

Tertiary Education Policy of the Kingdom of Bhutan, 2010



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Ministry of Education

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Tertiary Education Division
Department of Adult and Higher Education
Ministry of Education
Royal Government of Bhutan
Telephone: +975-2-337175, 337176
Fax: +975-2-326706
Email: teddahe@gmail.com
dirdahe@gmail.com

Website: www.education.gov.bt

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ROYAL GOVERNMENT OF BHUTAN

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MINISTRY OF EDUCATION

THIMPHU : BHUTAN

Cultivating the Grace of Our Mind.

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MINISTER

Foreword

When we are young, the tendency of our mind is to see things as single, individual, and whole. Every object, person or idea is independent of the other. A doll is a doll entire to itself, so is a house, so a dog, a person, a tree or star. We take one item at a time – complete in itself. We follow what philosophers call a deductive way to make sense of our surrounding, our world.

As we grow up, we begin to see relations. We start developing a tremendous facility – that of classifying and connecting. A doll, we begin to see, is not alone, but that it belongs to other dolls, that a house is linked to other houses, that there are other animals which are also dogs and not the only one that is familiar to us at one point in time, that the woman who brings us into the world and the man around her are related.

Beyond that, we understand that there is a greater link that we call humanity. Solid, liquid and gas are the vital consequences of our profound ability to classify and connect matter that form the substance of our universe. This progression in our ability to comprehend our surrounding follows what might be called an inductive path to knowledge.

School education can be said to follow a deductive mode of learning. The child learns one item at a time – complete in itself. It is too early to marshal the connections that bring objects, persons and ideas together. The facility of relating items is still forming. But it grows very fast. The child is entering the proximal zone of development. The critical aim is to graduate from this deductive mode as quickly as possible because learning is still limited here.

The inductive approach is what truly describes the nature of tertiary education. Here, we discover that there is a certain character that links all phenomena and identifies them together. That one item is not alone, but related to other items by some special bond. That there are underlying connections and laws that bind apparently disparate objects together and that they connect. We have handled the specificities and emerged to the level of the fundamentum. This is the level of generalization. This is true progress.

We know that what we call Mathematics or Physics or Chemistry are but the different ways of making numbers and forces and matter more intelligible to us. That Literature or History or Social Sciences are an autobiography of our own life and society and of the forces that come into play. Philosophy or Astronomy derive their laws from the nature of ideas and of seeming mystery of the realms above. That the supreme achievement of life can be the apprehension of the principles of the True, the Good, and the Beautiful.

Thank you, Teacher. I can read this!



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Above and beyond their deductive and inductive orientations, the nature of all education is normative. *The Tertiary Education Policy of the Kingdom of Bhutan* is, therefore, a road-map, a guide and a vision for the direction, dimension and scope of the country's educational efforts encompassing policy, provisions and expectations of state intent as regards education beyond high school.

Henceforth, this Tertiary Education Policy document, approved by the Lhengye Zhungtshog, will be the definitive instrument to guide all stakeholders, public and private, national and international, in developing and implementing programmes of study, material selection and pedagogical practices, assessment and certification, establishment of facilities and the integrity of all elements related to tertiary education in Bhutan.

It is only fair that we recognize and tap the abundant wealth of knowledge and wisdom hidden away in the different fields of learning and enrich the qualities of head and heart. It is my hope and my prayer that we will be able to build and advance a tertiary education system in the country that will support and strengthen our goal to create an enlightened citizenry in a knowledge-based society worthy of our rich heritage and our aspirations for a dynamic, forward-looking and confident future.

Thakur S Powdyel.

Thank you, Teacher. I can read this!

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Part I: The Context

1.0 Introduction

- 1.1 Until the advent of modern education in Bhutan, the monastic education system served the spiritual and human resource needs of the country for centuries. Although two schools were started in 1915, one each in Bumthang and Haa, modern education in a more organized fashion actually began only in the late 1950s. Various colleges were later established throughout the country, and these eventually led to the establishment of the Royal University of Bhutan in 2003. The establishment of a national university was envisaged as early as the Fifth Five Year Plan (1981-1986) and it was to be named as Ugyen Wangchuck National University. The rapidly changing socio-economic development, both at home and abroad, more than ever before demand further growth and expansion of a sound tertiary education system in the country.
- 1.2 This Tertiary Education Policy has been developed in accordance with Article IX, Sections 15 and 16 of the Constitution of the Kingdom of Bhutan.

15. The State shall endeavour to provide education for the purpose of improving and increasing knowledge, values and skills of the entire population with education being directed towards the full development of the human personality.

16. The State shall provide free education to all children of school going age up to tenth standard and ensure that technical and professional education is made generally available and that higher education is equally accessible to all on the basis of merit.

In accordance with these Constitutional provisions, the State is understood to have the overall responsibility for supporting a robust tertiary education in Bhutan.

- 1.3 Bhutan, under the wise and dynamic leadership of the Fourth Druk Gyalpo Jigme Singye Wangchuck, undertook to define a unique path to development and modernization called Gross National Happiness. With the beginning of the reign of the Fifth Druk Gyalpo, the time has come to develop the institutions that will be central to the continual achievement of the goals of Gross National Happiness through tertiary education.
- 1.4 Bhutan, given its history, its geographical location and its environmental conditions, needed to imagine itself differently to underscore the possibility of a different future for itself and for other peoples as well. This social and national vision can only be fulfilled by the creation and good functioning of core tertiary education institutions that look to the future as something more than the increase of the present, and that undertake the vital task of preparing the national leadership of the future, in every field, for the realization of the country's unique conception of itself.
- 1.5 Institutions and programmes of tertiary education must be designed to satisfy the needs for leadership, not just the professional requirements of the intermediate and more distant future. They must consciously confront the challenge implicit in the concept of Gross National Happiness. These institutions will have to address the question of what a GNH society, economy and culture are, what policies are needed to pursue the objectives, and the training of personnel to develop and carry out those policies. Tertiary education institutions will be characterized by a continuous process of re-creation. The content of their curricula and the structures of their organization can never be set once and for all; they, like Bhutan itself, must evolve and change, never losing sight of some fundamental founding principles.
- 1.6 Similarly, the curricula and research agenda of Bhutan's tertiary education institutions will be characterized by the constant interaction of theory and practice with the objective of creating the most fruitful environment for change. The point of departure in education, training and research will always be the practice necessary to achieve the goals of the society.

2.0 Foundations

2.1 Gross National Happiness, a unique development philosophy of Bhutan promulgated by His Majesty the Fourth Druk Gyalpo Jigme Singye Wangchuck, 'is our national conscience guiding us towards making wise decisions for a better future'; the noble goal of which will be 'key to Bhutan's success in maintaining our unity and harmony – indeed our character as a nation' (His Majesty the King, Jigme Khesar Namgyal Wangchuck Madhavrao Scindia Memorial Lecture; December 2009). The pursuit of GNH is a primary goal of the state as provided for in the Constitution of the Kingdom of Bhutan under Article 9, paragraph 2 which states that–

“The State shall strive to promote those conditions that will enable the pursuit of Gross National Happiness”

2.2 The four pillars of Gross National Happiness – Sustainable and equitable socio-economic development, conservation of environment, preservation and promotion of culture and good governance – are invaluable elements contributing to the happiness and wellbeing of our people, which must be nurtured and promoted. The noble goal of happiness and wellbeing of the people is succinctly summed up in what His Majesty the King said during His Madhavrao Scindia Memorial Lecture on 'Changing World and Timeless Values' in December 2009.

“...Thus, for my nation, today GNH is the bridge between the fundamental values of Kindness, Equality and Humanity and the necessary pursuit of economic growth. It ensures that no matter what our nation may seek to achieve, the human dimension, the individual's place in the nation, is never forgotten. It is a constant reminder that we must strive for a caring leadership so that as the world and country changes, as our nation's goals change, our foremost priority will always remain the happiness and wellbeing of our people – including the generations to come after us”.

- 2.3 For GNH to flourish as Bhutan's guiding development philosophy in generations to come, it is essential that its tertiary education system be transformed to embody and reflect GNH values and principles. These values and principles must be rooted in the consciousness of today's youth, who, being the citizens and leaders of the future, are expected to guide this country wisely to balance socio-economic development with environmental conservation, cultural dynamism, and good governance.
- 2.4 Gross National Happiness, therefore, must form the moral and intellectual foundation for tertiary education in Bhutan. Accordingly, GNH-inspired tertiary education shall produce:

“graduates who are genuine human beings, realizing their full and true potential, caring for others, including other species, ecologically literate, contemplative as well as analytical in their understanding of the world, free of greed and without excessive desires; knowing, understanding, and appreciating completely that they are not separate from the natural world and from others; in sum, manifesting their humanity fully”.

H.E. Lyonchhen Jigmi Y. Thinley, the Hon'ble Prime
Minister of Bhutan;
Educating for GNH Workshop, December 12, 2009

- 2.5 Achieving sustainable and equitable socio-economic development contains two vital elements of deep concern to the mission of Bhutan's tertiary education institutions: firstly, in the creation of leaders who are trained to think in various fields, such as economics, the social sciences, law, politics, and the applied sciences, in such a way that both the theory and the practice of their professions guide them to contribute to the continual achievement of Gross National Happiness. Secondly, it is the need for research in all fields concerned with development and planning based upon that research; both guided by broadly and consciously defined objectives. The social sciences and economics must be developed and practised in terms of their relevance of the Bhutanese society.

- 2.6 However, the quality of knowledge generated within higher education institutions, and its availability to the wider economy, is becoming increasingly critical to national competitiveness and survival. Today, global wealth is concentrated less and less in factories, land, tools, and machinery. The knowledge, skills, and resourcefulness of people are increasingly critical to the world economy. The tertiary education system in Bhutan, therefore, must respond adequately by creating an enabling environment for generating new knowledge and developing required competencies in support of a knowledge based economy.
- 2.7 Bhutan is internationally recognized for its environmental practices and policies. Tertiary education institutions, therefore, must undertake to develop practices and leadership examining the most forward-looking ideas in the world and creatively thinking them through in such a way as to prepare for future generations, not just by environmental preservation but by environmental innovation as well. Bhutan's tertiary education institutions must serve this purpose not only by increasing the number of environmentalists in Bhutan but also by integrating the rubrics of knowledge and practice that gather around this pillar with those that are defined in terms of socio-economic development. The work in this and related fields will have the potential to attract the interest of international scholars and students to Bhutan.
- 2.8 Culture is usually understood in terms of traditional beliefs, customs, and practices, including everything from art, architecture and language to dance, food, and traditional dress. It is widely understood that the objective of cultural preservation is the promotion of the traditional values of the society in a period of extraordinary social, economic and political change. Academic disciplines, often defined by departments in a university or college, must innovate and design their institutional life as an integrated whole to reflect the cultural characteristics of a society. Bhutan needs social scientists trained to analyze and understand the impact of modernization on its culture, as well as cultural leadership trained to contribute to and guide the evolution of its culture. Therefore, tertiary education institutions shall uphold and serve as guardians of its unique culture for promotion and preservation of national identity.

- 2.9 The entire field of the 'humanities' in curricular and research terms must be within the mission of Bhutan's tertiary education institutions. Facilities necessary to preserve the past both as a source of the history of the identities of the populations of Bhutan and as a basis for the nurturing of a national identity suitable for the Kingdom in the twenty-first century must be instituted. Tertiary education institutions should undertake the development of fine arts programmes that look to the creation of new forms of expression of both traditional and contemporary values and of encouraging the evolution of Bhutanese values.
- 2.10 The study of the practice of the social and spiritual life must be an integral part of cultural preservation and promotion. Throughout the world, globalization has often led to the homogenization of cultural practices to the detriment of the happiness and wellbeing of individual societies and their members. Therefore, the 'humanities' are especially important for the development and the propagation of Gross National Happiness in Bhutan.
- 2.11 Good governance requires not only administrative measures but also a growing material and spiritual base for leadership change and improvement. Bureaucracy taken by itself as an end product will inevitably constrain the national development if it is not nurtured by a wide range of values. Tertiary education institutions must undertake to train future bureaucrats not only in the tools of their trade but in the understanding of the broader national purpose they are expected to serve.
- 2.12 Tertiary education will undertake, therefore, to develop a new generation of leaders who will be imbued with the values that are summarized by the four pillars of Gross National Happiness and who will be trained to the highest possible level in the skills necessary to achieve the national purpose. *(See Annexure A)*
- 2.13 In sum, Bhutan's tertiary education institutions must preserve, transmit, and advance knowledge, values and skills to benefit individuals, society, and the global community at large. The institutions shall also actively promote the national identity and the sovereignty of our nation-state. Thus, the tertiary

education system in Bhutan, being founded on GNH values and principles, shall serve as the engine for strengthening and contributing towards the overall socio-economic development of the country.

3.0 Purpose

3.1 Social and economic progress has been achieved principally through humankind's quest for higher levels of awareness and understanding and the advancement and application of knowledge. Tertiary education is thus necessary to awaken the individual and realize his or her potential for the effective creation, dissemination, and application of knowledge and to serve and do good to others.

3.2 Bhutan's tertiary education institutions shall, therefore, focus on developing productive, socially responsible, culturally grounded, ecologically sensitive, and spiritually aware citizens equipped to lead Bhutan into a knowledge society. Further, it shall provide every graduate with:

- a) Broad capabilities in all basic life-skills, including, but not limited, to analytics, writing, communication, aesthetic sensibilities, information technology, etc.
- b) Deep expertise in specific fields of studies (teaching, engineering, medicine, etc.) such that graduates can compete with the best globally.
- c) Strong leadership skills allowing graduates to create opportunities for themselves and others, generating entrepreneurs and managers capable of leading Bhutan into the twenty-first century.

4.0 Aims

4.1 The overall aims and aspirations of tertiary education shall be to:

- a) Develop productive, socially responsible, culturally grounded, ecologically aware citizens, imbibing GNH principles and values.

- b) Provide every graduate with core life-skills including leadership abilities required as individuals and to contribute to the society.
- c) Create a pool of highly trained graduates and professionals of critical size which shall form the national resource.
- d) Facilitate institutions to continuously evolve thereby developing and applying knowledge and building Bhutan into a knowledge society.
- e) Empower individuals for personal and professional development by enhancing continuing and life-long learning opportunities.
- f) Inculcate passion and curiosity for new knowledge leading to the emergence of culture of research and inquiry.

5.0 Strategies

In order to achieve the above aims and aspirations, Bhutan must:

- 5.1 Infuse and use Gross National Happiness values and principles as a foundation for all institutions.
 - i. Deliver curricula that foster mindfulness and develop critical tools of observation, evaluation and judgement in all students.
 - ii. Provide continuing education for enhancing quality of life for all irrespective of age, assisting the building of a society that is enlightened and dynamic.
- 5.2 Provide open access to tertiary education based on merit, so that all Bhutanese students shall have access to tertiary education appropriate to their abilities, interests, and performance, regardless of their economic circumstances.
 - i. Allow lateral entry into tertiary education linking it to vocational training and secondary education, providing seamless tracks for students to transition.

- ii. Institute loans and scholarship schemes to expand the scope of participation in tertiary education.
 - iii. Provide continuing and life-long learning opportunities for all adults for their meaningful participation in the society.
- 5.3 Attract leading international/domestic private colleges/universities by creating an enabling environment.
- i. Build framework for private participation outlining criteria and processes for registration, licensing, accreditation, regulations and incentives.
 - ii. Proactively reach out to leading international colleges and universities in areas of national interest.
- 5.4 Provide universities autonomy including, but not limited to,
- i. **Human Resources:** to recruit, deploy, promote, train and compensate faculty/leadership from government and private sources.
 - ii. **Finance:** to utilize budgets/block grants within guidelines, charge fees to students, raise funds to recover costs (alumni grants, research, consultancies etc.).
 - iii. **Academic:** Universities should be free to offer any courses within the guidelines of the Bhutan Qualifications Framework (BQF).
- 5.5 Establish a quality assurance and accreditation system for all tertiary education institutions (private and public)
- i. Develop a Bhutan Qualifications Framework that classifies all types courses and programmes which leads to all kinds of qualifications.
 - ii. Establish a Bhutan Accreditation Council to conduct accreditation of institutions periodically.

- 5.6 Strengthen funding mechanisms for institutions and students
- i. Allocate adequate budget for tertiary education institutions over a five yearly period.
 - ii. Allocate a percentage of funds to support students directly based on merit and need.
 - iii. Fund capital and one-off project expenditure on needs basis.
 - iv. Allow tertiary institutions to actively raise revenues from possible sources within guidelines (student, employer, government, alumni, donor, NGOs, etc).
 - v. Create a government backed low/interest-free, income-contingent student loan programme.
- 5.7 Foster an environment for research and knowledge development in tertiary education institutions
- i. Fund research in national priority areas.
 - ii. Link tertiary education institutions to industry, international institutions, employers, etc. enabling a cross-fertilization of ideas.
- 5.8 Create an annual performance contract between the Tertiary Education Board and the tertiary institutions:
- i. Outline expected targets clearly (capacity, academic achievement, employability etc.) and
 - ii. Define government funding to be provided (capital and operating expenses).

PART II: Governance – Structures and Processes

6.0 Institutions and Access

To fulfill the objectives of tertiary education, there shall be three types of institutions of tertiary education in Bhutan: universities, colleges, and specialized institutes. *(See Annexure G &H)*

6.1 Universities

- 6.1.1 A university is an autonomous tertiary education institution, accredited to award its own degrees, and consists of two or more faculties or schools *(See definitions)*. Each faculty or school is composed of more than one department, offering programmes at the minimum of undergraduate, graduate, and/or at doctoral level. A university shall be considered both a teaching and a research institution.
- 6.1.2 Any university established in Bhutan shall be secular, unless otherwise provided for by an Act of Parliament.
- 6.1.3 A University shall not be operated for private profit. Any profit/surplus accrued shall be ploughed back to the University for its continuous development towards excellence.
- 6.1.4 A university shall offer multidisciplinary programmes and not be a specialist institution. A university shall be required to have a range of faculties offering programmes in both arts and sciences. Besides teaching, it shall conduct research as one of the two core functions of the university. It shall offer programmes and grant awards both to its own students and to students from affiliated colleges who have successfully completed programmes that have been validated through the university's own quality assurance system.
- 6.1.5 No body in Bhutan, other than a university, shall grant tertiary education degrees unless otherwise authorized by an Act of Parliament. Tertiary education awards shall comprise of undergraduate diplomas and degrees and postgraduate awards including certificates, diplomas, masters and doctoral degrees.

- 6.1.6 Any proposal for the establishment of a university shall be made to the government, through the Ministry of Education. A university shall be established by an Act of Parliament, and it shall have statutes that set out its governance, structures, powers, and responsibilities.
- 6.1.7 Degrees that universities may offer shall be interpreted in the manner as laid out in the Bhutan Qualifications Framework (*See Annexure D*).

6.2 Colleges

- 6.2.1 The term “college” refers to an institution responsible for the delivery of tertiary education. Any college shall be either a constituent college of a university, affiliated to a university, or an autonomous branch of a foreign university, and in all cases, governed by the related university’s rules and regulations.
- 6.2.2 A college may be funded by the government or be private. It may be for profit or not-for-profit. It may offer programmes affiliated to an accredited university, domestic or international. If a college is affiliated to an international university, it shall be required to be accredited in Bhutan.
- 6.2.3 Any proposal for the establishment of a college shall be first made to the Registrar for Tertiary Education. The Tertiary Education Board (TEB) on the recommendation of the Bhutan Accreditation Council (BAC) and the Registrar shall then approve it. Upon approval, the Registrar for Tertiary Education shall issue the **Gold Leaf** (see definition).

6.3 Autonomous Institutes

- 6.3.1 Autonomous institutes are those specialized institutes whose raison d’être is the offering of highly defined professional education and training programmes. These include, for example, medical schools, nursing schools, law schools, or business schools, or academic training programmes, such as IT programmes.
- 6.3.2 An autonomous institute is accredited to award its own degrees at the undergraduate, graduate, and/or at doctoral level. It shall be considered

both a teaching and a research institution. It may offer joint programmes with other tertiary education institutions within the country or from abroad or on its own as per the provisions of the Act.

- 6.3.3 Any such institute established in Bhutan shall be secular, unless otherwise provided for by an Act of Parliament. It shall not be operated for private profit. Any profit/surplus accrued shall be ploughed back to the institute for its continuous development towards excellence.
- 6.3.4 Any proposal for the establishment of an autonomous institute shall be made to the Royal Government, through the Ministry of Education. Such an institute shall be established by an Act of Parliament, and it shall have statutes that set out its governance, structures, powers, and responsibilities.
- 6.3.5 Degrees that autonomous institutes may offer shall be interpreted as laid out in the Bhutan Qualifications Framework (BQF).

6.4 Green Campus

- 6.4.1 The Tertiary Education Policy espouses and promotes the principle of green campus for all types of tertiary education institutions in the country, both in existence and those to be established.
- 6.4.2 Tertiary education institutions must serve as role models for the larger society in terms of sustainable and progressive ways of living. Therefore, these institutions must pioneer in such ventures as the development of “sustainable green campuses” geared in the direction responsive to climate change, as a means to promote and showcase a sustainable, healthy and green society. This means that the institutions must aspire to become both producers and users of “green knowledge and technology” so that they truly become centres of excellence and role models of sustainable and green society.

6.5 Access

6.5.1 Access to tertiary education shall be merit-based. Access shall be broadened to cater to a wide range of students, and entry shall be open at different levels. The target groups for tertiary education shall include not just successful high school graduates, but also

- a) students seeking lateral entry from the technical and vocational streams (certificates to diplomas, diplomas to related degree programmes, but not in such numbers as to subvert the purpose of such certificates and diploma programmes)
- b) those re-entering education after a period in employment
- c) pre-service and in-service students
- d) candidates in initial stages of their career
- e) those undertaking professional development to up-skill themselves
- f) those pursuing continuing education as part of life-long learning

6.5.2 The Ministry of Education shall set broad, periodically-reviewed targets for the proportion of students entering tertiary education by levels of awards. (*See Annexure D*)

7.0 Academic Programmes and Research and Innovations

7.1 Academic Programmes

7.1.1 GNH-inspired tertiary education programmes and research shall be characterized by the constant interaction of theory and practice with the objective of creating the most fruitful environment for change. The point of departure in education, training and research will always be the practice necessary to achieve the goals of the society.

7.1.2 Integrated educational programmes across disciplines shall be provided as foundations to enhance holistic development of graduates. For instance,

those who are pursuing studies to become doctors or engineers must also understand economics and ethics. Similarly, students who would become writers or artists must be trained in the understanding of the social, economic and scientific practices.

- 7.1.3 Tertiary education institutions in Bhutan shall offer a wide variety of disciplines including, but not limited to, humanities, social sciences, natural sciences, commerce, and professional education at both undergraduate and graduate levels. These shall include courses offered in traditional academic disciplines, employment-oriented specific areas, and cross-cutting competencies including the use of information technologies. Such coherent programmes of study shall produce graduates with desired personal attributes, balanced world view, high levels of analytical and creative skills, and a broad range of competencies.
- 7.1.4 Tertiary education shall consist of both professional and general programmes which shall be offered at different levels: diploma, degree, post-graduate, and doctoral. It shall also support different modes of study: full-time, part-time, short-duration, on-line, and long-distance. In all instances however, the form must be consistent with the objectives defined herein, particularly concerning the necessity to contribute to the economic, social, and cultural growth of the country.
- 7.1.5 All students in tertiary education in Bhutan shall be required, regardless of programme, to imbibe a common set of core skills that focus on developing critical thinking, reading, and writing skills and the basic components of mindful leadership.
- 7.1.6 In designing, evaluating and revising programmes, and planning future development, tertiary education institutions shall take into account the emergence of new disciplines and inter-disciplinary studies – keeping in mind national priorities, global trends, and the desirability to attract foreign students.

7.2 Research and Innovations

- 7.2.1 A strategic objective for Bhutan shall be to increase research, innovation and the use of new knowledge in all aspects of the country's work; to improve the system for the dissemination of information and the provision of relevant information to persons in need of that information; and to develop a culture of enquiry and investigation in the society.
- 7.2.2 It must be the responsibility of the education system at all levels to encourage a culture of curiosity and enquiry among the students and, at the tertiary level, a culture in which research and analysis are not only encouraged, but expected as an integral part of the institution's programme.
- 7.2.3 Institutions of tertiary education must exchange information researched by their students and faculty with other institutions, both at home and abroad, and facilitate the dissemination of knowledge.
- 7.2.4 To achieve these objectives within the tertiary education system as well as across other systems in the country, two support mechanisms need to be created: (i) provision of financial support to the institutions for research and (ii) setting up of an overall research coordinating agency. This coordinating agency may be composed of members drawn from universities, GNH Commission, Ministry of Education, etc. *(See Annexure M)*

8.0 Management of Tertiary Education

8.1 Ministry of Education: Direction and Oversight

- 8.1.1 The Ministry of Education has overall responsibility to formulate tertiary education policy and the rules and regulations that ensure that the objectives laid out in this document are met. The Ministry of Education is also responsible for ensuring that the necessary funding for tertiary education is available from all possible sources.

- 8.1.2 In discharging its mandate, the Ministry of Education shall be supported by an empowered board and a council: the Tertiary Education Board (TEB) and the Bhutan Accreditation Council (BAC).
- 8.1.3 There shall be a Registrar for Tertiary Education (12.0) whose responsibilities, inter alia, shall include registration, licensing, and quality assurance among both public and private tertiary education institutions. The Secretary of the Ministry of Education shall be the ex-officio Registrar for Tertiary Education.
- 8.1.4 The Department of Adult and Higher Education shall be the secretariat to the Registrar, the TEB and the BAC. It shall facilitate the efficient functioning of the Registrar and the Board and the Council and implement the decisions arising from them.
- 8.1.5 The Ministry of Education, through the TEB, BAC, and the Registrar, shall provide direction and oversight to tertiary education institutions through the following mechanisms:
- a) **Planning and Funding:** the Ministry of Education shall enter into contracts with institutions to provide programmes of study for specified numbers of students for a set period of time.
 - b) **Registration and Licensing:** a university or an autonomous institute shall be established by an Act of Parliament, and colleges shall be required to be registered and licensed.
 - c) **Quality Assurance:** all programmes offered in Bhutan shall be subject to a quality assurance process which will ensure that high educational standards are created and maintained.
- 8.1.6 The Ministry of Education shall be responsible for developing its own structures and resources to meet the requirements of the Tertiary Education Policy.

8.2 Management and Governance within Tertiary Education Institutions

- 8.2.1 In order to fulfill the function of providing quality education, tertiary education institutions shall have autonomy in terms of planning, staffing, finance, and academic matters. As far as is consistent with the effective fulfillment of their responsibilities, a tertiary education institution shall devolve the effective operation of these functions as deeply as possible within its organization. *(See Annexure J)*
- 8.2.2 Tertiary education institutions shall be accountable for their own actions in terms of creating and maintaining quality and standards.
- 8.2.3 Tertiary education institutions shall prepare a five-yearly strategic plan which shall form the basis for securing long-term funds from the government.
- 8.2.4 Tertiary education institutions shall operate on the basis of an annual budget grant, with fewer budget lines, to cover their recurrent expenditure with the capital funds approved on the basis of their approved plans. Tertiary education institutions shall be able to employ staff, undertake research and consultancy works, offer academic programmes on full cost basis, etc.
- 8.2.5 The Ministry of Education shall ensure the internal autonomy of any licensed tertiary education institution.

9.0 The Tertiary Education Board (TEB)

- 9.1 The tertiary education system requires a streamlined and consolidated approach towards providing guidance and direction by way of overall planning and strategizing of tertiary education needs in the country. Such an approach will help to enhance effectiveness and efficiency in supporting the growth of tertiary education system through planning

and funding. This will also reduce administrative burden on clientele by making processes such as approval system, securing funds, scholarships, student grants and loans efficient through creation of an empowered multi-sectoral board. This board shall be called the Tertiary Education Board (TEB). (See Annexure N)

9.2 The Tertiary Education Board shall be established by the Royal Government, on the recommendation of the Ministry of Education and shall be granted the authority and responsibility to assist the Ministry of Education through the Department of Adult and Higher Education, to:

- a. Review and set goals for tertiary education, develop strategies to meet the goals, maintain progressive balance by subject, mode, level, entrants, etc.
- b. Validate and approve all plans and proposals for allocations of funds.
- c. Approve establishment of institutions based on the recommendation of the BAC.

9.3 The Tertiary Education Board's remit shall be to oversee the funding, and, where appropriate, the planning of:

- a. All programmes of tertiary education offered in the country, in all modes of study, in all subject areas, for all types of entrants.
- b. All government-sponsored tertiary education and training undertaken abroad.
- c. Doctoral level education and research (including base funding and specific projects).
- d. Specific projects which shall be limited by time (research, development, and capital).

- 9.4 The Tertiary Education Board shall be composed of members drawn from relevant stakeholders such as the GNH Commission, Ministry of Education, Ministry of Finance, Ministry of Labour and Human Resources, Ministry of Economic Affairs, etc. and other members drawn from relevant professional bodies and eminent professionals.
- 9.5 The Chairperson of the Tertiary Education Board shall be the Minister for Education.
- 9.6 The Tertiary Education Board shall have the power to appoint sub-committees as it sees fit to execute its duties effectively and responsibly.

10.0 Quality Assurance

- 10.1 All universities in Bhutan shall be required to create and maintain an effective quality assurance system that covers all programmes and related degrees.
- 10.2 Quality assurance system shall cover the integrity of policy, programmes, delivery, assessment, certification, and services, among others.
- 10.3 Every quality assurance process must contain the following elements:
- a. A periodic, critical evaluation of each programme by those staff involved in the programme's operation.
 - b. An evaluation of the operation of the programme by a group of peers, including external members. This evaluation must include direct discussions with the staff, students and other relevant persons.
 - c. An action-oriented report with responsibility points and a post-audit follow-up.
 - d. An external evaluation of the university's quality assurance process itself by the Bhutan Accreditation Council.

- e. All documentation of the above list subject to examination, at any point in time, by any relevant agencies including the Ministry of Education.
- 10.4 The universities shall be subject to a periodic five-yearly university review, undertaken by the Bhutan Accreditation Council, which shall focus on their institutional standards and effectiveness. The report of the review shall be made available to the Tertiary Education Board.
- 10.5 If the Tertiary Education Board has grounds for serious concerns about the quality of the programmes being offered, it may set up a review of the university leading to appropriate actions.
- 10.6 The Registrar for Tertiary Education shall be responsible for ensuring that the public is informed of the level and standard of each award and programme available.
- 10.7 To provide the required assurance to the people of Bhutan regarding the quality of the degrees that they obtain abroad, the Registrar for Tertiary Education shall indicate the criteria of those institutions whose qualifications will be given full recognition in Bhutan. It shall, where possible, use the criteria established in those countries.
- 10.8 The Bhutan Qualifications Framework (BQF) shall be established by the Bhutan Accreditation Council to facilitate among others, the comparison of programmes and transfer of credits. This framework shall set out the levels against which a qualification can be recognized. It shall provide a clear relationship between school, vocational, tertiary, and monastic education and shall be used for all programmes subsequently developed within the country. The Bhutan Qualifications Framework shall be the basis for comparing standards, transferring credits, and recognizing tertiary education degrees. (*See Annexure P*)
- 10.9 The sections relevant to tertiary education in the qualifications framework set out in *Annex D* including the definitions and common assessment

approach, shall form the basis for the tertiary education framework for Bhutan and shall apply to all present and future institutions. This shall be further developed in conjunction with such other universities as are established. *(See Annexure B & K)*

11.0 Bhutan Accreditation Council (BAC)

- 11.1 A national autonomous body having overall authority on accreditation, quality assurance, and interpreting and recognizing qualifications is needed in order to: (a) provide a common framework for accreditation for all public and private institutions within and outside Bhutan; (b) assess quality of tertiary education and ensure that it meets the required standards; and (c) ensure credibility to the country's degrees and programmes. To this effect, a body shall be established by the Ministry of Education which shall be called the Bhutan Accreditation Council (BAC), to ensure an international level of tertiary education standards.
- 11.2 The BAC shall be the central agency for setting entry criteria, granting the authority to award degrees, and monitoring standards for tertiary education institutions in Bhutan.
- 11.3 The BAC, as the central agency for designing and interpreting all qualifications, frameworks, and institutional standards, shall:
- a. Recommend the establishment of universities to the Royal Government through the TEB.
 - b. Recommend establishment of colleges and institutes to the TEB.
 - c. Develop and/or review national qualifications framework.
 - d. Review and accredit institutions of tertiary education mainly through the conduct of periodic external reviews.
 - e. Grant or withdraw accreditation of institutes based on the established standards.

- 11.4 The BAC shall consist of five to seven tenured members, of whom at least half shall be Bhutanese tertiary education professionals or recognized intellectuals having relevant experience. The Registrar for Tertiary Education shall be the Chairperson of the Council.
- 11.5 The BAC shall have the power to appoint sub-committees as it sees fit to execute its duties effectively and responsibly. It shall also rely on various professional bodies, either through its own establishment or those in existence.

12.0 The Registrar

- 12.1 An overall nodal position at a policy decision-making level is required to oversee and facilitate the functioning and communication thereof of the Board, the Council, and the tertiary education institutions in addition to fulfilling other responsibilities as stated in the following paragraph. This nodal position shall be called the Registrar for Tertiary Education.
- 12.2 The Registrar for tertiary education shall be the Secretary of Education. The Registrar shall have the responsibility to:
- a. Determine which universities abroad may:
 - i. be approached by local colleges (and universities) for the award of their programmes, and the granting of awards to successful graduates.
 - ii. advertise their programmes locally.
 - b. Administer the registration and licensing of colleges. This includes:
 - i. setting out the procedures and fees for applications.
 - ii. making changes in the conditions of the license approved.
 - iii. establishing a mechanism by which decisions may be appealed.

- c. Receiving an annual report from each college thus registered and to take such action as may be necessary.
- d. Preparing and presenting an annual report setting out the applications received, the decisions made, and the grounds for those decisions. The full documentation may be examined by interested parties.
- e. Acting as a repository of information on all matters concerning tertiary education system in the country.

13.0 Funding Tertiary Education

13.1 Tertiary education in Bhutan is largely funded by the Royal Government. This results in an increasing burden on scarce government resources. However, it is important that tertiary education is accessible to all students irrespective of their economic condition. *(See Annexure E)*

13.2 There are three kinds of expenditure that the Royal Government bears for tertiary education.

- a) Capital expenditure – for one-off infrastructure development, building of new colleges and upgrading existing ones.
- b) Operating expenditure funding to cover all recurrent costs such as staff costs, materials and all other costs required to deliver programmes annually.
- c) Student costs for ex-country studies (largely undergraduate scholarships).

13.3 The funding for tertiary education shall be prioritized based on the following two needs:

- a. **Specific Economic Needs:** the needs that are directly related to specific jobs which must be performed by appropriately qualified personnel to ensure sound and sustained realization of economic development goals.

b. General Development Needs: the needs that tie in with personal development and enrichment needs, the development of citizenry in a democratic society, and the enhancement of Gross National Happiness. *(See Annexure F)*

13.4 All capital expenditure costs for public tertiary education institutions shall continue to be funded by the Royal Government. To establish a clear understanding of the use of this funding, a contract shall be signed between the Board and any institution that receives funding.

The contract shall include, but will not be limited to, the following elements:

- a) A financial statement of the proposed use of the funds.
- b) Procedures to be followed by institutions for procurement.
- c) A report detailing the aspects on which the funding has been used.

13.5 The recurrent annual operating expenditure of all public institutions shall be calculated on a per student basis for every course offered. This per student cost shall be funded by the Royal Government, the employer or the student. This means that government funds shall be prioritized to public universities, colleges and specialized institutes based on national employment needs, student needs and merit. Government funds can be provided to students in the form of loans (the government shall support the introduction of low-interest or interest-free and income-contingent loans), partial grants and full scholarships.

13.6 Tertiary institutions shall be responsible for the subsequent disbursement of these funds within specified guidelines. In addition to above funding, tertiary institutions shall be free to raise their own revenues by charging students, renting out their facilities, etc. All tertiary institutions are expected to submit an annual financial report to the Board specifying income and expenditure.

- 13.7 Funds shall also be available to support researches that are of national priority. Additionally, there shall be funding for projects which will be specific and time-bound (e.g. funding for specific research or government consulting). The products of research shall be reported to the Tertiary Education Board.
- 13.8 A system of scholarships and loans shall be instituted based on merit and needs. The Board shall take responsibility for establishing schemes with financial institutions. *(See 12.5)*
- 13.9 The allocation of funds shall be guided by the following operational principles:
- a. **Quality:** in allocating resources, priority shall be given to those institutions whose quality could be most improved with the least amount of resources.
 - b. **Long Term Assurance:** the funding shall be on a long-term, assured basis to give security to large-scale institutional developments.
 - c. **National Need:** government funding will be prioritized for fields which are prioritized for national development and where there is a shortage of staff (eg. Teaching, Nursing etc.)
 - d. **Student need:** funding will be granted to students based on need and merit; however distinction between the loan or grant will be made based on the student's financial ability to repay.
 - e. **Support of Specialized Projects:** funds may be provided to students so that they may attend specialized programmes offered by private institutions when such programmes are not offered by public institutions.
 - f. **Cost Sharing:** the cost of education, where appropriate, shall be shared with the beneficiaries, including students, their families, and employers.

- 13.10 Since planning and funding tertiary education is a long-term process, the funding shall be secured on a long-term basis. The Royal Government may consider establishing an Endowment Fund whose earnings shall be dedicated to funding research and scholarships in tertiary education.

14.0 Optimizing Costs through Shared Resources

- 14.1 To ensure optimal resource utilization and to avoid duplication of systems and facilities, there shall be common systems established across the country's tertiary education system. All tertiary education institutions should be able to share personnel, resources in appropriate fields (such as IT), and a single national library.
- 14.2 The Board's allocation of resources shall, therefore, encourage the establishment of a number of common software and technical systems across the entire tertiary education system. These shall include, but be not limited to,
- a. A virtual learning environment to support teaching development and distance-learning programmes.
 - b. A common library cataloguing system and standard of library provision for users. *(See Annexure L)*
 - c. Common administrative and software tools to assist with optimal management of assets, budgets and staff.
 - d. A common video conferencing facility enabling universities, colleges and institutes to exchange information even at great distances.
- 14.3 Further, it is recommended that a national library be established that has adequate and up-to-date resources for the country that shall be accessible to the populace. At any point of time, all tertiary education institutions

shall share this library's resources. The library shall also establish links with other libraries in neighboring countries so as to provide all students/faculty access to any material they may need for study or research.

- 14.4 Each tertiary education institution shall strive for greater efficiency in utilization of resources, both human and material.

15.0 Private Sector Participation and Licensing

- 15.1 Private sector participation is primarily to build high quality tertiary education in specific fields and contribute towards developing Bhutan into a knowledge hub. This would also create additional capacity where needed through cost sharing. *(See Annexure Q)*

- 15.2 The Royal Government shall endeavour to attract some of the best tertiary education institutions to Bhutan from around the world. This would be in fields where there is a capacity gap or in niche areas (e.g. climate change, ethical business, Buddhist studies, etc.) which can further contribute to the development of a knowledge hub in Bhutan. *(See Annexure C)*

- 15.3 The Royal Government of Bhutan shall provide an enabling environment for private sector investment including Foreign Direct Investment in the tertiary education sector through clearer procedures, provision of financial incentives such as land and tax breaks, favorable procedures for employment of foreign faculty and entry of foreign students into Bhutan, etc.

- 15.4 Any private college to be established shall first obtain a **Gold Leaf** from the Ministry of Education upon fulfilling all requirements for the establishment of such institutions. Thereafter, unless otherwise specified, they shall be required to be incorporated under the *Companies Act of the Kingdom of Bhutan 2000* and be governed by its relevant provisions.

- 15.5 Any foreign direct investment to the establishment of any private institutes/colleges or university campuses shall be in accordance to the provisions of Foreign Direct Investment Policy 2009 and its relevant Rules and Regulations and its amendments thereto.
- 15.6 Not-for-profit colleges/institutes established by charitable trusts and foundations shall be governed by the *Civil Society Organizations Act of the Kingdom of Bhutan 2007*.
- 15.7 A foreign institution may advertise its tertiary education programmes in Bhutan based on the approval of the Registrar for Tertiary Education. The criteria shall normally be that the foreign institution is fully accredited (or is at a high level of accreditation if such grading is available) in the country where it is registered.

16.0 Amendment

- 16.1 The provisions of this policy may be amended by the ***Lhengye Zhungtshog*** on the recommendation of the Ministry of Education, depending upon the need of the times and in keeping with the overall interests of the country.

17.0 Legislation

- 17.1 A Tertiary Education Act shall set out criteria for the establishment of universities, colleges, and institutes. It shall provide for the protection of the titles (“university,” “college,” and “institute”) and awards. It shall set out the powers of the Tertiary Education Board, the Bhutan Accreditation Council, and the Registrar for the Tertiary Education and their roles and responsibilities and such other professional bodies and positions in the governance, interpretation and operational processes of the tertiary education system in Bhutan.

Definitions

1. Autonomous Institution

An autonomous institution shall be any institution in the tertiary education sector that has all of the following characteristics:

- a) it grants its own degrees
- b) it creates and implements its own curriculum
- c) it enjoys financial autonomy
- d) it carries out recruitment and organization of its own academic and administrative staff
- e) it controls its own admissions

The Tertiary Education Board will be responsible for setting the standards by which these characteristics will be measured, in consultation with institutions seeking accreditation or to renew their accreditation.

1. Bhutan Accreditation Council

The Bhutan Accreditation Council (BAC) shall be the agency for establishing the broad criteria that will govern admissions, the granting of degrees, and the educational standards for all tertiary educational institutions in Bhutan, and for monitoring adherence to those criteria. The BAC shall be responsible for the granting, renewal or withdrawal of accreditation of all tertiary education institutions in Bhutan based upon their adherence to the criteria established for that purpose.

The BAC shall consist of five to seven tenured members, of whom at least half shall be Bhutanese tertiary education professionals or recognized intellectuals having relevant experience. The Registrar for Tertiary Education shall be the Chairperson of the Council.

The BAC shall also have responsibility for monitoring the development and maintenance of those specific aspects of tertiary education institutions that it

considers vital to tertiary education's objective (such as libraries, information systems, the feeding and housing of students), and shall include its evaluation of these components in its evaluation for purposes of accreditation.

2. College

College is a tertiary education institution which shall belong to one of the following three categories: constituent, affiliated, or autonomous.

- a) A *constituent college* shall be an integral part of a university which shall directly oversee all aspects of its operations, both academic and administrative. The university shall award degrees for its students based upon the constituent college's recommendation.
- b) An *affiliated college* shall be a tertiary education institution which is established outside the university structure but whose curriculum is created with the advice of the university, which awards the students degrees based upon the recommendation of the faculty of the college.
- c) An *autonomous college* is a tertiary education institution established within Bhutan but affiliated to a university abroad. It is subject to all the rules and regulations of its founding institution, on the condition that those rules and regulations do not violate the rules, regulations and standards established by the Ministry of Education for Bhutanese tertiary education institutions. Autonomous colleges shall award their own degrees. The foreign institution which is responsible for the autonomous college in Bhutan shall award degrees to the college's students based upon its own criteria, as long as those criteria satisfy the requirements of the Ministry of Education.

3. Faculty

A Faculty or a School is a constituent part of a university defined by the area of knowledge in which it specializes (for example, Medicine, Law, etc.) or the level of

education in which it specializes (undergraduate education, graduate education, etc.); while a faculty or a school may include research personnel and activities, those academic parts of the university that are engaged solely in research shall be called centres or institutes.

4. Government

The government shall always mean the Royal Government of Bhutan.

5. Institution

For the purposes of this document, an “institution” shall be considered any structured organization whose purposes are tertiary academics.

6. Private Institution

A private tertiary education institution shall be defined as an institution that is privately owned, whether by an individual, a corporation or any other non-governmental body. Primary responsibility for the institution, including its financing and administration, shall be the owner’s. Private institutions shall be subject to the same academic standards and accreditation processes, rules and regulations that pertain to public institutions. Fiduciary responsibility for the institution is the owner’s. It is understood that private institutions have no *a priori* claim on government resources.

Any private institution shall be established on the basis of a **Gold Leaf** issued by the Ministry of Education upon fulfillment of all requirements for the establishment of such institutions. Thereafter, the institution shall be incorporated under the Companies Act of the Kingdom of Bhutan (2000). Any foreign direct investment for the establishment of any private universities, colleges, or institutes shall be in accordance with the provisions of the Foreign Direct Investment Policy 2009 and its allied Rules and Regulations as well as amendments thereto. Not-for-profit universities, colleges, and institutes established by charitable trusts and foundations shall be governed by the Civil Society Organizations Act of the Kingdom of Bhutan 2007.

7. Programme

A programme is a set of coherent courses and/or activities that leads to an award testifying to a particular study.

8. Public Institution

A public tertiary education institution is founded by the Royal Government of Bhutan. Primary responsibility for the institution, including its finance and administration, shall be the Government's. Public institutions are subject to the academic standards and accreditation processes, rules and regulations established by the Bhutan Accreditation Council. Fiduciary responsibility for the institution is the Government's.

9. Registrar

Registrar for Tertiary Education is an overall nodal position at a policy decision-making level whose responsibility is to oversee and facilitate the functioning and communication thereof of the Board, the Council, and the tertiary education institutions in addition to fulfilling other responsibilities.

The Secretary of the Ministry of Education shall be the Registrar for Tertiary Education. The Registrar shall also be responsible for the gathering, organization, and dissemination of information among the tertiary education institutions and for the public. The Government shall appoint the members of the Tertiary Education Board and the Bhutan Accreditation Council, on the recommendation of the Minister of Education, and the Registrar shall have responsibility for staffing them.

10. Specialized Professional Institutes

Specialized professional education is the responsibility of institutions whose *raison d'être* is the offering of highly defined professional training programmes. These include, for example, medical schools, nursing schools, law schools, or business schools, or academic training programmes, such as IT programmes. Such specialized professional educational schools shall be called "institutes" and shall be subject to accreditation and supervision by the Ministry of Education in the fashion prescribed for all tertiary academic institutions.

11. Tertiary Education

Tertiary education is defined as “education offered after Class XII, consistent with the International Standard Classification of Education (1997) Level 5 and above.”

“Level 5 and above” of the International Standard of Classification of Education produced by the UNESCO include:

Level 5A: Programmes that are largely theory-based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements.

Level 5B: Programmes that focus on practical technical or occupational skills for direct entry into the labour market.

Level 6: Programmes that are devoted to advanced studies and original research.

“Higher education” is commonly understood to encompass 5A and 6, but not 5B. Thus, “tertiary education” includes higher education, but is not synonymous with it. In Bhutan, tertiary education shall encompass both degree and diploma programmes, including undergraduate diplomas.

Tertiary education shall consist of both professional and general programmes which shall be offered at different levels: undergraduate diploma and degree, post-graduate, and doctoral.

12. Tertiary Education Board

Tertiary Education Board, within the Ministry of Education, facilitates planning and funding of tertiary education in Bhutan and oversees registration, licensing and quality assurance. Its members are drawn from the relevant sectors of the Ministry of Education.

The Tertiary Education Board shall be composed of members drawn from relevant stakeholders such as the GNH Commission, Ministry of Education, Ministry of

Finance, Ministry of Labour and Human Resources, Ministry of Economic Affairs, etc. and invited members from universities and other relevant professional bodies. These members shall be at the level of decision-making positions, i.e. at the level of government secretaries.

13. University

A university shall be defined as an autonomous tertiary education institution, accredited to award its own degrees, and consisting of two or more faculties or schools (*see above*). Each faculty or school shall be composed of more than one department, offering programmes at the undergraduate, graduate or both levels. A university shall be considered both a teaching and a research institution. A university shall have the right to award undergraduate, post-graduate and doctoral level degrees.

14. Gold Leaf

An educational license, as opposed to a trade license, that sanctions and sanctifies the establishment of an educational institution upon fulfilment of all the required criteria befitting a seat of learning.

Consultees of the WBL Consultants

Ministry of Education

H E Lyonpo Thinley Gyamtsho	Minister
Aum Sangay Zam	Secretary
Karma Yeshey Education	Director, Deptt. of Adult & Higher
Tshewang Tandin	Director, Department of School Education
Jambay Wangchuk	Chief Planning Officer, PPD
Dechen Zam	Deputy Chief Planning Officer, PPD
Dr Rudi van Dael	Technical Adviser, PPD

Ministry of Labour and Human Resources

Dasho (Dr) Sonam Tenzin	Secretary
Karma Tshering	Director, Department of Employment
Sangay Dorjee	Director, Department of Occupational Standards
Sonam Rinchen	Director, Department of Human Resources
Tashi Wangmo	Chief Planning Officer, PPD
Karma Lhazom Resources	Sr Prog Officer, Department of Human

Ministry of Communications and Information Dpt of Informations Technology

Tenzin Choeda	Director, Department of Information Technology
Sonam Dukda	Dy. Chief ICT Officer, Infrastructure Division

Royal Civil Service Commission

Kinley Yangzom	Chief Human Resources Officer
Bachu Phub Dorji	Chief Planning Officer
Damchoe Lhendup	Chief Legal Officer
Lhamo	Human Resource Officer

Ministry of Economic Affairs

Dhan Raj Subba Chief Industry Officer, Department of Industry

Gross National Happiness Commission (formerly Planning Commission Sec)

Karma Tshitem Secretary
Tshering Wangmo Planning Officer
Penjore Planning Officer

Royal Education Council

Gyaltshen Penjore Director
Nidup Dorji Director, College of Science and Technology
Tashi Wangyel Member

Education Review Commission

Dasho Meghraj Gurung
Aum Kunzang Choden

Bhutan Chamber of Commerce and Industry

Phub Tshering Secretary General

Royal University of Bhutan

Dasho (Dr.) Pema Thinley Vice-Chancellor
Yangka Director, Academic Affairs
Kesang Doma Registrar
Phintsho Choeden Director, Research Development
Gajel Lhundup Director, Planning and Resources
Karma Tshering Development Officer, DAA
Kinley Rinchen Assistant Planning Officer
Tsheten Wangyel Assistant HRO
Lopen Lungtaen Gyatso Director, ILCS

Deki Wangmo	Dean, RIHS
Singye Namgyel	Director, Sherubtse College
Dr Shivraj Bhattarai	Vice-Principal, Sherubtse College
Dr Jagar Dorji	Chairman, RUB Prog. & Quality Committee

Ngabiphu College

Dasho Tenzin Yonten	Private Promoter/Director
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Post GNHC Presentation: Consultees and Task Force Members

Following the presentation of the draft Tertiary Education Policy to the GNH Commission on 25 December 2008, the Task Force members consulted the following honorable members in further improving the Tertiary Education Policy document based on the feedback and directives of the GNH Commission. The work and the consultations were spread over one year after the presentation to the Commission.

Consultees:

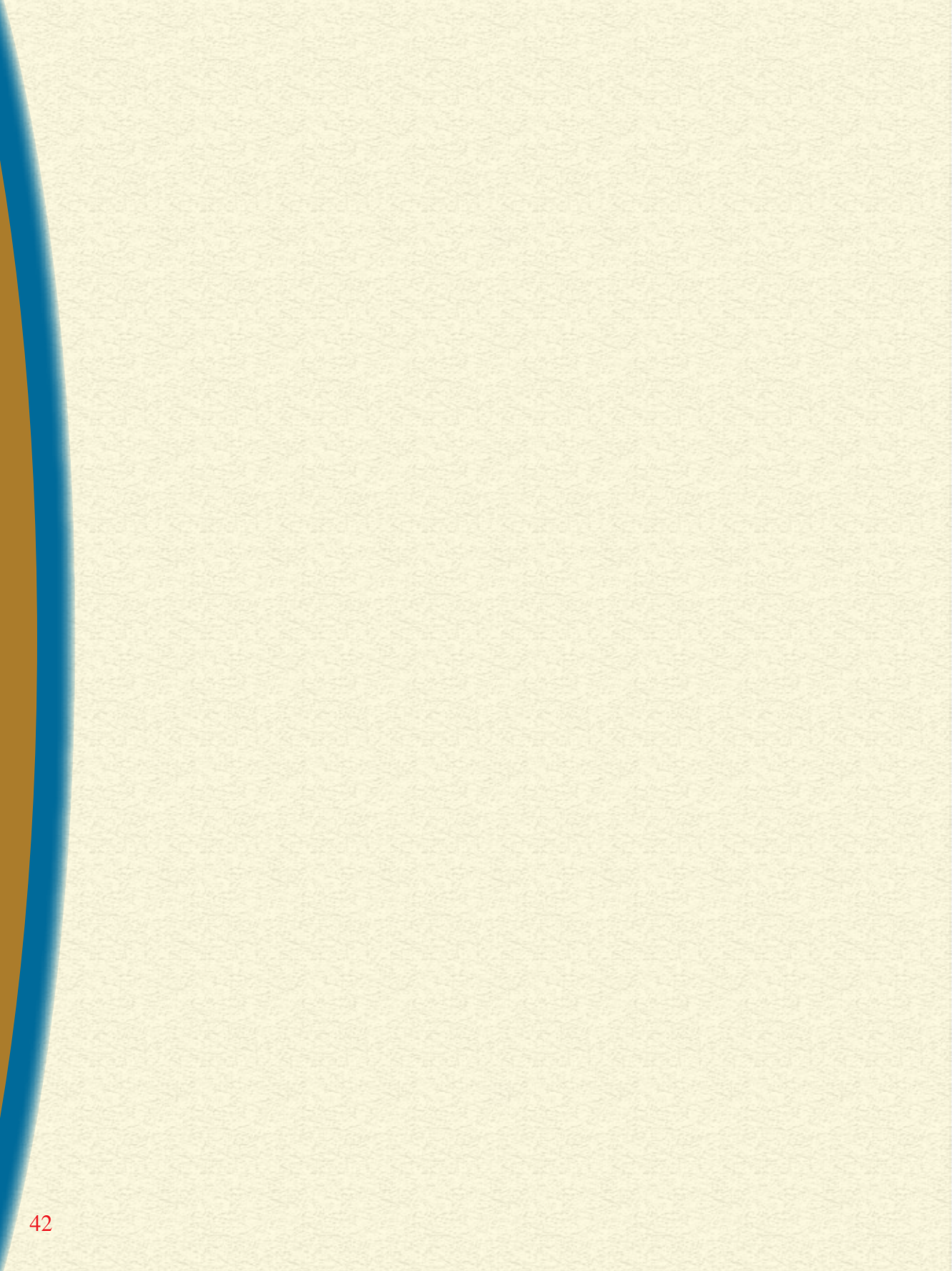
1. H E Lyonpo Thakur S Powdyel, Sherig Lyonpo
2. Dasho Dr. Pema Thinley, Vice-Chancellor, RUB
3. Aum Sangay Zam, Secretary, Ministry of Education
4. Tshewang Tandin, Director General, Deptt. of School Education, MoE
5. Yangka, Director, Academic Affairs, RUB
6. Sangay Dorjee, Director, Deptt. of Occupational Standards, MoLHR
7. Dr.Phub Rinchen, Secretary, Bhutan Board of Examinations, MoE
8. Tashi Wangyel, Advisor, REC
9. Tshering Tenzin, Chief Programme Officer, SD, MoE
10. Jambay Wangchuk, Chief Planning Officer, PPD, MoE
11. Ugyen Tshewang, Chief Human Resource Officer, RCSC
12. Singye Namgyel, Planning Officer, PPD, MoE

13. Tandin Wangmo, DHR, MoLHR
14. Sonam Tashi, PPD, MoEA
15. Karma Sonam Tshering, PPD, MoEA
16. Tshering Wangmo, Planning Officer, GNH Commission
17. Penjore, Planning Officer, GNH Commission

Task Force Members

1. Karma Yeshey , Director, Deptt. of Adult & Higher (DAHE) Edn, MoE
2. Maina Kharga, Chief, Tertiary Education Division (TED), DAHE, MoE
3. Karma Thinley, Sr. Programme Officer, TED, DAHE, MoE
4. Chainga, Asstt. Programme Officer, TED, DAHE, MoE
5. Prof. Mark Mancall, Academic Director, Royal Education Council
6. Karan Maheshwari, PFU
7. Khandu Om, PFU

Annexures



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A Expectations of Graduates

1 Graduates from the tertiary education system of Bhutan, and particularly degree graduates, will be expected to possess the following general intellectual, personal and communication skills, and programmes leading to a degree award will be expected to develop these skills in the students.

- a) **Grounding in a discipline** or in a coherent body of knowledge. This includes
- an acquisition of the conceptual paradigms and frameworks relevant to the subject-matter studied,
 - an understanding of the major relevant theories,
 - an ability to practise the appropriate methods and practical techniques, and
 - a sound knowledge of the subject-content.
- b) The possession of general academic skills derived from subject matter identified above, including:
- critical reasoning,
 - analysis and evaluation,
 - handling of evidence,
 - identification of problems and their solution,
 - conceptualization,
 - synthesis, and
 - creativity.
- c) **An awareness of the contexts, boundaries and limits of the subject-matter** studied, including:
- an appreciation of the limitations and provisional nature of the knowledge acquired,
 - an understanding of its relationship to other fields, and
 - a recognition of its ethical implications and constraints and an awareness of its social and environmental implications.
- d) **The possession of self-motivated study skills** and readiness to continue learning. This includes
- the ability to study independently,
 - the ability to find information independently from relevant sources, and to select appropriate ways of analyzing and structuring that knowledge,

- the ability to recognize one's own ignorance
 - the possession of an enquiring mind, and
 - the recognition of the need to learn throughout life.
- e) **Communication and presentation** This includes:
- the ability to communicate in all modes appropriate to the matter studied,
 - the ability to engage in debate in a professional manner, and
 - the ability to communicate technical knowledge to a lay audience.
- f) Each graduate from tertiary education should be required to possess minimum standards (to be determined and assessed by the institution) in
- spoken and written Dzongkha
 - spoken and written English
- g) **Information literacy** This includes:
- knowledge of and ability to use information technology relevant to the subject studied, information search and retrieval,
 - communication tools, word processing, etc. and
 - possession by each graduate from tertiary education of minimum standards in IT skills.
- h) **An understanding of and ability to undertake one's own personal development.** This includes:
- self-reflection and self criticism,
 - Intellectual maturity, judgment and autonomy,
 - a readiness to understand and respond to change, and
 - a capacity to challenge received wisdom and the ability to initiate change.
- i) **Interpersonal skills and awareness** This includes:
- Leadership,
 - group working,
 - sensitivity to the views of others, an awareness of how others interpret their own behavior, an appreciation of the influence of cultural differences on personal interactions,

- negotiation, relationship to clients, and
- networking, the recognition or support of leadership.

j) Personal development and personal illumination This includes:-

- a sense of service, and
- a sense of moral responsibility for himself/herself, for other people, for his/her community and for the country

B Descriptors of Quality in Tertiary Education

Among the descriptors of quality of tertiary education, the following are important:

B1 The teaching staff / faculty:

- 1 Those entrusted with imparting education to students and training them in skills, constitute the most important factor of quality. The number of teachers, the qualifications that they have and the training that they have, and their motivation to be in the profession are essential elements of this descriptor. Since teachers are relatively more permanent actors in the educational systems, they independently more than any other set of actors, affect the quality of education.
- 2 Bhutan requires sufficient numbers of qualified individuals to staff a multi-campus university providing a diverse array of programmes. The lead-in time for such provision is significant and will take several years for a critical mass of qualified professionals to become available. The policy prescriptions here are:
 - a) Provision for adequate and qualified staff must be built into the plan for expansion of tertiary education. 'Human Resources' must be an integral component of such a plan.
 - b) Great care should be taken while appointing candidates to teaching positions in institutions of tertiary education. Consistently good academic record, with advanced degree, must be the minimum qualification for teaching positions, and preference given to candidates with doctoral degree or research experience.
 - c) The knowledge base and skills of the existing teaching staff must be upgraded through orientation, refresher courses, and further studies. Experts from outside Bhutan may be invited to offer such staff-development courses. Alternatively, the teachers may be sent abroad

for refresher courses or training programmes in specific subjects. The possibility of collaboration with reputed universities abroad to provide such training may be explored.

- d) The performance of the teaching staff must be regularly assessed. This evaluation could begin with self-appraisal by teachers, evaluation by heads of faculties/departments and the head of the institution, and end with a review by one or two external experts. The outcome of performance evaluation can form the basis for extension of appointment, career advancement, incentives, etc.
- e) To attract high quality teaching staff, the pay package must be revised upwardly and service conditions improved at least to the levels comparable to those prevalent in the neighbouring countries.
- f) A good mix in the composition of teaching staff (Bhutanese and those from abroad) will contribute to a vibrant academic environment and enhance the quality of learning environment for students. There is, therefore, a necessity for appropriate conditions and procedures for entry of faculty from outside Bhutan.

B2 Students

- a) Students constitute the primary focus of teaching-learning experience in tertiary education. The academic preparation, aptitude, and motivation of students joining tertiary-level institutions have a determining influence on the quality of tertiary education.
- b) High quality of secondary-level education is, thus, a prerequisite for high quality tertiary education. While tertiary educational institutions can top-up on school-level education, they cannot do much remedial education without compromising on what they are primarily expected to do.
- c) The emphasis on merit-based admission to tertiary-level educational institutions is important; it will facilitate the pursuit of academic excellence. However, in the existing system, merit is determined by what the students achieve at the school level, where the curriculum is generic. A meritorious student who has no aptitude for tertiary education and whose motivation is doubtful, will be an unwilling beneficiary and a certain drain on scarce resources. To address the issue of aptitude and motivation, it is, therefore, necessary to introduce student counseling.

B3 Leadership and management:

- 1 The administrative staff provides the auxiliary help to teachers and students to make the teaching-learning experience meaningful, and contribute to the successful realization of the institution's objectives. They liaise with the central university office and the authorities in the government. Therefore, the background, credentials, and training of the administrative staff and the commitment of administrative leadership are crucial.
- 2 Contemporary management relies on extensive use of Information and Communication Technology (ICT). Investment on ICT in educational management is, thus, inevitable and important.
- 3 The existing administrative staff (and the teaching staff, too) could be imparted training in the management of academic institutions.

B4 Facilities

- 1 The effectiveness with which the lead actors in tertiary education – the teachers, the students, and the administrative staff – function and the quality of their endeavours would depend upon the facilities that are available to them. These facilities may be broadly categorized as academic, physical infrastructure, and extra-curricular facilities:
 - a) The academic facilities include sufficient number of adequately equipped classrooms; a well-stocked library; and an adequately equipped laboratory.
 - b) The physical infrastructure facilities include spacious buildings, catering to the various needs of the staff and students, and adequate hostel facilities for boys and girls, and housing for the teaching and administrative staff.
 - c) Extra-curricular facilities include provision of playgrounds, gymnasium, etc.
- 2 In the best of tertiary institutions in the world, the library is the centre of educational experience for students, at times superseding in importance to classroom proceedings. Effective classroom transaction presumes student investment of time in the library. As a storehouse of knowledge and forum for academic interaction, the library is a world of higher learning by itself. A good library enables the educational system to partially transfer the learning responsibility to students.
- 3 Modern libraries use ICT, which is cost-effective, and makes accessibility extendable and easy. A system of common catalogue and networking of

sharable resources, e-journal holdings, and datasets on CDs will greatly enhance the quality of library facilities available to teachers and students. Tie-up with electronic library facilities in the neighboring countries and information sharing systems elsewhere would open a new world of learning. The introduction of ICT in the library services is, no doubt, high in terms of investment. However, it will be rich in dividends and cost-effective in the long run.

B5 Funding

- 1 Provision of facilities involves huge capital investment. The maintenance and upkeep of these facilities also imply recurring (maintenance) costs. Besides, payment of salaries to teachers and administrative staff, and other expenses relating to the management of tertiary education also involves heavy expenditure. It is in this context that funding of tertiary education becomes a crucial policy issue. It is true that funding by itself does not assure quality. However, without adequate funding, the quality of tertiary education will be seriously impaired.
- 2 The major share of funding for tertiary education has to come from the government, as ultimately tertiary education is a public good. The government's plan for expansion of tertiary education must closely follow how much it can spend. Once the funding is planned, the government must ensure its regular flow to the institutions.
- 3 However, considering the magnitude of funding required, philanthropic support and student fees must be explored as options. Student contribution in the form of fees is important as it fosters a sense of participation among them and their parents, and they may even become more demanding academically.

B6 The Programmes

- 1 The essence of any education is the programme of study. Its design will include:
 - a) The duration and internal organization in terms of years and/or semesters, and the structuring of progression from one semester/year to the next.
 - b) The framing of curriculum: the distribution of curriculum over specified number of years/semesters, in terms of the logical and sequential arrangement of what the student is expected to learn; the level of ease/difficulty that the students are likely to encounter: thus, the initial semesters/year will have curriculum components pitched at a lower level, whereas the level of difficulty increases at successive levels.
 - c) A consideration of the context in which the curriculum is offered and the relevance

of the curriculum to the needs of students, the economy and government and the wider society (enlightened citizenry).

- d) Framing of appropriate subjects within the programme, upgrading the syllabus periodically, the sourcing of latest reading and experimental material. This may also involve the identification of 'core' and 'optional' modules, catering to different needs of the students.
 - e) A consideration of how various modules are offered (pedagogy) and evaluated (evaluation) to determine the process and product of students' learning. This has to be geared to the expectations of learning from students, and the objectives set out for the course.
 - f) A provision for obtaining feedback from students and teachers for fine-tuning/revision of the programme or courses within it.
 - g) An analysis of student performance, including completion rates and distribution of grades and comparisons across the curriculum.
- 2 The programmes of study must be consistent with the strategic plans of the country, improve the employability of students, and meet the human power needs of the economy. They must involve a combination of knowledge, skills, and personality development: a graduate is a responsible educated citizen of the country. A statement of what the student is expected to learn ('learning outcomes') must be a part of every programme of study.
- 3 The teachers who teach a programme should be those who design, develop, and modify the programme. There needs to be close association with the other stakeholders such as employers and the government.
- 4 There must be opportunities for industry-university collaboration. The possibility of involving the industry people in the university teaching programme and providing opportunities to students to do some internship in industry in select programme may be explored. Similarly, the vast reservoir of expertise available with the civil service could be tapped by the tertiary educational institutions.
- 5 All programmes of tertiary study must be validated by a university. The criteria for starting a new programme or continuing/modifying the existing ones should be clearly articulated. These criteria must be fine-tuned with (a) the economic, development and social needs of the country, (b) the training needs, and (c) market analysis for the programme, that is, demand from employers. No programme should be started unless it is formulated as per norms, is validated by a university, and all the requisite academic and support facilities are in place.

- 6 Much work will have to be done to establish and provide programmes of international standing to allow students to transfer credits to institutions abroad and for full recognition of degrees and diplomas by the universities in Bhutan.

B7 Pedagogy

There has been a paradigm shift in tertiary education; universities no longer only provide instruction but they also promote active learning. This does not mean that knowledge is irrelevant but it recognizes a rapidly changing world where knowledge quickly becomes outdated and that the real benefit that students acquire is in the capabilities that they acquire, particularly the abilities to understand and utilize change, and to continue learning and adapting throughout their lives. Learning is not a passive acquisition of knowledge but an active development of capabilities that are tested in action in different contexts. This approach is crucial to the university's ability to move from an external pedagogic curriculum driven approach to one appropriate to the demands being made of a university.

B8 Quality Assurance System

- 1 The Quality Assurance system needs to have a definite philosophy underpinning its structure. These should include:-
 - a) A critical evaluation of a programme by those staff involved in the programme's operation, and a meeting by a group of peers with the staff, students and other relevant persons based on the defined programme and the critical self appraisal,
 - b) an action oriented report, with responsibility points and a post-audit follow-up
 - c) international bench-marking
 - d) relationship to the institution strategic plan, and
 - e) staff development and the development of a culture of quality.
- 2 To ensure that quality consciousness is put in place, both as an idea and in practice, a mechanism needs to be put in place to inculcate the essentials of quality at the college and department level and to monitor adherence to the quality norms.

B9 International comparison and bench-marking

- 1 Programmes should be compared with the best international practice from other universities, from professional bodies, from NGO's etc. Libraries, ICT facilities, and

staff qualifications and performance should be compared with good practices in other countries, both developed and developing.

- 2 There would be benefit in having an international review of the operation of each university and in particular of its Quality Assurance system, to ensure that it is exposed to international norms and processes, and to allow it to obtain well informed advice in a strategic context. Such mechanisms shall be put in place under the aegis of the Bhutan Accreditation Council (BAC).

B10 Planning process

- 1 A comprehensive and systematic planning procedure is needed in the university and in tertiary education system which shall be spearheaded by the Tertiary Education Board (TEB).

B11 International relations in tertiary education

- 1 Bhutan shall establish mutually beneficial alliances with top-quality universities and institutions around the world in order to develop a competitive culture among institutions, ensuring and thereby enhancing quality.
- 2 Towards this end, help could be solicited from universities and institutions abroad in obtaining access to their data bases, on-line teaching materials and on-line journals, in sharing their staff development materials, etc. The possibility of exchange of teachers and students should be explored. To maximize returns to investment in this project, activities should be planned after a careful examination of data available on the websites of the institutions. The website particulars for institutions are available in directories and year books such as Commonwealth Universities Yearbook, Yearbook of the Association of Indian universities, etc. Many universities and institutes see international relations as part of their mission; these universities and institutes should be identified and targeted.

C An International Market for Bhutan's Tertiary Education

- 1 Internationally, the labour market scenario is characterized by flux and volatility. All countries are witnessing growing rates of unemployment and underemployment, on the one hand, and the shortage of skilled knowledge-based labour force in select fields, on the other. However, the large size and variety of their economies in some developed as well as developing countries act as shock absorbers. Developing economies in smaller countries do not have this option.

- 2 Given the spirit of economic liberalization, governments in most countries are reluctant to invest in expanding tertiary education. Investment by the private sector in educational enterprises raises the cost of education for aspirants. Under such conditions, families which have economic resources and which want to invest in the tertiary education of their wards allow them to migrate to pastures where the type and quality of education match their economic wherewithal. Such migration takes place internally in large countries (for example, India) and between countries.
- 3 The provision of the educational system must consider the prospect of catering to an international market. Traditionally, export industries sprang out of home-based industries, but with the e-commerce world that is no longer necessarily the case.
- 4 The **Unique Selling Points** that Bhutan could leverage in developing an international market in tertiary education are: -
 - a) the cultural environment
 - b) the physical environment
 - c) the spiritual environment
 - d) the widespread use of English by the population and its use as the medium of instruction in education
 - e) political stability
 - f) low level of corruption, and
 - g) a high proportion of its population has experienced education in other countries including a wide range of developed countries.
- 5 The **products** could be:
 - a) students coming to Bhutan to study,
 - b) Bhutanese graduates from Bhutan going to work abroad and remit funds home, and
 - c) programmes developed for Bhutanese to serve an export led industry e.g. specialist call centres.
- 6 Potential **markets** for students, each of which would have a different interest, could include any country. The most obvious ones are those nearby, SAARC countries, but there is also a market in short courses for people from developed countries.

- 7 The **programmes** in Bhutan to which foreign students could come could be
- a) the regular programmes offered for the Bhutanese,
 - b) special programmes offered to meet particular market needs
 - c) short courses on Buddhism and philosophy for adults from developed countries
 - d) special long courses specially designed for an overseas market
 - e) exclusive niche areas in which Bhutan has a particular advantage, such as traditional medicines, mountain ecology, forestry and forest-based industry, environmental engineering.
- 8 The **programmes** in Bhutan which could specifically prepare Bhutanese and others for employment in the world market in areas such as
- h) information technology and bio-technology, but these require huge investments
 - i) areas where Bhutanese graduates and diploma/certificate holders will have employment prospects internationally (for example, nursing, computer software programming, information technology, etc.) and nationally (for example, tourism, highway engineering, trades such as plumbing, repairing electronic gadgets, etc.).
- 9 The **design parameters** are that any provision should be
- a) cost-effective,
 - b) viable to the Bhutanese aspirants, and
 - c) attractive to students from abroad.
- 10 There are **difficulties** that need to be recognized and overcome in order to fulfill this ambition.
- a) There is tough competition to be faced from established international players. One possibility is to enter into collaborative ventures with established systems.
 - b) Tertiary education in Bhutan is relatively recent, and on any international measure its quality cannot yet be claimed to be high. Years of heavy investment and development will be needed for it to compete on an international scale,
 - c) There is inadequate e-infrastructure in Bhutan which affects the acceptability of all aspects of its education. For example, any international educational

centre seeking to set up business here will expect an infrastructure and trained staff to back up the operation of e-functions. Any nurses operating in developed countries will be expected to be fully familiar with advanced patient information systems in their everyday work. Any educational or other business that cannot sell its products on the net will languish.

- d) The cost of setting up a specialist educational centre is high, compared to more accessible countries, and the gestation period for obtaining returns may be long.
- e) The financial infrastructure in Bhutan is not conducive to foreign investment.
- f) International tertiary education is a highly competitive and sophisticated industry. ICT is fast globalizing the provision of tertiary education and training and the creation and dissemination of knowledge. Bhutanese institutions no longer have the monopoly (or preferential access) over local students. At the click of a keyboard, students may more easily secure information and register for programmes at world universities.

Branch campuses

- 11 To attract universities and colleges from abroad, to set up a branch campus in Bhutan an environment that is attractive on economic, social and educational grounds is needed. Factors that will attract an educational business to set up in a new site or country include the following:
- a) the availability of a well qualified and well educated labour force, good provision for the further training of staff;
 - b) easy recruitment of qualified staff from abroad.
 - c) good social and housing facilities for staff in this country, to attract staff to stay
 - d) a financial environment that allows for profits commensurate with the risks and with the rates asked by banks for such a venture.
 - e) tax incentives, e.g a tax moratorium for an initial start-up period.
 - f) long-term lease of land, facilities or property with minimal or zero rent.
 - g) absence of competition in the key markets, and
 - h) a stable regulatory environment, so that the rules do not change in two years time; alternatively, the government guarantees to protect against regulatory turbulence

- 12 In addition, there are some factors specific to an educational establishment.
- j) Universities from abroad will particularly appreciate the opportunity to undertake research in Bhutan in areas which would provide an appropriate environment for their research interests (e.g. forestry, alternative medicine, language)
 - k) There is the possibility of a branch campus receiving some Government support in the form of a contract with the TEB to provide specific education programmes under contract for Bhutanese students or for students being able to use their scholarships to pay part of the fees at the branch campus.

Benefits

- 13 There would be significant benefits in the establishment of a branch campus in Bhutan of a reputed university from abroad
- l) It would provide a complement, a basis for comparison, a source of new ideas, and a healthy challenge to existing tertiary education in Bhutan.
 - m) It could provide the basis for a new industry that will complement the existing tourism industry.
 - n) The standard would be comparable to that in its country of origin and the cost less.

D Access to Tertiary Education

D1 A More Flexible Admission System to Tertiary Education

- 1 Admission to the university system is currently based on performance in class XII examination, and most students are admitted on that basis. To be able to fulfill its role in the knowledge society, the tertiary education system shall go beyond elite provision of education, catering to entry from school for students studying academic programmes designed for academic tertiary education. Access to tertiary education must be broadened to cater for a wide(r) range of students and entry to its portals must be open at different levels. The target groups for tertiary education include:
- a) school leavers who, as at present, have taken a set of academic subjects,
 - b) school leavers who have taken a mixture of more vocational and academic subjects,
 - c) graduates of vocational schools;

- d) students from a TVET Certificate programme for admission to a Diploma programme;
 - e) persons in employment, where the employer (e.g., the Royal Civil Service Commission [RCSC]) releases them for qualification upgrading to take a full-time degree. Currently, these people are generally sent outside of the country, but the colleges in the system should also cater for their needs;
 - f) students who have taken class XII some time previously and have been in employment, but now wish to enter tertiary education
 - g) students preferring face-to-face or distance learning provision via virtual learning environment.
- 2 Candidates in many of these categories will not have class XII grades that can compete with fresh class XII graduates but their greater maturity, work experience, and evidence of private study should be accepted as compensating achievements in considering their admission. One of the benefits of this broader entry is the greater richness that it can give to a class, where the students come from different backgrounds some with work experience, some fresh from school; it also places a greater premium on motivation.
- 3 Because of the difficulty in comparing the performance of students coming from different sources, the TEB should consider setting targets for the proportion of students to be admitted from different target groups.

D2 A Broader Range of Programmes

- 1 The main attention in the tertiary system is currently given to degree programmes for school leavers. Increasing attention should be given to a wider range of programmes depending on the national needs.

Re-training programmes

- 2 Large numbers of teachers, engineers and other professionals are employed and practise their profession on the basis of courses at much lower levels than those currently on offer and which are now expected for entry to those posts. Their professional competence needs to be enhanced to allow them to perform better and they need to be able to enhance their qualifications if they are to advance in their career under the terms of the RCSC position classification scheme.

Continuing professional development

- 3 All persons in employment need to keep up to date with the rapid changes in technology, in practice and in the theoretical developments in their field whether it is law, administration or sanitation. Tertiary education system must take up this challenge.

D3 Access from Certificate Courses and Diploma Programmes

- 1 Access from Diploma programmes to related degree programmes, should be enlarged. Currently, some limited provision is made. This should be extended and consideration given to designing the Diploma programmes in conjunction with the degree programmes so that access from the end of the diploma programme to the start of the second year of the degree might be possible.

D4 Information

- 1 There is a need for students intending to enter tertiary education for good quality information, not only describing the academic content of the specific programme and the required and preferred entry performance, but the careers to which it might lead, and the nature of the college where the programme is offered.

D5 Schools: Science, Math and Pedagogy

- 1 Bhutan's education system must prepare to deliver sufficient and well-equipped mathematics and science school-leavers for future generations. Good science and mathematics are a necessary basis for development.

D6 Relationship between Tertiary, Vocational and School System

- 1 The Bhutan Qualifications Framework(BQF), for the country will be developed by the Ministry of Education which shall encompass various levels of certificate, diploma, and the tertiary education programmes.
- 2 The BQF shall help to set out the relationship between the tertiary educational system, the technical and vocational education and training, and the school system.
- 3 The levels in the BQF shall have specified characteristic outcomes of the learning and/or competence related to the expectations made of the student in terms of knowledge and understanding, applied knowledge and skills, communication and ICT skills, accountability and autonomy.

E Planning and Funding Tertiary Education

E1 Tertiary Education Board (TEB)

1. The tertiary education system requires a streamlined and consolidated approach towards providing guidance and direction by way of overall planning and strategizing of tertiary education needs in the country. Such an approach will help to enhance effectiveness and efficiency in supporting the growth of tertiary education system through planning and funding. This will also reduce administrative burden on clientele by making processes such as approval system, securing funds, scholarships, student grants and loans efficient through creation of an empowered multi-sectoral Board. This Board shall be called the Tertiary Education Board (TEB).
2. The Tertiary Education Board shall be established by the government, on the recommendation of the Ministry of Education and shall be granted the authority and responsibility to assist the Ministry of Education through the Department of Adult and Higher Education, to:
 - a. Review and set goals for tertiary education, develop strategies to meet the goals, maintain progressive balance by subject, mode, level, entrants, etc.
 - b. Validate and approve all plans and proposals for allocations of funds.
 - c. Approve establishment of institutions based on recommendation by BAC.
3. The Tertiary Education Board's remit shall be to oversee the funding, and, where appropriate, the planning of:
 - a. All programmes of tertiary education offered in the country, in all modes of study, in all subject areas, for all types of entrants.
 - b. All government-sponsored tertiary education and training undertaken abroad.
 - c. Doctoral level education and research (including base funding and specific projects).
 - d. Specific projects which shall be limited by time (research, development, and capital).
4. The Tertiary Education Board shall be composed of members drawn from relevant stakeholders such as the GNH Commission, Ministry of Education, Ministry of

Finance, Ministry of Labour and Human Resources, Ministry of Economic Affairs, etc. and other members drawn from associated professional bodies and eminent professionals.

5. The Chairperson of the Tertiary Education Board shall be the Minister for Education.
6. The Tertiary Education Board shall have the power to appoint sub-committees as it sees fit to execute its duties effectively and responsibly.

Secretariat

- 1 The Department of Adult and Higher Education, Ministry of Education shall be the secretariat of the Board.

The Operation of the Board

- 2 Although the specific responsibilities of the Board are set out in the following paragraphs (E2 – E9), in reality, these activities interact, and the planning process is a cyclic process of interaction and discussion, rather than sequential. For this purpose, although the members of the Board are the representatives of their Ministries on the Board, the decisions must be of the Board as a whole whilst also committing the Ministries represented to the decisions. The membership is intended to allow any such planning decisions to be firm decisions backed by committed funding, and thus to allow the institutions an appropriate secure basis for implementation.
- 3 In the first year of the Board's work, there will be serious policy issues to decide. Thereafter, the work will be mainly adjustments made on a year-by-year basis, based on submissions from the institutions of tertiary education and taking account of the financial context.

E2 Determining the Need

- 1 Annexure F categorizes needs for tertiary education in terms of:-
 - a) Specific economic needs
 - b) General developmental needs
- 2 The Ministry of Economic Affairs is responsible for determining the economic priorities for the development of the country, although other agencies may contribute. The RCSC undertakes an analysis of all the manpower needs of the Civil Service, including the Ministries of Health, Education, and Agriculture and of the

RCSC itself. These are major employers of graduates. The Ministry of Labour and Human Resources, as its name implies, is responsible for determining the manpower needs of the private sector, taking account of information from other Ministries, the BCCI and other bodies with expertise on the subject, and the Ministry of Finance is responsible for budgets. Establishing the general development needs would be a responsibility appropriate to the Gross National Happiness Commission.

- 3 The information coming from the various Ministries and the GNH Commission will come to the Board, but will also be available to the institutions. They will be expected to make carefully developed proposals for their development, but it will be for the Board to make the final decision.

E3 Determining the Cost of Tertiary Education Provision

- 1 The Board shall determine the cost of providing tertiary education for each general subject area within the tertiary education system, and this shall be the basis of its funding mode. It is suggested that major general subject areas are taken e.g. Engineering & IT, Health, Social Sciences, Humanities & Languages, and Natural & Biological Sciences. The costs should include direct factors (e.g. cost of staff, equipment, maintenance, infrastructure, etc) but also development and indirect costs (e.g. the cost in staff development, training, research grants, travel, etc), which are necessary to establish an appropriate quality of provision rising from the present level.
- 2 In determining the costs to be used for planning, priority should be given to improving quality. It is possible to determine in each general subject area, the basic inputs equipment, facilities, staff numbers, and qualifications necessary as a starting point for determining what is good quality. Annexure B sets out some of the criteria to be considered.
- 3 Based on unit costs in each general subject area, the cost of expansion can be determined and hence the extent to which the proposed plans for the next five years can be met will be known. The 'full cost of a programme' is the cost determined by the Board for one student on a programme. This cost will vary across programme areas.
- 4 The cost of providing education and training abroad also needs to be determined; The Board will be responsible for developing cost-benefit analyses comparing the costs of sending students abroad and the cost of developing and offering the programme in Bhutan.

E4 Determining the Total Funding for Tertiary Education

- 1 The funds to be allocated for tertiary education will arise from the interaction of the advice and guidance from the GNH Secretariat and the Ministry of Finance and with the other members of the Board. Together, they will arrive at the value of funds that will be possible and appropriate.
- 2 The Board should also seek to ensure security of the sources of funding. It is desirable that Trust Funds or an Endowment be set up for the tertiary education system.

E5 Determining Programmes and Student Numbers to Fund

- 1 Once the extent of the need for tertiary education has been identified, consideration can be given to the programmes available to fulfill that need. These can be offered in state-run or private institutions in Bhutan or funding may be allocated to send students for training to universities abroad.
- 2 The planning process of **programmes** and **student numbers** should be undertaken as a major exercise as part of the five-year plan, but it should be a rolling plan with updating and revision each year. Once agreed, this plan needs to be supported financially.
- 3 The institutions will make a major contribution to this aspect of the Board's work. They will have access to all the earlier analysis of needs and will, therefore, be in a position to propose programmes that meet the identified needs.

E6 Determining funding for Research

- 1 Funding will be made available for general support, for research investigations and for development. This may be tied in with the funding allocated to institutions on the basis of funding per student number or it may be allocated in relation to the interests in and commitment of the various institutions to research. In time, this should be converted to performance-based funding. There are simple performance measures for research, and the funding can be tied to recent research performance. Alternatively, the allocation may be left to the internal distributing mechanism of the institutions themselves.

E7 Determining Fees and Scholarships

- 1 Cost-sharing or revenue supplementation from parents and students allows the provision of tertiary education to be more broadly available. One of the arguments for this is that the students are the major beneficiaries of such education, and that

from the financial benefits (albeit gained at a later stage) they should contribute to the cost of that education. Also, the principle of having to contribute to the costs of one's own education is likely to enhance the value given to education.

Scholarships

- 2 A Scholarship is the amount paid by the Board for a student on a particular programme. It may cover the full cost of the programme, it may cover a fraction of the cost, or it may cover the full cost plus accommodation and food. As far as possible, it will be paid not to the student but to the college or university he or she attends. It may be paid to students attending a university or a private college in Bhutan, or a student sent to a college or university abroad. The value of scholarships will depend on a number of factors:
 - a) It will depend on actual cost, thus a scholarship to a college or university abroad will be greater than a scholarship to a local programme.
 - b) Student following programmes in areas deemed to meet specific economic needs (category a) but which may not attract many students e.g. Diploma in Electrical Engineering or B Ed are very likely to receive a full scholarship.
 - c) Students following programmes which are very popular may receive scholarships which only cover a fraction of the full cost on the ground that there is sufficient social demand to impel families to pay the student-fees.
 - d) There may be scholarships based on merit.
 - e) There may be scholarships based on means.
 - f) Some scholarships may be given only for the first two years of a programme.
 - g) Students on some programmes that are considered as not meeting economic needs nor general developmental needs may receive no scholarship.
 - h) In some programmes, it may be that there are a given number of places with scholarships and all additional students are admitted with no or minimal scholarship.

Continuing Professional Development

- 3 It is to be expected that employers and employees should contribute to the cost of training and developing their employees. However, at the present stage of development in Bhutan, it would be counterproductive to expect all employers to bear the full cost of continuing professional development for their staff. There should, therefore, be scholarships for full time continuing professional development (cpd) and in-service programmes, with a modest level of fees.

E8 Equity and Student Loans

- 1 The principle of expanding access to tertiary education whilst maintaining equity, i.e. ensuring that students from the poorer sections of society do not lose out, has been a major issue in every country that has sought to pass on some of the costs of tertiary education to the consumer. If the government-funded student places are allocated solely on secondary school achievements, it will inevitably discriminate against certain socio-economic groups. There are numerous schemes for means-tested student-financial assistance in the forms of loans and grants.
- 2 The Board shall initiate the establishment of a system of loans to be available for students proceeding to tertiary education and available to pay for fees in private or state institutions and for accommodation. It should also initiate the establishment of low-interest income-contingent loan repayment schemes supported by Government.

E9 Contract between the Tertiary Education Board and the Institutions of Tertiary Education

- 1 To establish a clear understanding of the commitments that this form of planning and funding entails, a contract shall be established between the Board and any institution funded by the Board, setting out what the institution is expected to provide, and giving commitments as to funding for the institution.
- 2 This contract will specify Board and institutional expectations, the promises of the institution and the support to be given in terms of available staff and funding. The contract should stress developmental activities within the institution, balancing the needs of the nation and the developmental plans of the institution. It should be negotiated and evolve around the government's five-year plans and institution's developmental and strategic plans.
- 3 The contract can also relate to research activities within the institution(s), the government providing seed-money for research. Given the developmental stage in which research activities currently take place, applied research activities, in combination with business and industry should be given priority. The contract should cover the following elements:

Procedures: Financial procedures to be followed by the institution.

Reports and Plans, (in relation to those aspect of work funded by the Board)

Each institution of tertiary education in Bhutan in receipt of Government funding shall submit annually to the Chairman of the Board:

- a) A financial statement with a report by a qualified auditor. [This assumes that the Institutions will have financial autonomy] The aim of this requirement is to:
 - i) enable informed judgments to be made as to their performance, financial position, financing, and investment,
 - ii) provide a mechanism to enable the institutions to discharge their accountability obligations,
 - iii) align tertiary education with standard reporting requirements,
 - iv) make the financial position more transparent and encourage public accountability, and
 - v) allow individual grants and their use to be separately identified
- b) Statistics on its operation including: the programmes provided, the student numbers and progression statistics on each programme, the numbers of staff by category, and the research activity.
- c) Plans and targets, setting out the proposed plans for
 - i) programmes and student numbers in broad terms (eg 300 engineering degree, 100 engineering diploma) for each year for the next five years; this will be incremental change to the previous year's plans and will form the institutions' submission to the planning process described above, and
 - ii) research
- d) **A self-analytical report** on its operation, predominantly on those aspects of its operation that are funded by the Ministry of Education. This should report on the achievement of targets set out in the previous year, the problems faced and solved or not solved, and the planned programme of actions for the coming year. This report must not be used as an instrument of control; it is to be primarily intended for self-assessment and incorporation of necessary correctives in setting agendas and implementing them. The report could also be immensely helpful in long-term tracking of where and how the university and its system have been developing.

From Tertiary Education Board

In response to the information and reports provided by the institutions, the Board will

- allocate funding for the agreed programmes and research functions, firmly for the coming two years, and in principle for the subsequent three years.
- provide general guidance on government priorities, probably on an annual basis

F Determining the Need for Tertiary Education

F1 Introduction

- 1 There are two aspects to be considered in determining the need for tertiary education in a country. First, there is evidence that the tertiary education system drives the economy. Second, there is evidence that, if there is a wide chasm between economic development and the expansion of tertiary education, there will be unemployed and dissatisfied graduates. However, one cannot be too cautious on expanding tertiary education, as it can also contribute to the development of better informed citizenry and vibrant democracy and enhance the values and principles of gross national happiness.
- 2 Public economic benefits reflect the overall contribution of tertiary education institutions and graduates to economic growth beyond the income and employment gains accruing to individuals. In economies that rely increasingly on the generation and application of knowledge, greater productivity is achieved through the development and diffusion of technological innovations, most of which are the products of basic and applied research undertaken in universities. Progress in agriculture, health, and environment sectors, in particular, is heavily dependent on the application of such innovations. Productivity is also boosted by higher skill levels in the labour force and by qualitative improvements that enable workers to use new technology. Increased workforce flexibility, resulting from the acquisition of general skills that facilitate adaptation, is increasingly seen as a crucial factor in economic development in the context of knowledge economies. Sustainable transformation and growth throughout the economy is not possible without the contribution of an innovative tertiary education system.
- 3 Globally produced knowledge is now more easily accessible to students. As such, professors and institutional libraries are no longer the main, let alone the only, sources of academic knowledge. All these opportunities imply that tertiary education institutions should be globally competitive if they are not to be ignored.

- 4 On the one hand, global competitiveness requires that these institutions remain at, and even push, the knowledge frontiers. This is a tall order, given the relative resource availability. It is vital that the tertiary education sector is able effectively to support the attainment of Bhutan's development goals and aspirations, and to effectively play the above-outlined roles.
- 5 On the other hand, there needs to be some correlation between the expansion of tertiary education and the capacity of the economy to absorb the graduates from the tertiary education institutions. Currently, the graduates of The Royal University of Bhutan (RUB) are by and large absorbed, so are Bhutanese holding educational credentials from abroad. As of now, Bhutan has been careful about expanding the facilities for tertiary education. As long as the demand is marginally more than the supply, incremental adjustments can be effected in the intake into various programmes. However, if the expansion of tertiary education results in a situation where the supply of tertiary educated job-seekers far outstrips the absorption capacity of the economy ('the supply-demand lag'), it can lead to 'education inflation' or 'degree devaluation'. That is, candidates appointed to jobs will tend to have more educational qualification than the job requires, leading to lower job-satisfaction and morale. Besides being a drain on limited resources, this will adversely affect people's faith in the education system.
- 6 Thus, it is important to plan for expansion of tertiary education with a sound understanding of the labour market. There are four key components of a labour market:
 - i) *employers* (government and private, including international),
 - ii) *employees* (possessing varying levels of educational credentials and skill-training),
 - iii) *jobs* (with varying degrees of responsibility and different expectations), and
 - iv) *contract* (a set of formal and informal norms governing the relationship between the employers and the employees).
- 7 To avoid serious imbalances in the relationship between education and employment, the employers must decide and project the anticipated demand for the type of jobs that the economy would need over time, and the variety and number of credential holders that will be required to perform these jobs. Depending upon the value attached to the different jobs and the educational and training background of employees performing them, the contracts are defined.

- 8 The demand for expansion of tertiary education can be met by
- a) the establishment of new institutions (including branch campuses of foreign universities) with conventional as well as new programmes,
 - b) introducing new programmes in existing institutions, and
 - c) increasing the intake in existing programmes.

F2 Categories of needs for tertiary education

1 Broadly, there are three categories of needs:

a) *Specific economic needs*

2 These are needs that the country has to meet in order to develop according to the economic development plans drawn up. For instance, the country has to have a specific number of doctors, engineers, technicians, teachers, etc. to direct and run the economy. That is, these needs are directly related to specific jobs which have to be performed by appropriately qualified personnel. However, they may also include the idea of education as an exportable commodity. These needs can be calculated and projected, even if it is with several qualifications.

3 The Ministry of Economic Affairs is responsible for determining the economic priorities for the development of the country, although other agencies may contribute. The Royal Civil Service Commission undertakes an analysis of all the manpower needs of the civil service, including the Ministries of Health, Education, Agriculture, etc. and of the Commission itself. These are major employers of graduates. The Ministry of Labour and Human Resources, as its name implies, is responsible for determining the needs of the private sector, taking account of information from other Ministries, the Bhutan Chamber of Commerce and Industries and other bodies with expertise on the subject.

b) *General developmental needs*

1 In addition to the specific calculated economic needs, there is a need for the general development of the population that is not directly related to a specific employment need. This ties in with the personal development and enrichment needs clearly expressed in documents such as *Bhutan 2020: A Vision for Peace, Prosperity and Happiness* and for the development of citizenship in a democratic society and enhancement of the gross national happiness.

2 The process for determining the economic manpower needs is generally based on a conservative extrapolation of the current position and planned future specific

employment needs. Beyond that, it is necessary to look at the need for tertiary education in a more developmental context, that is, at the need to develop people to meet as yet unidentified situations. This would be a responsibility appropriate to the GNH Secretariat.

F3 Key Points

An analysis of the circumstances of the tertiary education in relation to the labour market in Bhutan lead to the following conclusions:

- a) There is scope for expansion of tertiary education to realize the country's specific economic and general developmental needs and for meeting the social demand.
- b) The expansion of tertiary education needs to be closely related to specific general employment opportunities and not just to demographic demand; otherwise, there is a risk of unemployment among graduates.
- c) Tertiary education also contributes to general capacity development in the country and is related to the economy but not tied to specific jobs. For this, an enterprise culture and a healthy private and public economy are needed.
- d) Bhutan needs a clear economic strategy and a better analysis of future and prospective tertiary employment needs, both specific and general, for planning the expansion of tertiary education sector. This should be available to all planners including the proposed Tertiary Education Board and the tertiary institutions.
- e) Vocational qualifications at tertiary and technician levels need to be emphasized to fill a foreseeable skills shortage that will hinder economic development.
- f) Tertiary education needs to address a number of curriculum and pedagogical issues if it is to prepare its graduates for private employment and for an entrepreneurial role in the economy.

F4 The International Market for Education

In seeking to determine the need for tertiary education, the prospective international market must be taken into consideration. Bhutan has a number of unique selling points and a number of different ways in which the overseas market can be exploited (see Annexure C). This demand should be considered as part of the economic demand, and a priority for the country. However, the means of funding it will be different since it is intended as a long-term source of funding rather than expenditure.

Annexure to Annexure: Labour Market and Tertiary Education

F5 Introduction

- 1 It is important to plan for expansion of tertiary education with a sound understanding of the labour market. There are four key components of a labour market:
 - employers (government and private, including international),
 - employees (possessing varying levels of educational credentials and skill-training),
 - jobs (with varying degrees of responsibility and different expectations), and
 - contract (a set of formal and informal norms governing the relationship between the employers and the employees).
- 2 To avoid serious imbalances in the relationship between education and employment, employers must decide and project the anticipated demand for the type of jobs that the economy would need over time, and the variety and number of credential holders that will be required to perform these jobs. Depending upon the value attached to the different jobs and the educational and training background of employees performing them, the contracts are defined.
- 3 To be sure, labour market analysis is never perfect the larger the timeframe, the greater the margin of errors. Considering the imponderables in the international economy as well as the national polity, human-resources planning is always a hazardous exercise. All the same, an analysis of the labour market is a necessary ingredient of all planning, including planning for tertiary education. This analysis has also to take into consideration the forecast of demographic trends (for example, the number of college-going-age youth, that is 18-23 years, and the number of secondary-school-going-age children, that is 13-15 years).

F6 Demography and Economy

- 1 As a background to an understanding of the labour market in Bhutan some facts on its economy would be useful. According to the Population and Housing Census of Bhutan, 2005, the country has a population of 634,982. This small population is dispersed across the country. It is projected that, in 2012, Thimphu Dzongkhag will have the highest population (108,125). Only three other dzongkhags – Chukha (79,834), Samtse (65,281) and Trashigang (55,726) – will have more than 50,000 people. This fact has to be borne in mind in locating any new educational institution.
- 2 The youth population of Bhutan is projected to increase from 156,681 in 2007 to 187,548 in 2012. The projections based on Population and Housing Census of Bhutan,

2005, show that the number of 18-year olds will decrease from 15,500 in 2007 to 14,800 (that is, by 4.5%) in 2012 and 13,300 (that is, by 14.1%) in 2020. In the short-term, this decrease will not have a significant bearing on tertiary education. In fact, it is projected that percentage of this (18-year olds) population that is expected to enter Class XII will increase from 29.7 in 2007 to 50.5 in 2012. That is, even if the youth population steadily decreases over the next two to three plan periods, it will not adversely affect the number of prospective candidates able to enter tertiary education.

- 3 Based on the Ministry of Education figures for Class XII graduates, there will be about 7,000 applicants for university placements in 2012. To maintain the same progression from Class XII to university would require 1,000 more first-year places; to allow 2/3 to progress would require 4,000 more first-year places. Thus, there is a demographic case for an expansion of tertiary education places.
- 4 Although international comparisons are invidious, it must be noted that, at an average annual rate of 8 per cent, Bhutan has one of the highest growth rates of the gross domestic product (GDP) in South Asia. The estimated per capita GDP in 2005 was US\$ 834. The opening up of the economy in a globalizing world, the growing per capita income and the overall economic development appear to suggest that Bhutan is poised for a leap in the sphere of higher education. However, certain important factors have to be kept in mind before the country prepares such a leap.
- 5 It is important to note that notwithstanding the fact that the contribution to the GDP of agriculture is decreasing (this is inevitable given the limits in topography and climatic conditions), it still dominates the economy. Construction, hydroelectric power, transport and communication, and financial services each account for over 10 per cent each of the GDP, while government service and manufacturing each account for between 7 and 9 per cent respectively.

F7 Employment Potential and Prospects

- 1 The composition of GDP reflects the key sectors in which the population is currently employed: agriculture, construction, public administration/security, transport/communication, education, retail/wholesale trade, manufacturing, electricity/gas, water, hotel and restaurant. All other sectors have less than 3,000 people each. Overall, the employment rate has shown a marginal decline from 98.6 per cent in 1998 to 96.8 in 2006, and correspondingly unemployment rate has increased from 1.4 per cent to 3.2 per cent during the same period. There are more unemployed people in rural areas (4,415) as compared to urban areas (3,450); and, as is usually the pattern, the unemployed in the rural areas are likely to migrate to the urban areas, that is, one can expect the rate of urbanization to steadily increase.

- 2 Currently, the unemployment rate is 4.0 percent; (Labour Force Survey Report 2009) which includes 2.6 percent male and 5.4 percent female.
- 3 It is important to note that the Royal Government of Bhutan has been the primary employer. In 2005-06, the RGoB accounted for about 70 per cent of all jobs provided. An analysis of advertisement for 4,945 jobs (during 2002-2005) showed that 73.2 per cent were from the government (public) sector, 13.4 per cent were from corporations, and only 12.5 per cent were from the private sector. Less than 1 per cent of the overall job advertisements were from the non-governmental organizations.
- 4 It is reported that the civil service employment needs are expected to remain static over the years. In fact, according the Royal Civil Service Commission (RCSC) estimates, the supply of personnel will exceed the demand (The Royal University of Bhutan 2007). Nevertheless, graduates continue to seek employment in white-collar government jobs, a segment that has reached saturation level.
- 5 While counseling graduates and college students in this regard is important, this alone will not suffice. With every passing year, the number of graduates will increase. There is need for thinking on new programmes and also reorientation of current programme offerings. There will be significant shortages in a number of high skilled specialist areas, most notably in education, administration and management, audio-visual and publications, library services and documentation, and sports and recreation. It is in these areas that efforts in tertiary education need to be focused.
- 6 It is striking that the orientation of the educational process in tertiary institutions and the employment aspirations of their graduates nowhere looks at the possibility of self-employment by the graduates. By orienting the students to the charmed realm of employment in the civil service, tertiary education seems to have precluded self-employment as an option for the graduates. This is not a limitation of the programme alone, but has to do with the value orientation of the society. Conscious effort needs to be made to inculcate entrepreneurship both as an economic avenue and desirable value.
- 7 There are six key sectors for which full-time programme needs are assessed by the Ministry of Labour and Human Resources (MoLHR) (see MoLHR [BNHRD Report] 2007): services, production, construction, education, finance, and Information Technology (IT). The IT and services sectors represent by far the largest demand. Bhutan's conditions are eminently suited for establishing IT industry. The construction sector has been booming, and has immense potential. Tourism and

hospitality industry is another sector that planning should focus on. Coming to the primary sector, inputs into agriculture and horticulture can enhance productivity and exportability of agricultural products. This would require the development of micro enterprises in agro-based and forest-based industries.

- 8 The BNHRD Report 2007 is categorical that ‘the capacity of the economy of Bhutan to respond to macro initiatives is very limited because of many challenges. Predominant among these challenges are those related to the human resources of the country, skill shortages, urban drift, poor employability of job seekers, general apathy of job seekers towards blue collared jobs, and poor working conditions and monetary benefits’. This points to the need for (a) exercising caution while expanding tertiary education, and (b) paying greater attention to technical and vocational training programmes.
- 9 Governments pursuing an expansion of tertiary education often do this in the understanding that more high-level skills are needed in an advanced knowledge economy, requiring a much greater proportion of the workforce than previously to be educated beyond the secondary school level. This presumes a thriving economy requiring high level educated manpower; but as of now this is not the case in Bhutan.

F8 Tertiary Education and Human Resource Development Needs

- 1 The Bhutan National Human Resource Development (BNHRD 2007) Report sets out estimates for the employment of different types of graduates, but it cautions that these estimates ‘largely reflect potential of possible micro interventions visualized at this juncture. They should not be taken as requirements.’ It also identifies the numbers of likely graduates and from that determines the expected excess in supply, which it puts in the hundreds especially warning of an excess in numbers of graduates in science and humanities and engineering. The value of the report is very limited, it is open to severe criticism in the data it presents, in the omission of some categories, e.g., education graduates, in the information known from other sources (e.g., university planned graduate numbers), in its classification and categorization of data, in weak analysis of the private sector, in not distinguishing post-graduate diploma from sub-degree diplomas, and in its overall approach which seeks to link graduate to specific posts. However, the overall warning that there could be an excess of graduates is important to bear in mind.
- 2 The RUB projections are for an increase in enrolment from 1,488 in 2007 to 2,477 in 2012; a total increase of 66 per cent. The Government is not committed to fund

or to support that level of expansion and there is no clear planning basis for this figure, but given the demography and the numbers of student graduating from Class XII, there will clearly be social demand for such an expansion.

- 3 The number of students studying outside Bhutan is high with about 1,400 enrolling each year on degree programmes. There are many reasons why parents send their wards abroad for higher studies. One is the limitation of provision in Bhutan. If comparable facilities were to be made available within the country, at least some of the students who would otherwise go abroad will be enrolled here. However, given that Bhutan is not likely to offer all possible programmes, some families, particularly from the elite sections of society will certainly continue to do so. Those educated abroad returning to Bhutan will add to the labour force. This needs to be factored in while projecting the demand for tertiary education.
- 4 In brief, there are strong indications that the expansion of the tertiary education sector needs to be carefully managed in line with the growth of the economy and the demand for qualified people available. There is also a need for the education of the students to be oriented towards employability, as required by employers. This requires greater interaction between the employers and tertiary education providers. This can be facilitated by making the employers or their representative members of the proposed Tertiary Education Board or having strong representation on the governing bodies of the universities, or both.
- 5 The first-degree content cannot be too closely correlated with the job-related opportunities. It can even be argued that a good general tertiary education, which promotes self-confidence, maturity, inventiveness, and entrepreneurship, can be a source of business start-ups. For this to happen, the curriculum and especially the pedagogy must specifically address these aspects; and the economy must have the opportunities and the maturity to facilitate such private enterprise. To achieve this, concerted and determined action on the part of all stakeholders is needed.
- 6 Similarly, Bhutanese graduates may find employment abroad and remit expatriate salaries to Bhutan, especially in such niche areas of information technology, computer applications, nursing, and in some specialized areas of engineering. However, it is clear that the employability of Bhutanese graduates in the international labour market depends on the quality of the education they receive in Bhutan.

F9 Monitoring the Labour Market

- 1 The Ministry of Labour and Human Resources (MoLHR) is ideally positioned to take the overall responsibility for analyzing the labour market. In conjunction with various other ministries and stakeholders (including the Bhutan Chamber of Commerce and Industries [BCCI] and business groups for the private sector) MoLHR could prepare a forecast of human resources needs for various sectors of the economy with provision for periodic re-calibration. The RCSC already prepares the human resources development plan for the public sector and this covers the requirements of all government departments and agencies. The Ministry of Economic Affairs is responsible for determining the economic priorities for the development of the country, and it should be made an active partner in this process. These human resource forecasts could be vetted by the Gross National Happiness Commission to ensure their fit with the overall planning for the country.
- 2 As of now, the exercise is tied to Five-Year Plans, and it does not take into consideration the changes due to unexpected external conditions. Furthermore, the forecasts are based on simple extrapolations of existing figures, presuming that the rates will remain the same. The exercise needs to be based more on empirical data, and the assessment has to be made on a yearly basis so that changes can be monitored and fed into the planning process. A key component that makes labour market forecasts realistic is the age-composition of the labour force and the trends in superannuation and attrition rates of the employees from the labour force.

References

The Royal University of Bhutan Strategic Plan (2004-2012). Office of the Vice- Chancellor, The Royal University of Bhutan Thimphu, 2007.

Bhutan National Human Resource Development Report 2007, Ministry of Labour and Human Resource, Royal Government of Bhutan Thimphu, 2007.

G Desirable Characteristics of Institutions of Tertiary Education in Bhutan

The following are some of the desirable characteristics of current and future institutions of tertiary education in Bhutan:

- a) Learner-centered: They should focus on the needs of students, to ensure that they acquire and develop knowledge and skills relevant to the individual, to employers, to the labour market and to society.
- b) High quality: They must deliver high quality teaching and promote excellence in research, justifying public and private investment and social support.
- c) Equitable: They must challenge individuals to fulfill their potential, regardless of their personal circumstances and backgrounds.
- d) Responsive: They need to be responsive to the diverse needs of students and other stakeholders including staff, employers, commerce and industry. They need to meet the expectations of society and of government and the changing needs of the economy.
- e) Diverse and adaptable: They must offer programmes to cover a diversity of subject areas, but not all possible subject areas. They must cover diploma, undergraduate, postgraduate taught and research levels. The programmes need to cater for school leavers, mature learners, persons studying for careers, persons seeking to develop their intellectual and personal interests; for students who wish to undertake full time study, part time study and for students who cannot attend face-to-face classes. Programmes need to be responsive to different learning needs through innovative admissions procedures, through entry and exit points, through modes of learning, delivery methods, assessment, and availability of learning resources. Each programme must provide opportunity for vocational preparation, academic challenge, and personal development.
- f) Innovative: They need to generate new ideas, solve problems, improve products or processes and guide students to new and changing environments. The need to be innovative relates not only to improvements in teaching and learning but also to the direction and rationalization of research, and engagement with industry, research institutions and other education providers.
- g) Adaptable: They must be adaptable to changing national needs and student demands, with the capacity to accommodate unforeseen changes, and with the organizational flexibility to deploy resources and adjust staffing to meet opportunities as they arise.
- h) Value addition: They should add value to and enrich the society, the culture, and the economy of which they are a part. They should seek to harness the country's intellectual property.
- i) Cost-effective and publicly accountable: They need to show that they make good use of resources and manpower. They need to be accountable for the financial resources provided to them. Their policies and actions need to be transparent and open to public scrutiny.

- j) Socially responsible: They must fulfill broad public responsibility. They must act ethically, be just, be environmentally responsible, and act as model public institutions.
- k) Economically viable.

H Institutions of Tertiary Education

H1 Universities

- 1 Any university established in Bhutan shall be secular, shall not be operated for private profit, and have the powers and responsibility of a company. It may operate commercially but not for private profit. Its profits shall accrue to the university.

The objectives

- 2 The overall objective of a university shall be -
 - to provide (through the dissemination of knowledge and the advancement of learning and the granting of awards), for the economic and cultural development of Bhutan and to promote the cultural enrichment, personal development and well-being of its people.
- 3 The more specific objectives of the university shall be
 - a) to develop and provide programmes of study at tertiary education level, of relevance and good quality which will fulfill the needs of the country for an educated and skilled population,
 - b) to promote and conduct research, to contribute to the creation of knowledge in an international context and to promote the transfer of knowledge of relevance to Bhutan, and
 - c) to provide a public service to the people of Bhutan.

Governance

- 4 Each university established in Bhutan shall have a governance model consisting of a University Council as its Governing Body, an Academic Board with responsibility for the academic affairs for the university and a Vice-Chancellor as the Chief Executive Officer.
- 5 The role of the Governing Body as that of the governing body of a commercial organization or of a public corporation shall be to: -

- a) Define and monitor strategic direction,
- b) Define policy and procedures to operate within the legal, social and government requirements,
- c) Establish control and accountability systems,
- d) Review and monitor management, and the performance of the organization
- e) Manage risk.

Powers of a university

6 A university shall have powers to

- a) Offer programmes,
- b) Grant tertiary awards, provided that all programmes that lead to these awards fulfill the university's own quality assurance requirements, whether or not these programmes are offered at the university,
- c) Grant awards for research programmes at tertiary level, and on an honorary basis,
- d) Develop and implement curricula and research projects; and shall enjoy freedom of teaching and research without interference from public authorities,
- e) Choose subjects to be taught,
- f) Grant titles to professors and other staff,
- g) Elect governing and management authorities and fix their terms of office,
- h) Arrange its structures and activities through its own rules,
- i) Choose teaching and other staff, set conditions for admission of students and methods of teaching and assessment of students,
- j) Operate as a corporation; i.e. to govern, manage, and regulate its finances, accounts, investments, property, business, and all its affairs, such that the use of its assets shall be consistent with the purpose of the university, and
- l) To engage in relevant activities such that any benefits that arise there-from shall be directed to the public purpose of the university and not to private benefit.

7 A university shall have powers to offer research degrees. However, it is not expected that a university will use those powers until it has sufficient experience in conducting research and in supervising research students under the aegis of a recognized university. The following criteria are suggested for a university to use. For any faculty or department to be in a position to recommend a research award it must have at least six staff and at least 25% of staff with research qualifications,

at least four staff with experience in supervising research, and at least four research students studying but registered in other universities. Additionally, staff chosen to supervise must have had shared responsibility in supervision of a research student to completion.

Establishing a university

- 8 The **criteria** for the establishment of a university in Bhutan shall be that it has:
- a) A range of programmes in at least three major faculties, offered through various modes of study, and catering for a range of student groups including school leavers and adult learners, with a proportion of its programmes at diploma level, i.e. it is a generalist tertiary institution and not just a specialist or higher education institution. Individual faculties or colleges may be specialist.
 - b) Over 300 academic staff in at least three faculties, at least 80% with postgraduate qualifications, in order to provide the breadth of expertise and context with which to operate its own system.
 - c) An effective quality assurance system, operated under supervision for three years, with minimum failures.
 - d) Had a successful institutional review undertaken which is led by Bhutan Accreditation Council (BAC) .
 - e) Research as a significant part of its role.
 - f) A policy that ensures equality of opportunity such that admission to any office or appointment in the university and the admission of students to the university shall be on merit and irrespective of religion, origin, sex, sexual orientation, or race.
- 9 Any proposal for the establishment of a university shall be made to the Government through the Ministry of Education. A university shall be established by an Act of Parliament.

H2 Colleges

- 1 Colleges can be more diverse in nature than universities; they may be state-funded, or be run by companies for profit or not-for-profit. They may be generalist, or specialist. They may be designed for training for public service employment. They may be small or large. They may offer programmes designed by themselves or franchised from another university.

- 2 A college may be registered and licensed to offer tertiary education programmes in Bhutan provided that
 - a) it is a locally based college or it is a college based outside Bhutan but with a presence in Bhutan, and
 - b) The said college shows evidence that it is financially viable, that its owners and managers are persons of good repute, that there is an effective management system, that the conditions of service for staff including arrangements for dealing with complaints are in place, that suitable arrangements are made for students and that their rights are clearly set out, and
 - c) Its primary purpose is to provide education or to conduct research, and
 - d) Each programme listed in its license leads to an award from a university in Bhutan or to an award of a foreign university that is accepted for that purpose by the Registrar for Tertiary Education. It will then be the responsibility of the university to satisfy itself on issues related to the quality of provision of each programme approved including, but not limited to, staffing, academic facilities, programmes, arrangement for tuition, and assessment etc, and
 - e) An application setting out the necessary information is submitted to the Registrar for Tertiary Education.
- 3 A standard condition of all licenses, which shall be issued by the Registrar for Tertiary Education, is that no student may be admitted to the programmes listed on the license until the programmes have successfully fulfilled the university quality assurance requirements.
- 4 A college of the Royal University of Bhutan is exempted from registration.
- 5 Universities and university-equivalent bodies from abroad being proposed as institutions fit to grant awards to colleges offering programmes in Bhutan need to be recognized by the Bhutan Accreditation Council (BAC) The university or university-equivalent body shall be expected to have gained international recognition for its awards, to be accredited in its own country at a high level, to have an international reputation, and to bring value to the educational system of Bhutan. Evidence to this effect will be presented to the Registrar.
- 6 If the college is in receipt of funds from the TEB, then there will be contractual requirements and conditions attached to that funding, as set out in Annexure E9.

- 7 Any proposal for the registration of a college planning to offer tertiary programmes shall be made to the Tertiary Education Board. A license shall be issued by the Registrar for Tertiary Education setting out the programmes, which it may offer and such other conditions as are necessary. Changes to the license to allow additional or changed programmes shall be made on the authority of the Registrar for Tertiary Education.
- 8 Each college thus licensed shall submit an annual report to the Registrar for Tertiary Education.
- 9 **A Private College** is one for whose funding the Government is not responsible. It will run independently, although the government will exercise a measure of control, through licensing, and through quality assurance mechanisms, and if it funds particular programmes through a contractual agreement.
- 10 **A Branch Campus of a foreign university** Universities from abroad may establish a branch campus in Bhutan to deliver programmes to Bhutanese and foreign students, with the awards granted by the university. The application for the registration of such a branch campus shall follow the same process and criteria as for a college (H2 above) except that criterion d) shall apply to the university making the application.

H3 Advertising

- 1 No foreign institution may advertise its tertiary education programmes in Bhutan without the approval of the Registrar for Tertiary Education. The criteria shall normally be that the foreign institution is fully accredited (or is at a high level of accreditation if such grading is available) in the country where it is registered.
- 2 It is neither practicable nor desirable to legislate or regulate against a student in Bhutan registering for a distance-learning course offered by a university from abroad or other institution based outside of Bhutan; but it is possible to control its advertisement.

H4 Collaborative Arrangements with Foreign Institutions

Although the regulations set out above are formulated in terms of colleges and universities based in or outside Bhutan, they are applicable to a wide range of collaborative arrangements between foreign and local institutions. Acceptable collaborative arrangements include:

- a) **Franchise:** a foreign university authorizes a college in Bhutan to deliver their programme, and it leads to an award from the foreign university.

- b) **Validation:** a foreign university approves a course developed and offered by a college in Bhutan, and it leads to an award from the foreign university
- c) **Articulation:** a foreign university (A) collaborates with a Bhutanese college to develop an articulation system that allows local students to take credits towards an award in A.
- d) **Joint Awards:** institutions in two or more countries collaborate to offer a programme for which the student gains a qualification from each institution or a joint award from them both.
- e) **Study Centre:** a foreign university establishes a study centre in Bhutan, possibly in collaboration with a local University to support students following foreign courses.

H5 Funding

- 1 The powers of a university and of an independent college allow it to receive funding from various sources including:
 - a) The TEB for teaching and research functions
 - b) Fees: parents and students who contribute through paying for the cost of programmes.
 - c) Industry and commerce through payments for consultancy, for research, and for courses designed to meet their needs.
 - d) Other sources including e.g. gifts, philanthropic endowments, interest, and income from intellectual property.

Commercial undertakings

- 2 Institutions that undertake profit-making commercial activities may additionally need to be licensed and to register under the Companies Act, as appropriate.

H6 Registrar for Tertiary Education

The Registrar for Tertiary Education shall be the Secretary for Education. The Registrar shall have responsibility:

- 1 To determine which universities from abroad may
 - a) be approached by local colleges (and universities) for the accreditation of their programmes, and the granting of awards to successful graduates
 - b) advertise their programmes locally; the criteria shall normally be that the

foreign university is fully accredited (or is at a high level of accreditation if such grading is available) in the country where it is registered

- 2 To administer the registration and licensing of colleges; this includes the need
 - a) to consider and determine the appropriateness of any university or university equivalent body from abroad, to grant awards for programmes offered by colleges in Bhutan,
 - b) to set out the procedures and fees for applications, and to establish a mechanism for appeal against decisions,
 - c) to make changes in the conditions of the license approved,
 - d) to receive an annual report from each college thus registered and to take such action as may be necessary.
- 3 To provide an annual report setting out the applications submitted, the decisions made and the grounds for the decisions. The full documentation may be examined by interested parties.

H7 Tertiary Education Act

A Tertiary Education Act shall be prepared. It shall set out the criteria for the establishment of a university and the licensing of a college; it shall provide for the protection of the titles (university and college) and of tertiary awards. It shall set out the powers of the Registrar for Tertiary Education to determine which overseas universities may be approached by local colleges (and universities) for the accreditation of their programmes, and which may advertise their programmes locally.

H8 Good Management

- 1 The rapid growth and demanding complexity of the academic enterprise, the need to respond to government policy initiatives, the necessity to form new industry or community partnerships, the external requirements for planning, quality control and performance management, and the need to obtain alternative sources of funding, have all led to the professionalization of management.
- 2 As tertiary institutions move into an area where they have increased commercial activity, where the sources of funds are more diverse, where the nature of their provision is increasingly diverse, where they have to make increasingly complex decisions, the importance of competent and experienced managers becomes acute, and the development of managerial expertise at tertiary level is crucial.

J Autonomy and Accountability

J1 Introduction

The three steering mechanisms for the tertiary education system are Planning and Funding, Quality Assurance, and Registration and Licensing. With these three mechanisms in place, it will be possible for the tertiary education system to be made more accountable and to be given greater autonomy.

J2 The Formal Position of a University

Most universities will have powers and responsibilities along the following lines:

1 Resources

They are expected to be:

- a) responsible for the effective use of the university resources,
- b) accountable for the university's use of resources,
- c) invest monies,
- d) advise government on the sale and purchase of property,
- e) provide the buildings and infrastructure for the university,
- f) accept grants, gifts and legacies,
- g) determine the fees for students and the fees of examiners and visiting staff.

2 Structures

- h) To determine the organizational structure of the university and to institute, amend or discontinue faculties/departments, colleges, committees, etc.

3 Staff

- i) to establish grades of academic posts,
- j) to approve procedures for the appointment of staff,
- k) to determine the conditions of service, to create schemes of insurance and pensions.

J3 The Nature of Autonomy and Accountability

- 1 The main argument **for** delegation of decision making authority in any organization is that decisions close to the action are better informed.

- 2 The arguments **against** delegation of powers are:
 - a) the decision involves more than one subordinate group, therefore, it cannot be delegated to one of them,
 - b) the people down there are incompetent, or corrupt and cannot be trusted whereas I am competent and can always be trusted,
 - c) these decisions involve policy and can only be made here, or there is no policy so only someone at this level can make this qualitative decision.

- 3 All these points are valid and show the way to ensuring that such activities as are delegated are controlled:
 - a) decisions should be passed down as far as possible, as close to the action as is consistent with strategic plans, with consistent decision making; the principle is known as subsidiarity;
 - b) there need to be clear policy guidelines in place, setting out the aims of that particular decision-making process, the limits to action, the person responsible, and the line of accountability for those actions.

- 4 There are four areas of autonomy that may be considered. The discussion that follows applies particularly to the Royal University of Bhutan, but it has general applicability.

J4 Planning

- 1 A major constraint on a university's ability to operate independently is the absence of a long term planning horizon. What is needed is a process of a five year Strategic Plan developed by a university and discussed with the TEB, updating on an annual basis so that there is always a five year plan ahead and planning does not stop until the next five year plan needs to be prepared.

- 2 Any tertiary institution, in making plans, needs to be assured that the Government will consider the plans and if they are agreed will deliver funds to carry out the plans for the next five years and will use the plans as the basis for action. Neither of these requirements is yet in place and so although the University undertakes detailed planning, there can be no confidence that the plans will be used or that the planning process is useful, and this clearly undermines the commitment to that process.

J5 Staffing

- 1 The main reason why the university should have more autonomy in recruitment and service conditions of staff from the RCSC is the difference in the nature of the jobs. This difference in the nature of the job should determine the difference in service conditions and entitlements.

- 2 The Ministry of Education should give the University two years' notice that from a certain date it would give an annual grant to the University to cover all the costs of staffing under two main headings, academic staff and non-academic staff.
- 3 By the given date, the University should have established revised conditions of service. From that date, it would be free to establish new grades and salary scales. In any revisions, the University may be required to take account of practice in the RCSC and the corporations, but not required to follow all their practice.
- 4 The Royal Government should seek to establish a mechanism to allow freedom of movement of staff between the Civil Service and the tertiary education sector and hopefully other external bodies.

J6 Finance

- 1 An institution of tertiary education needs to be able to enter into contracts, for the employment of staff, to undertake research work, to undertake some consultancy, to offer an academic programme on a full cost commercial basis, etc.
- 2 Delegation of responsibility for finance should at this stage be limited to recurrent expenditure. It is proposed that capital and land should be dealt with on an item-by-item basis although the intended expansion for the university should allow good advance planning for such items.
- 3 Delegating financial control means devolving power. Power and decision-making should be devolved as far as possible but the person to whom power is devolved needs to be competent.
- 4 It is proposed that the budget and control of the budget be given to the University with a few budget headings.

J7 Academic Matters

- 1 The University already has a large measure of academic autonomy. It develops programmes in consultation with Ministries where they are the main employer and with other stakeholders for more general degrees whether professionally related or not. If other recommendations are accepted, this will change with a planning body being able to express a view on the university plans, but it is anticipated that the university will always have a major say in the nature of the programmes it offers and in the detailed development of those programmes.

- 2 The University has a system of internal quality assurance unrelated to the RCSC or Ministry involvement, which shows that it has the capacity to develop and operate complex administrative systems on its own. If other recommendations are accepted this system will continue, and will be used by other colleges and perhaps other universities. However, the University will be required to be externally accountable for the effective operation of its quality assurance system to the BAC.
- 3 Thus, it is envisaged that the current level of autonomy be maintained but that a stronger system of accountability be introduced.

K Quality Assurance

K1 Ministry of Education's responsibility

The Royal Government is responsible to ensure that mechanisms exist

- b) to set a minimum standard below which no programme in Bhutan will be offered,
- c) to encourage improvement in standards, and
- d) to inform the public of the level and standard of each award and programme available, (and this requires the establishment of a common set of academic definitions and qualifications).

K2 Quality Assurance System

- 1 The quality assurance of academic programmes has become a well-established practice in virtually all countries of the developed world, and there are significant moves to adopt good practice in developing countries. The impetus lies in the need for universities to justify their work to their students as customers and to the government and public who fund tertiary education. The approach adopted by the Royal University of Bhutan, a process-based approach which requires full proposals and self evaluations open to critical examination and challenge, is the methodology now most widely used at degree level in countries with systematic provision for quality assurance.
- 2 The Quality Assurance system or systems in place in the university or universities need to have a definite philosophy underpinning its structure These should include:-
 - a) A critical evaluation of a programme by those staff involved in the programme's operation, and a meeting by a group of peers with the staff, students and other relevant persons based on the defined programme and the critical self appraisal,

- b) an action-oriented report, with responsibility points and a post-audit follow-up,
 - c) international bench-marking,
 - d) relationship to the institution strategic plan, and
 - e) staff development and the development of a culture of quality.
- 3 To ensure that quality consciousness is put in place, both as an idea and in practice, a mechanism needs to be put in place to inculcate the essentials of quality at the faculty/ college and department level and to monitor adherence to the quality norms.

University Review

- 4 There is a need for the university or universities to be subject to a periodic external review. A regular review of the university by external academics would be a simple and effective means to keep the university on its toes, expose it to international norms and processes, and obtain solid well-grounded advice in a strategic context. Because the quality of the provision of the university is core to its operation, such a review inevitably addresses many aspects of a university's operation, but the focus is on the quality of its operation.
- 5 Such a review could also be used to determine when a college is ready to be established as a university.
- 6 Together with BAC various bodies from countries outside Bhutan could contribute to that process, or advise on its operation, or whose members could be asked to serve on such a visit e.g. NAAC (India), EUA (Europe) or AUQA (Australia) or COPA (USA). The accreditation bodies mentioned have similar methodologies, i.e. there are a range of identified criteria to be examined, the preparation of a self study report by the university, a visit by externals involving meetings with staff, students and others and finally a report which is public. The NAAC approach is designed for use with hundreds of universities and its report outcomes are strictly graded. This may not necessarily be the best approach for a country with only one or two universities.
- 7 Each Council of each university will be responsible for instituting the process. The outcome report together with the university action plans responding to the report should be made available to the TEB, and would likely affect the consideration of future plans from that university.
- 8 If the Minister of Education has grounds for serious concerns about the quality of the programmes being offered, and hence concerns about the effectiveness of the management of the university, either arising from the external review of the university or from other sources, he/she has the power on his/her own account to set up a review of the university with advice from the BAC.

K3 New Colleges and Universities

- 1 Colleges may be established that are financially and managerially independent of a university, but their tertiary awards will still be given by a university, either a university from Bhutan or a university approved by the Ministry of Education from outside the country. Hence, they will need to operate within the quality assurance system of the university to whose awards their programmes lead. The colleges should be encouraged to be active participants in the process and to participate in the development of the quality assurance system of the university.
- 2 Alternatively, a college or a new university may seek accreditation through the BAC.
- 3 The time will come when one or other college is at the stage where it can be established as a university in its own right and will grant its own awards. There are two options.
 - a) First, the two universities can participate in running a joint quality assurance system, with the benefits set out above. In this, the reports of a 'validation' event would go to the Academic Board of the respective university, which would then make decisions on its own programme. The periodic external evaluation of the university would address the issue of the effectiveness of the process for that university.
 - b) Second, if it is not possible to operate a joint system, the universities could operate independent systems. The Ministry of Education would then be obliged to keep those two processes under review, so that any information made public on the outcomes of the two systems could be compared.

K4 Overseas Qualifications

The people of Bhutan should have some assurance regarding the quality of the degrees they obtain overseas. It is recommended that the accreditation system of those countries be used to determine simple criteria which the RCSC can use for admission to the Civil Service. This should progressively be extended to all countries but initially it should start with the NAAC in India, where many Bhutanese students currently study, and where only colleges or universities accredited with a B or above in either the old or the new evaluation scheme should be accepted. There is a danger that the absence of such a system will undermine the quality of provision within Bhutan both from the state funded university and from any private college, and could undermine the financial viability of the latter.

K5 Public Information

- 1 The final element in a quality assurance system is access to information. There should be public information about the level and standard of each award and programme available. For public information to be meaningful, there needs to be a common set of definitions and structures on which to compare data.

- 2 Within the common framework, the information about the quality of courses should be a matter of public information. This needs to be handled carefully, at a stage where academic staff are being encouraged to be very honest about their own failings and to seek ways to improve matters, publication of their self-analysis will be counter-productive. Nevertheless the final outcome, e.g. that Programme B was approved for five years, or the Certificate Y is now registered, is important information to be discussed.

K6 Academic Framework for Bhutan

- 1 As the tertiary education system in Bhutan expands, it is essential that there be a academic framework and structure common to all tertiary institutions so that the current academic consistency and the prospect of credit sharing and transfer across institutions is maintained for the benefit of the entire sector. As such, the Bhutan Qualifications Framework (BQF) shall be established by the Bhutan Accreditation Council. This framework shall set out the levels against which the qualifications will be recognized.
- 2 BQF will, therefore, form a common framework across all colleges and universities in Bhutan (other than Branch campuses of foreign universities whose programmes are validated by a reputed university abroad). There shall be
 - a) Bhutan Qualifications Framework, (shown in Annexure D),
 - b) academic definitions, including definition of module, credit and level, and
 - c) a common assessment approach (e.g. how are modules graded, what is the level and what is meant by a pass mark or grade).

L Cooperation in Development of a Common Infrastructure

L1 Introduction

- 1 Over the past few years as the Royal University of Bhutan has expanded, it has acquired new colleges. As it expands further, it may acquire new departments, new faculties, and more colleges. There is the prospect of more colleges outside of the university sector and possibly in time one or more new universities. The range of institutions will give rise to beneficial competition and challenge. But Bhutan is small; it cannot afford duplication of systems, facilities, and resources that could in principle be shared, and it cannot afford the development in different systems of the same or parallel structures, even if it had the surplus skilled human resources to do so.

- 2 There are a number of systems needed in the tertiary education system, which could be shared. In some cases, there are already parallel and incompatible systems in place, e.g. Library cataloguing systems, which will prevent the sharing of information, skills, and resources. The tertiary system is still sufficiently young and flexible, it is still developing, and with the proposed TEB in place as a central planning body, it is possible and highly desirable to establish some common resource structures for tertiary education as a whole.

L2 Teaching & Learning and Virtual Learning Environments

- 1 On-line learning is the basis of distance learning systems and is increasingly used to supplement and support face-to-face learning systems. For it to be effective, it needs to use a virtual learning environment as a platform. There are various learning platforms, which are not mutually compatible.
- 2 The tertiary education system needs to take advantage of the benefits of a virtual learning environment. It can transform the nature of the educational process. It can also provide a basis for a developed distance learning environment. The establishment of a common system across the country's tertiary education system would allow
 - a) a common programme of training and software support,
 - b) the build-up of expertise in one system in Bhutan,
 - c) material developed on one system to be used elsewhere.
- 3 The expectations of graduates (see Annexure A) emphasize student involvement and self-learning. These attributes depend on the nature of teaching as much as on the content and syllabus. By its geographical nature, Bhutan needs education provision that can be transmitted across distances.
- 4 An on-line model of educational provision can fulfill these demands. It facilitates learning across distances and it allows practical distance learning. It also, when delivered through a virtual learning environment [VLE] changes the role of the teacher in the educational model from the expert provider of facts to the facilitator of student learning. This is a very significant change and one that can make a crucial contribution to the nature of a student's learning and, therefore, to the type of graduate produced; one that is more self-directed and able on his or her own to continue learning and able to learn things other than through being taught. A VLE will not of itself provide this, but it will certainly facilitate its achievement.

- 5 There are benefits in the introduction of on-line or 'virtual' learning; it can
 - a) transform teaching & learning practices and promote self-learning practice amongst students
 - b) develop Information literacy skills in students
 - c) upgrade IT and information literacy amongst teaching staff
 - d) allow flexibility of time and place in the provision of learning
 - e) allow application to increased student numbers.
 - f) allow the sharing of resources.

- 6 The use of Virtual Learning Environments does not necessarily imply use of the World Wide Web [www]. It is possible for all the material needed by students to be supplied from the tutor and placed on a server in Bhutan for use by students following that particular programme. It is also possible for the particular on-line programme to direct the student to specific resources that are on a Bhutan Intranet.

- 7 One of the major blocks to adoption of this style of teaching and learning is the extra time burden of preparation it places on tutors over the more traditional content-centered approach. However, the use of a VLE allows the use of a resource-based approach whilst relieving the tutor from an extra administrative burden. The change required of teachers in adopting this approach is substantial and a programme of staff development will be required not just to come to terms with the new technology but to re-appraise teaching methods so as to take full advantage of the technology.

L3 Learning Resources and the Library

- 1 The library is the centre of the educational process in a university, and libraries in tertiary education need to be developed to achieve this. There need to be specified standards of service provision established for the libraries, along the lines of 'what should a member of staff or a student be able to expect from his or her library'. So that when a college wishes to introduce a degree programme, there is a clear expectation of standards expected of the library.

- 2 There is also the prospect of cooperation in the introduction of compatible software and cataloguing systems, or at least that the systems introduced comply with international co-operability standards so that there can be interchange of information e.g. on book stocks.

- 3 Academic libraries have a prominent position in activities of teaching, learning, and research. As lecturers move towards a more constructivist approach to teaching, learners depend increasingly on information resources directly available in the library or accessed via Internet resources. Libraries are now a collection of information resources, some of which are paper-based and some digital. There is a trend to prefer digital forms of storage; however, there is still a very prevalent role for books, textbooks and paper-based academic journals. It is expected that students will usually need to consult books and textbooks in their first two years of studies in preference to academic journals. However, as they progress in their studies and prepare for small research projects and/or dissertations, the necessary up-to-date material and information require access to electronic journals and specialized databases. This is even more the case for post-graduate students and academics.
- 4 A report in 2005 (Reid & Cano 2005) on library provision in tertiary education found that libraries suffered from the following problems:
 - a) limited awareness by senior management of the importance of the library as a crucial contributor to the fulfillment of educational aims and objectives,
 - b) Limited awareness of the functions that working libraries perform and as a result lack of an ICT infrastructure and physical facilities to support the delivery of library services,
 - c) Limited financial resources with which to develop the library to support teaching and research,
 - d) Limited human resources with which to develop adequate library services,
 - e) A perception of the library as a “storage facility” where books are “safe” as opposed to a dynamic centre for the dissemination of information.

Library Standards

- 5 It is appropriate that the libraries of Institutions of tertiary education should provide services to all students and staff to specific standards, such as:-
 - a) There must be provision for borrowing **books**: Tertiary education should expect students to have their own copies of the main text-books and for the library to provide a wide range of supplementary texts and journals. The main purpose of the university library is not to hold stocks of the main text-books.
 - b) An on-line **Catalogue** is needed: An Open Access Catalogue (OPAC) of books should be available to all staff and students in an on-line format. A catalogue is a listing following internationally agreed formats of bibliographic

description for all the books available in the library. It describes the books in a way that facilitates their retrieval by author, book title, subject entry and/or classification entry. This provision is not universally available throughout T E Libraries. This means that staff and students are left to wander along the stacks of books to find a book they need. Additionally, not all cataloguing is accurate.

- c) There should be access to **journals** relevant to the programmes taught: Access to electronic journals, should be provided on a country-wide basis, and made available to staff and to students. Librarians should keep up-to-date bibliographies of electronic journals in their relevant subjects.
- d) An automated **circulation** and security system is needed to aid record keeping and to prevent books from being stolen. Librarians are particularly concerned about this, as they are held personally accountable for any loss from the library. And they are, therefore, turned into book guardians as opposed to disseminators of information.
- e) Networked **computers** need to be situated within the library premises, with some access to the internet. As a guide, there should be one networked PC per 8 enrolled students, beyond that necessary for staff.
- f) There should be provision for **inter-library loan system**. Formal arrangements are needed for the national tertiary education libraries to establish formal links with international and regional bodies and informal links with all Bhutan Libraries.
- g) There should be provision for the **training** of library staff at all levels.

L4 ICT Technical Infrastructure

- 1 The Bhutan ICT Policy and Strategies (BIPS), produced by DIT with input from sectors across the nation [DIT 2004], sets out as targets in its section on infrastructure ‘to ensure an affordable fast, secure, sustainable and appropriate infrastructure in Bhutan’.
- 2 Information is the lifeblood of tertiary education. Universities and colleges produce it, transmit it, consume it, and operate with it. Information supports the management functions, defines the functions of most staff, and is essential to the teaching process. For universities and colleges to develop, a good ICT connectivity and good internal network are critical.
- 3 It must be able to operate with a good system for communication. This includes robust and effective telephones, email systems, video-conferencing facilities, and desktop video conferencing or web-cams. Such effective means of electronic

communication can allow the staff to use their time more effectively and thus allow the institution to operate more effectively, travel time for face-to-face visits can be dramatically reduced.

- 4 Any institution providing tertiary education must be able to offer its staff and students good links to information and data generally accessible world-wide. A bandwidth of 8MBps between the tertiary institutions is suggested, although initially 2MB might suffice.

Reference

Reid, A & Cano, V. 2005. *Information and Communications Technology at the Royal University of Bhutan: A Report to the University*, WBL Consultants February 2005.

M Research and Innovation

M1 Aims and Objectives

- 1 A strategic objective for Bhutan shall be to increase research, innovation and the use of new knowledge in all aspects of the country's work; to improve the system for the storage, retrieval and dissemination of information; and to develop a culture of enquiry and investigation in educational institutions and in the wider society.
- 2 To achieve this objective, a National Council for Research and Innovation (NCRI) shall be established.
- 3 The functions of NCRI shall be to
 - a) set national research policies,
 - b) determine national research priorities,
 - c) co-ordinate research activity,
 - d) encourage, stimulate and support research and to fund research,
 - e) foster a culture of enquiry, curiosity and investigation among the institutions of tertiary education,
 - f) serve as a Clearing House for the transmission and dissemination of information and research in Bhutan, or act as the stimulus for the establishment for such an information management centre, in cooperation with the National Library.

- g) formulate policies to improve the public understanding of science and research.
 - h) advise the TEB on the national research priorities and hence the funding of research in the tertiary education sector
 - i) devise mechanisms whereby private institutions devoting significant part of their budget to research activities are granted higher rate of tax rebate;
 - j) develop an infrastructure for research,
 - k) set guidelines for universities to follow on ethics in research as well as intellectual property rights.
- 4 The NCRI shall have a strategic, supporting and encouraging role, it will not have regulatory authority over research activities.
- 5 It is not expected that NCRI will fund the main research activity in tertiary education, but tertiary education institutions may compete and gain project funds in any open research project competition. Research Centres are expected to seek funds on their own and are not required to seek them through the NCRI although they should keep the NCRI informed of their activities.
- 6 An early action by NCRI, or by its Secretariat, shall be to analyze and assess the nature and level of activities of organizations that (a) develop new knowledge, (b) transmit such knowledge, (c) embody or transform knowledge into artifacts, and (d) commercialize those artifacts. Such analysis and assessment shall form the basis for the development of appropriate research and development policies.

M2 The Infrastructure or Research and Innovation

- 1 We live in a global society where information is the fuel that powers research which, in turn, develops knowledge. The application of this knowledge and its embodiment through technology affects every aspect of our lives. Research and knowledge development are, therefore, the engines that drive a better understanding of the physical environment, and for economic growth.
- 2 The infrastructure of R&I usually comprises the following organizations:
- a) Organizations and players that develop new knowledge, e.g., universities, industrial laboratories, private companies, government institutions, individual researchers, such as scientists and engineers.

- b) Organizations that transmit knowledge through formal and informal means. Universities transmit information directly through teaching, but information is also transmitted verbally, by consulting experts, attending conferences or through the printed word, either in paper or electronically. Publishing houses and internet publishing venues as well as telecommunication companies providing telephony and internet access all play their part in the transmission of knowledge and information.
 - c) Organizations that embody or transform knowledge into artifacts. (Private and publicly funded research laboratories; incubators placed in tertiary education or in private industry).
 - d) Organizations that commercialize those artifacts. (Industry, entrepreneurship, banks, financial agencies, regulatory bodies that monitor the interplay of all the players within the research and development system).
- 3 The interplay and inter-relationship of these four different types of organizations determine the health and viability of an R&D infrastructure; it is therefore appropriate to
- a) measure and assess the level of activity in each of these types of organizations, and
 - b) develop policies to help their inter-relationship for their own and the country's benefit.
- 4 Research in Bhutan is currently undertaken by the Government (especially, Ministries of Education, Health and Agriculture and in the planning divisions of Ministries) by the University, by other organizations such as the Centre for Bhutan Studies, and some by local industry. However, there are no systematic mechanisms to measure or assess the levels of research activity.
- 5 The Royal University of Bhutan has a particular interest, and when more tertiary education institutions operate in Bhutan, they will have a particular interest, in research. Research is not a passing interest or a peripheral activity for higher education, it is central to the knowledge economy and the knowledge society which universities aspire to create and to be part of. Thus, universities can legitimately be seen as leaders in the development of research. The curiosity for truth is the core of tertiary education and research is the culmination of that activity.

M3 Assessing the Level of Research Activity in the Country

- 1 Mechanisms need to be developed with which to measure and assess the level of activity. An initial scoping exercise would allow the establishment of a general description of research activity in Bhutan by obtaining answers to the following questions
 - a) What is the context of research in Bhutan?
 - b) Which are the centres of research activity in Bhutan?
 - c) Who are the individuals responsible for research activity?
 - d) What are the areas of research activity?
 - e) What mechanisms are being used to disseminate this research?
 - f) Where are the results of the research held and who has access to this information?
- 2 The descriptive scoping exercise could be followed by an assessment exercise in which barriers to the development of research could be identified, through gaining answers to the following:
 - a) What are the barriers experienced by researchers in the development and conduct of their research?
 - b) What are the barriers experienced by students in their development as researchers?
 - c) What are the financial and legal barriers that hinder the development of research activities at an institutional level?
 - d) What incentives need to be developed in order to promote research-related activities?
- 3 An important outcome of such an exercise is to ensure that the research information and data that exists is maintained in a secure format and is accessible to users within the country and abroad.
- 4 At present, there are no mechanisms to ensure any of the above procedures in Bhutan. It is, therefore, recommended that procedures to ensure the access to pertinent research information be developed, in electronic format as far as possible.

M4 Establishing an Enabling Environment for Research

There are three main elements in the establishment of an enabling environment for research.

- 1 **National priorities for research** need to be established, and a system for determining such a strategy needs to be put in place. There is currently no effective system in the country for determining the priorities of research. Different organizations undertake research, but it is not based on an agreed understanding of national priorities. Quite separate from the research that seeks to support the economic development of the country, and to contribute generally to the world-wide knowledge community, is Bhutan's particular interest and commitment to cultural research, to understand and record the country's historical and cultural roots.
- 2 **Incentives need to be put in place to encourage research.** Research needs to be supported through funding, direction, career structures, and access to networks of other researchers. It is also crucial to establish easy connections between research centres with government and industry. Funding for research could be of two types. Small sums (seed corn funds) to encourage the general development of a research culture, and more substantial funds to encourage research that attempts to address national problems.
- 3 **Facilities** including laboratories and libraries with up-to-date information are needed for research. Currently, there is no governmental organization responsible for overseeing the managed interplay of all the actors within the R&I system. The proposed NCRI should fill this lacunae in Bhutan.

M5 Improved Information Access and Dissemination

- 1 Knowledge and information are transmitted in a variety of ways. Universities transmit information directly through teaching, but information is also transmitted verbally, by consulting experts, or through the printed word, either in paper or electronically.
- 2 Access is needed to sources of information at a variety of levels. There is a need to improve access to sources of information. A researcher without access to a phone, a computer, the Internet, and a library cannot carry out research; just as a farmer cannot farm without tools. Currently, the access to information sources either in printed or electronic form in Bhutan is rather haphazard. There are no systematic procedures ensuring that the outputs of research activity (such as government reports, consultancy project reports, research papers, NGO reports, post-graduate dissertations by Bhutanese students abroad) are recorded, disseminated, and accessible to the research and scholarly community of the country. A weak system of

dissemination constrains the effectiveness of decision making in government and other organizations and results in resources being ineffectively used. It is characterized by haphazard systems of dissemination of formal research publications, by the lack of robust content awareness mechanisms, by weak information sharing, especially of project reports and weak informal networking of researchers.

- 3 Mechanisms are needed for the dissemination, and physical means for transmitting the right information to the persons needing that information. This implies relevant telecommunication and software systems. ICT is both a means (in education, administrative efficiency, etc.) and an end (as an area of economic development and employment opportunities). For either, it requires investment. Bhutan might consider seeking to collaborate in this area with neighboring countries like India and Thailand in their interplay with giant IT corporations.
- 4 The proposed NCRI should be asked to develop policies and procedures with which to secure access to research information generated in Bhutan and to research information generated abroad that are important to the development of research in Bhutan. It is suggested that advice in this work be sought from librarians and technical ICT from within the university library system, the public library and the National Library of Bhutan.

M6 Information use and research as a cultural practice

- 1 Knowledge, information, and research activities are not generated in a vacuum. They are cultural products that stem from a culture that promotes literacy in all its forms.
- 2 **An Information literate population is needed.** The application of new technologies has had a transforming effect on the nature and on the demands of the labour market and knowledge as an economic resource. More recently, ICT has become a key driving force for worldwide change within tertiary education, within research, and within information management for good decision-making.
- 3 Above all, there needs to be *an information culture* where information is seen as an open resource of value and use in every element of life, from teaching, learning, to research, to transparent decision making, to careful governance and democracy. Information should not be seen as a sacred hidden treasure, or something irrelevant, or as a source of power.

- 4 **Curricula that are research and information-oriented** need to be encouraged in the universities and in schools. This is not necessarily to imply the teaching of research or research methods at all levels. What is needed is to encourage curiosity, enquiry, skepticism, confidence in seeking and using evidence to substantiate views and arguments. More use needs to be made of ICT both as a means to gain information and as a mode of delivery. While traditional on-campus residential education remains the option of choice for the majority of students, internationally, more universities are investing in IT systems for web-based learning and as a means for networking.
- 5 A **culture sympathetic to research** needs to be established. It is relatively common to find that Bhutanese youngsters are intimately aware of the lives of pop artists or international football players. It is just as important that researchers, scientists, and engineers can become role models for the future generation of Bhutanese. The tertiary education system needs to put in place the environment in which new knowledge can be created and existing knowledge can be found, recognized and adapted for the national purposes.
- 6 The Ministry of Education should develop policies whereby to incorporate information research and information literacy practices as an integral part of the secondary education curriculum and as part of the research training of all university students. Guidelines for the development of such a curriculum can be based on the IFLA Guidelines on Information Literacy for Lifelong Learning (www.ifla.org). It is suggested that advice in this work be sought from qualified librarians in the university, the national library, university lecturers, and teachers of the secondary sector.

N Targets

N1 Introduction

The TEB has responsibility for setting a range of targets for tertiary education, and for progressively developing these targets. However, based on the experience currently available, it is appropriate and possible to set some initial targets. As the Board collects information on the economic targets of the country, these targets will be refined and further developed. The targets are of two sorts. Those expected of the tertiary sector as a whole and those that the Board will seek to influence through funding.

N2 Age Participation Rate

- 1 The table below sets out the number of Bhutanese 19 year olds (the average age of entry to tertiary education) over the next 12 years, together with the current plans for the Royal University of Bhutan student intakes and estimates of likely numbers of students going abroad for education, based on current trends (which could drop), and a recognition that there will be students entering private colleges in Bhutan, but without any estimate of their expansion. The estimate of the numbers, which are rounded off for simplicity, show that the country currently has an age participation rate of close to 20%, with the government funding about half. This figure is for entry to tertiary education; the rate at graduation is lower, lagging this figure by about three years. The evidence is that the government funded places are related closely to the country's needs and the privately funded students less so. E.g. >36% of RUB students, and <1% of privately funded are registered for B.Ed.

	2005	2007	2010	2012	2015	2017	2020
Number of 19 year olds	15,000	15,500	15,500	15,000	14,700	14,000	13,000
Planned annual intake to degree and diploma courses at RUB	1,100	1,500	2,000	2,500			
annual RUB expansion (2007 plan)	12%	12%	12%	12%			
Age-participation rate (RUB only)	7%	10%	13%	17%			
Annual intake to new Bhutan colleges							
Estimated annual intake to degree programmes abroad		1,400	1,500	1,500			
Total intake to tertiary education		2,900	3,500	4,000			
Total age-participation rate		19%	23%	26%		33%	
Government funded a-p rate	7%	10%	12%	15%		20%	20%

- 2 It is proposed that the Government aim for a 33% age participation rate by 2017, and that it should plan a contribution to the funding rising from 10% to equivalent to 20% by 2017. The following caveats apply to this figure
- a) From 2010, only those graduates from outside of Bhutan should be counted who have studied at universities and colleges recognized by the Registrar for Tertiary Education.
 - b) The target percentage presumes that the balance between Diploma and Degree set out below is fulfilled.
 - c) The percentage to be funded is **equivalent** to the cost of fully funding 20%; it could be that the Board funds 25% of the age group but only at 80% of full cost.
 - d) There will be a slight change in the average duration of student programmes with an increasing proportion of students on shorter programmes
 - e) The amount of funding per student increases by about 35% to provide a more realistic base for a quality product.

N3 Cost

The net effect of this proposal is that in round terms, the government recurrent expenditure would increase by 110% between 2007 and 2017. (Due to a rise in the age participation rate, a decrease in the age cohort, a 35% increase in costs due to improvement in quality, and a 5% reduction in average programme duration). Additionally, there would be capital costs.

N4 The Diploma /Degree Balance

- 1 The balance within the tertiary education system between level 5A (theory based leading to high skill professions) degree/ and honours degree and level 5B (practical, technical and occupational skills) diploma needs to reflect the likely needs of the country in terms of employment, and will, therefore, vary from profession to profession. Following is proposed as the balance needed for the next five years. The percentages are measured in terms of output. Since Diploma programmes are shorter than degree programmes, the % of diploma students on campus will always be lower than the percentages shown. The TEB is responsible for determining the appropriate balance. The targets set in the table below are the initial targets from which the Board should develop its policy.

	Diploma	Degree/Hons
Education	0	100%
Engineering	60%	40%
Agriculture	60%	40%
Science	40%	60%
Health	50%	50%
Humanities	40%	60%
Business	40%	60%
Computing/IT	50%	50%

- 2 The funding policy the Board adopts should take account of the strong social demand for some of these areas; e.g. the social demand for degrees in Business is sufficiently large if the Board could decide to put the majority of its funding for Business into diploma programmes e.g. Diplomas in Accountancy, and in Office Management, etc for which there is employment demand but no current supply.
- 3 The requirements for employment in positions or professions will develop in time; e.g. the qualifications which in 1989 were sufficient to qualify as a teacher no longer are. Based on the change in times and needs graduates with a Diploma qualification and work experience may be given favourable consideration if not actual preference when applying to enter advanced study.

N5 Degree/Honours degree balance

Only those students on professional programmes where it is judged that four years training is necessary or students on Degree/Honours programmes who are judged likely to be able to proceed to postgraduate study should be funded to a fourth year.

N6 Balance by mode of study

- 1 The majority of full time programmes are filled by initial entrants. The majority of part time programmes are filled by in service and continuing professional development; upgrading courses for civil servants, teachers, engineers etc. So the proportion of students studying part time is a rough measure of the importance given to in-service and continuing professional development.

- 2 It is suggested that by 2017, 7% of the total full time equivalent student numbers at tertiary level should be on programmes whose mode of study is part-time or distance learning. Given that part time students take about 1/3 programme per year, this means that the university could have 20% of its student number on part time programmes; this would imply a major shift in the current priorities. However, it is likely that new players in the field of tertiary education will initially offer the more traditional and easier options. It is appropriate that the well established universities should concentrate on this area.

N7 Balance by subject area

The Board should initiate a longitudinal survey of graduate employment. There are now sufficient data to provide a basis for planning.

P Technical and Vocational Education & Training at Certificate Level

P1 Level and Admission

- 1 The level of the Certificate courses is defined through the Bhutan Vocational Qualifications Framework use of occupational standards based on ILO system, in terms of competences; it is not defined in terms of academic performance, although competence in 'academic' topics like communication and English will enter into some of the occupational standards. Each level has specified characteristic outcomes of the learning and/or competence related to the expectations made of the student in terms of knowledge and understanding, applied knowledge and skills, Communication and ICT skills, accountability and autonomy.
- 2 The level of the National Certificate I [NC1] is comparable to class X and the level of National Certificate II [NC2] is comparable to class XI. That is not to say that NC1 is the same as Class X, it means that they make comparable demands on students if one equates them across different types of demand practical, conceptual and theoretical.
- 3 The requirement for admission to a course should be based on aptitudes and experience and not on academic qualifications alone. Admission should be open to students with a range of qualifications. The requirements of each course will be different and this should be accepted. Each course should set its own entrance requirement; a certificate course in office skills demands different aptitudes than does a certificate course in plumbing. There is no need to establish a common entrance requirement for all courses.

- 4 The level of a course is a measure of its practical and intellectual demand on a student. If a student from Class X without any particular skills can take and pass a course, the fact that the course is populated by Class XII students does not of its own raise the level of the course.

Title: National Certificate

- 5 A new National Certificate should be defined, using the approach to competence, and the definitions of levels currently being developed in the Department of Occupational Standards. This 'National Certificate' should be established as a national qualification and awarded by a single body; preferably by the Department of Occupational Standards that already has the responsibility for occupational standards. Training and the assessment of competence can be provided by various providers but the award should be centralized.
- 6 The term 'Certificate' is so commonly used that it would be difficult to retain its use to a particular purpose or level, thus a new title is needed for an award whose standard is defined and assured. No steps should be taken to protect the title 'certificate'. It should be allowed for use without restriction, whether by a university or by a company offering a retraining Saturday morning course for its employees.

Standards of Courses

- 7 The quality assurance for national certificate courses is based not on external examinations as in schools, nor on peer review as in the tertiary sector, but on the accurate assessment and certification of student performance on occupational standards.
- 8 Only courses which comply with the set requirements will be eligible to lead to the award of 'National Certificate'.
- 9 This quality assurance system should be applied to all 'National Certificate' courses in the country whether they are government sponsored or not. The question of who offers the course and whether it is offered or funded by the Government is important but is distinct from the Government's responsibility to establish standards for all courses at that level.

Institutions

- 10 There is a need for institutions that offer training and assessment of competence, or who offer more traditionally structured courses leading to the award of National Certificate, to be registered and approved to offer national certificate courses. The criteria for registration should be applied equally to

private organizations and to Government bodies. The criteria should include staff qualifications, facilities, and equipment. The Department of Occupational Standards should undertake the registration and other responsibilities and should not be dispersed amongst the Ministries. Approved institutions should be subject to an inspection at least once in a year. The focus of the institutional registration should be on its capacity to offer the given courses satisfactorily. This process is distinct from any requirement for them to register as commercial bodies for which they may need to register under the Companies Act or as traders. This is to do with their capacity to offer education and training courses at National Certificate level.

- 11 The process would be that the Institution would be registered to offer National Certificate courses. The license would specify the courses it was registered to offer and the period for which that license was valid and any other conditions that might be applied. This license should be updated or renewed from time to time to add additional courses.

Planning

- 12 A system is needed for planning the manpower needs of technical and vocational education and training and for allocation of resources appropriate to its needs.

Links with the tertiary and school system, Transfer to Diploma Courses

- 13 Provision should be established for access from Certificate courses to Diploma programmes at tertiary level as well as vocational diplomas to relevant degree courses in the future.

Information

- 14 Decisions and policy about standards and quality only have value if the public is informed about them. The Department of Occupation Standards should, therefore, take responsibility to inform the public of the significance of the standards and recognition and protection to be given to 'National Certificate' as opposed to 'certificate'.

Conclusions

- 15 This policy and the Bhutan Qualifications Framework relating the different levels of qualifications have wide ranging significance and it needs to be brought to public attention and gain the support of MoE, MoLHR, RUB, RCSC, Private Sectors, GNH Commission and other relevant agencies.

P3 The Need for Vocational Education and Training

- 1 It is estimated that some 60% of the school-leavers will progress to the technical and vocational education and training sector. The sector is not prepared to deal well with these numbers, the resources and planning necessary to provide a consistent and quality range of training for this range and number of students is not in place.
- 2 The objective of the MoLHR is to strengthen TVET, and to have Bhutanese nationals trained at the skilled and semi-skilled level. Nevertheless, the argument is often made that there is no need in Bhutan to train technicians, that it will always be possible to hire them from outside Bhutan at a cost lower than the cost to train our own technicians. This argument is unsound and it may be that this attitude has led to the neglect of technician and vocational training and to the low standards evident. Skilled labour is at a premium in India and in Bhutan, and it costs money to hire. The labour that Bhutan receives from outside is predominantly unskilled, hence the low quality of workmanship in construction and related industries. For example consider the quality of the plumbing, and electrical fittings in government offices.
- 3 There seems not to be a systematic approach to the manpower planning (or market analysis) for technical and vocational education and training. For some people, the TVET system seems to be regarded as something to keep the unemployed youth out of trouble, rather than as an essential part of the country's development. Certainly, the resources and management of the VTIs indicate that they are very far down any list of priorities. There is a need to use the market analysis from the MoLHR (for the private sector) and from the RCSC (for the government employment sector) to compose an overall picture of the needs for TVET. There needs to be an analysis of how much of the necessary provision is likely to be provided by the private sector and hence what funding is required from the Government. Technical education and training needs are liable to change, in some areas to change fast, so any planning needs to be able to adapt very fast. A static five-year plan may be a good start but it must have sufficient flexibility to meet changing needs.

P4 TVET as a Choice and its links to School

- 1 Students who eventually come to TVET tend to be those with very little options.

- 2 The academically driven model for the final years of secondary education seems primarily designed to prepare students for university education and has not been adapted to the needs of those students proceeding to employment or to Vocational and Technical Education or to Diploma courses at the University.
- 3 Some thought is being given in the Ministry of Education to the provision of some vocational subjects in the school curriculum as part of its plans to diversify the school curriculum. In some countries, students may take a significant part of their studies at school in technical or vocational studies, particularly those students who do not have the inclination or show the capacity to proceed to more academic studies. Given the number of students who do not proceed to higher education, this model deserves attention.
- 4 Scotland's practice may be of interest. In that country, where the vocational system of education runs in parallel with the university system up to the level of about second year degree, a single regulatory authority the Scottish Qualifications Authority, handles the courses, examinations, awards and evaluation for both schools and the vocational sector. This allows an easy and flexible system where students at schools can take a purely academic course or a mixture of academic and vocational subjects and where the latter feed directly into a higher vocational system.

P5 Links between Certificate courses, school provision and tertiary

- 1 Provision should be established for access from National Certificate courses to Diploma programmes at tertiary level. There are three options -
 - a) The introduction stages of the diploma programme could be designed in conjunction with the certificate courses so that there is a coherent progression of course materials and students. This may mean that the entry to the Diploma is no longer suited to Class XII school leavers, but this is acceptable from the point of view of the tertiary education since entry to tertiary education programmes is defined a post-Class XII or equivalent qualification.
 - b) The Diploma programme in question is designed predominantly for Class XII entry and to bring the subject matter of the Certificate holders into line, a bridging course to pursue higher levels of certificate course is offered.
 - c) The first year of the Diploma programme has a range of subjects. Students entering from Class XII and from National Certificate 3 have different levels of knowledge and skills (e.g. Math and English v Electronics),

and the first year provides these two groups with the opportunity to balance their training and education and then to proceed to a common first year.

Q Private Participation in Tertiary Education in Bhutan

1. The primary purpose of attracting private participation in tertiary education in Bhutan is to build high quality tertiary capacity and eventually move to becoming a “knowledge hub”:

- ▲ High quality private and international colleges can improve the overall quality of tertiary in Bhutan.
- ▲ They can also act as a benchmark and provide competition to RUB, to further enhance its own quality.
- ▲ They would, therefore, be the starting point for the “knowledge hub” that Bhutan aspires to be in the long term.

2. Bhutan will also get a few additional benefits – capacity and government cost reduction – through these private and international players

- ▲ Additional capacity is needed in specific fields of tertiary education which RUB may not be able to fully meet in the next 3-5 years.
- ▲ Through self-financing by some Bhutanese students as well as catering to some Bhutanese students who would otherwise go abroad, these can help lower costs for the government.

3. However, private/international participation needs to be brought in a selective manner rather than allowing a random mushrooming of colleges.

- ▲ The colleges entering should be **truly high quality** – i.e. within the top 50 colleges in the region at least – rather than fly-by-night entities.
- ▲ There are **specific fields** where there is a need currently and which can also feed into a knowledge hub for Bhutan – e.g. leadership and ethical management, climate change and so on; therefore, it would be ideal to focus private and international participation on these fields rather than across the board.
- ▲ Since tertiary education is likely to be at least partly subsidized by the Government, any un-utilized capacity is a waste of public resources;

therefore, the **overall capacity (and capacity by field) needs to be broadly in line with requirements**, taking into account what RUB has. Of course, part of the capacity could also be used for international students.

4. Why would high quality private/international players want to set up colleges in Bhutan?

- ▲ To expand their footprint in a relatively nascent market.
- ▲ To build research/capabilities in fields where Bhutan could potentially lead the world; e.g. ethical business/ leadership based on the principles of GNH, climate change and sustainable development, something around nature studies and so on.
- ▲ To cater to students from around the region: if it is a US or European university, it could attract Asian students at a much lower price-point in Bhutan; if it is an Asian university, it could create additional capacity in Bhutan apart from various attractions of the location.

5. What could be some bottlenecks or what conditions would need to be ensured?

- ▲ Ability to attract high quality faculty
- ▲ Ability to attract high quality students
- ▲ Cost of operations (due to terrain, potential under-utilization in the near term, cost of getting faculty, etc.) and, therefore, ability to run in an economically viable manner.

6. Therefore, how can Bhutan attract the right set of private/international tertiary players?

This would need a clear policy spelling out guidelines on strategic (including GNH related), financial, operational and quality parameters. A starting point to such a policy is described below; it would need to be detailed out.

- ▲ **Strategic guidelines:** which areas of tertiary education, which types of colleges do we want to attract, etc.:
 - Areas with some capacity gap expected to continue (e.g. general management) + areas which can form the heart of Bhutan’s knowledge hub (e.g. climate change, ethical business, Buddhist studies)

- Colleges/universities which are within the “top 50” (or 20?) in the world/region in their fields, as per established rankings
- Colleges/universities whose philosophy is broadly in line with core GNH principles; e.g. belief in holistic development of students, belief in developing a social, national and environmental consciousness, known for a strong value system, and so on.

▲ **Financial guidelines:** incentives, accountability, ownership

- “Licensing” for entry itself (irrespective of whether the player is getting funding or not) – to prevent excessive capacity, mismatch in fields, low quality. Specific licensing parameters to be defined.
- A few financial incentives (e.g. land, tax breaks) provided directly to chosen colleges based on overall quality of the college and the level of challenge in the specific field (e.g. more funding for a nascent field). Specific incentives and mechanism for choosing colleges for these incentives to be defined.
- Student loan/funding for a select set of students (based on merit and means) allowing choice between RUB and private colleges.
- Renewal of both licensing and funding based on meeting certain outcomes (as described in the sub-section on quality).
- Important question to be answered: will colleges/institutes be allowed to take away operating surplus?

▲ **Operational guidelines:** Operational support, infrastructure requirements, faculty qualifications, etc.

- Government to provide operational support of two kinds: (a) available infrastructure/technology at 1-2 hub locations; (b) incentives including financial and living conditions for attracting faculty on a large scale basis (across colleges).
- Player to fulfil a few basic input parameters on infrastructure (space per student) and faculty (student: faculty ratio, basic faculty qualifications) for licensing and continued accreditation; however, these parameters will be very basic and limited and majority of the quality control will be on outcomes, with significant flexibility in operations.

▲ **Quality control guidelines: accreditation mechanism, parameters, consequences**

- Regular accreditation based largely on outcomes; e.g. employment, entrepreneurship, institute ranking at regional level, etc.
- Accreditation mechanism common across RUB and private colleges.
- Escalating set of consequences for not meeting defined parameters; starting from penalties to stopping of funding to de-licensing.

7. Process to take this forward

- ▲ Identification of colleges to try and attract based on desirability for Bhutan and feasibility of getting the college (value proposition for them, etc).
- ▲ Detailed policy.
- ▲ Road-show covering identified colleges, including high level conversations.
- ▲ Selection process among colleges that apply for license.
- ▲ Support in actual launch.

