Assessment of Tertiary Educatioin is a project sponsored by UNDP under a grant signed with HMG in August 1992 and executed by the World Bank in collaboration with HMG and Tribhuvan University. It is designed as a self-study focussed on five major areas: structure, management, financing, quality and the physical facilities of tertiary education. Its main objectives are:

1. to make tertiary education cost-effective and relevant to the national goals of development of human resources and macro-economic growth.
2. To prepare a policy framework for the next decade for tertiary education sector in Nepal, including affordable and alternative financial and policy scenarios for implementation by HMG and the universities

The self-study is designed to address specific policy-related issues and deliberate on and disseminate their findings among the policy-makers, planners, the university faculty and management.

All the studies are conducted almost entirely by national experts from the Tribhuvan University faculty.

The list of major studies sponsored by the project is given in the inside front cover.

A STUDY ON INTERNAL EFFICIENCY IN TRIBHUVAN UNIVERSITY

EXECUTIVE SUMMARY

1995
Assessment of Tertiary Education
A HMG/Tribhuvan University/UNDP/World Bank Project
NEP/91/011
Kathmandu, Nepal

List of the Studies Conducted by the Project

1. Manpower Needs of Nepal: A Review and Synthesis of the Literature
2. A Study on Current Tution-Fee Waivers and Scholarships in Tribhuvan University
3. A Study on Financing of Higher Education in Nepal
4. Decentralization of the Management of Higher Education in Nepal
5. A Study on Regionalization of Higher Education in Nepal
6. A Study on Internal Efficiency in Tribhuvan University
7. A Study on Instructional Process in Tribhuvan University
8. An Inventory of Tribhuvan University Real Estate
9. Facilities Rationalization in Tribhuvan University
10. Space Survey in the Secondary Schools of Nepal
11. Teacher Availability Study
12. Feeder Schools Survey
13. Civil Works for Higher Secondary Schools
14. Facilities Required for Secondary Schools Upgradation
15. The Transition Plan for the Implementation of Higher Secondary Reform
16. Continuous and Comprehensive Evaluation for Higher Secondary Education
17. Curriculum Framework for Higher Secondary Education
18. SLC Results (1982-1991) Data by Districts and Projections for the Coming Decade

PREFACE

This Executive Summary consists of the findings and recommendations made by a team of specialists who were commissioned by this project to undertake the study at the request of His Majesty's Government and Tribhuvan University to help the university as well as the Government to initiate institutional reforms and policy changes in tertiary education. This is one of the several policy-related studies sponsored by the project.

The Terms of Reference as well as the team of experts who conducted the study are given at the end of this publication. The full text of the report is, of course, voluminous and much longer than this summary. Those who are interested in the complete report may find copies of the report with the Planning Division of Tribhuvan University, the Higher Education Project, Tribhuvan University, Kirtipur, the Resident Mission of the World Bank in Nepal at Kathmandu and the United Nations Development Programme Library at Pulchowk.

10 December 1995

Kamal P. Malla
National Project Coordinator

A STUDY ON INTERNAL EFFICIENCY IN TRIBHUVAN UNIVERSITY

EXECUTIVE SUMMARY

1.1 BACKGROUND

Tribhuvan University (T.U.) has become the largest institution of higher education with its faculties, institutes and constituent as well as affiliated campuses that have around 5000 teachers and 150,000 students. These days, the university is facing unprecedented challenges in matters concerning its internal efficiency -- enormous pressure on student enrolment, arrangement of shift system to combat student pressure, low students' attendance and level completion rate, increasing number of non-class days, high attrition, dropout and failure rates.

The clearly evident social, economic and educational pressures on higher education, the questionable quality of higher education graduates, the overwhelmed management capacity of the university by the need to strike a balance between the quantitative expansion and qualitative growth of higher education, and the question of how the available limited resources of the university are utilised to effect an optimum level of productivity, all these and other issues have put the university at a critical juncture demanding immediate concern and increased efficient services to remedy the situation.

The issue of internal efficiency of T.U. as related to these factors has been strongly debated today urging the university to be more responsive to the

challenges. This study, therefore, is a response to the urgent call for suggesting tangible measures to raise the efficiency level of the university.

1.2 OBJECTIVES

The present study had two major objectives:

a. to find out the internal efficiency of Tribhuvan University by evaluating the aspects like enrolment, attendance and attrition of the students, teachers' performance, instructional facilities (laboratory and library), student's entry behaviour, and implementation of the calendar of operations.

b. to suggest alternative ways and means for a more effective, economical and efficient system on the basis of the findings derived from the study.

1.3 PROCEDURE OF THE STUDY

This study adopted survey design to evaluate the existing status of internal efficiency of Tribhvan University. A multi-stage stratified random sampling method was used to study 50 percent of T.U. campuses located in different regions of the country. A campus survey form was developed and used to collect relevant data from the sample campuses. With a view to eliciting opinions regarding basic issues in internal efficiency and related components, opinionnaires were framed and administered. Opinions were collected from 32 Campus Chiefs, 13 Assistant Campus Chiefs, 64 Instructional Heads, 202 teachers and 571 students on admission policy, attendance, dropouts and failure rate of students, access to higher education, teacher performance evaluation, teachers' accountability, and library and laboratory conditions.

The research team visited selected campuses and organised discussions with Campus Chiefs/Assistant Campus Chiefs, Instructional Heads, teachers and students to elicit and record their views, opinions and suggestions on the basic issues of internal efficiency and its related components.

A high level seminar was organised in Kathmandu with a view to bringing the issues of internal efficiency into focus and seeking suggestions from the participants to raise internal efficiency level at the T.U. campuses.

The data gathered from the field were tabulated and coded for computer data processing. The indices of internal efficiency were analysed in terms of cost input, materials and equipment, resources, student performance level, and attrition rate. Mean and percentage were computed on the data related to internal efficiency. In some cases, rank order was also used to present and analyze the data obtained on priorities of various suggested measures.

1.4 MAJOR FINDINGS

The major findings of this study are presented as follows:

Admission

1. Admission pressure was relatively higher in the day shift of PCL and Bachelor's levels. The campuses of the Kathmandu Valley and science-oriented campuses outside the Valley had more pressure of PCL students while the pressure of Bachelor's level students was higher mainly in the campuses of the Kathmandu Valley.

2. Introduction of admission test was emphasized as a measure to resolve present admission problems in T.U. campuses followed by fixation of dead line for admission, as at present, and maintenance of single admission dead line in all the faculties.

Attendance

3. Of 26 general campuses, eight campuses had approximately 25 percent of the students irregular from the beginning to the end of the academic session at both Proficiency Certificate and Bachelor's levels.

Duration of Shift

4. All the general campuses were found to have their daily teaching time below the required standard -- seven hours a day -- in each shift.

Drop-out

5. The highest dropout rate at PCL and Bachelor's level was found in the Faculty of Law whereas the lowest dropout rate at PCL was found in the Faculty of Education. Similarly, the lowest dropout rate at the Bachelor's level was found in the Faculty of Management in the three years' period (1991 -1993).

Level Completion Rate

6. The highest percentage of level completors in the three year period (1991-1993) was in the Institute of Science and Technology at both PCL and Bachelor's level and lowest in the Faculty of Education at both levels. In the case of technical institutes, the level completion rate was found to be about 80% except in the Institute of Agriculture. The Institute of Agriculture had an average of about 60% level completion rate for the same period.

Failure

7. Compulsory English, followed by Economics and Mathematics, was the most difficult subject in which most (50 - 80 percent) of the students of both general and technical campuses failed.

Teacher's Performance

8. The campuses (24) were found to have an average teaching load (teacher's) of 14 periods in a week.

Teacher's Performance Evaluation

9. Lack of transparent criteria and objectivity in the evaluation procedure was the most critical shortcoming of T.U. teacher's performance evaluation system.

Teacher's Accountability

10. To complete the courses within the stipulated time, top priority was accorded to the provision of proper teaching environment (undisturbed, disciplined and quiet classroom with minimum facilities) and regularity of classes.

11. Priority to the need of training the teachers and providing instructional materials was given to motivate teachers to apply appropriate teaching techniques in the classroom by three groups of respondents (Campus Chiefs, Instructional Heads and teachers).

12. Strong emphasis was laid on the need of arranging remedial classes and requiring teachers to give assignments and homework to the students in order to motivate the teachers to provide feedback to weak students.

Teaching Time

13. The mean teaching days of the sample campuses were found to be 151 which were less by about three months than the possible 228 teaching days in one academic year.

14. On an average, 25 sample campuses were disrupted in their total teaching days by a lapse of 66 days in one academic year. Of those 66 days, an average of one month's teaching days were found to have been disturbed by the conduction of final examination in the 32 sample campuses.

Educational Facilities

15. Of the campus libraries, only 26 percent had 90 to 100 percent textbooks whereas the rest of the campuses did not have adequate number of textbooks.

16. Technical campuses had their libraries equipped with professional journals while the libraries of general campuses were poorly equipped with such journals.

17. About 40 percent of laboratories had adequate work space for practical work at par with the international norm (3 sq.m. per student) in all science subjects.

18. Though basic laboratory materials were available in almost all the campus laboratories, about 70 percent laboratories did not have these materials in required number. Further, replenishment of materials was not done in more than 50 percent of the laboratories.

19. Sixty-six percent of the practical course work, on an average, was completed in the campuses. This accomplishment was greater in Botany and Physics than in Chemistry and Zoology.

Financing

20. The contribution of fees to total income of technical campuses (5) was two percent, but in general campuses (27) , it was about 18 percent in 1992.

21. The cost per student (gross) in Medicine, Agriculture and Forestry was NRs.74,467.00, NRs.38,782.00, NRs.28,199.00 respectively whereas in Management, Law and Humanities and Social Sciences, it was NRs.1,278.00, NRs.2,124.00, and NRs.2,869.00 respectively in 1993.

22. Salary expenditure in general campuses amounted to 84 percent (mean) whereas in technical campuses it amounted to 77 percent (mean) in 1993.

Access to Higher Education

23. The most favoured program for working students including the working women was correspondence course or distance education or open university system followed by mini-courses.

24. For socially disadvantaged groups, on-the-spot program followed by correspondence course and mini-courses was strongly recommended by all the four types of respondents.

1.6 RECOMMENDATIONS

The following recommendations are made on the basis of the findings of this study.

Admission

1. Reintroduce entrance test at all levels of higher education in all the faculties. Open alternative venues for the screened out applicants by the entrance test in order to reduce the enrolment pressure in the campuses.

   Implementation Strategy. Initiation of entrance test with planning and preparation of tests should start in 1995 with their implementation due in 1996 in the professional faculties (Law, Management and Education) at the Bachelor's level. This system should be introduced at the Master's level in these faculties in the subsequent years. In the Faculty of Humanities and Social Sciences, this should be introduced at the Bachelor's level in 1997 and at the Master's level in 1998.

2. Provide the campuses outside the Kathmandu Valley with adequate facilities in order to lessen the enrolment pressure in Kathmandu.

   Implementation Strategy. Upgrade all the campuses of four development regions (excluding the ones of the central development region) with competent and well-qualified teachers, increased physical facilities, library and laboratory facilities and instructional materials. Out of the existing campuses located in these development regions, select and develop a centrally located potential campus to the status of centre of excellence in each region within a period of five years.

3. Increase the enrolment target in the technical campuses from the coming session (1995) considering the existing low teacher-student ratio and high unit cost.

4. Develop an explicit policy on student enrolment and plans for high level manpower development to cater to the needs for national development. Initiatives in this direction should be taken as soon as possible.

Attendance

5. Formulate and strictly implement explicit rules and regulations by fixing total teaching days in a year/session, number of teaching hours in a day and duration of teaching period in order to regulate student' attendance in the class.

   Implementation Strategy. Fix 150 hours of instruction for each course of 100 full marks in one academic year and one hour for each period. Strictly implement the regulations in all the faculties in each of the morning, day and evening shifts from the 1995 academic session.

6. To motivate students to attend classes regularly, design some of the courses demanding students' involvement in practical activities such as writing reports, term papers and other forms of assignments.

   Implementation Strategy. Redesign the courses of Bachelor's and Master's levels to mandate the students to write reports, reviews, term papers and prepare assignments by allocating 20 percent of full marks to such works of each course. This should be implemented in all the faculties along with the introduction of three-year Bachelor's program.

Teacher's Performance

7. To raise the efficiency level of T.U. campuses, develop a well-planned scheme of staff development program with a focus on : upgrading teachers' qualifications, organising refresher training for familiarising the teachers with latest developments in their subject areas, organising workshops for developing instructional materials and teaching strategies, and organising seminars for acquainting the teachers with T.U.'s plans, programs, policies and new directions.

Implementation Strategy. Complete the manpower needs assessment in all the faculties and institutes (Science and Technology) within a period of six months and develop a ten-year staff development program within the next six months to upgrade the teachers. Initiation of in-country training program should be taken when the three-year Bachelor's program is implemented.

8. Provide training to the newly appointed teachers regarding classroom management and instructional strategy. Also, assign the beginning teachers to work under senior and experienced teachers for at least one full academic year.

9. Make a strong provision to apply successively measures like asking the irregular teachers to submit to the authority an explanation call, issuing stern warning to such teachers in the continuance of their irregularity and eventually terminating their job if they persist to be irregular in their classes.

   Implementation Strategy. This measure should be translated into policy and implemented from the 1995 session.

10. Fix the teaching load reasonably, requiring the teacher to teach 15 periods a week at both Proficiency Certificate and Bachelor's levels, and 12 periods or 12 contact hours a week at the Master's level. Extra classes should not exceed more than six periods a week at all levels.

    Implementation Strategy. Implement this measure from this year of 1995.

Calendar of Operations

11. Develop and implement strictly a comprehensive calendar of operations for the whole year. Conduct final examinations during the vacation by slotting two months' vacation in one block in order to prevent possible disturbances to classes due to the conduct of final examinations in the campuses.

    Implementation Strategy. Implement the comprehensive calendar of operations prepared by the T.U. central office immediately. Instruct campuses to develop their specific calendar of operations basing them on the framework of the comprehensive calendar from the academic session of 1996.

Raising the Level Completion Rate

12. Require teachers to teach 150 hours a session/year in each course worth 100 full marks, use standard instructional strategy to ensure wider students' participation in teaching-learning activities, and provide feedback to students regarding their achievement through periodical assessments.

Shift System

13. Make teaching in morning or evening shift a full time job by fixing five hours as the instructional hours for each shift and a period of one hour each. If the time available in these shifts is less than five hours a day and a period is less than one hour, the two years' course should be spread over three or more years so that adequate and qualitative instruction can be ensured.

14. Design and implement continuous scheduling for class instruction as a financially viable and academically efficient alternative to the shift system in T.U. campuses.

Educational Facilities

15. Prescribe a single, standard and comprehensive textbook for each course to facilitate students' acquisition of knowledge from a single textbook unlike the existing practice of having to read various textbooks and reference books for a single course.

    Implementation Strategy. Encourage senior, experienced and competent teachers to write a standard comprehensive textbook for each course for each level. For this purpose, establish Textbook and Materials Development Centre before the initiation of three-year Bachelor's program throughout the country.

Financing

16. Fee structure of both the general and technical campuses should be reviewed.

    Implementation Strategy. The technical campuses should increase their fees to meet at least 15 to 20 percent of their unit cost whereas the general campuses are recommended to revise their fees from 25 to 30 percent of their gross unit cost. The reviewed fee structure should be put into effect from the academic session of 1996.

17. Since existing budgetary allocation for instructional purposes (instructional materials, laboratory and library facilities) in both technical and general campuses is low, it is recommended that this allocation

should be increased upto 12% in technical campuses and 8% in general campuses of their total budgetary expenditure.

Implementation Strategy. Provision of this recommended increase should find its place in the coming fiscal year of the university.

Supervision and Evaluation

18. Develop an efficient mechanism for monitoring and supervising classroom instruction and teachers' performance. Classroom supervision should be undertaken by the Campus Chiefs and Heads of Departments while monitoring and evaluation should be carried out through Campus Chiefs and central authorities. Existing Monitoring Unit of the T.U. should be strengthened.

Access to Higher Education

19. Implement correspondence courses/distance education/open university education system/continuous scheduling of classes to provide access to higher education for working students, socially disadvantaged groups and working women. Design specifically and implement on-the-spot or correspondence or distance education to socially disadvantaged groups and students of remote areas.

    Implementation Strategy. A comprehensive feasibility study on introducing correspondence courses, distance education, open university system and on-the-spot program should be carried out in 1996 in order to ensure the access of higher education to such students.

Teacher's Performance Evaluation

20. Develop transparent and objective criteria for teachers' performance evaluation by basing these criteria on the demonstrated acquisition of skills and knowledge in teaching one's own subject and performance on course completion.

Decentralization of Power and Responsibility

21. Clearly define, the areas of responsibility for the staff and teachers within which they could make independent academic decisions. Also, delegate more authority in writing to campuses for the efficient management.

22. Ensure free and regular interaction on campus issues between the faculty and management with periodic involvement of students and local communities.

Improved Database

23. Establish an Educational Management Information System (EMIS) at the national level manned by trained manpower and equipped with necessary hardware and software to facilitate efficient and successful planning and implementation of T.U.'s programmers.
    Implementation Strategy. Establish EMIS under the Planning Division of the T.U. and start its operation as soon as possible.

Student Evaluation

24. To improve instruction, modify and improve existing students' evaluation system thereby providing autonomy to the faculties to adopt their own student evaluation system on the basis of their proven capabilities.

Implementation Strategy. Devise student evaluation system to include internal assessment with the weightage of 20% of the full marks in theory course. Introduce this system at the Master's level of Faculty of Education with a gradual extension to the Faculties of Law, Management, Humanities and the Institute of Science and Technology on a phase-wise basis. The faculties will be made fully responsible in conducting their own student evaluation system in the final phase.

TERMS OF REFERENCE FOR A STUDY ON INTERNAL EFFICIENCY OF TRIBHUVAN UNIVERSITY

Backgound

For a couple of years Tribhuvan University has been trying to implement a Calendar of Operations, though often disrupted by student activism. For more than one reason, teaching in university campuses does not take place for more than 135 days in an academic year. Students pressurise the campus administration and rush to get enrolled but do not attend lectures. Of those who attend and take examinations less than an average of 25-30 % pass. Teachers do not feel accountable to this enormous scale of educational attrition and wastage of scarce resources.

Objective

The objective of the study is to investigate how Tribhuvan University uses its available educational resources for better and more useful results and suggest available alternatives for a more effective, economical, and efficient system.

Scope of the Study

The study will cover, among other things, a survey on the following areas to find answers to why the university has not been able to stick to a calendar of operations and above all why there are so few teaching days per academic year in university campuses.

A: Current Calendar of operations

1. The total working days in one academic year
2. The total teaching days in one year

3. The loss of teaching days due to
   a. Protracted Admissions
   b. Examinations
   c. Other celebrations, holidays and vacations
   d. Other disturbances

4. The total average teaching hours per day per shift
5. The total number of shifts in the given Campus
6. The duration of a lecture: stipulated in the courses of study and actual in the classroom

B: Teachers Performance

1. Average teaching load of teachers in the Campus per day/week
2. Workload in different shifts
3. Teacher absenteeism
4. On leave - casual, study, sabbatical, leave without pay
5. Teacher regularity
6. Teacher punctuality
7. Teacher's time on teaching
8. Teacher's time on other tasks (e.g. supervision, consultation, committee work, administration and examinations-related tasks)

The survey on teachers is expected to find answers to the following questions:

What are the underlying causes of the low performance levels of university teachers?
Why do not the teachers feel any accountability to the current state of affairs ?
What could be done to check teacher irregularity, lack of punctuality, and absenteeism?
What can be done to improve teacher performance levels in the university?

C: Attrition and Programme Completion Rates

1. Students who applied for admission in a class/level
2. Students enrolled (by level and class)
3. Students who are regular out of the total enrollees
4. Students who filled in the forms for final examination
5. Students who sat in for final examinations
6. Students who passed in all the papers
7. Students who failed in some papers

The survey on student attrition, transition and programme completion rates is expected to find answers to the following questions:

What can be done to make students attend lectures and reduce drop outs?

What can be done to make them take examinations, rather than just enroll?

What can be done to increase the programme completion rates in university faculties\institutes?

D: Shift System

1. The total number of shifts in a given Campus
2. The enrollments in each shift by level/faculty/subject
3. The student-teacher ratio in each class, level, shift and faculty
4. The available teaching time for lecture in each shift
5. Prescribed laboratory work - total hours in each course (for Science Programmes only)
6. Actual laboratory work accomplished in each course
7. Total volumes in the Campus library [textbooks, references, journals give breakdowns, if possible]

   Does the campus library contain what is needed for students to study? Check by some major subjects.

   Can the students access the books?

   Are there enough copies for the student population in a campus?
8. Laboratory space in each Science subject
9. Size of Laboratory Practical Class by group

The study is expected to find answers to the following questions:

Can multiple shifts be phased out?

If so, in which faculties\campuses?

Can continuous scheduling of classes be introduced instead of multiple shifts?

What are the financial as well as educational implications of either of the two options?

How many hours of practical is done in a science course (as against the prescribed ones)?

What is the state of the library holdings? Do the library conditions encourage the students to use it?

Expected Output of the Study

The study will make concrete recommendations on the following issues related to internal efficiency of Tribhuvan University with options and possible alternatives to them:

A. Admissions

1. Admissions: Can the University introduce a central computerised admissions test that will allocate the applicants a place in a university campus on the basis of merit and/or preference or aptitude? Can it totally decentralise admissions at the campus/departmental level?

2. Can the university introduce remediation courses or coaching classes in courses with very high failure rates or drop outs? If yes, how this can be done? On a non-commercial basis or on extra-fee charging basis?

B. Access

1 .Assess the feasibility of distance education in Nepal by establishing an open university or through affiliation with institutions in South Asia.

3. Suggest means of promoting access to higher education for working students, part-time-students, working women , private candidates, disadvantaged social groups and the ethnic minorities.

C. Performance Evaluation

1. Suggest means of introducing a Teacher Performance Evaluation System so that it can be acceptable to university teachers.

D. Curriculum and Course Assignment

1. Suggest a process of revision of the major-minor, compulsory-electives structure in the university curricula to make them more flexible.
2. Suggest a flexible structure of pre-requisites for curriculum tracking and changing of tracks for +2 and/or PCL graduates.
3. Assess the feasibility of introducing an academic credit system

The study is expected to last 8 months.

Research Team and Budget for the study on
Internal Efficiency in Tribhuvan Univeristy
Executed by Department of Curriculum and Evaluation, Faculty of Education

Budget : NRs 855,600

Duration : 8 months; effective from December 14, 1993 to August 14, 1994

Final Report to be submitted on August 14, 1994

Submission of Final Report on January 10, 1995

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