important to develop in view of these efforts to strengthen the institutional capacity of the Department of Power. The establishment of a *Power Training Institute* has also long been an important consideration for the government not only for developing and enhancing the institutional capacity but also for generating employment opportunities.

Towards improving the efficiency and management of the sector, the electrical-utility functions of the Department of Power, i.e. the transmission and distribution of electricity, are to be corporatized in 2002. Preparatory works like the formulation of the Electricity Acts and framework for foreign investment in hydropower development, commercial accounting systems, etc. are currently in progress.

Tourism

Tourism has great potential for the context for diversifying the economic base, providing employment opportunities and earning valuable convertible currency. Future prospects for sustainable growth in tourist arrivals also appear to be favourable. Additionally, as the tourism market potential is nowhere near saturation level, the existing high value-added niche tourism strategy as opposed to mass tourism remains relevant into the new decade.

The priority activities for the PoA period for high value-added tourism strategy include improving tourism infrastructure, tourism services and broadening the range of tourism products. The tourism objectives and strategies together with the future priority programmes and activities are summarized in Table 4.4.

Tourism Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> • <i>Generate foreign exchange and revenue and achieve sustainable growth and development of the industry</i> • <i>Strengthen private sector and increase job and employment opportunities</i> • <i>Develop and improve tourism infrastructure and services</i> • <i>Promote Bhutan's image and generate international goodwill & cross cultural understanding</i> <p>Strategies</p> <ul style="list-style-type: none"> • <i>Develop relevant policy framework and operating guidelines for the sector</i> • <i>Strengthen the Department of Trade to carry out its role/responsibilities efficiently and effectively</i> • <i>Optimize revenue/foreign exchange earnings by increasing tourist length of stay, reducing the extreme seasonality and targeting niche markets.</i> • <i>Formulate and implement a national tourism development plan in consultation with relevant stakeholders</i> • <i>Develop appropriate forms of tourism compatible with our society and based on natural, and environmental advantages</i> • <i>Encourage and facilitate community participation in & benefits from tourism</i> • <i>Develop tourism & hospitality skills & knowledge base in the industry</i> • <i>Ensure quality of tourism products & services in keeping with high value tourism</i> • <i>Develop and enforce standards of hotels and restaurants for tourists</i> 	<p><i>100% increase in revenue</i></p> <p><i>Increase contribution of tourism to 25% of GDP</i></p> <p><i>150% increase in revenue</i></p> <p>Main policy instrument will be the proposed Tourism Master Plan</p>	<p>2012</p> <p>2017</p> <p>2017</p>

Box 4.5

Future Priorities and Programmes

Institutional Capacity Building

As the Department of Tourism is severely constrained by human and financial resources, efforts will be directed towards developing adequate human and acquiring financial resources to effectively carry out the plans, policies, and programmes for the sector.

National Tourism Development Plan

For its proper development, including infrastructure and product development, the sector requires a National Tourism Development Plan to chart out a long-term plan for the industry.

Human Resource Development

Developing and upgrading the skills of workers and training new entrants are essential to improve the quality of tourism services in the country. Therefore, the establishment of a facility for educating and training in all fields of the hospitality industry is an important priority. The relevant occupational standards and curriculum for the various training courses should also be developed. To meet the immediate training requirements of the industry, courses are being run on an ad-hoc basis by the department's training unit but this activity needs to be formally taken up on a regular and professional basis. While the existing training unit may meet the basic and in-country training needs of the industry, overseas educational and training opportunities at higher/specialized levels will also be essential and pursued.

The other priority areas for the sector are the development and improvement of tourism infrastructure, product and services, strengthening of marketing and promotion activities and the establishment of a tourism research cell.

4.6.2 RNR Sector

The RNR sector consisting of agriculture, horticulture, livestock and forestry sub-sectors has enjoyed a high priority in resource allocation in all the development plans. Agriculture and allied activities remain the single largest contributor to GDP at 36% and provides employment to the majority of the people. Agricultural and forest products not only comprise a significant portion of export earnings, but also have a direct impact on enhancing national food security, rural household incomes and nutritional status. The various bio-diversity resources and high value-added horticultural products also hold great economic potential. The broad objectives and strategies for the RNR sector, performance indicators, and time frames are in the following table.

Objectives & Strategies	Performance Indicators	Time Frame
Objectives <ul style="list-style-type: none"> • <i>National Food Security</i> • <i>Conservation of Natural Resources</i> • <i>Sustainable economic production & Enhancement of Rural Income</i> Strategies <ul style="list-style-type: none"> • <i>Improving planning base</i> • <i>Ensuring an enabling regulatory Framework</i> • <i>Strengthening natural resources Management</i> • <i>Introducing improved technologies</i> • <i>Promoting people's participation</i> 	<i>Complete bio-diversity resource inventory</i>	2002
	<i>Achieve 70% food self sufficiency in food grain production</i>	2004
	<i>Increase value of horticultural exports by 200%</i>	2007
	<i>Increase value of horticultural exports by 300%</i>	2012
	<i>Achieve a threefold increase in real income of farmers</i>	2012
	<i>Continually maintain minimum of 60% forest cover</i>	Perpetuity

Box 4.6

Future Agricultural Priorities and Programmes

Enhancing National and Household Food Security

Achieving higher self-sufficiency in agricultural supply, primarily food grains, is important for national food security. With rice as the predominant staple, 30-32% of its rice consumption is currently imported. Given the limitations of arable land, scope for mechanization and the fragile mountain eco-system, achieving near total self-sufficiency in rice may not be possible. However, maintaining a certain minimum level of local production would be essential in the context of national food security, that can be considered under the following three mission components.

- i) *Enhancing On-Farm Productivity of Food Grains:* This should be facilitated by the introduction of high yield varieties and the improvements in agronomic practices, irrigation, and farm mechanization. Developing potential “rice bowls” in agriculturally important areas in the country to produce about 70% of the total domestic consumption of rice is a concept being actively considered.
- ii) *Enhancing Farm Income through Cash Crops:* Bhutan enjoys comparative advantages in its rich natural bio-resources base to grow a variety of off-season cash crops and rare medicinal and aromatic plants, many of which have ready markets in the region. Thus, the effective strategy will focus on developing high value-added agricultural produce destined for regional and international niche markets. Revenue earned from such exports should comfortably offset any food/cereal import costs.
- iii) *Enhancing Household Food Security:* This important priority will be ensured through promoting higher yielding varieties of crops, diversifying of crops to reduce natural calamity risks and providing access to rural credit and farm services/inputs.

Commercialization of Agriculture

A shift from traditional subsistence to commercialized farming will be pursued in selected production activities based on their potential, market demand and accessibility. The potential activities include floriculture, bee keeping, and greenhouse production of vegetables, aromatic and medicinal plant cultivation, fruit production, and processing. Support through vocational trainings, rural credit and technical services have been provided and will be continued and strengthened. Additionally, a relevant and an enabling regulatory framework will be adopted to encourage and promote commercially operated agro-enterprises.

Bio-technology

The country has not been able to exploit the potential benefits of its rich bio-diversity but has made a start by establishing the National Bio-diversity Centre for development and application of bio-technology, particularly in promising areas such as floriculture and pharmaceuticals.

Development of Farm Infrastructure

Since the low level of farm productivity has to a great extent been due to poor agricultural and rural infrastructure, emphasis in the PoA period will be laid on developing farm roads, irrigation channels, storage, processing and marketing facilities.

Development of Internal and External Agricultural Markets

The development of a network of and linkages with internal and external agricultural markets for Bhutanese farm produce/products will help the sale of agricultural produce. Towards facilitating this, market information, R&D, and technical services in addition to various support services related to agriculture trade will continue to be strengthened.

Rural Development and Poverty Alleviation

The rural development objectives of generating employment, sustaining resident populations and alleviating poverty and seasonal hunger/deprivation, are expected to be largely achieved through agricultural growth and its sustainable development. The draft Cooperatives Act of Bhutan will encourage the formation of cooperatives and associations to mobilize the concerted efforts of rural communities to pool their resources for economically viable enterprises.

Other future priorities related to agriculture development involve the development of agricultural/rural infrastructure, and internal & external agricultural markets.

Future Priorities for Livestock Development

Support to Household Food Security and Nutrition

Livestock development will be strengthened through supply of improved breeding stock to increase dairy and meat production, thereby enriching household diet and nutrition.

Selective Commercialization in Potential Areas

The commercial development of livestock based enterprises will be identified and undertaken in selective potential areas where natural conditions and social norms permit. Trainings, credit, technical and marketing support will be extensively provided to start up commercial dairy, poultry and piggery farming ventures. The promotion of such schemes is expected to reduce imports of and dependence on outside sources of animal products.

Control of Livestock Diseases

The reduction of livestock mortality is an important strategy for improving household nutrition and security and reducing poverty. Considerable efforts therefore, will be directed towards controlling livestock diseases through various prophylactics and relevant treatments.

Future Priorities in Forestry

Conservation of Nature and Bio-diversity

The conservation of forests will continue to receive priority over its commercial exploitation. Accordingly, the management of protected areas (26% of the country's land area) will be strengthened and strong conservation measures implemented. ***The integrated conservation development programme*** will be implemented in all protected areas. Additionally, management plans for the recently declared biological corridors will be developed and implemented to further enhance the sustenance of the country's rich biodiversity.

Social Forestry Programme

The management of forests to meet local timber/fuel wood requirements will be effected through the various ongoing agro and private forestry programmes at the community level, and will be guided by the social forestry rules and regulations. The implementation of these programmes, including afforestation programmes, will be decentralized to local districts with the Department of Forests providing the necessary technical support and monitoring & evaluating periodically.

Development of Wood Based Industries

Bhutan's wood-based industry is still undeveloped and offers tremendous potential for further development. Poor harvesting, preservation, milling and manufacturing processes are some of the constraints of the industry in addition to the private sector's lack of expertise in and resources for

investing in market research, product development and promotion. In view of the tremendous economic potential, sustainable development of the wood-based industry is an important priority to which necessary financial and technical support will be provided.

Bio-Prospecting and Development of Bio-Technology

Bhutan has many unique endemic species of plants and animals, resources that have been well protected and conserved. The conservation of bio-diversity requires funding and the sustainable utilization of these resources is a priority. To this end, what is necessary is a biological prospecting to first identify species/varieties with market potential and to develop appropriate biotechnology to process and produce potential bio-products. The National Bio-diversity Centre in collaboration with other agencies will spearhead in such activities/programmes.

4.6.3 Environment

The important strategic priority for the RGoB in the 2001-2010 decade is to achieve sustainable economic development and to minimize to the extent possible the negative impact on the environment by the development process. This closely reflects the spirit of Agenda 21 principles at the Rio Summit that called for an integration of environmental aspects with development aspirations. A National Environment Strategy (NES) was drawn up and is to be followed by the implementation of the National Environment Action Plan (NEAP). The principal environmental policy objectives, strategies, and performance indicators as outlined in the NES and Vision 2020 documents are summarized in the following table.

Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> • <i>Preserve & sustain the country's natural resources</i> • <i>Maintain the bio-logical diversity and essential ecological processes and life support systems</i> • <i>Ensure adequate pollution abatement techniques & waste management systems are established</i> • <i>Ensure Bhutan has the scientific, technical, professional, financial and institutional capacity to achieve environmentally sustainable development</i> <p>National Environment Strategy NES) <i>Minimize and (mitigate the impacts likely to result from the development process and achieve sustainable economic development. Some of the important elements of the NES are:</i></p> <ul style="list-style-type: none"> • <i>Expand hydropower, increase agricultural self-sufficiency and expand industrial base</i> • <i>Effective natural resources management</i> • <i>Development of a National Environment Action Plan and relevant environmental legislation</i> • <i>Institutionalize the process of EIAs for all activities</i> • <i>Development of resource-based mechanisms for financial sustainability</i> 	<p><i>Introduce mandatory EIAs for all large scale projects</i></p>	<p>2002</p>
	<p><i>Introduce mandatory EIAs for all physical infrastructure projects</i></p>	<p>2007</p>
	<p><i>Extend capacity to conduct EIAs at Dzongkhag level</i></p>	<p>2007</p>
	<p><i>Inventorying of bio-diversity resource base</i></p>	<p>2002</p>
	<p><i>Greening of national accounts (adapt system of national accounts to include compilation of environmental satellite accounts)</i></p>	<p>2002</p>
	<p><i>Prepare fully elaborated</i> a) <i>Standards for water quality & environmental health</i> b) <i>air quality standards</i></p>	<p>2002 2007</p>
	<p><i>Continually maintain 60% forest cover</i></p>	<p>Perpetuity</p>
	<p>Main Policy Instrument: National Environment Strategy (NES), National Environment Action Plan (proposed)</p>	

Box 4.7

Future Priorities and Programmes for the Environment

Information Systems and Research

The establishment of information systems for gathering and collating environmental data/knowledge and effectively linking them to planning and decision making processes is an important future priority. Efforts will be focussed on improving data collection and coordination, identifying user needs and coordinating the activities of different agencies of the government to avoid overlap and duplication. The information and research will be valuable for establishing environmental quality standards, assessing progress in attaining environmental objectives, studying linkages and trends between socio-economic and biophysical conditions, environmental problem-solving, decision making, policy formulation, analysis and reporting on the state of environment.

Capacity Development and Popular Participation

To implement the sustainable development agenda as envisaged in the NES, the institutional capacity and mechanisms requires to be strengthened. Efforts to strengthen government decision-making processes and the incorporation of sustainable development principles in development planning at all levels are to be undertaken. This will require developing the required expertise, strengthening environmental laws and regulations, etc. in addition to reinforcing cross-institutional co-ordination.

The involvement of local-level resource users in managing natural resources will also be highly essential as any environmental and resource management strategy would be irrelevant without such participation. Popular participation will also further help identify appropriate projects and priorities towards supporting the sustainable utilization of natural resources.

Policies and Legislation

There have been various legislative measures adopted in the area of environmental conservation, with the most recent one being the Environment Assessment Act 2000. To provide an overall umbrella act for environmental protection, the National Environmental Protection Act will be drafted and enacted.

The development of environmental legislation however requires a set of systematically developed standards, which have not been formulated in Bhutan. As an interim measure, regional and international standards have been substituted, standards, which may not be appropriate in the future. Establishment of the national environmental quality standards, therefore, is an important priority, particularly in the context of future environmental legislation. The development of a national environmental legislation must simultaneously be responsive to trends in international environmental legislation, particularly to various global conventions and international treaties, as they become more standardized and accepted.

Training and Education

The implementation of a NES requires environmental experts and practitioners and trained personnel at both the institutional and implementation levels. As the country suffers from an acute shortage such of such expertise and professionals, there is a pressing need for HRD programmes in environmental planning & management, resource management, etc. for both the public and private sector.

Education on related environmental studies and issues has to be included not only in formal schooling but done through practical training courses and informational programmes as well as increasing awareness and understanding through public education campaigns and non-formal education programmes. Education and training must naturally extend to local-level resource users and contribute to their empowerment to implement the programmes developed for the sector.

Monitoring and Evaluation (M+E)

The NES requires that monitoring and evaluation be carried out to judge how effectively the strategy is being implemented towards meeting long term sustainable development objectives. As such an M+E process backed by scientific research and analysis will need to occur at critical stages from policy development to programme delivery.

This poses a significant challenge as an effective M+E system for the environment has yet to be developed. Towards developing such a system, the sector needs to develop or adapt environmental/natural resource management indicators that are appropriate to the settings and effective in gauging progress. The quantitative measures needed to develop the indicators are baseline measurements related to soil resources, air and water quality and demographic and land use change. Among the more pressing qualitative tasks is to assess the pressures on and state of the resource base and the institutional capacity to effectively manage those resources. These activities requires a strong research and development programme.

4.6.4 Transport, Communication & Human Settlements

A country's physical infrastructure and its appropriate development have a direct impact on expanding economic opportunities and on achieving human development objectives as they affect equitable access to health, education and other essential services. The sector, therefore, is extremely important in achieving the country's national objectives.

Transport

Roads

As a land-locked country, an efficient and reliable network of roads is vital to the country's socio-economic progress. The development of road infrastructure, therefore, has consistently been and remains an important national priority. Besides a network that spans and connects all major centres and 19 of 20 dzongkhag headquarters, roads now service a fair proportion of rural settlements. The sectoral objectives and strategies and their projected indicator targets are outlined in the following table.

Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> • <i>Develop a sustainable and regionally balanced roads network that is safe, convenient and economical</i> • <i>Uphold past capital investment in road</i> • <i>Reduce cost of vehicle operation & time travel</i> • <i>Develop private sector capability for road construction & maintenance</i> <p>Strategies</p> <ul style="list-style-type: none"> • <i>Develop suitable road maintenance management system to increase efficiency of road maintenance planning & management</i> • <i>Improve geometric features to reduce accidents</i> • <i>Entrust to private sector the responsibility for road works to help develop its capability</i> • <i>Explore possibilities of shortening existing roads, particularly highways, to reduce travel time</i> • <i>Build up institutional capacity within Department of Roads through HRD & training in road construction & maintenance</i> 	<p><i>Upgrade national highways to accommodate 30 ton trucks</i></p> <p><i>Ensure that 75% of rural population live within half-day's walk from nearest road</i></p> <p><i>Completion of 2nd Transnational highway</i></p> <p>(Major policy instrument/s: would be the proposed Roads Master Plans and Surface Transport Master Plan)</p>	<p>2007</p> <p>2012</p> <p>2012</p>

Box 4.8

Future Road Priorities and Programmes

Road building in the country has happened at a brisk and rapid pace but has neither kept up with the very ambitious target set nor matched the high demand for roads from the districts. Maintenance of roads in a mountainous terrain is extremely costly and road building requires massive investments. Given this, road programmes have been dependent to an extent on external financial assistance, the lack of which has at times compromised road expansion plans.

The future priorities and programmes under the road sub sector are to develop and expand the road network through the construction of new roads and bridges, the expansion of rural roads and the maintain and improve existing roads and highways. An important strategic shift that deserves mention is the RGoB's intent to gradually withdraw from the direct involvement in road works and to concentrate on design, supervision and regulatory aspects/ measures, with the private sector ultimately expected to take over the execution responsibilities.

New Roads Construction

The development of a network of national highways with a more extensive coverage and capacity to meet the growing demands of larger and heavier vehicles is a high priority. The further expansion of district and feeder roads is a significant priority, and this is not necessarily dictated by economic criteria alone but in the interest of bringing communities out of isolation, expanding their opportunities and enhancing their access to essential services and markets in the spirit of social justice and equity and quest to achieve balanced development.

Roads Resurfacing

As damage due to severe monsoons have affected the progress of road, considerable spill over work will have to be carried out in the first half of the new decade. Under the Road Improvement Project (East-West Highway Phase II), about 380 km of this vital East-West highway will be resurfaced and completed in 2004. Various other road maintenance requirements of the existing road network will be identified under the proposed Roads Master Plan

Road Improvements

Realignments of some of the sections along the East-West and the Thimphu-Phuentsholing highways have been identified. These improvements are crucial. Geometric improvements and widening will also have to be made.

Bridges

Many of the temporary steel bailey bridges on the highways are old and some need to be replaced to accommodate to argument safety as well as the increasing traffic volume. Four bridges in the south are currently being constructed and will be completed by 2002. The construction of an important bridge at Wanduephodrang has begun in September 2000 and will be completed in mid 2002. The basic designs for five other bridges have been undertaken and is under process for funding.

Road Master Plan

The Mid-term review of the 8th FYP observed that in the absence of a proper framework, road infrastructure in the country had been developed on an ad-hoc basis. It was suggested that in order to guide investment in road over the next twenty years, a Road Master Plan should be developed, and will begin in 2001.

Installation of Communications Facilities along Highway(s)

The installation of communication facilities at strategic locations along the highways is considered as a priority to cope with roadblocks or emergencies. Discussions among relevant agencies are ongoing in this regard.

Mechanization of Road Works and Replacement of Old Equipment and Machinery

Mechanization of road works is a priority to increase productivity and output. Many old machinery and equipment are in constant need of repair or replacement, which have impaired work progress.

Privatization of Road Works and Private Sector Development in Road Activities

While the privatization of road works has already been initiated with approximately a third of all road works now being implemented by private companies, it will be further expanded and accelerated during the coming decade. A systematic approach to support the development and specialization of private sector for different road activities is also under consideration.

Air Transport

Given Bhutan's landlocked situation and limited road network, the further development of air transport services, both domestic and international services, is an important priority. The key objectives for the sector, which is under the administrative responsibility of the Department of Civil Aviation, are to build up the capability of Civil Aviation Department and to improve the

legal and regulatory requirements governing the operation of air services in the country. To establish an appropriate system of airport security and to expand and upgrade the quality of air services. Additionally, a medium-long term outlook is the possibility of introducing domestic air services. The future priority activities for the sector are:

Civil Aviation Master Plan

The formulation of a Civil Aviation Master Plan has been deemed to be necessary and is an important 8th FYP sectoral objective that has not yet been taken up. The absence of such a plan does restrict the ability of the sector to plan ahead for and develop future air transport services, activities, and relevant regulations, etc.

All-weather Alternate Airport

As the present airport at Paro is not an all-weather airport, heavy losses are sustained by Druk Air during bad weather. Feasibility studies to develop an all weather alternate airport and feasibility studies have been conducted. Of the three sites identified, Khotokha has been recommended as the most suitable and the proposal is currently being evaluated by the government.

Strengthen Paro International Airport

Bhutan's only international airport at Paro will be improved and strengthened to meet the aerodrome safety oversight. . Airport freight facilities will also be upgraded to enable the export of high value/low weight products. Paro airport does not have the required runway length needed to operate any larger aircraft. Therefore, it has become apparent that any investment into infrastructure development at Paro airport will result in only negligible benefits

Development of Domestic Air Services

182 (2020) Highest priority for the development of a regional airport serving eastern Bhutan. Introduction of helicopter services

Human Resource Development

Due to the importance of air safety, HRD, and capacity building for the sector is an important priority. A HRD Master Plan for the sector is expected to be drafted soon. Additionally, due to severe shortage of trained and experienced personnel in operations, airworthiness, ATC, communications, security and fire/rescue sections, the training of these personnel has been accorded a high priority.

Communications

Telecommunications

A modern Tele-communication sector is vital to the country's development and integration, particularly in the context of globalization and the relevance of information technology. Bhutan has developed a "state-of-the-art" telecom-infrastructure base that has revolutionized communications within the country and with the outside world and broadens the economic possibilities and opportunities for the country. The objectives and strategies for the sub-sector and projected performance indicators are outlined in the following table.

Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> • Provision of efficient, reliable and accessible telecom services on a sustainable basis • Provide rural Tele-communication services <p>Strategies</p> <ul style="list-style-type: none"> • Corporatize the Department of Telecommunications • Enhance capacity utilization & penetration through combination of tariff adjustments & incentive packages • Create an enabling environment for private sector participation 	Introduction of Internet & related services	2000
	Establishment of the BTA (Bhutan Telecommunications Authority) & develop it into an autonomous corporation	2000
	After corporatization, earn a rate of return in excess of 10% of assets (Main policy instruments Tele-communication Act; Radio Act & Telecommunications Master Plan)	2001 onwards

Box 4.9

Future Telecommunication Priorities and Programmes

Rural Telecommunication Services

The key priority programme for the first half of the next decade will be to provide rural telecommunication services to all the *dungkhags* (*sub districts*) and *geogs* (*blocks*). A field survey for the rural communications has been completed and a Rural Telecommunications Master Plan is being formulated, but the main programme has been stalled due to a lack of funds to meet its high capital investment requirements.¹⁶ The provision of Tele-communication facilities along the highways would also be accommodated under the above-proposed programme.

Institutional Capacity Building

The reliability, sustainability and efficiency of telecommunication services will depend to a great extent on the institutional capacity of the telecommunication sector. Therefore comprehensive and relevant training programmes will be a vital input for achieving the various sectoral objectives.

Provision of Value Added Services

Available telecom services include e-mail and internet services with a variety of options for additional value added services that include Tele-medicine, video conferencing, etc, that can be introduced based on the demand for them.

Corporatization of the Department of Telecommunication

An important strategic activity is the organization of the telecommunication sector under a state-owned corporation in order to deliver telecommunication services on an increasingly a commercial basis. In conjunction with this priority, this necessitated the development of a regulatory body in January 2000, the Bhutan Telecommunication Authority (BTA), to ensure adherence to government policies, promote the development of the sector, initiate necessary reforms, manage and license radio frequency spectrums, etc.

¹⁶ Discussions are ongoing as to what level of coverage is necessary which would determine the cost estimates for the programmes. The programme is therefore currently being reprioritized.

Information Technology

Information Technology (IT) usage in the country is growing rapidly with many of the public sector organizations listing the development of IT systems as priorities. IT will essentially form the technological infrastructure for the service sector and the new growth industries. As this is a relatively new area for Bhutan, the immediate priority is to prepare and activate an IT policy and strategy by 2002. To this end, the Division of Information Technology (DIT) was established recently to spearhead and oversee the development, promotion, and standardization of IT in the country. The major IT future priorities and activities are:

Information Technology Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> IT used maximum potential to enhance efficiency and effectiveness of both the government and the private sector IT developed as an export industry <p>Strategies</p> <ul style="list-style-type: none"> Develop infrastructure Enact IT legislation Incorporate emerging technologies Develop software applications Promotion of e-government and e-business Implementation of e-commerce Train public/ private sector staff in IT Provide IT skill to students 	<p>Improved sharing of information</p> <p>Orderly development of IT sector</p> <p>Improved use of technology</p> <p>Sustainable growth of IT industry</p> <p>Improved efficiency of government and the private sector</p> <p>Increased trade</p> <p>Improved knowledge of IT among all government and private sector</p> <p>IT literate population</p> <p>(Main policy instruments: Bhutan IT Masterplan, IT Act)</p>	<p>2003</p> <p>2002</p> <p>2002</p> <p>onwards</p> <p>2003</p> <p>2002</p> <p>2004</p> <p>2001</p> <p>onwards</p> <p>2002</p> <p>onwards</p>

Box

Infrastructure Development

To promote electronic communication, all government agencies will be encouraged to establish internet connections and e-mail addresses. While few agencies have LAN connections, none are interconnected and this will be done through an establishment of a government wide intranet. At the district levels, LANs will be installed with the possibility that as Geog administrations develop and the need arises, IT facilities will also be extended.

Efforts will be made to reduce the cost of international internet access, improve reliability of international connections, and increase international bandwidth. To this end the construction of a fiber-optic link between Thimphu and Phuentsholing to connect up to the Indian is being actively considered as a fiber-optic link is cheaper and faster than a satellite connection.

Policy & Legislative Framework

As the Vision 2020 envisages, the first step towards developing IT capability in the country is to develop an IT strategy and Masterplan that acts as the guidelines for practically introducing IT in

the country. A broad IT strategy was developed in 1999, and is now being refined into a national IT Masterplan. The Masterplan is expected to be ready for government approval sometime in 20001. An IT Act, which will include legislation on e-commerce, cyber crimes, intellectual property, and digital signatures, will also be implemented in the future.

Research on Existing and Emerging Information Technologies

Research on existing and emerging technologies in software and hardware will provide the necessary tools for adoption of relevant and specific technology for the country. The ability to identify a select range of suitable technologies would further help in determining the specific training areas and thereby reduce skills and knowledge development costs, and contribute to the standardization of applications and platforms across the country.

Development of Software Applications

An indicator of the level of success in building in-country IT capacity will be the extent to which nationals are able to develop software applications. Measures will be taken to encourage national programmers to steadily increase their participation in the development of various applications and info-systems. To ensure consistency and uniformity in data systems across organizations, countrywide standards for data coding and software development will be developed.

Promotion of e-government and e-services

In order to improve efficiency in the government, DIT will promote the use of groupware solution at all levels of government. These solutions will use existing applications to improve intra-office communication, information sharing, and efficiency. All internal information of the government will be shared through a government-wide intranet. Eventually, the government will provide most of its information and services on-line through a central government web-portal. The public will be able to access government information and services through Internet cafes and IT kiosks located in public places, such as post offices, throughout the country.

Promotion of e-business and e-commerce

Businesses in the country will be encouraged to exploit IT to increase efficiency, stimulate e-commerce for increased exports and facilitate internal trade. The financial sector will eventually be fully computerized in order to take advantage of e-commerce opportunities.

Human Resource Development

Developing the country's IT capacity will be done through disseminating relevant IT skills and knowledge in the private and public sectors. Training, guidance, learning materials will be provided for the private sector with private IT training institutes receiving full support for establishing and updating IT occupational standards and professional certification systems. For IT professionals in the civil service, relevant career paths will be created and revised.

IT in education

To build a computer-literate society and a substantial base of IT professionals to sustain a future IT industry, computer education needs to start in schools. The Department of Education has a comprehensive plan for the computerization of all their institutions within a decade and resources are being mobilized for distribution of computers and necessary software in schools, colleges and institutions. The relevant computer education curriculum will also be adopted and constantly upgraded by the Department of Education and DIT. The government will encourage the use of tele-education to provide high-quality education throughout the country.

Department of Education envisages that by the end of basic level of education (class X), all students should be literate in basic computer applications. This would not only provide adequate skills for IT competency but also set up a baseline from which all specialized training in IT would be built upon. Later years of basic education (class IX and X) would offer optional courses in IT for students with interest and flair in this field. This group of students would make their careers in IT. Colleges would cater for specialized programmes in IT and develop themselves into centers of excellence. Such provisions would see the country with enough IT expertise not only for our national needs but also for international employment. Future of Bhutanese economy would not depend on heavy industries or exploitation of natural resources (hydropower aside). Human expertise, especially in IT should be developed as an exportable commodity to jack up our economy.

This vision of education is being turned into manageable strategies through a series and sequence of plan of actions as summarized below.

Short Term

Next five years will focus on computerization of tertiary education institutes and high schools. This is a priority target group as school leavers and graduates of tertiary institutes should be prepared for their immediate employment vis-à-vis IT.

Sherubtse College has made a good start. A computer centre and graduate programmes in IT are already in place. The college is training teachers to teach IT in schools during the school holidays.

The two teacher education institutes have neither adequate computers nor regular programmes in IT to enhance and diversify their teacher education curriculum. Department of Education plans to promote IT in the institutes whereby all graduating teachers would be proficient in IT. Teachers education programme would be diversified to include IT as an elective subjects for prospective teachers to specialize in. and to produce IT teachers.

The tertiary educational institutes' IT capacity and capability would be built to a level for them to exploit the technology in educational innovation. Tele-education would be suitable and affordable means for continuing education. For example, on-line support, using the Internet, would provide help for the distance education students of National Institute of Education. Presently, the rugged topography of the country is a big impediment to efficient exchange of ideas between students and institute

All high schools would be equipped with at least twenty computers each. The provision would position all high schools to offer computer literacy course and IT education to students. Eventually all high schools would be wired to the Internet. This would not only enhance efficiency of school administration but also be source of information for teachers and students

Mid Term

Within the next seven to eight years, all educational resource centers and junior high school, with electricity provisions, will be supplied with computers to teach computer literacy courses. Internet connectivity would provide access to information and exchange of ideas for the schools and centers.

Long Term

The next ten years should see all schools, including primary schools, in the country with computers. Computers and It are set to be the main tool at work places. Therefore, development of skills and knowledge of such tools as integral component of education across all levels will be a priority of education strategy.

The initial drive behind computerization of schools and educational institutes is the vocational-instrumental function of education. The country needs an IT literate society and work force. Schools and educational institutes are well placed to deliver that. In the end, IT in education would be integrated into teaching of school curricula. IT would, then, not only enhance the delivery of subject matter but also spice up school curriculum. Such provisions would better the quality of education.

Three decades of development activity has brought Bhutan out of isolation from global development, withstanding the harsh topography of the land and at the same time preserving and promoting culture and environment along the unique Bhutanese philosophy of living. Not promoting IT in society and IT in education in schools at the onset of the century would tantamount to isolating ourselves from the global IT development.

Education, reaching more than one in every six people at any time, should be the platform for immediate sensitization of IT. However, the rate of our plan of computerization and the expectation of the outcomes of our vision must be backed up by financial assistance. The government's input, large as it might appear, is not adequate to execute our plan

4.6.5 Human Settlements

The central development vision of gross national happiness is strongly linked to the quality of human habitat in both the urban and rural environments. With rapidly increasing urbanization and rural-urban migration trends across the country, urban development and housing issues in Bhutan have become pertinent and pressing, particularly in the last decade with rapidly increasing urbanization and rural-urban migration trends across the country. Many of these issues are cross-sectoral concerns and require a broad based strategic approach. Specific objectives and strategies are summarized in the following Box.

Human Settlements Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> • Achieve a balanced & sustainable development of human settlements • Provide basic infrastructure • Conservation of environmental character & culture • Provide affordable and climatically suitable housing for all • Improve access to potable water for rural and urban populations • Improve access to and use of safe sanitation • Improve accessibility to more remote areas <p>Strategies</p> <ul style="list-style-type: none"> • Review of existing master plans of city/municipal corporations • Development of regional growth centres & district towns • Formulation of legal framework & housing policy 	<i>Formulate growth center strategy</i>	2002
	<i>Completion of urban development plans for Thimphu, Phuentsholing, and other major towns</i>	2002
	<i>Access to potable water for</i> a) 80% of rural population b) 100% of urban population c) 90% of rural population	2002 2002 2007
	<i>Access to safe sanitation for</i> a) 75% of rural population b) 90% of rural population	2002 2007
	<i>Provision of electricity to</i> a) 50% of rural population b) 75% of urban population	2012 2020
	<i>Major policy instrument: Municipal Act & proposed Long term Human Settlement Development Master Plan (1999-2020)</i>	

Box 4.10

Future Priorities and Programmes

Decentralization

The immediate future priority is to devolve urban development functions to the various district municipalities. The Municipal Act will facilitate the transfer of powers and development of self-sustainable urban towns in managing their operation/maintenance costs. The Thimphu City Corporation has already been granted its municipal charter and full autonomy while the case for Phuentsholing City Corporation is under process. District towns will similarly be granted limited municipal charters at the appropriate time.

Human Settlement Strategy

Regionally balanced growth is an important priority. The prevailing concern is to avoid over concentration of development activities in and around two major towns of Thimphu and Phuentsholing. To this end, twelve other regional towns have been identified for development activities. Such measures however are largely *ad hoc* and a great need has been felt for the development of a comprehensive and long term (1999-2020) Human Settlements Master Plan/Strategy, for providing the required framework for future investments and planned development in selected urban centres and secondary towns.

Cost Recovery

User charges for urban water supply have been implemented in six towns to help the respective municipalities meet their operational and maintenance costs. Eleven other district towns will

similarly implement a cost recovery mechanism for water supply, and the municipal act will empower the local authorities to set their own tariff in order to achieve operational sustainability.

Housing

There has been an acute shortage of affordable housing for low-income groups and the government has addressed this situation by approving the construction of 300 units in Thimphu and 50 units in Phuentsholing. In addition, a National Housing Policy, which is in the process of being finalized, will form a sound basis to initiate a housing construction development process that will provide affordable housing for all in the long run. A corollary priority will be to conduct research on the development of appropriate construction materials for different types of buildings as well as of traditional architectural guidelines.

Capacity Building/Institutional Strengthening

Under the Urban Sector Programme Support (USPS), specific training for urban sector institutions will be implemented in addition to providing support to various training institutes to maintain a steady supply of qualified and skilled manpower. The training needs analysis for the sector has particularly identified the need for skills development and upgradation of skill levels for semi-skilled and skilled technicians in construction, operation and maintenance of water supply, sewerage/sanitation and solid waste handling. The USPS will also assist in the institutional strengthening of cities and towns that have been granted full or limited municipal charters, in the areas of urban management, physical planning and technical services.

4.6.6 Social Sectors

The ultimate development vision of gross national happiness is to be achieved partly through the promotion and implementation of policies and programmes that aim at expanding human potential, opportunities, choices and well-being of all people. The strategic human development mission would not only involve enhancing income and employment generating activities but also improving access to and quality of education, health care, water and sanitation.

Significant achievements have been made in bringing social services to the population during the last decade but there is still much to be done and future achievements will come at an ever increasing cost, particularly due to the demographic age structure. Social services at some future point will have to incorporate some element of cost sharing. However, these will not be based only on market forces or service recipients' ability to pay, but it must take into account their needs, especially for disadvantaged or low-income groups. The reduction of the population growth rates has a significant bearing on the future sustainability of social services.

The detailed objectives and strategies of the various social sub sectors are treated in the following sections.

4.6.7 Health

The long-term objective of the health services is to improve the quality of life by promoting the health of the population and providing better health care in the spirit of social justice and equity.

Objectives & Strategies	Performance Indicators	Time Frame
<p>Long Term Broad Objective</p> <p><i>Promote the health of the population to enhance the quality of life in the spirit of social justice and equity.</i></p> <p>Objectives</p> <ul style="list-style-type: none"> • <i>Increase access to health services & service Utilization</i> • <i>Improve efficiency in and quality of health services</i> • <i>Promote sustainability in health sector through population planning, community participation and resource mobilization</i> <p>Core Strategy</p> <ul style="list-style-type: none"> • <i>To focus on delivery, expansion and quality of Primary Health Care</i> 	Reduce population growth to: -- 2.08% per annum -- 1.63% per annum -- 1.31 % per annum	2002 2007 2012
	(Main policy instruments: Royal Decree of Population, 1995 and the proposed National Population Policy) <i>Introduction of Tele-medicine</i>	2002
	<i>Reduce IMR, MMR, Under 5 MR, to current average for all Developing Countries (DCs)</i>	2007
	<i>Achieve current average doctor/ population for all DCs.</i>	2007
	<i>Increase Life Expectancy to current average for all DCs</i>	2012
	<i>Introduction of an operational system of private health care</i> (Main policy instruments: Health Trust Fund & Health Sector Master Plan)	2007

Box 4.11

The six specific priority and strategic areas for the health sector for the next decade or so identified by the government are explained in the following section.

Future Priority Areas in the Health Sector

Increasing Coverage

Despite an extensive coverage of primary health care estimated to cover 90% of the population, there is the need to expand and extend health services to those population still unreached. An important challenge and priority for the future therefore is to make health services more accessible to people living in the remotest areas through the establishment of more outreach clinics. Priority will also be given to the development of satellite clinics to increase *de facto* coverage of those groups that may have physical access to out reach clinics but are not availing of health services and may not be benefiting from traditional health promotion activities.

Utilizing the Potential of Information Technology

The RGoB will make the most use of IT for the management of the health sector and its service delivery. The adoption of IT in combination with a revised and new Health Management Information System (HMIS)¹⁷ is expected to improve monitoring and evaluation of the health sector, thereby contributing to its better overall management. The development of linkages and the usage of internet, intranet, and e-mail between most health agencies in the country is

¹⁷ A team is currently working on development of an appropriate HMIS that will allow increased data quality and increased ease and speed of analysis and feedback.

expected to enable prompt flows of information, and data collection, feedback, etc. Efforts will also be made to equip most BHUs in rural areas with telephones to improve communications.

Telemedicine is another priority and seems particularly promising for a country of the small and dispersed nature of its population with a high shortage of specialists. As establishing many specialized centres is not viable, Telemedicine made possible through IT would enable the flow of specialized services and support to the periphery. To explore the possibilities of utilizing telemedicine on a wider basis, a pilot project linking Mongar Hospital to the Jigme Dorji Wangchuk National Referral Hospital was started in November 2000. Similar efforts in the future will be made to link the main referral hospital in Thimphu to the other hospitals around the country.

Improving the Quality of Service

An important future and immediate priority is to improve the professional quality of and efficiency in health services. The draft Bhutan Health and Medical Council Act is expected to be enacted soon, and will be the main policy instrument for ensuring the proper standardization of professional competence, and the provision of high quality services. The education and upgrading of professional skills of health workers, therefore assumes importance. Pre and in-service trainings and integrated refresher courses are some of the priority focus areas that will help maintain and develop the skills to ensure good quality health care.

Quality assurance in health services will be effected by strengthening the monitoring and supervision systems and the public health regulations. The development and enforcement of the public health regulations will also ensure the qualitative delivery of health services by the private sector as and when this occurs in the future. The public health regulations will also effectively deal with issues of substance abuse and other public health issues. An important aspect of improving the quality of health services will entail the priority task of improving laboratory services, i.e. upgraded diagnostic facilities, and increased availability of **human resources**.

Traditional Medicine and Modern Health Services

Traditional Bhutanese medicine has proven its relevance and the RGoB is keen to complete establishment of indigenous units in all district hospitals. Initiatives to harmonize and utilize traditional medicine in tandem with modern health care will be strengthened as such linkages would not only broaden the range of health services available to the public, but also improve the utilization and quality of care.

Non-Communicable Diseases

While infectious diseases remain the major focus area for the health sector, non-communicable diseases has emerged and have put pressure on the public health care expenditures. This is because many patients suffering non-communicable diseases have been treated outside of the country. Reducing the incidence of non-communicable diseases and strengthening the preventive and curative capacities at all levels therefore will be an important future priority.

Research and Development

Research and information gathering, which are essential for effective management of health care, bring forth significant impact on improving health programmes, interventions, and the quality and efficiency of health care services. Research on relevant issues such as on sustainability on

health services, appropriateness of new technologies and treatment strategies, etc. provide a valuable basis to improve the health care standards and system, and the quality of life of the people.

Institutional strengthening and Capacity Building

Lack of human resources, both in numbers and quality, has been a major constraint for Bhutan's health development. Other than the Royal Institute of Health Services that trains nurses and primary health care workers, Bhutan is fully reliant on external institutions for the education and training of doctors and higher level medical professionals. Given the lack of resources and the limited availability of placements in (the) regional institutes, there is a shortage of higher level medical/specialized professionals that affects the delivery and quality of health services.

Appropriate training at all levels, particularly at higher levels, are therefore important priorities. The RGoB has worked with donors in developing partnerships, associations and linkages with the regional centres of health education. This will continue to be an important focus in the institutional strengthening and capacity building process.

The Health Trust Fund

A highly relevant issue to the above framework of priority areas for the Health sector is that of the future sustainability of health care in the country, particularly with regard to the most critical components of primary health care. The procurement cost of vaccines, essential drugs, syringes and related paraphernalia already comprise nearly 50% of total national health expenditures and given that recurrent expenditures are expected to increase significantly due to demographic factors, the future sustainability of health care is a high priority issue.

The RGoB has established a Health Trust Fund to ensure the availability of a permanent source of fund to meet the cost of highest priority health care service. This Fund is expected to have full capitalization at US \$ 24 million (with the Government subscribing upto US \$ 12 million on a one-to-one matching basis) and with contributions to the fund now at US \$ 9 million, it will be operational by the beginning of 2001. The income generated from the fund will be used to purchase the most essential vaccines and medicines required for the hospitals and BHUs in the country. The operationalization of the Health Trust Fund therefore represents an important activity that will help achieve an equitable and sustainable primary health care system.

4.6.8 Education

Education, viewed as one of the most crucial and critical investment in human development is not only an end in itself but also an important means for fulfilling the overall national aspirations. Advocating the philosophy that the cost of ignorance in the future will far outweigh the cost of education, the RGoB has invested heavily in free education and achieved considerable progress.

Objectives & Strategies	Performance Indicators	Time Frame
<p>Objectives</p> <ul style="list-style-type: none"> • Increase enrollment & meet goals of Education for All • Increase basic education level from Class VI to VIII • Improve relevance & quality of education at all levels • Making education system sustainable and cost effective • Improve technical and vocational education • Enhance literacy rates through alternative education • Create and provide educational opportunities for the disabled & disadvantaged <p>Strategies</p> <ul style="list-style-type: none"> • Increase numbers of primary schools; upgrade selected primary schools to Jr. High schools and Jr. High Schools to High Schools. • Strengthen curricula relevant to national needs and Introduce value and moral education • Introduce/strengthen components of curriculum related to agriculture, life and vocational skills at all levels • Enhance the number and quality of teachers • Enhance educational facilities and services (guidance & counseling) in schools • Establish education programmes for the disabled with focus on developing appropriate occupational skills • Improve and expand non-formal education programs 	Achieve universal primary school enrollment	2002
	Establish Deothang Engineering College	2002
	Achieve full enrollment at Class VIII (Jr.High)	2007
	Achieve Full enrollment at ClassX(High School)	2012
	Implement Full Bhutanisation of curricula for	–
	a) primary schools ¹⁸	2007
	b) secondary schools	2007
	Introduce operational distance Education program	2007
	Establish a national university	2007
	Achieve adult literacy rate of all DCs	2017

Box 4.12

Priorities and Programmes for the Education Sector

Raising Education Level

The RGoB will enhance basic education level from Class VIII to Class X beginning 2002. This will require sizeable infrastructural investment and inovate methods in organizing education using newly available technology, including IT. Providing boarding facilities will help achieve this priority to enhance basic education level and for this, continued food assistance is essential. All of these projected activities will be made possible only with substantial donor funding.

Raising Quality of Education

The objective of raising the quality of education will be addressed through increasing teaching staff, providing incentives for the teaching cadre, and enhancing the competence, knowledge and skills of teachers. The existing range of curriculum will also be expanded to include specific relevant basic skills such as in computing and some degree of proficiency in use of IT, etc. that would make education more directly relevant to employment opportunities and scope. To implement these would require an expansion of teaching staff, physical facilities, learning resources such as libraries and laboratories, etc. in nearly every school.

¹⁸ Full Bhutanization of curricula for primary schools is almost complete.

Early Childhood Care and Development (ECCD)

The RGoB intends to develop Early Childhood Care and Development Programme(s) that will require a cross-sectoral approach involving the various social sector delivery agencies and institutions. A unit under the Education Department is being considered that will look into the development of relevant policies, strategic programming, etc. towards implementing ECD programmes in the country. The process would involve drawing on traditional wisdom and practices and integrating them with modern counterparts. Donor funding is sought to help develop the necessary professional expertise to spearhead the development of appropriate policies and programmes for the ECD in Bhutan.

Primary Schools

The main thrust at the primary level will be to increase the number of community primary schools, for which support will be required in providing for materials that are not locally available. Donor support will also be essential for enhancing learning resources such as libraries and resource centres and for providing multi-grade training and relevant training exposure for teachers outside the country.

Higher Education

The development of higher education is expected to be centered around the establishment of a National University by the end of the 9th FYP in 2007. The University itself will be a federation of existing learning that will comprise the faculties. Some of the institutions will require upgrading to degree awarding status and others need to be further strengthened. The establishment of a national university will therefore require necessary improvements of the physical facilities and human and learning resources.

Non-Formal and Adult Literacy

Non formal learning and adult literacy programmes will be expanded, utilizing to the greatest extent possible, available resources from within the formal education system including teachers and classrooms. Such programs also allow for imparting knowledge on childcare and development to participants, most of who are women, and thereby contributing to children's health and nutritional status. In addition to expanding basic and post-literacy programmes, there is an urgent need to develop more post-literacy materials for the neo-literates and expand learning centres to give further impetus to the literacy programme. Donor support towards establishing literacy centres around the country and the development and production of post-literacy materials will be essential.

Human Resource Development

HRD for the education sector will remain a major priority area. Ongoing efforts to establish in-country training programme for teachers and educators will be further strengthened. This must necessarily be supplemented by providing overseas educational opportunities for teachers, educators, school administrators and supervisors etc. A Human Resource Master Plan for the sector is currently being drafted.

4.7 Human Resource Development

Two critical and inter-related issues in Bhutan in the PoA period will be the employment generation and enhancement of the employability of the educated Bhutanese workforce. With modest estimations of jobs being required at some 267,000 jobs by 2017, it is a serious challenge

that looms large. Paradoxically, a dire shortage for technical and skilled human resources in virtually every sector entails the need for human resources strengthening as a major priority.

Human Resource Development, therefore, is considered particularly crucial in making the Bhutanese youth employable, and so most of the priorities and HRD-related programmes are directly or indirectly linked to generating gainful employment opportunities, developing relevant occupational skills, and thereby matching supply and demand in the labor market.

Objectives & Strategies	Performance Indicators	Time Frame
<p>Broad HRD Objectives¹⁹</p> <ul style="list-style-type: none"> • <i>Complement national economic development by providing trained manpower</i> • <i>Strengthen institutional capacities for human resource Management in public and private sectors</i> • <i>Elaborate the cadre system to rationalize manpower planning and Career counseling</i> • <i>Strengthen manpower planning to avoid mismatch between job Vacancies and skills</i> • <i>Consolidate & further strengthen in-country training programmes</i> • <i>Emphasize technical and vocational trainings</i> <p>HRD Strategies</p> <ul style="list-style-type: none"> • <i>Develop a manpower planning system that can project personnel requirements to ensure manpower needs and resources required are integrated into the overall economic planning process</i> • <i>HRD programmes to be based on a Master Plan, prepared on an integrated and inter-sectoral basis and which will take into account present and future needs for skilled manpower</i> • <i>Training needs of the private sector will be a priority.</i> • <i>Identify Shortfalls and constraints in labour availability</i> • <i>Develop relevant labor legislation</i> 	<p><i>Establishment of independent unit for manpower planning</i></p> <p><i>Fully developed capacity of RIM for in-country management training</i></p> <p>Main Policy Instrument: HRD Master Plan Long Term Manpower Development Plan (proposed)</p>	<p>2002</p> <p>2007</p>

Future HRD Priorities and Programmes

Labor Market Information System

A serious problem in the Bhutanese labor market as elaborated in Chapter 3 is the mismatch between demand and supply of labor. Many educated but unskilled youth come into a job market, and the latter requires and can absorb many but mostly skilled and technical ones. An effective labor market information system could help resolve future mismatches between the demand and supply for skilled human resources. A comprehensive system that undertakes diagnosis of labor market conditions, employment, and vocational counseling, will be instituted for effective and efficient utilization of available human resources.

¹⁹ *The various sector's have their own more sector specific HRD objectives*

Diversified Skills Development Programme

The creation of a flexible and broad based productive capacity and workforce through diversified and multi-skills development will be essential for Bhutan in the era of globalization with rapid changes that require quick reflexes and ability to adjust to external and local markets and new emerging economic opportunities.

Self-employment Programme

Programmes of self-employment must be promoted for creating gainful employment for the large number of school leavers. These programmes, it is observed, can be effective only when concessional credit together with training on specific basic skills and knowledge on business management, accounting, etc, is made available to young entrepreneurs to start up ventures. Therefore, various in-country entrepreneurial and vocational programmes undertaken by the government will be reinforced along with providing concessional loans through the financial institutions.

Rural Based and Informal Sector Employment Opportunities

While current HRD programmes are directed to the formal sectors, the objective of imparting relevant skills for self-employment, employment in rural areas and in the informal sector are to be taken up.

4.8 Culture and Heritage

Bhutan's cultural heritage has served as a powerful, unifying and integrating factor of harmony, social cohesiveness, and happiness. It has enabled the Bhutanese society to adjust to, cope with the process of rapid modernization, and internalize change within tradition.

Objectives & Strategies	Performance Indicators	Time Frame
Strategic Objectives <ul style="list-style-type: none">• To consolidate & strengthen “Ka-Nying Zung Dre²⁰” spiritual traditions• Promote driglam choesum and its relevance to contemporary life• Renovate 2,000 ancient monasteries and temples• Preparation of an inventory & photographic documentation of cultural artifacts and monuments• Strengthen cultural institutions & centres, and build a new integrated cultural centre• Promote culture through, publications, cultural activities, seminars and workshops• Promote harmony between Buddhism and Hinduism in the country• Promote the national language of Dzongkha	<i>Establishment of a Cultural Trust Fund</i>	1999
	<i>Preparation of a construction code</i>	2002
	<i>Preparation of a Culture & Heritage Act that will evolve as a major policy/ legal instrument</i>	2007

Box

²⁰ *Harmonized tradition of Kagyue and Nyingma sect of Vajrayana Buddhism*

Future Priorities for Culture and Heritage

Conservation and Promotion of Culture and Heritage

- i) Inventory and Documentation of Bhutan's Cultural Heritage: Bhutan's cultural heritage that encompasses historical sites, architecture, artifacts, traditional arts and crafts and folklore, has yet to be fully inventoried and documented. While activities have already begun, much more needs to be done for its full and comprehensive inventory and documentation.
- ii) Legislation: Proper and relevant legislation and guidelines will be enacted towards conserving and safeguarding the cultural heritage, to fill the lacuna of relevant legislation or comparative legal instruments. This will be partly addressed through the enactment of a Culture and Heritage Act in the near future that would elaborate the specific objectives, priorities, responsibilities of the different institutions, and mechanisms for cultural conservation, protection and promotion.
- iii) Promotion of Cultural Activities will be carried out through cultural activities in schools, preparation of suitable educational material, production of films and audio-visual programmes for TV and radios. Libraries and museums, both existing and new ones are to be supported.
- iv) Establishment of the Cultural Centre: The establishment of an integrated Cultural Centre is a priority activity and the institution is expected to develop into the focal point for the promotion of culture in the country.

Strengthening Cultural Institutions

Capacity strengthening of cultural institutions and centres such as the Royal Academy of Performing Arts, the Institute of Zorig Chusum (*the School of 13 Arts and Crafts*) and the National museum will be carried out through the decade.

Promotion of Dzongkha

The efforts to conserve and promote the cultural heritage must be linked with the promotion of the national and common language, Dzongkha, that has been a powerful unifying and integrating force for the country. The promotion of Dzongkha language co-ordinated by the Dzongkhag Development Commission, will be done through developing user friendly grammar, encouraging writers, researchers, essayists, translators and supporting film productions and language development activities through recognition awards, etc. The formation of A Royal Society for Promotion of Dzongkha is also expected to further strengthen language promotion activities.

Establishment of a Cultural Trust Fund

An initiative that has been started towards mobilizing resources for Culture and Heritage promotion and preservation activities has been the establishment of the Cultural Trust Fund. The Fund seeks to build a capital of US \$ 10 million through contributions and donations, the income from which will be used for preserving and promoting the cultural heritage of the country.

General Public Services

The area of general public services encompasses the activities of institutions/agencies such as the Judiciary, the Royal Audit Authority, the Ministry of Foreign Affairs, the Ministry of Finance, the Ministry of Planning, the Ministry of Home Affairs, the Bhutan Olympic Committees, the National Environment Commission, the Royal Civil Service Commission, the Royal Monetary Authority, the Royal Institute of Management, etc. These agencies and institutions are engaged in specific legal, diplomatic, financial or bureaucratic/ governance functions and are involved in

formulating and implementing policies and in managing the development process. They also provide support functions for these sectoral development activities described in the preceding sections of this document.

While the broad objectives and strategies are outlined in Box 4.3.2, the future priorities and programmes related to the individual agencies are treated specifically in the following sections.

Objectives & Strategies	Performance Indicators	Time Frame
<p>Broad Objectives</p> <ul style="list-style-type: none"> • Enhance efficiency, effectiveness and transparency in carrying out the functions and duties of the respective government agencies/ministries • Contain government’s budget within manageable limits <p>Broad Strategies</p> <ul style="list-style-type: none"> • Continued development of human resources in the general public services • Strengthen capacity building in the general public services in a cost-effective manner • Strengthening co-ordination in formulation and enforcement of rules, regulations and procedures, within the various entities in the RGoB • Decentralization and people’s participation 	<p><i>Establishment of a Monitoring & Evaluation system</i></p>	<p>2002</p>
	<p><i>Revision of decentralization guidelines</i></p>	<p>2002</p>
	<p><i>Enhanced capacity of DYT’s and GYT’s to prepare own plans</i></p>	<p>2005</p>
	<p><i>Operationalize local development funds in 100 Geogs</i></p>	<p>2007</p>
<p><i>Operationalize local development funds in all Geogs</i></p>	<p>2012</p>	

Box ...

4.9 General Public Services Priorities

The Judiciary

The Bhutanese Judiciary, an important and vital institution of governance, has emerged from the traditional system of law and jurisprudence in the country and is still dynamically evolving in response to its development needs. Relevant modern legal procedures and principles of criminal justice that can enrich the legal system are and will be incorporated on a continual basis. As maintaining the judiciary’s independence and integrity is an important national priority, strengthening of the capacity and mechanisms of the law is essential to this end.

Human Resource Development

HRD through relevant in country and external trainings and courses is critical for enhancing the highest degree of professionalism in the judiciary. As the emergence of a well qualified and educated cadre of judges and legal personnel would also help improve the judicial system and the dispensation of justice, the Judiciary is exploring the possibilities of sending its graduates for advanced post-graduate studies in law in Europe and America. In an age of Information Technology, the creation of an information management system is also expected to help quicken

the process and administration of justice, which would require the development of relevant skills and knowledge of the judiciary to effectively utilize and manage such systems.

Infrastructure Development

As the present Thrimkhangs (courts) are severely suffering from space constraint, and have to cope with numerous and ever increasing number of legal cases, the Judiciary urgently requires more courts rooms and and equipment.

Department of Legal Affairs

The Department of Legal Affairs (DLA) is an autonomous agency established in 2000 on the recommendation of the special task force for restructuring the government. The DLA may become the Ministry of Law and Justice in the future and, one of its units, the prosecution unit may also develop into the Attorney General's Office.

Functionally, the DLA's prosecution unit would prosecute offenders on behalf of the RGoB, while the legal services unit would uphold and advance the cause of human rights of Bhutanese as enshrined in the *Thrimshung Chenmo (Supreme Laws)*; assist the government in drafting/ revising legal regulatory frameworks; develop the legal profession and capacity; and generate public awareness on legal issues.

As the DLA is a new agency, its various startup programmes and activities requires donor support. Its immediate priority activity is to develop its institutional capacity by setting up of an extensive legal library for reference and research, as well by HRD. The latter would involve training personnel in legal studies, by means of the education/training and study tours for legal specialists.

Royal Audit Authority

The Royal Audit Authority (RAA) is an autonomous agency that audits the accounts of the government ministries and agencies, departments, district administrations, autonomous and semi-autonomous organizations and donor assisted and special projects. Its primary function is to ensure, ascertain and evaluate that resources are utilized in compliance with the proper financial norms, rules and regulations and to recommend necessary improvements in the system. By its mandate, the RAA is required to audit every agency once in every two years but this has been difficult given its financial and human resources constraints. The future priorities of the RAA and its activities will focus on the following:

- *instituting a value for money and environmental auditing capability within the organization;*
- *develop an accounting and auditing standards so as to improve the government's internal financial control and accounting systems;*
- *improving co-ordination and networking within and with other organizations to improve information flow and make the auditing planning and processes more efficient;*
- *enhancing the legal framework, such as the Prevention of Corruption Act and Auditor General's Act; and*
- *further develop human resources and IT capabilities within the RAA, to facilitate the implementation of the above priority activities.*

Department of Budget and Accounts

The Department of Budget and Accounts is responsible for the government's annual budgeting and financial management. Its basic objectives are to improve and streamline its budgetary and accounting functions and to strengthen financial control and accountability. To effectively achieve these objectives, the following priority programmes have been identified:

Electronic Budgeting, Release and Accounting of Government Budget

The special task force on the restructuring of the government has recommended that the department introduce a fully computerized system for processing, approval, and execution of the national budget. Such a system should include a high capacity to access, exchange and transmit accounting information electronically. The development of such a system is expected to enhance efficiency and transparency in government financial operations. The proposed project also includes training of staff in operating and utilizing the systems.

Institutional Strengthening of the DBA

Towards the institutional strengthening of the DBA, training courses are required in the area of rolling budget mechanism, resources and public expenditure management, standardization, and analysis in over all budget performance.

Strengthening the Budget Monitoring/ Evaluation and Control of Expenditure

A new division has been created as a mechanism to strengthen the budget monitoring/evaluation and control of expenditure. Its function is to monitor and verify all capital or emergency works executed by the various agencies. To fulfill this properly, the new division must undertake extensive travelling and preparation of detailed reports, all of which require more vehicles for increased mobility and relevant equipment for site verification. The personnel involved also need to develop the required skills for proper monitoring and evaluation.

Department of Revenue and Customs

The Department of Revenue and Customs is responsible for not only the management and administration of national revenue, but also the formulation and implementation of tax, customs rules and regulations. Its broad future objective is to enhance revenue collection through a broadening of the tax base and the improvements in revenue administration and increased compliance of taxpayers. The major priorities of the department are as follows:

Tax Administration

Tax legislation is being strengthened through amendments to the existing drafts on two specific Acts for Direct and Indirect Taxes that formally provide a legal basis to prevailing tax policies. A proposal for *Personal Income Tax* (PIT) is currently under deliberation by the National Assembly for approval but much of the groundwork related to instituting it is already in place such as public education on PIT and the installation of a computerized PIT prototype system. *Bhutan Sales Tax* (BST) for third country import has also been introduced as a means of broadening the tax base that should contribute to increasing the government's resource generating capacity.

Customs & Excise

The existing Trade Information System (TIS) and Third Country Import System (TCIS) are being integrated into the *Bhutan Automated Customs System* (BCS) and its introduction by 2001 will ensure quicker delivery of goods, streamline and modernize the country's custom process. This is expected to ultimately result in duty/custom payments into banks through the automated system facilitating a "queue-less and cash-less system." A few of the other customs and excise priority activities will be to simplify and streamline the information licensing procedures for private clearing agents, revise the sales tax and customs duty tariff and corporatize/privatize the duty free franchise. The RGoB is also actively considering accession to the World Customs Organization (WCO).

Computerization

Once fully developed and operationalized, various customs information management systems such as the PIT, TIS, TCIS, and Informational Management System will greatly improve the efficiency of the tax administration services. They will also function as an info-resource base for planning, assessments and making more realistic revenue forecasts.

Tax Education Programmes

Tax education and awareness programmes are an important tool towards broadening the tax base as they promote a sense of compliance among taxpayers. These campaigns have so far been carried out through inserts in Kuensel, radio and video programmes and tax jingles.

Royal Monetary Authority

The Royal Monetary Authority (RMA) is responsible for monetary policy, issuing currency notes, the management of the country's reserves and supervision of the banks and financial institutions.

The RMA's monetary policies during the PoA period will involve maintaining price stability through the established exchange rate link with the Indian Rupee and, the management of money supply. Sterilization of excess liquidity in the financial markets will be major monetary issues that will be managed through the various available instruments such as the RMA discount bills and treasury bonds. The future priorities for the RMA include strengthening of the financial sector through the following priority programmes and activities.

Strengthening of Legal Framework

The strengthening of the legal framework for the banking sector is essential for facilitating the enforcement of financial contracts, loan recovery and realization of collateral. Various acts such as the Moveable and Immovable Property Act and the Bankruptcy Act have already been promulgated and the RMA has to work closely with the judicial system to implement the laws for the enforcement of economic rights and obligations. In addition the RMA will draft an Insurance Act, and in due course revise existing legislation such as the Financial Institutions Act and the RMA Act where necessary.

Strengthening of Payments and Clearing System

There is only a single clearinghouse in the country for local cheques. Given the need to develop banking culture and increase confidence in the utilization of cheques, of the establishment of additional clearing houses to other parts of the country is a priority programme.

Setting up a Credit Information Bureau

Presently, the loan approval process involves obtaining information from each of the financial institutions for a detailed credit history of the loan applicant. The establishment of a Credit Information Bureau as a priority programme would help streamline and expedite the loan approval process. The Credit Information Bureau would thus make a loan application process more efficient and effective.

Strengthening of Royal Securities Exchange of Bhutan

The RSEB established in 1993 has provided a small capital market and has been useful in the divestment of government holdings to private investors. However, the exchange is still very much in its infancy and needs to be further developed. At the same time, the RSEB must educate the public about its role and use of the exchange in the economy.

Rural Credit Programme

The Bhutan Development Finance Corporation (BDFC) is a non-bank financial institution with the prime responsibility of managing and promoting the micro rural credit programme. The BDFC is also engaged in commercial/industrial lending that sustains largely the rural credit programmes that have high operational costs. As a non-bank it cannot raise funds from the public and relies on government grants and external assistance.

Therefore, the role and implementation of rural credit programmes by the BDFC must be reviewed and possibilities of raising additional resources and lending activities must be considered. What is necessary is a policy decision on the restructuring of the BDFC as to whether the institution should focus simply on micro-financing or expand into more commercial and investment banking activities.

Information Technology in the Financial Sector

The present IT capacity base and resources within the financial sector are inadequate and the sector is overly reliant on manual systems and procedures, there is an urgent need to strengthen and enhance the financial system operations through a modern, harmonized and properly networked, user-friendly IT system. The RMA envisages the future introduction of a common platform for the IT bases of all financial institutions to standardize accounting systems, interest calculations, and data reporting which would contribute to reliable, prudent and efficient supervision of the sector and the compilation of monetary statistics.

4.10 Financing Development

4.10.1 Aid Policy and Management

The government's goal has always been the achievement of self-reliance. While the government has accomplished much in this regard, domestic resources are greatly inadequate to meet the expanding development needs of the country. The principal reasons for the financial difficulties include a limited tax base, low level of public savings, and the cautious approach to the exploitation of natural resources. The difficult terrain and landlocked nature also add to the high unit costs of development. The rising recurrent costs of development plans, particularly in the social sectors, have easily absorbed the increase in domestic revenue generation. With a growing and young population, the demands on the health and education system will severely stretch domestic resources even further in the coming decades.

While the country is still addressing these challenges and consolidating the achievements, it has made so far, the government is clearly in the need of development aid from the international community. Bhutan's aid requirements, as in the past decade, will be mostly in project and programme assistance. Development capital assistance will be critical for the implementation of various development projects planned for the PoA decade to maintain the level of capital investment as in the past. While the recurrent costs of the development projects are expected to be largely met from domestic revenues, due to the rapidly expanding social sector expenditures, 10% of donor capital assistance would be needed for budgetary support for the recurrent costs generated by the various development activities. Technical Assistance (TA) will also be sought in view of the shortage of professional expertise in the country and towards helping developing and strengthening local capacity.

Much of the aid that Bhutan has received has been in the form of grants and the rest in concessional loans with a high grant element. As the government is concerned about incurring unrepayable future liabilities, it hopes that most of the aid will continue to be in grants with a smaller portion in highly concessional loans.

With regard to the country's debt policy, the government intends to keep its borrowing comfortably within its' capacity to service debts and firmly avoids loans not meant for development purposes. Each loan is also subjected strictly to various evaluation and appraisal procedures, taking into account its grant component, repayment schedules, debt servicing capacity, foreign exchange risks, costs tied to procurement, rate of economic return, etc. It has also been deemed that loan finance may be best suited for commercially viable projects such as in industries and hydropower, which have their own revenue generating capacity to service their loans. Towards the maximum utilization and effective management of aid, the government has worked with donors on directing their external assistance on fewer and selective sectors where donor experience and expertise was more relevant. Obviously, external assistance funds should be utilized more efficiently by avoiding unnecessary overlap and duplication.

While there are a number of Departments/Ministries in the Royal Government involved in managing and co-ordinating aid, such as the Planning Commission Secretariat, the Ministry of Foreign Affairs, and the various line Ministries, the ultimate and overall responsibility and day to day operations for aid and debt management lies with the Department of Debt and Aid Management (DADM), Ministry of Finance. DADM is therefore the authorized focal point for aid donors in their dealings with official dealings with the RGoB. Significant efforts have been made and will continue to be made towards strengthening and streamlining aid co-ordination for the effective delivery of aid.

With the trend towards national ownership of development projects, aid projects and activities are increasingly being executed under national management. To implement development projects effectively for such nationally executed projects, the RGoB has developed the National Execution Manual (NEX), which provides an operative framework and guidelines for project management. In the 1990s, the RGoB also established the Policy and Planning Divisions (PPD) within each Ministry that were not only responsible for sectoral policy and planning but also responsible for their sectoral aid projects and activities. The PPDs of the various line ministries have strong working links with the DADM, which has improved aid co-ordination to a great extent.