

Chapter 5: Bhutan

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Population (1995): 675,000

Population Growth Rate (1960-93): 1.9% per annum

Land Area: 46,500 square kilometres

GDP per Capita (1994): US\$425

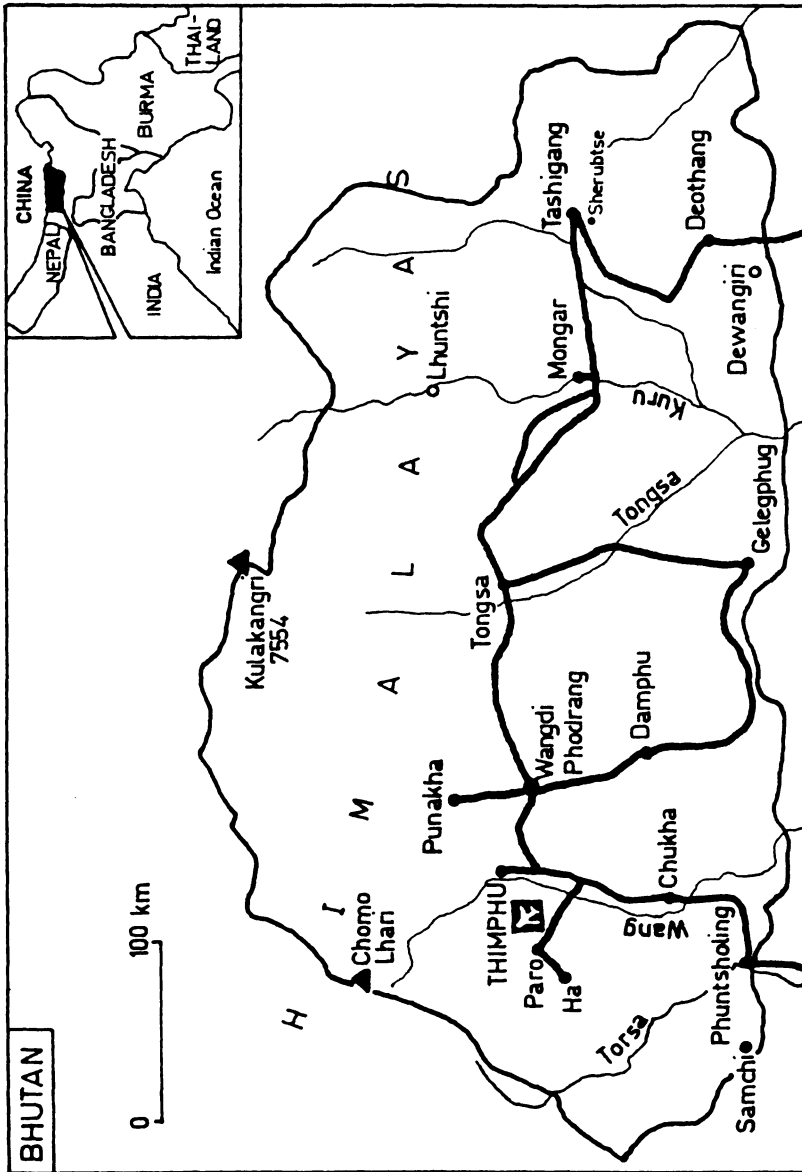
UNDP Human Development Index (1994): 0.338

The Kingdom of Bhutan lies in the Himalaya range of mountains. Because of the mountainous terrain, only about 16 per cent of the land is cultivated. Nevertheless, agriculture is the dominant sector of the economy, accounting for nearly 40 per cent of Gross Domestic Product and employing about 78 per cent of the economically active adult population. Among recently-emergent sectors is power supply. With the commissioning of a major hydroelectric dam in 1988, Bhutan became a major exporter of power to India.

Unlike the other countries examined in Part II of this book, Bhutan is not a member of the Commonwealth. However, Bhutan's history has some links with the British empire; and the country has strong ties with India, which is a Commonwealth state. Moreover, Bhutan uses English from the earliest stages of primary school. It will be evident from this chapter that Bhutan's education and examination systems have features in common with many Commonwealth states.

The links with the British empire in Bhutan's political history were through the British base in India during the 19th and early 20th centuries. Skirmishes on Bhutan's southern border from the 1830s onward escalated into a conflict in 1864. An 1865 treaty restored friendly relations, but Bhutan lost a fertile strip of land in exchange for an annuity. A 1910 Anglo-Bhutanese Treaty placed Bhutan's foreign relations under the supervision of the Government of British India. Bhutan retained its independence, however, and like Nepal and Thailand was never formally colonised.

Following India's independence in 1947, the Anglo-Bhutanese Treaty was replaced by an Indo-Bhutanese Treaty of Friendship. Bhutan agreed to seek Indian advice on foreign relations, though remained free to decide



whether or not to accept such advice. India has made major contributions to Bhutanese infrastructure, among which the road system constructed in the 1960s is particularly prominent. India is Bhutan's most important trading partner, and until 1974 the Indian rupee was the only medium of exchange. Bhutan now has its own currency, the ngultrum, but it is pegged at par to the rupee, and the latter continues to circulate freely as legal tender. Nevertheless, Bhutan has preserved its sovereignty, and in recent years the government has increasingly asserted its independence in the international arena.

The Education and Examination Systems

Bhutan's modern education system is relatively young. The first western-type institution was established in 1915, but schools remained very few in number until the 1960s. Even in 1996, moreover, the country had only 101 community (junior primary) schools, 154 primary schools, 20 junior high schools, and 10 high schools. The principal tertiary institution was Sherubtse College, which was affiliated to the University of Delhi.

The school system has a 1+6+2+2+2 pattern, i.e. one year of pre-primary, six years of primary, two years of junior secondary, two years of middle secondary, and two years of higher secondary education. English is the principal medium of instruction throughout the system. However, in the mid-1990s the government began to experiment with Dzongkha-medium education at the base of the system.

At the end of primary school, pupils take the Primary School Certificate Examination (PSCE), which is conducted by the Bhutan Board of Examinations (BBE). Until 1994, this examination was entirely based on external examinations except in the two language papers, where an internally-conducted oral assessment contributed 10 per cent of the final marks. In 1994, the proportion of school-based assessment was increased to 50 per cent of the final marks.

The curriculum for the junior secondary grades leads to the Lower Secondary School Certificate Examination (LSSCE). Assessment is based 80 per cent on the external examination, and 20 per cent on internal assessment. Students who remain in the system until Class X take the Bhutan Board-Indian Certificate of Secondary Education (BB-ICSE) examination, which is equivalent to Ordinary ('O') level in other countries. The next two years lead to the Indian School Certificate (ISC) examination, which is equivalent to Advanced ('A') level.

The ISC examination is set by an Indian examining board, and is based on Indian syllabuses. Students learn Indian history, geography and economics, with almost no Bhutanese adaptation. Because of shortages in

the number of available Bhutanese teachers for senior secondary schools, many pupils at this level are taught by Indian expatriate teachers.

The BB-ICSE, however, is a move towards localisation. The examination is now a joint operation between the Bhutan Board of Examinations and the Council for the Indian School Certificate Examination (CISCE). Prior to 1996, the examination was entirely operated by the CISCE, and, like the Class XII examination, was heavily dominated by Indian syllabuses. One reflection of this was the inclusion of Socially Useful Productive Work (SUPW) as a specific item for assessment. SUPW was introduced by the Indian government for its own schools during the 1970s in an effort to link schools more closely to their communities. SUPW has remained a subject in the Class X examination, but is now operated by the Bhutan Board of Examinations.

In addition to these major school-level examinations are several other demands on the Bhutan Board of Examinations. They include the examinations for the teachers' colleges and for the Rigzhung. The latter is an institution which focuses on aspects of Bhutanese language and culture, for which examinations are required at Classes X and XII. At one time the BBE

Table 5.1: Growth in Numbers of Examination Candidates, Bhutan, 1986-2002

	PSCE	LSSCE	ICSE	ISC	PTCE	ZTCE	Rigzhung X	Rigzhung XII
1986	2,014	974	277	113	n.a.	-	n.a.	n.a.
1988	2,860	1,076	334	127	n.a.	-	n.a.	n.a.
1990	2,261	1,164	515	145	n.a.	-	n.a.	n.a.
1992	3,321	1,326	570	175	89	-	42	8
1994	4,234	1,890	599	189	46	27	68	-
1996	5,805	3,678	1,141	268	49	42	71	17
1998*	9,482	5,805	3,678	1,395	-	-	35	71
2000*	11,223	9,482	5,805	3,678	-	-	62	35
2002*	13,675	11,223	9,482	5,805	-	-	-	62

PSCE = Primary School Certificate Examination; LSSCE = Lower Secondary School Certificate Examination; ICSE = Indian Certificate of Secondary Education; ISC = Indian School Certificate; PTCE = Primary Teachers' Certificate Examination; ZTCE = Zhungkha Teachers' Certificate Examination; n.a. = figures not available; - = examination not offered; * = projected

Source: Bhutan Board of Examinations, Thimphu.

also operated examinations for the Royal Bhutan Polytechnic, but now that institution conducts its own examinations.

Table 5.1 shows the growth and projections in the numbers of examination candidates since 1986. PSCE candidates nearly tripled between 1986 and 1996, and were expected to double again by 2002. Even more striking are the numbers of ISC candidates, which increased four-fold in the decade from 1986, and were projected again to increase eight-fold between 1996 and 2002. Most dramatic of all is the projected 21-fold increase in ISC candidates between 1996 and 2002. As of 1996, however, some operations were still small — below 300 candidates in the ISC examination, and just 17 in the Rigzhung Class XII examination.

History and Staffing of the Examinations System

The history of national examinations dates only from 1972, when the primary school leaving examination was created. At that time the examination was taken at the end of Class V.

During the initial years, the examinations were conducted by the then Directorate of Education. In 1976, an Examination Cell was established with an Assistant Controller of Examinations. Eight years later, the Examination Cell was separated from the Directorate and a Secretary appointed. Finally, in 1986 the Examination Cell was renamed the Bhutan Board of Examinations.

The BBE has a staff of civil servants whose work is overseen by a board. The Secretary (Head) of Education is *ex officio* Chairperson of this board, which has 11 members. Most of the other members are school principals and other senior officers in the government's Division of Education, which is itself part of the Ministry of Health & Education. The board of the BBE was created in 1993 in order to spread responsibility for direction of operations and to prepare for future autonomy of the organisation.

Although from 1972 to 1981 the primary and junior secondary examinations were conducted in Bhutan, the papers were prepared and evaluated in India. In 1982, scripts were for the first time marked in Bhutan. The marking was conducted in evaluation camps with Chief Examiners from India. Since 1984, the whole process at those levels has been conducted internally. This set a pattern for localisation which the authorities plan to emulate for the Class X and Class XII examinations.

The BBE suffers from severe shortages of resources, especially in staff. The establishment created in 1990 allowed for seven professional posts as shown in Table 5.2. However, at various points in history at least some were unfilled. At the beginning of 1996, for example, the Board had only

Table 5.2: Jurisdictions and Responsibilities of Professional Posts according to the Staff Establishment, Bhutan Board of Examinations

Secretary of the Board

- a. Overall planning, policy implementation, and direction
- b. Overall administration, including finance and budget matters
- c. Professional and academic advice in evaluation, measurement and assessment for all units

Controller of Examinations [Vacant; duties managed by Secretary and two Assistant Secretaries]

- a. General administration of Class X and XII examinations
- b. Supervision of evaluation camps
- c. Monitoring of other examinations

Assistant Secretary for Administration & Analysis

- a. Overall administration of the Primary School Certificate Examination
- b. Analysis of scores for all examinations
- c. Computer maintenance of item bank

Assistant Secretary for Arts

- a. Overall administration of Rigzhung examinations for Classes X and XII
- b. Development and maintenance of item bank for Classes VI and VIII History, Geography, English and Dzongkha

Assistant Secretary for Biology & Chemistry [Vacant; duties managed by Secretary]

- a. Overall administration of Class VIII Examinations
- b. Development and maintenance of item bank for Class VIII Biology and Chemistry
- c. Development and maintenance of item bank for Class VI General Science

Assistant Secretary for Pure Sciences & Mathematics [Vacant; duties managed by Secretary]

- a. Overall administration of Royal Bhutan Police and Royal Technical Institute examinations
- b. Development and maintenance of item bank for Classes VI and VIII Mathematics and Physics
- c. Development and maintenance of item bank for Police and Technical Institute test papers

Subject Officer for Dzongkha [Vacant; managed by Assistant Secretaries in collaboration with Dzongkha Development Commission]

- a. Overall administration of Rigzhung, Zhungkha Teachers' Certificate, and Classes VI, VIII and X Dzongkha examinations
- b. In-service training for Dzongkha language teachers

Note: The table shows the establishment created in 1990. At the beginning of 1996, four posts were vacant. Arrangements to cover the tasks are indicated in parentheses.

three professional officers plus five support staff. The chief reason was a shortage of qualified personnel arising from a combination of the small size of the population and the recency of educational development. As in other small states, staff have to be multi-functional, and the job descriptions on paper do not completely correspond with reality.

Also notable in the establishment created in 1990 was an imbalance between treatment of Arts and Sciences. Whereas Arts had one Assistant Secretary, Sciences had two. This arrangement chiefly reflected availability of personnel at the time — a practice which is commonly frowned upon in large states but which is common in small states and may indeed be desirable because bureaucracies in small states must be flexible and in some circumstances must maximise the use of available human resources (Bray et al. 1991, p.54).

In line with this need for flexibility and periodic restructuring, in mid-1996 the subject specialists were redesignated Coordinators rather than Assistant Secretaries, and the posts of Assistant Secretary for Biology & Chemistry and Assistant Secretary for Pure Sciences & Mathematics were combined as Coordinator of Science & Mathematics. This made sense not only from the viewpoint of internal organisation of the BBE but also from a wider perspective since the schools were very short of such specialist personnel and could not easily afford to lose even a single person to the BBE.

Despite the general scarcity of well-educated nationals, the small team at the BBE is well qualified. Among the three professional staff employed in early 1996, the Secretary had a BSc degree majoring in chemistry, a secondary teachers' college diploma, and 12 years' teaching experience in junior high schools; the Assistant Secretary for Arts had an MA in education; and the other Assistant Secretary held an MEd in measurement and evaluation. The five support staff had Class X and Class VIII qualifications. One held the post of Assistant Computer Programmer, while the others performed secretarial and other support functions. Staff were generally recruited as generalists rather than specialists. Some specific training has been provided for BBE staff, but most skills have been acquired through on-the-job experience.

Also instructive, and relevant to the broader literature on public administration in small states (e.g. Baker 1992; Murray 1981) is the way that availability of staff has determined organisational roles. At the time that the establishment reflected in Table 5.2 was created in 1990, the Assistant Secretary for Pure Sciences and Mathematics had expertise to cope with the scientific and technical examinations of the Royal Bhutan Polytechnic. As a result, the BBE took on a role in that institution. But with the departure

of that officer, the BBE no longer had the necessary expertise and that particular function was dropped.

The problems posed by the shortage of personnel, particularly in subject specialisms, have been partially ameliorated through the help of Curriculum Officers, teachers and lecturers in the teachers' colleges and elsewhere. Model question papers are usually developed by teachers and lecturers, who are nominated by the Secretariat according to their experience and expertise. Marking is also undertaken by teachers and lecturers.

To keep costs down, the marking camps are generally used for in-service training in general principles of educational measurement and evaluation useful for classroom situations as well as specifically for marking examination scripts. In 1995, 43 per cent of Class VI teacher and 54 per cent of Class VIII teachers were directly involved in the evaluation processes. This is a very high proportion, which might be envied by larger states. The involvement of such large proportions of teachers helps to ensure close linkages between the examination processes and the realities of classroom operation.

Financial Constraints

The examination service has not attracted good funding from either the government or external donors. The government budget only covers operating costs, while the costs of equipment, workshops and publications are generally met by donors. Table 5.3 indicates the government budget for 1995-96. The largest items, excluding the salaries of full-time BBE officers and support staff which are not shown, are for travel and for printing.

In addition to these costs to the government are fees paid directly by candidates. The fee structure includes an overall fee for each sitting, plus a separate fee for each paper. In the past, the CISCE permitted Bhutanese candidates to pay the same rate as Indian candidates. This contrasted with the charges for candidates in other countries, who had to pay a higher rate. Since 1996 Bhutanese candidates have been charged the non-Indian rate, but the government has met the costs for ICSE and ISC candidates in public schools.

Complete localisation of the examination system will cut the flow of resources to India, but will increase the burden on the team in Bhutan. Moreover, ongoing links will be needed with counterparts in India and elsewhere, in order to maintain reference points concerning the nature and standards of examination. It is therefore uncertain that future localisation of examinations will be less expensive than the present system.

Table 5.3: Budget Estimates for Bhutan Board of Examinations, 1995/96 (Ngultrums)

1. Personal Emoluments and Evaluation Charges	500,000
- Question-paper setting and moderation fees	
- Net salary payments to teachers and others for supervision and invigilation	
- Evaluation fee for ICSE projects in Economics, Geography, History and Computer Science, and practical examinations in Physics, Chemistry and Biology	
2. Travel	1,200,000
- Supervising examiners, invigilators, escort teachers	
- Visiting examiners for BB-ICSE and ISC practicals	
- Out-station students reporting to centres for Class VI and VIII examinations	
- Expenses for person on duty during printing of confidential papers and stationery	
3. Printing Charges/Supply and Materials	628,000
- Printing of question papers, examination stationery, certificates and statements of marks	
4. Air Freight Charges	75,000
- Charges and travel costs for BB-ICSE and ISC documents between Delhi and Bhutan	
5. Operating Expenses and Transportation	70,000
- Transportation of examination documents from press in India to Secretariat	
- Transportation of examination documents from Secretariat to/from examination centres and evaluation camps	
6. Maintenance and Procurement	60,000
- Office equipment	
TOTAL	Nu 2,533,000 (US\$ 79,530)

Social Factors and Security of Examinations

The small size and closeness of Bhutanese society poses a special problem in terms of maintaining social relationships but also confidentiality in examinations. Frequent visits and telephone calls by relatives and friends anxious for inside information during and after examinations are a continuing nightmare for BBE staff.

However, some measures adopted over the years have helped to maintain security and smooth operation. Teachers are nominated as paper-setters

through confidential correspondence, and they are prohibited from participating if their own children or close relatives are sitting the examinations in question. Final proof reading of papers and preparation on computer are done only by the three professional officers in the BBE, who are held fully responsible for any lapse in security.

The papers and examination stationery are actually printed in India. Although this arrangement increases the costs of transportation, it takes advantage of the large printing presses and cheap labour in India, and is not necessarily more expensive than printing domestically. The printing work is awarded on a confidential tender system. To maintain security, papers are collected from India by one of the BBE staff, and are brought to Bhutan only a few days before the date for each examination. On arrival, the packets containing papers and numbers are adjusted for each centre, and are immediately locked in metal trunks by Board staff. The trunks are then escorted by staff members to examination centres, and deposited in the care of the respective convenors a day or two before the examinations begin.

In addition, scripts show only index numbers rather than the names of candidates. Numbers are allotted to the examinees in advance upon receipt of the registrations from the schools, and are fed into the computer. During the evaluation camp, another set of computer-generated random numbers is used to replace the original numbers, in order to conceal the identity of the examinees from the examiners. This task is carried out by the managers, who do not themselves engage in marking. Raw marks are fed into the computer at the venue of the camp, and are cross-checked for final processing under the supervision of one of the officers. The staff return to the Secretariat only when the data have been processed and are ready for final printing. Finally, results are published in absolute confidentiality either during the weekends or outside working hours. These procedures are considered desirable not only to maintain security but also to save BBE staff from unnecessary social pressures.

Recognition and Localisation

The landlocked nature of the country and its dependence on its giant neighbour, India, cannot be ignored. Some independence is essential, however, and Bhutan is increasingly asserting its national identity and autonomy. This is the main reason for localisation of the ICSE examination, which in due course will be followed by localisation of the ISC. Nevertheless, policy-makers still heed issues of external recognition. Due to limitations in local capacity, many Bhutanese still need to go abroad for further studies and training. Indeed, given Bhutan's small size, this is likely to remain a permanent feature.

The certificates issued by the BBE are recognised within the country by both the government and private sector employers. Since they only cover the lower grades, recognition outside the country is not a serious issue.

The Class X examination still enjoys recognition in India as well as in Bhutan because it is operated jointly by the Bhutanese BBE and the Indian CISCE. The current arrangement was set up through a Memorandum of Understanding in 1993. Under this arrangement, the BBE is responsible for Dzongkha, History & Civics, Geography, and Socially Useful Productive Work; and the CISCE is responsible for English, Mathematics, Physics, Chemistry, Biology, Economics, and Computer Science. Staff of the CISCE come to Bhutan when needed to assist with training, and BBE staff periodically go to the CISCE for attachment courses. These visits of course have to be paid for, but are a valuable mechanism for effecting a smooth transition.

The 1993 Memorandum of Understanding indicated that the CISCE would "make all efforts" to secure recognition of the joint certificate by the Association of Indian Universities, the Universities Equivalence Committee, the Council of Boards of Secondary Education, the Central Board of Secondary Education, and all other state boards of education in India. The BBE expects to increase its share of the operation, with a target of full localisation by 2002. The Bhutanese government envisages that recognition by the Indian bodies will be maintained. The BBE, with the help of the CISCE, has already enrolled as an associate member (foreign country) of the Council of Boards of Secondary Education and of the Association of Indian Universities.

The Bhutanese government plans in due course to follow localisation of the Class X examination with localisation of the Class XII one. However, no timetable has yet been set for this. Major considerations include not only recognition but also manpower constraints. Unit costs of operating the examination would be high for the small number of candidates existing at the time of writing, but presumably will fall as the numbers increase.

At the time that Bhutan commenced its affiliation with the CISCE, the latter was itself affiliated to the University of Cambridge Local Examinations Syndicate (UCLES). Bhutanese qualifications thereby gained an international currency through that further link. In due course, the CISCE felt able to operate on its own, outgrowing the need for the affiliation with UCLES. Now the BBE is beginning to operate on its own, outgrowing the need for the CISCE. The process perhaps resembles generations in a family, with Cambridge as the grandfather, the CISCE as the father, and the BBE as the son.

Conclusions

Bhutan has a relatively short history of formal education, and has been heavily influenced by patterns in India. Localisation of curricula has made considerable progress at the base of the system, but secondary schools remain dependent on India for teachers, books, syllabuses and examinations. This dependence becomes greater at each successive step up the system.

Nevertheless, localisation is under way at the Class X level, and in due course will follow at the Class XII level. The Bhutanese government has received support from Indian counterparts in these endeavours. In the long run, of course, the CISCE will lose business because of the localisation; but most Indian officials recognise that the process is not only inevitable but also desirable. Many officials view patterns in Bhutan in the context of their own localisation processes when Indian examination systems were created to replace those operated by Cambridge and other metropolitan boards.

Of course, localisation is not a simple task, and a balance has to be found between aspirations and the reality of practical constraints. Nevertheless, despite economic and manpower constraints, major progress has already been achieved. Provision of quality education which is comparable to regional and international standards continues to be a priority.

Also striking about the organisational arrangements in Bhutan is the amount that is achieved with a small professional staff. This partly reflects efficiency, but also reflects effective use of school-based personnel. As the operation expands, some increase in central staffing will be necessary. However, the benefits of a small team at the centre include not only cost-effectiveness but also high security and maintenance of confidentiality.

Further achievement of goals will require developments not only in examinations but also in curriculum development, instruction, and evaluation. In this regard, until the late 1980s developments in the examination system were lagging behind developments in other sectors. However, improvements have been achieved during the 1990s. Particularly important have been changes at the primary level, with the expansion of school-based assessment; but developments have also been significant at other levels. Among the most significant changes during the next few years will be dramatic growth at Grades X and XII.