5. Quality

5.1 Admissions

The National Education System Plan (1971-76) had stipulated that the total enrolment in higher education would be gradually lowered to 19% of the total enrolment of secondary education (Grades VIII - X), which was 24% at the beginning of the plan. It had also stipulated that there would be entrance examination at every level and each level would prepare a specific level and kind of manpower and would be self-terminating. Passing one level would not entitle a student to get admission to the next level. The candidate must pass the entrance examination and also compete for the limited places. But this provision was *never* fully implemented in the case of programmes under the Humanities and Social Sciences, Management, Science, Education and Law. In 1979 provision of entrance examination was abolished under the political pressure from students and a policy of social demand principle was adopted in enrolment in campuses other than those of the Technical Institutes. Thus, implicitly, the right to higher education was officially admitted.

After completing SLC every eligible candidate in Nepal wants to pursue higher education. The desire is so strong that students take it as their right to get admitted in the desired course. Any attempt to curb it would result in resistance. TU is, therefore, compelled to accommodate them by opening multiple shifts in its campuses.

This "right to higher education" was in the beginning accommodated by making provision of admitting students in other faculties, campuses and departments than where admission was sought which was already too crowded. But gradually this had also eroded and student pressure was successful in getting 161 students admitted in the Master Level Physics where provision exists for only 12 students in one shift. Similar is the case with other departments and campuses which are sought after by more students.

In Tribhuvan University system there are 65 university campuses, 133 private campuses and 33 central departments. The private campuses, though more in number than the university campuses, accommodate only one fourth as many students as university campuses. In places where both university campuses and private campuses are operating the tendency to getting admitted to the university campuses in much stronger than that to private campuses. In such cases the university campuses are overburdened with students whereas the private campuses have far less students than they can accommodate. In Pokhara, Prithivinarayan Campus, a university campus, offers Certificate Level courses in Management, Humanities and Social Sciences, Science, Law and Education. In 1991 it had to enroll about 3500 students in the first year Certificate. In the same city, five private campuses are operating offering

Certificate Level courses in Management and Humanities and Social Sciences and Education. These campuses together have enrolled less than 400 at that level.

Among the University campuses offering the same courses some campuses are preferred than others. In the Kathmandu Valley there are six university campuses offering Certificate Level course in Science. Bhaktapur Campus is the least preferred. So there is maximum pressure on Amrit Campus and the seats in Bhaktapur Campus are mostly vacant. In Bachelor's level science also such preference is evident. In this case Tri-Chandra Campus is the most favoured one.

The Institute of Medicine, Engineering, Forestry and Agriculture and Animal Science have contained their admission to the targeted number to a large extent. Admission test for the Bachelor Level admission has been reintroduced in all of these institutes. Institutes of Forestry, Engineering and Agriculture have also reintroduced admission test for the Certificate Level admission. The Institute of Medicine, which is the only technical Institute to have Postgraduate level programme, has provision of admission test for admission at that level.

In order to be eligible to apply for admission to Certificate Level programmes in the technical institutes the candidates are required to obtain a minimum of at least 50% aggregate marks in the SLC examination. They must also have English, Mathematics, Science (or Agriculture Science in the case of Institute of Agriculture and Animal Science). In the case of girls and students from remote areas, the Institute of Agriculture has lowered the SLC aggregate requirements from 55% to 45% but they must have passed SLC with English, Mathematics and Science/or Agricultural Science. The Institute of Forestry has waived the 50% aggregate requirement at the SLC level to the girls, but has maintained the subject requirement. In order to be eligible for admission test score and SLC score is used to prepare merit list of admission to Bachelor level programmes in these Institutes.

The Institute of Science and Technology requires a score of at least 50% of the SLC aggregate and 55% in SLC Mathematics to be eligible to apply for admission to the Certificate Level. Admission test is introduced since 1992 at the Masters level, since 1993 at the Bachelors level and since 1994 at the Certificate level as well. The Faculty of Education has introduced Entrance Test for Bachelor's programme. The Faculty of Management and the Faculty of Law are contemplating to do so in the near future. To be eligible to apply for Certificate Level under the Faculties SLC pass is required. Some campuses tried to raise it, but were unable to do so because of student opposition. To be eligible for admission to Bachelor and Master level programmes of the Faculties and Institute of Science and Technology the students are required to pass the lower level examination with relevant subjects. The merit list is prepared on the basis of aggregate marks in the lower level examination.

The technical institutes have their own separate admission schedules which do not coincide with the admission schedule of the Institute of Science and Technology and the Faculties. So students who would ultimately go to the technical institutes also get admitted in other campuses, specially in the Institute of Science and Technology, thus occupying precious seats which they would leave vacant later. This creates further difficulties.

Every year, while preparing the programme and budget of the university, enrolment target for each level and programme in each campus is set. In the case of technical institutes the students are enrolled according to the targeted figure. The technical institutes fix their own admission schedules for different programmes and implement them. The Central Office plays little role in the enrolment process. Formerly, the Central Office did have a say in this process, resulting in a lot of pressure on it. But fortunately, recently it has been successful in extricating itself from this process and thus making the institutes more autonomous and making its admission process relatively less burdensome, reducing pressure from different pressure groups: students, higher officials, politicians.

The Central Office of TU is, unfortunately, still too much involved in the admission process of all levels and programmes of the campuses and Central Departments of Institute of Science and Technology and the Faculties. The Central Office fixes the schedule of admission, calls the applications, monitors and supervises the admission process. The admission targets are preset for each programme of each campus and central department, but *the Central Office encourages them to admit as many as they can accommodate without asking for more budget.* The campuses in the beginning try to limit the admission to the previously set number. Pressure from the students who seek admission and the desire of the influential to accommodate the maximum number compell the campus to take additional students. So more students are admitted without additional facilities or by adding additional shifts and shortening class hours so that more class hours are made available during the same time.

The magnitude of the problem can be illustrated by comparing the number of students admitted at different levels in major campuses and Central Departments between the 1980s and the 1990s. During the last decade very little physical facilities have been added to these campuses because of lack of funds.

While calling applications for admission the university also announces the date of starting the class, and month of annual examination. But these are rarely observed. Because of the pressure of number the dates are extended several times. Thus the duration of admission process which started in October 1991 was still continuing till February 1992. Furthermore, in the Institute of Science and Technology, even after the start of theory classes the practical classes are delayed, because practical classes are still occupied by the previous cohort. The time lost in admissions is recovered by extending the session, so the time of examination is also extended. Examination also takes a long time. The students want "preparation leave" for the examination, sufficient gap between examinations of two papers; they also want sufficient gap between examinations of different parts of the same level so that they can get sufficient preparation time. The examinations are held in the classrooms of the campuses and even schools. During the examination time the classes are suspended. The examinations of different parts and levels are held at different times. So a lot of teaching time is lost. In the early 1980's two major campuses reported that they lost 60 teaching days in a year with is about a third of teaching days in a year. Thus the calendar of operations of the university is completely dislocated. It ordinarily takes three to three and a half year to finish a level which should take only two years.

This dislocation of calendar of operations has a serious effect on the use of facilities in the campuses, the work load of teachers and the working discipline. Sometimes, the campus is overflooded with students, at other times it is almost vacant. Thus the use of physical facilities is very inefficient. When all groups of students are on campus teachers have maximum load. Other times, when one or more groups are not on campus the load is severely reduced. Sometimes some of the teachers have no work at all. Work or no work the regular salaries are to be paid. When there are more classes in operation extra-remuneration for extra shift and extra classes are to be paid. These are in many cases paid when the extra classes are not operating because the group for which the class is scheduled is not present. So financially also it has become more inefficient. The university has to spend three or more years' salary and extra-remuneration for the work of two years.

Besides the irregularity of academic session because of durations of admissions and examinations, several other irregularities detrimental to the quality of the programme have cropped up. Unofficial suspension of classes several days before and after long vacations, during students union elections, during early period of resumption of classes of new groups of students due to welcome programmes by different groups, suspension of classes due to unannounced absence of teachers, and on account of several pretexts are some of them. Suspension of classes because the teacher is engaged in the practical examination in some other campus and non-occurrence of practical class when the practical examination is being held for other group which may go on for several days are other regular phenomena of disruption of classes. The growing tendency among teachers to take fewer classes in their regular shift and more classes in other shifts, irregularity in class attendance by the students, because regular attendance is not taken and non-attendance do not bar them from appearing at the examination, have made the teacher's task less interesting, less challenging, and more mundane.

Centralised or Decentralised Admissions?

Runaway enrolments and the social and political pressures surrounding the enrolment issues were among the most severe problems currently faced by Nepalese higher education, affecting the quality of academic programmes at all levels. Although everyone agrees that regulating enrolments should be an explicit objective of the university consensus on the mechanisms for achieving this objectives is yet to emerge.

The first policy option is a swift, complete and effective decentralization of the admissions process to the campus level. This would give individual campus/department the mandate to set enrolment "capacities" (or limitations) based on extant physical and human resources. It also would give campuses the power to enforce these pre-set enrolment limitations. The question is whether the campuses -- traditionally the weakest link in the system -- could be sufficiently empowered to withstand the pressures that would inevitably arise during the transition. In the past, pressures came not only from local parties seeking admissions, but also from central sources seeking to place excess enrolments. If a decentralized approach were to succeed, it would have to encompass several policy changes: i) TU commitment to a completely decentralized admissions process, wherein students could apply to as many or few institutions as desired, but then would have to live with the consequences of a merit-based and

transparent selection process decided at the level of the individual campus; ii) commitment to an absolute and uncontestable absence of recourse for those which did not gain admission through the new process (except via such potential avenues as an open university); and iii) full support from the TU Council. Without an assurance on all these elements, student pressures would effectively neutralize the new system, and fledgling institutions would once again have to submit to enrolment pressures. While commitment to a decentralized admissions process would be a necessary pre-condition (to send the right signals to both students and institutions), the actual implementation of such a policy could be phased. Activities/inputs to support implementation could include: i) TU's official endorsement of a decentralized admissions system, accompanied by a media campaign to inform the public and an information campaign to prepare constituent campuses for the transition and the new responsibilities; ii) workshops for faculty and campus chiefs in determining academic standards and setting admission requirements; iii) funds (for study tours and research) to evaluate other countries' experience in implementing decentralized admissions schemes, leading to recommendations and a timetable for implementing such a scheme in Nepal; and iv) incentives and rewards for those campuses able to demonstrate success in setting reasonable standards and containing enrolments.

An alternative approach is essentially adopting a highly centralized, but computerized, admissions system. Such a system would allocate students to individual campuses according to merit. "Merit" could be defined and determined in a variety of ways: through assessment of academic performance at the secondary level, institution-based (but system-administered) admissions examinations, standardized university entrance examinations, or some combination of the three. Centralizing and computerizing admissions would have the value of establishing a completely transparent system that would be immune to student pressure. Such a system would not undermine individual campus decisions regarding enrolment limits or admissions criteria. Rather, it would support these decisions through an openly fair admissions allocation process. Such a process would remove -- or at least, render indefensible -- interference with the admissions process. Interestingly, the policy changes required to enact this approach would be similar to those outlined in the previous paragraph. The primary difference would be a commitment to a merit-based and transparent selection process that would be computer-based and centrally determined and enforced. A further policy action that would be required under this scenario is selecting a body sufficiently powerful and independent to house the new admissions system. (The Higher Secondary Education Board or a specially-constituted University Entrance Examination Commission might be suggested.) Specific activities/inputs to support this approach could include: i) TU's official endorsement of a centralized and computerized admissions system, accompanied by a media campaign to inform the public and an information campaign to prepare constituent campuses for the transition; ii) workshops for faculty and campus chiefs in determining academic standards and setting admission requirements; iii) funds (for study tours and research to evaluate other countries' experience in implementing computerized admissions schemes, leading to recommendations and a timetable for implementing such a scheme in Nepal; iv) expert assistance to set up the computerized system; v) expert assistance to evaluate, advise on, and -- if appropriate -- design a standardized entrance examination as part of the package.

Although potential changes to the nature of the admissions process were the most contentious, there are disagreements on other issues. For example, replacing multiple shifts by double shifts or a continuous schedule of classes may be a way out. Although such a move could have an immediate impact by reducing the number of students flowing through the system (and therefore achieve a primary objective), it also might serve to turn out a significant and potentially fee-paying section of the student body currently served. This group consisted of individuals who are already employed and can only attend classes before or after working hours. An Open University system may serve this very population. Aside from the academic merits of the open university approach -- which can be debated separately -- it appeared that a way for meeting this demand might already exist. Some new proposals could be such as encouraging "continuing education programmes", which could generate revenue from the working population anxious to increase their skills. Nevertheless, there was insufficient knowledge about the composition of extant student body or consensus about the appropriate direction to make specific recommendations at this time.

Finally, equity needs to be addressed. Current practice in Nepal condones giving scholarships to students strictly on the basis of academic merit. Although a certain proportion of seats may be reserved for disadvantaged segments of the population (chiefly ethno-linguistic minorities and females), it is arguable whether this is an adequate response to the Government's desire to equalize opportunities across all elements of societies. Information on the socio-economic background of students (as an element in the admissions process or as a pre-condition for consideration for financial aid) is absent. Genuine economic need, in addition to academic merit, must begin to form part of the profile for award of scholarships.

Entrance Examination versus SLC

Entrance examinations would be an effective though politically difficult means of controlling entrants to the university. The technical faculties have developed and use their own. As their use expands, in the long term TU will probably develop a single standardized examination rather than allow campuses to duplicate efforts. A two-component test is being considered, with general (language and math) and specialized sections. As mentioned above, the IDA-financed Higher Education Project will finance institutional building for standardized testing. However, the use of entrance examinations will not be generalized in the university system in the near future.

The future Higher Secondary School Leaving Certificate may serve as a potential screen to the university. However, the use of a leaving examination as an entrance examination is academically and socially problematic.

Graduation from a course of study should be determined by *criterion-referenced principles*, that is, by whether a student has shown a minimum level of mastery of instructional objectives (for example, correctly solving three out of five algebra problems involving polynomials). It is theoretically possible and actually desirable, for all students to master the required number of objectives. Entrance to the next level of studies, however, should be guided by *norm-referenced principles*. That is, the university will admit only the highest scoring students of those who met minimal criteria, even if all students obtained first division.

The above testing principle is not widely understood in Nepal, and this results in political and social problems at the Secondary School Leaving Certificate (SLC) level. Everyone obtaining a minimum score in the SLC examination graduates from secondary school and is also eligible for university admission. To stem the deluge of students, every effort is made to make the SLC examination difficult and inaccessible. Send-up exams are required before taking large numbers of students from graduating. Failed students (who are often poorer, rural, female) congest Grade X classes as repeaters and\or earn much less for the rest of their lives because they were unable to graduate from secondary school.

Usually, norm- and criterion-referenced tests are different, because they serve different purposes. However, in Nepal, the same test could be constructed, and different criteria could be used. The Government as well as the University can explain to the population that it is preferable to graduate on the basis of sound instructionally related criteria than to retain the current system and risk failure in order to limit university entrants. The University has every interest in collaborating with the HSEB in the development of a valid and reliable school leaving examination with criterion-referenced graduation criteria and norm-referenced entrance criteria.

Policy Objectives and Actions

Policy Objective 1

Limit enrolment to the capacity of the campus and the department.

Policy Actions

a. Each campus and department will determine its enrolment capacity.
b. Such capacity will be determined on the basis of availability of classrooms, laboratories, teachers and instructional materials.
c. Academic requirements of each course, the number and duration of classes, tutorials, laboratories, workshops and field works, books and journals and the level and qualification of teachers will be determined by the Academic Council.
d. Classrooms, laboratories and workshops will be maximally utilized by properly scheduling the classes. The present practice of running multiple shifts of classes should be replaced by full duration or by continued schedule of classes of extended duration - say from 8.00 a.m. in the morning till 6.00 p.m. in the evening.
e. Schedule of classes will be prepared and published before the students are admitted. Such schedule will consist of course title, room number, size of class time, and the teacher engaging the class. The classes in the Faculty of the Humanities and Social Sciences and the Faculty of Education will be scheduled that classes of compulsory courses and courses with large number of students will occur more often spanning the whole working hour and optional courses with fewer students occurring less often spanning the middle duration of the working hour.

f. At the time of admission the students will also be given the schedule of annual examination. (in the Faculty of Education and the Faculty of Humanities and Social Sciences, there are multiple combinations of optional subjects, so the examination schedules are extended covering a long duration. By scheduling the examination of some optional subjects twice the duration can be considerably reduced.)
g. The admission in all Faculties and Institutes will be synchronized. Similarly a time at the end of the session will be set when all annual examinations will be held. (During this time no classes will be held so space and teachers will be available for examination works.) A mid-session examination of shorter duration will be scheduled for repeaters and those who could not take the annual examination.

Policy Objective 2

Enrol students according to merit

Policy Action

a. Merit will be determined on the basis of the performance in the qualifying and the entrance examinations.
b. Faculty Boards of the Institutes and Faculties will set the minimum conditions necessary for eligibility for admission to specific programmes and the criteria of preparing the merit list. Subject to the conditions and criteria laid down by the Faculty Board the campuses will determine the conditions -- marks in the qualifying and or entrance examinations necessary for admission to programmes offered by them.
c. The admission to programmes will be given on merit basis. In the case of seats reserved for disadvantaged areas, females and specified regions of the country, admission will be given on merit basis from among the candidates of the same group.
d. Each Campus / Department will determine its own procedure of admission. The Central Office will provide the calendar of operations and annual and supplementary examination schedules. Subject to the calendar, the campuses and the departments will determine their own procedures of admission.
e. Entrance Examination will be gradually extended to Certificate Level Programmes in other Faculties.
f. A coordinated scheduling of the entrance examination of different levels in the Institutes will be made. Admission to the programmes of the same level in these Institutes will be held at the same time. Ultimately, the calendar of operations will be so adjusted that all classes of all levels will start in late July / early August of each year.
g. Scoring of the common component will be done by a group under the supervision of Board of Examiners set for the purpose. Programme and Institute specific parts will be scored by groups constituted by concerned Deans, Scores of candidates will be made available to the concerned campuses.

Policy Objective 3

Provide increased opportunity of higher education to students from undeserved regions, disadvantaged areas and girls.

Policy Actions

a. i. Seventy-five percent seats at the Certificate Level programmes in Tri-Chandra and Amrit campuses and in the Technical Institutes will be allotted for admission on the basis of open competition. The remaining twenty-five percent seats in these programmes will be allotted to students from five development regions equally.
   ii. The present practice of reserving ten percent seats for the girls will continue both in the case of national and regional level seats.
   iii. Similar practice will be followed in the case of five percent seats currently allotted to students from the twenty-five educationally disadvantaged districts.

b. This arrangement will be extended to other campuses and programmes based on the study of regional and gender distribution of students in different programmes.
c. If additional funds are available hostel facilities for girls in the major campuses will be added.
d. The current practice in the Institute of Agriculture and Animal Science and the Institute of Forestry of setting lower requirements for girls will be continued and be extended to other Institutes also where enrolment of girls is low.

Policy Objective 4

Provide opportunities of higher education in all regions of the country equitably.

Policy Actions

a. A study of educational opportunity in each region in relation to its needs will be made and the under-served region will be given priority in expanding such opportunity. This study will be done under the IDA-financed Higher Education Project.
b. Expansion of higher education facilities under the four faculties will be done principally with local support. Such expansion in Science programme in the undeserved regions will be done with local and central support.
c. Funds available for expansion and development of higher education will be allocated in the undeserved region on a priority basis.

5.2 Curriculum

The IDA Project Pre-Appraisal and Appraisal Missions identified the following features in the curricula of Tribhuvan University Faculties and the Institute of Science and Technology.

a. very early tracking at Grades IX and X, which limits options before university entrance;
b. further early specialization or tracking, at age 16;
c. lack of remediation courses, therefore virtual impossibility to change streams, particularly from humanities to sciences;
d. low level of professional attainment in most fields due to double majors;
e. outdated material, infrequent revisions;
f. teaching and examination of bits of information rather than comprehension, application, analysis, synthesis, or evaluation;
g. in reality, very limited use of textbooks (students often study from class notes, bazaar notes);
h. little actual need for classroom attendance (students are able to pass courses by taking coaching classes and studying the questions of previous years);
i. a single examination per course, which allows students to waste much of the academic year without having to study;
j. lack of professorial responsibility for delivering material and helping students pass a course.
k. very few teacher-assessed courses and almost no requirement to do continuous class assignments during an academic session.

The above features go against world trends, which point towards:

a. general education to age 18 with some language, mathematics, science and social studies for all students;
b. later specialization and avenues for students to change specialties;
c. a structure of major and minor fields of study as well as useful core courses (e.g., computer literacy, expository writing, reading of English textbooks);
d. functional mechanisms for periodic curricular revision;
e. a single, affordable textbook per course, which actually meets students' instructional needs;
f. need for classroom attendance through multiple tests, and emphasis on material to be tested in final examinations;
g. professorial discretion and responsibility to teach material and measure student performance on it.

TU is updating its curricula by adding an extra year to its Bachelor's degree, but it should first establish the principles that would drive the revision. Some might be:

Should student specialization start later than it currently does? If so, what should the +2 curricula teach?

- Should tracked students enter the university and remain tracked? If not, how should course offerings be structured to maximize flexibility?

- How much and what should students be able to do at the end of each degree? What structure of majors, minors, and pre-requisites would achieve the final objectives of each degree? (such issues as well as advanced placement, part-time, interdisciplinary studies, honors programme have been helped elsewhere through system of academic credits).

- Should professors be responsible, to some extent, for student achievement? Through what mechanisms?

- Should TU merely strive to imitate the system of SAARC countries (which have many problems) or aspire towards the systems of newly industrialized Asian countries (e.g. Malaysia, Thailand, Korea)?

- Which fields of study and courses are more likely to meet the needs of Nepal's labour market and culture? (e.g., environmental studies, communication courses, computer technology, tourism). Which fields of study could be amalgamated or abolished (e.g. Hindi, Maithili)?

- If the course structure is radically altered as suggested above, how will new and old curricula be phased in and out in specific campuses and specialties?

- What can this revision learn from the "failures" of the National Education Plan? (semester system, academic credits, grade point averages, flexible scheduling, letter grades etc.)

These and other issues related to desirable academic activities of the University have yet to be discussed in Faculty workshops. A regulation requiring multiple student assessments in a course should also be discussed in curriculum development workshops. These workshops should have taken place before the curriculum development process.

Although UNDP-funded Tertiary Education Project had initiated curriculum reforms and the debate on the General Structure for Three-Year Bachelor's Programme in a workshop held in August 1994 little further work was done. The Subject Committees, the Faculty Boards and the Academic Council have yet to approve the new curricula and work out a process of disseminating and implementing them.

Curriculum development has been a lengthy exercise that has spanned the duration of the UNDP tertiary-education grant which had provided the university a package of technical and financial assistance to develop nearly 390 courses for Three-Year Bachelor's Programme, including study tours, sample and recommended textbooks, subject specialists, regional reviewers and experts in Educational Technology. The IDA-financed five-year Higher Education Project will finance needs assessment and curriculum development in the faculties at the Masters level. To manage the multiplicity of specialties and the impossibility of hiring a single curriculum

development specialist at the higher education level, twinning should be encouraged with institutions from countries in the region (e.g., India, Thailand, Sri Lanka).

Textbooks

The university has done little to provide textbooks to students. Professors typically recommend several textbooks for a course. There is a great deal of indecisiveness on the preferred medium of instruction in tertiary education. In the 1970s the university launched an ambitious Nepali-medium textbooks programme which has fizzled out since the 1980s for lack of funds. Most faculties use English-language textbooks. These books are often treated as general reference materials rather than actual study guides that help students pass a course. Many students do not systematically study from them because the textbooks are;

a. not commercially available (particularly in remote areas);

b. too expensive, particularly when more than one must be bought (textbooks above Rs. 100 seem unaffordable by many);

c. not helpful for the examinations, which ask for a few, discrete pieces of information;

d. incomprehensible (they either do not contain sufficient explanations, or students may not know enough English to read them);

e. boring (students and teachers seem to differ in their definition of good textbooks).

Students expect to find the books in the campus library and photocopy certain parts. This is particularly important for English classes. Those particularly weak in English buy Nepali or Hindi textbooks, which may not teach material tested in examinations. Often, however, students give up on textbooks and study either from bazaar notes (which exist for lower-level courses, cost only Rs. 15-60, but may contain many mistakes) or from photocopies of recirculating class notes. These materials focus on the bits of information repeatedly asked in examinations, often essay-type answers. The reading material may amount to as little as 50 pages per course per year. Students, therefore, learn very little material from a course and are particularly weak in comprehension and application of the little information they master.

University authorities have not yet focused on this problem. There is a view that students should understand enough English or that they somehow do manage. The use of bazaar notes is seen as a shameful underground practice that should not be discussed or encouraged. These notes, however, indicate that there is a lack of sufficiently explanatory instructional materials, a willingness to pay Rs. 15-60 for them, and a publishing and distributions network efficiently responding to student needs. The proposed project should build on the messages and the avenues provided by the private sector.

The Subject Committees revising and developing each course under the Higher Education Project must ascertain that a textbook is realistically available. Involvement in book publication is expensive and difficult. Instead, the university should take help and encourage the involvement of the private sector printing and distribution industry that so efficiently sells books and bazaar notes all over the country. The Subject Committees should:

a. obtain sample textbooks available in the international market;

b. assign to courses books that appear affordable to less affluent students;

c. field test proposed textbooks with students, particularly in campuses of less affluent areas;

When comprehensible, reasonably priced materials are not available, the following options could be pursued:

a. translate or adapt existing textbooks in collaboration with local publishers, particularly for courses with large enrolments;

b. as a last resort, write and publish selected textbooks (e.g., Nepali language);

c. purchase copyrights for limited printing in Nepal;

d. for particularly good but relatively expensive textbooks, encourage campuses to develop a mass acquisition and rental scheme of textbooks with depreciation and cost-recovery on a three-year basis (This scheme would be particularly important in putting high-quality, illustrated science books in the hands of students.);

e. facilitate the development of a second-hand book market, possibly through campus libraries.

The Subject Committees should also anticipate and focus on the backup solutions of students who cannot afford, find, or understand the textbooks. These could be:

a. identification and recommendation of Nepali or Hindi textbooks, where possible;

b. help the writers/publishers of bazaar notes for the updating and improvement of these materials,

c. desktop publishing or photocopying of class notes and commentaries for courses which lack commercial bazaar notes, sale at a small profit by campus libraries;

d. providing campus libraries with multiple copies of textbooks and financing photocopy machines in each campus to run at a small profit.

Sample textbooks can be ordered for teachers' review. The Curriculum Development Centre should take the responsibility for placing orders of sample textbooks (which are often free) and paying for them when they are not.

5.3 Instruction

Tribhuvan University and its campuses are at the crossroads today facing unprecedented challenges in their attempt to keep themselves abreast of the times. The university is at present facing a difficult task of striking a balance between its quantitative expansion and qualitative growth. Instruction at the university campuses is being much criticized for teachers' unpunctuality, irregularity and poor performance in the classroom, lack of educational facilities and misuse of instructional materials, students' erratic attendance, lack of motivation towards learning and their indiscipline, and poor performance in the examination. These problems and issues urgently call for a study to suggest tangible measures in order to raise the quality of instruction in the classrooms. Hence, a study was sponsored to investigate the factors that led to such poor instruction.

It had three major objectives:

a. to find out the actual instructional process that takes place during the course of the academic year,

b. to ascertain whether instructional process affects student attendance in the class and performance in the examinations, and

c. to recommend measures that can be used to improve the quality of instruction in the T.U. campuses.

The study adopted non-experimental study design to critically examine the nature of instructional process subsisting in the campuses. A stratified random sampling procedure was followed to select campuses located in different regions of the country as well as classes for observation from these campuses .

The sample included altogether 52 classes i.e. 481 lessons of 52 teachers at a rate of about 10 lessons per teacher, from 16 T.U. campuses, 14 private campuses and 1 private coaching centre with both Proficiency Certificate and Bachelor levels. Classroom observation forms were developed to record relevant classroom behaviour of both teachers and students. With a view to eliciting opinions regarding basic issues in instructional process and related components, opinionnaires were framed and administered.

Opinions regarding students' participation in teaching-learning process, teachers' performance and quality of classroom teaching, and suggestions for improving instruction were collected from 35 Instructional Heads, 52 teachers and 743 students of the observed classes.

A high level seminar of T.U. personnel was organised in Kathmandu with a view to bringing the issues of instructional process into focus and seeking suggestions from them to raise quality of instruction at the T.U. campuses. In this way, both quantitative and qualitative data were obtained for analysis.

The data gathered from the field were tabulated and coded for computer data processing. Data obtained from classroom observation forms were put on a matrix and activity ratio was computed. Teachers' regularity and punctuality, students' attendance and entry/exit behaviour were calculated on a simple percentage basis. Correlation coefficient was calculated to relate teaching time with students' attendance. Analysis of variance was run to compare punctuality between teachers of T.U. and private campuses. Weighted means were used to examine instructional qualities and approaches employed by the teachers in the observed classes.

Major Findings

The major findings of the study are presented as follows:

Instructional Time

1. Of the 52 classes of both T.U. and private campuses, the teachers were found to be regular only in 25 classes during the visits for class observation.

2. The percentage of no-classes was found higher in science-oriented classes of T.U. campuses than that of science-oriented classes of private campuses whereas this situation was reverse in general classes of T.U. and private campuses.

3. The allocated time for a class period varied from a minimum of 30 minutes to a maximum of 60 minutes (one hour) in T.U. and private campuses. As such, 71 percent of the observed classes were found to have assigned 40 to 45 minutes for one period of class instruction.

4. The actual instructional time was found less by 8 minutes, on an average, than the allotted time for class instruction in both T.U. and private campuses due to teachers' late entry into and early exit from the classroom. In the same way, it was also noted that about 70 percent of the teachers did not stay in their classes for the allotted time for instruction.

Teachers' Performance

5. The instructional qualities of teachers such as clarity and fluency of language, eye-contact and movement in the classroom were rated as good while the traits like questioning techniques and non-verbal communication were noted as poor in all the observed classes of T.U. and private campuses.

6. It was found that teachers used more recall type questions than critical ones in the observed classes. Teachers of science-oriented classes of both T.U. and private campuses were relatively better in asking critical questions.

7. Majority of instructional heads (86%) and teachers (78%) reported that courses were completed in time whereas majority of the students (61%) stated that courses were not completed in time.

8. Majority (66%) of the respondents (instructional heads, teachers and students) stated late and continued admission of students and conduction of final examinations in the campuses as reasons for not completing the courses in time.

9. Majority of the students emphasized mainly on training for teachers, provision of instructional materials and teachers' regularity in the classes to improve teachers' performance.

10. It was found that about 60% of the teachers were teaching in other shifts on the part-time basis besides their regular teaching assignment.

Instructional Activities in the Classroom

11. Classroom instruction in both T.U. and private campuses was more teacher-centered (about 85% of class time in teacher talk) than student-centered (about 15% of class time in student talk).

12. Of 481 observed classes, only six classes were found to have used instructional materials. The rest of the classes used blackboard only as the instructional material.

Students' Behaviour

13. Out of total enrolled students, about 42 percent were found not to have attended their classes after admission in the sample T.U. and private campuses.

14. Out of 52 classes observed, late entry behaviour of the bulk of students within the first 10 minutes of the class period was found to have interrupted 50 classes. Further, T.U. science-oriented classes (60%) were found to be more interrupted than private science-oriented classes (36%) while T.U. general classes (56%) were less interrupted than private general classes (61%).

15. About 25 percent of students, on an average, demonstrated negative behaviours like reading other materials (movies, film magazines etc.) performing disturbing activities and not listening to teachers in the observed classes.

16. The reasons for students' not attending classes were identified as lack of educational environment (undisturbed, disciplined and quiet classroom with minimum physical facilities), incomprehensible class lecture and slackness in implementing attendance regulations. Moreover, an increase or decrease in instructional time does not seem to have affected students' regular classroom attendance.

17. The respondents suggested such measures as enforcement of attendance regulations, teachers' regularity in taking classes, use of interesting teaching

methods, regular roll call in the class and need of job-oriented courses for the improvement of students' attendance.

Recommendations

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

1. Regarding the irregularity and unpunctuality of the teachers in the classroom, it is recommended that effective monitoring system at the central level be established with authority to look after and take disciplinary actions against teachers with such behaviours. Campus authority should strictly supervise the instructional process at the campus. To promote teachers' regularity in the classes, measures such as providing monetary incentives to teachers, seeking their participation in professional decisions, increasing their salary and strictly implementing the reward and punishment system should be taken by the central authority.

2. In order to raise the instructional quality of the teachers, it is imperative that periodic seminars/workshops should be organised by faculties/institutes so as to keep teachers informed of new technologies of teaching and enable them to apply these technologies effectively for instruction.

   Implementation Strategy. Establish a University Staff Development Centre at the Tribhuvan University from the coming session with a view to providing two months' training to the beginning teachers on the use of instructional strategies and one-month's orientation training to the other teachers on both new instructional strategies and recent developments in their respective subject areas.

3. Since the main reasons for not completing the courses by teachers in time are protracted admission and conduct of final examinations during the regular instructional period, it is recommended that regular instruction period be exclusively fixed so that instruction hours as demanded by the course can be carried out within the stipulated time without being disturbed by students' admission, conduct of final examinations and students' union activities.

   Implementation Strategy. The calendar of operations should be so designed that students' admission and final examinations be conducted preferably during the vacation with minimum loss of teaching days.

4. Since majority of the teachers are working in other shifts or campuses on part-time basis, quality classroom instruction is suffering. It is, therefore, recommended that policy be made to replace shift system by other more economical and practical system such as continuous scheduling. For this, a comprehensive feasibility study should be conducted.

   Implementation Strategy. Feasibility study regarding the practicality of continuous scheduling should be carried out within the academic year of 1996.

5. Since the classes in the morning and evening shifts are conducted for a few hours (around 3 hours) with a period of 30 to 35 minutes, it is suggested that the instruction days should be increased to complete the courses.

Implementation Strategy. The duration of class-period in the morning and evening shifts should be made 60 minutes a period. If the class period in these shifts cannot be extended to 60 minutes, the academic session of these shifts should be extended from two years to three years and from three-years to four years. Implement this strategy from the academic session of 1996.

6. Considering the existing status of the use of instructional materials for instruction, it is recommended that educational technology such as slide and overhead projector, filmstrips, videos and computers be introduced to make the instruction more meaningful and interesting. For this, T.U. should take initiative towards establishing Educational Technology Resource Centre in the campuses. It is also suggested that reading materials such as hand-outs be made available to the students.

Implementation Strategy The suggested Educational Technology Resource Centre should be established and fully equipped for its efficient operation within a period of five years from now.

7. Considering the importance of library in the higher education system and, at the same time, little use of library by the students and teachers, it is suggested that library study be made a part of classroom instruction. For this, libraries in the campuses need to be adequately equipped with relevant and recent editions, research and professional journals and with reading rooms.

Implementation Strategy. Concerned Subject Committees should prepare a list of course-related books, journals and reference materials for its timely circulation to the campuses so that they can purchase these materials for the libraries in time. Start strengthening of existing campus libraries by implementing this strategy from the coming academic session.

8. In T.U. no specific book is generally found to have been prescribed as a basic single textbook for any of the courses developed in the faculties though reference books are listed in the courses. Therefore, a basic textbook covering all the units of the courses should be prescribed, and such single textbook should be available for each course. If such comprehensive text books are not available, concerned teachers should be encouraged to write them.

Implementation Strategy. Encourage senior, experienced and competent teachers to write a standard and comprehensive textbook for each course for each level. For this purpose, establish Textbook Development Centre by 1998.

9. Since students' participation was negligible in the instructional process, it is recommended that courses be so developed as to ensure their active participation in teaching-learning activities through works such as library work, field visits, group work, paper presentation, book reviews and case studies.

Implementation Strategy. While developing courses for the three-year Bachelor's Programme, practical activities such as report writing, reviews, class presentation, group work should be incorporated to ensure students' active participation and these activities should be allocated 20 percent weightage of the full marks. Further, orientations and workshops should be organised by the concerned faculties/institutes for the teachers before the development and implementation of the courses for the three-year Bachelor's Programme.

10. Regarding the disciplinary problems during instruction inside the classroom, it is suggested that teachers and students should establish good rapport through regular organization of co-curricular and extra-curricular activities in the campus.

    Implementation Strategy. Incorporate co-curricular and extra-curricular activities in the calendar of operations prepared by the campus so as to organize these activities at least once in a month. This should be initiated from the academic session of 1996. For this, student unions should be given the responsibility of initiating such activities with regular involvement of teachers.

11. Taking into consideration the low level of understanding of the students and their inattentive behaviour to classroom instruction, it is recommended that students should be admitted on the basis of their aptitude and ability to pursue higher education.

    Implementation Strategy. Develop aptitude and ability tests and administer them as admission tests. Implement these tests in the technical institutes first with a gradual switch to professional faculties from the academic year of 1996.

12. The present examination system of T.U. does not assess what goes on in the classroom. If improvement in the instructional process is desired, student evaluation should focus on classroom teaching. In this light, it is recommended that existing examination system of T.U. be reformed so as to base it on the total instructional process. The reformed system should emphasize on both formative and summative evaluation in providing feedback to students and teachers to improve their teaching-learning activities.

    Implementation Strategy. Formative evaluation should be conducted as internal assessment with the weightage of 20% of the full marks and summative evaluation as final examination with the remaining 80% weightage. The tests developed for both of these evaluations should demand the application of higher cognitive abilities. This strategy should first be implemented at Master's level in all the faculties in the year of 1996 with a gradual switch to Bachelor's level in the successive years.

5.4 Examinations

Few countries in the world use centralized examinations system as extensively as Nepal. The university has 58 examination centres for Certificate-level. 36 for Bachelor's degree, and 7 for master's degree. Though implementation of +2 may

diminish the number of students in the university, the problems are likely to remain. The process is expensive, replete with measurement error, and of no value to students as instructional feedback. It does, however, serve some quality control functions : (a) all students, including those of private campuses, have to perform to the same standards; (b) undesirable influences on scoring are difficult to achieve; and (c) professors feel protected from student demands.

The examination system creates a vicious cycle. Since student performance is only measured once a year, there is a premium on passing that examination by any means possible, including cheating, bribing, or threatening. This tendency, in turn, forces the university to further tighten and centralize the examinations, making it too expensive and impractical to assess students more often than once a year.

Since examinations tend to drive curricula, a system that forces students to cognitively elaborate the material will result in improved quality of education at the university. The examination system should have the following characteristics.

a. To diminish measurement error, assess multiple modes of performance, and make students study throughout the year, there should be multiple examinations, including short tests and grades on field work, research papers, case studies, etc. :

b. Tests must measure comprehension, application, analysis, synthesis, and evaluation of information. At this time, they only measure the recall of unrelated items (e.g. , dates, definitions) :

c. Examinations must be valid (i.e. related to content actually taught) and reliably measure student performance ;

d. To serve as an instructional tool, feedback must be timely.

Currently, the examinations system provides centralized control and sacrifices instructional effectiveness. To support instructional delivery, the current system must be changed, and there is broad agreement among university authorities on this issue. Alternatives. however, have to perform the high-level international technical assistance the university needs to develop broad agreement on a system that (minimally) satisfies instructional as well as control objectives.

Encouraging international experiences exist on this subject. Some Kenyan Campuses concerned about student pressure on professors as well as timely feedback ask professors to score each other's papers. Insistence that professors score papers simultaneously and on campus premises (rather than taking them home as in Nepal) enables the work to be completed in about 10 days. Student names are hidden, and neither the professors nor the students know who grades whose paper. Similarly, other universities score papers anonymously and publish results by student number. In Nepal, officials are considering future scoring of papers in each of the five regions, but they have not yet focused on the possibility of scoring them in each campus or in nearby campus clusters that would also grade the papers of private campuses.

Based on the research and studies available to the university the IDA-financed Higher Education Project should conduct a workshop in the near future to develop an agreement on procedures that will make the system more flexible, less centralized, and more likely to assess desirable course objectives. The recommendation of a 1985 study conducted by Cambridge University will also be discussed. The proposed higher education project will finance activities to implement workshop recommendations.

The workshop and subsequent policy development by the Office of the Controller of Examinations should focus on :

a. replacing central management of scoring with local procedures;

b. developing security systems appropriate to the country for students and questions ;

c. testing pilot projects of alternative scoring facilities (such as the procedure outlined above);

d. exploring decentralized question-setting (including development and dissemination of a large item bank for each course);

e. assessing student performance more than once in course;

f. exploring test-item formats rarely used in Nepal, such as multiple-choice, short-answer, true-false, matching, etc.,

g. exploring alternatives to current extra payments for professors who score examinations papers, such as a commensurate salary increase in order to integrate scoring with teaching;

h. suggesting methods to streamline the calendar of operations so that the prolonged period devoted to examinations decreases;

i. considering whether centralized examinations should continue for Master's degree students and suggesting alternative assessment procedures.

The IDA-financed Higher Education Project should support activities to help the university decentralize its examination functions, yet efficiently maintain centralized student records. Since the university also plans to conduct entrance examinations and carry out testing-related research, IDA will support the development of capability to carry out standardized testing.

Examinations: Some Management Issues

Present Situation

Tribhuvan Universtiy is based on annual system of examinations, and for each level of instruction (e.g . Certificate, Diploma and Degree) examinations are held at the end of both the first and second year of instruction. These examinations are

centrally administered and controlled by the Office of the Controller of Examinations. The examinations of Technical Institutes are decentralized and are managed by the Technical Insitutes themselves. This massive scale of examinations has resulted in numerous problems, such as the problem of fixing examination dates that are suitable for all. Given the absence of any definite "calendar of operations" postponement of e xaminations is seen as an easy immmediate solution but this sort of decision leads to a chain reaction affecting the university 's future programmes; the problem of finding place for conducting examinations without disturbing the regular classes; and the problem of keeping things "confidential" and free from errors.

Defects in admissions policy, unbalanced distribution of physical, financial and human resources, crowded teaching / learning situation and other non-academic factors have made the issue of the quality of teaching and learning in the campuses more serious. Under these circumstances, examination is the single major means through which TU has been trying to ensure the quality of its graduates. However, given the pooor control of examination hall situation, script checking and moderation activities, the reliability and validity of the examinations, as a whole, might be questioned.

Despite the question of validity and reliability and other associated effects, examinations in T.U. are significant because the score in the annual examinations is the sole criterion for admission into the next higher level of education. (For the first time, in 1992, admissions test was administered for admission to Master of Sciences programmes.). As a certificate is the first necessity for application for jobs and it is the main instrument for judging and categorizing the quality of its products, students, teachers and the campuses give more emphasis to examination results and to score, often at the cost of quality of teaching and learning; and this overemphasis on examinations has brought a situation where examination controls the entire curriculum and classroom teaching and learning.

The Examination Board

The Registrar is the Chairman of Examination Board, the Controller of Examinations, its member secretary. The Examination Board controls and administers the examinations through its member secretary. The mass scale of examinations and manual handling of it have resulted in several "cells" doing similar works related to various faculties and levels. Among technical and administrative activities involved in the processing of examinations some of the most significant ones are:

a. Technical

Appointment of question-setters; Formation of moderation board and moderation of all the submitted question papers; Use of the " standardised " question papers i n the examinations; Appointment of examiners; Preparing guidelines for the examiners; Scrutiny of the examined scripts (15 %) and

b. Administrative

Processing of the forms filled up by students registered for exams as "sent up" by the campuses: constituent, affiliated, and private candidates; preparation of examinees' admission cards and make them available at the respective campuses for distribution to the examinees (for private candidates the admission card will be issued from the Controller's Office); preparation of examination schedules for different subjects, levels, and Faculties and Institute(s) and publishing them in newspapers and also sending them to all the examination centres and campuses; fix examination centres and list of examinees allotted to the particular centre; appointment of centre superintendent, observers and mobile team of centre invigilators; dispatch of answer book and sealed packet, or question papers and relevant exam stationery and other materials to each centre; receiving examinees answerbooks dispatched from the centres; sending exam answerbook packets to appointed examiners; receive examined answerbooks from the examiners; tabulation of exam score and writing of marksheet; publication of exam results and dispatch the results and marksheets to all the campuses; keep records of the exam results and students registration, prepare transcripts, provisional and (final) certificates; receive exam related fee; and payment of exam related remuneration.

Teacher assessed course work is not a part of Tribhuvan University curricula. Internal assessements are not required and students set for final examination on the basis of completion of courses of instructions. Simply filling up the examination form for the subjects intended to appear is sufficient for the issue of identification cards. Though examinations are held annually, pass in any / or all first year papers is not required to go on to second year - all the papers may be carried as "back paper" . Similarly, there is no limit to the number of backpapers in the final year. However, unless all subjects are cleared (the students may take any number of years to do so), students are debarred from entering the higher levels. The low pass rate and lack of delimiting regulations whether on the number of failed papers or number of years to complete the programme had added great burden on the examination system. Lack of proper record keeping mechanism makes it difficult to predict the number examinees in a subject paper since regular and backpaper examinations are held together and number of backpapers are not known and students choose to appear papers on their own schedules . Tracer studies for feedback purposes has not been undertaken so far.

Systemic Constraints

The Office of the Controller of Examinations is housed in a delapidated group of buildings, originally constructed as faculty housing, at Jamal. The building is outdated and unsuited for the office purpose. The buildings are in a serious state of disrepair and is a potential fire hazard. The habitable rooms are crammed with stafff, furniture and records. The processing delays are signifincant. Currently, about a six-month lapse between the start of examinations and publication of results is common. Volume of work as well as the lack of modern tools like computers contribute equally in delays in script processing, records and transcripts issue. However, it is expected that the buildings problem will be solved in near future, since the IDA-financed Higher

Education Project has started construction of building of the Office of the Controller of Examinations at Kirtipur.

The Volume of Work

The Controller of Examinations is responsible for conducting examinations for Proficiency Certificate, Bachelor and Master levels of courses under the Faculties of Humanities and Social Sciences, Management, Law and Education and the Institute of Science and Technology. The magnitude of this task can be estimated from the number of candidates handled. In 1990-91 the total number of examinees was 1,85,784 and in 1991-92 it was 2,14,029. This is further coumpounded by the loose regulations for "backpaper" and unlimited possibility of number of attempts to clear a paper. Centralized administration in this scale is costly and time-consuming, leading to delays of sometimes more than six months between the date of examination and the publication of results.

Universal Examination

One of the major problems is caused by the principle of one and the same examination for all the students of a certain level. This principle has made the work unwieldy and in some cases impractical.

Second-Year Admission Rules

The examination rules, allowing students to join second year without passing the papers of the first year of each level, have rendered the annual examination system a major burden in the system without any feedback advantage.

Absence of Linkage Between Teaching and Testing

The lack of internal assessments and centralized universal annual examination system and long period taken to publish results have totally severed the feedback linkage between teaching and testing. Similarly, the linkage between curriculum and examination is far from satisfactory.

Absence of the Academic Calendar of Operations in Tribhuvan University

The absence of the calendar of operations in T.U. gives opportunities to students, teachers and political forces alike to pressurize the authorities to postpone examinations. Such pressures have often worked and have caused delays resulting in a two-year course taking three years or more for completion.

Moderation and Scrutiny

Less than satisfactory performance of moderation (of question papers) and scrutiny (of script checking) has often caused doubts on the validity as well as reliability of the results. The unbalanced question setting, improper marks distribution and ununiform script checking have often shown erratic performance results of

students. Though due to "confidential handling" such problems are not made public yet these have been concience-prickers within the system.

The Physical Facilities

The Office of the Controller of Examinations is housed in dilapidated buildings and does not have adequate and satisfactory facilities for

a. the staff to work efficiently,

b. storage of answer books, fresh and used,

c. question-setters, moderators, scrutinizers, tabulators and other persons doing "confidential" works,

d. keeping records of students and examinations.

Manual Operations

The massive data processing of examinations is handled manually adding to delays and errors. Modern tools such as computers are yet to be used.

The COE office does not have reliable and efficient printing and duplicating facilities.