

CHAPTER 1: BACKGROUND

Introduction

Bhutan is a small Himalayan kingdom situated between China and India. A conscious policy of isolation complemented by formidable geographical barriers enabled the kingdom to maintain its independence throughout its history. Ancient stone implements and other archaeological findings indicate that there were settlements in the country dating back to 2000 B.C. The chronicled history of the kingdom, however, begins with the advent of Buddhism in the 8th Century.

In 747 A.D. the Buddhist sage, Padmasambhava, popularly revered in Bhutan as *Guru Rimpoche* or the Precious Master, visited the country and introduced Buddhism. Since then, Buddhism has occupied a predominant role in shaping the social, political, economic and cultural evolution of the country. In the centuries that followed, various *Lamas* or Buddhist teachers and local nobility established their own separate domains throughout the country.

In the 17th Century, Zhabdrung Ngawang Namgyal (1594-1652), a leader of the *Drukpa Kargyu* school of Buddhism consolidated the country under a unified power and established the *Chhoesi* or dual system of the Royal Government, whereby both the temporal and religious authority were separated and vested in the *Druk Desi* and *Je Khenpo* respectively. By the end of the 17th century, the country emerged with a distinct national and cultural identity as well as an unprecedented degree of political stability.

By the second half of the 18th century, the country witnessed a resurgence of political instability. The unity of the country was affected by internal dissent. External threats in the latter half of the 19th century added a new dimension to the political quandary. It was against this background that the need for strong national leadership emerged. Peace and stability was restored with the enthronement of His Majesty King Ugyen Wangchuck as the first hereditary monarch of the kingdom in 1907. The establishment of the monarchy ushered in a new era of peace and stability and most significantly unified the country under a central authority. It also set in motion a steady process of engagement with the outside world and laid the foundations for the country as a modern nation state.

During the reign of the second King, His Majesty Jigme Wangchuck (1926-1952), the country took its first steps towards modernization by sponsoring a program of education and training of Bhutanese abroad. The third King, His Majesty Jigme Dorji Wangchuck (1952-1972) instituted far-reaching political, social and economic reforms. He instituted the National Assembly, the High Court, the Royal Advisory Council and a system of Government which would be responsive to the social and economic needs of the country. He started the planned development process in 1961. He also guided Bhutan to membership in the UN in 1971, ensuring the kingdom a place in the international community.

Since his coronation in 1974, His Majesty Jigme Singye Wangchuck, the present king has dedicated himself to defining and realizing a long-term vision and direction for the country. He promoted an approach of development which calls for careful balance between creation of material wealth and the spiritual, cultural and social needs of the society. He set up a system of Government which is responsive to the political, social and development needs of the country. The functions of state were clearly defined and divided among the various organs of governance. He also pursued a process of democratization and involvement of the people in their own affairs from the national to the community level. His Majesty's philosophy and approach have been clearly established and increasingly been recognized, enhancing the country's identity and role in the international community.

Geography

Bhutan has a land area of 38,394 square kilometres bordered by Tibetan autonomous region of China in the north and by India in the south. The country is not only landlocked but has one of the most formidable mountainous terrains in the world, ranging from 100 metres to 7,500 metres in height. The climatic conditions vary due to the mountainous nature of the country. The country is subject to the monsoon rain in summer, with a relatively dry winter. About 72 percent of the land area is covered by forests of temperate and sub-tropical species that are a natural habitat of a diversity of flora and fauna. The country has one of the richest biodiversity in the world with about 3,281 plant species per 10,000 square kilometres and has been declared as part of one of the ten global biodiversity 'hotspots'.

The country is also endowed with a river system that has an estimated potential to generate 30,000 MW of hydroelectricity. The four major rivers, Amo Chhu, Wang Chhu, Punatsangchhu, and the Drangme Chhu and their tributaries have carved fertile valleys in central and western parts of the country, and provide irrigation to the southern and eastern plains before flowing into the Brahmaputra river basin. The steep and unstable terrain and the relatively young mountain system however render the country to be ecologically very fragile. Agricultural production is also severely constrained, as only around 16 percent of the land area is cultivable.

The population of the country was estimated to be 658,000 in the year 2000. The population is largely rural with 79 percent of the population still living in villages despite a growth in urban drift in recent years. It is estimated that 39.1 percent of the population is under the age of 15. While there are several language groups and communities, the country is essentially composed of two broad ethnic groups, the *Drukpas* who are mongoloid and are of Buddhist faith making up 80 percent of the population, and people of ethnic Nepalese origin who are mainly indo-aryan and of Hindu faith. Administratively, the country is divided into 20 Dzongkhags composed of 201 Gewogs.

Institutions

The establishment of the *Chhoesi* by Zhabdrung Ngawang Namgyal was a significant landmark in the evolution of the political and administrative institutions of the country. The *Chhoesi*, complemented by a code of law and an administrative system, provided the basic system of governance for the newly unified nation. A network of *Dzongs* or fortresses located in strategically important regions which seated both the temporal and religious administrators, were constructed to facilitate governance. This theocratic and dual system of governance prevailed for almost two and a half centuries before it gradually became untenable due to internal dissension and strife. While the *Chhoesi* suffered from fundamental weakness when it came to the question of peaceful transition of succession, it continued to play a significant role in shaping the evolution of the country's political and administrative institutions. Some primary aspects of the *Chhoesi* continue to exist today.

In 1907, Ugyen Wangchuck, then Trongsa *Penlop* was unanimously elected by the *Penlops*, *Dzongpons*, and representatives of the clergy and public as the first hereditary King of the country. The establishment of the hereditary monarchy in 1907 is a historic landmark in the evolution of the political system of the country as it laid the foundations of modern Bhutan under the Wangchuck dynasty and ushered in an era of unprecedented peace and political stability that continues to this day. Far-reaching initiatives were undertaken by successive monarchs to strengthen the kingdom's political and legal institutions and establish an effective democratic framework. The most significant political change was initiated by His Majesty King Jigme Singye Wangchuck in 1998, devolving full executive powers to a Council of Ministers elected by the National Assembly.

The *Tshogdu* or National Assembly was established in 1953 by His Majesty King Jigme Dorji Wangchuck. The *Tshogdu*, which is the highest legislative body, comprises of 150 members, 105 *Chimis* who are directly elected representatives of the public with a tenure of three years, 10 elected representatives of the clergy, and 35 representatives of the Royal Government of which 29 are nominated by the King and six are elected Cabinet Ministers who serve for a term of five years.

With the establishment of the *Thrimkhang Gongma* or High Court in 1968 comprising of the Chief Justice and seven *Dungthrim*s, and *Thrimkhangs* in all 20 Dzongkhags, the Judicial System has been separated from the Executive and Legislative branches of the Royal Government. His Majesty King Jigme Singye Wangchuck introduced further reforms to enhance the institutional capacity and independence of the judiciary. The laws of the country have been codified in the *Thrimzhung Chhenmo*, which was enacted by the National Assembly during several sessions in the 1950s, and some subsequent Acts passed by the National Assembly provides the basis for administration of justice.

The *Lhengye Zhungtshog* or the Cabinet was established in 1968. With the devolution of power by His Majesty King Jigme Singye Wangchuck in 1998, the *Lhengye Zhungtshog* is now the highest executive body in the country. It consists of the Council of Ministers and members of the Royal Advisory Council. Its members are collectively responsible to His Majesty the King and the National Assembly.

The *Lodey Tshogdey* or Royal Advisory Council was established in 1965 and consists of six elected representatives of the public, two elected representatives of the clergy, and one nominated by the government who functions as Chairman of the Council. The *Lodey Tshogdey* advises His Majesty the King on matters of national importance, acts as a bridge between the Royal Government and the people, and ensures that the laws and decisions of the National Assembly are implemented.

Pursuant to the policy of decentralization, *Dzongkhag Yargye Tshogchungs* (DYT) or District Development Committees with a total of 572 elected members was established in 1981. The decentralization policy was further strengthened with the establishment of 201 *Gewog Yargye Tshogchungs* (GYT) or Block Development Committees comprising of 2,614 elected members, in 1991. These local level institutions were established under the personal initiative of His Majesty King Jigme Singye Wangchuck with the objective of strengthening traditional local institutions and enhancing their role in development policies and activities.

Given the long religious history of the country, the *Dratshang* or the Monastic Body, continues to play an important role in the spiritual and cultural life of the people. It not only engages in religious practices, but also participates in important state institutions such as the *Tshogdu* and the *Lodey Tshogdey*.

The country has seen numerous institutional changes in the last four decades. These institutions, many of which had to be nurtured and developed, have contributed to the security, stability and advancement of the country. Society and history are dynamic and the country will continue to see maturing of its present institutions as well as other changes emerging. What has been important is the capacity of the country to foresee, plan and bring about institutional changes consistent with the needs and aspirations of the people.

CHAPTER 2: DEVELOPMENT PHILOSOPHY

Gross National Happiness

Gross National Happiness is the overarching development philosophy of Bhutan. With the inception of planned development in 1961, the country opened its doors to the forces of change and modernization. While the country was prepared for changes, it was essential to have a clear-cut perspective on the objectives and the guiding principles for change. It became evident quite early that for a holistic development of the society, it was essential that development must be both social and economic and that it was necessary to give equal importance to the spiritual, emotional and cultural needs on the one hand and the material well-being of society on the other. It was also recognized that at heart of the society is the individual whose welfare and well-being must be provided for by society. It was recognized that economic growth is essential to support and nurture the spiritual and social needs of the community. This has led the country to clearly stipulate that economic growth, while essential, is not an end in itself but is one among many means of achieving holistic development. This has led to the declared objective of viewing development as a continuous process towards a balance between material and non-material needs of individuals and society.

The country's philosophy of development was most clearly enunciated by His Majesty King Jigme Singye Wangchuck when he stated that "Gross National Happiness is more important than Gross National Product". This statement has been the guiding principle of the country's development efforts for the last two decades. It recognizes that there are many dimensions to development and that economic goals alone are not sufficient. All development efforts must seek to contribute to both the material and spiritual well-being of the person to enhance Gross National Happiness.

Having accepted that the maximization of Gross National Happiness is a philosophy and objective of the country's development, it was necessary to more clearly identify the main areas, which would most contribute towards furthering this philosophy and objective. Recognizing that a wide range of factors contribute to human well-being and happiness and that it may not be possible to fully and exhaustively define or list everything for the purpose of its development planning, the country has identified four major areas as the main pillars of Gross National Happiness. These are economic growth and development, preservation and promotion of cultural heritage, preservation and sustainable use of the environment, and good governance.

Economic Growth and Development

To foster and enhance economic growth, it is necessary to first and foremost provide the capacity to engage in economic activities. This must be followed by identifying those areas of the economy which can be developed and contribute to national economic wealth. The country has always paid particular attention to the development of its human resources. This is evident by the fact that in successive plans almost one-fourth of the Royal Government's Plan budget is allocated to health and education sectors. Considerable efforts have also been made in training and developing the capacity of the country in the professional and specialized skills that are required for the development and management of economic activities.

The creation of physical infrastructure such as motorable roads, telecommunications, energy, air links, etc, is also essential to enhance the productive capacity and to avail of the economic opportunities in the country. Added to this is the need to identify and invest in growth sectors such as the energy sector, tourism, utilization of mineral resources, enhancement of agricultural production and other service sectors that will contribute to economic wealth.

Prudential government rules and regulations together with development of financial services are also necessary to create an enabling environment for the enhancement of economic growth. The development of private initiative and capacity is necessary, but the creation of economic opportunities must be equitable so as to prevent wide disparities in income and opportunities.

Preservation and Promotion of Cultural Heritage

For a small country like Bhutan, preservation of its rich cultural heritage is critical to its very survival as a nation state. In addition to safeguarding a sense of identity in a rapidly globalizing world, the living cultural heritage is a source of human values and beliefs that are of eternal relevance and critical for sustainable development. The traditional beliefs and customs underpinned by a strong reverence for all sentient beings and the environment promotes tolerance, compassion, respect, and charity, which are fundamental values for harmonious co-existence between humankind and nature.

In addition to providing a strong identity and a sense of values to all Bhutanese, the preservation of the rich cultural heritage also provides a strong link and support between the individual and the society at large acting as an effective social security net. The pursuit of individual self-interests during modernization often threatens the rich bonding of individuals as members of extended families and communities. It is necessary to preserve social bonds in which every one, whether children or elderly, are honoured and respected. The breadth and quality of social relations also lie at the root of happiness throughout a person's entire life cycle, from childhood to old age. Traditional social values and thoughts provide a benign and supportive role to social change and development.

Preservation and Sustainable Use of the Environment

Sustainable development and environmental care is in the interest of every being. Strong ethics of conservation, underpinned by the traditional reverence for nature, have influenced the country's environmental ethics and practice long before global concerns for environment were raised. The country's first national park, Manas was established as early as 1966. Today, more than 26 percent of the country's area is managed as protected areas to preserve the country's rich biodiversity. 72 percent of the country is under forest cover, most of it in pristine condition. Although forest is one of the main natural resources of the country, one of the basic tenets of the country's development philosophy is not to exploit it indiscriminately.

The natural environment has become an important economic asset to the country, particularly in the field of energy and tourism. The ethics of conservation must now go beyond the natural environment to cover emerging new areas such as waste management, pollution, recycling, and related areas, which will increasingly impact the quality of life in the future.

Good Governance

An individual's quest for happiness, and inner and outer freedoms, is the most precious endeavor. It follows then that society's idea of governance and polity should promote this endeavor. The country is dedicated to establishing a system of governance that promotes well-being and happiness of its citizens. His Majesty the King continues to guide the country towards the fulfillment of that vision in the evolution of its political and social structures, encompassing both the strengths of the country's resilient and ancient society, and genuine virtues of democracy.

Even before the advent of modernization in 1961, the country consisted of self-reliant and self-subsistent communities, possessing well-defined community based rules and institutions to

facilitate the use of common resources. In 1981, His Majesty the King initiated a vigorous program of administrative and political decentralization. The decentralization policy has enhanced the democratic powers, social responsibilities, transparent processes, and structures of villages and communities to make decisions at the grass-root levels. The Royal Government and its institutions are making every effort to serve the people with integrity, accountability and transparency.

The greatest change in the devolution of power took place in June 1998 when His Majesty the King voluntarily devolved full executive powers to a Council of Ministers elected by the National Assembly. On the 15th day of the 10th Bhutanese month corresponding to November 30, 2001 His Majesty the King took another historic step. He commanded the drafting of the constitution of the country by the drafting committee of the constitution. The scope and the magnitude of the initiative were unprecedented. While addressing the committee members a day earlier, His Majesty the King stated: "It is my duty, as the King, to strengthen the nation so that the people can develop in security and peace, and the nation becomes more prosperous and secure than before. During the past years of my reign, I have made constant efforts to empower the people by delegating authority, resources and responsibility to them. Reforms on decentralization and devolution of powers have been quiet but continuous. We took steady steps towards democracy with the establishment of *Dzongkhag Yargye Tshogchungs* and *Gewog Yargye Tshogchungs*, and devolution of executive power to the Council of Ministers. While promoting the people's participation in the decision-making process, I have always trusted our people to make their own choice. My kingship cannot be worthy of the people if it is not based on mutual trust and confidence. We must have full faith in the integrity of our people, their capability, and their commitment and loyalty to the *Palden Drukpa*. I have always maintained that the destiny of the country lies in hands of the people. We must therefore draw up a written constitution and establish a political system which will enable the Bhutanese people to shoulder this sacred responsibility.

"The constitution should not be considered as a gift from me to the people: it is my duty to initiate the constitutional process. The sovereignty, stability and well-being of the country is always more important than anything else: the country is more important than the King. The basic purpose of the constitution must be to ensure the sovereignty and security of the nation and the well-being of the Bhutanese people for all time to come. The political system of the country must evolve so that the people will continue to enjoy peace and prosperity, justice, and the fundamental rights which have always been enshrined in the Bhutanese system. It is important for us today to look into the future and to take the necessary steps to shape the destiny of our country. We must move with the times to ensure that our nation not only overcomes all internal and external threats but continues to prosper in an atmosphere of peace and stability.

"We should not be deterred by the fact that the democratic political systems have not been working in some countries. The principles and ideals of democracy are inherently good, and a democratic system is desirable for Bhutan. If the lessons of some democracies are not encouraging, it is not because the concept of democracy is flawed: it is because of mismanagement and corruption by those who practice it.

"The constitution must create a structure, a framework, that will make democracy effective in our country. It must embody the expectations and aspirations of the people, and draw on the wisdom of the existing system, the existing laws, and the lessons learned by other countries around the world. Bhutan is in a unique position today, with the time and opportunity, to develop a system of governance which will be in the best interest of the Bhutanese people and the country. It is of utmost importance for us to utilize this opportunity to frame a constitution that will ensure a dynamic system of governance which will uphold the true principles of democracy. The constitution must go beyond mere words and become the golden pillar which will support and enable the political system to safeguard the sovereignty of the country and the rights of the people".

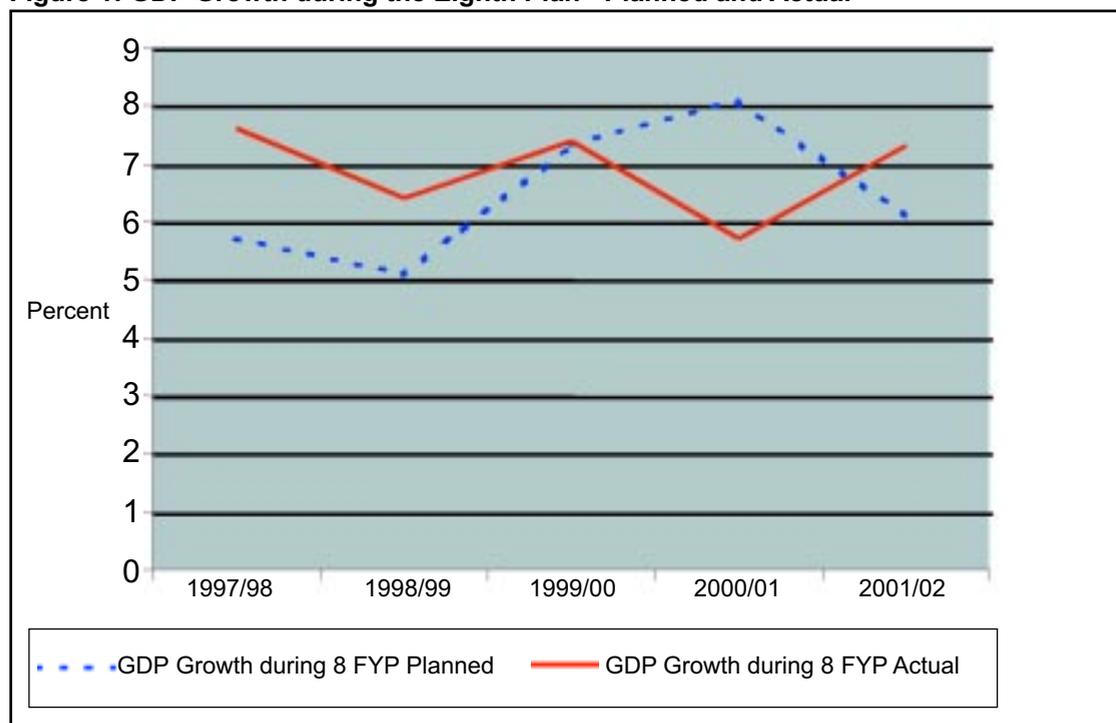
PART II
DEVELOPMENT REVIEW

CHAPTER 3: REVIEW OF ECONOMIC PERFORMANCE

Introduction

The economy grew by 6.5 percent in the first four years of the Eighth Plan. Including the final year, the growth is expected to exceed the projected rate of 6.5 percent over the plan period. While the growth of the economy as a whole exceeded the projections, the sector-wise performance was mixed. The economy experienced relatively steady performance during the first three years. The growth in the fourth year fell short by more than 2 percent due to the disruption caused by heavy monsoon. However, the economy is projected to grow by 7.3 percent during the last year of the Plan.

Figure 1: GDP Growth during the Eighth Plan - Planned and Actual



Source: National Accounts, CSO, 2001

The construction sector, with an estimated growth rate of 17.3 percent, had a major influence on the GDP growth rate. This was mainly due to the on-going construction of large hydropower projects such as Kurichhu, Tala and Basochhu. The agricultural sector as a whole performed well, exceeding the projected target by 1.3 percent over the plan period. The main impetus of growth in the sector came from forestry and cash crop production.

Growth in other major sectors, which includes mining, manufacturing, trade and commerce and finance etc., fell short of the targeted growth rates. In particular, mining and manufacturing sectors fell significantly short of their targets, mainly due to the suspension of the Dungsam Cement Project.

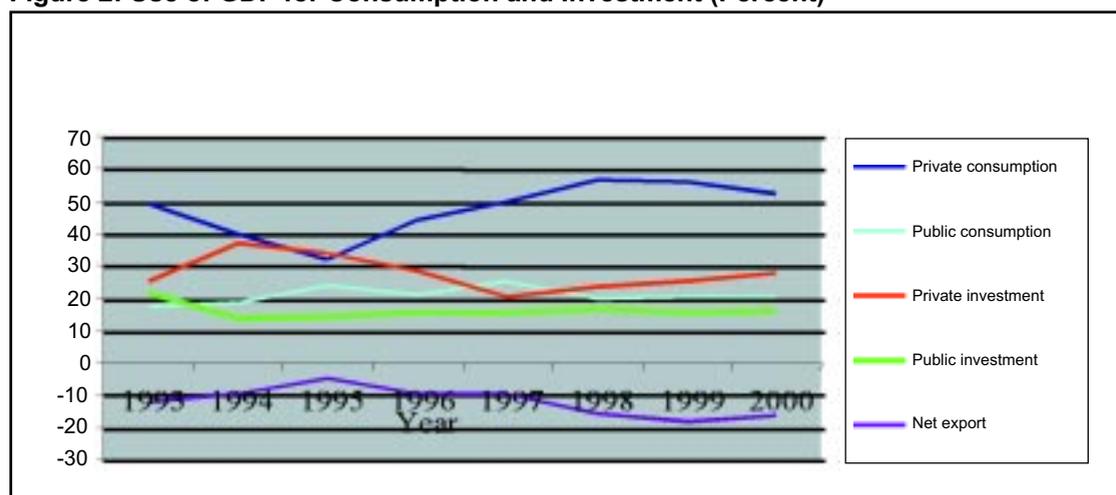
Table 2: Share of Sectors' Contribution to the GDP at the end of the Eighth Plan

Sector	Sectoral composition of GDP year at the end of Eighth Plan (%)	
	Planned	Actual
Agriculture	30.7	33.8
-Crop Production	16.5	17.0
-Livestock Production	7.0	7.0
-Forestry and logging	7.2	9.8
Mining etc.	2.8	1.2
Manufacturing	12.7	9.8
Electricity	8.2	9.9
Construction	11.3	11.8
Trade and Commerce	5.2	6.0
Transport and communication	9.4	10.0
Finance, etc	11.6	10.3
Government service	10.5	9.9
Less Imputed bank services charges	-2.6	-2.5
GDP	100.0	100.0

Source: National Accounts, CSO.

Most of the growth in GDP over the period 1993-2000 was used to increase private consumption, with public consumption and investment remaining moderate. Private investment dropped notably between 1995-97 but increased sharply in 1999.

Figure 2: Use of GDP for Consumption and Investment (Percent)



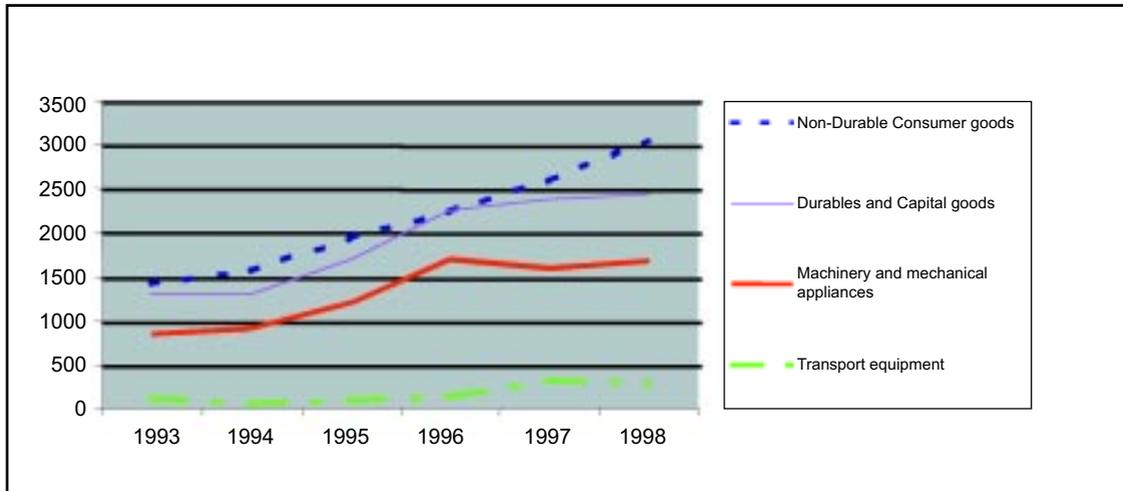
Foreign Trade and Balance of Payments

Imports have grown faster than exports since 1995, and as a consequence, the trade deficit increased from its lowest point of 4.8 percent in 1994 to 18.9 percent of GDP in 1999. Imports of

durables, machinery and equipment saw a steep increase in 1996 on account of investment in telecommunication and tripling of vehicle purchases. Since then, such imports have stabilized while imports of non-durable consumer goods continue to grow.

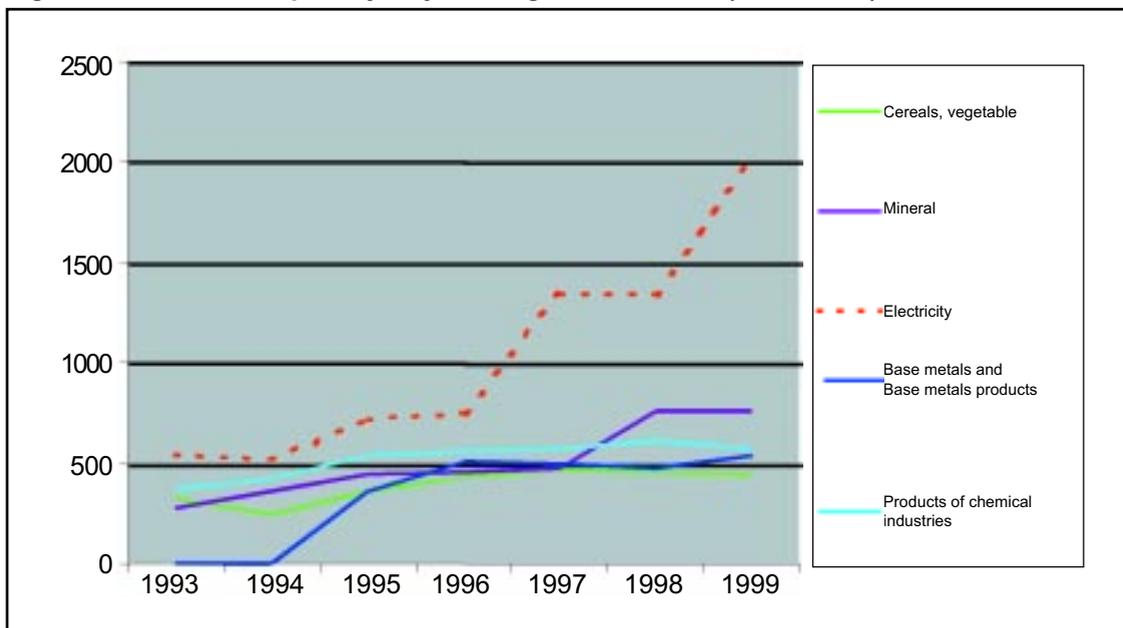
While non-durable consumer goods, machinery and transport equipment dominated imports, the sale of electricity to India dominated exports. The share of electricity to total exports grew from 27 percent in 1993 to 40.6 percent in 1999. The increase was mainly due to the rise in export price.

Figure 3: Import by Major Categories 1993-98 (Nu. Million)



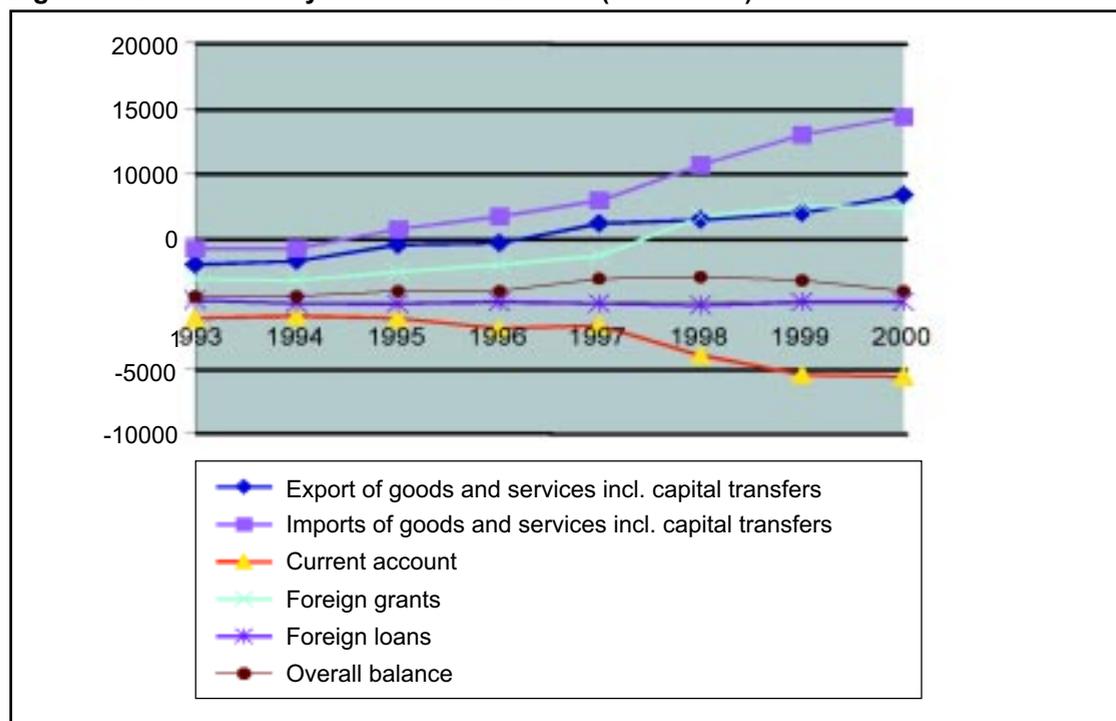
Source: National Accounts, CSO, 2001

Figure 4: Growth in Export by Major Categories 1993-98 (Nu. Million)



Source: National Accounts, CSO, 2001

Figure 5: Balance of Payment 1993/94-2000/01 (Nu. Million)



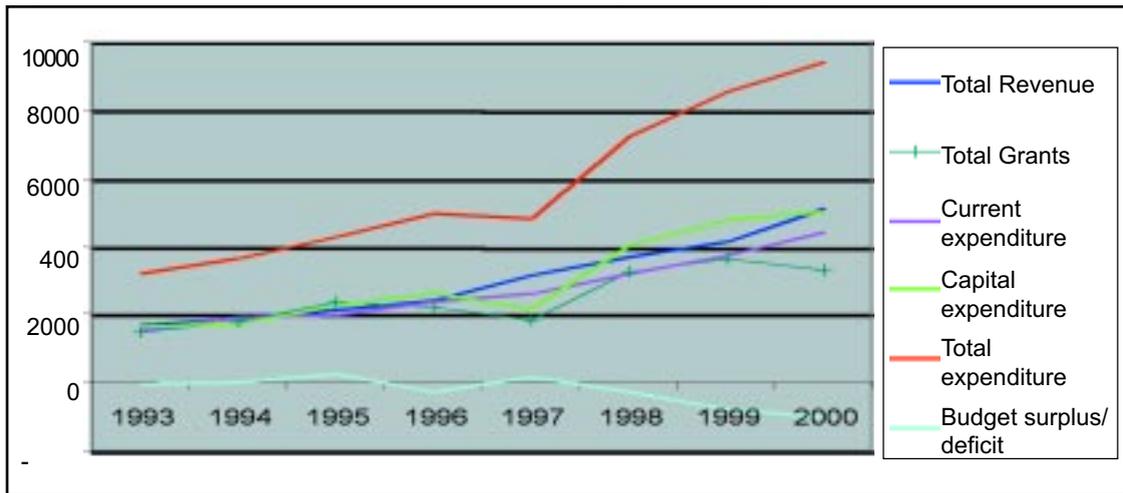
Source: Economic Indicator, RMA

In addition to the trade deficit, the services and transfer payments to the rest of the world exceeded the receipts, thereby widening the current account deficit from Nu. 1,900 million in 1993 to Nu. 6,800 million in 1999. Nevertheless, capital inflows, mainly in the form of grants and concessional loans, was not only sufficient to cover the current account deficit but also enabled the country to build up additional foreign exchange reserves.

Public Finance

The Royal Government pursued prudent fiscal management by meeting all recurrent expenditures out of current revenues and mobilizing external assistance for capital investment. Overall, the budget deficit during the Eighth Plan remained under 1 percent of GDP, with the exception of 1999/2000 when it increased to 4 percent.

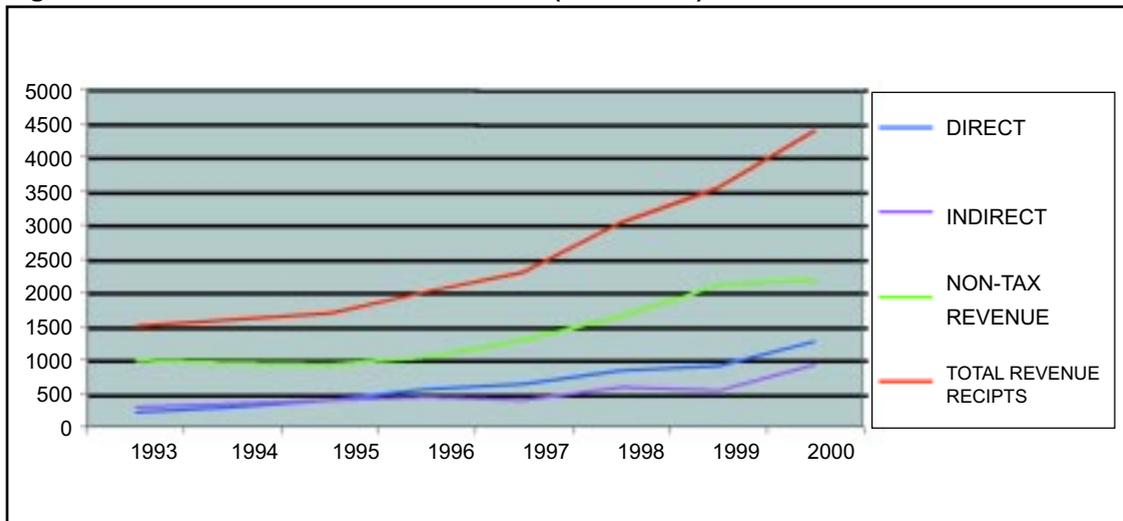
Figure 6: Government Finance 1993/94-2000/02 (Nu. Million)



Source: National Accounts, CSO, 2001

The domestic revenue has grown steadily over the period, accounting for 20 to 23 percent of GDP. A large part of the receipts continued to come from non-tax sources such as transfer of surpluses from the government corporations. Improvements in tax collection and administration have also contributed to the growth in revenue over the years.

Figure 7: Government Revenue 1993-2000 (Nu. Million)



Source: National Accounts, CSO, 2001

Monetary and Credit Developments

During the Eighth Plan, the monetary expansion measured by the growth in Broad Money Supply (M2)¹ averaged 23 percent per annum, well in excess of the growth in nominal GDP. The development was mainly fueled by significant and sustained surpluses in the Balance of Payments. On an average, over the last five years, the growth in Net Foreign Assets contributed to about 32 percent of the monetary expansion.

¹ Excluding Indian Rupees in Circulation Outside Banks.

While the surpluses enabled the country to build up additional foreign currency reserves, it has created excess liquidity in the banking system due to the limited domestic absorptive capacity, particularly in the private sector. The Royal Government and the major corporations remained net creditors to the banking sector during the period. Despite the banking sector's move to reduce the interest rates on corporate deposits by 1-2 percent and declining to accept deposits over six-months maturity, corporate deposits increased at a rapid pace. The position of the private companies and individuals were not very different with deposits outpacing the advances. However, from 2000/01 onwards, the credit to the private sector began to pick-up, mainly due to construction activities stemming from large power projects and partly in response to the reduction in interest rates on some consumer-oriented financing schemes introduced by the financial institutions.

As part of the financial sector reforms, interest rates were deregulated in 1997. However, due to lack of competition in the financial sector, there was little change to the structure of interest rates in Bhutan. Inflation in the Eighth Plan period remained relatively low. The annual rate of inflation as measured by CPI averaged 6.5 percent during the plan period.

CHAPTER 4: DEVELOPMENT PLANNING AND MANAGEMENT

Introduction

Bhutan's Development is guided by the document "*Bhutan 2020: A Vision for Peace, Prosperity and Happiness*", that sets out the national goals, broad targets and overall policy principles for the next two decades. This document was the culmination of intensive consultations between communities, Royal Government agencies and private and non-governmental organizations. It provides a clear framework for development of the five-year plans and is operationalized through the annual budgets approved by the National Assembly.

Overview of the Planning Process

The planning process involves decision-making in formulating plans and programs, the responsibility of which is shared among a number of institutions. The main institutions are the Gewogs, Dzongkhags and the central ministries and agencies. Most programs originate from the community level though nation-wide and thematic plans and programs can originate from the agencies at the centre.

Planning is based on a matrix structure with area based planning undertaken at the Dzongkhag and Gewog level and sector based planning undertaken at the central level. The sectoral based planning at the ministries complement and support the area based Gewog and Dzongkhag programs. As a result of this approach, coordination is a key and common theme in the country's planning process.

The country's planning is a cyclical and continuous process that defines and refines future plans and programs at all levels. Resource availability is one significant factor around which the plans and programs eventually crystallize. Actual implementation begins with the approval of the five-year and annual plans by the National Assembly.

A key feature of the Ninth Plan will be its Gewog-based approach. This is expected to further strengthen the planning process with a special focus on Gewogs as the main basis for development planning. In addition, the introduction of the two-year rolling budget at the start of the Ninth Plan is also expected to strengthen the planning process further by providing a medium term framework that will improve linkages between annual and five-year plans as well as between changing priorities and resource availability.

Formulation of the Five-Year Plans

The preparation of the five-year plans begins at least two years ahead of the scheduled launch. It normally follows a mid-term review of the on-going plan where the Gewogs, Dzongkhags and sectors are involved.

The first step involves the Planning Commission providing policy framework, plan size and general direction for the Plan, which is largely influenced by the outcome of the mid-term review of the previous Plan.

Following this, the Dzongkhags, Gewogs and sectoral agencies begin the preparation of their plans and programs. Numerous consultations are held at all levels to ensure proper coordination, complementarity and consistency in the plans and programs.

Since changing priorities and resource situation would alter the Plan, it will be reviewed frequently and the changes will be captured through the two-year rolling budget process. Thus the plan is not rigid. Annual planning process will be streamlined so that reprioritization and resource position on an annual basis can be taken into account.

Monitoring and Evaluation

Monitoring and evaluation is accorded high priority. For the plan as a whole, a mid-term review is carried out halfway through the Plan. For the Dzongkhag, the mid-term review of the plan is undertaken in individual Dzongkhags and is attended by representatives of the people. The review is presided by His Majesty the King and is chaired by the Chairman of the Council of Ministers. This has been one of the most effective monitoring and evaluation mechanisms and the outcome is fed back into the remainder of the Plan. In this manner, the five-year plan is kept flexible and responsive to changes.

The large number of programs supported by various donors has resulted in the emergence of different monitoring and evaluation systems over the years. It has been recognized that the present system has to be improved and a standardized system institutionalized. This will include a focus on real assessment of developmental impact in place of the current bias towards numerical accounts of developmental expenditure.

The Fifth National Planning Symposium held in 1999 recommended the establishment of a standardized national monitoring and evaluation system. The Planning Commission Secretariat is currently working on the recommendation.

The Royal Government also fully recognizes the severe limitations of a poorly integrated database for its developmental planning. Accordingly, efforts will be made throughout the government and at the Dzongkhag and Gewog levels to improve information systems and networks through the use of web portals and the expansion and enhancement in the capacity and availability of trained statisticians.

PART III
DEVELOPMENT THEMES

CHAPTER 5: GOVERNANCE

Introduction

Good governance is an inherently important goal in Bhutan. The overall aims of the state are to develop the country as a vessel of enlightened civilization, to develop the human mind and to realize its innate human qualities. These are achieved primarily by providing the opportunity for individuals and society to grow in structure governed by laws and socially responsive. In the Ninth Plan, in good governance, the following strategies will be pursued.

Legislative Reforms

Rule of Law and Judicial Reforms

The Rule of Law has always existed in the country. Systematised legal codes instituted basic rights of property ownership and basic obligations and duties within social institutions like family and marriage in an explicit and formal fashion. Marriage and inheritance laws are de-genderized, making men and women equal, and a Royal Decree established equality of wages between male and female labour legally in 1993.

Laws have been enacted to govern the functioning of important national institutions such as the National Assembly and the Cabinet. Revised laws governing the Dzongkhags and Gewogs will be enacted shortly. In commercial law, legislations covering many areas of commercial and economic activities have been adopted by the National Assembly, which is also considering many other issues for legislation.

The adjudication process has undergone steady reforms to regulate the court system by strengthening courtroom procedures. The Code of Civil and Criminal Procedure was adopted in 2001 by the National Assembly. A separate judicial cadre has been formed to enhance the independence of the judiciary. The effort to computerize the court record system has speeded up the processing time and reduced the cost of litigation.

Traditional laws were widely understood so that judges were not the sole arbiters of the legal code. Public understanding was facilitated by wide dissemination of laws and legal documents that were a mandatory hand out to each Gup and Chimi. This tradition is being continued. Recent changes consist of a gradual shift in the composition of the judges of Buddhist institutional background to modern law-graduates. At the same time, there is also renewed attempt to bridge the modern legal system with the traditional system.

All of these areas will continue to remain the focus of judicial reforms in future. The purview of law enforcement has tended to grow every year with the passage of new legislations, which requires the expansion for judicial services. This requires infrastructure such as courtrooms and Information and Communication Technology (ICT).

Accountability and Transparency

An important aspect of good governance is integrity, transparency and accountability. In public administration, decision-making and administrative processes must be clear and transparent to ensure efficiency. Many reforms in the civil service have been implemented as a result of the 1999 restructuring exercise. For example, internal auditors have been appointed in each organization since 1999 and an Auditor General's Act is being drafted for submission to the National Assembly.

The administrative and financial management capacity of the bureaucracy to account for public funds is an important aspect of governance and standards will be raised upwards periodically to capture best practices.

Procedures exist for procurement of goods, award of contracts, bidding, licensing, and privatization and divestment. However, cumbersome processing and response time for official clearances and permits are being revised to rationalize administrative control. Transparent standards are being established for the promotion, training and recruitment in the public enterprises and the civil service.

The Constitution of the Kingdom

While the country has had no written constitution, there exists a set of fundamental laws and Buddhist values that have guided the relationship between the state and the people. The concept of what is consistent with Bhutanese cultural values and ideology have set the limits to what any individual or organisation could and could not do, even in the absence of a written constitution.

However, with the modernisation of the country, and globalization, there is a greater need to protect the cohesion and sovereignty of the country and one of the primary means of doing so is to have a written constitution that not only lays down the basic structures of the state like the Monarchy, the National Assembly, the Cabinet, Judiciary and so forth, but also enshrines the basic values and vision toward which the nation strives to evolve. Therefore, a constitution is being drafted by a broad based 39 member Drafting Committee composed of representatives from the monk body, people, judiciary and the Royal Government.

Decentralization and Devolution

People's active participation in their own development has been a key policy of His Majesty the King since the Coronation in 1974. Toward this end, several institutions have been established and legislations enacted to empower people, evolving a representative system of governance. The formal organizational structure and procedures for decentralization have evolved over the last three decades, and continue to do so. The first step in the process was taken in 1981 with the introduction of the *Dzongkhag Yargye Tshogchung* and the process was consolidated in 1991 with the establishment of the *Gewog Yargye Tshogchung*. These two institutions involve the people in political, social and economic decisions making thus increasing their capacities to set their collective priorities and to initiate means for their fulfillment. Two decades of decentralization and participatory development has brought about the following changes:

- Devolution of administrative and financial powers, and human resources from the capital to the Dzongkhag administration;
- Increased capacity of GYT and DYT to make collective decisions regarding their development plans and its implementation; and
- Autonomy of GYT and DYT to make regulations and legislations applicable within their jurisdictions.

Experiences over the past decades have reinforced the confidence of the Royal Government in the capacities of the communities to plan and implement development activities on their own.

Dimensions of Decentralization and Development

Decentralization in the Bhutanese context began with the delegation of various functions from the central government to the Dzongkhags. With increasing capacity at the Dzongkhags to carry

out the functions, the shifting of authority for decision-making has begun. It also became apparent that further delegation of functions and devolution of authority were necessary from the Dzongkhags to the Gewogs. The revised draft GYT and DYT *Chathrim*s institutionalizes changes in the decentralization process whereby greater authority, responsibility and resources for several functions are handed over to the sub-national bodies. The new approach will trigger a gradual conceptual shift from a sector approach to a more Gewog needs based system. It will promote self-organization at the micro-level, deepening house-to-house direct participation. It will spur greater effort from the communities including better use of their own resources as well as enhance their capacity to absorb more resources from the Royal Government. It will also enhance the roles and scope of GYT and DYT members. Since the local conditions vary from Gewog to Gewog and among different Dzongkhags, the pace and manner of implementation is expected to be uneven across the country, at least in the initial years. In the context of urban areas, it is necessary to provide the same level of decentralization as in the case of the Dzongkhags. Accordingly, the Municipal Act was enacted in line with these changes.

Political Decentralization

At the heart of decentralization is political decentralization whereby the powers in decision-making are vested in the people or their elected representatives. Involvement of the people in decision-making is expected to evoke greater participation in their own development process and lead to greater responsibility.

For matters of local nature that are best resolved at the local level, such authority will be devolved to GYT and DYT, both of which consists of elected functionaries. The powers of the central, Dzongkhag and Gewog agencies will be delineated so that each level develops its own competencies and jurisdictions. At the same time, the interface and linkages between them will be defined to make the whole structure cohesive and complementary.

The power, authority, functions and responsibilities of elected officials of DYT and GYT will be enhanced. These will include the power to decide, implement and maintain development activities to serve their needs, the power to adopt regulations which are applicable within their own jurisdictions, the authority to hold officials with frontline local services related to environment, water, rural communication, health, forest, livestock, and agricultural services accountable, and the authority to retain and use revenue from local taxes and levies from local utilities.

The election procedures for the members of both the GYT and DYT will be further streamlined. With greater responsibilities and thus to attract more competent members, the allowances for the elected officials will be raised.

Administrative Decentralization

Administrative decentralization will be strengthened to keep pace with the political decentralization. The staff currently with the central agencies will be gradually transferred to the Dzongkhags, Gewogs and beyond where they will be closer to the point of delivery of services. Personnel management of the staff posted in the Dzongkhag administrations will be vested in the chief executive of the Dzongkhag rather than central sectoral agencies to improve performance and accountability. The scope of administrative and technical sanctions of the Dzongkhag administrations will be enhanced to enable decision of greater magnitude to be taken without referring to the central agencies. This should expedite decision-making and reduce administrative costs.

The process of political and administrative decentralization has been based on the existing number of Dzongkhags and Gewogs. However, during the Ninth Plan, there will be proper re-demarcation of Dzongkhags and Gewogs boundaries to facilitate meaningful political and administrative decentralization.

Regulatory Decentralization

The delegation of powers to adopt rules and regulations adapted to local circumstances is an integral aspect of decentralization. Where there are no conflicts with national laws either allowing or prohibiting certain course of actions, DYT can adopt their own regulations. Such civic-oriented regulations have already been enforced and these usually pertain to issues related to social ills. For instance, the designation and protection of certain local historical and religious sites that are of significance to the local population, but that is unlikely to be a subject of national law. This will also include regulations pertaining to sharing of local waters, harvest of local forest produce, operation of cooperatives, protection of streams and rivers, disposal of wastes, control of pollution etc. which are micro-management issues whose detailed regulations will be left to the local communities.

Fiscal and Financial Decentralization

The GYT will now retain rural taxes and user charges. The main contributions of the rural population have been labour and local materials in beneficiary schemes, which in monetary terms can be quite substantial. Allowing the GYT to retain these revenues will foster a greater spirit of ownership and participation in development activities.

The financial powers of the elected bodies, like the DYT and GYT, will be broadened to include prioritization and allocation of annual budget, reappropriation of budget, review and ratification of accounts of Gewog and Dzongkhag administrations. The GYT tender committee will be empowered financially to award works or procurement orders of a magnitude that were previously reserved for Dzongkhag tender committees. In addition, powers of the Dzongkhag tender committees, in which the elected DYT members participate as members, to award works or procurement order, will be enhanced.

Management of Public Services

National prosperity hinges on quality and effectiveness of governance. Responsiveness and accountability to the people are basic requirements for good governance. Fulfilling people's needs and aspirations is essentially linked to the delivery of quality services.

For the delivery of quality services such as land records and survey, immigration, utilities, litigation, licensing, administrative support, credit, agriculture, livestock, forestry, health, education, etc. shift towards customer relationship management principles is imperative. This is consistent with the Royal Government's efforts towards effective decentralization. Process and rules driven management paradigm with an emphasis on hierarchical decision-making and control will have to give way to a decentralized result-oriented system based on principles that centre on entrepreneurial dynamism and competition. The shift will necessitate a critical review of the structure of the Royal Government machinery, its organizational culture and leadership.

The Royal Government's restructuring initiative of 1999 defined efficiency, accountability and transparency as the underpinning values of good governance. New institutions responding to emerging needs, some organizational restructuring and mechanisms for internal accountability were established.

Public service organizations will have to redefine their purpose by establishing clear vision to give direction to their efforts, proactively responding to the changing expectations of the Royal Government and society. Well-defined services and better coordination of the range of services through one-stop counter wherever possible will be explored.

The quality of public services will continue to be improved through the introduction of competition and choice, along with a number of other initiatives to facilitate customer access to services and make service provision more accountable to customers.

People who manage service organizations are central to ensuring quality of services. The head is the primary lever of organizational change and building high performance organizations in a changing environment. The critical importance of building new leadership not only for service organizations but the overall governance will be a priority in the Ninth Plan.

Public accountability will form an integral component of performance management systems, which is currently being reviewed by the Royal Civil Service Commission (RCSC). New structure, effective performance evaluation systems, rewards, improved organizational culture, position classification, training, better post retirement schemes, etc. are expected to generate a renewed sense of responsibility, job enrichment and job satisfaction.

While it is recognized that rules and regulations are a major instrument of the Royal Government policy, their quality will be ensured by a process of regular review focusing on their objectives, costs and benefits. Compliance with the increasing volume of regulation without any clear benefit or purpose can be costly to both the Royal Government and the public.

Bureaucracy and existing organizational structures at various hierarchical level of governance, which may be barriers to effective integration of customer relationship management, will be reviewed to devolve services nearer to the point of delivery.

Public impact assessment will be undertaken to see how the services and activities of organizations impact on the problems and needs of the public and to help fill the gap in the knowledge of public services organizations through the National Assembly, DYT, GYT and other redressal mechanisms.

It will be the Royal Government's endeavour to promote governance that is characterized by effective performance and a high level of trust and confidence from the public.

Policy Measures

Enactment of GYT and DYT *Chathrim*

At the start of the Ninth Plan, the draft revised *Chathrim* of GYT and DYT will be proposed to the National Assembly. The harmonization of the political, administrative, regulatory and fiscal elements of decentralization will be the major focus of the legislation. One of the immediate challenges after the enactment of the *Chathrim* will be to raise the general awareness of the implications of the revised *Chathrim*. The management of the transition to Gewog based planning and implementation and crystallizing the new roles and relationships between central agencies, Dzongkhag and Gewog administrations will be part of the immediate program to raise awareness.

Shifting Resources to the Dzongkhags and Gewogs

Decentralization calls for reorganization and restructuring of the line ministries as many responsibilities and functions will shift from the central government to the sub-national levels.

A number of functions and processes carried out at present at the central level will be reviewed and re-designed to facilitate decentralization and deconcentration. Many programs will continue to be carried out by the central government through its line ministries, especially those involving economies of scale and externalities. Line ministries will continue to play an important role in creating clear frameworks and norms within which it is easier for Dzongkhag and Gewog administrations to operate.

In addition to the transfer of functions, deconcentration of resources such as human resource, finances, transport facilities, and offices from Thimphu will be made. This will be implemented cautiously as it can otherwise undermine decentralization.

Capacity Development

With decentralization and increase in the share of total budget, more programs and human resources will be managed at the Dzongkhag and Gewog levels. It will be crucial to improve the capacity of both the Dzongkhag and Gewog administrations for which considerable capacity development will have to take place. Capacity will be augmented partly by transfer of resources, including human resources, from the central line agencies.

The management of plans and programs by the Gewogs will enable the development of local skills in many fields through experience. However, as the Gewogs take on more responsibilities there will be need to upgrade skills such as basic financial management, and accounting, as well as abstract skills like problem solving and community mobilization. This will be facilitated, wherever possible, by technical assistance and training conducted primarily by the central agencies and Dzongkhag administrations. Dzongkhag capacity itself is one of the most important factors in terms of facilitation and implementation of the Ninth Plan.

Communication and Coordination

A proper system of communication and coordination will have to be established for decentralization to be effective. Coordination and cooperation at both the Dzongkhag and Gewog levels will become much more important for training, dissemination of information and innovations during the implementation of the Ninth Plan. Communication of new roles and responsibilities, progress made, problems encountered and lessons learned is important not only to ensure that stakeholders at all levels are adequately informed, but also to avoid duplication of work and redundancy of information.

The Royal Government will ensure that appropriate mechanisms of communication, interaction and coordination are developed between the central government agencies, Dzongkhag and Gewog administrations. The government will promote extensive use of information and communication technologies at different levels of government including the use of internet and web-portals.

Accountability

To ensure accountability under the new environment created by decentralization, the government will focus on the following:

- Strengthening the political accountability of elected officials towards the communities in the Gewogs;
- Making local extension staff and administrators at the Gewog and Dzongkhag levels more accountable; and
- Conducting ex-post audits by the Royal Audit Authority.

The functionaries of the Dzongkhags and Gewogs will be fully responsible to the DYT and GYT respectively. Mechanisms for ensuring accountability including redressal will be enshrined in the DYT and GYT *Chathrim*s.

Auditing will be strengthened to scrutinize the management of finances in the Gewog and Dzongkhag administrations and to provide recommendations to the Royal Government on cost-effective ways of improving performance. This will be an essential part of the oversight mechanism that can help the Gewog, Dzongkhag and central government improve their programs and facilitate rapid dissemination of best practices. As an oversight tool, monitoring and evaluation will also be important in providing feedback. The Royal Government will strengthen the capacity of key agencies involved in monitoring and evaluation. At the same time, the number and quality of finance personnel will be improved at every level of the Royal Government so that every organization prepares a multi-year rolling budget geared towards performance and output.

Chapter 6: PRESERVATION AND PROMOTION OF HISTORICAL AND CULTURAL HERITAGE

Introduction

For Bhutan, the cultural heritage of the country is of such importance that it is considered the foundation upon which the identity of the people and the country as a sovereign and an independent nation is built. Due to its self-imposed isolation from the international community until the 1950s, the cultural heritage of the country has remained to a great degree unaltered. Unlike many countries, traditional arts, age-old ceremonies, festivals, social conduct and structures are not remnants of a bygone age. Traditional arts and crafts are still practiced as they were done hundreds of years ago, vibrant festivals are still celebrated and social principles like the *Driglam Namzha* are still evident because they continue to have special significance in the daily lives of the people. Being the last surviving Mahayana Buddhist kingdom in the world, Buddhism, with its simple values of peace, compassion and harmony among all sentient beings, has shaped all its institutions including arts, drama, music, literature, architecture, social principles and social structures.

Culture and spirituality are the fabrics of society, which provide cohesion and identity. Within Bhutanese culture, inner spiritual development is as prominent a focus as external material development. Promotion of spirituality and culture therefore touch and penetrate almost every aspects of development. Economic and technological progress will be pursued hand in hand with the preservation of spiritual and cultural heritage of the country. Both of these contribute to the well-being and happiness of the people.

The country's modern economic, social and technological development has been planned so that it does not impair its traditional and cultural values. However, as cultural traditions have been mainly passed down through oral communications and have not been inventoried and documented, there is grave danger that many traditions may be lost forever if these changes are not addressed properly. Modern development is also leading to a certain extent to the replacement of traditional skills in various areas like architectural designs, construction methods, farming methods, textiles, arts and crafts, performing arts etc. Free communication and exposure has given rise to many positive consequences and is enriching the lives of the people, but the exposure also has its negative consequences, especially among the youth. Abuse of drugs, loss of respect for honest labour, respect for other community and social values are all becoming more pronounced. These social changes need to be addressed seriously in the coming years.

As the economic and social transformation gathers momentum and the country becomes increasingly integrated with the outside world, people's lifestyles are subject to rapid change. 'While development is being ushered in, by far the most ambitious national goal is that of cultural preservation. While globally, life styles may be imploding or converging rather than diversifying, traditional values get relativised, recomposed or submerged under the weight of the global culture. The diffusion of trans-national culture can set in motion forces of silent dissolution of local languages, knowledge, beliefs, customs, trades, institutions and communities. Assimilating these changes without losing the country's unique culture and identity is one of the main challenges facing the country today.

The efforts of the Royal Government are to assimilate the positive forces of change within its distinctive model of development. This requires that the value of cultural heritage be interpreted in dynamic and development-oriented terms so as to ensure that it maintains its relevance as a source of values and inspiration for a society in transformation. Without such efforts, the country's rich legacy could lose its value as a positive force and a source of inspiration, especially for younger generations. This would mean that we must look forward as well as in the past while

formulating future policy measures. Some priorities such as inventory of heritage and culture will, therefore, relate to the past. Other set of priorities will look more to the future and seek to maintain the relevance and vitality of the country's rich heritage.

Policy Measures

Physical heritage traditions like architectural designs that are unique, environmentally friendly, and built from local materials by local craftspeople and villagers are being replaced by concrete structures. Beautiful houses and whole villages with traditional structures are slowly disappearing with the introduction of new materials and construction methods. Concerted efforts will be made in the Ninth Plan to identify, declare and maintain traditional architectural settings that should be preserved as cultural heritage and sites. To maintain sites in their original state, a legislation to prevent encroachment to these cultural and historical sites, will be brought out.

The country has over 2,000 ancient Buddhist temples and monasteries and over 10,000 *Chortens* (Buddhist stupas). Many of these structures date back to medieval ages and house rare objects, ancient paintings, sculptures, and unique manuscripts. These architectural treasure-houses are largely located in remote and some in almost inaccessible places, causing many constraints in maintenance, safety and restoration. With the displacement of traditional skills in various areas like architectural designs, construction methods and materials, in reality, often leads to reconstruction. Therefore, the government will make adequate provisions for their safety and strict norms of restoration will be regulated in the Ninth Plan.

Most cultural properties like temples and monasteries belong to the communities and there's a tradition of their maintenance by the communities themselves. Over the years, however, due to lack of resources, many communities have been seeking assistance from the government. The government will endeavor to encourage the communities to uphold their tradition of maintaining their own temples and monasteries given its importance in their daily lives. The government will, however, provide the necessary technical assistance in their restorations.

The traditional arts and crafts and performing arts are popular and continue to retain their spiritual significance in the lives of our people. As cultural traditions have been mainly preserved through oral transmission, there is grave danger that such traditions will be lost forever if they are not inventoried and documented. The intangible aspects of the country's heritage which include folklores, myths, legends, dances, poetry, and festivals that together add richness to the nation's cultural tapestry. The Royal Government will endeavor to document and promote these ancient traditions and practices so that it continues to live in the minds and the imagination of our younger generation. Adequate provisions will be made to support *Dzongkha* and other traditional regional languages and dialects.

Chapter 7: ENVIRONMENT

Introduction

The Government and people of Bhutan have shown an extraordinary commitment to the conservation of natural resources and the balance between economic development and environmental conservation-The Middle Path. The preservation of the country's rich natural resources can be attributed to the enlightened leadership of His Majesty the King and the strong conservation ethic of the people. His Majesty the King has categorically stated that development must not take place at the expense of our natural resources. The highest legislative body, the National Assembly had mandated that the country should maintain at least 60 percent of the land area under forest cover (National Forest Policy, 1974) for all time to come.

During the Eighth Plan, the Royal Government formulated the National Environment Strategy (NES). Finalized in 1998, the NES is a policy document designed to guide environmental conservation in Bhutan. The Environmental Assessment Act, 2000 approved by the National Assembly, ensures that environmental assessments will be implemented for all activities that have potentially significant environmental impact. Formulation of the National Environmental Action Plan and the National Environmental Protection Act are currently underway.

Conservation of natural resources continues to remain a priority for the Royal Government. At present Bhutan has 72 percent of its land area under forest cover that includes 26 percent as protected areas and biological corridors comprise an additional 9 percent of the land area. The country has very high levels of biological diversity at the ecosystem, species and genetic levels. Bhutan ranks in the top ten percent of countries with the highest species density (species richness per unit area) in the world, and it has the highest fraction of land in protected areas and the highest proportion of forest cover of any Asian country.

With the rapid pace of economic development, pressures on the natural environment continue to increase and are fuelled by a complex array of forces. They include population pressures, agricultural modernization, hydropower and mineral development, industrialization, urbanization, and infrastructure development.

Land degradation in the country is manifested primarily in displacement of soil material through water erosion and internal biophysical deterioration. Human induced activities mainly trigger soil erosion in the mountainous terrain. Loss of vegetation due to deforestation, over cutting beyond silviculturally permissible limits, livestock rearing, unsustainable fuel wood extraction, encroachment into forest land, forest fire, over grazing, extension of cultivation onto lands of low potential or high natural hazards, lack of adequate soil conservation measures and improper crop rotation are some of the important factors contributing to land degradation in Bhutan. Mining and quarrying, developmental activities like road construction; transmission lines, etc. also contribute to land degradation and loss of forest cover. Land-use change and land-use conversions and forest activities need continued monitoring for assessment of cumulative impacts from all developmental activities including roads, forestry and other extractive industries.

Bhutan's First National Inventory of Greenhouse Gas Sources and Sinks to the United Nations Framework Convention on Climate Change, with the baseline of 1994, shows that Bhutan sequestered 3,321 kilotonnes of carbon. Therefore, at the global level, we remain a net sequester of greenhouse gases. However, air pollution is emerging as a significant issue in urban centers and near industrial and mining sites. The major factors responsible for deteriorating urban air quality include vehicular growth and wood burning in *bukharis*. Poor air quality at industrial and mining sites is attributed to the absence/inadequate pollution control equipment and lack of

awareness. Occupational health and safety standards are also generally low or non-existent. As a result, air pollution has a negative impact on human health with an increase in respiratory diseases observed in industrial areas.

Bhutan has rich water resources consisting of major river systems, ground water aquifers, and springs. However, the mountainous terrain of the country makes it vulnerable to ecological degradation, including accelerated soil erosion, landslides and rapid loss of habitat and genetic diversity because of forestry, agriculture, urban development and other human interventions. Challenges are to establish water quality standards and to conduct river quality monitoring and surveys of aquatic macro-faunal diversity of rivers.

Bhutan's urban areas are under pressure for development of infrastructure such as roads, telecommunication facilities, water supply and drainage, solid waste disposal, and housing facilities. Urbanization results in decreased forest, increases pressure on agricultural land, and increases the risk of erosion, floods and landslides. It is important that adequate emphasis be given to urban environmental management issues; the promotion of mechanized and environmentally friendly road construction. In addition, environmental surveys for all medium and large projects should be carried out to reduce adverse environmental effects and hence the need for even more expensive remedial actions.

Additional areas of focus are key cross-sectoral issues that are essential to the successful integration of environmental concerns with economic planning. These include: (i) the need for baseline information on key environmental indicators; (ii) the need for environmental legislation based on environmental quality standards; and (iii) the need for effective monitoring mechanisms and effective enforcement procedures.

CHAPTER 8: POVERTY

Introduction

Poverty is the most pervasive among all the cross-cutting issues in development. The alleviation of poverty therefore lies at the heart of every development strategy. Poverty manifests itself in many different dimensions, which are different in different levels of development.

The traditional forms of social cohesion and low population have largely prevented the emergence of abject poverty in Bhutan. Over the last three and half decades, the dedicated pursuit of His Majesty's wise and farsighted policies has markedly raised the living standards/quality of life of the Bhutanese. However, poverty in its conventional definition is still a reality in contemporary Bhutan. The income of people has remained low due to limited cultivable land holding, low productivity of land, poor access and lack of technical know-how.

Until recently, surveys on poverty in the country had not been conducted largely owing to paucity of information and technical capability. After four decades of planned development and with enhanced technical capability and modest information base, surveys are felt necessary both to assess the impact of development efforts towards achieving the indices of Gross National Happiness, income being one amongst others, to facilitate the Royal Government in reviewing policies, strategies and determining investment priorities and to also foster better coordination of sectoral policies and initiatives. The growing focus on poverty also calls for a more comprehensive Bhutanese definition of poverty that embraces its development philosophy, values and realities.

The Household Income and Expenditure Survey was undertaken in 2000, which revealed that the average per capita income was Nu. 1,200 per month. This translated into less than US \$ 1 per day. A more recent study namely the Poverty Assessment and Analysis, 2001 (PAA 2001), indicated the relative incidences of poverty in the different parts of the country and more importantly the striking correlation between income levels and development facilities.

The study investigated the relative differences of living conditions among 201 Gewogs based upon 10 basic facilities such as education, health, transport, motor road, telecommunication, water, sanitation, postal services, etc. being considered as main development indicators of an area. The study provides important quantitative and qualitative information related to distribution of service facilities to the Gewogs across the country. Some of the main findings of the study are the following:

- 63 out of 224 respondent Gewogs and towns report food insecurity; 65 percent of the Gewogs have no access to electricity;
- One-third of the Gewogs are not connected to feeder roads, and most of these Gewogs are in Mongar, Zhemgang, Pemagatshel and Samdrup Jongkhar;
- 45 Gewogs are below the national average for primary enrolment rate;
- Gasa and Zhemgang account for the lowest level of modern sector economic activities, and
- While there are pockets of poverty nationwide including in the urban areas, majority are in the southeastern parts of the country within 53 Gewogs, and about 75 percent of poor households live in Pemagatshel, Zhemgang, Mongar, Samdrup Jongkhar and Trashigang.

Following this study, discussions among a wide range of stakeholders were held at the Bhutan Poverty Forum (Thimphu, April 2001). Amongst others, this led to a Poverty Reduction Partnership Agreement where the Royal Government committed to the attainment of the International Development Goals for 2015 as enunciated at the World Summit on Social Development in

1995, and a number of other targets for 2012 such as reducing population growth rate to 1.3 percent, increasing life expectancy to 77 years, increasing average rural per capita income to Nu. 3,000 per month, 100 percent adult literacy and maintenance of no less than 60 percent of forest cover.

Determinants of Poverty

From the qualitative surveys conducted across the country of individuals, respondents who considered themselves poor and the recent study on urban poverty, one or more of the following main reasons were prominent:

- Lack or inadequate size of land holdings;
- Inability to own a decent house;
- Vulnerability to food shortage; and
- Lack of sufficient resources to send children to school.

Of these, the lack of sufficient resources to send children to school is a relatively new factor for some families to call themselves poor. To the extent that the education of children is both a cause and consequence of wealth, it is not surprising that the inability to educate children is considered a distinguishing feature of the poor.

Bhutan recognizes the multi-dimensionality of poverty. There are diverse indigenous notions of relative poverty in the country. However, landlessness and limited rural access emerge as the more pronounced causes of poverty.

Spatial Based Poverty

Landlessness or limited size of land holdings is one of the main causes for poverty in Bhutan and as such, it was cited in the Planning Commission's Poverty Assessment Analysis study as one of the main indicators of poverty. Given that 79 percent of the population depend on agriculture for their livelihood, though the total arable land available is only 16 percent, the Royal Government recognizes that land distribution and its proper use, will be important for alleviating poverty in the country.

Among people living off the land, those living in new-settlements known as *pam*, practicing bush-fallow cultivation, are considered poorer than those in the villages. Tropical villages often have satellite *pam* villages, composed of thatched huts in the margins of forests and farmland.

The yak herding pastoralists and agro-pastoralists in high alpine regions were considered relatively poor in the country. The hardships associated with their non-sedentary occupations and the poor yields from the lands they occupy were the main causes of their relative poverty. Those living on maize are considered better off than pastoralists but worse off than rice farmers. Now, with the rise in the price of dairy products, the economic status of pastoralists has begun to show significant improvement, perhaps surpassing that of maize farmers.

Poverty due to Inaccessibility

Every aspect of development is predicated on the ability to gain access to goods and services. The importance of this is evident from the pattern of change and growth along the motor roads, compared to interior regions that are served only by mule tracks. Those communities further from roads are in general poorer than those at closer proximity to the road. Remote areas lag behind the rest of the country in terms of food security, income generation, and school enrolment.

Employment opportunities and wages are also less in areas lacking roads. Most of the modes of modern transportation, however, such as railroads and waterways, so important elsewhere in linking the parts of a nation to the whole, are presently not feasible in the country. Thus, it is the road that determines whether, and to what extent, participation in the broad trends of development is available to the people.

The Seventh Round Table Meeting in November 2000 identified rural access as one of the key concerns to be addressed during the Ninth Plan. The lack of a proper road infrastructure has been identified repeatedly as the most critical obstacle for increased agricultural production due to high transportation costs that severely reduces farmers' incentives to produce and market their surplus. Improved rural road infrastructure will also increase the reach and efficiency of frontline extension services as well as reduce the transaction costs related to the supply of inputs.

Poverty due to Shortage of Labour within the Household

In rural settings where physical labour is necessary for livelihood, a lack of sufficient workforce for an extended period of time in the family can mean rapid decline into poverty. There is tradition of granting exemptions from many local contributions and taxes for a family facing such a severe lack of human resources, but that alone cannot always put the family on the path of recovery. The loss of a principal worker in the family is a severe constraint in contemporary rural communities. Farm labour shortage is already quite pronounced throughout the country largely prompted by rural-urban migration. In the revised legislation, community decision-making bodies such as the *Gewog Yargye Tshogchung* has been given greater powers to make further exceptions to families suffering from loss of their main workers.

Poverty due to Disaster

Climate induced disasters like floods and landslides can reduce the affected families to poverty. In recent years, agriculture land and houses have been lost among some communities to floods and landslides. Other causes of poverty can be wild life deprecations of crops, pest outbreak, and crop failure particularly for those whose holdings are very small.

Fire and deaths are more common disasters. To provide some degree of security against these occurrences, the Royal Government initiated the rural insurance scheme. Under this mandatory scheme, all rural houses are insured against fire and people have life insurance as well. The premiums are low and uniform. Irrespective of the duration of insurance paid, a fixed sum, largely funded by the Royal Government, are paid in case of deaths or destruction of houses by fire. These insurance policies have reduced the hardships that families face in times of such misfortunes.

Policy Measures

With Gross National Happiness as the key development philosophy and planning objective, the Royal Government has in practice prioritized and addressed a wide range of broad poverty concerns over the past decades, ranging from the improvement of reach and quality of basic services to the promotion of participation in formal political and administrative processes. An example of the Royal Government's broad poverty targeting is the concentration of public spending in areas such as primary health care and primary education that are relatively more beneficial to the poor.

Given the nature of poverty in Bhutan, comprehensive rural development supported by emphasis on infrastructure including social infrastructure, private sector-led income and employment

generation and good governance will remain the main strategy for reducing poverty in the Ninth Plan. Overall, the Royal Government will continue to focus on long-term preventive anti-poverty strategies including rapid economic growth, structural reforms and macro-economic stability, conditions within which any poverty that may be present is reduced. The Royal Government will, however, continue to monitor poverty against the goals that have been established to ensure that poverty is being addressed.

Land is the primary asset in the composition of wealth in agrarian societies like Bhutan. Land ownership continues to be a central issue because of the overwhelming, subsistence farming population whose well-being and prosperity is linked to land ownership. Although there are emerging sources of wealth such as manufacturing and services, land ownership is still a valuable indicator of wealth or poverty. Both the late and the present King have initiated land reform measures which have been the main poverty alleviation instruments. Land-use policies and related legislation will be reviewed during the Ninth Plan.

Homelessness and chronic hunger have been absent in the country, and relief measures were generally not required. The most targeted poverty projects are systematic land distribution, and resettlement of poor rural farmers. In the resettlement programs, allocation of free land is complemented by a range of subsidies and infrastructure to make the settlers self-reliant. Such measures are taken because they benefit only those who have little or no land assets.

Given the strong correlation between poverty and access to infrastructure as seen in the PAA study, the Royal Government places great emphasis on the construction of new roads in the Ninth Plan, especially farm and feeder roads. The Ninth Plan includes proposals for more than 500 km of farm roads, 60 percent of which will be constructed in the four Dzongkhags (Mongar, Zhemgang, Pemagatshel and Samdrup Jongkhar) that includes one third of Gewogs not connected to feeder roads. In a similar vein, more than 123 km of new feeder roads have also been proposed, most of which will again be constructed in these Dzongkhags. Around 77 km of new all-weather roads have also been planned for addition to the national highway network in the Ninth Plan. Significantly, the 45 km Gomphu-Panbang highway will eventually connect larger tracts of the four poorest Dzongkhags to the national highway. This is expected to usher in great opportunities that will alter the poverty profile of these four Dzongkhags as well as the extent of poverty in the country.

Other initiatives in the Ninth Plan that will have a large impact on the poor include the policy of the Royal Government to cater to remote areas through a combination of schools with boarding facilities and construction of new schools within 3 km or one hours walking distance. Some schools in selected Dzongkhags will also be equipped with appropriate resources to enable disabled children to access education locally.

Statistical and monitoring and evaluation capabilities will also be strengthened to facilitate monitoring of the impact of programs and progress against long-term goals and to foster better coordination amongst the main sectors. The Royal Government will initiate more detailed analytical work during the Ninth Plan by strengthening research and diagnostic work to provide benchmarks. A Household Income and Expenditure Survey will be undertaken sometime in the year 2002/3.

Poverty in the urban areas is also emerging as a key concern for the government. To assess the magnitude and situation of urban poverty and thereafter to frame relevant strategies, an urban poverty study is being launched.

Some of the other strategies to raise the general standard of living throughout the country include further shifting of decision-making powers to the people with the revision of the GYT and DYT

Chathrim, effective delivery of agricultural extension services and agricultural inputs, expansion of education and training programs, and support to income generating activities like cottage industries and eco-agro tourism. The Royal Government will also continue to ensure the provision of quality health services, while expanding infrastructure such as telecommunications, electricity and housing and other urban facilities. Micro-credit facilities will also continue to be provided while maintaining low rural taxes. The Royal Government is also targeting a 100 percent provision of piped potable water supply by the end of the Ninth Plan.

CHAPTER 9: EMPLOYMENT

Introduction

The country has undergone a major transformation since the launch of planned socio-economic development in 1961. In the early 1960s, the country's entire population was dependent on agriculture for its livelihood and during the same period, the country had 11 primary schools that catered to less than 500 children. It was only in 1968, that the first 20 students completed high school education within the country.

The result of the priority accorded to human resource development (HRD) by the Royal Government is now visible with thousands of students graduating from various levels of the education system, with almost all of them migrating into urban areas. In addition, around 3,800 rural people migrate to urban areas annually. As a result, only 79 percent of the population is now dependent on agriculture. The decline in the rural population is likely to be accelerated over the years as the current trend of rural-urban migration continues unless, suitable jobs both farm and off-farm can be created in rural areas. But at the same time, development efforts in the country continue to be constrained by shortage of human resources as is evident from the presence of over 50,000 foreign workers in the country.

It is estimated that around 50,000 students will enter the labour market in the Ninth Plan, which will increase to 100,000 by the year 2010. In addition, if the present trend of rural-urban migration continues, it is estimated that around 19,000 economically active rural persons will migrate seeking employment in the urban areas by the end of the plan period. Thus, approximately 70,000 jobs will need to be created outside farming by the end of the Ninth Plan or approximately 14,000 jobs every year. One of the numerous challenges that the country will be confronted with will therefore be creation of adequate gainful employment opportunities for the exponentially increasing Bhutanese work force. The challenge is further aggravated by diminishing employment opportunities in the public sector, the traditional employer of literate population. Unemployment, a phenomenon unknown to the country till recently, will soon be a reality that the country will be forced to grapple with. The need to create new employment opportunities in the country from now on have become particularly urgent.

The emerging unemployment, which currently is more frictional than structural, is exacerbated by the mismatch between supply and demand and the reluctance of the school leavers to take up blue-collar jobs in the private sector. The employment and working conditions in the private sector are still developing. Lack of social standing, low wages, job insecurity, lack of career advancement opportunities, training opportunities and post retirement benefits in majority of the private sector firms are the perceived reasons for the school leavers' reluctance to join the private sector. The private sector on the other hand finds the school leavers either not equipped with the necessary skills or experience required, or reluctant to perform manual works.

Policy Measures

Given this situation, one of the urgent strategic options that will be considered during the Ninth Plan is the expansion of skills development program to equip the new generation of labour force with the skills demanded by the labour market. At the same time, in addition to creation of additional employment opportunities through accelerated growth and development of the private sector, both on-farm and off-farm employment opportunities will be created through appropriate policy interventions including land reforms, extension of credit facilities, crop diversification, rural infrastructure, development of improved marketing facilities and promotion of co-operative

organizations with an aim to make rural life and employment more attractive to youth. Therefore, increasing the labour absorption capacities of both the urban and rural economies is a critical concern that will be addressed during the Ninth Plan.

Other employment creation measures such as establishment of handicrafts and small-scale industries both in the rural and urban areas will be considered on priority and the enterprises will be assisted to adapt themselves to technological advances and changes in the market conditions. At the same time the construction industry will be encouraged to adopt improved and labour saving technologies to attract the literate workforce into the industry as well as to enhance the quality of construction in the country. In addition, service industries such as tourism, which have good potential for additional employment generation, will be promoted. Tariffs, tourist destinations, infrastructural development and enhancement of quality of services will be reviewed and considered on priority to accelerate the growth of this industry. Simultaneously, employment and working conditions in the private sector will be improved through policy interventions and enactment and enforcement of laws, rules and regulations.

The Department of Employment and Labour which is mandated to provide a wide range of services and labour market interventions to promote employment, and facilitate a more efficient operation of the nation's labour markets will pursue this mandate by supporting policy, legal and operational interventions related to its functional responsibilities in the following areas:

- Employment services, human resource development and skills enhancement, related to labour market realities;
- Labour market information and applied research, directed to generating timely and relevant information to assist all interested parties to make informed decisions in relation to existing and projected labour market conditions;
- Labour protection, related to formulating and implementing policies and laws directed to ensuring fair conditions of employment, and a working environment that encourages safety and health in all work places; and
- Labour relations, directed to encouraging and promoting policies and practices for harmonious relations under employment contracts, with a view to preventing labour-management disputes and resolving fairly and quickly any disputes that do arise.

More specifically, the operational strategies of the Department of Employment and Labour will concentrate on the following services and interventions during the Ninth Plan:

- Encouraging and supporting consultation and coordination between all government and private agencies concerned with employment promotion and creation;
- Facilitating the formulation and implementation of workable policies for employment promotion and generation;
- Facilitating the development and availability of suitably skilled workers to support national development;
- Preparing manpower forecasts to indicate future quantitative and qualitative requirements for various categories of labour;
- Preparing and distributing information on labour market trends in the form of regular labour market information bulletins;
- Monitoring the employment of foreign workers with a view to ensuring that available and qualified nationals are not disadvantaged in their quest for suitable employment opportunities;
- Providing employment exchange services directed to registering job seekers and job vacancies, and facilitating the matching of the qualifications, experience and expectations of job seekers with the requirements of employers;

- Providing and 'networking' vocational guidance, information and employment counseling services in close cooperation with educational institutions and training providers, in both State and private sectors;
- Conducting and supporting job fairs and job bazaars, directed to promoting awareness of job vacancies and job opportunities, and encouraging direct contact between job seekers and potential employers;
- Preparing and distributing 'user-friendly' pamphlets and brochures on career opportunities, and the education and training requirements to access such opportunities;
- Preparing, in consultation with other concerned Ministries and agencies, policies, laws and regulations concerning the terms and conditions of employment for workers, based on the principles of fairness and justice;
- Facilitating the preparation of a national wage policy and implementation strategy taking due account of minimum wage, productivity, competitiveness, and equity considerations;
- Preparing, in consultation with other concerned Ministries and agencies, policies, laws and regulations concerning the safety and health of workers in all areas of work;
- Encouraging and monitoring compliance with policies and laws concerning terms and conditions of employment, safety and health, in all workplaces covered by such policies and laws;
- Encouraging harmonious relations between workers and employers within enterprises with a view to preventing labour conflict and disputes;
- Providing the machinery, in cooperation with other agencies as appropriate, for the resolution of labour disputes, both individual and collective; and
- Researching and examining the potential role of the private sector in the delivery of labour and employment services, as traditionally provided by the State labour administration system.

CHAPTER 10: WOMEN, CHILDREN AND GENDER

Introduction

People have always been central to the socio-economic development efforts of the Royal Government and human development remains one of its important strategies. Socio-economic development policies and strategies, and ratification of international instruments such as the UN's Convention on Eliminating all forms of Discriminations Against Women (CEDAW) and Convention on the Rights of the Child (CRC) confirm the high value attached to women and children in the country.

Bhutanese women do not face any institutionalised form of discrimination- politically, socially, economically or legally. Law treats women and men equally and many of its provisions protect the rights and interests of women and children.

Mortality Rates

Child survival is a public health priority. Survival rates have improved with effective primary health care system (90 percent coverage), mother and child care initiatives, sustained immunisation program and increased access to safe drinking water (77.8 percent) and improved sanitation. Infant mortality rate and under five mortality rates dropped from 71 and 97 per 1,000 live births in 1994 to 60.5 and 84 respectively in 1999. The sex specific mortality rates in age group above nine reveal that in each group, death rates are lower for women. This is an indication that factors influencing the survival of women are as good as they are for men. For the whole population, women outnumber men and on average, there are 100 women per 94.7 men.

Table 3: Mortality Rates (Per 1,000 population)

Age group	Mortality Rates		Total
	Male	Female	
<9	7.0	7.2	7.1
10-19	1.5	1.1	1.3
20-29	2.8	1.6	2.2
30-39	2.9	1.9	2.4
40-49	8.6	7.7	8.15
50-59	8.4	8.1	8.25
60-69	22.3	19.7	21.00
70+	81.5	55.4	68.45

Source: The National Health Survey, 2000

Establishment of facilities and intensification of programs related to maternal and child health during the plan will further decrease the mortality rates of women. Besides this, the increase in the number of trained birth attendants, and antenatal services will be key program activities to further reduce maternal mortality rates. Today the proportion of births attended by a trained person is only about 24 percent.

Reproductive Health and Family Planning

There is no significant preference for male child over female among most sections of the population and sex-biased abortions are unknown among the Bhutanese. Effective service delivery and aggressive advocacy campaign in important areas of safe motherhood, concept of small family, women empowerment, adolescent reproductive health and prevention of STD/HIV diseases have also attributed to general improvement of the health of women and children. Population growth rate has declined from 3.1 percent in 1994 to 2.5 percent in 1999. Considering the importance of an adolescent's awareness in reproductive health and family planning as an individual and as a potential advocate, it forms a part of the school, non-formal education curricula as well as teachers' training curriculum.

Nutritional Status

Nutritional status of people have improved over the years, more significantly for women and children due to an effective network of health care services, increased awareness in health care and growing economic prosperity. Nutrition is an integral component of primary health care. Breast-feeding in the country is universal and efforts are being made to encourage mothers to breast feed exclusively for four months and continue this for two years. Knowledge on complementary feeding and other aspects of care are also emphasized.

The nutritional status of female children is better than male and their improvement are also more marked. However, the overall nutritional status of the population is still unsatisfactory, which may be attributed to food shortage, exposure to adverse conditions, infections, poor dietary habits or other factors such as low birth weight.

It is generally observed that there is no differential access to food between women and men. Malnutrition in women is mainly due to lack of awareness of special dietary needs for expectant and postpartum mothers and weaning and feeding practices of children.

Particular attention has been paid to addressing anemia, which has been prevalent widely among both women and children, by iron and folic acid supplements, and by promoting vegetable consumption. A multi-sectoral effort is being made to improve the nutritional status of families, in particular women and children.

Early Childhood Care and Development

Early childhood requires a conducive and stimulating environment for enhancement of emotional, intellectual and physical development. A child in a family, which is traditionally extended, is the centre of attention, love and affection. Every family member, siblings to grandparents, plays a role in childcare and development. It is generally perceived that child development is a natural process and the variety of activities that stimulate child development are carried out more instinctively than consciously.

In urban centres, the emerging trend of working parents, and extended family system gradually shifting to nuclear families, pose challenges to child development. The traditional childcare support is also disappearing in the emerging situation.

Recognizing the importance of Early Childhood Care and Development (ECCD), the Royal Government has taken initiatives to build on the positive practices of childcare and development and addressing the emerging needs and those aspects of the tradition that require interventions. The Ministry of Health and Education's Ninth Plan accords priority to ECCD and integrated initiatives will be taken.

Children with Disability

It is estimated that about 3.5 percent of the total population has some form of disability. Disabilities are acquired before or after birth as a result of childhood illness, genetic factors, micro-nutrient deficiencies and accidents. Prevention of physical and mental disability and rehabilitation form an important component of primary health care. The National Institute for the Disabled, which currently educates and trains visually impaired children, is being diversified to include programs for children with other disabilities. The Royal Government's strategy is based on integration of disabled children into regular classrooms, instead of taking them away from their families and communities. A multisectoral group has been formed to initiate community-based rehabilitation programs, endeavoring to integrate health care, education and training with the ultimate objective of helping disabled children to become productive members of the society.

Access to Basic Facilities

Equal access to health and education facilities is fundamental to the transformation of society towards gender equality. The gross primary enrolment rate as of 2001 was estimated at 72 percent. Girls' enrolment in primary level is 46 percent in 2000 and it is increasing faster than boys' enrolment. The dropout rates are higher for girls once they pass the primary education level. Gender disparities are higher in the higher secondary schools, tertiary, technical and vocational institutes. Girls constitute about 35 percent of the total student population in the higher secondary levels while they form 28.4 percent of the enrolment in Sherubtse College. They also constitute 24 percent of the total enrolment in the institutes providing technical education. Consequently, female literacy rate is only close to half that for men. Improving enrolment of girls in schools, in particular their proportion in higher education levels, in vocational training, science and technology are important areas of current action to ensure development and empowerment of women.

With respect to health services, programs on reproductive health care, safe motherhood, family planning and prevention of sexually transmitted diseases, focus on women. The budgetary allocation in health sector has also supported women and child-centered programs. In addition, considering that the incidence of illness is higher for women, the Royal Government will encourage among women in rural areas to seek medical services more frequently. At present, surveys reveal that there is no significant difference in use of modern health services between men and women.

Professional Equality and Representation in Public Life

In recent years, there has been a rapid increase in the number of women in the legislature. 14 out of the 99 people's representatives in the National Assembly are women. One of the six Royal Advisory Councilors elected by the people is a woman. Number of women with law degrees in the legal system are also on the increase.

Women constitute 19 percent of the civil service. The small number of women in senior positions of the bureaucracy is a reflection of the lower enrolment of women in tertiary education. The lack of primary schools nearby was the main reason for lower enrolment of girls in the early years of development. The other reason was that many qualified women have resigned from their jobs to raise families.

The Royal Government continues to promote wider representation and participation of women in broader decision-making bodies as well as the civil service. The situation is already improving with the increase of enrolment of girls in the higher secondary levels. Further, with the growing number of educated women, there will be a need to pay special attention to their employment needs. Women entrepreneurs are prominent in retailing, hotels, travel and tourism, construction, and consultancies.

Ownership and Household Equality

In traditional society, bulk of which is matriarchal, women were expected to hold the house and landed property while sons would leave home and settle in their wives' houses. This custom is based on the belief that women need more economic security to enable them to take care of their parents and raise children. This has led to customary right of inheritance by daughters. It is estimated that almost half of land registration titles, which is an index of property distribution, are recorded in favour of women. A gender pilot study conducted in 2001 reported that in rural areas, 60 percent of the land ownership registration was recorded legally in favour of women and in the urban areas, 45 percent of property titles such as shares, building and business licenses was registered in favour of women.

The concept of the 'head of households' is a relative one. Household decision-making varies from issue to issue and on the capability of the individual. There is no fixed appointment of roles to either the wife or the husband. In case of divorce, laws provide for fair share for equitable spousal and child support.

Policy Measures

As the economy and society modernizes, diverse needs emerge prompting shifts in traditional roles and responsibilities, values systems, transformation of family patterns, rural-urban migration, amongst others. Experiences have revealed that during such a transition, women and children are particularly vulnerable. The Royal Government acknowledges the emerging economic and social trends and has committed resources and directed its plans and programs to improve mother and child health and mainstreaming gender needs and interests. Efforts will be made to maintain family values as a core issue.

Provision of quality service will be accorded priority. All will have access to potable water supply and sanitary facilities by the end of the Ninth Plan. Multi-sectoral initiative on Health and Nutrition will be reinvigorated. Reproductive health services and family planning strategies will be intensified. Surveillance system and prevention of STD/AIDS through education and advocacy will be strengthened. Establishment of child care centres and nurseries will be encouraged. Some schools in the Dzongkhags will be equipped with appropriate resources to enable disabled children to access education locally.

In order to cater to remote places, schools will be constructed within 3 kms or one hour's walking distance. Counseling and guidance catering to the special needs of students and girls in particular will be strengthened in the schools. More non-formal education (NFE) centres will be established to cover half of the population by the end of the Plan. Favourable employment conditions will be formulated to enable women to pursue their career and raise children.

CHAPTER 11: PRIVATE SECTOR

Introduction

As the private sector plays an important role in fostering economic growth as well as creating employment, renewed emphasis will be given to the development of a dynamic and strong private sector in the Ninth Plan. Recognizing the profound changes that are taking place with the process of global economic integration, Bhutan's private sector has to develop to take advantages of the immense opportunities presented by trade liberalization as well as to compete in the international markets.

The private sector continues to face several constraints arising from the small size of the domestic market, lack of labour, underdeveloped infrastructure and the disadvantages associated with landlockedness among other factors.

Policy Measures

Strengthening the Legal and Regulatory Environment

In an effort to create an enabling environment for the private sector, several legislations were enacted during the Eighth Plan period. They include: the Bankruptcy Act, 1999; The Movable and Immovable Property Act, 1999; The Negotiable Instruments Act, 2000; revised Companies Act, 2000; Copyright Act, 2001; Industrial Property Act, 2001; Commercial Sales of Goods Act, 2001 etc. In addition, rules governing imports and import licensing were streamlined.

Measures will be taken to further strengthen the regulatory environment during the Ninth Plan. Simplifying procedures and removing administrative bottlenecks will form the key policy measures. Some of the legislations that will be introduced or streamlined include the following: Business Licensing Act, Foreign Investment Act, Occupational Safety and Health Act, Consumer Protection Act and Contract Act.

The proposed Foreign Investment Act will be one of the most significant legislations for private sector development, as it will affect the private sector both in terms of opportunities and competition. The Act will clearly define the scope and modality of foreign direct investment and ensure greater transparency.

Infrastructure Development

As a landlocked and mountainous country, the development of road infrastructure is of great importance for Bhutan for the delivery of social services as well as the development of the private sector. The existing road infrastructure has to be improved to reduce transportation costs and enable the transportation system to carry greater load capacity. Therefore, the construction of new roads, improvement and maintenance of existing roads will be given high priority in the Ninth Plan.

Recognizing the importance of improving and expanding the road infrastructure, Royal Government plans to invite participation of the private sector in infrastructure development by using a build-operate-transfer approach. While the full modalities are yet to be developed, such partnerships will facilitate overall infrastructure development as well as create more opportunities for the private sector.

Efforts will be made to expand the air transportation system, including domestic helicopter services, as it will help boost the tourism sector and also help for marketing high value agricultural products. A civil aviation master plan including the feasibility study of an alternative all-weather airport is being formulated for this purpose.

In order to overcome the constraints arising from landlockedness, a dry port facility will be established in Phuentsholing. This will enable the use of containerized transport and will lower the transaction costs involved with longer transportation time and handling charges currently incurred.

To boost industrial development, five industrial estates will be developed around the country in Chhukha, Sarpang, Samdrup Jongkhar, Mongar and Zhemgang Dzongkhags. The establishment of the industrial estates with provisions for power, telecom and water facilities will reduce the initial development costs faced by entrepreneurs. At the same time such estates will offer advantages for sharing costs of pollution mitigation and other economies of agglomeration.

Support to Enterprises

The private sector is reluctant to invest in pre-feasibility studies as it is considered a risky and an expensive investment. Thus government support in carrying out such studies will have a catalytic impact for the development of the private sector. To explore and map the comparative advantages and opportunities for the private sector development, industrial investment study will be conducted for every Dzongkhag in the Ninth Plan period.

Continued support will be extended to encourage the growth of small and micro-industries, particularly those which are rural based. Efforts will be made to promote industries in the interior of the country to provide off-farm employment opportunities in rural areas. For example, the essential oils industry already provides employment to over 2,000 people. To multiply the economic benefits from this industry, more downstream processing capacity will be created along with the establishment of a quality control laboratory.

Support to the private sector will also include the provision of business development advisory services. The focus on rural-based industries will be on the establishment of traditional skill-based enterprises along with related training and technical assistance for product development and marketing. Loans for such enterprises will continue to be provided by the Bhutan Development Finance Corporation.

The private sector will also benefit through greater support to the tourism industry and its immense potential given its many backward linkages. The activities in the Ninth Plan includes: the formulation of a long-term tourism development plan; addressing the sector's seasonality issue; providing training in the hospitality industry; improvement of amenities at festivals and along the national highways; standardization and certification of tourist accommodation; development of new trekking routes; and participation in international fairs and other venues to promote the country as a tourist destination.

Partnership between the Financial and Private Sectors

Lack of adequate finances or access to finances, coupled with high interest rates and high collateral requirements, have often been cited as significant drawbacks for entrepreneurs. At a broader level, the problem also seems to owe to the lack of competition among the financial institutions, which has in turn hindered the development of more banking products and services.

Lending based on high collateral requirements was mainly due to the high risks involved due to weak legal framework. This concern has now been addressed to a great extent with the enactment of legislations such as the Bankruptcy Act (which defines the roles and responsibilities of the

lenders and borrowers). To foster venture capital companies, more cash flow based lending, rather than collateralized lending, and at a later stage, the public issue of private debt and equity instruments - will be appropriate. In the Ninth Plan, stronger partnership between the financial sector and private sector will be promoted by encouraging more interaction and innovative financing packages.

Integration in Regional and Global Markets

Continuous efforts will be made to gain access to markets and opportunities through enhanced trade liberalization initiatives at bilateral, regional and international levels. While Bhutan has a strong trade link with India facilitated by a Free Trade Arrangement, efforts will be made to deepen the trade links with Bangladesh and enter into bilateral trading arrangements with Nepal and Thailand. Bhutan will also seek to diversify its export market to include other international markets. Bhutan has initiated the accession procedures to become a member of the World Trade Organization and seeks to complete all the required accession formalities to become a member in the Ninth Plan.

The Bhutan Export Promotion Centre will continue to conduct studies, and mount market research, trade missions and international trade fairs delegations to extend the reach of Bhutanese products. The Centre will continue to provide matching grants to enable interested private sector firms participation in international fairs. To promote export-based industries, the establishment of an Export Credit Guarantee Scheme will be explored.

Human Resource Development

The lack of managerial and technological skills continues to be a major cause for the slow development of the private sector. To address this constraint, a specific human resources development plan for the private sector will be drawn up in the Ninth Plan. The Royal Government will seek grants from international agencies, and provide tax incentives for *bona fide* training expenses for firms. In addition, in-country entrepreneurial development courses will be developed and expanded. Reflecting the high priority accorded to human resource development in the private sector, 50 percent of the total HRD outlay for the Ninth Plan, has been earmarked for the private sector.

To address the shortage of skilled and unskilled labor, the National Technical Training Authority (NTTA) will conduct vocational skills training in various places around the country. Skills certification will also be introduced to ensure closer alignment between the skills of the workers and the needs of the employers as well as to establish reference for wage levels. The Department of Trade will conduct basic training courses for traders to develop skills such as bookkeeping, business management and marketing.

Privatization and Divestment

To foster competition, better services, higher growth, and wider ownership, the Royal Government will continue to privatize and divest its holdings in the various corporations in the Ninth Plan. The Royal Government will focus on regulation, supervision, monitoring and provision of public goods and infrastructure and will continue its emphasis on demonopolisation and ensure that no monopolies emerge. The licensing approach will be made more transparent and liberal and the viability of an enterprise will be the responsibility of the entrepreneur.

Besides privatization by transferring ownership and encouraging entry, more opportunities will be made available to the private sector by the Royal Government by outsourcing works such as road constructions and other services.

PART IV
THE NINTH PLAN

CHAPTER 12: THE NINTH PLAN

Goals

The Ninth Plan has five overall goals:

- Improving quality of the life and income, especially of the poor;
- Ensuring good governance;
- Promoting private sector growth and employment generation;
- Preserving and promoting cultural heritage and environment conservation; and
- Achieving rapid economic growth and transformation.

The economy is projected to grow at an annual rate of 7-9 percent. To achieve this growth projection, efficient and reliable infrastructure services, sound macro-economic policies and a strong domestic revenue base will be required. The financial outlay of the Ninth Plan has made provisions to support these mutually reinforcing requirements.

Strategies

Infrastructure Expansion

The plan accords high priority to improve and expand the road network, particularly feeder roads to improve rural access. Thus the road sector receives the largest share of the Ninth Plan financial outlay. The Road Sector Master Plan will offer opportunities to foster coordinated developments in other sectors such as agriculture and industry.

The plan outlay also provides for expansion of power transmission lines and national grid(s) to facilitate export of power and to promote growth and development of power intensive industries in the country. Provisions have been made to provide electricity to about 15,000 rural households during the Plan.

As telecommunication infrastructure and information technology are vital for economic growth and evolution of the country into a knowledge based society, the plan provides for nationwide expansion as well as improvement of quality of these services. This will include expansion of telecommunication facilities to all the Gewogs and invitation of private sector participation in this sector.

Urban infrastructure particularly housing has also been accorded high priority in the Ninth Plan. This has become necessary to accommodate urban growth and related demand for services.

Sound Macro-economic Policy

To maintain a steady and stable rate of economic growth, it is important that appropriate macro-economic policies are formulated. The size of the budget deficit on the current account has, therefore, been set at 2-3 percent of GDP to ensure a stable macro-economic environment. Inflation rate is expected to average at around 7-8 percent per annum. An expansion of bank lending to the private sector for domestic investment projects at competitive interest rates, without threatening the inflation rate target, will be a major monetary and fiscal policy goal in the Ninth Plan. The maintenance of a healthy level of foreign exchange reserves, and sustainable level of domestic and external debt will continue to be important macro-economic strategies.

The objective of meeting recurrent expenditures with domestic revenue has been met successfully during the past three fiscal years. The current expenditure growth has averaged 10 percent per annum and domestic revenue growth at 20 percent per annum during these three years. The Royal Government will continue to aim to meet the entire recurrent expenditures by domestic

revenue in the Ninth Plan, and progressively move towards recurrent budget surplus. Further efforts will be made to increase revenue yield through improved tax administration and introduction of new tax sources to broaden the revenue base.

Ensuring Good Governance

The Ninth Plan represents yet another watershed in the political and administrative reforms that have been initiated by His Majesty the King in the past two decades. The process of decentralization will receive a new thrust with the introduction of the revised GYT and DYT *Chathrims* concurrently with the launch of the Ninth Plan. The DYT and GYT will be granted autonomy to make plans, allocate resources as well as frame rules and regulations applicable within their respective jurisdictions. To enable financial decentralization, the plan allocates separate budget for activities, which will be directly formulated, approved and executed at the Gewog and Dzongkhag levels.

The most significant reform initiated by His Majesty the King thus far, will be the adoption of the constitution during the Ninth Plan, fully elaborating on the legislative, executive, and judicial powers as well as rights and responsibilities of individuals. Anticipating these changes, the plan foreshadows the requirement of new structures and processes to be introduced. In addition, the budget strategy accords substantial allocation to the agencies enforcing accountability and law, such as the administration of justice, law enforcement, public accounts and auditing, research and policy analysis, and other key agencies which bring catalytic interventions towards increasing the transparency, efficiency and effectiveness of the Royal Government.

These social and political reforms will help to further the people centered development approach as well as ensure that the cohesion security and the sovereignty of the country is protected.

Improving Access and Enhancing Social Services

As majority of the Bhutanese people depend on agriculture and its allied activities for their livelihood, the Ninth Plan will place priority to improve rural road infrastructure combined with multi-sectoral plan for the modernization of agriculture. These interventions are aimed to enhance agricultural productivity as well as improve farmers' access to the markets. The plan also has provision to create opportunities for entrepreneurs in agro-business, horticulture, and small-scale handicraft industries.

Access to primary education, primary health care and safe water and sanitation has a major impact on the quality of peoples' lives. The plan supports these social sector programs and major emphasis will be given to improve the quality of services and consolidate the achievements in terms of physical expansion.

The consistently higher budget allocation to the social service sector is a reflection of the priority attached to human resource development and a continuation of the tradition of welfare entitlement.

Challenges to Development

Profound political and economic changes combined with rapid technological advancements in the world over the last quarter of the 20th century have ushered in new challenges and opportunities and have compelled big and small nations alike to re-examine their development policies. Political strategies are giving way to economic imperatives and opportunities. Many still continue to struggle to establish a stable political environment which is critical for sustained economic growth. Population explosion, environmental degradation, growing poverty and economic disparities, asymmetrical economic development within and among nations, and their volatile consequences

pose formidable challenges to global sustainable development. The world is also seeing a surge in terrorism and conflicts along ethnic, cultural and religious lines, many of which have their roots in complex historical, social, political and economic causes. In an era of growing interdependence with the onset of globalization, socio-economic and political problems that were once geographically isolated are increasingly assuming a transnational nature.

As a small landlocked country, lacking in political, economic and military resources, the external challenges that Bhutan faces are indeed daunting and in some cases threaten its very existence. Of significance is the problem of United Liberation Front for Assam (ULFA) and National Democratic Front of Bodoland (NDFB) militants from the Indian state of Assam, who taking advantage of the porous border are using the thick forests along southeastern parts of the country as safe havens. The intrusion of militant cadres of ULFA and Bodo into these jungles, and the issues related to the people in the camp in eastern Nepal remain two major security threats to the country. The presence of militants along the border is not only a constraint to the country's development process but poses a serious threat to peace, security, and the territorial integrity of the country. The atrocities carried out against Bhutanese citizens traveling via Bhutan-Assam border in 2000 and 2001 illustrate the threat it poses. Measures to remove them from the country is high national priority. If the on-going efforts to resolve the problem peacefully fail, Royal Government will be compelled to exercise the military option, in which case the development process of the country will be critically affected.

For a country thinly populated, ecologically fragile, and with limited resources, the issue of large-scale illegal immigration through its porous borders is another serious challenge to the development process. This problem has already manifested itself in the past in the form of terrorist activities and violent demonstrations that eventually led to the problem of the people in the camps in eastern Nepal. The capitalization of the problem of illegal immigration into a political and human rights issue by dissidents with ulterior motives was a major set back in the country's development process and continues to be a matter of national concern.

Ninth Plan Outlay

The Seventh Plan outlay was Nu. 15,590 million: Nu. 6,980 million was allocated for capital expenditure and Nu. 8,610 million for current expenditure. Since domestic revenue was insufficient, external assistance supported both recurrent and capital expenditures.

At around Nu. 40,000 million, the Eighth Plan expenditure represented a significant increase from the Seventh Plan. Domestic revenue could comfortably meet current expenditures, while external assistance played a very important role in financing the Plan.

The total Ninth Plan outlay is Nu. 70,000 million, of which Nu. 31,682 million is for current expenditures, Nu. 34,869 million is for capital investments and Nu. 3,449 million is earmarked for debt servicing. Major investment projects, such as the Tala, Mangdechhu and Punatsangchhu Hydroelectric Project and other major private investments has been kept outside the framework of the plan outlay.

While the Nu. 70,000 million plan outlay represents an increase of over 75 percent of the Eighth Plan expenditure, it is only about Nu. 54,000 million in real terms after allowing a projected 7 percent inflation rate over the Ninth Plan.

The estimated domestic revenue of Nu. 32,000 million is expected to cover the current expenditure, while external assistance amounting to Nu. 35,000 million would be necessary to meet the capital expenditure.

Bhutan received generous external assistance during the Eighth Plan with over 60 percent of plan expenditures financed by external aid. Continued good will and assistance of the development partners will be necessary to successfully implement the Ninth Plan. As and when resources are forthcoming, additional programs which are proposed in the sectoral plans but could not be included within the resource allocation of Nu. 70,000 million, would be taken up. Moreover, the ceiling necessary to be applied on the annual expenditure shall not be applied on donor-funded programs.

The Ninth Plan accords priority to infrastructure and social sectors. Development of infrastructure is accorded priority to create productive capacity both in the economy and the people. In the social sector, focus will be on consolidation and improvement of quality of services. Hence proposals for expansion in this sector will be considered judiciously.

Table 4: Ninth Plan Outlay and Allocation (Nu. Million)

	ORGANIZATION	RECURRENT	CAPITAL	TOTAL	Percent
1	Autonomous Agencies	4,649.248	4,972.517	9,621.765	13.7
a	His Majesty's Secretariat	77.172	3.950	81.122	0.1
b	National Assembly Secretariat	83.058	6.720	89.778	0.1
c	Royal Advisory Council	52.183	1.300	53.483	0.1
d	Council for Ecclesiastical Affairs	719.926	77.657	797.583	1.1
e	National Commission for Cultural Affairs	193.974	215.831	409.805	0.6
f	Judiciary	364.164	125.966	490.13	0.7
g	Royal Audit Authority	190.578	24.500	215.078	0.3
h	Royal Civil Service Commission	64.075	3,000.000	3,064.075	4.4
l	Bhutan Olympic Committee	166.483	43.720	210.203	0.3
j	Dzongkha Development Commission	48.464	10.000	58.464	0.1
k	National Environment Commission	29.240	31.728	60.968	0.1
l	Cabinet Secretariat	16.277	1.300	17.577	0.0
m	Bhutan Broadcasting Service	0.000	348.000	348	0.5
n	Planning Commission Secretariat	63.955	45.000	108.955	0.2
o	Police, Jail and Fire Services	2,064.353	355.010	2,419.363	3.5
p	Royal Institute of Management	156.345	149.000	305.345	0.4
q	National Technical Training Authority	335.925	500.000	835.925	1.2
r	Office of the Legal Affairs	17.709	17.595	35.304	0.1
s	Centre for Bhutan Studies	5.367	15.240	20.607	0.0
2	Ministry of Home Affairs	486.384	130.569	616.953	0.9
a	Secretariat	230.469	30.661	261.13	0.4
b	Department of Survey and Land Records	183.647	22.845	206.492	0.3
c	Department of Registration	72.268	77.063	149.33	0.2
3	Ministry of Finance	1,257.252	354.865	1,612.117	2.3

a	Secretariat	675.892	27.500	703.392	1.0
b	Department of Budget and Accounts	44.263	17.800	62.063	0.1
c	Department of National Properties	150.992	25.330	176.322	0.3
d	Department of Revenue and Customs	357.346	257.535	614.881	0.9
e	Department of Aid and Debt Management	28.759	26.700	55.459	0.1
4	Ministry of Foreign Affairs	1,278.692	176.209	1,454.901	2.1
5	Ministry of Health and Education	4,581.093	2,893.409	7,474.502	10.7
a	Secretariat	129.076	0.000	129.076	0.2
b	Department of Health	2,802.426	1,703.409	4,505.835	6.4
c	Department of Education	1,598.485	998.476	2,596.961	3.7
d	Department of Employment and Labour	51.106	191.524	242.630	0.4
6	Ministry of Agriculture	2,548.361	2,000.000	4,548.361	6.5
a	Secretariat	435.063	-	435.063	0.6
b	RNR	2,113.298	2,000.000	4,113.298	5.9
7	Ministry of Trade and Industry	2,210.434	6,351.081	8,561.515	12.2
a	Secretariat	112.070	371.320	483.390	0.7
b	Department of Trade	73.129	384.252	457.381	0.7
c	Department of Industry	110.277	900.000	1,010.277	1.4
d	Department of Power	1,717.949	4,500.000	6,217.949	8.9
e	Department of Geology and Mines	138.846	70.000	208.846	0.3
f	Department of Tourism	58.163	125.509	183.672	0.3
8	Ministry of Communication	1,710.618	8,672.516	10,383.134	14.8
a	Secretariat	111.265	38.112	149.377	0.2
b	Department of Urban Development and Housing	187.379	2,400.000	2,587.379	3.7
c	Department of Roads	1,136.165	5,524.094	6,660.259	9.5
d	Department of Civil Aviation	127.206	403.920	531.126	0.8
e	Standard Quality and Control Division	21.491	45.100	66.591	0.1
f	Road Safety and Transport Authority	89.666	162.112	251.778	0.4
g	Bhutan Telecom Authority	17.646	21.050	38.696	0.1
h	Division of Information Technology	19.800	60.000	79.800	0.1
i	Construction Development Board	-	18.128	18.128	0.0
9	Others	5,156.921	3,449.046	8,605.97	12.3
a	Debt Servicing	393.240	3,449.046	3,842.286	5.5
b	Common Public Expenditure	2,009.804	0.000	2,009.804	2.9

c	Contingency for Remuneration	2,753.877	0.000	2,753.877	3.9
I	Total (Central, Autonomous and Others)	23,879.003	29,000.212	52,879.215	75.5
10	Dzongkhags	7,655.281	7,224.734	14,880.015	21.3
11	Gewogs	147.183	2,093.587	2,240.770	3.2
II	Total (Dzongkhags and Gewogs)	7,802.464	9,318.321	17,120.785	24.5
III	Total Plan Outlay (I + II)	31,681.467	38,318.533	70,000.000	100.0

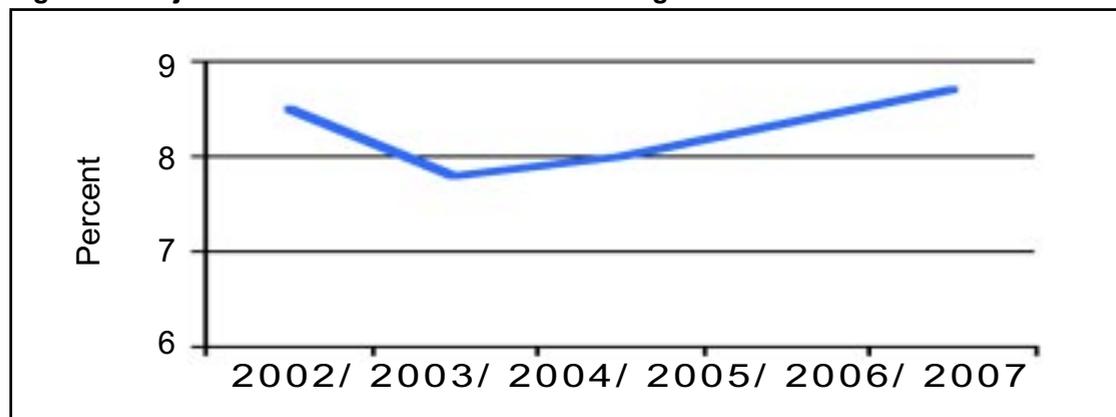
CHAPTER 13: MACRO-ECONOMIC SCENARIO IN THE NINTH PLAN

Macro-economic Outlook

Economy

Based on preliminary projections, real GDP is expected to grow by between 7-9 percent per annum, with the average annual rate of growth projected at 8.2 percent during the plan period. The production and sale of hydropower will provide the main impetus to the growth.

Figure 8: Projected Annual Real GDP Growth during the Ninth Plan.



Furthermore, the availability of additional hydropower is expected to have a positive impact on the manufacturing sector, and the construction, transport and trade sectors are expected to benefit from on-going hydropower development activities.

Table 5: Sector-wise Ninth Plan Projections

	8th Plan growth (%)	% share of GDP in 2000	2002/03	2003/04	2004/05	2005/06	2006/07	9 th FYP growth (%)	% Share to GDP at the end of Ninth Plan
1. Agriculture	2.5	34.5	1483.0	1520.0	1558.0	1597.0	1636.9	2.5	25.3
-Crop Production	2.4	17.4	750.1	768.1	786.5	805.4	824.7	2.4	12.7
-Livestock Production	3	7.1	307.4	316.6	326.1	335.9	345.9	3.0	5.3
-Forestry and logging	2.4	10.0	429.9	440.2	450.8	461.6	472.7	2.4	7.3
Mining etc.	5.9	1.2	53.7	57.2	60.8	64.7	80.0	10.5	1.2
Manufacturing	4.7	7.1	375.0	393.4	412.7	433.3	454.9	4.9	7.0
Electricity	9.3	9.7	598.7	676.5	764.5	863.9	949.4	12.2	14.6
Construction	16.3	11.4	629.6	732.9	853.1	993.0	1155.9	16.4	17.8
Trade and Commerce	4.5	6.0	267.6	279.7	292.3	305.4	319.1	4.5	4.9

Transport & communication	11.4	9.8	494.8	553.2	618.5	691.5	773.1	11.8	11.9
Finance, etc	8	10.3	489.7	528.8	571.2	616.8	678.5	8.5	10.5
Government service	4.4	10.1	448.9	472.3	496.8	522.7	555.0	5.4	8.6
Less bank services charges	0.1		-118.0	-118.6	-119.2	-119.8	-120.4	0.5	-1.9
GDP in 1980 prices			4723.1	5095.5	5508.7	5968.5	6482.5	8.2	100.0
GDP growth			11.0	7.9	8.1	8.3	8.6		
GDP at current prices			26779.8	30878.5	35751.3	41481.2	48165.1	15.8	
Deflator			567	606	649	695	743		

Agriculture

The agriculture sector is expected to benefit from the increasing emphasis being given to rural development activities, which will result in improved access to inputs, services and markets. However, natural constraints such as limited arable land, water scarcities, and limitations on the use of farm machinery will make it difficult for the sector to surpass the growth of 2.5 percent per year, which was achieved during the previous plan period.

Mining

With the growing emphasis on the environment, only a few new mining licenses were issued during the Eighth Plan period. The trend is expected to continue during the Ninth Plan period, thereby limiting the scope for growth in this sector. With improvements in technical know-how for the environmentally more sustainable exploitation of natural resources, the mining sector is projected to grow by 10.7 percent during the plan period.

Manufacturing

The manufacturing sector is dominated by a few medium and large-scale industries, which account for the bulk of all manufactured products. In order to achieve economies of scale, manufacturing industries must target their products at the export markets. The Indian market, which until now provided a ready market for finished and semi-finished products from Bhutan, is becoming increasingly competitive due to trade liberalization. Labour constraints both in terms of numbers and productivity, poor infrastructure, and the lack of technical and managerial skills impede the manufacturing sector. Despite these constraints, this sector is projected to grow at an average annual rate of 4.9 percent during the plan period. The participation of private direct foreign investment, the establishment of new industrial estates, and the increased availability of power are all expected to have a positive impact on the manufacturing sector.

Power Sector

The main impetus to growth during the Ninth Plan period will be provided by the commissioning of two medium sized hydropower projects at Kurichhu and Basochhu, which are currently in the implementation phase. With the operational efficiency of the plants gradually increasing to the same level as that of Chhukha, the average annual rate of growth of the sector is projected at 12.2 percent. It is expected that the real price of electricity will increase during the period.

Construction

The emphasis on infrastructure development during the Ninth Plan will provide greater opportunities for the construction companies. The growing demand for housing, and the recently approved new housing policy are also expected to spur the development of urban housing projects. Based on these factors, the construction sector is projected to grow at an average of around 16.4 percent per annum.

Trade and Commerce

Trade and commerce is projected to achieve an average annual growth rate of around 4.5 percent. The tourism sub-sector is expected to provide a major boost to growth in the sector. While tourism has an immense potential for employment and growth, it is constrained by natural limitations related to accessibility to the country and the under developed infrastructure. The recent entry of foreign joint venture companies in the hotel industry is expected to have a positive impact on improving the hotel infrastructure.

Transport and Communication

The planned investment in improving the national highways, the establishment of a dry port, and the construction of an all weather airport are expected to provide a boost to the transport sector. However, prospects for the sector will depend on developments in other sectors such as manufacturing, trade and commerce and tourism. On the basis of projections for these sectors, the transport and communication sector is projected to grow at an annual average of about 12 percent.

Savings and Investment

After many years of steady increases, the ratio of savings to GDP is estimated at approximately 20 percent. Reflecting the lack of productive investment opportunities, private consumption rose sharply during the Eighth Plan period. The trend will need to be reversed during the Ninth Plan through fiscal and monetary policy initiatives. Presently, most savings are corporate savings and personal savings are expected to improve in the coming years through increased economic activities. On the investment front, while public investment will continue to be financed mainly from external sources, private investment is expected to improve as a result of the implementation of the Foreign Investment Act in the Ninth Plan.

Public Finance and Fiscal Policy

The Royal Government will continue to manage the public finances in a prudent and judicious manner. The objective to meet at least the recurrent expenditure with domestic revenues will be pursued while external assistance will be sought for capital investments. The corporatisation of telecommunications, postal services, and power generation and distribution are changing the structure of the government revenues and expenditures as well as enhancing efficiency. In addition, the introduction of new taxes, such as the personal income tax, improvements in tax and fee collection system, and the expansion of the tax base through increased economic activities, will result in higher tax revenues during the plan period. The total domestic revenue receipt of the Ninth Plan is estimated at Nu. 31,522 million. However, the ratio of tax domestic revenue to GDP, is expected to decrease from 21 percent to about 15 percent by the fiscal year 2006/7.

Capital expenditures are projected at Nu.38,319 million, or about 55 percent of the total Ninth Plan outlay. Since it is beyond the domestic financing capacity, it will be necessary to mobilize external assistance from our development partners.

Wages and salaries, which constitute the bulk of current expenditures, will amount to about 47 percent of the total outlay for recurrent expenditures. Other significant current expenditure will be on travel, rent, supplies and materials and operating and maintenance costs. Interest payments will comprise about 1.5 percent of total current expenditures.

Table 6: Projections of Public Finance in the Ninth Plan (Nu. Million)

	2002/03	2003/04	2004/05	2005/06	2006/07	Total
Domestic Revenue Receipt	5,451	5,964	6,492	6,616	6,999	31,522
External Resources (Grants)	6,065	6,066	6,066	6,066	6,066	30,329
TOTAL RESOURCE	11,516	12,030	12,558	12,682	13,065	61,851
TOTAL EXPENDITURE (A+B)	11,978	12,494	13,296	14,039	14,744	66,551
A. Recurrent Expenditure	5,190	5,607	6,484	6,964	7,436	31,681
Personal Emoluments	2,418	2,591	3,256	3,353	3,431	15,049
Interest Payments	96	96	96	102	102	492
Travel, Utilities and Rent	868	957	1,007	1,120	1,252	5,204
Supplies and Materials	618	636	718	797	890	3,659
Operations and Maintenance	673	736	785	903	1,002	4,099
Grants/Transfers and other expenses	517	591	622	689	759	3,178
B. Capital Expenditure (includes net lending)	6,788	6,887	6,812	7,075	7,308	34,870
OVERALL FISCAL POSITION	- 462	- 464	- 738	- 1,357	- 1,679	- 4,700
FINANCING	462	464	738	1,357	1,679	4,700
Repayment of debt principal	- 617	- 724	- 697	- 676	- 735	- 3,449
Project related external borrowings	1,003	1,003	1,003	1,003	1,003	5,015
Resource Gap	- 76	- 185	- 432	- 1,030	- 1,411	- 3,134
Deficit as a percent of GDP	- 1.7	- 1.5	- 2.1	- 3.3	- 3.5	

Fiscal Policy

The Royal Government will embark on pursuing a more pro-active fiscal policy aimed at overall macro-economic management. With growing economic complexities, it is no longer enough to pursue an expenditure policy aimed at a balanced budget. It is now necessary to recognize the economic linkages between the various sectors, and the accelerator effects of the government expenditure. Continuous efforts will be made to rationalize expenditures and to optimize the use of revenues for promoting economic growth. The introduction of the two-year rolling budget is also expected to further improve resource allocation and its use.

Due to the higher capital investment proposed, an overall deficit of 2-3 percent of GDP is projected during the Ninth Plan. This mainly represents the projected disbursement of borrowings on concessional terms from international financial institutions. The resource gap - which is minimal - will be financed through domestic borrowing by issuing government bonds.

Money, Credit and Prices

The rapid expansion of the monetary base emanating from balance of payments surpluses, coupled with limited lending opportunities in the economy has resulted in growth of excess reserves in the banking sector. The scope for effective financial inter-mediation will remain limited without some basic structural reforms. In addition to reforms in the policies of key economic sectors, the financial institutions need to develop new financial products, improve services, and adopt a more proactive attitude. These can only be brought about through enhanced competition and specialization. On the basis of the framework for liquidity management for the Plan, financial sector growth is projected between 6-11 percent a year, averaging around 8.5 percent during the plan period.

Monetary policy

Under the current exchange rate arrangement, the Ngultrum is pegged at par and is freely convertible with the Indian Rupee. While this has constrained the use of monetary policy to some extent, the advantages provided by tying to the relatively stable monetary conditions in India, is seen to far outweigh the disadvantages. Most significantly, the exchange rate system provides a stable platform for trade with India, which accounts for over 80 percent of Bhutan's external trade. Thus the peg will continue to be maintained.

Despite the limited scope for a flexible monetary policy, the Royal Monetary Authority (RMA) will play an important role in monetary and credit control. With the elimination of direct credit controls, it has developed and increasingly relied on more indirect instruments of monetary management. In particular, to reduce the growth of excess liquidity in the banking sector, it has resorted to changes in reserve requirements, sales of RMA bills, and sales of foreign exchange to the banks. It is currently playing a key role in introducing and establishing a market for the Royal Government securities - a development that will pave the way for open market operations in due course.

Based on projected overall deficit, the Royal Government is expected to raise domestic debt of around Nu. 3,134 million during the plan period, and with credit growth of about 15 credits is expected to grow significantly during the Plan.

Inflation

Given the close economic ties with India, facilitated by the free trade arrangement, inflation in Bhutan closely tracks the inflation rate in India. Inflation in India has been relatively low in recent years and thus, the average annual rate of inflation in Bhutan has been projected at around 7-8 percent throughout the plan period.

Foreign Trade and Balance of Payments

India continues to be Bhutan's major trading partner with food, fuel, consumer goods and capital equipment as the main items of import. Imports from India in nominal terms are projected to grow in line with growth of GDP. Imports from other countries are projected to increase at 12 percent per annum.

With the commissioning of the new hydropower plants at Kurichhu and Basochhu, electricity sales to India will continue to be the main export item. Thus, a key factor in export performance will be the price of electricity and it is expected that the real price of electricity will increase during the plan period. On the whole, Bhutan's exports are projected to grow only marginally faster than imports.

The current account deficit is projected to decrease slightly after 2003 and 2004 - with the commissioning of Basochhu and Kurichhu hydropower projects, and will remain below 21 percent of GDP. As in the past years, capital inflows in the form of external loan and grant assistance, is likely to more than offset the deficit and result in a positive overall balance. The level of foreign reserves is projected to grow by about 10 percent a year.

External Assistance Management

As the attainment of economic self-reliance remains the major objective of the country's development process, continuous efforts are being made to harness and utilize the available resources in the most productive and judicious manner. Consequently, the domestic revenue generation has increased over the years. However, the domestic resources are still not sufficient to meet all the development needs of the country. Therefore, the country will continue to seek the good will and assistance from its development partners in the Ninth Plan.

The total external assistance for the Ninth Plan is projected at Nu. 35,344 million, (including concessional borrowings). It is expected to finance around 45 percent of the total plan outlay. The Royal Government will seek grant financing before resorting to loans, which will be sought mainly for revenue-generating projects in the economic sector. Loan financing in the social sector will be resorted to only if grant financing is not available.

With significant improvements in financial reporting and accountability systems made over the years, funding from donors is now increasingly being sought on a program-funding basis. Among the many advantages of such an approach is the opportunity to focus on larger goals and objectives and benefit from economies of scale and scope.

However, as in the past, project assistance is still likely to form the largest type of external assistance in the Ninth Plan. Projects will continue to be nationally executed in close collaboration with the development partners. The accounting and reporting requirements of projects will be made to meet the requirements of both the Royal Government and its development partners to avoid the establishment of parallel systems.

While the Royal Government's technical capacity is rapidly expanding, external expertise will still be required in various specialized fields in the Ninth Plan. The use of external expertise will be carried out judiciously to ensure both its proper use as well as transfer of knowledge to the Bhutanese counterparts.

Assistance provided in the form of food items will mainly be aimed at improvement of general nutrition intake and meeting other objectives such as encouraging primary school enrolment or community participation. Food aid assistance is anticipated to be less than 2 percent of total external assistance.

As the success of the Ninth Plan will depend on external assistance, the Royal Government will continue to place the highest priority on proper management and coordination of development assistance. The Royal Government plans to host frequent sector and thematic donor coordination meetings, as well as continue the two-and-a-half-yearly Round Table Meetings. Such forums provide all development partners an opportunity to gauge and discuss the progress and problems in the implementation of the Plan.

The main agencies involved in mobilizing external assistance are the Ministry of Finance, the Ministry of Foreign Affairs and the Planning Commission. The Planning Commission will determine

the main priority sectors and programs which needs to be accentuated. The Ministry of Finance will assess the requirement of external assistance and its utilization together with the line agencies. The Ministry of Foreign Affairs will be given the responsibility of dialogue with the development partners.

The Royal Government will ensure the highest level of accountability for the external assistance received and the financial and accounting rules and procedures of the Royal Government will be strictly followed. The Royal Government will also ensure that the mandatory audits are carried out on a regular basis by the Royal Audit Authority.

Chapter 14: DZONGKHAG AND GEWOG PLANS

Introduction

A significant change during the Ninth Plan will be the introduction of the 'Gewog Plan'. As authority continues to devolve from the centre to the Dzongkhag and further to the Gewog levels, devolution will also be reflected in decision-making and financial powers. In order to strengthen autonomy, human resources and equipment will be transferred to the Dzongkhag level where the lack of these poses a major constraint. The legal basis for Dzongkhag and Gewog authority and administrative powers including responsibilities of plan preparation and implementation will be enshrined in the revised DYT and GYT *Chathrim*.

Dzongkhag Plan

The Dzongkhag Plan consists of separate Dzongkhag and Gewog programs. Dzongkhag programs will constitute development activities that have relevance to the Dzongkhag as a whole but are not necessarily applicable to a specific Gewog. The Dzongkhag Plan to a large extent includes programs geared towards institutional strengthening and capacity development of their sectoral human resource. Dzongkhag programs also include coordination, supervision and quality control services for Gewogs and inter-Gewog activities along with technical backstopping support, which shall be executed and implemented by the Dzongkhag either independently or jointly with the sectors in the centre.

Since most of the RNR activities are implemented in the Gewogs, the Dzongkhag RNR programs consist of providing coordination for inter-Gewog activities and technical backstopping support to the Gewogs.

With regard to the education programs at the primary level, Dzongkhag shall only provide general support to the establishment of primary schools in terms of construction materials, school plans, budgetary support to meet some of the costs related to skilled labour and look after the school administration and management. At the secondary level, the Dzongkhag shall be responsible for establishing and maintaining the educational infrastructure at the lower secondary, middle secondary and higher secondary school levels. The Dzongkhag education programs shall include the establishment of non-formal education centres.

The Dzongkhag health sector will mostly focus on enhancing the quality of health services. Priority will also be accorded in the field of ensuring quality of curative care services and human resource development in the Dzongkhag hospitals and BHUs. The construction of Dzongkhag hospitals and BHUs will be part of Dzongkhag programs.

The development of satellite townships in the Dzongkhags will be the responsibility of the Dzongkhag and will be part of the Dzongkhag plan with necessary technical support from the central sectoral agencies. Development infrastructure programs such as rural electrification, rural telecommunications and the construction of feeder roads and bridges will be executed and implemented by the respective central departments.

Gewog Plan

Gewog Plan mostly consists of social and rural infrastructure development. Farm roads, outreach clinics, primary schools and rural water supply schemes along with RNR programs are some of the major activities. The facilities for the *Gup's* office and the GYT have been given priority underscoring the importance of effective administration and coordination of Gewog level programs.

Gewog programs have been developed taking into account their priorities and potential. Gewogs have prioritized their activities based on their ability to participate in terms of labour contribution and responsibility pertaining to land acquisition and resolution of disputes, etc. The Gewog Plan outlays have not been included in Dzongkhag Plans. Gewogs will be fully responsible for their activities.

Outlay for Dzongkhag and Gewog Plans

In terms of financial outlay, the Dzongkhag and Gewog Plans constitute Nu. 17,120.785 million, which is about 24.5 percent of the overall Ninth Plan outlay. While the percent of plan outlay allocation to the Dzongkhags and Gewogs seem small, it must be viewed in totality with other programs and projects, which directly benefit the Gewogs. These programs and projects are being implemented by respective central sectoral agencies because of large investment sizes, requirements for high technical expertise and inter-Dzongkhag coordination requirements. While the estimates are only indicative, taking into account only current costs, the actual financial requirement may vary depending on the feasibility studies and location specificities. Therefore, within the prioritized program, enough flexibility for reappropriation will be maintained subject to availability of resources.

In addition, the central government will implement the following programs to the extent of over Nu. 3,000 million which directly benefit Dzongkhags and Gewogs:

- Rural electrification for 15,000 households (Nu. 1,500 million);
- Rural Access Roads (Nu. 517.8 million);
- Rural Telecom (Nu. 21.05 million);
- Purchase of Farm machineries and equipment (Nu. 601.514 million); and
- Dzongkhags and Gewogs HRD (Nu. 500 million).

Furthermore, most of the programs of the sectors such as construction and maintenance of national highways, referral hospitals, research centres, training institutions etc. also benefit the Dzongkhags and Gewogs, though the plan outlay for such large activities are reflected with the respective central sectoral programs.

Table 7: Outlay for All Dzongkhags (Nu. Million)

Sl.#	Sector	Outlay		
		Current	Capital	Total
1	Agriculture	423.635	248.175	671.810
2	Livestock	409.914	256.523	666.437
3	Forest	120.066	103.102	223.168
4	Education	3,748.513	3,515.653	7,264.166
5	Health	1,131.365	551.028	1,682.393
6	Roads	132.655	2.995	135.650
7	Telecommunications	-	-	-
8	Power	139.435	2.500	141.935
9	Trade and Industry	3.500	53.600	57.100
10	UDHS	132.861	1,359.411	1,492.272

Sl.#	Sector	Outlay		
		Current	Capital	Total
11	Dzongkhag Administration.	1,413.337	1,131.747	2,545.084
	Total	7,655.281	7,224.734	14,880.015

Table 8: Outlay for All Gewogs (Nu. Million)

Sl.#	Sector	Outlay		
		Current	Capital	Total
1	Agriculture	3.653	854.213	857.866
2	Livestock	0.216	102.271	102.487
3	Forest	3.015	81.547	84.562
4	Education	4.410	343.867	348.277
5	Health	-	229.846	229.846
6	Suspension bridges + Mule Tracks	-	204.347	204.347
7	Geog Administration	135.888	277.496	413.384
	Total	147.183	2,093.587	2,240.770

Table 9: Outlay for All Dzongkhags and Gewogs (Nu. Million)

Sl.#	Sector	Outlay		
		Current	Capital	Total
1	Agriculture	427.288	1,102.388	1,529.676
2	Livestock	410.130	358.794	768.924
3	Forest	123.081	184.649	307.730
4	Education	3,752.923	3,859.520	7,612.443
5	Health	1,131.365	780.874	1,912.239
6	Roads + Susp. Bridges+ M.tracks	132.655	207.342	339.997
7	Telecommunications	-	-	-
8	Power	139.435	2.500	141.935
9	Trade and Industry	3.500	53.600	57.100
10	UDHS	132.861	1,359.411	1,492.272
11	Dzongkhag Administration.	1,549.225	1,409.243	2,958.468
	Grand Total	7,802.464	9,318.321	17,120.785

PART V
SECTORAL OBJECTIVES AND STRATEGIES

CHAPTER 15: EDUCATION

Current Situation

The tradition of entitlements and welfare in the country has emphasized free education even in the medieval period when the state supported free monastic education. Similarly, in modern Bhutan, education is accessible to everyone. Free tuition, textbooks, sports equipments, meals and boarding facilities where required, are important means of ensuring this. The Royal Government also provides free stationery to rural schools. This free provision is balanced by appropriate contributions from the parents to engender a sense of participation amongst the communities.

The gross primary enrolment ratio was estimated to be 72 percent in 2001, and enrolment is increasing annually at a rate of 6-7 percent. Girls now constitute 46 percent of enrolment. In 2000, there were 110,000 students being provided free education, spread over 382 schools and institutes. In addition, there were 5,000 students enrolled in the formal monastic order supported by the Royal Government while an estimated 10,000 were enrolled in village temples as private students. Another 3,000 students were enrolled within the vocational and other training institutions run by various government agencies.

Table 10: Summary of Student and Teachers Enrolment, as of August 2001

Sl.No.	Level of schools	Nos.	Enrolment			Teachers	
			Boys	Girls	Total	Teachers	Total
1	Community Primary School	268	26,891	22,763	49,654	1,436	1,436
2	Junior High School	64	22,773	20,502	43,275	1,234	1,234
3	High School	31	11,816	9,628	21,444	807	807
4	Private School	12	1,534	1,393	2,927	163	163
	Sub-Total	375	63,014	54,286	117,300	3,640	3,640
Institutions directly administered by Education Department							
5	Sherubtse College	1	451	172	623	61	61
6	NIE (Paro and Samtse)	2	563	412	975	77	77
7	Inst. for Language and Cultural Studies	1	134	71	205	26	26
8	Nat. Inst. For the Disabled	1	25 12	37	8	8	
9	Sanskrit Patshala (Surey and Dhoban)	2	57 33	90	4	4	
	Sub-Total	7	1,230	700	1,930	176	176
	Total	382	64,244	54,986	119,230	3,816	3,816
	Non-Formal Education Programs	195	2,210	5,278	7,488	156	156

Source: Department of Education, Ministry of Health and Education

Furthermore, the adult literacy programs, initiated in 1993, continues to provide literary course to those who have not taken part in the system of formal education as well as early school drop-outs. About 10,000 adults attained literacy in Dzongkha, the national language, through this program.

However, retention of those who enroll is a major challenge. Currently, only 69 percent of those entering primary school complete the seven years of primary education, 54 percent complete class VIII and 39 percent reach class X. In addition, 12-13 percent students repeat grades every year. This stems in large measure from the inability of the system to provide adequate professional support including deployment of sufficient number of teachers.

Students all over the country are subject to national examinations at the end of grades VIII, X, and XII. At present, 85 percent of those that reach VIII continue to IX, 30 percent that reach X continue to XI and another 30 percent that reach XII continue to general academic degree programs. The education structure is a steep pyramid with students leaving the system at every stage. Less than 1 percent of total enrolment is in higher education (degree level in college and above).

The success of expanding primary education is now placing enormous pressures on the secondary and post-secondary levels with an ever-increasing number of students moving up the education ladder, in spite of raising admission standards every year. About 12 private schools have been established easing the pressure on the public schools. However, in the system as a whole, there is a critical shortage of secondary education facilities as well as the lack of an adequate number of qualified and competent teachers. The pressure is ultimately transmitted to a lower quality of education, which is a major concern. The difficult terrain and widely dispersed population have been the primary hurdles to achieving an economy of scale in educational and social services. It calls for new ways of organising education in order to take advantage of new technologies and research on best practices for improved learning.

Although those who leave schools are increasingly encouraged to enter vocational training, the present vocational education system is both inadequate and inefficient. It is also an unpopular option for most students perhaps due to poor working conditions, and social misperception of blue-collar jobs and working in the private sector.

Higher education is still in its infancy. But, the rapid expansion of the secondary level will, in a few years' time, manifest itself in a large number of students seeking higher education, placing further demands for the expansion of the higher education sector. Hence, a careful plan to cope with this is necessary.

Paying attention to early childhood development can enable children to grow with the opportunities for realising their intellectual, ethical, emotional and physical potential. Early childhood care and development have so far not been considered a priority given the strength of traditional practices of child rearing in the extended family system. But, with social transformation and added pressure on parents working in the formal sector, this has to be considered an important area for the future.

Objectives

The following are the key goals and objectives set out for the Ninth Plan:

- Providing support mechanisms for early childhood care and development for children between 0-6 years on a pilot basis;

- Enhancing enrolment of children between 6-12 years of age in primary schools to 90-95 percent by 2007;
- Enhancing the quality of education comparable to international standards;
- Improving and expanding youth guidance and career counseling and values education for wholesome development of the youth;
- Increasing the basic level from class VIII to X;
- Increasing promotion proportion from class X to XI from 38 percent to 56 percent by 2007;
- Developing a higher education system under the umbrella of a National University;
- Enhancing the literacy rate from 54 percent to 80 percent and establish a system of continuing and life long education opportunities;
- Establishing a program of inclusive education for children who are physically and mentally challenged;
- Strengthening and improving the education management system with particular emphasis on the school level management; and
- Developing a more sustainable education system through the introduction of private participation and cost sharing measures.

Ninth Plan Outlay

(Nu. Million)

	Recurrent	Capital	Total
Centre	1,598.485	998.476	2,596.961
Dzongkhag	3,748.513	3,515.653	7,264.166
Gewog	4.410	343.867	348.277
Total	5,351.408	4,857.996	10,209.404

The total outlay for the education sector is Nu. 10,209.404 million of which, Nu. 2,596.961 million is for the central programs, Nu. 7,264.166 million for Dzongkhags, and Nu. 348.277 million for Gewogs.

Strategies

Early Childhood Care and Development (ECCD)

There is currently no policy framework for education-related early childhood care and development. However, there is an increasing understanding and acceptance of early childhood growth requirements and the importance of a positive and stimulating environment to enhance their intellectual, emotional and physical development. Focus of early childhood care and development will be placed on the family as the place and process for interventions in childhood development. Early childhood care and development will be seen primarily as the domain of parents, thus avoiding to the extent possible, the establishment of formal institutes or delivery systems that provide a poor substitute for parenting. Initially, the program will identify good childcare and development practices both in the country and in other countries, and share this with communities through multi-media public information programs including radio, television, the national newspaper and other emerging technologies. A unit will be established within the sector to spearhead the development of policy, programs and implementation of ECCD related activities.

To meet the special needs of urbanization and social transition, private initiatives to establish childcare centres and nurseries, either on profit or non-profit basis, will be encouraged, based on strict regulations on the quality of service. In particular, the right of children to play and enjoy will not be sacrificed under pressure to study to achieve head start in schools.

The primary teachers' training curriculum already includes some early childhood care content. This will be reviewed and strengthened to provide a better understanding of early childhood care and development principles and pedagogy. The Royal Government will provide training of specialized professionals as early childhood educators, who will form the professional base to spearhead development of early childhood care and development in the country.

A series of programs highlighting good child rearing practices will be developed and aired on the national TV as well as the radio. These programs will be targeted both at rural and urban parents and family members.

Another activity will be directed at strengthening early childhood care and development through non-formal education programs to create a critical mass of knowledgeable persons. A parallel program will be directed at teachers, health workers and agriculture extension staff who will become active participants in improving such practices as well as promoters of best practices within communities. A priority target group to be addressed by the early childhood care and development program will include those living in both rural and urban areas where changing lifestyles have disrupted traditional child-rearing and care practices.

Primary Education

In order to address the issue of access to and high demand for primary schooling, approximately 120 more community primary schools will be built during the Ninth Plan. Universal primary education by 2007 can only be realized if the dropouts level is brought down to zero. Primary education will be expanded to provide access to children within one hour's walking distance of their homes. Additional classrooms will also be built in the existing schools to ensure that class sizes do not swell beyond 40 children, although the average should be 36. By 2007, primary schools will be staffed with National Institute of Education trained teachers at a 1:32 teacher-pupil ratio. Every primary school will be fully staffed by trained and qualified teachers, and no school will have less than two teachers to allow peer professional support and interaction.

Pre-service teacher training capacities in the country will be expanded from 600 to 980 at the National Institute of Education, Paro, and from 300 to 490 at National Institute of Education, Samtse. This will be achieved by adding new facilities, adopting flexible timings and adjusting teaching practice to allow the use of institute space for additional enrolment. Opportunities for teachers to upgrade their education and training will be provided through both in-service trainings and trainings abroad. Annually, at least 5 percent of teachers will benefit from external fellowships. In addition, a comprehensive in-service training program consisting of national, cluster and school level training shall be developed and implemented.

The Primary Teacher Training Certificate Course for class X teacher candidates will be discontinued and replaced by B.Ed. programs for class XII leavers by 2003. An external fellowship program will be implemented covering 5 percent of the teachers every year.

Existing curriculum across grades and subjects will be reviewed and revised to enhance mastery of literacy and numeracy, greater choice within the curriculum, computer literacy, values education, multi-grade instruction and continuous formative assessment. A key objective of primary education will be to instill values in children of the way of life based on the principle of achieving human happiness.

School-based methods for assessing quality and standards will be developed using continuous assessment and intervision. Apart from the existing learning resources in schools, every primary school will have access to additional resources in terms of learning materials, teaching aids and

professional guidance within the resource centres. All the schools in the country will be organised into defined geographical school clusters. A centrally located school within a cluster will be developed as resource centre for the cluster. To start with, 30 centres serving the most disadvantaged groups of schools will be developed.

Table 11: Enrolment Projection for General Education

Class/Level	2000	2002	2007
PP	15,451	17,695	24,112
I	14,263	15,004	22,600
II	13,323	14,642	21,093
III	12,240	12,946	18,822
IV	11,389	13,297	17,576
V	9,712	11,296	14,978
VI	8,714	9,495	12,624
Primary	87,092	96,377	133,812
VII	7,999	9,320	13,080
VIII	6,430	7,490	11,544
Junior Secondary	14,429	16,810	24,624
IX	5,506	6,538	10,781
X	3,366	5,640	9,917
Middle Secondary	8,872	12,178	20,698
XI	1,226	1,920	4,799
XII	832	1,615	4,198
Higher Secondary	2,058	3,535	8,997
Total	112,451	128,900	188,131

New technologies, especially those related to computers and information technology, offer immense opportunities for expanding the horizons of learning, both for students and teachers. This also offers an opportunity to obviate distance and isolation of remote schools where teachers are often far from their peers and the benefit of professional support services. An increasing array of learning aids and materials will be available to students and teachers. Internet facilities will provide enrichment and additional learning resources as a supplement to school libraries. These would be developed so that full internet connectivity is attained by 2010.

Secondary Education

General academic education till class X is free and forms the minimum basic education level and this shall be extended to class XII in a few years. Classes XI and XII will be split into academic and vocational training programs and the Royal Government scholarships for academic studies will be provided on merit basis to a progressively larger body of students each year.

It is projected that the number of students at the secondary level (classes VII-XII) will grow from 32,525 in 2002 to 54,319 by 2007, or almost four times. This means that secondary education facilities will have to be expanded based on a proper study of the catchments area to ensure

maximum population coverage while minimizing the need for boarding. Facilities equivalent to 26 lower secondary and 23 middle and higher secondary schools will have to be created to accommodate the projected demand for student places at the secondary level. Most of this will include upgrading of existing facilities to include the next level of educational programs. In addition, a few new schools will also be constructed. Special priority will be accorded to the development of secondary schools in the rural and more remote parts of the country to address the larger national policy of improving the quality of life in these places and stemming rural-urban migration.

The high costs of developing new infrastructure and comparatively higher unit costs of secondary education will require the use of more cost-effective building materials and designs without compromising either quality or durability. New school building designs based on economic construction methods and more efficient use of space will be established.

Donor involvement at the secondary level has been limited in comparison to the primary, technical and vocational education. However, the success of the past decade in increasing primary enrolment and greater completion rates bring enormous pressure for rapid expansion at secondary and tertiary levels. In order for the Royal Government to meet this demand, substantial donor support will be necessary.

To promote the establishment of private schools, a policy framework for their establishments will be formulated. It will include rules governing the acquisition and use of the government land for schools, the use of a prescribed curriculum, accreditation requirements including minimum standards for both physical facilities and the overall functioning of schools to ensure the smooth development of private schools.

A major shift in secondary schools will be to bring teaching and learning processes and the content of secondary education more in-line with the future demands of job market. This is an undertaking that will have to be carried out in stages over a number of years.

Development of core competencies to be achieved through secondary education as well as the forging of closer ties between schools, communities and the world of work will require systematic monitoring and response to labour market characteristics and demands. The education sector will have to institutionalize mechanisms to allow secondary schools to continuously adapt and change in line with the understanding of the labour market. Career guidance will become an integral part of secondary education service. In addition, every secondary school will have a qualified counsellor who will help provide for special counselling needs of adolescents in schools.

Secondary schools will also broaden their reach to include the continuing education programs to allow people who have left the system of formal education to resume their studies. This will require the expanded use of secondary school facilities as well as the increased use of teachers in an extended range of professional roles.

The promotion of value education is important at all levels of education. However, in light of the special challenges of adolescence, it is considered especially important for this age group in secondary schools. Therefore, value education will be integrated into school life through exemplary activities, participatory rules and organizational models in classrooms and schools.

Tertiary Education

At present, approximately 1,000 students are enrolled in the degree programs. The institutes of higher learning, which award degrees, are Sherubtse College, the National Institutes of Education (Paro and Samtse), the National Institute of Traditional Medicine, and the Royal Institute of Health

Science. Sherubtse College awards Bachelor's degrees of the University of Delhi in Humanities, Science, Commerce and Computer Science. Royal Institute of Health Sciences offers nursing degree from the LaTrobe University, Australia. The Institute of Language and Culture Studies, the National Institute of Education (Paro and Samtse) and National Institute of Traditional Medicine, offer their own degrees and are not affiliated to any University. The Royal Bhutan Polytechnic offers diploma-level and degree courses. Likewise, the National Resource Training Institute offers diploma level training programs, but given the demand for higher qualified personnel in agriculture, there is a need to upgrade this to offer higher degrees.

Higher education needs to be expanded based on the explicit demand of an increasing number of students graduating from secondary schools and aspiring to higher education and also in line with the needs of the economy and industry. Based on projected needs, facilities in Sherubtse will accordingly be expanded to enhance its enrolment from 600 at present to 1,000 by 2007. It will also introduce Masters level courses towards the end of the Ninth Plan.

The most important step in tertiary education will be establishing the National University of Bhutan. The National University will consist initially of eight institutions: Sherubtse College, two National Institutes of Education, Royal Institute of Health Sciences, National Institute of Traditional Medicine, Royal Bhutan Polytechnic, Institute of Language and Culture Studies and Natural Resources Training Institute. They will be united as a federation under the auspices of a Council for Higher Education and a University Secretariat. Relying on advanced information technologies, faculties and specialized schools, they will be linked for multi-media course delivery and administrative functioning. Mutually beneficial alliances with top-quality universities and institutions around the world will be established. Similarly, in order to establish logical pathways into the world of work, relationships will be established with private businesses and industries to share knowledge, provide apprenticeships and for financial support.

Although the foregoing structural framework for the National University is envisaged, the main task in the Ninth Plan is to develop a master plan for each of the institute identified to become member college of the National University. The master plan will ascertain the present status of prospective member colleges and prepare for their evolution into a federated University, with special reference to the development of infrastructure, curriculum and human resources.

Adult Literacy and Continuing Education

Currently, the adult literacy rate is estimated at 54 percent with women's literacy as low as 20 percent. The adult illiterate population above 18 years is estimated to be about 150,000 to 180,000. It is the aim of the Royal Government to create learning opportunities for all people at any stage of life so that the entire population will be literate in the national language, *Dzongkha*, and numerate, by 2012. This will contribute to the establishment of a culture of reading and learning. Opportunities will be created for those outside the formal system of education to learn new skills and knowledge through a system of community-based continuous education. In light of the important development outcomes and effect on the overall well-being of the family, greater emphasis will be placed on the learning needs of women.

In August 2001, there were 7,488 (5,278 women) learners enrolled in the 12-month basic literacy course. In November 2000, there were 590 (510 women) in the 9-month post-literacy course. So far, 8,086 have successfully completed the course, accounting for 65 percent of the total enrolment.

Policies will be drawn up which address the structural and organizational framework in which a system of continuing education will co-exist with the systems of formal, non-formal and vocational education and training. For future development of post-literacy support at the community level,

national NGOs will be encouraged. These could be possibly organized by retired teachers, education personnel and the government officials interested in and capable of supporting learning in communities.

In the light of serious resource constraints, the use of existing government facilities and personnel to provide new education services will be emphasized. Basic literacy and post-literacy centres will be established in a phased manner to cover half of the illiterate population by the end of the Ninth Plan. Post-literacy activities will support the continued teaching of *Dzongkha* and the introduction of English. Libraries in primary schools will be upgraded to make them useful for non-formal education students. Where feasible, information technology will also be introduced to serve as a resource for non-formal education students.

Special Education

At present, there is one facility, which addresses the needs of visually impaired children, the National Institute for the Disabled (NID). The NID provides instruction in reading and writing Braille so that children skilled in Braille can be integrated into regular schools toward the end of the primary cycle.

All children with disabilities and special needs - including those with physical, mental and other types of impairment - should, therefore, be able to access and benefit from education. This will include full access to the curriculum, participation in extra-curricular activities and access to cultural, artistic, recreational and leisure activities.

A small number of schools in each Dzongkhag will be equipped with appropriate resources for enabling children with disabilities to access education locally. This will have to be rationalized based on population and may be linked to resource centres. The National Institute for the Disabled will be developed as a resource center to support education for the visually impaired children and a Braille production unit will be set up at NIE Paro to ensure that all curriculum and other relevant materials are available in Braille for these children. A support center for the deaf will also be set up in one of the schools to support the hearing impaired children. A special education unit will be established within the Department of Special Education.

To ensure that disabled children receive good quality education within pilot centres and later in any school where they are enrolled, a process for identifying disabled children at pre-school age and for assessing their educational and health needs will be established. Cooperation of the parents of disabled children to send their children to school will be sought. This will require intensive advocacy work to develop positive attitudes toward disability among heads of schools and teachers, as well as within the general public, in order to gain commitment to the overall policy. Schools' physical infrastructure must be modified to allow access for disabled children, with suitable classroom equipment, and transport to allow disabled children to travel from home to school. A specific section of the curriculum, teaching and learning resources will reflect the needs of disabled children.

CHAPTER 16: HEALTH

Current Situation

The importance attached by the Royal Government to health services in the past plans has led to remarkable progress. The health status of the population has improved markedly, especially in the last decade. National surveys conducted in 1984, 1994, and 2000 show dramatic decrease in mortality and morbidity. The following health indicators of the National Health Survey Report, 2000, show the progress made since the last National Health Survey conducted in 1994.

Table 12: Health Indicators for 1994 and 2000

Indicator	1994	2000
Sex ratio, males per 100 females	91.0	94.7
Overall dependency ratio	91.7	77.4
Sex ratio at birth (males per 1000 females)	105.1	106.6
Infant Mortality Rate per 1000 live-births	70.7	60.5
Under five Mortality Rate per 1000 live-births	96.9	84.0
Maternal Mortality Rate per 1000 live-births	3.8	2.55
Crude Birth Rate per 1000 population	39.9	34.09
Crude Death Rate per 1000 population	9.0	8.64
Contraceptive Prevalence Rate (percent)	18.8	30.7
Access to Safe Drinking Water (percent)	NA	77.8
Sanitation (latrine) Coverage (percent)	NA	88.0
Life Expectancy at birth (Average male and female)	66	NA
Population Growth Rate (percent)	3.1	2.5

Source: National Health Survey 1994 & 2000

While infant and maternal mortality rates have declined substantially since 1994, they are still considered high. One of the key indicators relevant for maternal mortality reduction is that of trained birth attendance. Similarly, infant mortality needs sharp reduction.

Among the leading causes of infant mortality under five are respiratory infection, pneumonia, diarrhoea and dysentery, the most notable being respiratory infection. Child immunization has been maintained above 85 percent, with high coverage for BCG, OPV, DPT and hepatitis B. Poliomyelitis is under close surveillance. There has been a marked reduction in mortality due to malaria. To make total control of malaria tenable, it will be necessary to continue and enhance the mutually beneficial cross-border cooperation of these efforts.

In the Basic Health Units (BHUs), the morbidity pattern reveals that cough and cold, diarrhoea, dysentery, skin infections and otitis media are the most common conditions. Respiratory tract infection and diarrhoeal diseases are leading causes of morbidity and mortality. These diseases are seasonal and there is a marked fluctuation in the number of outpatients between summer and winter, respiratory infections being prevalent in the winter and diarrhoeal diseases during the monsoon period. Some diseases such as skin infections are mainly due to un-hygienic conditions and habits. But the incidences of these diseases will be reduced rapidly with the expansion of safe drinking water supply and sanitation programs.

Access to safe drinking water has increased to 77.8 percent of the households, average of 73.2 percent in rural and 97.5 percent in urban areas. Safe drinking water is defined as piped water from protected spring source, available to the household within 50 metres vertical height and 100 metres horizontal distance.

Population growth rate has been brought down from 3.1 percent in 1994 to 2.5 percent in 2000. This has happened mainly because of the fall in crude birth rate, there has been no noticeable change in crude death rate. Fall in the crude birth rates can be attributed to many factors, but above all to the knowledge of family planning and increase in contraceptive prevalence rate. Reaching an inflexion point in population growth curve has major demographic significance. Already, the proportion of the population under 15 years of age has come down from 43.5 percent in 1994 to 39.1 percent in 2000. Child dependency, which is the proportion of children under 15 years of age to that of the working population between the age of 15 and 64 has declined from 78 percent in 1997 to 67.9 percent in 2000. As expected, aged dependency (ratio of people over 65 to working population between the age of 15 to 64) has increased from 8 percent to 9.4 percent in 2000.

Health infrastructure has expanded rapidly since the 1970s. BHUs were established from the early 1970s in certain areas. However, the main expansion of the infrastructure began only in the 1980s. Following the Alma Ata Declaration in 1978, the primary health care approach was formally adopted in the country in 1979. In line with this, the country has committed to establish a relevant and cost effective health care delivery system based on primary health care approach that effectively delivers health care services to all people. The low density of population, spread over mountainous terrain, raises costs of infrastructure and health services delivery. People can be reached only if facilities were set up even though the users are relatively low by regional comparisons. The national health care delivery system is characterized by the central level being responsible for administration, training and major referrals, and the Dzongkhag managing the delivery of basic services to the population through a network of Dzongkhag hospitals, BHUs and outreach clinics (ORCs).

Table 13: Health Facilities in 2000

Resources	Numbers
Doctors	109
Drungtsho	31
Dzongkhag health supervisory officers	22
General mid nurse and health assistants	294
Technicians	226
Others	576
Total workers	1258
Health Infrastructure 2000	
Hospitals	29
Indigenous hospital	1
Basic health units	160
Out-reach clinics	447
Indigenous hospital units	18
Total facilities	655

Source: Department of Health, Ministry of Health and Education

There is a fairly uniform spread of BHUs, Dzongkhag hospitals and regional referral hospitals. 78.2 percent of the villages have access to health care services centres within two hours walking distance, and 89 percent have such services within three hours walking distance.

Along with the expansion of health infrastructure, human resources in the health sector have been enhanced steadily, though medical personnel are in short supply at this stage. With only 109 doctors, the number of doctors per 10,000 is approximately 1.8. Developing human resources for health has become a key factor if the country is to enhance the quality and self-reliance of the health services. In addition to the regular health staff, community participation in the health care delivery system has been encouraged, with over 1,327 trained village health workers providing elementary medical attention.

Herbal based, traditional medicine system is well established. Indigenous medical services are now available in 18 Dzongkhags. After the pharmaceutical and research units of the Indigenous Hospital in Thimphu were established, the supply of medicines has increased to meet widespread demand, both in urban and rural areas.

As a precursor to the spread of tele-medicine, a tele-link between the Mongar Regional Referral Hospital and the Jigme Dorji Wangchuck National Referral was established in November 2000. Tele-medicine technology is expected to have highly beneficial impact on diagnostic capacity, given the shortage of specialists. Its introduction was aimed at facilitating specialized consultative opportunities for the regional hospitals, continuation of medical education, and access to information from abroad.

To ensure financial sustainability, especially for the procurement of essential drugs and vaccines, the Health Trust Fund was established. The Fund, with the target of US\$ 24 million has accumulated US\$ 10 million and is already operational.

Objectives

Besides the long term objective of attaining a healthy living standard by the people within the broader framework of overall development of the country, the specific objectives set out for the Ninth Plan are:

- Enhancing the quality of health services;
- Targeting health services to reach the unreached;
- Strengthening traditional medicine system and its integration with the overall health services;
- Enhancing self-reliance and sustainability of health services;
- Intensifying human resource development for health and establish a system of continuing education;
- Strengthening health management information systems and research and their use;
- Intensifying reproductive health services and sustain population planning activities;
- Promoting community based rehabilitation and mental health, and find innovative means to enhance the mental well-being of people;
- Developing appropriate secondary and tertiary health care services, while maintaining the balance between primary, secondary and tertiary health care; and
- Intensifying the prevention and control of prevailing health problems and the emerging and re-emerging ones.

Ninth Plan Outlay

(Nu. Million)

	Recurrent	Capital	Total
Centre	2,802.426	1,703.409	4,505.835
Dzongkhag	1,131.365	551.028	1,682.393
Gewog	0.000	229.846	229.846
Total	3,933.791	2,484.283	6,418.074

The total outlay for the health sector is Nu. 6,418.074 million of which, Nu. 4,505.835 million is for central programs, Nu. 1,682.393 million for Dzongkhags, and Nu. 229.846 million for Gewogs.

Strategies

The main strategies for the Ninth Plan are to: improve the quality of health services, target health services to reach the unreached, enhance sustainability of health services by instituting appropriate health care financing mechanisms, strengthen health management information systems and research, intensify reproductive health services and family planning, intensify prevention and control of prevailing health problems and emerging and re-emerging ones, strengthen traditional medicine system and its integration with general health services.

Improving the Quality of Health Services

Various mechanisms for evaluating, ensuring and improving health services will be continued in the Ninth Plan. While improving health care services, a system to gauge its quality through various standards will be introduced. The identification of best practices, indicators of quality, data systems, patient's satisfaction, ethics, and doctors' credentials are among the most serious issues in quality management of health services. Introducing quality assurance will require institutional capacity in terms of management, information, research and monitoring of selected indicators. To that extent, regular updating and use of health management information system to improve indicators of quality will be important. The adoption and enforcement of standardization and quality assurance and medical council act will further streamline quality of services. A drug regulatory authority will be established in conjunction with the implementation of drugs registration system and the Bhutan Medicines Act.

Targeting Health Services to Reach the Unreached

Whether it is the coverage of primary health care or safe drinking water supply, the bulk of the population now have access. According to national criterion, 77.8 percent of the households have access to safe drinking water and 89 percent of the population are within three hours walking distance from health service centres. Every village with a reasonable number of houses within a certain radius has been provided with health and water supply facilities. Having done so, social services, including the health services are faced with the challenge of reaching the unreached, in both geographical and social senses. The cost and difficulty of delivering services increases disproportionately as it widens to include scattered houses, remote areas, and 'migrant' population. In pursuant to its policy of equity, social justice, accessibility and balanced development, the Royal Government will continue to provide basic health services to the people irrespective of their locations and despite high unit cost of providing such services. For example, 100 percent accessibility to safe drinking water will be provided in the Ninth Plan.

As a prelude to designing interventions, surveys will be conducted to identify the unreached, or those that under-utilize the services relative to their needs. With regard to the latter, almost 22

percent of the people who fell ill in the month preceding the National Health Survey in 2000 did not seek medical care. People's perception of illness is found to have immense effect on their health seeking behaviour. The identification of the unreached will be followed by provision of facilities, including construction of health service centres.

Enhancing Sustainability of Health Services

Financial sustainability is one of the concerns of the Royal Government. One of the most important factors in achieving the progress so far is the availability of essential drugs and vaccines. Another factor is infrastructure maintenance and provision of equipment. For all these, the country is heavily dependent on development partners for assistance. As the main step towards self-sufficiency in essential drugs procurement, a Health Trust Fund has been launched, and mobilization of resources to meet the minimum endowment size of US\$ 24 million will be intensified in the Ninth Plan.

The overarching goal of self-reliance and sustainability will also be pursued by introducing cost sharing methods, including selective user fees. In the Eighth Plan, charges on selected dental services have been levied in all dental facilities throughout the country. Primary dental care and emergency operations are still provided free, but secondary and tertiary dental services are being charged 50 percent of the actual cost of consumable materials. In the same manner, user fees will be introduced for certain medical services for those who are able to meet some of the costs of health care and this will be introduced first in the urban areas. User fees will be linked to people's ability to pay and the principle of free basic health care will not be undermined.

The communities will continue to contribute to the construction and maintenance of ORCs and BHUs by providing free labour contribution for the non-skilled part of the construction activities. In line with community participation in extending primary health care services to the rural population, village health workers will continue to be a link between the community and the health personnel in the Dzongkhag. The voluntary role of village health workers as catalytic agents in the interactive process of providing health care to the people in their own communities will be further strengthened. Regular training for village health workers will continue to be given high priority.

Strengthening Health Management Information Systems and Research

Improvement in the quality of health care and management, identification of problems, performance evaluation, strategic planning and optimizing the use of limited financial resources require information. Linkage between health management information system and financial management information system will be reinforced. By training user groups, the capacity for collection and analysis of health related data will be strengthened so that health personnel and the Royal Government can utilize information as a tool for decision-making. Accessibility to and dissemination of general statistical information will be improved with the use of information technology.

Research will be conducted to generate new information and knowledge. The research unit will be strengthened to coordinate and provide consultative assistance for research design, database management, statistical analysis and interpretation of results.

Intensifying Reproductive Health Services and Family Planning

With a high maternal mortality rate and relatively high infant mortality rate, making pregnancy safer remains an area of renewed focus. Strategies that focus on family planning, safe motherhood and child survival will be stepped up. In particular, family-planning activities are expected to bring the growth rate from 2.5 percent to under 2 percent in 2007. Community awareness about the

transmission and prevention of STD/HIV, reduction in teenage pregnancy and mortality due to cervical cancer will be reinforced through broad-based health education and public awareness.

The STD/HIV/AIDS program is one of the most important programs in the country. Studies have revealed a high prevalence of STD in some pockets of the country. The country is at risk being in close proximity to a region with relatively high incidences of STD/HIV/AIDS. Monitoring and prevention of STD/AIDS through information, education and communication for health will be strengthened, despite the challenges posed by physical terrain and remoteness.

Intensifying Prevention and Control of Prevailing Health Problems and Emerging and Re-emerging ones

In the area of disease control, important programs concerning tuberculosis, malaria, integrated mother and child immunization, immunization, leprosy, and STD/HIV/AIDS will be continued.

Following WHO's declaration of tuberculosis as a global emergency, the country adopted the Direct Observation Treatment (DOT) strategy as the tool to control the disease. This effective strategy will be reinforced in the Ninth Plan. Substantial community efforts are required not only to improve the accessibility of DOT by the people but also to generate awareness about the various aspects of tuberculosis.

The momentum in reducing malarial morbidity and mortality, which occurs mostly in southern Dzongkhags will be continued. The transmission of malaria across national and Dzongkhag boundaries will be combated through concerted efforts from both sides of the borders. The poor awareness about malaria among the population will be remedied through information, education and communication advocacy activities.

In order to control diarrhoeal diseases, water quality surveillance and control programs will be strengthened and sanitation will be promoted by model village schemes. Control of diarrhoeal diseases including nutrition will be addressed by expanding the existing mother and child health clinic into 'well-child-clinic' to promote childcare practice for children under five.

Acute respiratory infection (ARI) is the most common cause of morbidity, though the extent of mortality that it causes is unclear. Poor indoor air quality due to smoke release into the room is an area of concern. An integrated approach will be developed to reduce the high prevalence of ARI and Control of Diarrhoeal Diseases (CDD) among the children. The most recent finding shows that under-five morbidity suffering from cough and cold is 81 percent, while it is 20 percent from pneumonia.

The leprosy control program has made substantial progress over the years and the prevalence rate in 1998 stood at 1.05 per 10,000. The diseases will be virtually eliminated in the Ninth Plan.

With the changes in lifestyle, non-communicable diseases like rheumatic heart diseases, renal problems, gallstones, and cancer cases are becoming quite common. The lack of in-country health infrastructure in treating many non-communicable diseases means that patients are referred outside the country for treatment at a relatively large cost to the health system. Non-communicable diseases are beginning to create a social and economic burden, and this will be a major focus area in the Ninth Plan and onwards.

There is also the problem of disability caused genetically and by road and other kinds of accidents. Though it needs to be verified, it is suspected that the disabled constitute about 3.5 percent of the population, which is significant. The disabled are affected by hardships in their daily life. Disability prevention and rehabilitation will be integral part of primary health care in all the Dzongkhags.

Mental health and rehabilitation programs have already been initiated in the Eighth Plan. Community based rehabilitation and mental health programs will support both mentally and physically disabled people to enable their full social integration and participation. Mental health program will be strengthened in the Ninth Plan to gradually cover the entire country by orienting the health staff appropriately.

Development of Human Resources and Establishment of a System of Continuing Education

Health is a human resource intensive sector. As can be inferred from the current stock of health personnel, there are insufficient number of physicians and para-medical human resources and development of national capacity to fill the gap remains a challenge. With only 109 medical doctors and equal shortages in other areas of health, developing human resources for health will be a key factor if the country is to enhance the quality of health services and achieve acceptable degree of self-reliance and sustainability in the health sector. Today even when the country wants to send national medical doctors abroad for specialization training, foreign doctors have to be recruited in their absence. Because of the importance of human resource development in the health sector for the country, the Royal Government has formulated a master plan for human resource development for the health services in 1995, which will be updated in Ninth Plan. Furthermore, a continuing education system will be established for health workers to update their knowledge and skills in line with the development in health sciences and management.

Strengthening Traditional Medicine System and its Integration with General Health Services

Traditional medicine remains a popular form of health care. Access to traditional medicine in the country has been greatly increased with 31 traditional *Drungtshos* (doctors) providing indigenous medical services in 18 Dzongkhags. Traditional medicine will continue to hold an important place in the formal health care system as it not only adds an important dimension to the nation's system of health care, but also provides an alternative form of health care. Accordingly, its promotion as an alternative form of health care will continue to be emphasized. Further, integration of traditional medicine with the modern system of health care will be developed during the Ninth Plan. As the quality of traditional medicine is increasingly substantiated by scientific research, the marketing of traditional medicine on a larger scale will be emphasized to make it more internationally well known and cost effective.

CHAPTER 17: VOCATIONAL EDUCATION AND TRAINING

Current Situation

Enrolment in the general education system has doubled every 10 years, but vocational education and training programs have only seen some marginal growth since the 1970s. The vocational education and training sector has a total yearly intake capacity of about 1,271 students. This capacity is far short of the demands for skills related training of school leavers. Vocational education and training are delivered through the following programs, managed by the National Technical Training Authority: certificate-level courses in the Royal Technical Institute, diploma-level course in the Royal Bhutan Polytechnic, driving courses in the National Driving Training Institute, training in traditional fine art and craft in the National Institute for *Zorig Chusum*, Non-formal training through apprenticeship training program and special and village skills development programs. Until very recently, limited importance was given to formally organized and structured apprenticeship arrangements with industries, whether privately or publicly owned. Beginning in 2000, a pilot program of apprenticeship with a few selected industries and work places was initiated. The program needs to be formalized and expanded to improve the existing informal training systems within the industry.

Other public agencies involved in the delivery of vocational education and training include: Royal Institute of Management, Royal Institute of Health Sciences, Bhutan Forestry Institute, Natural Resources Training Institute, and Central Maintenance Unit of the Department of Power.

Training institutes currently operated by the private entrepreneurs include six information technology training schools, one drivers training institute, and one school for traditional art and craft.

In spite of the existence of these institutes, there is limited capacity for vocational education and training in the country. The result has been that a good proportion of skilled labour in the modern sector is imported while the youth are unemployed. The scale of shortage can be made out roughly from the 50,000 immigrant workers, both skilled and unskilled, who are in the country.

The rapid increase in the number of school leavers every year has resulted in a large number of youth who can no longer be absorbed in employment by the government. At the same time, most of them cannot be employed by the private sector or industries because they lack specific vocational skills. During the Ninth Plan itself, a total of 19,591 students from class X and below are expected to leave schools and seek employment.

A recent development is the introduction of pilot basic skills development program in a limited number of lower and middle secondary schools. The objective of this project is to stimulate students' interest in a diverse range of vocations to engender a sense of dignity of labour.

National Technical Training Authority has recently been established to coordinate and provide impetus to the development of an effective technical and vocational education programs. This agency is expected to help in bringing together all the key stake holders including private industry in formulating policies, defining training needs and modes and establishing occupational standards.

Objectives

The goals and objectives set out for the Ninth Plan are:

- Strengthening the institutional framework;

- Improving partnership with stakeholders;
- Improving and expanding training capacity; and
- Improving internal processes, especially management, pedagogy, marketing and the use of ICT.

Ninth Plan Outlay		(Nu. Million)
Recurrent	Capital	Total
335.925	500.000	835.925

The total outlay for the vocational education sector is Nu. 835.925 million of which, Nu. 500.000 million is for capital expenditure and Nu. 335.925 million for recurrent expenditure.

Strategies

Based on a considered model of technical and vocational education in the country, National Technical Training Authority will develop policies and implement a plan to expand and improve quality of technical education. Central to this will be the development of a vocational qualification framework.

Training capacity will be expanded based on forecast and perceived needs of industries. At present, 37 percent of the students continue their general education after completing basic education in class X, This is projected to increase to over 60 percent by 2012. The training system should expand its capacity to accommodate these school leavers. Training capacity for nearly 4,000 school leavers will be created.

A training ladder using the qualifications framework will provide a wide range of technical and vocational modular options. After an initial basic course, trainees will be assigned to specific works within the industries through attachments and apprenticeships. This will call for special arrangements between training institutes and related industries. Amongst others, this will include defining incentive packages for industries to provide meaningful training support to the students.

The National Technical Training Authority will develop a vocational qualifications framework in partnerships with stakeholders. Competency based modular courses will be developed for different occupational fields under the qualification framework. The framework will be used to register training providers, accredit training modules and test and certify the skills of trainees on different levels as required at the work-place.

The curricula of the existing training institutes will be reviewed and improved. If required, capacities of some existing courses will be expanded. Depending on the needs of industries, new courses leading to a variety of diploma and graduate options will be offered within these institutes.

13 new training institutes will be created at national and regional levels for a wide range of professional fields such as construction, tourism, business and administrative skills, automobile repair and *Zorig Chusum*. Some of the major initiatives in Ninth Plan are listed below:

- Expansion of the capacity of the National *Zorig Chusum* Institute in Thimphu as well as Trashi Yangtse Institute for *Zorig Chusum* to conduct 4-6 year course in *lhari, jinzo, patra, troeko, dolha, tshemzo* and *thazo* to 170 students each;
- Establishment of an institute of *Zorig Chusum* each in Punakha, Paro and Bumthang. Courses will be designed on the patterns of existing institutes of *Zorig Chusum*. Capacity will be 100 in Punakha, 120 in Paro and 170 in Bumthang;

- Expansion of the capacity of the Royal Bhutan Polytechnic from 300 diploma-level students to 600 diploma-level technicians;
- Expansion of the capacity of Royal Technical Institute from 300 to 710 trainees to deliver 3-year courses in building construction; electrical, civil, and mechanical engineering; auto mechanics and civil draughtsmanship;
- Establishment of a Vocational Training Institute each in Punakha and Trashigang. Both the institute will train skilled and semi-skilled workers, in auto mechanics, business management, commercial accountancy, plumbing, carpentry, masonry, house-wiring and house maintenance service, and each will have capacity for 250 workers;
- Establishment of Tsirang Construction Training Centre with a capacity of 200 trainees to train all types of skilled workers for the construction industry;
- Establishment of Thimphu Auto Repair Training Centre with a capacity of 30 students to train them in auto repair and maintenance; and
- Relocation and establishment of the National Driving Training Institute in Samphakha under Thimphu Dzongkhag with an increased capacity of 300 drivers.

The apprenticeship-training program will be further developed and expanded to cover an increasing number of trades. This will require the establishment of a framework of defined responsibilities and benefits for enabling private industries' participation in the design and delivery of these programs. Under this program, 2,050 school leavers will be provided with enterprise-based training so that the private sector industries can employ more trained skill workers.

Short-term non-formal skills development programs such as village skills development, construction and building maintenance skills and special skills development programs, targeted to school leavers and unemployed youth, will be developed and implemented. They will be aimed at providing hands-on experience that will enable the candidates to be self-employed by starting small and cottage-scale enterprises. Village skills development program will provide training and skills required by most villagers in traditional arts and craft. About 1,250 villagers will be trained under this program. Special skills development program which will cover about 3,750 workers, will offer skills even to disabled and delinquent youth.

Overall, the yearly intake capacity of the vocational training programs and institutions will be expanded from 1,200 school leavers per year to above 4,800 at the end of the Ninth Plan. To implement the overall package of expanding and improving the non-academic professional education, substantial donor funding will be necessary. To further support this, private entrepreneurs will be encouraged to offer vocational education and training programs.

CHAPTER 18: ROADS AND BRIDGES

Current Situation

In a landlocked country like Bhutan, the socio-economic development of the country depends largely on an efficient and reliable road network. Since the construction of the 179 km Phuentsholing-Thimphu highway in 1959, the country has seen expansion in the national road network. It has now over 3,746 kms of motorable roads, including 1,558 kms of national highways.

Despite the present road network, many rural communities still remain unconnected. While there is an increasing need to expand the national road network to enhance the socioeconomic lives of the rural communities, maintenance of the existing road infrastructure is an equally important and challenging component. Further, to cope up with the socio-economic development of the country and the consequent expansion of vehicular traffic, the existing road infrastructures have to be upgraded or improved. Lack of road legislation, fragile terrain and scattered settlement pattern, are some of the main constraints hindering the development and management of road network.

Objectives

The objectives of the road construction in the Ninth Plan are:

- Improving accessibility to social and economic activities by building more roads; and
- Enhancing the existing network with a view to reduce travel time, road user costs and transportation cost for goods and services.

Ninth Plan Outlay	(Nu. Million)		
	Recurrent	Capital	Total
Centre	1,136.165	5,524.094	6,660.259
Dzongkhag	132.655	2.995	135.650
Gewog*	0.000	204.347	204.347
Total	1,268.82	5,731.436	7,000.256

The total outlay for the road sector is Nu. 7,000.256 million of which, Nu. 6,660.259 million is for the central programs, Nu. 135.650 million for Dzongkhags, and Nu. 204.347 million for Gewogs.

Strategies

Promotion of Private Sector Participation

The Department of Roads will make an attempt to move away from direct involvement in the execution of road works including road maintenance and concentrate increasingly on design, supervision, quality control and regulatory role. Road works shall be executed through engagement of national contractors. In the Eighth Plan, national contractors were involved only in construction and resurfacing activities and the Department of Roads had been responsible for the execution of routine maintenance programs. During the Ninth Plan, it is intended to involve private contractors in routine maintenance works for which modalities are being formulated. Further, the concept of Built Operate and Transfer (BOT) will be introduced to enable private contractors to take up road infrastructure works.

* Suspension bridges and mule tracks

Automation of Road Works

Automation of the road works have been a key strategy in the past plans and it will be continued during the Ninth Plan to further enhance productivity, overcome labour shortages as well as to create employment opportunities for school leavers. Towards this, adequate provisions for purchase of critical additional construction and earth moving equipments and machineries have been kept in the plan outlay. Upgradation of skills among operators and managers to complement automation strategy are also envisaged in the road sector HRD programs.

Adoption of Environment Friendly Road Construction (EFRC) Techniques

Road is one of the largest land users in the country. Inadequate or lack of proper road construction techniques has significant impact on environment and sustainability. Therefore, all road construction activities will be required to adopt environmentally sound techniques and conform to the environmental codes of practice from now on.

Construction of Highways and Feeder Roads

A 77 km of national highway will be constructed in the Ninth Plan. This will consist of 45 kms of Gomphu-Pangbang Highway, and 32 kms of Wangdue Phodrang-Khotokha Highway.

123 kms of feeder roads will be constructed between various points to connect the proposed farm roads to the main roads network in the country. The program comprises of constructing 8 kms of motorable road between Pelela and Tashidingkha, 8 kms to Gomphu School, 6 kms between Chompa and Thennangbi, 5 kms between Mukuzor and Tsogonpa School, 2 kms approach road to Yangthang Goenpa, 3 kms between Thrimshing and Tsangpo, 2 kms between Pangthang and Yechen BHU, 21 kms between Lhuntse and Dungkhar, 12 kms between Dakpai and Buli, 6 kms between Gomkora and Tomzhangtsen, 10 kms between Bartsam and Bidung, 25 kms between Gyelposhing and Nganglam, 8 kms between Tashithang and Damji and 7 kms between Yadi and Shershong. These proposed roads aim to enhance access to remote rural communities. In addition, another 46 kms of feeder roads at various stages of construction will be completed within the Ninth Plan.

Realignment of National Highway

The East-West Highway between Trashigang and Thimphu can be shortened by realignment. Substantial savings will accrue to vehicle operating costs, travel time and maintenance after the realignment. The total length of 55 kms between Nangar and Ura will be reduced by 23 kms with the new construction of a 32 km road.

On the Phuentsholing-Thimphu Highway, which has the highest traffic density in the country, 25 kms realignment is proposed between Damchu and Chhukha. This will shorten the distance between the two places by 23 kms from the total length of 48 kms.

Construction of Double-lane Highways and Improvement of Critical Stretches

The Thimphu-Phuentsholing Highway was constructed in 1959, designed for a traffic volume of 145 vehicles per day. The traffic volume now exceeds over 800 vehicles per day. Hence, the lower standard of geometric characteristics (width, radii of curves, gradients etc.) of the road restricts the travel speed and increases hazards. To allow for expanding volume of traffic with two-way flow, the highway section between Chunzom and Phuentsholing will be upgraded into a double lane road. Similarly, the highway section between Babesa and Paro will also be double laned.

Maintenance and Stabilization of National Highways

Priority will continue to be accorded to the regular maintenance, stabilization of slopes and widening of the national highway network in the Ninth Plan.

Replacement and Construction of Bridges

Many existing bridges on the national highways are temporary bailey bridges. Most of these bridges have outlived their design life and are being used with reduced load capacity. In view of the increasing traffic volume and demand for adequate load carrying capacity, replacement of some of the critical bridges by permanent bridges of 7.5 metres carriageway width is necessary. Eight bridges are identified for replacement in the Ninth Plan namely, Tangmachu Zam, Sunkosh Zam, Waklaytar Zam, Chamkhar Zam, Bjee Zam, Mangdechhu Zam, Wachey Zam and Kurichhu Zam.

CHAPTER 19: HUMAN SETTLEMENTS

Current Situation

The two urban cities of Thimphu and Phuentsholing are the largest in the country and fall under class A. Towns that fall under class B include Samdrup Jongkhar, Gelephu, Samtse, Trashigang, Mongar and Paro and 20 other towns fall under class C. The classification system is primarily administrative and not demographic. The lessons from these two places are relevant for development of towns in other parts of the country. Thimphu is situated at an average altitude of 2,400 metres in a narrow north-south valley with mountains of about 4,000 metres on either side and with a population of 50,000. Phuentsholing, with an estimated population of 13,000 lies on the India-Bhutan border at an altitude of 160 metres. It has a large number of floating and daytime immigrant population. Some 54 settlements of varied size are thus designated as being 'urban' with approximately 137,000 people, or about 21 percent of the total population. But it is only Thimphu and Phuentsholing, which has substantial commercial and demographic presence to qualify as truly urban.

Besides these 'urban' settlements, there is increasing settlement along the highways as can be seen along the Thimphu-Paro highway. Over time, the attraction of highway settlements may lead to movement of people out of the more remote villages.

The experiences of Thimphu and Phuentsholing clearly indicate symptomatic effects of a rapid increase in population on urban infrastructure, land and housing. These cities are in different locations and have slightly different functional orientations, but the problems are similar. Thimphu is the seat of the Royal Government while Phuentsholing is the main export and entry-port for almost all goods imported into Bhutan.

Thimphu is a valley city and its expansion is only feasible up and down the valley, along the Wang Chhu banks. The expansions vertically (eastwards and westwards) up the slopes are only possible over the forest land. This is a typical dilemma that might come to the fore during the allocation of land for urban settlements, because of the shortage of agricultural land.

In both cities, a high proportion of the population are civil servants: 50 percent of households in Thimphu and 44 percent of households in Phuentsholing. These numbers suggests that pull factor is quite dominant in migration to these cities and the cause of the pull has to do primarily with administrative decisions to locate the government offices in these places. Deconcentration of human resources will be one solution for reducing the size of in-migration.

Migration toward both cities is high. In-migration has escalated due to the availability of jobs in the public and private sector. The population in Thimphu and Phuentsholing is estimated to be growing annually by 7-10 percent and 7 percent respectively. 84 percent of the households in Thimphu are in-migrants and in the case of Phuentsholing, it is even higher at 94 percent. At these rates of urban population growth, the demand for additional stock of housing units is quite large in these two cities. As of 1997, there were 566 and 649 Royal Government-housing units in Thimphu and Phuentsholing, respectively. Private supply accounted for 3,371 and 1,174 housing units in Thimphu and Phuentsholing, respectively.

As a result of population pressure, sub-division of plots and transfer of ownerships to build more houses in a given area are on the increase. There are three legal means of acquisition of land: land grant through *kasho*, purchase and inheritance. In the case of Thimphu and Phuentsholing, there is a high percentage of access to land through purchase rather than other means such as inheritance. More than 50 percent of the plot owners have obtained their land through purchase.

Land values over time has increased rapidly depending on its use. The average number of housing units per plot is 2.7 for Thimphu and 4.3 for Phuentsholing. The proportion of small plot owners has grown considerably in recent years, although the minimum permissible plot size of 4,000 sq feet will effectively curb this trend.

Even if the subdivision of plots and transfer of ownership were fairly static, densification in housing is another evidence of the direct impact of population growth. Densification in the private housing is suggested by the increase in multi-storied buildings in both the towns, which amounts to 49 percent of the houses surveyed in Thimphu, and 73 percent in Phuentsholing. Increase in density in terms of plot development and housing units are results of population pressure, which also puts pressure on municipal services.

The number of urban poor, who may be provisionally defined as a person living with monthly income of Nu. 1,000 and below in squatter hutments in both Thimphu and Phuentsholing is not very large but in order to stop the increase of squatters and slums settlements, their housing needs must be addressed. There were 281 squatter hutments in Thimphu and 75 in Phuentsholing in 1997. The slum and squatter settlements also include places of both immigrant and national labour for which provision for housing has to be made.

Housing shortage for the low-income group, defined as those who earn between Nu. 3,000-5,000 per month, is another indication of rapid urbanization. This income bracket comprises 16 percent of households surveyed in Thimphu and slightly more in Phuentsholing. This income group spends about 15-20 percent of their expenditure on housing-rent.

Low cost rental units owned by the Royal Insurance Corporation of Bhutan and National Pension and Provident Fund Bureau are few in number compared to the demand, and due to the low returns on investment and lack of land availability, the corporations has not undertaken additional major housing development programs. Housing owned by the Royal Government and rented to the its employees is also short of demand.

Objectives

The objectives of the sector are:

- Reviewing and preparing urban development plans for the existing 28 towns;
- Carrying out reconnaissance study of potential urban growth centres;
- Strengthening urban management capacity;
- Delivering urban services in a consolidated and cost-effective manner;
- Increasing participation of urban dwellers in the development and management of towns;
- Increasing accessibility to adequate shelter for low-income groups; and
- Addressing urban poverty.

Ninth Plan Outlay

(Nu. Million)

	Recurrent	Capital	Total
Centre	187.379	2,400.000	2,587.379
Dzongkhag	132.861	1,359.411	1,492.272
Total	320.240	3,759.411	4,079.651

The total outlay for the urban development sector is Nu. 4,079.651 million of which, Nu. 2,587.379 million is for the central programs and Nu. 1,492.272 million for the Dzongkhags.

Strategies

Physical Infrastructure

The analysis of urbanization in Thimphu and Phuentsholing show the need for infrastructure improvements. But such needs are obvious also in other principal towns that have to be developed to intercept in-migrants if they are not to overwhelm these two cities and to spread growth in an even way throughout the country. The deficiency of infrastructure is made starker by the daunting list of investment categories: roads, surface drainages, water supply, recreational areas, parks, parking, waste disposal, sewerage, footpaths, river training, telecommunications and electricity.

The cost of introducing urban infrastructure is considerable even for a small town and only the highest priority work can be carried out within the limitation of funds. As the housing and other constructions continue on both private and Royal Government lands regardless of the urban infrastructure, the option to develop the urban landscape in a holistic manner has to be foregone. Short of total re-development, the choice to make a coherent plan later will not exist if the funding becomes available. Urban planning is, therefore, an activity that must be undertaken right at the beginning.

Urban infrastructure will be built in the Ninth Plan in Zhemgang, Rangjung, Trongsa, Paro, Trashigang, Yangtse, Mongar, Lhuentse, Wangdue Phodrang, Bumthang, Tingtibi, Duksum, Thimphu and Phuentsholing. Some of the works have commenced in the Eighth Plan and will be continued in the Ninth Plan. Infrastructure will also be set up in other potential small towns, subject to fund availability.

Urban Housing

Rough estimates of housing demands based on eight principal urban centres show that over 1,500 dwelling units are needed for the next 10 years. This needs to be accomplished in the face of limited capital resources, labour shortages, and the inability of the vast majority of the urban population to pay economic rates for housing. During the Eighth Plan, construction of such housing began in Thimphu and Phuentsholing where housing pressures for the low-income group are the most acute. In the Ninth Plan, this will be consolidated to encompass more urban centres. This will depend on how far a strategy can be worked out to involve not only the Royal Government, but also the private sector that has so far not invested adequately in housing and real estate.

Housing policy has been formulated and the needs of the sector will be reviewed within the framework of this policy. Efforts will be made to promote affordable housing for the lower (Nu. 1000-5000) and middle income (Nu. 5000-10,000) groups through savings mobilization. The policy will deal with several important issues including the increase in supply of housing to meet the forecasted demand, facilitating decisions, and design of affordable apartment construction to encourage home ownership through hire purchase or rental. The Royal Government has decided to establish a Housing Corporation during the Ninth Plan which will be responsible for formulation and implementation of housing programs.

Management of Urban Services

In Thimphu, Phuentsholing, and four other towns where water supply, garbage collection, and sewerage services are provided, user payments are levied based on actual consumption. However,

the service charges fall far too short of recovery of operation and maintenance costs. Even in Thimphu and Phuentsholing, where density of population is high, the Royal Government is funding the difference between the cities' income and expenditure. Financial sustainability of municipal services and the institutional capacity for operation and maintenance will be encouraged. It is intended that, in course of time, all municipal corporations should become self sustainable in meeting its current costs, and that a town's own income should be commensurate with their needs to supply the municipal services. Toward this, the Royal Government will continue to streamline urban management through legislation progressively granting autonomy to municipalities, and promoting private sector participation for efficient delivery of services. The Municipal Act has already been passed and will be applied to municipal corporations as they are established such as in Thimphu and Phuentsholing.

Construction Design, Materials, and Technology

Infrastructure building has been a major part of all the past development plans. In the Eighth Plan, it accounted for about 30 percent of the capital outlay. The quality of construction is important for effective use of public expenditure. Construction is constitutive of materials and design, which embody both cultural and environmental factors. It effects, and is effected by, town plans, transport policy, construction materials industry, energy use, and present and future expenditure.

Recognizing the need for research on materials and construction methods, the Standard and Quality Control Division was set up in 2000 to develop construction standards and engineering code of practices.

Accurate and timely preparation of Bhutan Schedule of Rates is enormously important since it defines the costing of the construction outlays by the Royal Government and private agencies. With the establishment of Standard and Quality Control Division, this important price and cost reference document will be published regularly.

Starting in 1999, contractors have been registered with the Construction Development Board to streamline their eligibility for various categories of works. To enhance the capacity of the contractors, the Royal Government will make provisions for human resources development from the private sector HRD allocation and by encouraging automation. The government will also seek to make the contractors assume greater responsibility for their performance by introducing changes such as defect liability period being determined by the scope and scale of the work, as opposed to the current practice.

Although every Royal Government agency possesses a small team of engineers to oversee its engineering functions, the over stretch has meant that poor supervision of constructions contribute to low quality of works. There is little coordination and interaction among the engineering cells of various organizations, both in the Royal Government and private. This is one of the reasons for variations in the construction and engineering standards, and is one area of focus in the Ninth Plan.

Building materials used are a combination of locally produced materials and imported ones. The main locally produced materials are cement, polythene pipe, mixed conifer timber, stone and stone chips, earth and mud, wooden shingles, slate, prefabricated tiles, prefabricated pavement and mosaic tiles, and prefabricated hollow concrete blocks. Although, some wood based manufacturers have started to produce mechanized prefabricated windows and doors, the quantity is not large enough to induce any major transformation in the construction industry. Nor is it large enough to reduce the human resource intensity in construction sites. Partly, this is related further to the high cost of prefabrication construction fixtures. However, production of standardized prefabricated door and window structures will be encouraged by the Royal Government.

Because of an absence of strict specifications of construction materials standard, there is opportunistic substitution of original goods with counterfeit and imitation brands that compromises the quality of construction. Market surveys of four major towns confirmed that most of the building, plumbing and electrical materials under a particular brand name did not have standard IS codes and counterfeit goods were sold openly in the hardware shops. The selection of brands that conform to certain quality and promotion of trade practices will be a major task in the Ninth Plan.

Architectural Design and Building Codes/Rules

A rudimentary set of rules and procedures regarding traditional architecture has been prepared as guidelines so far. These, and the building codes, serve to regulate the external forms of housing architecture. However, the use of current construction materials like concrete and bricks, and construction technology in cities has led to inevitable modifications even in form. Adaptive research on using modern construction materials and technology for authentic traditional design to bring out a more comprehensive building guidelines will be carried out during the Ninth Plan.

CHAPTER 20: TRANSPORT

Air Transport

Current Situation

Air services from Paro, using two BAe 146-100 series aircrafts, link Bhutan to Bangkok, Delhi, Dhaka and Kathmandu. In the Eighth Plan, the main focus in the civil aviation sector was strengthening of airport infrastructure. Procedures for aviation security and maintenance of airport infrastructure were improved significantly. Moreover, initiatives were started for an operation of scheduled commercial services by the private sector in collaboration with foreign operators.

Objectives

In the Ninth Plan, the air transport sector will concentrate on:

- Establishing a second airport in the country;
- A civil aviation master plan that will guide the development of air transport services;
- Introduction of domestic air services; and
- Development of a national institutional capacity for sustainability of the above activities.

Ninth Plan Outlay

(Nu. Million)

Recurrent	Capital	Total
127.206	403.920	531.126

The total outlay for the air transport sector is Nu. 531.126 million of which, Nu. 403.920 million is for capital expenditure and Nu. 127.206 million for recurrent expenditure.

Strategies

Airport Infrastructure

The airport at Paro, which is the only airport in the country, has natural limitations for aviation growth. As it is situated in a narrow valley encircled by steep mountains, flight operations are restricted to visual flight rules. Owing to such difficult operating conditions, the payload penalty significantly affects the commercial viability of aircraft operations. Frequent flight cancellations due to inclement weather especially during the monsoon results in substantial losses to the economy. A second international airport, which is all weather and can cope with air traffic growth, has to be established.

A number of airport site surveys were conducted in the past. Khotokha, or more precisely Shelly platform at an altitude of 8,000 feet, is considered to be the most promising site among all those surveyed. It can be all weather, and has the scope for future expansion. The adequate air space around it can allow for larger aircrafts to operate.

Civil Aviation Master Plan

The civil aviation master plan will identify the requirement of the aviation sector in terms of the requirement of heliports and airports throughout the country. Depending on the type of operation, and its related infrastructure including communications and navigation facilities, security, human

resource and training will be outlined in the master plan. The infrastructure plan will include works on detailed design of the airport. The master plan will encompass the development of the aviation sector in line with ICAO standards.

Domestic Helicopter Services

There is growing commercial justification for having helicopter services links to various urban and rural centres. Domestic services are expected to be launched in the Ninth Plan by the private sector. Financial and technical guidelines for domestic helicopter services have been drawn up.

Helicopter services could operate a variety of services: executive travel, emergency medical service, charter-hire, relief flights, natural disaster support, aerial lifting, aerial surveillance, power line installation, fire control, aerial survey and photography. About 20 potential sites for heliports have been identified.

Road Transport

Current Situation

In 1997, the total number of vehicles in Bhutan was 13,584. Over the next three years, in 2000, the number increased to 19,463. These figures suggest a rapid annual growth of over 12 percent. At present, 120 passenger transport buses/trucks managed by 38 operators are operating under contract for a period of 10 years. Public transport operators are exempted from taxes and those operating on non-profitable routes are provided buses on subsidy. The Royal Government has subsidized 21 buses so far.

Surface transport is the main mode of passenger travel and freight transport in the country. Hence, there is a growing need to update such activities as registration, licensing, roadworthiness test, traffic policing, safety standards, and vehicle emission test. Emission testing was carried out in early 2000 to generate data, which is being studied by the National Environment Commission to determine an appropriate national emission standard. The result, however, showed that most automobiles could not meet the Indian emission standard. The combination of poor quality of fuel and poor maintenance of vehicles were the major causes of high vehicular emissions.

Regulation and monitoring of all types of automobiles - taxis, passenger transport services, lorries, and other commercial vehicles - are the responsibility of Road Surface and Transport Authority which provides these services through its four regional offices in Thimphu, Phuentsholing, Samdrup Jongkhar and Gelephu and eight base offices located in Paro, Wangdue Phodrang, Tsimakothi, Samtse, Damphu, Trongsa, Trashigang and Mongar.

Objectives

The objectives for the road transport sector are to ensure the development of a safe, reliable, efficient, and affordable passenger transport service throughout the country.

Ninth Plan Outlay (Nu. Million)

Recurrent	Capital	Total
89.666	162.112	251.778

The total outlay for the road transport sector is Nu. 251.778 million of which, Nu. 162.112 million is for capital expenditure and Nu. 89.666 million for recurrent expenditure.

Strategies

Safety

Because of the narrow and winding roads coupled with higher volume of traffic, the probability of accidents is high. This can be partly offset by intensifying safety awareness programs. In spite of the increase in vehicular traffic, awareness campaigns have reduced the number of dead and injured in accidents. In 1999, 58 passengers died and 177 passengers were injured in road accidents, while 15 died and 65 were injured in 2000. Installation of road and traffic signs at appropriate places, traffic engineering, education and training of drivers are some of the activities which have enhanced road safety. In the Ninth Plan, speed guns, weighing machines, breathalyzers and emission testing devices will be introduced. Campaign and education on safe driving habits through mass media and periodical refresher courses will be carried out.

Environmental Standards

The quality of vehicular emissions needs to be improved in a phased approach to maintain the urban air quality. The result of emission test carried out in 2000 demonstrates the urgency for setting emission standard. A more systematic vehicular inspection program will be implemented in the Ninth Plan, based on standard operating procedures, and better testing equipment and facilities. However, enforcement of emission standard will be contingent upon access to better fuel quality and vehicular maintenance. Measures to ensure clean storage tanks and transportation of fuels will be implemented. Mechanisms will also be introduced for control of fuel quality from refinery to customer service.

Transport Infrastructure

Additional services will be introduced in different parts of the country as the road network expands. Subsidy will be provided to private operators plying on non-profitable routes. The standard and quality of buses and services will be enhanced for greater safety and comfort. Transport infrastructure development will include construction of bus terminals and sheds with related facilities such as public toilet, parking, and roadside bus stops at Trongsa, Paro, Wangdue Phodrang, Trashigang, Mongar, Sarpang and Samtse. Four new base offices at Haa, Zhemgang, Trashigang and Samtse will be established for effective monitoring of transport services and enforcement of transport regulations.

CHAPTER 21: INFORMATION AND COMMUNICATION TECHNOLOGY

Current Situation

The development of information and communication technology presents vast potential for Bhutan to overcome the constraints arising from landlockedness, the mountainous terrain and associated difficulties. Furthermore, a rapidly expanding educated workforce with proficiency in the English language, and a well functioning telecommunication infrastructure confers numerous advantages in harnessing this potential. With increasing emphasis on the development of a knowledge based economy, the country seeks to harness the opportunities arising from developments in the information and communications technology to: enhance communications, e-governance, and as a source of employment.

Telecommunication is one of the strongest assets in the infrastructure of the country. In 2000, there were an estimated 13,000 subscribers, half of whom were located in Thimphu, where the international gateway switch is situated. The number of subscribers at each of the remaining 26 exchange points in the Dzongkhag headquarters ranges from 10 to 300. 90 out of 201 Gewogs have telephone connections. The digital microwave transmission system has enabled the penetration of telephones and information technology that is now spreading quickly from the two main cities to rest of the country.

The number and use of computers, often interconnected with LANs in the organizations in Thimphu and Phuentsholing, have increased in the Eighth Plan. A major transformation in the field of ICT was the introduction of internet by the country's first, and so far the only Internet Service Provider (ISP), the Druknet, in 1999. As of May 2001, the numbers of internet accounts have jumped to 935: 597 in Thimphu, 135 in Phuentsholing, 17 in Gelephu, 60 in Trashigang, 25 in Samdrup Jongkhar, 61 in Paro and 40 in Trongsa. The connections are linked-up at three points: in Thimphu, Phuentsholing and Trashigang by a 256 Kb line which is currently being upgraded to 1.0 Mb. Sharing of information on-line by way of web sites is increasingly becoming popular.

In the private sector, which procures and supplies computers and ICT accessories, sixteen ICT vendors have emerged in Thimphu and Phuentsholing during the Eighth Plan. Four firms provide applications development and networking services and six provides services in maintenance and repair of computers and accessories.

In addition, half a dozen ICT training institutes have been set up by private entrepreneurs: 4 in Thimphu and 2 in Phuentsholing. ICT subjects are incorporated into the education curriculum. RIM conducts an application-based course of two years, oriented to the civil service and leading to a Diploma in Information Management System. It admits 15 students each year. Sherubtse College started a Bachelor in Information Technology program in 2000, in addition to the four-year Bachelor of Science with Computer Science program. Even with these developments, lack of sufficient and qualified ICT human resource is seen as a major obstacle for efficient utilization of ICT in the immediate future.

Objectives

The goals and objectives of the communication and the ICT sector in the Ninth Plan are:

- Expansion of telecommunication services to all the Gewogs;
- Promotion of e-governance; and
- Promotion of private sector participation.

Ninth Plan Outlay			(Nu. Million)
Sector	Recurrent	Capital	Total
Bhutan Telecom Authority	17.646	21.050	38.696
Department of Information Technology	19.800	60.000	79.800
Total	37.446	81.050	118.496

Together, the total outlay for the ICT sector is Nu. 118.496 million of which, Nu. 81.050 million is for capital expenditure and Nu. 37.446 million for recurrent expenditure.

Strategies

Expansion of Telecommunication Services to the Gewogs

Building on the existing strong infrastructure base, telecommunication services will be expanded in the Ninth Plan. At least 10 telephone connections will be established in each of the 201 Gewogs in the Ninth Plan. This will result in 80 percent of the rural population being covered by telecommunication service. In areas where there is no electricity, repeaters and terminals will be operated by solar panels.

E-governance

E-governance will be promoted through the establishments of networks (LAN and WAN) and web portals. These networks and information system will enable a wide array of information services to be provided online to the general public. The network should also result in an effective and efficient government information management system and enhance ease and speed of communication. Public kiosks will enable people to obtain government information and forms online, and send and receive letters and other correspondences electronically. The rural communities and the Bhutanese public in general will also benefit from the expansion of e-governance services.

Private Sector Participation

While the Royal Government agency like the Department of Information Technology will be responsible for strategic planning, overall coordination and regulation of the ICT systems, ICT support, maintenance and software development will be increasingly outsourced to the private sector.

ICT Platform Technology

The evolution of technologies is leading to the convergence of both voice and data on a common ICT platform. This technology is fairly new and it is being assessed for adoption through a trial project. The cost factor too favour ICT based networking, it is cheaper compared to the conventional radios and switches. If the trial proves successful, ICT packet radio technology would be the least cost method of providing rural telecommunication. It supports both voice and data services which makes it ideal for fulfilling the Universal Social-service Obligations (USO) and enables the promotion of ICT all over Bhutan. If this technology is found to be inappropriate, fixed wireless cellular network service will be taken to the rural areas.

Promotion of Knowledge Based Industries

Bhutan has an ideal climate for knowledge development, good power and telecommunication systems and proficiency in the English language. The implementation of this strategy largely

depends on equipping substantial workforce in ICT related training and entrepreneurship. Toward this end, a master plan for ICT has been prepared and the strategy for the development of ICT is also being formulated.

Possible ICT industries suitable for Bhutan at the initial stages can be broadly divided into information service and data processing. Information services will range from back-office operations, insurance claim processing to call centres and e-commerce solutions.

E-Commerce Solutions

E-commerce is growing at a very fast pace globally and this could be a viable strategy for Bhutan when sufficient number and quality of ICT related human resources are available. This activity involves trading of goods and services between parties who could be individuals, companies or the government.

The first requirement is opening up of a Bhutan portal to offer an integrated relationship management to the customers. The assistance takes many forms with a number of incentives to the users such as free merchant service by providing a free web space, home page creation, logistic service for delivery of the merchandise, fulfillment of service by a broad range of service from point of purchase to warehousing, auction service and offering auction options, portal development and providing code on line for business practices code.

Radio and Television Services

Current Situation

Currently the Bhutan Broadcasting Service (BBS) Corporation provides both radio and television services. The radio service has a nationwide coverage and broadcasts in four languages covering topics that include health, agriculture, education, women, children and entertainment among other programs. The recently established television broadcast is limited only to the Thimphu valley. However, there are numerous private cable television operators, throughout the country, who provide more than 30 international channels including BBS telecast.

Objectives

The objectives of the Bhutan Broadcasting Service Corporation are:

- Informing, entertaining and educating the public; and
- Promoting Bhutan’s rich culture, heritage and national and regional languages.

Ninth Plan Outlay (Nu. Million)

Recurrent	Capital	Total
0.000	348.000	348.000

The total outlay for the broadcasting sector is Nu. 348.000 million for capital expenditure.

Strategies

Considering the potential of radio and television media as a forum of public debate and as a means of promoting awareness among the people, concerted efforts will be made to harness its full potential during the Ninth Plan. The national television services will be expanded to provide nationwide coverage and increase the programming hours.

As for radio, emphasis will be given to expand FM service nationwide. The possibility of utilizing the internet to relay both television and radio broadcasts will also be explored. In order to support the expansion of radio and television services, priority will be accorded to train and develop human resources in the area of mass communication, business and finance and engineering.

CHAPTER 22: ENERGY

Current Situation

The country's hydroelectric potential is estimated to be over 30,000 MW. However, by the end of the Eighth Plan, only about 1.42 percent of that potential have been harnessed. During the Eighth Plan, 82.4 MW and 506 million units of hydropower has been added to the existing capacity, bringing the total installed capacity of the power system as a whole to 444 MW, including diesel generating capacity of 3.57 MW installed in various Dzongkhag headquarters. This represents a 24 percent increase in the total installed capacity during the Eighth Plan. Annual average energy generation capacity has also been enhanced to 2,326 million units from 1,838 million units at the end of the Seventh Plan.

The commissioning of 60 MW Kurichhu Hydroelectric Project, Basochhu Upper stage of 22.2 MW and Rongchhu micro hydel of 200 kW were the main sources of additional power generation. Moreover, Tala Hydroelectric Project (1,020 MW), the largest power project in the country and Basochhu Lower Stage (38.6 MW) are under implementation.

To transmit and distribute the electricity, hundreds of kilometres of transmission lines were added. The main transmission lines are rated at 220 kV to and from Chhukha, 66 kV to Thimphu, 133 kV to Eastern grid, and a 400 kV line from Tala project to India.

The annual domestic electricity consumption has been growing at an average rate of 9.53 percent over the last five years. National demand has grown to 90 MW and 532 million units in 2000 from 70 MW and 338 million units in 1995. In December 2000, the number of urban connections was 16,861 and that of rural, 12,970. Rural electrification works were carried out in about 189 villages in Haa, Samdrup Jongkhar, Trashigang, Trashiyangtse, Chhukha, Thimphu, Punakha, Wangdue Phodrang, Paro and Lhuentse. Moreover, works have commenced to connect another 6,416 households in other Dzongkhags.

In 1997, at the start of the Eighth Plan, Bhutan exported 1,354 million units of electricity to India and imported 32 million units of electricity. By 2000, export has shot up to 1,495 million units. Taxes and dividends from hydropower sector contributed about 45 percent government revenue. Export tariff was charged at Nu. 1.50 per kWh. Within the country, tariffs charged are Nu. 0.50 for rural consumers, and Nu. 0.80 for urban domestic, commercial and industrial uses. The real costs of electricity generation are much higher than these figures.

With regard to harnessing of the vast hydropower potential, feasibility studies were completed for Mangdechhu Hydroelectric Power Plant (360 MW) and Punatsangchhu Hydroelectric Power Plant (870 MW). These two plants are techno-economically feasible and they will be undertaken in the Ninth Plan. In addition, four feasible micro-hydel sites have been identified at Sengor, Sakten, Tang and Gasa.

Until rural electrification extends to most of the rural areas, lighting, cooking and heating in rural areas will be dependent on fuel wood. Fuel wood accounts for 70 percent of the national energy consumption. Because of its abundance and the cold climate in high altitude areas, per capita consumption is comparatively high. It is estimated that the current annual consumption of fuel wood is 1.2 million cubic metres or 1.9 cubic metres per capita. Fuel wood demand is expected to increase very moderately. One estimate shows that it will be around 1.9 million cubic metres in 2010 mainly because of the increasing use of liquid petroleum gas (LPG) and electricity for

cooking, heating and lighting. Fuel wood is not only used for heating and cooking in rural households but also is used in industries such as Bhutan Carbide and Chemicals Limited, Bhutan Ferro Alloys Limited and Bhutan Board Products Limited, and while blacktopping the roads. Regarding the construction of roads, 1 km of blacktopping roughly requires 65 cubic metres of wood, though this will decline when the environment friendly road resurfacing is introduced.

Liquid petroleum gas is the main cooking fuel in towns where two companies import and distribute them. Kerosene is also imported in large quantity, primarily for lighting purposes in remote settlements without electricity or other means of lighting. Quota for LPG was increased from 300 MT per month to 500 MT per month from January 2001. Fuel reserve capacity of the POL depot at Dechencholing was enhanced to 700 KL (MS) and 300 KL (HSD). Proposal is being made for further increasing the POL reserve capacity of the depot by another 200 KL (MS) and 300 KL (HSD). A new fuel station at Paro was installed and work has begun for establishment of a fuel station in Tsirang. Fuel stations at Trongsa, Bumthang, and Trashigang were upgraded. The distribution system of SKO and LPG were streamlined and POL pricing mechanism was improved. To familiarize consumers on quality of POL products, several workshops were also conducted.

Grid supply suffers from low economy of scale where settlements are highly scattered. At least for lighting purpose, distribution of solar panels for lighting is a cost effective technology. The government continues to provide solar sets for lighting in communal and official institutional centres such as schools, monasteries, and health service centres where grid supply cannot be extended. Total cumulative record show that about 1,316 solar sets have been distributed so far.

All fossil fuels like diesel, petrol, kerosene and aviation turbine fuel are imported. The amounts imported in 1999-2000 give an idea of the current level need to keep the economy running: 26,844 KL of diesel, 6,520 KL of petrol and 15 KL of kerosene were imported. Coal occurs, but in thin seams, within the sandstone and shale of Damuda sequence near the foothills of Eastern Bhutan. Deposits are located in Samdrup Jongkhar. Coal bituminous worth Nu. 65 million was exported to Bangladesh, Nepal and India in 1999 while coal and allied products worth Nu. 34 million were imported from India in the same year.

Objectives

The goals of the hydropower sector set out for the Ninth Plan are:

- Strengthening the economic self-reliance of the nation by realizing the electricity generation capacity;
- Providing adequate, safe and reliable electricity through sustainable and environmentally friendly development of hydroelectric potential; and
- 100 percent rural electrification by 2020.

Ninth Plan Outlay	(Nu. Million)		
	Recurrent	Capital	Total
Centre	1,717.949	4,500.000	6,217.949
Dzongkhag	139.435	2.500	141.935
Total	1,857.384	4,502.5	6,359.884

The total outlay for the energy sector is Nu. 6,359.884 million of which, Nu. 6,217.949 million is for the central programs and Nu. 141.935 million for the Dzongkhags.

Strategies

In order to progressively fulfill the Ninth Plan goals, several strategies will be pursued, encompassing the following prominent ones:

Creation of an Enabling Environment

This will mean formulation of hydropower policy guidelines to encourage possible participation of independent power producers and operators. Other areas identified are the private sector skills development and training of personnel for the execution of rural electrification works through contracts. Possible areas of community participation and private sector involvement in electricity supply services will also be identified through feasibility studies.

Rural Electrification

Rural electrification will be accorded the highest priority to improve the quality of life and stimulate socio-economic development in rural areas. The overall rural electrification strategy is to achieve 100 percent coverage by 2020 with a target of 15,000 households in the Ninth Plan. This is a three-fold increase from the target of 5,000 households in the Eighth Plan. This program will involve extension of power lines from either the transmission grid or from isolated mini/micro hydroelectric power plants. A comprehensive Rural Electrification Master Plan and investment study is also being formulated for the 20 Dzongkhags. Upgradation of the urban electricity services is aimed at improving the infrastructure development in town areas for the safe, adequate and reliable power supply.

Strengthening the Institutional Capacity

The present functions of the Department of Power will be segregated as a result of the enactment of the Electricity Act in July 2001. Bhutan Electricity Authority will function as the regulatory body for enforcing rules and regulations and the Bhutan Power Corporation will be responsible for the utility functions of the Department. The Department of Power/Energy will remain as the planning and policy body of the Energy Sector.

Automation of Generation, Transmission and Distribution of Electricity

This will be undertaken to increase the efficiency and reliability in the operations and management of the system. The use of SCADA (Supervisory Control and Data Acquisition) reduces human errors and creation of central or independent load dispatch centres to optimize scheduling will be part of this strategy.

Determination of Tariff System

For sale of electricity to both domestic and external supply, the tariff system will be fixed taking into account both the domestic and external market pricing, trends and opportunities.

Preparation of Energy and Water Resources Master Plan

A systematic and sustainable approach to harnessing the renewable energy resources will include preparation of Energy Master Plan, Water Resources Management Master Plan and updating of Hydropower Master Plan Inventory. Feasibility studies of 2,000 MW hydropower project sites at lower Bumthang Chhu (Diglai project in Zhemgang), Kholongchhu in Trashiyangtse and Punatsangchhu Stage II in Wangdue Phodrang are proposed to be carried out in the Ninth Plan.

Construction of Transmission Grid

Construction of inter-connected transmission grid from Tingtibi to Trongsa/Bumthang, Wangdue Phodrang to Tsirang/Dagana and to Gelephu will be undertaken for distribution and reliable power supply within the country as well as for export. Grid power extension is also planned for power supply to un-electrified Dzongkhags and Dungkhags such as the Gasa, Bhangtar in Samdrup Jongkhar and Lhamoizingkha in Sarpang. For Gasa, grid extension is planned since it is found more techno-economical.

CHAPTER 23: TOURISM

Current Situation

Tourists' arrivals have increased steadily since 1990. Arrivals have increased from 5,363 at the beginning of the Eighth Plan in 1997 to 7,559 in 2000. This was largely due to the emergence of Bhutan as recognized quality destination and licensing of additional tour operators in 1999. For many years, licenses were limited to 33 operators. By 2001, 89 Thimphu-based tour operators had been registered. However, several small companies are yet to become fully operational and the industry is dominated by a number of larger tour operators who have maintained their market positions over the years. In 1993, 6 operators were reported to have handled 80 percent of all visitors. By 2000, the top 6 tour operators handled 60 percent of all visitors.

The five major important source markets in 2000 were USA, Japan, Germany, U.K., and France. The visitors' numbers may increase steadily, as the country is becoming better known as an exclusive destination. The industry, however, suffered a huge reduction in the number of tourists due to cancellations following the tragic incidents of 11th September 2001. North America is the most important source market for tourism and accounted for nearly 36.43 percent of all tourists' arrivals in 2000.

The average length of stay in 2000 was 8.13 days. Trekkers averaged 7.4 days, while cultural tours averaged 8.3 days. Some of the greatest lengths of stay (23 days) were achieved in special interest trips such as bird watching, and some religious study groups. Repeat visits are very low. Currently, there are 13 trekking routes, many of which are interconnected.

For cultural tours, the majority follows the Paro, Thimphu, and Punakha-Wangdue Phodrang tourist triangle. Only relatively few visitors undertake the long drive beyond. This is both a result of short duration stay, which allows only for this geographical coverage, and lack of marketing other parts of the country.

Although the numbers of tourists have increased steadily, the ratio of trekkers to cultural visitors has declined sharply from 30 percent in 1993 to 12 percent in 2000. The numbers of trekkers have come down from 1,851 in 1996 to 926 in 2000.

Tourist visits are concentrated in the high season, which includes March, April, May, September, October and November. 84 percent of the tourists arrive during these six months, leaving hotels, transports, and other services slack during the rest six months.

A total of 32 hotels and guesthouses were approved for tourists' accommodations in 1996. By 2001 the number had grown to 57 approved tourism establishments in three categories with 1,013 rooms in Bumthang, Gangtey, Mongar, Paro, Phuentsholing, Punakha, Samdrup Jongkhar, Trashigang, Thimphu, Trongsa and Wangdue Phodrang. Not all additions to this list were new establishments: some of them were upgraded. According to a survey conducted in 2001, the hotel industry employed about 1,000 staff.

The quality of tourist guides is the key to delivering high quality cultural tours which the country strives to promote. Professional interpretation services and guides can enhance experiences of the tourists. In September 2001, there were 224 cultural guides and 87 trekking guides. About 48 trekking guides are also registered as cultural guides. While some are permanently employed by tour operators, others are usually employed on a temporary basis. Cultural guides are licensed

after a test following a two-weeks basic entry-level course. Overall professional standards need to be improved especially considering the high level of intellectual curiosity of the tourists who visit the country.

Revenue from royalty of US\$ 55 per person per night during low season and US\$ 65 per person per night during high season increased from US\$ 2.48 million in 1997 to US\$4.1 million in 2000. It accounts for 15 to 20 percent of the total value of exports. Gross revenue or income for the tourism industry as a whole was \$10.5 million in 2000.

Objectives

The main goals for the tourism sector in the Ninth Plan are:

- Promoting and maintaining Bhutan as a high quality tourist destination in terms of cultural and scenic interest and the high standard of hospitality and services. This is aimed to create a favourable and memorable impression of the people and country to all visitors;
- Generating employment and earning opportunities particularly for the local rural communities;
- Developing innovative activities to meet the specific interest of the visitors;
- Reducing the seasonal nature of tourism by speeding arrivals and increasing the length of stay;
- Promoting domestic travelers for tourism and pilgrimage;
- Enhancing the knowledge of local history and culture of the tour guides and communities;
- Maintaining the historical sites and preserving local traditions and environment for the benefit of the Bhutanese as well as visitors; and
- Improving and monitoring the quality of the hospitality facilities and services.

Ninth Plan Outlay		(Nu. Million)
Recurrent	Capital	Total
58.163	125.509	183.672

The total outlay for the tourism sector is Nu. 183.672 million of which, Nu. 125.509 million is for capital expenditure and Nu. 58.163 million for recurrent expenditure.

The potential of tourism as a high growth sector and as a revenue earner and employer is well recognized. Gross earnings and revenue is targeted to increase by 15 percent per year. By the end of 2006, tourist arrivals should reach the 15,000 mark and the gross earnings should be in excess of US\$ 21 million and revenue from royalties should cross US\$ 8 million. In order to achieve these targets, several strategies have to be followed, all of which require cooperation between the Royal Government, the tour operators, transport sector and other stakeholders.

Strategies

To achieve the projected number of tourist arrivals and at the same time maintaining the principle of high-value low-volume will depend on improving and maintaining a high standard of hospitality and services, and overcoming infrastructural bottlenecks particularly air services.

Reduction of Seasonality and Increase in the Length of Stay

The development of new products and their active promotion in existing and new markets will be necessary to tackle the chronic seasonality problems and in increasing duration of stay. Some of the new products proposed are listed below.

New Products and New Markets

Following the positive experience of longer stays by bird watchers in search of the variety and rare species that can be found in Bhutan, this activity will be promoted. Since, such groups require professional guides, a cadre of guides with expertise on local birds will have to be developed to support this tourism activity. New sight seeing places and trekking routes will be promoted. The catch and release system of fly-fishing for trout is beginning to attract tourists from the USA and UK. Fishing combined with a cultural sightseeing holiday for non-fishing family and group members would make an attractive package.

Eco-Tourism

There are a number of tours with the potential to extend visitor stay in villages and spread the benefits of tourism. Community participants have aspirations to be involved in eco-tourism activities to supplement local incomes. Rural eco-tourism destinations could be a major attraction. There will be opportunities for involving local people in some special interest products. This can be most effective when based on traditional occupations such as weaving and other handicrafts, handling horses and yaks, knowing the forest and plants, and demonstrating lifestyles such as farming, cooking, and village life. Other products will need more specialist guiding and careful packaging. Adventure activities need special attention to equipment and safety.

Health (SPA) and Spiritual Tourism

With the growing interest of world tourism markets in alternative health care services, the country's rich asset of clean and fresh mountain air, herbal medicine and hot springs offer great potential for developing health-based products. Standards of interpretation and other services will have to be improved. Visits to the National Institute for Traditional Medicine, Thimphu, have been growing steadily. Further, the country which is steeped in sublime Buddhist philosophies and values, and being the custodian of important religious sites, has been attracting meditation and religious study groups. Spiritual pursuit and physical fitness in the pristine environment of the country can be a potential area of promotion, if carefully packaged without undermining Buddhist principles.

Adventure Tourism

The rugged natural environment of the country is extremely well suited to high paying specialist adventure activities. These could be especially useful in attracting the activity-oriented Asian markets that currently hardly visit the country. Other adventure activities that could be developed successfully include river running, mountain biking, rock climbing, and day hikes. Some of these softer activities can be offered in combination with cultural sightseeing tours to extend length of stay as well as to attract new markets. Examples include the one-day Mo-Chhu and Pho-Chhu river trip developed near Punakha and potential river day trips south of Bumthang. Interpretation, information and safety are especially important for these adventure activities, and the highest international standards of guiding and equipment are essential.

Domestic Tourism

Efforts will also be initiated to organize domestic tourism by firstly studying the present trends and developing basic facilities and services at the most frequented sites. In the second stage lesser known sites and areas will be promoted after developing campsites and other related basic facilities.

CHAPTER 24: TRADE AND COMMERCE

Current Situation

Domestic trade in the country consists mostly of retail trading. Competition in this sector is promoted through encouragement of as many retail and wholesale dealers as possible. Seeking the cooperation of the principal companies in India and abroad to facilitate appointment of new or additional wholesale dealers continues as a policy of the Government.

At present, all trading activities that do not fall within the purview of the service industries and the production and manufacturing industries are classified under trade. Trading licenses are issued according to categories of trade classification. Examples of category of business by trade classification are: general store, hardware, stationery, cloth, sports goods, electronic, medical, meat, automobile parts, fuel, agro-chemical and animal feeds, furniture etc. In 1997, there were a total of 8,629 wholesale and retail trade license holders. By 2000, the number had increased to 11,724 of which, 351 licenses were operated by expatriates.

Since 1995, the government enforced the packaged commodities rules aimed at making packaged goods available at the labeled price - maximum retail price (MRP) particularly in the four major cities of Phuentsholing, Thimphu, Gelephu, and Samdrup Jongkhar. The key policy objective of this initiative is to protect the interests of consumers.

As far as the direction of trade is concerned, Bhutan's trade is heavily concentrated in the SAARC region covering 84.39 percent of Bhutan's total trade in 1999. The share of the rest of the world in Bhutan's total trade in the same year was only 15.61 percent. Although the share of trade with other countries has picked up over the years, India still continues as the major trading partner of Bhutan covering almost 82 percent (1999) of the total trade.

In 1999, India accounted for almost 95 percent of total exports followed by Bangladesh (4 percent) and Nepal (0.5 percent). The share of the rest of the world in the export sector in the same year was only 0.5 percent. Similarly, imports from India accounted for about 75 percent of Bhutan's total imports followed by Singapore (13 percent), Japan (3 percent) and Thailand (3 percent). The import share of the rest of the world was only 6 percent.

Table 14: Overall Balance of Trade (Nu. Million)

YEAR	IMPORTS	EXPORTS	BALANCE
1996	4,525.19	3,553.77	-971.42
1997	4,977.94	4,274.18	-703.76
1998	5,516.37	4,455.62	-1,060.75
1999	7,834.88	4,987.96	-2,846.92

Source: Department of Revenue and Customs, Ministry of Finance

Table 15: Strategic Goods Imports from India, 1998 and 1999

Commodity	1998		1999	
	Qty.	Value (Nu. Million)	Qty.	Value (Nu. Million)
Rice in Kg	34,183,879	287.921	38,674,261	363.641
Wheat in Kg	6,369,985	31.823	17,509,116	136.877
Edible oil in Kg	3,561,588	151.115	4,784,372	161.586
Petrol in litres	4,474,000	95.536	5,046,808	108.477
Diesel in litres	23,756,461	213.741	33,804,516	337.340
Aviation turbine fuel in litres	803,856	10.685	969,068	12.546
Kerosene	14,557,905	32.735	12,182,121	27.621

Source: Department of Trade, Ministry of Trade and Industries

Objectives

The main objectives of the trade sector for the Ninth Plan are:

- Stimulating the growth of the export sector and enhancing export earnings during the plan period;
- Creating an open, liberal and stable enabling environment that is conducive for growth of the private sector and trade;
- Promoting the integration of the nation into the regional and international trading system;
- Promoting competitive and fair trade practices within the country; and
- Strengthening the institutional and professional capacity of the department to fulfill its mandate.

Ninth Plan Outlay

(Nu. Million)

Recurrent	Capital	Total
73.129	384.252	457.381

The total outlay for the trade sector is Nu. 457.381 million of which, Nu. 384.252 million is for the capital expenditure and Nu. 73.129 million for the recurrent expenditure.

Strategies

Trade Liberalization Initiatives through Trade and Transit Arrangements

The government will actively pursue promotion of more liberalized trade arrangements at bilateral, regional and international levels while progressively reducing import tariffs and abolish export taxes at the same time.

At the bilateral level, Bhutan and India have enjoyed free trade since the two countries signed a treaty of friendship in 1949. A formal agreement on trade and commerce was signed in 1972 initially for a period of ten years. The present renewal extended it till 2005. The government would continue to take full advantage of this arrangement through bilateral consultations on issues relating to trade and transit. Bhutan also has a Preferential Trading Arrangement (PTA) with Bangladesh. The government intends to pursue further trade liberalization initiatives with

Bangladesh through negotiations for deeper reductions in tariff, elimination of non-tariff barriers, and expansion of product coverage under the existing PTA. The government also intends to negotiate PTAs at a bilateral level with other countries as well, for instance with Nepal and Thailand.

At the regional level, the government will continue to push for greater liberalization initiatives within the South Asian Preferential Trading Arrangement (SAPTA) framework and also work towards a South Asian Free Trade Area (SAFTA).

Bhutan is an observer to the WTO and is now in the process of joining as a member to it. The speed of accession depends on the openness of the foreign trade regime and on how soon we can bring ourselves into conformity with the WTO obligations. The government, however, intends to complete all required accession formalities and become a member to the WTO during the Ninth Plan. To facilitate the accession process, the government would undertake several studies on the impact of WTO obligations on certain important economic sectors like tourism, energy, financial services, telecom, and agriculture.

Membership in the WTO would enable Bhutan to get better market access to the markets of member countries. This is important, as there is a need to diversify our markets beyond the traditional ones. Improved market access would mean more trade, which in turn would translate in increased production. This will ultimately result in increased employment opportunities and income generation. Further, joining the WTO would not only streamline our policies but also lead to greater transparency in governance and the environment that is more conducive to promoting trade and industry. To support and facilitate trade liberalization initiatives, an information and database system will also be developed.

Promotion of Competition and Consumer Protection

Central to the effort to promote competitive trading is to increase the number of wholesale dealers for a variety of products. Negotiations with the principal companies will continue. Progressive reduction of import tariffs and abolition of export taxes would also go a long way in fostering competition and enhancing the welfare of consumers. To facilitate competition, the government intends to improve the efficiency of the trading community through provision of basic training courses on managerial skills and also inculcate a systematic approach to business operations starting with the introduction of the use of cash machines for accounting purposes.

Another element of the strategy will be to legislate consumer protection law, and establish a specific agency to enforce such a law. A need for a legal framework for the protection of consumers has long been felt. This conviction has been further strengthened with the sweeping changes that are being brought about by the forces of globalization. The government will enact appropriate legislation aimed at protecting the basic rights of consumers and promotion of consumer awareness.

As a part of a wider program on consumer protection, the government will focus on the supply of quality petroleum oils and lubricants (POL) in the country. The fuel supplies at present are not completely free from adulteration. In order to subject fuel supplies at various retail outlets to regular tests, laboratory facilities will be set up. The laboratory will check the quality of fuel like petrol, diesel, and kerosene imported directly from the suppliers and prevent the adulteration of fuel at various retail outlets throughout the country. In emission tests carried out in 2000, it was found that a very low percentage of diesel vehicles and relatively low percentage of petrol vehicles in Bhutan would pass the Indian Vehicle Emission Standards. A combination of poor quality of diesel and poor maintenance of vehicles were recognized as the key factors. The feasibility of importing fuel that can meet stringent vehicle emission standards will be explored.

Export Promotion

The Bhutan Export Promotion Centre, established in 1998, is aimed at helping exporters with product and market information, through studies, market research missions, seminars, trade missions, and participation in international trade fairs. The centre will continue to play a lead role in export promotion.

One constraint in export growth has been the lack of export credit from the banks whose lendings are highly collateral-based and risk averse. Intervention that will be taken in Ninth Plan will be establishing credit guarantee scheme to encourage the banks to lend to exporters.

Another important step towards promotion of trade in the Ninth Plan will be to establish a dry port in Phuentsholing. The dry port facility is of paramount importance to a landlocked country like Bhutan that does not have direct control over seaport facilities. The objective of establishing the dry port at Phuentsholing is to provide facilities and services for exports and imports at the inland port that are generally offered in sea ports like Kolkata. Consignments can be transported directly between the seaport and Phuentsholing inland port with customs clearance completed in the latter. This procedure would also do away with the necessity of clearing the Bhutan-bound cargo at Kolkata. This arrangement is expected to provide an impetus to the growth of Bhutan's international trade through reduction of the transaction costs and directly benefit our private sector.

A sequence of operations needs to be evolved for the dry port including documentation and procedures in the dry port. This would require several changes in existing procedures including documentation procedures that in turn call for modifications to the 1995 agreement on trade and commerce between the Royal Government and the GOI to incorporate necessary changes. In order to bring about efficiency in processing of import, export and transport documents, use of Electronic Data Interchange for Administration, Commerce and Transport (EDIFACT) in the entire chain from the port of origin to the port of destination and the gateway port at Kolkata will need to be introduced. This is aimed at not only minimizing the number of documents to be processed, which are very detailed at the moment, but also reducing the time spent in transmitting documents between Bhutan and all nodes on the transport chain and improving the preparation of statistics.

CHAPTER 25: MANUFACTURING AND INDUSTRIES

Current Situation

The industrial landscape of Bhutan is dominated by a few large-scale industries and a large number of cottage and service enterprises. There are a small number of small-scale industries in between. Industrial license is the basis of surveying and identifying an industry in the country.

In the production and manufacturing sector, the number of license holders increased from 447 in 1998 to 523 in 2000, showing a 17 percent growth over the period. New industrial establishments were mostly in the small and cottage category. According to the industrial classification in 2000, there were 26 large industries, 204 medium industries, 141 small industries, 197 cottage industries and 135 mini industries. Industries were mostly based in Thimphu, Chhukha, Samtse, Sarpang, Paro and Samdrup Jongkhar. By the end of 2000, total industrial licenses including services stood at 9,016.

About 55.07 percent of the manufacturing industries were wood based, followed by agro-based which formed 20.84 percent. Mineral based industries formed only 8.03 percent. But in terms of the number of people employed in the manufacturing sector in 1997, which was about 12,592, mineral based industries employed the maximum. More than 5,890 people were employed in mineral-based industries, compared to 2,226 in forest-based industries, 2,536 in agro-based and 1,940 in other miscellaneous industrial category.

In the survey carried out in 2000 among the manufacturing industries, high cost of both investment capital and working capital were a widespread concern. The industries which export their products to India had to compete with similar Indian firms with 6-7 percent interest rate, as well as lower labour costs. Lending policies do not have significant different rates among various types of investments. Another major concern was the shortage of skilled industrial human resources.

Manufacturing sector's share in the GDP stood at 10.60 percent in 1999. The sector registered an annual growth rate of 3.6 percent and 6.3 percent during 1997 and 1999 respectively.

Objectives

The objectives of the manufacturing sector are to increase the sector's contribution to export and GDP through the following strategies:

- Creating an enabling environment including industrial infrastructure;
- Fostering sustainable and environmentally friendly industrial development with broad based ownership and increase the sector's contribution to GDP;
- Increasing the export of industrial products;
- Continuing private sector development and increase its involvement in industrial development;
- Increasing employment opportunities in the industrial sector;
- Promoting small, cottage and micro enterprises as a means of stimulating the rural economy; and
- Promoting collaboration, joint venture and foreign investment.

Ninth Plan Outlay

(Nu. Million)

	Recurrent	Capital	Total
Centre	110.277	900.000	1,010.277
Dzongkhag	3.500	53.600	57.100
Total	113.777	953.6	1,067.377

The total outlay for the manufacturing sector is Nu. 1,067.377 million of which, Nu. 57.100 million is for the Dzongkhags and Nu. 1,010.277 million for center.

Strategies

Creation of an Enabling Environment

The existing industrial policy of the Royal Government is designed to deal with large rather than small enterprises, on a case-by-case basis. However, manufacturing sector needs to expand more rapidly to make greater contribution to the national income, export earnings, and to provide employment to the youth. Towards strengthening manufacturing sector more rapidly, more transparent industrial and investment policies will be formulated.

The principal focus will be on the enactment of relevant legislation to establish a legal framework for industrial development. Creation of enabling environment for manufacturing sector envisages two key activities, formulation and enactment of legislations concerning industrial policy, capital markets, transfer of technology, and foreign direct investment. Legislations for both the transfer of technology and foreign direct investment will be formulated and proposed for enactment in the Ninth Plan. A division will be established in the Department to oversee implementation of foreign investment legislation. The system of licensing will also be further streamlined and simplified.

Development of Industrial Estates and Service Centres

There are at present three industrial estates and service centres in the country. The industrial estates covers an area of 68 acres in Phuentsholing, 42 acres in Thimphu (Jemina), and 2 acres in Samdrup Jongkhar, while the service centres covers an area of 3.5 acres in Thimphu (Changzamtog), 198 acres in Gelephu, and 3 acres in Samdrup Jongkhar. These estates and service centres are used for the purpose of encouraging entrepreneurs to start new industries by offering subsidized lease rents. They are managed by the Ministry of Trade and Industry.

The main thrust of the investment in the Ninth Plan in the manufacturing sector is to create industrial estates around the country. The industrial estate can provide services that may include storage facilities and common facility workshops. Without the creation of industrial estates, infrastructure development cost, including land cost for individual entrepreneurs can be cost inhibitive. Moreover, clustering industries in a tract of land can offer advantage in management of pollution and waste. In the Ninth Plan, the government will construct five industrial estates in Pasakha in Chhukha, Jigmeling in Sarpang, Shankha Zuli in Samdrup Jongkhar, Bongdyma in Mongar and Tingtibi in Zhemgang to act as a catalyst for industrialization.

Common workshop facilities, especially in towns are at present located in a manner that poses environmental hazards. The location of automobile workshops in Thimphu is a clear example. Such common utilities facilities need to be located together and will be known as service centres. Proposals include developing the Automobile Servicing Centre in Thimphu, Service Centre Development in Gelephu, and Service Centre Development in Samdrup Jongkhar.

The creation of industrial estates and service centres has to be followed by their management, maintenance and operation. A separate management unit for each industrial estate and service centre is proposed to perform the managerial and administrative functions. In particular, management offices for Changzamtog Service Centre, Jemina Industrial Estate, Phuentsholing Industrial Estate, and technical support services to service centres in Dzongkhags will be established.

Environmental Management in Industries

Integration of environmental issues in industries will be emphasized, in accordance with the Environmental Assessment Act, 2000. Institutional arrangements and administrative procedures for controlling pollution have been laid down. The Act requires the line agencies to screen, monitor and enforce most of its provisions. The appraisal system needs to be re-oriented to integrate environmental criterion and the regional and central offices adapted to carry out the new functions. At the same time, the implementation of environmental assessment and monitoring has to be done without adding to costs and delays that will discourage investment.

Promotion of Rural Based Industries, Small and Micro-industries

Development of small and micro-industries will be undertaken to enhance rural income and employment. The main focus will be on improving the economy of the communities by reaching the myriad small-scale handicraft manufacturers in the rural areas. These communities will be offered training and technical assistance in product development and marketing as well as tax incentives. Handicraft production such as woollen textiles in Bumthang, bamboo and cane weaving in Zhemgang and Mongar, wood lathe and lacquer works in Trashiyangtse, and traditional paper making will receive special attention. The program will not be limited to handicrafts alone but small-scale industries that are rural based will also be given similar assistance.

CHAPTER 26: MINERAL RESOURCE AND GEOTECHNICAL SERVICES

Current Situation

Bhutan is believed to have considerable occurrence of both metallic and non-metallic mineral deposit, most of which have been little explored so far. The specific minerals identified are iron, tungsten, copper, lead-zinc, beryllium, alluvial and mineralized gold, coal, phosphate, pyrite, refractory clays, dolomite, graphite, asbestos, gypsum, limestone, talc, calc-tufa, marble and slate. Mining is governed by the Mines and Mineral Management Act (1995), as well as the environmental sectoral guidelines for Mining and Mineral Processing Industries, (1999). Current mine production is limited to limestone, dolomite, quartzite, talc, iron ore, shale and gypsum for cement production, coal and other industrial and building materials (boulders, stone chips, sand, marble, dolomite, soapstone and slate).

At present, there are about 23 operational mines on lease to private license holders, most of which are located in Samtse. In addition, there are 27 license holders who have been given permits to lift such minerals like limestone, quartzite and phyllite lying on the surface usually up to 500 tons per license.

Table 16: The Total Production of Minerals in 2000

	Unit	Domestic	Export	Total
Dolomite	MT	0	283,744	283,744
Limestone	MT	429,880	5,040	434,920
Gypsum	MT	603	86,348	86,951
Coal	MT	35,119	30,698	65,818
Talc	MT	0	8,869	8,869
Iron Ore	MT	3,106	0	3,106
Quartzite	MT	41,719	6,952	48,671
Marble slab	Sq. feet	20,242	0	20,242
Marble Others	MT	0	13,306	13,306

Source: Department of Geology and Mines, Ministry of Trade and Industries

The main roles of the Department of Geology and Mines are to carry out geological mapping of the country, to provide geological information and services, and explore natural resources and mining. In recent years, however, geo-technical services have become equally important. Choosing materials for construction and drilling to access the stability of foundation for bridges, dams and buildings have become an important part of exploration. More staff are also needed to cater to the demands from the private sector as well as the government. Site specific studies on stability of the glacial lakes, slopes, roads, and *Dzong* have been carried out to facilitate improved or informed decision-making.

On the whole, due to human resource, financial and technical constraints, the functions of the Department of Geology and Mines are only partially fulfilled. Information on geo-science and mineral resources information is not computerized and lack of such database make accessibility very difficult. During the Eighth Plan, the projected growth rate was 19.4 percent per annum, but the actual growth rate was only 6.4 percent per annum.

Geological mapping and mineral prospecting could be done only on targeted areas instead of the whole country. The country suffers from geological hazards and risk. Seismic zonation map that would be vital for assessing risks from seismic activity is yet to be produced. Since Raptrengtsho glacial lake burst in 1994, studies on glaciers and glacial lakes have gained currency. The lakes that pose risks have been kept under surveillance and mitigation measures have been identified.

Objectives

Given the foregoing constraints and problems, the main goals related to mineral development and geotechnical services for the Ninth Plan are as follows:

- Ensuring optimum utilization of the mineral resources while adhering to environmental conservation policies;
- Sustaining the demand of raw materials required by the industries;
- Building an inventory of geological, engineering geology and geo-hazard maps;
- Mitigating natural disasters resulting from natural hazards;
- Fulfilling the goal of self-reliance in all geo-scientific tasks; and
- Developing self-sufficient geo-scientific professional services.

Ninth Plan Outlay		(Nu. Million)
Recurrent	Capital	Total
138.846	70.000	208.846

The total outlay for the geology and mines sector is Nu. 208.846 million of which, Nu. 70.000 million is for capital expenditure and Nu. 138.846 million for recurrent expenditure.

Strategies

Mineral extraction shall be governed by the Mines and Mineral Management Act, 1999 and environmental consideration will be given more importance over the economic ones. Given the abundance of electricity in the country, mineral export in the future will be done only after adding values.

Institutional Strengthening

The topographical and cartographic units need to be urgently established. With these units, accurate topographic (base) maps for geological, engineering geology, geo-hazard, and geotechnical and mine can be prepared. At the same time, present chemical and geo-tech laboratory will be strengthened so that analysis can be conducted within the country on rock samples collected during fieldwork. Computerized bibliographical catalogue on Bhutan's geology and mineral resources will be developed. Reports on various investigations, conducted since 1961, need to be systematically catalogued, published and safeguarded for future reference.

Geological Mapping and Exploration

Geological mapping and mineral exploration are the primary functions of Department of Geology and Mines. Identification of mine-able reserves for the development of mineral based industries and reconnaissance survey of semi-precious to precious minerals will be carried out in selected locations, with a view to ascertain deposit occurrences on an economic scale.

Geologic and quaternary geology maps for the entire country will be updated. There are no standard geomorphic maps to actually decode the history or the risk to the inhabitants associated

with flood and landslides. Quaternary geology establishes the link between the past, present and the future. In order to plan a safe urban area, the dynamics of landforms must be studied and understood. The dynamics of landform development will be studied, along with preparation of maps on a scale of 1:10000 for land-use planning.

Geologic Hazard and Risk Assessment

Because of the country's location in a disturbed geological zone, geo-technical problems can be chronic. Landslides along our national highways, glacial lake outburst and damage to old *Dzongs* are symptoms. There is a need for geo-hazard mapping and risk assessment for construction of any civil infrastructure and accordingly, the geo-hazard assessments will be undertaken to assess the hazards and suggest the suitable remedial measures in selected areas throughout the country.

Glaciers and Glacial Lake Monitoring

Annual expeditions to Lunana since the glacial lake outburst flood of 1994 has revealed that the numbers and the sizes of the glacial lakes are increasing. There is already an inventory of the glaciers and glacial lakes, but field checking to ascertain and rectify the information gathered from contour maps and satellite images will need to be carried out in the coming years through time series monitoring of glaciers and glacial lakes, and identification and monitoring of the precarious ones.

Mineral Resource Exploitation and Development

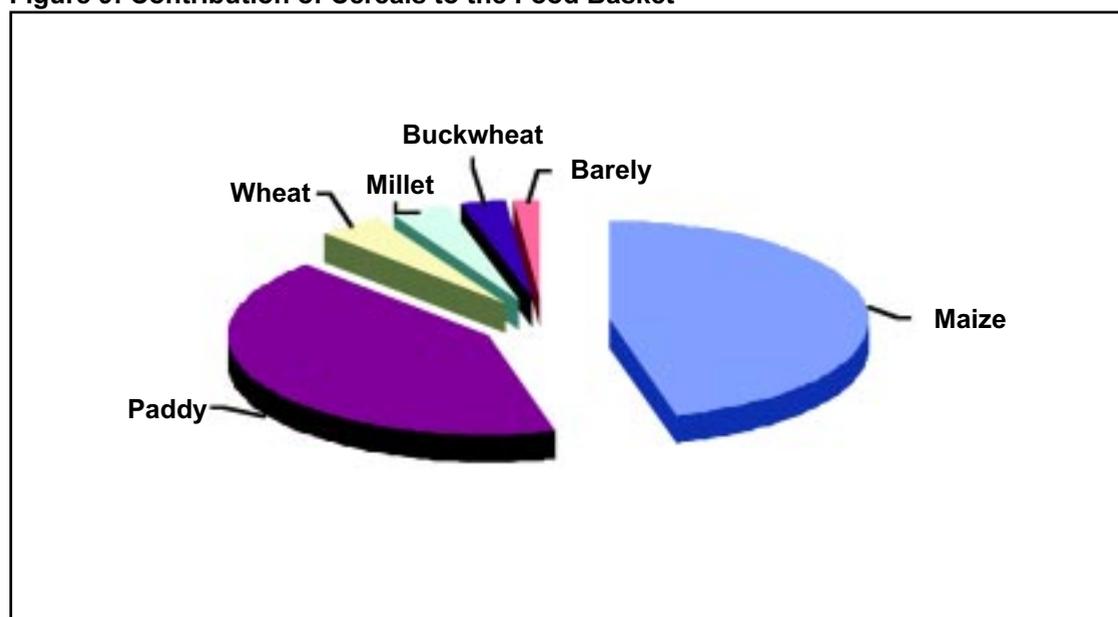
This program will focus on development of guidelines and standards for mineral exploitation and development. Such guidelines will incorporate environmental concerns in accordance with the Mines and Minerals Management Act 1995 and Environment Assessment Act, 2000. The program will generate all necessary environmental baseline data as the reference for monitoring the environmental impacts of mining activities. Besides this, restoration plans for abandoned mines will be formulated and these works will be used to demonstrate restorations to be followed by mining companies. In addition, mining inspectors will be trained to conduct routine inspection to enforce mining regulation.

CHAPTER 27: RENEWABLE NATURAL RESOURCES

Current Situation

Per capita food availability in the country is 2500 kcal. Bhutanese diet is dominated by cereals, which form 75 percent of it. Non-cereals, including livestock products, account for only 25 percent. The Royal Government has adopted a policy of food self-reliance, whereby export earnings generated from sale of cash crops should pay for total food grains imports. Going by this criterion, export earnings from sale of cash crops exceeds the cost of import of basic food commodities including cooking oil. Import of rice was around 38,000 tons in 2000, the imports of other cereals being negligible. The increase in rice import has been brought about by rapid urbanization and expatriate workers whose staple is rice, and the change in diet of most Bhutanese from other staples to rice. The food self-sufficiency equation does not take account of the increasing import of processed foods - canned, bottled or packaged.

Figure 9: Contribution of Cereals to the Food Basket



Source: RNR Census, 2000

Change in land use pattern combined with farm labour shortage impacts the growth in production of cereals. Vulnerability to food shortages is a more pressing contemporary issue for Bhutan than the other dimensions of food security like access, availability and utilization. Pockets of the country are prone to flood, drought and other forms of natural disaster that causes temporary reduction in food production and supply. Over the last decade, depredation of crops by wildlife, particularly wild boars, has increased the vulnerability of the farmers' livelihood through out the country. Lack of adequate farm infrastructure is a major disincentive for increasing farm productivity and production. In the Ninth Plan, priority will be given to the development of farm infrastructure such as farm roads and irrigation channels, storage, processing and marketing facilities.

Urbanization along the valley floors and consequent loss of agricultural land is occurring at a rapid pace. Establishments of townships and other social infrastructure on agricultural lands have cut into farmland. It has become vital to review and amend the provisions of the Land Act, 1998 to discourage the conversion of prime wetland for any other use.

Rapid fragmentation of farmland is taking place in rural households. According to the *RNR Census, 2000*, about 14 percent of farm households own less than 1 acre of land, 55 percent of the farm households own 1-4.99 acres of land, whereas only 22 percent of the households own 5-9.99 acres. Only 8 percent own 10-25 acres and less than 1 percent of the households own more than 25 acres of land. An appropriate legislative provision with respect to land inheritance to curb the further fragmentation of land holding needs to be formulated.

With the transition of farming from a subsistence system to an increasingly commercial operation, the legal ceiling of 25 acres per household places severe restriction on the economic viability of some farm enterprises. While 25 acres is a sizeable area if it is wetland and in warm areas where cropping intensity is higher, in temperate and high altitude areas, low productivity means that this size cannot sustain an average family. The ceiling, however, does not apply to orchard land or urban land, the most commercially valuable holdings. In order to further respond to the changing role of RNR, the land ceiling needs review in the light of agro-ecological variations and commercial viability of producing various crops.

There is also a clear need to review land ownership and land tenure. Ownership of land, particularly those categorized as *tsadrog* or grazing land needs stricter definition and prescription. Anomalous interpretation of the Land Act has led to *tseri* land cultivated after a gap of twelve years being restricted from cultivation. Similarly, while the Land Act legitimizes ownership of naturally grown and planted trees on a registered land except *tsadrog* and *sogshing*, such rights are not recognized: the areas left fallow for more than twelve years are considered as forest lands. All these institutional issues will be reviewed and resolved in the Ninth Plan.

Forests and agricultural land will be clearly demarcated and the rules pertaining to each category clarified. Many conflicts caused by misinterpretation and misunderstanding of the provisions of the Forest and Nature Conservation Act and related legislations will thus be resolved. To mitigate this conflict, creation of awareness on policies and acts, swapping of marginal and distant RNR lands with suitable forest lands, prescribed and controlled burning of pastures to sustain livestock rearing, prescribed and controlled culling of prolific pest species like wild boars, and promotion of eco and agro-tourism as a means of providing alternative income to farmers will be implemented.

With 79 percent of the population living in the rural areas and 75 percent of the workforce engaged in the RNR sector, youth unemployment and migration can best be addressed by measures promoted in RNR. Migration of the youth from rural to urban areas at the end of their schooling has begun to put pressure on employment and amenities in urban areas. However, absorptive capacity in the manufacturing and service industries in urban areas has not been able to expand at a desired rate. Hence, the RNR sector has to enhance its potential to create new employment opportunities and stem rural-urban migration.

Forest plays an important role in sustaining the economic base of the country through protection and management of watersheds and maintaining rich diversity of plants and animals. Forest provides fuel wood, fodder, timber and other non-timber products for the livelihood of the country's population. The protection of the country's environment and its unique flora and fauna for the future generations will remain an important objective of the Royal Government. This requires the utilization of natural resources, including forest, land, biodiversity and water resources in a sustainable way involving trade-offs between short-term economic gains and sustained long-term economic development. The protection and management of forest areas and improved land husbandry practices in agriculture including livestock rearing are essential to achieve this objective.

While in the past, the protection of the environment and conservation of ecosystems and biodiversity have been accorded high priority and yielded good returns, the challenge now is to balance conservation and socio-economic development of the people. To enable this, several challenges need to be addressed during the Ninth Plan. These are:

- The increasing conflict between conservation and farming;
- The increasing demand for timber and wood products;
- The increasing commercialization of non-wood forest produces;
- The increasing loss of forest land to industrial and infrastructure development; and
- The sustainability of conservation and protection measures.

The above challenges will be addressed through a number of strategies including review of existing policies and legislation, strengthening forest resources management planning, supporting wood production and manufacturing enterprises and enhancing community participation in forestry resources management.

Livestock development will be geared towards enriching the household diet by supplementing it with animal protein and continuing the provision of draught power which is the key for agriculture production. Efforts will continue to be made to encourage backyard livestock farms as a means to substitute the current imports of animal products like butter, cheese and meat. The control of livestock diseases will be continued through the provision of preventive and curative animal health services as well as by necessary regulation. Livestock, particularly for the marginal farmers represent an important asset and as such reduction in their mortality is considered an important strategy for alleviation of poverty.

Fresh water fishery represents an important resource for the country. Catch and release fly-fishing offer opportunities to promote eco-tourism. Recent studies however reveal that most rivers in the country are under stocked and fish qualities are deteriorating due to inbreeding. There is need to establish hatcheries for schizothoras (alsa) and trout to re-stock the rivers during the Ninth Plan.

Objectives

The objectives of the agriculture sector set out for the Ninth Plan are:

- Enhancing rural income;
- Achieving national food security;
- Conserving and managing natural resources; and
- Generating employment opportunities.

Ninth Plan Outlay	(Nu. Million)		
	Recurrent	Capital	Total
Centre	2,113.298	2,000.000	4,113.298
Dzongkhag	953.615	607.800	1,561.415
Gewog	6.884	1,038.031	1,044.915
Total	3,073.797	3,645.831	6,719.628

The total outlay for the RNR sector is Nu. 6,719.628 million of which, Nu. 4,113.298 million is for the central programs, Nu. 1,561.415 million for Dzongkhags, and Nu. 1,044.915 million for Gewogs.

Strategies

Creation of an Enabling Policy and Legal Framework

Existing policies and legislations will be reviewed and amended and new provisions formulated for enactment. Priority will be given to the following areas:

- Review and amendment of land legislation with respect to land resources and land use issues;
- Enactment of a Water Policy and Water Act with respect to water resources and water uses issues;
- Amendment of Forest and Nature Conservation Act, 1995 and enactment of a Grazing Act with respect to forestry resources and resource uses;
- Enactment of a Biodiversity Act with respect to biodiversity, bio-utilization and bio-trading issues;
- Enactment of a Food Act with respect to product standards and consumer safety issues; and
- Enactment of a Non-Government Organizations Act with respect to people's participation.

Generation of Appropriate Technology

The RNR research services shall continue to identify and generate appropriate technologies. The integrated multi-disciplinary approach in research will be further strengthened through increased capacity building. Ownership of research programs by clients will be promoted through their active involvement in research needs identification, direction and management.

Delivery of Extension Services

The efficiency and effectiveness of technology dissemination will be strengthened through the following measures:

- Focusing on location specific relevant programs and activities;
- Placement of staff with relevant professional background and experience;
- Improving the use of print and audio-visual materials relevant to the clients and the medium available;
- Improving the back-up and supervision of extension agents by adequately competent supervisors;
- Continuous up-gradation of the knowledge and skills of RNR extension agents;
- Coordinated and packaged delivery of credit, inputs and technology;
- Issuing of technical and financial implementation manuals for each program; and
- Improving backward and forward linkages between farmers, extension agents and the RNR Research centres.

Creation of an Enabling Financial Environment

Access to credit for financing investment will be provided in collaboration with the Bhutan Development Finance Corporation. Credit will be packaged appropriately to meet the needs of individual farmers, groups and associations and medium and large scale farm enterprises. Saving schemes will be incorporated as an integral but not compulsory component of the RNR credit services.

Delivery of Inputs to the Farmers

Priority will be given to the timely supply of inputs. Generation and/or supply of inputs through private parties will be encouraged. Where necessary the Royal Government agencies responsible for the generation and supply of inputs will be maintained. The possibility of establishing a chain of 'one-stop shops' catering to all the basic input requirements of farmers in every Dzongkhag and operating on a non-profit self-sustaining basis will be explored.

Farm Mechanization

Farm mechanization will be pursued more rigorously through subsidized sale of farm machinery and equipment. Effective monitoring of the use of such machinery and equipment will be carried out to ensure that they are used for the intended purposes. In addition to alleviating seasonal farm labour shortage, farm mechanization will reduce the drudgery associated with farming, create skilled employment and improve the image of farming and thereby help reduce the rural-urban migration.

Enhancing Markets for Primary Products

A comprehensive marketing plan will be formulated and implemented. It will identify potential products and their local and international markets, define the quality standards and regulations required to meet the demands from such markets, and set up mechanisms to comply with national and international agreements and legislations. Capacity will be strengthened to become an active member of the CAC (Codex Alimentarius Commission) of FAO/WHO and to accede to WTO.

Developing Adequate Level of Vital Infrastructure

Vital infrastructure to support various RNR programs will be given priority. This infrastructure will range from quality control laboratory at the central level to farm roads at the village level. Priority will be construction of farm roads, which will facilitate all-round development of communities besides providing impetus to commercial enterprises in agriculture and RNR related areas. Roads will provide a vital link between the farms and markets.

Diversifying the Economic Base of the Sector

Capitalizing on comparative advantages offered by our altitudinal and climatic diversity and relatively pristine environment, 'high-value, low volume' and off-season produce will be promoted. Such products will be primarily medicinal and aromatic plants, floriculture and organic fruits and vegetables. Opportunities in agro-tourism and eco-tourism will also be pursued in collaboration with relevant agencies.

Enhancing the Integrity of the Natural Resources

The country's rich natural resource base and environmental integrity will be further enhanced through the operationalisation of management plans for the protected areas and biological corridors. In addition, watershed management plans shall be formulated and implemented to safeguard the country's invaluable water resources. Plans will be drawn up to prevent environmental degradation through landslides, floods and unsustainable human interferences. The formulation of plans for forest management units will be stepped up to harvest forest resources on a sustainable basis.

Promotion of Economic Growth and Employment

Employment opportunities will be generated, particularly for the youth, through commercialization of agriculture, forestry and livestock enterprises. This will be pursued through the following schemes:

- School agriculture programs to educate the youth and orient their interest in agriculture;
- Economic analysis services to identify viable business opportunities;
- Vocational training programs to impart the necessary knowledge and skills to run a business of their choice;
- Credit programs to finance the establishment of the business; and
- Support programs for the marketing of produce.

Introduction and Adoption of Information Technology

In order to access information, expedite flow of information, enhance outreach of educational and promotional programs and enable rapid decision-making and communication processes, the advantages and opportunities offered by information technology will be tapped. All the units in the sector will be networked. This will be coordinated and managed by the Information and Communication Services for the Ministry of Agriculture. Publications and reports of interest will be made available on the Ministry's website. Electronic conferences will be encouraged on topical issues, which will reduce the cost and time of soliciting views and agreements on specific proposals. Information services on the web will be ultimately extended to the Gewogs, in tandem with the expansion of telecommunication services.

CHAPTER 28: ENVIRONMENT

Current Situation

Bhutan is widely recognized as an environmental leader owing to its rich biodiversity, pristine forest, fresh air and water. It has high levels of species, genetic and ecosystem diversity and 72 percent of the land area under forest cover. In addition to being among one of the ten global biodiversity 'hotspots', it has been identified as one of the 221 Centres of Global Endemic Bird Areas. The country includes a range of ecosystems from subtropics in the south, at an elevation of 200 metres, to mid-elevation temperate forests and northern alpine zone more than 7,500 metres above sea level.

The goal of environmental preservation is to ensure the sustainable use of natural resources, maintenance of biological diversity, essential ecological processes and life support systems, adequate pollution abatement techniques and environmental management systems to mitigate the adverse impacts of modernization and industrialization.

Objectives

By the end of the Ninth Plan, the National Environment Commission Secretariat and the collaborating agencies will work towards achieving the following goals:

- Strengthening overall environmental management and coordination within the environment sector;
- Establishment of adequate legal frameworks for environmental management;
- Strengthening professional environmental management of sector activities;
- Promoting increased environmental awareness through integration of environmental curriculum in educational material and awareness campaigns;
- Implementation of pollution control and environmental management initiatives in pilot enterprises within the mining and industrial sector and supporting initiatives of public transportation in larger urban centres; and
- Supporting environmentally clean activities through dialogue with private sector and financial institutions.

Ninth Plan Outlay		(Nu. Million)
Recurrent	Capital	Total
29.240	31.728	60.968

The total outlay for the environment sector is Nu. 60.968 million of which, Nu. 31.728 million is for capital expenditure and Nu. 29.240 million for recurrent expenditure.

Strategies

Policy and Regulatory Framework

As environmental regulations have cross-sectoral implications, environmental issues can only be tackled effectively by being integrated into the policies and regulations of other sectors. Efficient environmental management can only be exercised if adequate legal framework and appropriate institutional arrangements exist. Toward this end, one of the most important legislations to be proposed in the Ninth Plan will be the National Environment Protection Act (NEPA).

Although, there is a high degree of awareness of the importance of protecting the natural resource base, the country has only limited legislation to implement and enforce such policies. Therefore, environmental law expertise will be developed to promote the rule of law in general and provide a model for elaborating the legislative process. Institutional capacity for implementing and enforcing environmental law will be developed simultaneously.

The Environmental Assessment Act 2000 has been enacted and the regulations have been drafted. One of the main activities will be the establishment of a database of regulations, procedures etc. that can be accessed through the internet. Capabilities of key implementing agencies with respect to requirements under the EA Act 2000 will also be strengthened through training. Selected staff of line ministries and Dzongkhag administrations will be made capable of undertaking basic environmental assessments of development activities.

Air Pollution Abatement

Urban Air Pollution

Air pollution has now emerged as a significant issue in urban centres and near industrial and mining sites. The two largest factors contributing to poor air quality in urban areas are vehicular emissions and use of *bukharis* (heating stoves used in winter). In emission test carried out on 9,000 vehicles in 1999 (using the Indian Emission Standard in absence of a national standard), 60 percent of the petrol and 96 percent of the diesel engine vehicles did not meet the minimum requirement. The problem of emissions is also aggravated by the poor quality of imported fuel and the fact that most of the vehicles are not fitted with high-altitude compensators. To reduce air pollution in urban centres: (i) import of two wheelers with four-stroke engine was promoted; (ii) import of second hand vehicles was banned; and (iii) initiatives were undertaken to establish vehicle emission standards.

A recent survey carried out for 8,421 households in Thimphu revealed that 3,902 households have installed *bukharis* and other heating appliances that use wood and charcoal. *Bukharis* are normally used between November to March. Due to poor insulation, around 50 percent of heat generated is lost through the ceiling and cracks in doors and windows. Thus there is a need for energy-efficient house construction and promotion of electrical heating systems.

Baseline data will be set up and analysis of primary and secondary pollutants carried out to assess ambient air quality, pollution loads from different sources including industries, vehicular and domestic sectors and their impacts of pollutants on human health and the environment. Provisional emission standards appropriate for the country's conditions will be established. Emission standards will be raised gradually as factors that allow it such as better fuel quality and better vehicle fitness maintenance services become available.

Industrial and Mining Air Pollution

Poor air quality at industrial and mining sites is attributed to the absence of pollution control equipment and lack of awareness. Occupational health and safety standards are also generally low or non-existent. The Environmental Assessment Act 2000 establishes a legal foundation for environmentally sound industrial and mining development. Some larger industries have taken initiatives to mitigate pollution using equipment such as filters and electrostatic precipitators. In most chemical industries, the pollution control equipments are not operated continuously, due to high operating costs.

Major environmental problems in mining industries are management of overburden, drilling waste, restoration and run-off from mined areas, which cause soil erosion and air pollution. Operations in open cast mines are significant source of dust for the surrounding areas.

Industry specific emission guidelines will be formulated and enforced. At the same time, cleaner technologies will be promoted. The establishment of industrial estates will help control the pollution and treatment will become cost effective due to economies of scale. A mobile emission-monitoring unit will be established. It will be capable of analyzing basic air and water quality parameters.

Waste Disposal

Waste disposal is an emerging problem in the urban towns due to rural-urban migration, and changing consumption patterns. While the magnitude of the problem is relatively small and manageable in rural areas, it appears to be growing significantly with the shift to import of consumer goods. In terms of the total volume of waste being generated, domestic waste constitutes the largest percentage at approximately 70-80 percent in both urban and rural areas. Other contributors to waste are hospitals, industries and agricultural activities.

To reduce waste problems in future, reduction in waste generation at source is a key factor. Communities will be sensitized on waste reduction at source by promoting use of reusable containers and better buying habits. Solid waste management rules will be refined and implemented, along with guidelines to promote reduction of waste at source.

Water Quality

The country has rich water resources consisting of major river systems, ground water aquifers, and springs, which need to be protected from pollution. The Pilot National Baseline Water Quality Survey of 1997 provided the first data set for establishing national water quality standards.

An annual renewable freshwater resource per capita is estimated to be 58,930 cubic metres indicating that the country is not presently under a state of water stress. In 1990, approximately 34,000 hectare of land was under irrigation and surface water contributed to about 35 percent of agricultural water use. It is estimated that present water demand is 0.036 cubic km per annum. Although freshwater is abundantly available, the demand for water is expected to increase with urbanization and industrialization. There is also increasing concern of water pollution near urban centres and industrial and mining activities. In view of these concerns, water quality monitoring program initiated in 1997 will be undertaken again in 2002. It will also be important to conduct surveys of aquatic macro-faunal diversity of rivers, as they are an important indicator of environmental health. An *in situ* training component is proposed that will train Bhutanese experts to undertake these studies.

New satellite townships will need effluent management systems. The Environmental Codes of Practice for Solid Waste Management in Urban Areas, and Environmental Codes of Practice for Sewage and Sanitation Management in Urban Areas should serve as guidelines for monitoring urban waste management. A large number of urban agglomerations do not have municipal industrial wastewater treatment facilities causing deterioration of water quality in rivers. Sewage and effluent treatment plants to improve effluent quality from industries and towns will be set up.

EIA of Road Construction

While a critical development activity, road construction has great potential to disturb the delicate balance of existing land formations due to the steep topography of the lower Himalayan foothills.

Therefore, environment considerations must be made when planning and building roads. Although the initial cost of environmentally friendly road construction can be prohibitive, in the long run it is more cost effective. To ensure that roads are built with minimum adverse environmental impact, environmental impact assessment will be carried out for every stretch of feeder roads and highways. Furthermore, the possibility of using ropeways, and other alternative modes of transport to connect rural communities will be investigated.

Biodiversity

Most of the significant scientific studies in the country to date have been conducted with the technical expertise of external scientists. Scientific expertise of national experts and institutions will be promoted by providing an enabling environment for research and adequate funding.

Increased priority is placed on collecting scientific data for biodiversity conservation. This will include supporting ecological research, biodiversity inventories, taxonomic research and increased capabilities in the field of data analysis including Geographical Information Systems and remote sensing capabilities. This research should extend to indigenous knowledge systems, identification of threats and sociological and economic studies.

Although the country currently has 26 percent of its land under protected areas, conservation management plans have been delayed due to funding shortage. The preparation of conservation plans will be expedited and action plans enforced as soon as possible. Adequate human resources and infrastructure to manage these large areas will be developed. Programs to benefit the rural communities living in or near protected areas will be made integral to conservation efforts. Coordination with institutions involved with biodiversity conservation will be increased to ensure there is no duplication of effort.

Land Use Change

Trends in land-use change and land-use conversions will be continually monitored and implemented through a combination of cadastral records, remote sensing and GIS to get a picture of the state of the environment. In particular, areas of high and low biodiversity will be monitored. Rapid assessments of forest management units will also be conducted to ensure that (i) forest roads are built and maintained in an eco-friendly manner (ii) over cutting is not taking place, and (iii) adequate regeneration efforts occur in the absence of natural regeneration.

In the farming sector, monitoring will be carried out to ensure that toxic substances like fertilizers, herbicide and pesticides do not have significant negative impact. The uses of such substances need to be monitored as they harm the environment and the health of the general population.

Environmental Awareness and Advocacy

Although our natural heritage is still largely intact, the positive attitudes of the people towards environment must be reinforced to create greater environmental consciousness. A comprehensive information communication and outreach advocacy will be undertaken as part of the national environment strategy harnessing all forms of communications such as influential community leaders, National Assembly members, traditional and folk media, innovative and indigenous channels.

The goal of the information communication and outreach section of the National Environment Commission Secretariat will be to promote environmental awareness at all levels of the society in the Ninth Plan. This program will include documentation and communication of successful,

innovative and indigenous sustainable development strategies and measures, protection, institutionalization of environmental management, policies and programs in all sectors and promotion of community and agro-forestry.

Micro-environmental Action Plans

Training workshops, with regard to conservation issues, were held among rural populations in most Gewogs in the Eighth Plan. These workshops helped local people to determine emerging environmental threats and issues within their Gewogs and also designed micro-environmental action plans to address the more urgent threats. In the Ninth Plan too, these Gewogs will be revisited and similar workshops held.

Close to 950 villages identified Micro-environmental Action Plans for implementation to address urgent environmental problems. These action plans included activities such as tree plantations, revival of drinking water sources, control of land slide, fodder tree plantation, sacred lake conservation, watershed conservation, sloping agriculture land technology, revival of traditional regulations concerning pastures and forests. The micro-plans developed by the GYT members will be further prioritized and elaborated for implementation. The implementation of the Gewog plans will enhance farmers' capacity to identify local specific needs, problems and potentials and also improve the ability to solve problems on their own to ensure long term sustainability of environmental conservation programs.

Cultural Institutions for Conservation

Environment, in its widest sense of the term is the domain of users and occupants other than plants, animals and human beings. There are deities and spirits to whom geo-sensitive areas have been attributed.

Nature as citadels of the deities and spirits are characterized by minimal human interference. This has significant biodiversity implication. It means that these are areas of uninterrupted evolution of microbes and exotic species of insects, plants, flowers and trees. Ecologically strategic sites like confluence of rivers and lakes were identified as domains of *klu*, and *tsho manmo*. The confluences are the traffic centre of river life where fish-stocks thrive. Likewise, the meadows of *tsho manmo* are typically marshy areas where amphibians and marsh life can be expected to thrive. Rocks and cliffs, which are abodes of *tsan*, are typically the roosting and rearing places for birds, since they are inaccessible to predators and far away from noise and other pollutions. The citadels of the deities in the form of sacred groves perform the function of wind blockade standing as closed and protective gateways to inhabited valleys. They also give rise to headwaters of springs. The perspective that some part of environment, such as sacred mountains and lakes are not accessible as resources to be exploited displays a profound environmental consciousness among our people and these beliefs will continue to be respected.

CHAPTER 29: HUMAN RESOURCE DEVELOPMENT

Current Situation

The present strength of the civil service is 14,258, of which 7 percent are expatriates. The civil service has a relatively young workforce, with around 66 percent of the total estimated to be below the age of 33. About 12 percent of the total civil servants have acquired Bachelor Degree or higher academic qualifications while the rest are either Diploma or Certificate holders.

The largest employers within the civil service are the Education sector, followed by the Agriculture, Health, Ministry of Home Affairs, Ministry of Trade and Industry and Ministry of Communications. The largest number of expatriate workers are employed in the fields of education communications, trade and industry and health. There has been a significant change in employment patterns, with the number of expatriate workers being reduced substantially and the total number of nationals increasing rapidly.

The number of civil servants appointed over the last 10 years has continued to rise particularly since 1999. The ratio of those leaving the service is much lower than those being recruited and the employee turnover index rate, estimated to be 3 percent, is very low in comparison to the 15 percent turnover that is considered as acceptable levels in other civil service organizations.

The implications of the existing status are that a large number of civil servants are young, have low academic qualifications and thus require job-oriented skill development training as well as opportunities to enhance their academic qualifications.

Objectives

The HRD objectives in the Ninth Plan are:

- Upgrading qualification and professional competencies of civil servants through systematic training;
- Developing a core mass of professionals in strategic sectors;
- Facilitating the growth of the private sector through an appropriate HRD policy and necessary support;
- Developing human resource capabilities at Gewog level for Gewog based development; and
- Developing HRD capacity of sectors by recruiting and providing required number of qualified people.

Ninth Plan Outlay

(Nu. Million)

Recurrent	Capital	Total
64.075	3,000.000	3,064.075

The total outlay for the human resource sector is Nu. 3,064.075 million of which, Nu. 3,000.000 million is for capital expenditure and Nu. 64.075 million for recurrent expenditure.

Strategies

Promote Program Support HRD

HRD will be supported through program approach with emphasis on integrated and cross-sector approach to provide uniformity and standardization in HRD interventions. This is expected to provide better impact at the national level and across sectors where there is need to close the competency gaps.

Revitalize Institutional Capacity of In-country Training Institutions

Efforts will be made to revitalize institutional capacity of in-country institutions for ensuring quality, relevance, sustainability, and coverage of training programs to provide 70 percent of human resource training requirements through these institutions.

Development of Institutional HRD Capacity

Proper use of human resource management and development is a key to effective and efficient governance. Therefore efforts will be made to institutionalize HRD management systems and M&E systems at national, Dzongkhag and sector levels to improve efficiency in managing development programs.

Systematic Improvement of Efficiency, Transparency, and Accountability

A systematic introduction of measures such as performance management, job efficiency, and personal planning and development will be undertaken in the Ninth Plan to further improve the efficiency, transparency and accountability of the Royal Government.

De-linking and Outsourcing

The civil service will de-link some of the services provided by Royal Government agencies to private firms and individuals. Outsourcing to the private sector will be encouraged where private firms are well equipped to provide such services more economically and efficiently than the Royal Government agencies. This strategy is aimed at promoting the government policy of maintaining a compact civil service while encouraging private sector growth.

Training

A total of 20,197 slots for 72,661 man-months are proposed of which 79 percent are in country and 21 percent abroad. Emphasis is made on in-country training to minimize costs, for wider coverage and to strengthen national institutions' capacity. These trainings will cover both long-term and short-term trainings aimed at developing more professionals with higher qualifications and skills and upgrading existing skills of in-service civil servants who have lower academic and skill qualifications than actually required by their job.

The total HRD outlay for the plan period is Nu. 3,000 million to be shared equally between the civil and non-civil service sectors. The social services and infrastructure sectors alone account for 37 percent of the civil service share, as these sectors directly benefit the people's welfare. Since past experience reveals that HRD budget was heavily biased towards few agencies without proper linkages between plan priorities and HRD budget allocation, a program based approach will be prepared in the Ninth Plan.

A common 'pool' fund is planned to facilitate administration of training activities in the following categories:

- Undergraduate Programs amounting to Nu. 600 million to be drawn equally from civil service and the private sector budget;
- Internal Audit Training of Nu.25 million to build capacity of Internal Audit, and covering all aspects of skill development in the form of trainings, workshops, and seminars;
- Cross-Sector Training of Nu.40 million to address cross- sector need by training in human resource management, personnel information systems, administrative management, policy and planning, project management, M&E and other areas of office administration; and
- Cost sharing for contingency as when there is a need to share training expenses with donors.