

Education Sector Strategy



Realizing Vision 2020 Policy and Strategy

Department of Education
Ministry of Health and Education
Thimphu

1 Introduction

1.1 The Education Sector Strategy: Realizing the Vision 2020 is an articulation of the goals and processes for achieving Bhutan's aspirations in the education sector, as part of the wider development initiatives toward becoming a progressive sovereign nation enunciated in *Vision 2020*. *Vision 2020* provides a framework of development principles, which address Bhutan's unique needs and priorities for attaining its underpinning development objective of Gross National Happiness. Human Development, Culture and Heritage, Balanced and Equitable Development, Governance and Environmentally Sustainable Development are the cornerstones of this vision. *Vision 2020* provides desirable long-term outcomes and milestones in each sector of development. The Education Sector Strategy document comprises of two interrelated parts. Part I outlines the policies and strategies for the 20-year period and the action plan for the 9th Plan (2002-07). Part II provides the Human Resource Development Plan for the next ten years (2002-2012).

1.2 Education is recognised both as a basic right and as a pre-requisite for achieving the wider social, cultural and economic goals set for the country within this national vision. Six strategic objectives have been enunciated for this sector:

- to continuously improve the quality and relevance of education to ensure holistic development of the child, encompassing innate abilities, moral and social values, social cohesion and the world of work including agriculture and other vocations;
- to expand basic education to the entire population;
- to develop a highly motivated and competent teaching cadre which supports a holistic approach to education and learning;
- to take advantage of new educational innovations and technologies to increase access to and improve the quality of education;
- to develop private schools which will lessen the resource burden on Government for greater improvement of Government schools and provide greater choices to the public; and
- to establish a National University based on the idea of 'centres of excellence' that meet national and wider international needs.

1.3 The vision provides the following milestones for the education sector:

Universal primary enrolment	-	2007
Full enrolment of junior high school (class 8)	-	2007
Full enrolment of high school (class 10)	-	2012
Full adaptation of secondary school curricula to the Bhutanese context	-	2007
Attain student competencies equivalent to average level by International standard	-	2010
Attain student competencies equivalent to excellence level by International standard	-	2020
Introduction of an operational distance education programme	-	2007
Full adult literacy	-	2012

- 1.4 The Education Sector Strategy paper will serve as a map to guide policies and plans towards the 2020 Vision. It will highlight main obstacles and lay out strategic options using the available research and the experience of other countries, yet recognising Bhutan's unique context. The strategy will also delineate the main activities that will be taken up immediately for implementation during the 9th Five-Year Plan (2002-2007).

1.5 Macro Economic and Social Setting

1.6 Overview of the country's development policy and status

A small country of 38,394¹ square kilometres with a population of 600,000², Bhutan provides a unique challenge for development. Sandwiched between India and China, the country is completely landlocked, with rugged mountainous terrain rising steeply from 100 metres at the southern borders to over 7000 metres in the north. The country can be broadly divided into three geographical divisions corresponding to 3 distinct climatic zones: the sub-tropical southern belt, the central inner Himalayan temperate region, and the higher Himalayan region. The population is widely scattered across the steep mountain slopes and some valleys in the southern and temperate belts making the provision of social services, including education and training difficult. Over 79%³ of the population is engaged in subsistence farming, although only 8% of the land is under cultivation.

- 1.7 Because of its geophysical and political situation, Bhutan remained isolated from the rest of the world until the middle of the last century. It was only in the early 1960s that Bhutan chose to break its isolation and make contacts with the outside world. It embarked on the path of modernisation with the launch of its First Five-Year Development Plan in 1960. The overarching priority for development has been the establishment of a basic infrastructure including roads, telecommunications, health and education services, and modernisation of the agricultural sector. Strengthening its national identity, enhancing its people's quality of life, ensuring the sustainability of services, conserving its rich bio-diversity and natural resources, and achieving self-sufficiency in basic food items have been key themes which have underpinned development policy in the subsequent Five-Year Plans. This has been balanced by investments in key economic sectors such as hydropower, mining, forestry and limited tourism. Bhutan's development strategy has been cautious to ensure that the pace of change does not destroy its unique natural and cultural heritage. The strict environmental policies of the Government reinforced by a strong conservation ethic amongst the population has kept 72.5% of the country under forest cover. Considered as one of the most important locations for bio-diversity, Bhutan aims to maintain a minimum of 60% of its land under forest cover.
- 1.8 A basic road network and telecommunication system now links major population centres of the country. This has brought a large proportion of the population out of isolation. This also facilitates the marketing of agricultural products and access to goods and services. However, over half the population remains more than a half-day's walk from the nearest

¹ Source: Statistical Yearbook 2002, CSO

² Source: CSO data for 1996.

³ Source: Ministry of Agriculture, 2000.

road, and dependent on trails and mule tracks for communication. A comprehensive primary health care system and improved access to potable drinking water has lowered infant mortality from 142 to 60.5 per 1,000 live births and increased life expectancy from 48 to 66 years during the last decade (1990-2000). Population growth estimated at 3.1% in 1994 has declined to 2.5%⁴ in 2000, and efforts are being made to reduce this further through national campaign and family planning program. 81% of 6-12 age group attends primary schools and enrolment continues to expand rapidly in all parts of the country.

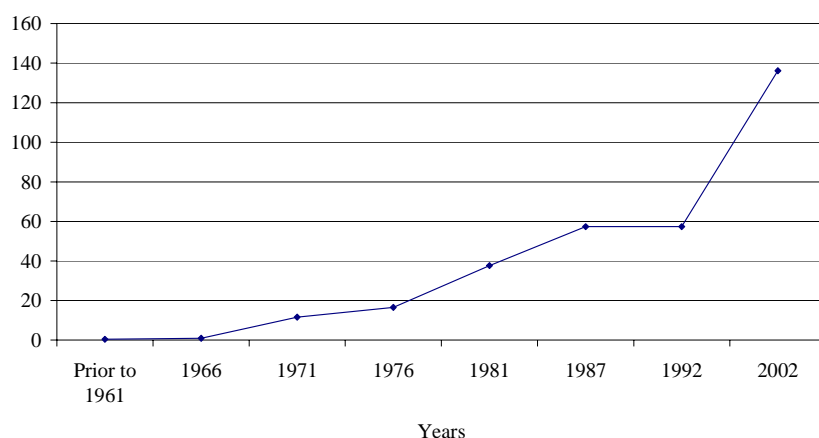
1.9 The economy is being progressively transformed from subsistence farming to a broader cash-based economy. GDP per capita is estimated at US \$ 656 (1999)⁵. The agriculture sector, comprising crops, livestock and forestry, accounts for 34 percent of GDP, and dominates the country's economy. However, it is estimated that Bhutan has achieved only 65% self-sufficiency in food grains. Bhutan makes up any shortage through imports from India and to a limited extent from the World Food Programme support. The industrial sector, comprising manufacturing, mining, quarrying and electricity, accounts for 24.5% of GDP. Bhutan has abundant water resources and immense hydropower potential. A 335 MW power plant at Chhukha provides more than 95% of the country's installed electricity-generating capacity and represents 11% of GDP. Two new projects, Basachu with 58 MW of capacity and Kurichu with 60 MW capacity are scheduled for completion by 2002. Another project at Tala with 1020 MW capacity is scheduled to be completed in 2006. The tourism industry, while contributing less than 3% of GDP, is important in terms of its capacity to generate convertible currency earnings. However, in keeping with the country's overall policy of preserving its cultural heritage, tourism is kept to a manageable number of about 5000 visitors per year.

1.10 A central tenet of the Royal Government's approach to fiscal management has been to meet current expenditures with domestic revenues, and this has now been largely achieved. However, capital expenditures for development projects continue to depend on foreign grants and soft loans.

Education development

1.11 Before the advent of modernisation, the only form of formal education available in the country was monastic education, that too only for those aspiring to be monks or nuns. In 1960, there were only 11 modern schools with about 400 students in all of Bhutan. In 2002, this had increased to over 125,000 students spread over 408 schools and institutes. In addition, there were 5,000 students enrolled in the formal monastic order supported by the government while another 10,000 was estimated to have been enrolled in the village

Figure 1: Enrolment 1961-2002 (In Thousands)



⁴ All Health related indicators taken from National Health Survey, 2000.

⁵ Central Statistical Organization, Thimphu.

temples as private students. Another 3,000 students were enrolled within the vocational and different training institutions run by various Government departments. Furthermore, the Education Department has since 1993 begun an Adult Literacy Programme targeted to those who have not taken part in the system of formal education and early school dropouts. The programme is credited for making about 10,000 young adults literate in Dzongkha, the national language.

1.12 The increase in enrolment has been attributed to the high priority accorded to the

**Table 1: Outlays of Five Year Development Plans, First to Eighth Plan (1961-2002)
(NU in million)**

	1st Plan 1961-66 (actual)	2nd Plan 1966-71 (actual)	3rd Plan 1971-76 (actual)	4th Plan 1976-81 (actual)	5th Plan 1981-87 (revised)	6th Plan 1987-92 (revised)	7th Plan 1992-97 (budget)	8th Plan 1997-2002 (budget)
Sector								
Total Government Budget	107.1	202.2	475.2	1106.2	4648.3	9559.2	15590.7	34981.7
Education	9.4	35.7	90.0	134.6	519.1	778.8	1738.0	3292.7
Percentage of Education	8.8%	17.7%	18.9%	12.2%	11.2%	8.1%	11.1%	9.4%

Source: Statistical Yearbooks of Bhutan, 1998, CSO, Planning Commission RGOB, Thimphu

Education sector by the government to address critical shortage of human resource in the country. Education is also viewed as one of the basic needs required to achieve Gross National Happiness. Because of these, education has continued to receive a major share of the Government budget since the beginning of the 1960s. The proportion of education budget to the total government budget has continued to be around 10%, even in the face of emerging priorities and competing

Table 2: Summary of students enrolment and staff in different levels of schools, and Institutes under direct administration of education Department as of August 2002.

Sl. No.	Level of schools	Nos	Enrolment			Teachers		
			Boys	Girls	Total	Bht	N/Bht	Tot
1	Community Schools	182	11353	9625	20978	529	2	531
2	Primary Schools	97	15368	13481	28849	722	31	753
3	Lower Secondary Schools	65	21708	20277	41985	949	205	1154
4	Middle Secondary Schools	27	10256	8938	19194	455	214	669
5	Higher Secondary Schools	12	4962	3502	8464	201	145	346
6	Private Schools	14	2002	1811	3813	144	71	215
Sub-total		397	65649	57634	123283	3000	668	3668
Institutions directly administered by Education Department:								
1	Sherubtse College	1	437	188	625	19	40	59
2	National Inst. of Education	1	263	118	381	24	5	29
3	Teacher Training College	1	330	303	633	49	1	50
4	Inst. for Language & Cultural Studies	1	152	73	225	26	1	27
5	Nat. Inst. for the Disabled	1	27	10	37	7	1	8
6	Surey Sanskrit Patshala	1	85	58	143	4	0	4
7	Dhoban Sanskrit Patshala	1	Included above					
Sub-total		7	1294	750	2044	129	48	177
Non formal Education Programme (centres)		292	2840	6958	9798	256		256
Total		404	69783	65342	135125	3129	716	4101

Source: Education Department, General Statistics, 2002, Thimphu

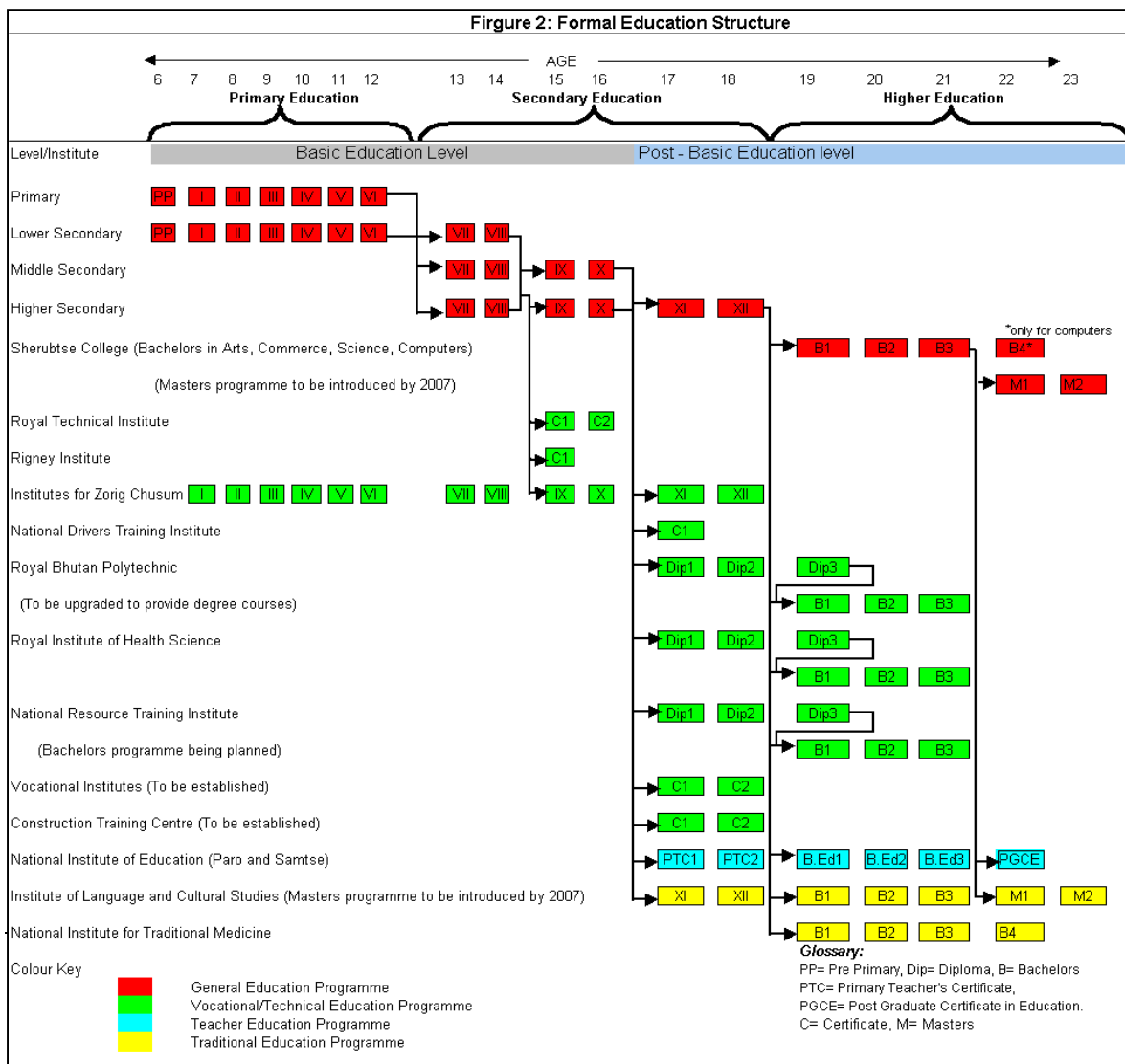
demands from other sectors. The growth is also attributed to the increased awareness of the value of education amongst the Bhutanese population. Compared to the difficulties of early years of the education system when children had to be conscripted into the schools, parents now not only demand schools but are willing to contribute much more for the education of their children. A system of community participation in the building and

maintenance of primary schools has now been firmly established, reducing the burden on Government.

1.13 Despite these achievements, it is estimated that the primary enrolment rate is estimated to be only 81%. Adult literacy is estimated to be about 54%. Some of the progress being made in enhancing education coverage is being offset by population growth resulting, in part, from improved medical services. The difficult mountain terrain, climate, limited communication links and a dispersed pattern of settlement have impeded access to primary education.

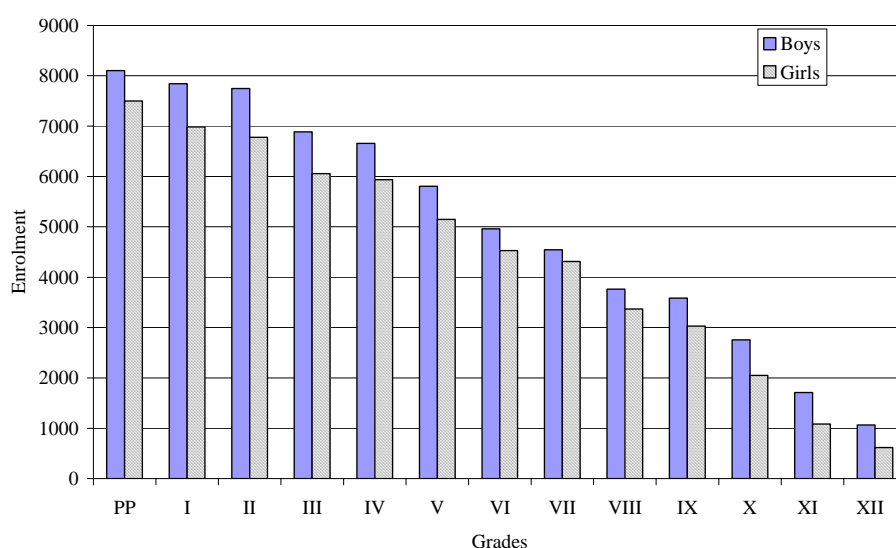
1.14 Bhutan adopts a 7-year primary education cycle followed by 6 years of secondary education leading to tertiary education. Basic education level in Bhutan has been defined to include 11 years of free education (Primary + 4 years of secondary or till end of class X. The system is described by the figure below. Children begin their schooling at the age of 6 when they enter the first grade of primary, known as Pre-Primary class (PP). At the end of Primary cycle, children are required to sit for a national level examination which is set by the Bhutan Board of Examinations but administered and assessed by the schools. At present, about 85% of those that reach the end of the Primary (grade VI) continue to the next level of education while others drop or repeat classes.

1.15 The secondary education programme comprises two years of junior secondary school, two



years of middle secondary, and two years of higher secondary. Students have to appear at National Examinations at the end of each of these levels of education, namely at grades VIII, X, and XII. 85% of those that reach VIII continue to IX, 30% that reach X continue to XI and another 30% that reach XII continue on a general academic degree programme. The rest either repeat the examinations in a bid to improve their scores, enrol in one of the training institutes or find employment. While education upto grade X constitutes basic education and is intended to be universal, post-basic education is presently more restrictive and aligned to cater to the human resource requirements of the country. A number of training options is available at this level, including engineering, agricultural extension, health sciences, office support services and teacher education. A major policy shift in recent times is to make secondary education much more relevant by introducing a basic skills training programme within the curriculum, and introducing career counselling to orient youth to the world of work. At the same time, significant effort has been made to bring technical education under a national framework to provide coordination, standards and relevance. A National Technical Training Authority has been established to undertake this task.

Figure 3: Enrolment in the general education programme by grades, August 2002



1.16 Tertiary

education in Bhutan is provided in Sherubtse College, the two National Institutes of Education at Paro and Samtse, the Institute of Language and Culture Studies, the National Institute of Health Sciences, and the National Institute of Traditional Medicine, which together offer higher education to 8,000 students. In addition, Bhutan continues to send about 100 students annually on scholarships to other countries, mostly to study medicine, engineering and agricultural sciences. The education structure is a steep pyramid with students leaving the system at every stage. Less than 1% of the total enrolment is in higher education

- 1.17 In order to make education accessible to everyone, free tuition, textbooks, sports items, meals and boarding facilities, where required are provided by the government. The Government also provides free stationery to its rural schools. This is supported by appropriate contributions from the parents to make education services possible and to also engender a sense of participation amongst the communities at large. Rural communities contribute to the building and maintenance of their schools. Where there is feeding project, they also contribute to part of the feeding costs. In addition, a nominal admission fee of Nu. 5 is charged for every child enrolling at PP. Students are also required to contribute towards a school development fund at the rate of Nu. 30 per annum for primary schools,

Nu. 100 for lower secondary schools and Nu. 200 for middle and higher secondary schools.

- 1.18 The Government has also been encouraging the development of private schools to provide variety and choice to parents who are able and willing to pay for such education. At present (2002), there are 14 private schools out of which 9 cater to nursery and primary education and 5 cater to secondary education level (IX-XII). All, but 2 higher secondary schools are located in Thimphu and Phuntsholing, the biggest urban centres in the country.

Overview of Issues and options

- 1.19 Progress made within the Primary Education Programme over the last decade to meet the Jomtein and Dakar *Education for All* goals has stretched the limited resources of teachers, facilities and finance and severely tested the capacity of the system to deliver Bhutan's commitment to quality education. Recent Government initiatives to accelerate the intake of teachers through improvements in teacher remuneration and expansion of training capacities as well as appointment of temporary teachers have ameliorated the problem to some extent. For the longer term, capacities in both the training institutes will need to be further expanded. Furthermore, the Department of Education has to address immediately the problems related to monitoring education in remote areas, maintaining staff morale and improving teacher performance.
- 1.20 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. This has resulted in a critical shortage of secondary education places as well as the lack of an adequate number of qualified, competent Bhutanese teachers at this level of education. Associated with this is a mismatch between school graduates who continue to seek secure civil service employment and a government and economy growing at a slow pace, thus making the absorption of school graduates difficult.
- 1.21 While there are some policy initiatives to encourage students to enter vocational training, the present vocational education system is both inadequate and inefficient. It is also an unpopular option for many students due to the low status and poor working conditions associated with blue-collar jobs. Career counselling, introduction of some basic skills element through a system of school clubs and career information system are being institutionalised to help address this problem.
- 1.22 The pace of development and urbanisation is weakening traditional family ties and the community-based social support system, putting at risk young children and youth who are now vulnerable to peer influences and the influx of external media. These pressures are beginning to affect the serenity of Bhutanese life- manifesting themselves in youth problems, drugs and petty crime, especially in urban areas. While change is inevitable, the challenge is to strike a balance between progressive development and preserving the tested value system of a traditional society. Bhutanese educators have responded by strengthening values education in schools. However, with rising class sizes and limited resources, this is proving to be difficult. It is recognised, as well, that the issue extends beyond the education system and must be addressed in concert with parents and other members of civil society.
- 1.23 Early childhood care and development in the sense of organised stimulation and play centres have not hitherto been considered a priority given the strength of traditional

practices of child rearing in the extended family system. However, with social transformation and added pressure on parents working in the formal sector, this has to be considered an important area for the future. It will require again a coordinated approach involving the families, communities, health workers and educators.

- 1.24 The difficult terrain and widely dispersed population have been the primary hurdles to extending social services and achieving an economy of scale. For the Education Sector, an added challenge is meeting and sustaining rising recurrent costs associated with an ever expanding education service. Both hurdles call for new ways of organising education in order to take advantage of new technologies and research on best practices for improved learning.
- 1.25 The Education Sector suffered a considerable setback between 1989-1990 when a number of schools were destroyed or burnt down by anti-government demonstrators. Following threats to the lives of students and teachers, a large number of schools were closed in the southern part of the country. While most of these schools have been reopened, teachers are still reluctant to be posted in these areas because of new threats posed by insurgents from the neighbouring Indian state of Assam who have infiltrated the southern and eastern parts of the country. Until the situation returns to normal, the provision of basic services, including education, will pose a particular challenge in these areas.
- 1.26 Higher education is still in its infancy and has to date not been defined in terms of meeting the specific human resource and development requirements of the country. The prevailing expansion within the secondary sub-sector 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. Unless this level of education is carefully developed within broad national imperatives in a targeted, cost-effective way, it may jeopardise the future growth of higher education as well as waste much young talent which could otherwise be channelled into the development of the country.
- 1.27 While the government has been keen to develop private schools at the post-basic education level, and is getting positive expression of interest from entrepreneurs, an issue at hand is to ensure minimum standards in private schools while extending quality education to a broader spectrum of the population.

Strategic Options for the Development of Education in Bhutan

- 1.28 The Education Sector Strategy will spell out issues, provide options and recommendations for each of the following sub-sectors:
 - Early Childhood Development
 - Primary Education
 - Secondary Education
 - Tertiary Education
 - Adult Literacy and Continuing Education
 - Technical and Vocational Education

- Special Education
- Decentralisation and System Management Process

2 Early Childhood Care and Development

Vision

- 2.1 All children aged 0-5 years will be supported to enhance their intellectual, emotional and physical development through a programme that enables them to grow in their familiar and natural environment. Priority will be given to home- and family-based approaches, with additional inputs from institutional structures and options, which recognise the increasing diversity of life-styles and settings in which children are now being raised.

Current Status

- 2.2 At present, there is scant policy framework for education-related ECCD programming in Bhutan. However, there is increasing understanding and acceptance of early childhood growth requirements and the importance of a positive and stimulating environment. Globally, ECCD has been identified as a priority and it is a component of the Dakar EFA framework and commitment. An initial task is in creating greater awareness and understanding of what ECCD entails and dispelling notions that ECCD does not extend beyond institutional settings such as day-care and nursery facilities. The prime focus is on the home and family.
- 2.3 While a formal policy on ECCD is being developed, the Government has allowed some private sector initiatives through the establishment of nursery schools in the larger urban centres of Thimphu and Phuntsholing. These schools require the payment of fees and, consequently, are attended mostly by the children of more well-to-do parents. The motivation of most parents is to provide their children with a head start prior to entry into the formal cycle of education.
- 2.4 The Government requires that private operators of nursery schools sign a memorandum of understanding which outlines the broad principles and procedures for their operation. However, there is little in the way of guidance or regulation vis-à-vis the methods of instruction and learning content used in these schools. There is no systematic inspection of these facilities and a lack of quality criteria governing their functioning and improvement.
- 2.5 Outside of the institutional realm, some progress is being made toward improving ECCD activities at the home and community levels. Benefiting from the important progress made in recent years in non-formal education (literacy and numeracy training, primarily targeting out-of-school adolescent girls and women), the Government is developing a series of post-literacy materials that highlight the theme of ECCD. These booklets are to be used by those who completed a basic nine-month literacy programme in order to ensure retention of newly acquired literacy skills. The inclusion in literacy materials of ideas, information and instructions on how parents and other family members can create a stimulating and positive environment for the young child in the home constitutes an important initial step for home-based ECCD programming in Bhutan. The large body of literature on ECCD shows the important impact of a rich and stimulating home environment on the positive growth and

development of the young child. It is this which future ECCD programming would seek to strengthen and expand.

Challenges

- 2.6 The first challenge is to be able to identify and build upon existing child-rearing and socialization practices which contribute positively to the growth and development of young children in line with traditional home life. The development of a policy and strategic framework on ECCD must be founded upon current good practices and directed to enhancing these amongst parents and other family members so as to enrich the social, cognitive and physical environment of the young child, rather than imposing inappropriate or unfamiliar ideas which lack sustainability.
- 2.7 The next challenge is to recognise and understand that what constitutes home life in Bhutan is becoming increasingly diversified as more people settle in urban centres and patterns of work and social interaction are increasingly governed by the modern sector dynamics. This raises important questions for the range of ECCD approaches which will be required in years to come. A truly comprehensive ECCD strategy must, therefore, address the divergent requirements of children and families residing in urban centres as well as those who remain in the subsistence agricultural sector where, it must be understood, significant change has also taken place with increasing numbers of young people attending school and joining the formal sector work force.
- 2.8 Another challenge is to benefit positively from the increasing availability of new media, including radio, television and the internet. Educational television, for example, has constituted a cornerstone of the ECCD approach in western countries for over two decades and has been linked to a vast number of educational initiatives. The recent introduction of TV in Bhutan opens various possibilities for its application as a learning tool for children.
- 2.9 Yet another challenge may lie in meeting the ECCD needs within a finite resource package for the Education Sector. An ECCD programme is being initiated at a time when there are equally pressing demands from other sub-sectors within the education system. The challenge will be in structuring a programme that is pragmatic, uses resources optimally and is sustainable. A home-based approach, using existing resources (both human and material) will constitute an essential strategic option to address this challenge.

Strategies

- 2.10 The social and physical environment is the most important pre-condition for child development. The ECCD programme should, therefore, be a synergistic initiative involving the sectors and institutions engaged in the delivery of health, nutrition, water, sanitation, housing, labour and education programmes. While the enabling physical and social pre-conditions will be addressed through a multi-sector programming framework, a priority ECCD programme of the Education Ministry will deal mainly with the issue of children's cognitive, emotional and social development.
- 2.11 Bhutan will focus on the family as the place and process for providing quality and sustainable early childhood development programme. ECCD will be seen primarily as the domain of parents, thus avoiding, to the greatest extent possible, the establishment of formal institutes or delivery systems that provide a poor substitute for parenting. Initially,

the programme will identify good ECCD practices both in Bhutan and in other countries, and share this with communities through multi-media public information programmes including radio, television, the national newspaper and other emerging technologies.

- 2.12 Increasingly, development initiatives will rely on resources deployed within communities. ECCD programme will involve a range of stakeholders including parents, siblings, teachers, health care and education professionals and village leaders. It calls for coordination amongst ministries and people of various backgrounds in the field, thus representing a departure from the existing sector-focused approaches to development and the limitations this imposes.
- 2.13 To meet the special needs of urbanisation and social transition, private initiatives to establish childcare centres and nurseries, either on a for-profit or non-profit basis, will be encouraged. This will be particularly important to ensure equal access and participation of women in modern sector employment. The Education Ministry will, however develop strict regulations as a control on quality and standards. Every child has the right to play and enjoy childhood and the Education policy will ensure that children are not unduly pressured to achieve a head-start in school.
- 2.14 The primary teachers' training curriculum already includes some ECCD content. This will be reviewed and strengthened to provide a better understanding of ECCD principles and pedagogy. The Government will provide training of specialised professionals as EC educators. These EC educators will form the professional base to spearhead development of ECCD in the country. They will be involved through attachments and secondments in ECCD programmes including privately-run operations. Some may later be encouraged to set up their own private programmes.
- 2.15 The Government will need to be supported initially by some technical assistance which could be spearheaded through the existing donor programmes.

Action Plan

- 2.16 During the 9th Plan, a unit which includes a trained child development specialist will be established within the Education Ministry to spearhead the development of policy, strategic programming, implementation and monitoring of the ECCD programme. The first task of the unit shall be to undertake an in-depth research to study how best to address the ECCD needs in the rural and urban areas. Based on this, a policy for ECCD will be formulated which will seek to meet the vision of ECCD for all children between 0-5 years.
- 2.17 A series of programme highlighting good child rearing practice will be developed and aired on the national TV as well as the radio. These programmes will be targeted both at rural and urban parents and family members.
- 2.18 Another activity will be directed at strengthening ECCD in the Non-Formal Education programme to create a critical mass of young women knowledgeable in ECCD. A parallel programme will be directed at teachers, health workers and agriculture extension staff who will become active participants in improving ECCD practices as well as promoters of best practices within communities.

- 2.19 Two of the lecturers from NIEs as well as a staff member from the ECCD unit will undertake a diploma/Master course in ECCD related studies. Apart from supporting ECCD related education within the NIEs, these staff members will also help to produce materials for use by NFE, TV and radio programmes.
- 2.20 A priority target group to be addressed by the ECCD programme will include those living in both rural and urban areas where changing lifestyles have disrupted traditional child-rearing and care practices. In particular, these will be children of working parents.
- 2.21 A comprehensive framework of curriculum content, methods and standards will be formulated to guide the development of private nurseries. Government support for such institutes will be that of a facilitator and guide rather than provider of resources.

3 Primary Education

Vision

- 3.1 All children of school-going age will be enrolled in primary education by 2007⁶ or the end of the 9th Five-Year Plan. Expansion of the coverage of primary education will be accompanied by further efforts to achieve improvement in the quality of basic education. Education at this level will be guided by a holistic concept based on the total development of the child with increasing attention on the individual learning needs of each child.
- 3.2 A key objective of primary education will be to instil values in children, at an early age, of the way of life based on the principle of achieving human happiness. The education programme will seek to engender awareness of the nation's unique cultural heritage including appreciation for rural, agricultural life. Curricula will be the subject of continuous monitoring and review, with adaptation taking place in response to changing needs and development priorities. The achievement of these objectives will be largely based on the capacity to train teachers who are highly dedicated and professional in their approach to education. This necessitates an increasingly 'teacher-centred' approach to education whereby the skills and capacities of teachers are viewed as the key elements in promoting child-centred, quality education. With the increasing availability of modern technologies, including computers and the internet, a variety of new possibilities are now available to enrich the teaching-learning environment at the primary level.
- 3.3 Every primary school will be fully staffed by trained and qualified teachers according to an optimum ratio that ensures efficient use of staff time. By 2007, all schools will have attained a minimum teacher-pupil ratio of 1:32. Further, no school, however small will have less than 2 teachers. This is to ensure that every teacher has some peer professional interaction and support. Class size on average will be 36 but no classes will have more than 40 students.

⁶ The *Vision 2020* document notes that UPE should be reached by 2002. This has been revised in light of recent analysis of enrolment patterns and future projections.

- 3.4 Primary schooling system will provide a safe and enabling environment for developing every child to his/her full potential. This will include capacity to deal with special education needs as well as a range of facilities to help enrich learning such as school libraries, sporting activities, music and arts programme. Primary curriculum will also include orientation into IT and utilize the vast array of learning materials available on CD and other media to promote effective delivery of curriculum. By 2010, all primary schools will be connected to the internet.
- 3.5 Private schools will play an increasingly greater role as a means of providing a wider range of options as well as reducing the burden on Government. While primary education will remain, as a rule, within the public domain, private schools too will evolve providing an alternative option for those who seek it.

Current Status

- 3.6 The gross primary enrolment ratio in 2002 is estimated to be 81% while net enrolment ratio is estimated at 62%. Enrolment is increasing annually at a rate of 5-6%. Girls now constitute 46% of enrolment compared to 39% in 1990. Rapid increases in enrolment have been possible and sustained through community initiatives aimed at building and maintaining their own schools, called 'community primary schools'. The success of this concept reflects, to a large degree, greater demand for education within communities- a significant shift from the early 1960s when parents had to be forced to enrol their children in school.
- 3.7 Primary education is now fully adapted to Bhutan's needs and context in terms of curricular content and textbooks. A significant landmark in the development of primary education has been a shift in the methodology used in classrooms from rote learning to activity- and enquiry- based approaches through the New Approach to Primary Education (NAPE) introduced in 1986 and expanded during the 1990s. This has had a significant impact on improving student attendance, reducing dropout and enhancing completion rates. Over 70% of children enrolled in Grade PP now complete the seven-year cycle of primary education cycle, compared to only 35% in 1990⁷. Nevertheless, concern about the quality of education remains at the top of the agenda, prompting the Education Department to continuously make efforts to improve curricula and teaching methods. It is also realized that UPE targets can only be realized if dropouts at this level are brought down significantly.
- 3.8 A key objective of the Bhutanese primary education system is to provide uniform standards of quality education across all schools in the country. This is reinforced by a uniform curriculum, centralised recruiting system for teachers, transfer of teachers between schools, a national pre-service and in-service training programme, a national school monitoring and support body, and national examinations at the end of the primary cycle. Nevertheless, there are schools in both urban and remote locations, which are badly in need of improvement.

Challenges

⁷ Education Statistics, 2001, Department of Education, Thimphu

- 3.9 The fundamental challenge for universalising primary education in Bhutan will be to enrol and retain children who, for various reasons, have been unable to enter school. These include those living in very remote parts of the country, children with disabilities, children facing learning difficulties, and those requiring other forms of special care and attention. An inclusive education strategy will need to incorporate special provisions for facilities, structure and curriculum to accommodate the learning needs of all children.
- 3.10 Another major challenge is to retain those who enrol. Currently, only 78% of those entering primary reach grade VI, 64% reach class VIII and 57% reach class X. In addition, 12-13% students repeat classes every year. This stems in large measure from the inability of the system to deploy an adequate number of teachers and provide adequate professional support leading to poor performance of students, repetition and dropouts.
- 3.11 The expansion of primary education and growth in other sub-sectors in education will add pressure on limited resources. A challenge is in maintaining a level of resources to support both expansion and qualitative development of the primary education programme including a standard teacher-pupil ratio of 1:32, manageable class-sizes of not more than 40, textbooks for every child and an effective professional body to provide support to the schools. One of the ways will be to use new methods of classroom organization such as the multi-grade approach and new educational technology such as may be provided through computers and information technology.
- 3.12 The immediate problem of teacher shortage is being addressed by instituting a generous additional allowance for teachers equivalent to 30% of the salaries and by expanding the teacher training capacity. A constant challenge is in getting good teachers to serve in remote and difficult areas in order to ensure parity in education quality across regions. This requires a wide range of programmes including additional and improved service conditions in these areas especially improved staff housing, special considerations during selections for promotion, training and studies abroad.
- 3.13 While recognising the virtues of including a variety of experiences within the curriculum, there is also a need to take stock of criticism that the system is not able to instil core competencies such as reading, writing and mathematical skills – the foundations for later learning. The challenge is in striking a balance between being innovative and ensuring basic competencies in these areas.
- 3.14 Another challenge to improving quality of education will lie in upgrading the professional competencies of the existing teaching force many of whom have only Class VIII or X academic qualifications and lack adequate competence to provide the foundations of scholarship and competencies in basic literacy and mathematical skills at the primary level. There is a lack of effective support and monitoring mechanisms for teachers throughout the system. This has frustrated teachers and the system, affecting the morale and efficiency of teachers. The challenge is in getting competent educationists to fill in this gap, and structuring an efficient process of monitoring and support within the constraints of human resources, difficult geography and an underdeveloped but emerging communications infrastructure.

Strategies

- 3.15 Primary education will be expanded to provide access to children within one hour's walking distance of their homes. This will be made possible through the expansion of the community primary schools programme which has already brought shared responsibility and accountability in education between the government and the people. This concept will be further strengthened with primary schools being developed to provide a broader range of community functions. They will serve as community amenities which may incorporate a computer centre, literacy centre, community library and a place for community functions. While schools will be built and maintained with the help of communities using locally available materials, assistance will be provided through the provision of construction materials not available locally. A system will also be instituted to get urban parents to contribute to the development and maintenance of schools in their locality through enhanced contributions to the school development fund.
- 3.16 While boarding will continue to be a strategy used to extend education opportunity to isolated and nomadic communities, extensive dependence on boarding, which is expensive and difficult to manage, will be reduced by establishing additional smaller schools in remote communities. This will require a significant proportion of primary teachers to be competent in a range of subjects and tasks usually associated with a group of teachers. In addition, they will need to be skilled in multi-grade teaching, highly resourceful and motivated. All these will require upgrading the entry qualification of teachers and realigning the teacher education curriculum to meet these challenges. It will also require upgrading the skills and knowledge of serving teachers through a comprehensive Human Resource Development plan.
- 3.17 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 address the distance and isolation of remote schools where teachers are often far from their peers and the benefit of professional support-services. Computer literacy will become an essential feature of teacher training, while a long-term strategic framework will be developed for connecting schools to the Information and Communication Technology (ICT).
- 3.18 Learning objectives in primary education will concentrate on re-emphasizing the mastery of the basic literacy and numeracy and the acquisition of basic values relevant for everyday life in Bhutan. Greater choices will be provided within the curriculum and school system to meet individual learning styles and special needs. This will mean a gradual shift from the rigidity associated with the formal learning including the curriculum structure, learning time and assessment system to encourage the development of a dynamic learning system that provides greater choices and responds to the learning needs and pace of the learners.
- 3.19 Increasingly, many students enrolled in primary schools are second-generation learners whose parents also have had some education and often express strong views about the education system. This provides an opportunity to help expand the horizons of education planning as well as establish a strong support base for enhancing the quality of education. Apart from School Management Boards and parent-teacher associations, a regular discussion forum between the general public and education personnel will be established to review education policies and programmes through existing fora such as the National Television.

- 3.20 Education at the primary level will continue to be free. However a limited number of private schools will be encouraged to cater to the needs of parents who may wish to provide their children with more than what may generally be available in general government schools.

Action Plan

- 3.21 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 9th Plan. Additional classrooms shall also be built in the existing schools to ensure that class sizes do not swell beyond 40 children.
- 3.22 A study on causes of dropouts and repetition shall be undertaken in 2002 with a view to addressing the prevailing high dropout and repetition rates.
- 3.23 By 2007, primary schools will be staffed with NIE trained teachers with a 1:32 teacher-pupil ratio. This would require teachers to teach 34 period⁸ per week which will leave at least one period a day for planning and professional development.
- 3.24 A package of measures including the recruitment of expatriate teachers shall be implemented to meet the immediate teacher shortage faced by the system.
- 3.25 Pre- service teacher training capacities in the country will be expanded from 600 to 980 at NIE, Paro, and from 300 to 490 at NIE, Samtse. This shall be achieved by adding new facilities, adopting flexible timings beyond the usual 8-5 schedule and adjusting teaching practice to allow the use of institute space for additional enrolment. The Primary Teacher Training Certificate course for class 10 teacher candidates will be discontinued and replaced by a B.Ed. programme for class 12 leavers by 2003.
- 3.26 A study shall be conducted to determine the effectiveness of pre-service programmes with a view to improve the delivery of the courses.
- 3.27 An assessment of the teacher competencies in key areas of curriculum shall be undertaken in 2002. This will be used to develop an in-service programme at the national, dzongkhag, clusters and the school level.
- 3.28 An external fellowship programme will be implemented covering the skills that cannot be provided by training programs inside the country.
- 3.29 A baseline study on the quality of education will be undertaken in 2002 involving a mixed group of Bhutanese educators and external consultants. This will be followed by an in-depth review of the effectiveness of current teaching-learning processes and of the impact in using existing and revised inputs such as textbooks and other learning materials. If required, carefully planned actions will be undertaken to address mounting concerns surrounding quality.

⁸ A period at present generally consists of 35 minutes

- 3.30 Existing curriculum across grades and subjects will be reviewed and revised to accommodate mastery of literacy and numeracy, greater choice within the curriculum, computer literacy, values education, multi-grade instruction and continuous formative assessment.
- 3.31 National Examinations at class VI will be suitably reformed to address the holistic learning programme in the schools and be used as a means to inform the schools to gauge and improve their curriculum delivery. Additionally, school-based methods for assessing quality and standards shall be developed using continuous assessment and *interview*. Every teacher shall be made conversant in the concept and technique of continuous assessment. An evaluation of the state of the art techniques in this domain shall be undertaken prior to the development of a package for the Bhutanese teachers to implement in schools.
- 3.32 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 shall be organised into defined geographical school clusters. A centrally located school within a cluster shall be developed as resource centre for the cluster. To start with, 30 centres serving the most disadvantaged groups of schools shall be developed. The operation of resource centres activities (now in pilot phase) will be improved by providing additional facilities and direction to their development. To this end, a unit responsible for the RC will be established in CAPSD.
- 3.33 To ensure that good teachers are available in rural schools, schemes for providing suitable housing to teachers will be developed on a priority basis so that by 2007, at least 50% of teachers will have a standard, quality house to live in. Furthermore, teachers in rural primary schools will also be provided with special incentives for accelerated career advancement and special consideration for academic upgrading. To prepare teachers for the difficult pedagogical challenges in remote areas, a special training package including multigrading, will be developed by a joint taskforce of selected teachers working in those areas. This will be implemented through the curriculum of NIE's.
- 3.34 Every child will be provided with free textbooks and readers. Every school will have a library with a minimum of 5,000 books. This will be supported by a reading programme which will become an integral part of the language development programme in the schools. 20 new titles of supplementary readers for classes IV to VI shall be produced to enrich the reading programme in the schools. Local writers shall also be encouraged to contribute to this effort.
- 3.35 An increasing array of learning aids and materials will be available to students. 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.
- 3.36 Every child will have some opportunity to participate in games and recreational activities. Towards this end, Physical Education and games period will become an integral part of the school curriculum.

- 3.37 An efficient system of distributing textbooks, stationery and other learning materials will be established involving the Central Stores, Regional Stores and Dzongkhag Education Offices. This will require rationalizing the procedures related to projection of needs, budgeting, stocking and distribution system. The overall impact of these developments should ensure that every student receives books and other learning materials in time.
- 3.38 An improved monitoring and support system for teachers will be developed as part of a master plan for strengthened curriculum implementation and instructional quality at the central, dzongkhag, clusters and school levels. DEOs, head teachers and key persons associated with monitoring of education will receive training on the main features of curriculum implementation and monitoring instructional quality in order that they may provide meaningful support to teachers.

4 Secondary Education

Vision

- 4.1 In principle, Bhutan will provide education and training opportunities to everyone upto a level equivalent to class XII. General academic education upto end of class X is already free and form the minimum basic education level. After class X, students will be provided with options of academic and vocational training programmes and government scholarships for academic studies will be provided on merit basis to a progressively larger body of students each year. Others will enter vocational training or enrol in private higher secondary schools. Students will have an increasingly wide variety of subjects to study within a diversified curriculum catering to various abilities to reduce failure and exclusion. Secondary education system will also be restructured to provide flexibility of entry-exit between academic and vocation courses, and provide possibility for alternating study and work as well as combining study with work. Young people will become better prepared for the world of work with a greater acceptance of the dignity of labour. To this end, career guidance will become an integral part of secondary education.
- 4.2 Secondary curricula will also reflect the vast array of new learning possibilities available through information technologies. Computer literacy will be an important component underlining the secondary curriculum. Basic computer operational skills will be acquired by every child. Students will make use of computers on an everyday basis in his or her learning processes. In addition, advanced IT related studies will be available for further specialization at the middle and higher secondary levels.
- 4.3 Learning will involve the full participation of students to engender a strong sense of responsibility for their own learning and progress. As modern life becomes increasingly complex for adolescents with competing and sometimes destructive demands on their attention, the whole secondary curricula will be realigned to instil, as much as possible, core values and ethos of Bhutanese society. Teachers will develop capacities to employ new methodologies, which promote active learning, new subject matter and current developments in the subjects being taught.

Current Status

- 4.4 Secondary education in Bhutan is a six-year cycle comprising of two years of lower secondary school, two years of middle secondary school and two years of higher secondary school. About 85% of the children who complete primary education move to the lower secondary level, 85% completing the lower level move to middle secondary schools and just over 40% of those completing middle secondary schools move up to higher secondary programmes. Secondary education has entered a phase of very high growth induced by the expansion and improved internal efficiency at the primary level.

Table 3: Enrolment Projection for General Education

Class/Level	2002	2007	2012	2017	2020
PP	15604	21908	24497	26344	27956
I	14828	20432	24029	25823	27403
II	14526	19032	23763	25378	26860
III	12957	16930	22793	24947	26328
IV	12594	15823	22137	24562	25810
V	10954	13829	20309	23987	25204
VI	9491	12651	18797	23573	24743
Primary	90954	120604	156325	174614	184303
VII	8859	13155	18129	24016	25337
VIII	7129	11239	16107	22757	24398
Junior					
Secondary	15988	24394	34236	46774	49735
IX	6613	10221	14306	21224	23461
X	4810	9546	13471	20429	23620
Middle					
Secondary	11423	19767	27777	41653	47082
XI	2794	5840	9819	15326	18367
XII	1683	5020	9335	14090	17496
Higher					
Secondary	4477	10860	19154	29417	35863
Total	122842	175625	237492	292457	316984

- 4.5 Many of the present-day secondary schools started out as primary schools which grew over time into lower and middle secondary schools and later, into higher secondary schools through a process of upgrading. While this continues to be a pragmatic approach for a system that is expanding rapidly, it has also meant compromising on physical and professional standards as more and more schools are pressured to cater to programmes for which they have little preparation. Therefore, many secondary schools are over-crowded, have inadequate science labs and sport facilities and are short of qualified teachers.

- 4.6 A basic skills component has been introduced in 9 of the secondary schools on a pilot basis since 1999. These programmes operate as vocational clubs for carpentry, house wiring, plumbing and shoe repair. Students are also encouraged to participate in the maintenance of schools during the winter vacation to practice their skills while earning pocket money. Further development and expansion of the programme will depend upon the experience of these schools. Computer education has been introduced in five high schools with classes XI and XII as part of the initiative to bring IT into the education system.

- 4.7 To make curriculum more relevant to the country's needs, all student texts, teachers hand books and other curriculum materials have been re-written. In addition, History, Geography, Civics and Economics textbooks for IX-X have also been completed and are now used by the schools. Examinations and certification of Class X students has been fully localized from 2001, by taking over the examinations from the Indian Council for Secondary Education, with which our schools have been affiliated with since 1970. This will now provide greater degree of flexibility for reforming curriculum and learning organisation at this level, as well as greater national ownership of education at this level. Class XII examinations will continue to be certified by the Council for ISC Examinations till 2005.

Challenges

- 4.8 The first major challenge is to address the access pressures of an increasingly large number of children completing the primary cycle each year. This raises the important issue of resource availability for the VII-XII programme whose unit cost is estimated to be double that of primary students.
- 4.9 A second major challenge concerns public attitudes towards secondary education. There is an overall lack of value associated to studies outside of the traditional academic stream. The challenge is to raise the status and appeal of different types of training by demonstrating their links to the labour market and potential for future career development, particularly as the private sector develops in Bhutan and requires a more diversified array of skills. Toward this end, secondary schools must forge closer links to communities, the world of business and private enterprise, as well as other institutions to shape the learning which take place in schools and establish mutually beneficial relationships between them.
- 4.10 The third challenge is to identify a set of basic core skills to address the human development and employment requirements in the period to 2020. The rapid globalisation of the world economy and increasing access to information has offer a new dimension for learning. One component of this new dimension is the concept of life-long learning. To that end, secondary schools must equip young people with the interest and tools needed to continue to learn and stay abreast of technological developments throughout their lives. The demands of the labour market are no longer compatible with the traditional academic subjects taught at the secondary level and the methods used for teaching. Rather, modern sector employment requires a mix of skills at its core including computer literacy as well as problem-solving and sophisticated organisational work units based on complementary skills matrixes. Secondary school curricula must be sufficiently flexible to be adapted on a continual basis to the changing requirements of the labour market as well as to people's own interests and aspirations. Consequently, secondary education must allow for easy transfer between vocational and academic streams at various levels.
- 4.11 An additional challenge is to find an appropriate role in the secondary education sub-sector for private schools. Given the high costs of providing secondary education, the establishment of private schools holds appeal as a means to reduce the burden on public expenditure as well as to diversify parental choice. However, the key challenge is to ensure that the establishment of private schools does not lead to the simultaneous emergence of a two-tier system of secondary education in terms of quality and equity of opportunity. Public schools must provide quality education regardless of the role of private schools in the secondary sub-sector. This will depend primarily on the Government maintaining respectable salary and service conditions for teachers as well as continued monitoring and professional support.

Strategies

- 4.12 Secondary education places will be expanded based on a proper study of the catchment area to ensure maximum population coverage with minimal boarding. At the same time, special priority will be accorded to the development of good quality secondary schools in the rural and remoter part of the country to address the larger national policy of improving the quality of life in these places and stemming rural-urban migration.
- 4.13 The high costs of development of 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.

- 4.14 Hitherto, donor involvement at the secondary level has been more limited in comparison to the primary and technical/vocational education sub-sectors. However, the laudable success of the past decade in increasing primary enrolment and completion rates brings enormous pressure for rapid expansion at secondary and tertiary levels. In order to assist the Government respond to this demand, substantial donor support will be sought.
- 4.15 While the establishment of private schools will be encouraged, experience of other countries shows that building up a private school sector in secondary education raises a range of problems. For example, this may result in a conflict between school autonomy of the private school and government responsibility for ensuring standards and providing possible subsidies, etc. Therefore, the government will address this by placing policies and mechanisms to ensure the smooth development of this sector.
- 4.16 A major shift in secondary schools will be in bringing teaching/learning processes and the content of secondary education more in-line with the future challenges of work. This is a major undertaking that will have to be carried out in stages over a number of years. To start with, secondary school curriculum will be realigned to provide emphasis on mastery of key subjects such as languages and mathematics, thinking and analytical skills, teamwork with project-oriented multi-tasking, computer literacy and enhanced knowledge of global economic and communication systems.
- 4.17 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 institutionalising processes to continually monitor and respond to labour market characteristics and demands. The education sector will also have to institutionalise mechanisms to allow secondary schools to continuously adapt and change in line with the understanding of the labour market.
- 4.18 Based on the feedback from the pilot implementation, basic skills orientation programme will be expanded to include all secondary schools. This will be accompanied by extending the range of skills currently offered under the programme to reflect the skills requirement in the employment market
- 4.19 Secondary schools will also broaden their reach to include the provision of continuing education programmes to allow people who have left the system of formal education, yet who possess some academic competencies, 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 participation of the private sector will be encouraged through institutions established by individuals from business, industry and Government. The NIEs will provide teachers for both Government and private schools.
- 4.20 The promotion of values education is seen as important at all levels of education. However, in the light of the special challenges of adolescence, it is considered especially important for the age group in secondary schools. Therefore, values education will be imbedded in school life with exemplary activities, participatory rules and organisational models in classrooms and schools.

- 4.21 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 the adolescents in schools.

Action Plan

- 4.22 In the framework of the next Five-Year Plan (2002-2007), facilities to accommodate over twenty thousand students will 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 programme. In addition, a few new schools will also be constructed. Donor funding will be sought for the development of these schools.
- 4.23 A number of secondary schools in rural areas will provide boarding facilities as an option for some students from urban areas on a payment basis, initially as a pilot initiative as a measure to de-concentrate urban centres. This will also support rural economy.
- 4.24 New school building designs accommodating cheaper construction methods and more efficient use of space, materials and labour will be established. A minimum of 20% of the construction programme at this level for the 9th Plan will adopt the new designs and method.
- 4.25 A policy framework for the establishment of private secondary schools will be developed. It will include rules governing the acquisition and use of Government land for schools, the use of a prescribed curricula, accreditation requirements including minimum standards for both physical facilities and the overall functioning of schools.
- 4.26 A special scholarship scheme shall be developed and implemented to help students from lower economic strata to meet costs on school uniform and other incidental school expenses. This will be especially directed to help girl students and other vulnerable groups of students to continue their studies.
- 4.27 Teacher training places will be expanded in the two institutes in Paro and Samtse to cater to the demand for additional teachers in both government and private schools. This shall be achieved through additional infrastructure and adopting extended and flexible teaching hours within the NIEs. Over time, government also intends to replace the expatriate teaching force as a result of this expansion.
- 4.28 Teacher housing will be improved and by 2007 at least 20% of the teaching force will be provided with government housing.
- 4.29 A sufficient number of teachers will be trained for specialised skills such as counsellors, teacher-librarians, and IT through a system of modular in-service programmes as well as pre-service training.
- 4.30 The initial phase for using information technologies in schools will be to train teachers and a cadre of selected students so that they are able to effectively support the learning of basic computer and IT skills by all students. Thereafter, all secondary schools will be equipped with computers, initially through a pilot phase with an evaluation. Apart from IT literacy and credited courses, some of the traditional courses will also be delivered using multi-

media packages that are available in the market. For this capital-intensive activity, donor funding will be sought. Similar endeavours in other small countries will be carefully examined in order to integrate best practices and lessons learned.

- 4.31 A baseline study on the quality of education for class VIII and X leavers shall be conducted in 2003 involving Bhutanese educators and external consultants. This will lead to the review and revision of curriculum and teaching methods across all grades. The revision will accommodate greater choice within the curriculum, computer literacy and values. Special attention will be paid to developing self-learning materials for students. The potential of Information Technology shall be fully integrated both in content and method within the new curriculum. This will be achieved through visits by education planners and policy makers to state-of-the-art secondary institutes which represent the best practices to be adopted, as well as using consultants within country to guide the development and implementation of curriculum for both student learning and teacher training.
- 4.32 Bhutan will also participate in an international comparison study for student achievements in English, Mathematics and Science. This will provide the bench mark against which the Education system will measure its progress in the subsequent years.
- 4.33 Learning resources in the secondary schools will be developed with a priority on school library development. As in primary schools, reading programme is an important component of the language curriculum, and therefore it will be implemented in all schools.
- 4.34 The pilot implementation of a values education curriculum will be examined based on the cited principle of wholesome education prior to its full-scale use in secondary schools. To support values learning, greater emphasis will be placed on the positive contribution being made through activities such as scouts and values-oriented school clubs.
- 4.35 Scouts programme will be expanded to cover all secondary schools and selected primary schools. The programme will be decentralized to the Dzongkhags. However, the Ministry will continue to nurture the development of the programme through organising national and local level training programmes for Scout masters and other office bearers. It will also continue to organise annual scouts events at regional and national levels.
- 4.36 Career education will be firmly established in the two NIEs and in all secondary schools with the appointment of trained career educators who will provide information and guidance to students who require such services. Eighty teachers will be trained in this field through successive modules of workshops and training sessions. This will be supported by a series of career information booklets which will be updated annually and distributed to the schools.
- 4.37 The Ministry will also develop programmes to address prevailing youth problems and issues such as substance abuse, alcoholism, AIDS, reproductive sciences and target these to those affected or the most vulnerable groups. A core group of teachers will be trained to provide guidance and counselling within the schools.
- 4.38 The existing Youth Centre shall be refurbished and its programme expanded to cover

additional educational and recreation activities for the youth. In addition, a centre for youth recreation shall be established in the capital.

- 4.39 Sports and games will receive an increasing priority in the school curriculum. All schools will develop their facilities and programmes to ensure that every student participates at least in one game during their academic year. Tournaments in selected events will be organised at the school, dzongkhag, regional and the national levels.
- 4.40 The Ministry will also develop a system for identifying talent and grooming potential sportsmen/women through regional and national coaching camps. Regional level excellence shall be developed in at least four disciplines of sports.
- 4.41 Apart from developing the physical infrastructure and equipment, a cadre of coaches in different disciplines will be trained and placed in the schools and the NIEs to support the programme.

5 Tertiary Education

Vision

- 5.1 The development of a higher education programme of excellence under the overall umbrella of an autonomous National University (NU) is central to the achievement of Vision 2020. The structure of a national university will consist of a network of faculties and specialised schools spread across the country. Employing advanced information technologies, faculties and specialised schools 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 on the basis of partnership. Similarly, in order to establish logical pathways into the world of work, relationships will be established with private businesses and industries to include the sharing of knowledge, apprenticeships and financial support.
- 5.2 The NU will offer study programmes and courses, and establish centres of research in areas in which Bhutan has a comparative advantage. These include Buddhist studies, traditional medicine and ecology. The NU will promote excellence in teaching and research using information and communication technology (ICT) on a cost effective basis. The NU will also provide opportunities for adult and continuing education using both distance and face-to-face approaches.
- 5.3 Higher Education will be merit-based, needs sensitive and strive for intellectual excellence. Education at this level will strive for the fulfilment of academic, vocational, social-civic, cultural and personal goals in preparing students for productive participation in a changing society. The emphasis will be on a combination of traditional and more flexible courses, enriched by modern technologies. Each higher education institution will be encouraged to open its doors and create opportunities for research and continuing education in their respective areas of comparative advantage. The courses shall be made self-sustainable through the levy of fees. However, scholarship schemes shall be provided to support meritorious students. The intention will be to seek an international reputation for

programmes and courses offered in Buddhist studies, traditional medicine, ecology, and other knowledge systems and studies linked in theoretical and practical ways to our rich cultural heritage. This will be of particular interest to fee-paying foreign students and alliance institutions.

Current Status

- 5.4 While there are approximately 3,000 students in the seven institutions identified to become member colleges of the NU, only 1,000 are enrolled in the higher degree programmes, representing approximately one percent of total enrolment in the country. The institutes of higher learning which exist in Bhutan at the moment and 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. While Sherubtse College awards Bachelor's degrees of the University of Delhi in Humanities, Science, Commerce and Computer Science, RIHS offers nursing degree from the LaTrobe University, Australia. The Institute of Language and Culture Studies, the NIEs and NITM, offer their own degrees and are not affiliated to any University. The Royal Bhutan Polytechnic has been from 2002 upgraded to offers bachelor level-level engineering courses. Likewise, the National Resource Training Institute offers secondary level training programmes, but given the demand for higher qualified personnel in agriculture, there is a need to upgrade this to offer higher degrees.
- 5.5 A number of formal partnerships have already been established with institutions and universities around the world, primarily through studies undertaken by Bhutanese in institutions overseas. In education, a strong relationship exists with the University of New Brunswick (Canada), St. Xavier University (Canada) and the University of New England (Australia). In forestry, a relationship exists with Yale University (USA), for management and administration with the Asian Institute of Technology (Thailand) and in Health Sciences with LaTrobe University (Australia). These and other existing relationships may be developed toward more formal partnerships for course delivery, research and quality programme development and other functions following the establishment of a national university in Bhutan.
- 5.6 The necessary steps and requirements for the establishment of a national university have been outlined in a planning document, "The Establishment of National University for Bhutan: A Proposal" prepared by a task force commissioned by the National Higher Education Council. The National Higher Education Council consists of representatives from all key ministries and bodies with a stake in higher education and learning. The Council of Ministers has recently ratified the establishment of an office within the Education Department responsible for planning and coordinating the development of a national university.

Challenges

- 5.7 As in the primary and secondary sub-sectors, the tertiary sub-sector will continue to face increasing enrolment pressure as greater numbers of people complete the secondary education cycle and aspire for further study. This is a major challenge for the sub-sector, particularly in light of the considerable unit costs, estimated to be six times to that of

secondary students and 11 times that of primary students.⁹

- 5.8 An immediate pressing challenge lies in the fact that Bhutan, at present, and in the foreseeable future, lacks sufficient numbers of qualified individuals to staff a multi-campus university providing a diverse array of course offerings. The lead-in time for such provision is significant and will take several years for a critical mass of qualified professionals to become available indicating that implementing the NU concept will be a slow process. On a related issue, the relatively small number of people who reach the tertiary level necessitates prudent resource allocation in order that unit costs do not exceed what would be considered reasonable and fiscally sustainable.
- 5.9 The small scale of private sector activity in Bhutan and the current lack of formal linkages between industries and education pose another significant challenge. The private sector must continue to expand to a point whereby sufficient opportunities are available for mutually beneficial relationships between institutes, tertiary education and businesses. This would include opportunities for those who have completed their studies and are seeking employment as well as those pursuing studies who wish to attain practical experience as part of their programme of study. Since there is little experience of such alliances between industry and education in Bhutan, much work will need to be done to orient private industry toward the benefits and opportunities for establishing and maintaining closer ties with education, especially higher education.
- 5.10 A further challenge concerns the need for accreditation. Much work will have to be done to establish and provide programmes of international standing which will allow students to transfer credits to institutions abroad and for full recognition of degrees and diplomas. A clearer understanding will need to be developed on fulfilling accreditation requirements through study visits and using information network including ICT as well as forming mutually beneficial linkages with universities elsewhere.
- 5.11 As in the secondary sub-sector, the cost of introducing the latest information technologies will be very high. An initial capital investment will likely require strong donor support and firm political commitment in order to equip a multi-campus university with appropriate information technologies.
- 5.12 Finally, the development of a university based on a model which differs radically from the traditional notion of an institute of higher learning poses an important challenge. It will be necessary to bring about clearer understanding and acceptance of a National University which consists of a federated union of faculties and schools. This would have limited course offerings supported by advanced information technologies and would entail strategic alliances both inside and outside the country, as constituting a national university. Examples of other such functioning and successful models will have to be sought and lessons learned will need to be examined in order to adopt best practices.

Strategies

- 5.13 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

⁹ In 2000, the per head annual recurrent costs for Primary, Secondary and tertiary (Sherubtse) was Nu 4,500, 8,000 and 50,000 respectively.

and also in line with the needs of the economy and industry. Bhutan as a sovereign, independent nation, will establish a university which could become a symbol of the country's sovereignty and identity. However, this has to be balanced by the availability and capacity of human resources and issues of sustainability. A policy decision guiding the development of the National University will need to ensure that Bhutan does not create a large central edifice which will be cost-prohibitive and risk drawing finances from other priority education sub-sectors where resource requirements are high, e.g. in the secondary education sub-sector. The model should allow for the development of existing institutions on a priority basis depending on their strengths, yet within a general framework which allows the harmonisation of course offerings and the cost-effective use of resources. It is also guided by the policy of decentralisation and balanced development.

- 5.14 Human resource capacity building will need immediate attention in all tertiary institutions. For the member colleges to develop into centres of excellence, a critical mass of professionals with good academic qualifications and competency in research and pedagogy is required. Lecturers will be recruited and professional development programmes for them will be planned and implemented as soon as possible. Every tertiary institution would prepare an HRD master plan consistent with their projected academic programmes.
- 5.15 Links to the private sector could be established in two ways. First, development plans for the private sector could serve as the criteria for prioritising and planning institutional development for higher education. Second, each higher education institution will be encouraged to open its doors and create opportunities for linkages with private sector businesses in their respective areas of interest and study. This is expected to keep managers, engineers and scientists ever more dynamic and informed. In addition, different campuses will be expected to provide opportunities for enhancing general education and cater to the continuing educational needs of the immediate community. All campuses would become hubs of community learning and, thereby, contribute to community development.
- 5.16 Bhutan's unique place in the world as a bastion of cultural wealth, its unique development path and significant progress to date in achieving its development goals should open it up to strong alliances with some of the most advanced and prestigious institutes of higher learning in the world. To that end, the equal nature of partnerships cannot be underestimated. Bhutan's uniqueness offers ample scope for other institutions to learn from the heritage knowledge-base and unique character of Bhutan. Colleges of the University would be linked to international universities with similar academic pursuits. Partnerships would include staff exchanges for professional development, course delivery and exchange via the internet, peer review, joint research, external examiners, shared databases for information and joint course credit accrual. Such partnerships would bring the academic standards of our growing institutes up to at par with recognised international universities of repute and ensure that our certifications are recognised internationally. To that end, international practices of accreditation will be examined and linkages with accreditation boards established.

Action Plan

- 5.17 A framework for the National University has been developed. The NU will consist initially of eight institutions united as a federation under the auspices of a Council for Higher Education and a University Secretariat. The following administrative arrangement

of the National University will be implemented:

- 5.18 As creation of the University Secretariat will take sometime, an interim body will be required. The present Council for Higher Education will act as the University Council.
- 5.19 The Academic Board as proposed in the University organisational structure will be formed with representatives from the present degree-awarding institutions and other relevant organisations, including Government Ministries.
- 5.20 All the functions of the University need to be overseen by an existing body. The Chief Executive of one of the degree-awarding institutions will be appointed as the Chairman of the Academic Board and Member Secretary to the Council. He/she would carry out the functions of the Vice-Chancellor.
- 5.21 An officer will be appointed within the Ministry of Education to work with the Chairman of the Academic Board to coordinate with the colleges and the other agencies. He/she would initiate the process and oversee the evolution of the University in its full form over a period of three to five years.
- 5.22 For the University and its bodies/officials to carry out their functions, the process of approval of a Royal Charter or equivalent legislation will be expedited.
- 5.23 One of the essential tasks to be completed during the 9th Plan will be to establish a fund flow mechanism to the constituent colleges of the NU.
- 5.24 A master plan will be developed for each of the institutes identified to become member colleges of the NU. The master plan will ascertain the present status of prospective member colleges and prepare for their evolution into a federated University. Preparations will focus on the development of infrastructure, curriculum and human resources. A comprehensive HRD master plan will be developed which will account for the specific HRD requirements of each institute.
- 5.25 Human resource capacity building in all prospective member colleges needs immediate attention for their effective integration into a federal University. Lecturers with good postgraduate academic credentials with capabilities in research and pedagogy must be recruited or undergo the required training in order to enable the University to deliver quality education, and to transform the present degree-awarding institutions into centres of excellence. Member colleges could further consider the possibility of engaging for a limited time period renowned scholars from partner universities to lecture and teach students and a cadre of lecturers. An additional option is to initiate joint research in an international framework.
- 5.26 Capital development for new institutions and programmes must be more clearly articulated defining the scope, location and investment requirement for the short- and medium-term. This must also include a projection of the implications for recurrent costs. The development of such proposals must reflect not only an understanding of present and perceived future needs, but address national goals for balanced, cost-effective and sustainable development. Some studies have already been made on the perceived needs of

courses offered in Sherubtse, ILCS and NIEs,

- 5.27 Facilities in Sherubtse will accordingly be expanded to enhance its enrolment from 600 at present to 1000 by 2007. Bachelors course in Financial Accounting shall be introduced by 2003. It will also introduce Masters level courses towards the end of the 9th Plan, (2007).
- 5.28 Capacities at NIE, Paro, will be expanded from 650 to 980 through development of additional facilities and the implementation of an extended teaching-practice period. The Institute of Language and Cultural Studies will be built in a new location with modern facilities. Similarly, institutes that are outside the Education Ministry but will become faculties of the National University such as NRTI, RIHS, NITM and RBP shall be further developed.
- 5.29 The development of IT in colleges must conform to national technical standards in terms of equipment and software components as well as the National ICT policy. By the end of the 9th Five-Year Plan, all colleges must be inter-connected through networks which allow for the sharing of professional and other resources. Provisions must be made for upgrading and maintaining the IT system, as well as cost-recovery for some services.

6 Adult Literacy and Continuing Education

Vision

- 6.1 Bhutan will create a system of learning opportunities for all people at any stage of life. The entire population will be literate in the national language, Dzongkha, and numerate. This target could be accomplished by 2012. This will contribute to the establishment of a culture of reading and learning. Opportunities will also be available for those outside the formal system of education to learn new skills and knowledge through a system of continuous education. Learning opportunities will be community-based and seek to improve people's lives to the greatest extent possible. In light of the important development outcomes and effect on the overall well being of the family, particular emphasis will continue to be placed on the learning needs of women.

Current Status

- 6.2 Currently, the adult literacy rate is estimated at 54% with women's literacy as low as 20%. The adult illiterate population above 18 years is estimated to be between 150,000 to 180,000. A national programme of non-formal education which aims to impart literacy and numeracy skills to people outside of the formal system of education, particularly rural women and girls, has been in place since the early 1990s. This comprises a 12-month basic literacy course leading to the ability to read and write in the national language. With an increasing number of people completing the 12-month basic literacy course, an additional 9-month programme for post-literacy support is underway. This programme aims to support neo-literates in retaining literacy skills through access to reading materials and instructional support. The post-literacy programme also aims to disseminate useful information on a variety of subjects including health, hygiene, HIV/Aids, nutrition, improved child-rearing practices and livelihood toward improving people's quality of life. In 2002, there were 8336 (5833 women) learners enrolled in the Basic Literacy Course and

1462 (1125 women) in the Post-Literacy Course. So far, 14,895 learners have successfully completed the course, accounting for about 70% of the total enrolment.

- 6.3 The Non-Formal Section of the Education Department has developed 30 readers which are used in the Basic Literacy Course, and 35 readers for the Post-Literacy Course.
- 6.4 About 60% of the literacy courses are held in the regular primary schools using their classrooms and teachers who are paid a fixed honorarium. The rest are held in community buildings using Non-Formal Education instructors recruited by the Department of Education.

Challenges

- 6.5 As a large proportion of the illiterate population resides in rural, often remote areas of the country, service delivery for providing non-formal instruction poses significant challenges.
- 6.6 There is an insufficient number of skilled facilitators to teach NFE courses.
- 6.7 There is a lack of adequate reading materials in Dzongkha to sustain interest in reading.
- 6.8 For many people, non-formal classes are both for second language learning and literacy training.
- 6.9 Currently, the total expenditures on Adult Literacy programme is less than 0.5% to the total expenditure in Education Sector. The development and later expansion of both non-formal and continuing education programmes will require substantial enhancement in inputs from an education system already strained by the demands of increasing enrolment in regular schools.
- 6.10 No mechanism has been developed which allows NFE learners to transfer into the regular system of education, although there are isolated examples of younger NFE graduates who have moved into formal schools. There is also no system of continuing education for those who have dropped out of the education system.

Strategies

- 6.11 The Dzongkha Development Commission should continue its strategy to promote the development of new reading materials in Dzongkha. Similarly, the NFE Division of the Education Department shall continue to develop and distribute post-literacy learning materials. Materials for Basic Literacy and the introduction of English as a foreign language could also be developed as part of the post-literacy programme. Joint ventures between private entrepreneurs and Government to produce and print new materials in Dzongkha should be encouraged. This should also capitalise on the national newspaper, Kuensel's newly acquired capacity for high quality printing in the country.
- 6.12 The current practice of using existing space and teachers in primary schools during the evenings will be continued as the main strategy to expand the literacy programme. Further, it is feasible that promising graduates from the basic literacy course would be able to conduct literacy classes with incentives which should be worked out according to the level

of the instructor's skills and experience.

- 6.13 Non-formal education instruction should be perceived as an integral part of the teacher's professional role and all teachers will be required to take up the task whenever required. Towards this, NFE education will form a part of the course in the pre-service teacher education programme.
- 6.14 Policies will be developed which address the structural and organisational framework in which a system of continuing education will co-exist with both the systems of formal, non-formal and vocational education and training. Increasing collaboration with various ministries will be sought to support a meaningful post-literacy programme catering to diverse interests of communities. As increasing numbers of young people attain higher levels of education, it is imperative that options for further training and study be devised. In light of the serious resource limitations, a useful strategy will be to use existing facilities and personnel to provide new education services.
- 6.15 For the future development of post-literacy support at the community level, national NGOs will be established. These could be organised by retired teachers, education personnel and government officials interested in and capable of supporting learning in communities.

Action Plan

- 6.16 During the 9th Plan, a literacy survey will be conducted.
- 6.17 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 9th Five-Year Plan. Post-literacy activities will support the continued acquisition of Dzongkha and the introduction of English.
- 6.18 A policy directive will be issued to make it mandatory for all teachers to teach NFE classes where required. NFE concepts and adult pedagogy will be included in the course curriculum of all the NIEs.
- 6.19 Libraries in primary schools will be upgraded to make them useful for NFE learners. Where feasible, IT will also be introduced to serve as a resource for NFE learners.
- 6.20 A continuing education programme catering to different levels of learners wishing to complete high school shall be developed and piloted. Best practices could be examined from other smaller states, which have instituted programmes of continuous education. Such a programme can be instituted fully in the country by 10th Five-Year Plan (2007-2012).
- 6.21 In addition to teachers and extension workers, a voluntary scheme will be established to help deliver NFE programmes, using retired educators and civil servants. These could be the forerunner to the development of national NGOs in this field.
- 6.22 Practical skills development for adults would be addressed under the sub-sector of technical and vocational education and training.

7 Vocational Education and Training

Vision

7.1 Vocational Education and Training will develop into a multifaceted system of training opportunities for higher secondary and post secondary levels. Programmes will range from job oriented short training courses and apprenticeship training programmes to specialized trainings at degree and postgraduate levels in selected professions. The system will be highly flexible and designed to respond to evolving public and private sector demands. Sufficient flexibility shall also be provided within the system for students to move between academic and vocational studies easily. In that regard, pursuing a vocation shall not preclude a person from pursuing further academic studies

7.2 School leavers shall be provided with opportunity to choose between further academic education and professional training. Direct employment should only be a choice where further training is not feasible at all. Furthermore, this option will progressively be discontinued. Professional training in trades and technical skills will evolve step by step into an attractive choice not only for the weakest segment of the school population but as a viable career choice for a broad range of students.

7.3 A major component of the vocational education and training programme will also be to serve students not able or willing to pursue higher secondary or postsecondary studies. For this, a wide range of formal, nonformal and informal training modules shall be established to provide for the demand of skilled workers by the private sector.

7.4 General secondary schools will provide some basic vocational orientation as a means towards introducing and exposing young people to various career possibilities and promoting blue collar culture and skills.

7.5 Vocational training in secondary schools as well as advanced postsecondary training should benefit from and contribute to the economic development in Bhutan. The choice of vocational skills should be closely aligned with the requirements of employers in both the private and public sectors. At the same time it should also contribute to raising professional competencies and standards. Continuous review and analysis of the labour market as well as the mid- and long-term perspectives of economic development shall inform the design and implementation of the all levels of professional training.

Current Status

7.6 At present, there is a very limited capacity for vocational education and training in the country. This is because until a few years ago, school leavers have always found a government office job. The abundance of cheap labour across the border was another reason for the sluggish growth of this sector. Therefore, while enrolment in the general education system has doubled every 10 years, vocational education and training programmes have only seen some marginal growth since the 1970s. The result has been that a good proportion of skilled labour in Bhutan is brought from outside the country, particularly India.

- 7.7 The continued expansion of the general education system and the exponential increases in the number of school leavers have resulted in a large body of youth who can no longer be absorbed by the government. Nor can they be employed by the private sector or industries because they lack specific vocational skills. Therefore, there is an urgent need to expand vocational training programmes for the school leavers.
- 7.8 The vocational education and training sector presently comprise of a four to six years training in traditional arts and crafts provided to early school leavers, a 3-year certificate programme in various engineering disciplines and a 6-month driving course for class VIII leavers, a 3-year engineering diploma for class X leavers, a 3-year agriculture training course for class X leavers, health and nursing personnel training for class VIII, X and XII leavers, secretarial and computer programming courses for classes VIII, X and XII leavers and teacher training for class XII leavers. All programmes, except those related to traditional arts and craft and engineering which are directly administered by the National Technical Training Authority and the secretarial and computer courses which are organised by the Royal Institute of Management, serve actual demands of specific ministries and are, therefore, administered and managed by these parent ministries.
- 7.9 A recent development is the introduction of pilot Basic Skills Development Programme in a limited number of lower and middle secondary schools. The objective of this project is to stimulate student interest in a diverse range of vocations, establish a sense of dignity of labour, help in the school maintenance and at the same time provide a source of pocket money for needy children. As this is a new programme, its success has yet to be assessed. Progress to date has included training of teachers who will provide instruction in their schools in vocational skills. Other components include the establishment of workshops in schools to provide practical experiences.
- 7.10 Until very recently, very little importance was given to formally organised and structured apprenticeship arrangements with private industry. Beginning 2000, the NTTA has initiated a pilot programme of apprenticeship with a few selected industries and work place. The programme needs to be formalised and expanded to improve the existing informal training systems within the industry.
- 7.11 The non-formal education programme which promotes literacy and numeracy skills development, particularly for rural women and girls, has included some skills development information in reading materials for both the basic literacy and post-literacy courses. However, these do not include practical components and, while touching on some vocational objectives, cannot be understood as constituting a vocational skills development programme as such. This is encouraging, nonetheless, as it underscores the obvious and strong link between non-formal education for literacy and vocational skills development. It is expected that in coming years, increasing numbers of graduates from the non-formal education programme will pursue further training in lower level vocational skills.
- 7.12 A National Technical Training Authority (NTTA) has recently been established to coordinate and provide impetus to the development of an effective technical and vocational education programme in the country. The NTTA is expected to help bring together all the key stake holders including private industry in formulating policies, defining training needs and modes and establishing occupational standards.

Challenges

- 7.13 The first major challenge is designing and planning a comprehensive model of technical and vocational education programme which matches the needs of the employers and is sufficiently attractive for the students. The training system should be based on a short, mid and long-term analysis of the demands for professional skills of the public and private sectors, involving and responding to the training needs of all stakeholders.
- 7.14 A second challenge concerns the systematic improvement of the standards and quality of training. To this end, the NTTA, in cooperation with the training institutes, must develop a vocational qualification framework, and provide other support such as curricula development and teacher training for a broad range of trades. The quality of training can be improved mainly by involving all stakeholders, especially the private sector, in the identification, design and delivery of training.
- 7.15 A third challenge concerns the attitude and expectations of school leavers who consider working with hands as being menial and demeaning. The challenge will be to develop vocational studies into a worthwhile education option. This will need to be addressed involving employers, educators and the trainers.
- 7.16 A fourth challenge concerns the availability of sufficient resources to both improve quality of training and to expand training capacity. This will include instructors, experts, building, equipment, furniture etc.

Strategies

- 7.17 Based on a considered model of technical and vocational education in Bhutan, the NTTA shall continue to develop policies and implement a plan to expand and improve quality of technical education. Central to this shall be the development of a vocational qualification framework.
- 7.18 Training capacity will be expanded based on forecast and perceived needs of industries and economic policies of the RGoB. After Basic Education (X), currently 37% of the students continue general education. This is projected to increase to over 60% by 2012. The others will seek either direct employment or try to enrol in a training programme. Therefore, the training system should expand its capacity to accommodate these school leavers. As more students continue up the education ladder to complete class XII, training places also will need to be enhanced at this level.
- 7.18 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 work-stations within the industries through attachments and apprenticeships. This will call for special arrangements between training institutes and related industries. Amongst others this shall include defining incentive packages for industries to provide meaningful training support to the students. Once employed, skilled workers will be able to participate in a series of advance courses for skills upgrading and continuous development, and where needed, skills retraining for change of employment.

Action Plan

7.19 The NTTA 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.

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

7.21 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.

7.22 The Apprenticeship Training Programme will be further developed and expanded to cover an increasing number of trades. This will require the establishment of a viable framework of defined responsibilities and benefits for enabling private industries' participation in the design and delivery of these programmes.

7.23 Short term nonformal skills development programmes such as village skills development and special skills development programmes targeted to school leavers and unemployed youth will be developed and implemented. Such programmes will be aimed at providing basic skills needed at the work place. Within this, special focus will be given to the training of villagers in generic skills and in traditional arts and crafts.

7.24 Overall, the intake capacity of the vocational training programmes and institutions will be expanded from 1,100 school leavers per year to above 4,800 at the end of the 9th Five Year Plan. To implement the overall package of expanding and improving the non-academic professional education, substantial donor funding must be sought. To further support this, private entrepreneurs shall be encouraged to establish vocational education programmes. However, strict quality control shall be exercised by the NTTA.

8 Special Education

Vision

8.1 All children with disabilities and with special needs – including those with physical, mental and other types of impairment – will 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. The programme will be supported by trained and qualified personnel using teaching strategies responsive to different learning styles to ensure effective learning. Teacher training will be re-oriented as a means of achieving these objectives.

8.2 Children with disabilities and those with special needs will, to the greatest extent possible,

be able to attend a local school where they will receive quality education alongside their non-disabled peers. The provision of education should not take children away from their families and local communities. Maximum participation by parents should be secured in order to achieve partnership in education. Children with disabilities who spend time away from home in educational boarding facilities shall be ensured inclusive education and safety. Institutes of higher learning will be equally accessible to disabled young people.

Current Status

- 8.3 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 with the objective that children skilled in Braille be integrated into regular schools toward the end of the primary cycle, and that they are prepared to become productive members of the society.
- 8.4 There remain some social and cultural impediments to mainstreaming children with disabilities into regular schools. There is a perception among some teachers and school administrators that the presence of a disabled child will be disruptive to the smooth functioning of a classroom and that schools and classrooms are not adequately equipped to meet the special mobility, equipment and other requirements of disabled children. However, in a limited number of schools, mostly in the capital, there has begun to be some integration of disabled children into regular classrooms.
- 8.5 Neither pre-service nor in-service teacher education programmes at present, include instructional components which address the special skills required for teaching disabled children. In addition, most schools do not feature any physical modifications for increasing access to disabled children, particularly those with physical impairments.
- 8.6 There is no separate unit within the Education Department with specific responsibility for the development of policy and programme planning for special education. To date, responsibility for special education has been understood as a joint effort between the Health Department and the Education Department, although with limited co-ordination. Some instruction of disabled children has begun at the Jigme Dorji Wangchuck National Referral Hospital in Thimphu. This aims to provide education opportunities for children under in-patient care for extended periods of time. The Education Department is also engaged in developing a planning framework for special education.
- 8.7 The strategic thrust of the Health Department has been a programme of community-based rehabilitation (CBR). The CBR programme began in 1998 with an initial survey of 2 dzongkhags to identify the nature and extent of disability within a sample population. This indicates a prevalence of 3.5% disability amongst all age groups, the most common disability being impairment of hearing, speech and sight. It is possible that the survey has captured only the most apparent and severe forms of disability and that a larger population may also suffer from milder disabilities. The CBR programme is currently developing a data-base from information collected from the health workers. This might provide a more reliable estimate to guide future programmes.

Challenges

- 8.8 A first challenge is to address the training requirements of teachers for successfully

integrating children with a disability into regular classrooms and schools. Many teachers continue to struggle with the implementation of child-centred, activity-based instructional methods. The special skills required for integrating disabled children into regular classes will constitute an additional challenge for teachers who require intensive in-service support and input.

- 8.9 A second challenge is to establish a broader basis of human resources within the country which is able to teach disability-specific skills such as sign language, Braille and motor skill development which disabled children require for learning in mainstream schools. At present, a very limited number of Bhutanese are trained in the instruction and use of these skills.
- 8.10 A third challenge concerns the availability of resources. With constraints on resources throughout the existing education system, the challenge will be in diverting substantial resources for the educational requirements of a relatively small proportion of children.
- 8.11 A fourth challenge is in addressing public attitudes toward people with disabilities. Traditionally, disabled people have remained at home in their villages, and education was not considered to be a viable option. The establishment of the NID (previously called the School for the Blind) 25 years ago, has gone some way to dispel notions surrounding the potential for blind children to become educated and integrated into schools and communities.
- 8.12 A fifth challenge is that to date, there are no specific instructional programmes for children with other types of disabilities, in order to provide special skills, such as sign language for hearing-impaired children, prior to entry into mainstream education facilities.
- 8.13 A sixth challenge relates to integrating the educated disabled population into the world of work. While in traditional rural societies, every disabled person was also a useful and a contributing member of the family, modern institutions and workplace are principally or exclusively designed to employ able-bodied workers. However, with more disabled people aspiring to serve beyond the realm of traditional household and farm work, modern sector employers must recognise and make provisions for their full participation.

Strategies

- 8.14 The Education Department will meet the educational requirements of disabled children. This will include all children with functional limitations stemming from hearing, visual, physical and/or intellectual impairment. Inclusive education approaches should guide the schooling of disabled children.
- 8.15 To ensure that disabled children receive good quality education within pilot centres and later in any school where disabled children are enrolled, there must be the development of a process for identifying disabled children at pre-school age and for assessing their educational and health needs. There must be the development of partnerships with parents of disabled children with support to them for sending their children to school. 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.

- 8.16 Teachers' skills must be upgraded through the inclusion of instructional components on disability in both pre-service and in-service teacher training. Schools' physical infrastructures 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.
- 8.17 A specific section of the curriculum and teaching/learning resources should also reflect the needs of disabled children.
- 8.18 Many of the resources and interventions required to address the learning needs of the disabled lie beyond the domain of the Education Sector. Therefore, a collaborative approach is required between Education, Health, Employment and other sectors.

Action Plan

- 8.19 A unit will be established within the Education Department to plan and manage the development of a special education programme in the country.
- 8.20 A study to determine the type and magnitude of disabilities requiring special education will be carried out (including types of disability, regional distribution, etc.) with the Health Department.
- 8.21 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 rationalised based on population and could be associated with the Second Education Project-supported resource centres.
- 8.22 Elements related to special education will be included in the pre-service and in-service teacher training curriculum. Where necessary, special strands of the school curriculum in primary and secondary education will be adapted to the needs of children with disabilities.
- 8.23 The Government will upgrade the facilities of the NID in eastern Bhutan as a satellite resource centre for children with visual impairment to support their integration into the two local mainstream schools. The NID will continue to improve its capacity to assess children's educational needs, teach children to use Braille or low visual aids, provide mobility and orientation training, provide courses in daily living activities and support teachers in the two mainstream schools.
- 8.24 A small resource unit will be developed to teach total communication methods to children with hearing impairment. This unit will be linked to at least two mainstream schools where children will be integrated. These schools will ensure that pupils with hearing impairment have full access to the curriculum.
- 8.25 One lower secondary school in the capital, Thimphu, will be developed to include children with physical and mental disabilities and will provide them with full access to the curriculum.

9 Decentralisation and System Management Process

Vision

- 9.1 The management structure of the education sector will be made responsive to the various demands of an ever-expanding system of schools and institutions as well as reflect the changes and new components being introduced as part of an overall reform process. A prior condition for attaining Vision 2020 in the education sector will be to institutionalise a sound management process based on the declared principles of accountability, efficiency and transparency. The range of new functions envisioned for the education sector will require expansion of the management structure in order to provide adequate policy development, administrative and managerial coverage. Natural growth will take place, as well, with the increasing size of the existing structure as enrolments rise.
- 9.2 Community level management of education, as well as inter-sectoral activities is seen as the cornerstone to effective development. To that end, the 9th Five Year Plan will have as its basis geog-level plans which will articulate development priorities as determined and implemented by communities themselves. This calls for enhanced capacity for planning and management at the community level currently being addressed under a national-level project. In education, the on-going management and functioning of schools will increasingly include participation of parents and community members through School Management Boards (SMBs).
- 9.3 There is a good tradition of work in education at the central level (planning & statistics, quality control and curricular development, teacher education, etc). This tradition would be maintained. At the same time, the ongoing reform characterised by a general trend toward increased decentralisation will be continued. Certain functions including some aspects of monitoring of instruction and quality control, assessment, staff development and financial management will be undertaken at the school level, while others will be under the responsibility of district administrations. This will allow central-level units more opportunity to concentrate on macro issues including policy development, international and domestic linkages for information sharing and programme coordination across sectors, and resource identification and allocation.
- 9.4 Human resource development will become a priority of the system management process in order to ensure that the calibre of professionals working in the sector is of the highest standard and that the education sector is one in which people aspire to develop fulfilling and growth-oriented careers.

Current Status

- 9.5 Considerable expansion in the education system has necessitated rapid development of organisational structures and processes for effective policy direction, planning and the management of change.
- 9.6 The recent Government restructuring exercise has recommended the split of the Ministry of Health and Education into two ministries representing the two sectors. This is targeted for implementation by July 2002, and will require substantial enhancement of staffing at headquarters in existing units as well as through the creation of new units such as those for higher, special education, sports and culture.

- 9.7 While greater responsibility for school planning and management is being placed on the dzongkhag administrations, there has been little or none in the way of developing staff competencies at this level. It is widely acknowledged that this is the most important link within the management chain, although arguably the weakest at present. A recent policy initiative to upgrade the planning and professional competencies of Dzongkhag Education Officers (DEOs) to make them more capable of providing pedagogic support to schools needs to be accelerated through a priority HRD programme with intensive training organized both in and outside the country. At the same time, assistant DEOs, who will assist the DEOs in planning and developing schools and carrying out administrative and pedagogic supervision within the sector, need to be posted as a matter of priority in each dzongkhag.
- 9.8 Schools have been granted more autonomy for conducting annual examinations including setting, marking and grading students at the primary level. This is done as a way to lessen the burden on central and dzongkhag level units and constitutes a gradual shift toward the use of school-based continuous assessment methods. This is also an important marker of school accountability.
- 9.9 Participatory decision-making has been recognised as a key toward establishing more relevant policies and programmes as well as instilling accountability and responsibility within the system. The current practice of annual consultations amongst teachers, curriculum developers, education planners and administrators provides an opportunity for educators from the schools, dzongkhags and the national level to interact freely and participate in formulation of education policies.

Challenges

- 9.10 A first challenge emerges from the marked increase in the number of schools, both at the primary and secondary levels. To meet the growing demand for places at the secondary level, a large number of primary schools have been upgraded to include lower secondary classes. Similar growth is also being experienced at the middle and higher secondary levels. This has resulted in increased strain on the central and dzongkhag level management structures including staffing and professional competencies which have not kept pace with this rapid growth. This has had a pronounced effect on some staff who are significantly overburdened.
- 9.11 A second challenge focuses on the uncertainty over the roles and responsibilities of the 3-tier education management structure comprising the centre (Education Department), Dzongkhags (districts) and educational institutions (schools and training centres). This has led to a situation whereby there is insufficient accountability for both successes and failures in the system. The emergence of geogs (Blocks) as another level of planning and administration will add to the complexities.
- 9.12 Finally, moves toward decentralisation raise concerns over the capacity of personnel at the dzongkhag and sub-dzongkhag levels to carry out effectively the range of new functions delegated to them. Other concerns relate to tensions arising from the failure to effectively establish clear lines of authority and responsibility.

Strategies

- 9.13 A process will be established to meet educational objectives through a system of complementing and maximising human resources placed within this 3-tier structure. This has to be placed within a framework of geographical reality, recognition of the limited pool of professional staff and the small state syndrome in which each individual may be required to take up multiple professional roles. The use and potential benefits of IT to help managers cannot be underestimated in this process. In addition, a general shift toward concentrating more administrative functions at the district level will allow central level unit to focus more on policy and change management issues.
- 9.14 In a decentralised system, where schools are assuming increasing responsibility not only for their pedagogic work but also for their evaluation and development, they should be enabled to become learning organisations. To do this, the team-work of teachers and the role of school heads as education leaders must be strengthened through training and organizational improvements.
- 9.15 A wide body of research has shown that school heads are key to effecting quality improvement and the successful implementation of educational change. Future human resource and development plans, therefore, need to recognise and provide increasing focus on the selection procedures and developing the competencies of school heads. This could be achieved through a systematic training programme using a combination of institutional based course-works, workshops and distance education courses. An incentive scheme could be developed to reward effective heads of schools, particularly those in remote, rural areas in order to improve the quality of life in regions with few amenities. Such a scheme could also provide for preferential career advancement possibilities through in-service training, transfers and/or promotions.
- 9.16 Teaching should be seen as a process of continued professional growth and this should be included in the career structure of a teacher. The personnel management system should be able to recognise and reward good performance through promotion and training opportunities to assume added responsibilities.
- 9.17 As will be the case for most schools and institutions, all levels of the management structure will benefit from the latest information technologies. This will allow for the establishment of an information and communications network which will facilitate all management-related tasks across administrative levels and geographical areas.
- 9.18 District Education Officers should be educationalists able to provide sound guidance and support to schools for improving the quality of the teaching/learning environment. At the same time, they should be able to provide leadership for physical planning, personnel management and leading the development of the education system within the dzongkhags. The DEOs will be assisted by assistants who will also be competent in pedagogic and administrative skills.
- 9.19 Planning should be informed by sound knowledge and understanding of best practices and state-of-the-art developments elsewhere. It should also involve the participation of all stakeholders including parents and community members to the greatest extent possible.

Action Plan

- 9.20 The Department of Education will identify the nature and extent of management problems at different levels in order to guide reform.
- 9.21 The Department of Education will be delinked from the Ministry of Health and Education and be upgraded to the status of the Ministry of Education.
- 9.22 Clear job responsibilities, decision-making and accountability for each section and management unit within the Education Ministry and its institutions will be articulated to ensure rationalisation of resources and coordinated approaches for management of the education system. This shall be carried out also to institutionalise and strengthen the system of accountability, efficiency and transparency. Many of the functions which are assumed by the Headquarters such as those related to personnel management and administration, school planning and development, school supplies and monitoring of education quality will be decentralized fully or partially to the dzongkhags.
- 9.23 A system of internal auditing extending to the schools and institutes and the Ethics Committee will provide added support in ensuring a clean and effective management system.
- 9.24 Every Department, Division and Section shall be fully staffed. DEOs' offices shall be also upgraded with appointment of qualified professionals and assistant DEOs as per the

approved staffing plan. A systematic HRD programme as articulated in the HRD Master Plan will be implemented for both Headquarters and Dzongkhag staff.

- 9.25 Education headquarters building shall be refurbished and equipped to house all the Departments in a central location.
- 9.26 The existing EMIS and Personnel Information system shall be upgraded to facilitate more responsive decisions and better support to the field offices and schools. A computer network system will connect different offices including the DEOs office to facilitate exchange of information and provide easy access to information required for the day-to-day management of the education system.
- 9.27 Research capacities in the newly established Centre for Educational Research and Development and other Departments and Divisions will be enhanced through staff development and cooperative research with professionals from within and outside the country.
- 9.28 The personnel evaluation system shall be fully established and used as a basis for staff development and fairer selection schemes.
- 9.29 The Financial Management Information System shall also be upgraded to establish more efficient disbursements, accountability and transparency for all types of transactions within the Ministry.
- 9.30 Supply of teaching-learning items to the schools shall be made more efficient and transparent through rationalizing the budgeting, procurement and distribution system involving the schools, the dzongkhags and the Stores. A modern store shall be constructed at Phuntsholing and facilities upgraded in the three Regional Stores. The supply system shall be fully computerized and connected to the Ministry's network. All these will be directed to ensure that supplies are made available well in time and that there is no wastage.
- 9.31 The Ministry of Education will identify training needs for educational administrators, DEOs and school heads and organise in-service courses using the resources at RIM and NIE.
- 9.32 Regular review of the effectiveness (tasks, performance, resource needs) of the Dzongkhag education programmes will be conducted every three years. This will be aimed at improving and consolidating the decentralized educational administration. The staffing of the DEOs' offices will form a critical component of the review process.
- 9.33 Heads and assistant heads shall upgrade their management and monitoring skills through regular in-service programme. Some of these programmes will be restructured to progressively lead to certification. Management training shall also be institutionalised within the pre-service teacher programme. Furthermore, a review of the administrative functions and activities in schools will be undertaken with a view to simplify the routine administration function. Some of the existing functions would be filtered out while others could be added. The possibilities of using IT for school management and records shall be

examined and piloted.

- 9.34 The role of School Management Boards shall be expanded to include planning and management functions for schools.

Glossary

Rigney	Institute of traditional arts and crafts
Zorig Chusum	The thirteen traditional arts and crafts
ECCD	Early Childhood Care and Development
EFA	Education For All
NIE	National Institute of Education
NFE	Non-formal Education
IT	Information Technology
PP	Pre-Primary
UPE	Universal Primary Enrolment
B. Ed	Bachelor's of Education
RC	Resource Centre
CAPSD	Curriculum and Support Services Division
DEO	District Education Officer
ISC	Indian Secondary Certificate
AIDS	Acquired Immune Deficiency Syndrome
NU	National University
ICT	Information and Communication Technology
RIHS	Royal Institute of Health Sciences
NITM	National Institute of Traditional Medicine
HRD	Human Resource Development
RBP	Royal Bhutan Polytechnic
NGOs	Non-governmental Organisations
NTTA	National Technical Training Authority
NID	National Institute for the Disabled
ILCS	Institute of Language and Cultural Studies
CBR	Community Based Rehabilitation
SMBs	School Management Boards
EMIS	Education Management Information System

