

7. ACCESS: REGIONALIZATION OF HIGHER EDUCATION IN NEPAL

7.1 Regional Disparities in Higher Education

Although there is an increasing trend of student enrolments in almost all the Regions and in all the programmes their regional distribution is skewed in favour of CDR. EDR with 24 percent of total population (1991 census) has 20 percent of total campuses and 20 percent of total student enrolment. CDR, on the other hand, has 33 percent of population, 43 percent of campuses and 58 percent of student enrolment. WDR with 20 percent of total population has 24 percent of campuses and 16 percent of student enrolment.

Other two regions are found lagging behind. MWDR with 13 percent of population has 7 percent of campuses and 6 percent of student enrolment. FWDR with 9 percent of total population has 6 percent of campuses and just 0.6 percent of student enrolment.

The regional imbalance is more visible in the ratio of population to campus. In EDR, a campus serves a population of 111,169 while in CDR one campus has to serve only 71,907 people. Such figures for WDR, MWDR and FWDR are 1:80,227, 1:172,172 and 1:139,942 respectively. National average figure comes to 1:92,920. From this perspective, CDR and WDR are in more comfortable position.

Subjects under the Humanities and Social Sciences are offered in all the campuses spread over the entire nation. The degree programme under these areas is not available in FWDR. Other Regions also do not offer all the levels. The hill of MWDR and the terai of FWDR have no diploma programme as such. The only Region which has the degree programme in both hill and terai is CDR. The EDR and MWDR have the degree programme only in terai, The WDR has this programme in hill alone.

Another faculty having its programme in all the Regions is the Institute of Science and Technology. But this too is selective as per levels for some regions. Even though the Certificate level has been introduced in all the Regions, Diploma programme is not available in MWDR and FWDR. Degree programme is only in the hill of CDR. Even Certificate and Diploma programmes in Science are not available in all the sub-regions. The Certificate level is found only in the terai of EDR, MWDR and FWDR. The hills of these regions and the terai of WDR do not have Science programmes.

The Faculty of Law has no Degree level programme, so far, in the country. Even though PCL programme is spread over several regions, it is not found in the terai of CDR, hill of MWDR and terai of FWDR. Diploma level programme is found limited to a few regions only.

The Faculty of Management too faces the growing number of students for all levels and regions. After the Faculty of Humanities and Social Sciences, its programmes are widespread in the country.

The Faculty of Education too experiences the growing number of student enrolment for all levels in the entire regions where it has introduced its programmes.

In all the faculties and at all levels, the number of male students is far higher than that of female.

Campus size on an average is small and hence enrolment capacity is limited.

Economically prosperous regions have a significant number of educational institutions. From this perspective, Eastern, Central and Western Development Regions have a large number of educational institutions while Mid-Western and Far Western Regions are found lagging behind. The growth of higher education at the regional level is mainly the consequence of growing student pressure and the initiative of a few local educated elites. So the Government policy towards tertiary education did not have much influence upon the regional growth pattern of higher education in the past.

Nevertheless, in view of the potentiality of the Regions, so far, expressed in terms of : (a) the pressure of the students (b) the socio-economic indicators and (c) the existence of the basic infrastructure and manpower, the eastern terai, the central terai and hill, the western hill and the terai of MWDR, and FWDR are found to be more favorable regions.

Projection of Student Enrolments by levels, by Regions and by Faculties Enrolment Growth Rates by Faculty, Level and Region

Enrolment growth rates for the period 1983/84 - 1992/93 by faculty, by level and by region show a certain pattern as follows (Table 7.1) :

* Growth rates are higher for higher level for all the regions.

* growth rates are higher in case of recently introduced programmes, possibly due to low initial base value.

Table 7.1 : Faculty and Level-wise Enrolment Growth Pattern of Student Enrolment in Regions (1983/84 - 1992/ 93)

Faculty/Level	EDR			CDR			WDR			MWDR			FWDR		
	CL	DL	GL	CL	DL	DGL	CL	DL	GL	CL	DL	GL	CL	DL	GL
Humanities	11.0	13.0	24.0	9.0	9.0	15.0	9.0	23.0	22.0	20.0	24.0	-	7.0	1.0	-
Science	1.0	13.0	-0.3	14.0	29.0	4.0	19.0	-	(-4.0	-	-	6.0	-	-	-
Management	5.0	19.0	22.0	7.0	15.0	18.0	2.0	30.0	33.0	26.0	39.0	-	-	-	-
Education	17.0	33.0	-5.0	17.0	10.0	2.0	21.0	-	46.0	-	-	-	-	-	-
Law	3.0	3.0	-1.0	16.0	-	9.0	27.0	-	12.0	12.0	-	6.0	-	-	-

Table 7.1 clearly shows low growth rates for Institute of Science and Technology in all the regions. It is specially so for Certificate levels. This phenomenon can be explained by supply constraints rather than lack of demand for Science education. Such constraints are (i) lack of initial investment and operating capital required (ii) lack of adequate faculty staff, and (iii) difficulty in accessibility to supply centres for equipment, maintenance services, and chemicals.

So far as Law faculty is concerned, it has lower growth rates in Eastern and Central Regions while higher growth rates in all the regions. These growth rates for individual faculties are likely to be different in years to come from what they are now for the following reasons :

- If supply constraints in some of the faculties such as Science are removed, growth rates for this and other technical faculties could be higher.
- After the political change in the country, private sector has become very active and private sector is coming up as one major employment source. So faculties catering to the needs of private business and industrial houses such as management and technical subjects would experience a greater demand. Understandably, such activities are concentrated in major market centres.

From this perspective, EDR and CDR, and to a certain extent WDR, have shown diversified economic activities inviting diverse skills and knowledge. The growth of trade and commerce and industry in EDR and CDR, and tourism in WDR and CDR and trekking businesses in mountain areas of EDR, CDR and WDR have created a demand for managers, accountants, technicians etc. Since activities are very limited in MWDR and FWDR, they do not provide job opportunities to such manpower. Even so, if we are to develop educational centres promoting residential programmes and if we are to assume the mobility of people for education and job, educational institutions and hence student enrolment can still be enhanced in these regions. But left to themselves for natural growth, regional imbalance would be difficult to be brought down in the context of these two regions of west Nepal.

The higher rates of growth in student enrolment and more so in comparatively backward regions tend to narrow the regional imbalances gradually but painfully at a slower pace. So some policy interventions in opening new campuses with greater emphasis upon technical and Science subjects have to be introduced.

In this context, promotion of certain locations as educational centres would be one possible way out. In these educational centres, educational institutions of different levels and different subjects need to be encouraged - both at public and private sectors so that "economies of scale" can be achieved in these centres. Economies of scale involve greater opportunities for the faculty staff, greater interaction between professionals, greater ease in supplying the educational materials, broader choices for the students etc.

According to this projection, student enrolment is likely to reach 492,000 in the year 2002/03. CDR is still expected to have 40 percent of total enrolment. FWDR is expected to have hardly 0.5 percent.

Prospect for the Regionalisation of Tertiary Education

All the Regions bring out sizeable number of SLC pass students - even the first divisioners. In the year 1991, FWDR also brought out 65 first divisioners in SLC. In MWDR, 130 students passed in first division. The comparative picture of different Development Regions regarding different development indicators and educational parameters is presented in Table 7.2.

Obviously, SLC pass students are the main inputs for campuses covering different disciplines including Humanities and Social Sciences, Management, Law, Education, and General Science. Greater the number of students in any region passing SLC, higher is the scope for extending tertiary education there.

Table 7.2: A Comparative Study of Regions at a Glance

SN	Developmental/Educational indicators	EDR	CDR	WDR	MWDR	FWDR
1.	Contribution to GDP, 1984/85(%)	25.3	41.9	15.1	11.1	6.6
2.	Industrial Establishment, 1990/91 (%)	19.0	48.1	20.5	6.5	5.9
3.	Road Length, 1994 (%)	23.4	38.2	18.9	10.8	7.23
4.	Airports, 1994 (%)	25.6	18.6	16.3	18.6	20.9
5.	Per Capita GDP, 19984/85 (Rs.)	2503.0	3134.0	2096.0	2082.0	1831.0
6.	Government expenditure per capita 1984/85 (Rs.)	122.0	300.0	159.0	133.0	166.0
7.	Population (%), 1991	24.05	33.44	20.39	13.04	9.08
8.	Land area(%), 1985	19.34	18.82	19.97	28.97	13.28
9.	Life expectancy at birth (in years)	53.2	52.2	50.0	45.5	47.0
10.	Infant mortality rate (per 1000)	99.3	105.4	113.0	135.21	29.1
11.	Economically active population, 1991 (%)	23.6	31.8	20.6	13.9	10.1
12.	Government employees, 1991/92 (in Number)	16682.0	48673.0	15948.0	12327.0	8125.0
13.	Health institutions (No), 1991/92	226.0	304.0	248.0	191.0	134.0
14.	Literacy Status (% of Literate),1991	27.1	32.7	22.6	10.3	7.2
15.	Literacy rate, 1991	44.03	38.21	43.75	31.65	31.86
16.	Number of Campuses (1991)	38.0	75.0	40.0	12.0	12.0
17.	Bank deposit per capita,1990	148.57	576.55	219.71	95.0	96.89
18.	Secondary School Student Enrolment, 1991 (%)	29.0	32.7	24.8	8.6	4.9
19.	Regular SLC Pass (No),1991	4893.0	10343.0	5791.0	1323.0	827.0
20.	First Divisioners in SLC (%), 1991	14.7	66.8	14.6	2.6	1.3
21.	SLC Pass Total (No), 1991	14401.0	9130.0	12067.0	4152.0	2246.0
22.	Growth rate of SLC Pass (1982-1991)	14.2	11.7	21.76	24.1	19.8

contd..

Table 7.2: A Comparative Study of Regions at a Glance (contd..)

SN	Developmental/Educational indicators	EDR	CDR	WDR	MWDR	FWDR
23.	Student enrolment					
	(a)FOHS (1992/93):	9235.0	23961.0	7542.0	2256.0	188.0
	Certificate	6939.0	13704.0	5443.0	1640.0	153.0
	Diploma	1869.0	6076.0	1759.0	497.0	35.0
	Degree	427.0	4181.0	340.0	119.0	-
	(b)FOM (1992/93)	4930.0	16420.0	3410.0	2624.0	-
	Certificate	3468.0	7723.0	2063.0	1241.0	-
	Diploma	1092.0	5204.0	977.0	383.0	-
	Degree	370.0	3493.0	370.0	-	-
	(c)IOST (1992/93)	523.0	9037.0	1226.0	168.0	318.0
	Certificate	1094.0	5266.0	948.0	168.0	275.0
	Diploma	313.0	2260.0	224.0	-	43.0
	Degree	116.0	1511.0	54.0	-	-
	(d)FOE (1992/93)	2528.0	3999.0	2120.0	557.0	-
	Certificate	1374.0	1073.0	1297.0	345.0	-
	Diploma	1154.0	2400.0	823.0	212.0	-
	Degree	-	526.0	-	-	-
	(e)FOL (1992/93)	1339.0	3805.0	1496.0	768.0	53.0
	Certificate	1089.0	1665.0	1120.0	652.0	53.0
	Diploma	250.0	2140.0	376.0	116.0	-
	Degree	-	-	-	-	-

Source: Computed from various tables in Appendix from the report.

Table 7.3: Region-wise Projection of SLC passers and Certificate Level Student Enrolment - 2001

Region	Projected SLC Passers (2001) (1)	Projected Student Certificate Level (2001\02) (2)	(1) - (2)
Nepal	353,231	209,297	43,934
EDR	75,076	41,658	33,418
CDR	76,977	69,024	7,953
WDR	130,132	56,094	74,038
MWDR	52,548	40,573	11,975
FWDR	18,498	1,948	16,550

These imbalances at the regional level show the differences in the growth rates in the SLC pass students and Certificate-level student enrolment in constituent and affiliated campuses. These figures indicate the regions where the campuses need to be opened.

Estimate of Teacher Requirement

The current survey found a remarkable variation of teacher-student ratio across campuses and their programmes. The average ratio, however, is found to be 30.1 students per teacher. Based on the average ratio, the study team has calculated the teacher requirement for Education (FOE), Law (FOL), Management (FOM), and Humanities and Social Sciences (FOHSS) at 1:30. For the Institute of Science and Technology (IOST) which runs a significant number of practical classes, the ratio adopted for projection of teacher requirement is 1:25 students.

Estimate of Investment for Higher Education at Regional Level

The study team has estimated the investment on education for FOE, FOL, FOM, FOHSS and IOST for all development regions. The estimates have been divided into capital investments and operating expenditures. The capital investments have been calculated on the following basis :

Classroom and library space per student : 4 square feet multiplied by construction cost @ Rs. 400 per sq.ft.

Laboratory space per student : 3 square feet multiplied by construction cost of Rs. 450 per sq. ft.

Laboratory equipment cost per student : Rs. 5000.

The operating expenditures per student for FOE, FOL, FOM and FOHSS is arrived at by averaging the cost per student in these faculties. The average cost per student in these programmes is Rs. 2080. The operating cost per student in IOST is taken at Rs. 5123. The data on operating expenditure is obtained from the Assessment of Tertiary Education Project, on the assumption that the overwhelming share of that annual expenditure figure goes for meeting annual operation cost.

It is found that the total initial investment in 1993-94 is estimated to be around Rs. 593.5 million, out of which Rs 289.3 million is estimated for capital investment and Rs. 304.2 million as operating expenditures. CDR is expected to account for around 59 percent of the estimated investments both in terms of capital investments and operating expenditures. In 1997-98 the total investment is estimated to be around Rs 1006.1 million, the capital costs at Rs. 473.7 million and operating expenditure at Rs. 532.4 million. By 2002-03, CDR's share in total investment is expected to be gradually lowered to 46.1 percent, while investment is expected to be diverted to WDR, EDR and MWDR. FWDR's share in total investment is expected to remain below one percent.

Perspectives of a Lead Campus

A lead campus refers to a constituent campus of a University, in this case Tribhuvan University, with which the university wants to share its burden so far undertaken at the central level. So a lead campus has to be visualized in relation to overall management rather than with respect to academic performance alone.

Identification of a Lead Campus

Following are suggested as the responsibilities of a lead campus

- * Policy and Planning, involving,
 - faculty development
 - policy formulation in relation to future academic programmes and their expansion
 - expansion, improvement in maintenance of the physical facilities and equipment
 - improvement in library and laboratory facilities
 - policy on resource sharing, particularly with satellite campuses

- * Academic and Administrative, involving
 - Conducting of examinations
 - establishment of Management Information System (MIS) and networking development
 - promotion of research activities
 - improvement in teaching-learning processes
 - develop external linkages
 - curriculum development

Criteria for a Lead Campus

Following criteria are identified for defining a lead campus.

Primary Factors

A. Locational Advantages

i. Accessibility :

- Availability of transport and communication services within and outside the region;
- Accessibility to supply centres for educational materials;

ii. Support Services :

- Availability of health and educational services;
- Availability of housing facilities;
- Availability of marketing facilities for daily necessities;
- Availability of adequate and safe water supply;
- Availability of adequate electricity supply;

B. Physical Facilities

i. Existing :

- Availability of the physical facilities such as building space for classrooms, laboratories, library, hostels etc.;
- proximity to the supply centres;

- ii. Growth Potentiality :
 - Availability of land and space for further expansion;
 - Growth of student enrolment at different levels and Faculties;
 - Status of financial resources of the campuses;

C. Faculty Staff

- Availability of qualified and experienced faculty staff;

Secondary Factors

D. People's Participation

- The extent of participation of the community, local government and students in the development of the campus;
- Participation of the community in the management of the campus;

E. Academic Programmes

- Number of different faculties and levels covered in the academic programmes - Maximum number of faculties need to be covered;

F. Student Enrolment

- Number of Students enrolled at different levels and faculties from different parts of the region and from outside the region - minimum number being the one at which a campus could run in a cost-effective manner.

These criteria for identifying a lead campus have been treated in two ways - (a) in the national perspective of developing certain centres as educational centres, and in this context, locational advantages have been given prime importance, and (b) existing capability of the institutions/campuses and hence locational advantages and physical facilities being given equal importance.

Criteria for Satellite Campus

While selecting satellite campuses, the, the following criteria need to be given due consideration.

- i. Same faculties covered as in the lead campus, preferably multiple campus or higher secondary school
- ii. Minimum travel distance, about 2 hours' driving distance to a maximum of 1.5 day of travel time : the nearer the better
- iii. Available physical facilities
- iv. Size of the faculty staff and their qualifications
- v. Enrolment size, the higher the better on the assumption that such campuses can absorb Certificate-level students in a large number
- vi. Financial status

vii. Local community participation

viii. From the management convenience point of view in the context of resource-sharing, preference can be given to constituent campus followed by affiliated private campus and then by higher secondary school, if they fulfill the above criteria.

Of these, first two criteria would play a dominant role. First, same faculties need to be identified and then only such campus can be selected as satellite campus which is nearer to the lead campus. Since the choice is very limited, other criteria have negligible influence upon selecting the satellite campuses. If existing programmes are not to be considered, a lot of structural changes would have been made in the academic programmes run by prospective satellite campuses. Such changes would be complicated and hence suggested to be made only after satellite campuses are identified and the cluster is formed.

Prospective Lead Campuses

The campuses covered in the Eastern Development Region are a. Dhankuta Multiple Campus, Dhankuta, b. Mahendra Multiple Campus, Dharan, and c. Mahendra Morang Multiple Campus, Biratnagar. From the perspective of the comprehensiveness of programmes offered, future growth potentiality, available physical facilities as well as human resources and local environment, Mahendra Morang Multiple Campus of Biratnagar topped the list. Therefore, it can be considered for the lead campus in this Region. But, if a national policy is to be visualized to develop certain locations having locational advantages as educational centres, Dhankuta Multiple Campus can also be considered for the lead campus.

In the Central Development Region, the field visit covered a. RR Multiple Campus, Janakpur, b. Thakur Ram Multiple Campus, Birgunj, and c. Birendra Multiple Campus, Bharatpur. The available information revealed that RR Multiple Campus, Janakpur has to be considered for lead campus in this Region. Other campus with a prospect for expansion is Birendra Multiple Campus of Bharatpur.

In the Western Development Region, four campuses were visited. They are i. Prithvi Narayan Multiple Campus, Pokhara, ii. Tribhuvan Multiple Campus, Tansen, Palpa, iii. Butwal Multiple Campus, Butwal, and iv. Bhairahawa Multiple Campus, Bhairahawa. In this Region, Prithvi Narayan Campus of Pokhara was found having all the potentialities that fulfilled the criteria set by this study. Second after this, Butwal Multiple Campus can be considered for the lead campus. In fact, Tribhuvan Multiple Campus of Palpa and Butwal Multiple Campus of Butwal compete closely so far as their existing status is concerned. But, in terms of locational advantages and future potentiality, Butwal shows a better prospect.

In the Mid-Western Development Region, two campuses were visited. They are Mahendra Multiple Campus, Dang and Mahendra Multiple Campus, Nepalgunj. Of these two, Mahendra Multiple Campus of Dang deserves to be considered for lead campus in this Region.

In the Far Western Development Region, Siddhanath Campus is the only campus visited. As the only viable and constituent campus in this Region, this campus needs to be considered for lead campus. This campus shared the common compound with Siddhanath Private Campus and people involved with this private campus have shown their willingness to cooperate in merging the private campus with TU constituent campus of Siddhanath Campus if the concept of lead campus is implemented in this Region.

Organizational Linkages between the University, Lead Campuses, Satellite Campuses and other Constituent and Affiliated Campuses

Organizational linkages between the University and lead campuses and between the lead campuses and satellite campuses and other constituent and affiliated campuses need to be established in order to operationalize the regional educational cluster concept.

Organizational Linkage Structure

The organizational linkages between the University, lead campuses and their satellites need to be visualized in terms of the following activities:

- I. Resource Planning
- II. Resource Mobilization and Utilization
- III. Education Management Information System
Reporting
Monitoring and Control
- IV. Service Delivery and Resource Sharing
Library
Examination
Research, Publication and Training
Laboratory Services
Manpower Exchange and Sharing

Cost Implications of Cluster Formation and Lead Campuses

Cost implications are estimated primarily focusing upon the need of disposing PCL students from the proposed lead campuses to the satellite campuses. In this context, cost is dealt with in the following ways.

- A. Revenue loss to the proposed lead campuses as a result of disposing PCL programmes: This is arrived at by multiplying total annual fee per student by the total student number of the year 1992/93. Annual fee per student comes to Rs. 650.00 for all faculties (except Science for which it is Rs. 700.00).
- B. Additional physical facilities, mainly the classroom space and lab space required to be developed in satellite campuses to absorb PCL students disposed from

the proposed lead campuses. Such average classroom and lab space in sq.ft. is multiplied by the student number of 1992/93 to arrive at total space required. Then, such total space requirement in sq.ft. is multiplied by average cost of constructing such building in per sq.ft. terms (Rs 450/- per sq.ft.).

Other costs involved in upgrading the facilities and manpower strength, library facilities and other hostel and quarter facilities are not calculated for lack of proposed Diploma level programmes in these lead campuses.

A. Annual Revenue Loss to the proposed lead campuses

The annual revenue loss to the proposed lead campuses in disposing PCL programmes varies from about Rs. 0.2 million for Siddhanath Campus to almost Rs. 2.8 million for Prithvi Narayan Campus. In case of Science faculty, maximum revenue loss is observed for RR campus (Rs. 0.5 million). Minimum of Rs. 0.14 million is found for Butwal Campus. Likewise, in case of Humanities a minimum Rs. 0.33 million is observed for Dhankuta campus while maximum is for Prithvi Narayan campus (Rs. 1.54 million). Such loss is minimum for Law faculty.

B. Additional Physical Facilities in Satellite Campuses.

For developing additional classroom and lab spaces for the students disposed from the proposed lead campus, it is found that Rs. 19.5 million have to be spent in case of Dhankuta Multiple campus. If Mahendra Morang campus is made the lead campus, such cost involvement would be Rs. 54.3 million.

The cost of disposing PCL students is found to be heaviest for Prithvi Narayan campus - at Rs. 73.4 million. Understandably, large campuses covering several faculties at Certificate level would incur higher cost of disposing PCL students. Such high cost would be compensated by low level of investment required to upgrade the campus facilities to Diploma level in the proposed lead campuses.

7.2 Regional Cluster of the Campuses of the Western Development Region

Introduction

A regional cluster is an informal association of a lead campus and its satellites. The number of satellites is supposed to be nine. As per decision of Higher Education Project Board (T.U.) the Western Regional Cluster will consist of Prithvi Narayan Campus (PNC) as the lead campus and nine other institutions including the 5 constituent campuses of T.U. viz. Tribhuvan Campus (TC), Palpa, Butawal Campus (BC) Butawal, Bhairahawa (BCB) Campus, Bhairahawa and 4 additional private campuses or Higher Secondary Schools. The purpose of the formation of the Regional Cluster is to "develop infrastructure and facilities for improving the quality and relevance of higher education in the region; support decentralised administration and Educational Management Information System (EMIS) development for improving organisational planning and management of the cluster system; make optimum use of the resources available within the cluster system. and decongest the lead campus by

gradually phasing out the Proficiency Certificate Level (PCL) programme".¹ The recent HEP Board decision has made it necessary for even the satellite constituent campuses to phase out their PCL programmes gradually.² The major activities that the participating academic institutions included in the cluster will undertake are: gradual phasing out of PCL programme; mobilising resources available within the cluster system, improving academic standard by introducing entrance test for admission and regulating enrolment, sharing of physical facilities, instructional materials and laboratory facilities; undertaking faculty development programmes, seminar/workshops, research, curriculum development and examinations; developing and executing physical facility development and maintenance plan including ways to mobilise resources to meet the maintenance and other development cost; and participating in the information networking system through EMIS.³ Ultimately the cluster, through the process of decentralised management, will evolve into a regional autonomous academic body in the form of university.

Keeping in view the above mentioned objectives and activities the purpose of the present paper is to bring out the major issues confronting the formation and management of the Regional Cluster of Campuses of Western Development Region and stimulate discussion to evolve a most pragmatic cluster management plan. This paper is divided into seven parts, viz. the introduction, the academic challenge for the cluster, the infrastructural needs of the cluster, resource problems, the regional EMIS, role of the lead campus and satellites and finally, conclusions.

The Academic Challenge for the Cluster

The purpose of the cluster system, as it is mentioned earlier, is to improve the quality and relevance of higher education in the region. Improvement in the quality of higher education calls for reform in student admission policy, class size, classroom environment, library and laboratory facilities, instructional materials and training of teachers through faculty development, seminar/workshops and research programmes. Relevance of higher education to regional and national needs is to be evolved by developing curriculum responsive to the local and regional necessities. Examination system will have to be developed accordingly. Phasing out PCL programme also comes up in this activity area.

a. Phasing-out Proficiency Certificate Level Programme

PCL is basically a higher secondary programme. Many of the universities of the world do not manage it. So the university campuses have to do them away and phase into the higher secondary programme.

The total number of PCL students to be phased out by 1996/97 is given in Table 1. They need some other places to study Grades XI and XII. The possible alternatives are the present private campuses operating PCL programmes (See Table 7.5) and running and prospective higher secondary schools. Most of the present private campus programmes are conducted in some secondary school or other rented

¹ "Guidelines for the Formation of Regional Clusters", issued by Tribhuvan University on June 29, 1994.

² HEP Board decision of August, 1995.

³ "Guidelines for the Formation of Regional Clusters".

building. Very few of them have their own premises. So the intake capacity of those private campuses running in others' building is unreliable as it depends on spirit of mutual co-operation and good understanding between the campus management and school management. So running higher secondary programmes in prospective higher secondary ones and private campuses operated in their own buildings only are dependable institutions to be included in phase-in programme planning. A tentative phase-out plan for PNC is presented in Table 7.6, and corresponding hypothetical phase-in plan in Table 7.7. The tentative phase-out and phase-in plan for other campuses of the cluster system can also be produced in the same way. The duration of the phase-out programme depends on the rate of establishment of the phasing in units. Approximately 30 to 35 higher secondary schools or private campuses offering programmes in various academic areas are required in Western Development Region at appropriate locations for successful implementation of phase-out and phase-in programme. A certain number can be reduced from it to permit the running higher secondary programmes and private campuses to operate in full capacity. The actual phase-out plan of the cluster system including the lead campus depends on the rate of expansion of higher secondary schools. The satellites alone will not be sufficient for it.

Table 7.4: Student Enrolment Pattern in General Campuses of T.U. in WDR, 1993/94

SN	Campus	Faculty	Certificate			Bachelors			Masters			Grand Total
			New	C/O	Total	New	C/O	Total	New	C/O	Total	
1	Prithvi Narayan Campus, Pokhara	Humanities	898	753	1651	157	92	249	249	264	513	2413
		Management	305	282	587	131	55	186	99	122	221	994
		Science	281	202	483	182	83	265	35	30	65	813
		Education	389	333	722	251	245	496				1218
		Law	115	211	326	105	257	362				688
		Total	1988	1781	3769	826	732	1558	383	416	799	6126
2	Gorkha Campus, Gorkha	Education	330	317	647	184	185	369				1016
3	Tribhuvan Campus, Palpa	Humanities	484	430	914	147	87	234	27	20	47	1195
		Management	269	295	564	225	163	388	112	67	179	1131
		Science	205	135	340	77	49	126				466
		Law	115	211	326	105	257	362				688
		Total	1073	1071	2144	554	556	1110	139	87	226	3480
4	Butawal Campus, Butawal	Law	139	92	231	85	68	153				384
		Education	197	149	346			0				346
		Humanities	625	427	1052	184	132	316				1368
		Science	159	74	233			0				233
		Total	1120	742	1862	269	200	469				2331
4	Bhairaha Campus, Bhairaha	Humanities	185	236	421	90	86	176				597
		Management	155	179	334	102	109	211				545
		Total	340	415	755	192	195	387				1142
5	Mahendra Campus, Baglung	Humanities	238	212	450	69	31	100				550
		Law	35	35	70			0				70
		Total	273	247	520	69	31	100				620
Grand Total			5124	4573	9697	2094	1899	3993	522	503	1025	14715

Table 7.5: Prospective Private Campuses phasing-in the phase-out P.C.L. Students in WDR, 1992/93

SN	Campus	Faculty	Certificate			Bachelors			Grand Total	Remarks
			New	C/O	Total	New	C/O	Total		
1	Pokhara Campus, Pokhara	Humanities	35	42	77				77	
		Management	29	51	80				80	
		Total	64	93	157				157	
2	Kanya Campus, Nadipur, Pokhara	Humanities	31	23	54				54	For phasing-in the students phased-
		Management	38	15	53				53	
		Total	69	38	107				107	
3	Kalika Multiple Campus, Pokhara	Humanities	57	58	115				115	out from PN Campus
		Management	58	0	58				58	
		Total	115	58	173				173	
4	Jana Priya Campus, Pokhara	Humanities	78	49	127				127	
		Management	80	43	123				123	
		Total	158	92	250				250	
5	Drabya Shaha Campus, Gorkha	Humanities	35	37	72				72	For phasing-in the students phased- out from Gorkha Campus
		Management	40	67	107	7	15	22	129	
		Law	10	21	31				31	
		Total	85	125	210	7	15	22	232	
6	Tansen Campus, Palpa	Humanities	0	9	9				9	For phasing-in the students phased-
		Management	0	0	0				0	
		Total	0	9	9				9	
7	Mandabya Campus, Madan Pokhari, Palpa	Humanities	21	10	31				31	out from Palpa Campus
		Management	14	26	40				40	
		Total	35	36	71				71	
8	Siddhartha Gautam Campus, Butawal	Humanities	19	29	48				48	For phasing-in the students phased- out from Butawal and Bhairahawa Campus
		Total	19	29	48				48	
9	Lumbini Commerce Campus, Rupandehi	Management	255	296	551	86	90	176	727	
		Total	255	296	551	86	90	176	727	
Grand Total			800	776	1576	93	105	198	1774	

Source:- Assessment of Tertiary Education Project

Note:- Some of these Campuses have offered programmes in Science and Education

Table 7.6: A Tentative Phase-out Plan for the Lead Campus (P. N. Campus)

1996		1997		1998	
Programme	Approximate Number	Programme	Approximate Number	Programme	Approximate Number
Management Proficiency Certificate Level Year I	130	Management Proficiency Certificate Level Year II	130		
Humanities Proficiency Certificate Level Year I	450	Humanities Proficiency Certificate Level Year I Year II	450 450	Humanities Proficiency Certificate Level Year I	450
Education Proficiency Certificate Level Year I	100	Education Proficiency Certificate Level Year I Year II	100 200	Education Proficiency Certificate Level Year I	200
Science Proficiency Certificate Level Year I	100	Science Proficiency Certificate Level Year I Year II	100 200	Science Proficiency Certificate Level Year I	200
Total	780		1630		850

Table 7.7: A Hypothetical Phasing-in Plan of PCL Students Phased-out from PN Campus

Programme	Phasing-in Institutions - Private Campus or Higher Secondary Schools															
	Pvt Cmp, J		Pvt Cmp, P		Pvt Cmp, K		HSS - A		HSS - B		HSS - C		HSS - D		HSS - E	
	1996	1997	1996	1997	1996	1997	1997	1998	1997	1998	1997	1998	1997	1998	1996	1997
Management, PCL	65	130	65	130	--	--	--	--	--	--	--	--	--	--	--	--
Humanities, PCL	65	130	185	370	200	400	100	200	60	120	60	120	100	200	130	260
Education, PCL	--	--	--	--	130	260	--	--	60	120	60	120	50	100	--	--
Science, PCL	100	200	--	--	--	--	50	100	50	100	50	100	50	100	--	--
Total	230	460	250	500	330	660	150	300	170	340	170	340	200	400	130	260

b. Management of Higher Education

The campuses phasing out the PCL programme will be upgraded for management of higher education, i.e. graduate and post-graduate programme. The human, physical and financial resources spared by phasing out PCL programme will be expended on expansion of graduate, post-graduate and research level programme.

The lead campus will remain at the apex of the academic system under the cluster. Major academic activities of the lead campus will concentrate on the expansion, quality improvement and establishing regional relevance of post-graduate and research level programmes. Accordingly, apart from the expansion and strengthening of traditional post-graduate programmes, new ones in the areas like hotel management, tourism management including eco-tourism or environmental tourism, physical education including trekking management and mountaineering, linguistics, religion and philosophy with specialisation in Buddhism, dance, music and art as special areas of job-oriented education (in light of tourism development) and so on will be launched. Development of the capacity to operate doctoral and post-doctoral research activities will be the other area of activity expansion. However, the graduate programmes will go on with due improvement at the beginning.

The satellites (the constituent campuses) will concentrate mainly on expansion, improvement and establishing relevance of graduate education to the local and regional needs.

Successful attainment of the above-mentioned objective-oriented activities calls for improvement and reform in many areas. The classroom environment needs to be improved very much. Classes will have to be reduced to 40-50 to make it easy for teacher's to give individual attention to the students. The classroom needs to be provided with modern instructional materials. The students need expansion and deepening of knowledge in respective areas of study. They also need to acquire skills of writing and communicating their knowledge of the subject-matter to common people. Moreover, they should have the ability to translate their knowledge in theory into practice. So they will be required to participate in the classroom activities including lecture, discussion, writing term papers, project works, etc. Activity-wise attendance of the students needs to be filed. Non-attending students will be instructed to leave the campus. Students will be admitted only after passing the entrance test designed for it. The cluster system will design a common procedure for administering entrance test in all campuses. Space in the laboratory, equipment, chemicals and books and references in the library will be according expanded, added and improved at all levels. The cluster system will also design an appropriate system of sharing resources in their area.

Teachers will have also to undergo a change. The present style of working and teaching will have to be abandoned for a better teacher-personality built-up. Faculty development programmes needs to be conducted to equip teachers to discharge their duties in appropriate manner. Seminar/workshops and training programmes would have to be conducted to exchange ideas on academic matters and refresh them.

Development of curriculum according to the necessity of time and region is another area of activity. Development of appropriate infrastructures for the management of examination and enacting rules and regulations for that purpose is another activity area under the cluster. Examinations will have to be tailored to specific objectives and administered accordingly.

The lead campus needs to have Examination Committee, Curriculum Development Committee and many sub-committees to work on specialised areas, Faculty Development Board, Research Committee, Planning and Monitoring committee, etc. with due representation from the satellites to conduct the specific activities. They would have to be helped by an appropriate secretariate established in the lead campus. Satellites are expected to extend their co-operation and participate in the programme. The lead campus, until it becomes an autonomous institution, will work as a regional centre through which the regional academic activities will pass on to the Central Office of T.U.

The lead campus will have a regional library. It will be fully equipped. Appropriate arrangements will have to be made in the regional library to make it possible to share the available facilities by all the satellites. Laboratories will have also similar arrangements.

The Infrastructural Needs of the Cluster

The change in the educational system and educational standard calls for a corresponding change in infrastructures in various institution of the cluster system. The old physical infrastructures should be maintained and renovated. The internal designing of them should also be changed according to the changed requirements. New additions are required. Laboratory equipment, furniture and books and other means of information in the library would have to be made available. Departments would have to be expanded, equipped and strengthened.

a. Physical Infrastructures

Physical infrastructures are necessary in the campuses or higher secondary schools to provide room for administration, departmental activities, running classes, operating laboratories, libraries, teachers and staff quarters and hostels, research scholar residence, and security walls, sports complex, seminar halls, etc. All of them are required to conduct an efficient academic programme.

The existing physical facilities available in the major participant campuses of the cluster system, i.e., the general constituent campuses of T.U. in WER is given in Table 7.8. The information in the Table 7.8 are not complete. The administrative facilities, departmental blocks, laboratories, residential facilities, sports and seminar complexes compound walls and other physical security arrangements, sanitary facilities, drainage system, etc. are not fully represented. However, it gives some idea about the available physical facilities.

Table 7.8: Physical Facilities Available in the General Campuses of WDR

Programme	Classrooms				Laboratories/Workshops				Library			
	No. of buildings	No. of rooms	Total area (SqM)	Capacity	No. of buildings	No. of rooms	Total area (SqM)	Capacity	No. of buildings	No. of rooms	Total area (SqM)	Capacity
P. N. Campus, Pokhara	6	53	2766.61	2305	2	6	477.12	48	1	10	1395.00	399
Bhairahawa Campus, Bhairahawa	3	15	822.50	685	--	--	--	--	1	4	193.16	55
Butawal Campus, Butawal	5	25	1073.65	895	1	4	357.00	36	1	2	142.50	41
Tribhuvan Campus, Palpa	4	27	1439.80	1200	1	3	171.00	17	1	1	66.00	19
Gorkha Campus, Gorkha	3	13	470.22	392	--	--	--	--	1	2	73.60	21
Mahendra Campus, Baglung	2	7	463.50	386	--	--	--	--	1	4	109.60	31

Source: Assessment of Tertiary Education Project

The adjustment of PCL programme phase-out, higher level programme expansion and available physical facilities will help to demonstrate clearly the future physical facility requirements of the lead and the satellite campuses of the cluster. The complete phasing-out of the PCL programme from the lead campus will make 6 and 32 rooms vacant in the morning and day shift respectively. The existing post-graduate programme in PNC is managed in the morning. In the near future additional post-graduate programmes in Statistics, Chemistry, Zoology, Botany, Physics, Education, Sociology, and Culture are found necessary. Moreover, short-term courses in Linguistics, Management, Public Administration, and Teaching are supposed to be in high demand. The six rooms vacated in the morning will not be sufficient to house these programmes. So either some of the proposed post-graduate and training programmes will have to be conducted in day-time or the existing graduate programme will have to be partly shifted (see Table 7.9). So, in the morning, as it becomes clear from the above discussion, the existing physical facilities will not be sufficient. After phase-out, the day-shift in the PNC will get about 32 vacant rooms. The existing graduate programme occupies about 32 rooms in the morning and 21 rooms in day-shift. Supposing that the graduate level enrolment growth rate will be a steady 10 percent per annum 5 to 6 more rooms for each additional year will be necessary in coming days (see Table 7.10). The existing graduate level class size consists of 80 to 100 students to reduce it to the standard 40 - 50 size, the existing graduate enrolment itself may require some 60 rooms in the next year supposing a 20 - 30 percent drop-out rate from first to second year. Even the use of the rooms available in day-time will not be sufficient to contain all graduate level programmes. Implementation of Three-Year Bachelor's programme will require additional 30 room spaces to contain the third year. So, immediately after the implementation of Three-Year Bachelor's programme and the cluster system, 20 room spaces for existing graduate programme and 27 rooms for post-graduate, that is 117 rooms for existing strength only are required, i.e. 11

more rooms than available at the present. Additional 24 rooms for expansion of post-graduate programme appears necessary. Additional requirements for post-graduate laboratories, laboratory stores, departmental seminar rooms or meeting halls, libraries, professors' cabins and offices, establishment of research level laboratory, additional library space requirement for reading space, researchers' cabins, etc. are required. In addition to it, information stores, cataloguing section, lending section, etc., residence for research scholars, hostel expansion, construction of mess hall for hostels, expansion of sports complex with one swimming pool and covered hall, auditorium with seminar halls, renovation of all existing buildings, strengthening of the existing water-supply and electricity supply scheme, development of campus drainage system, procurement of departmental and laboratory equipment and accessories including computers, video screen, VCR, OHP, furniture, books and other information sources for library, boundary walls, protection and development of Tulsi garden, development of the butterfly museum, etc. are the infrastructural requirements for PNC. Notwithstanding the addition of above facilities, the graduate programme itself will have to be trimmed to make it sizeable to contain in PNC. Some stringent eligibility criteria will have to be developed to disperse them to other regional satellite campuses or to those which will be established in the future.

Table 7.9: A Tentative Space Plan (Use of Existing Space) For PN Campus After the Implementation of Phase-out Plan

Year \ Shift	1996		1997		1998		1999	
	Room Number	Programme	Room Number	Programme	Room Number	Programme	Room Number	Programme
Morning	3	P.G. Expansion in Education, Statistics and Chemistry	8	P.G. Expansion in Education, Statistics, Chemistry, Biology and Zoology	9	P.G. Expansion in Biology, Zoology, Physics, Sociology and Culture	6	P.G. Expansion in Physics, Sociology and Culture
Day	12	Class size planning of graduate I and II year students	5	Morning graduate programme shifted to day	30			Morning graduate programme shifted to day. Third year expansion

Note: New additions as per Table 7 in the enrolment of graduate programme is not included.

The rooms vacated by the phase-out will be 38 whereas the number of rooms required will be 75.

Table 7.10: Projected Graduate Programme Expansion in PN Campus

Faculty/ Institute	Number of Student in 1995/96			Projected Number of Students for					Rooms required
	First Year	Second Year	Total	1996/ 97	1997/ 98	1998/ 99	1999/ 2000	2000/ 2001	
Education including one-year B.Ed.	441	177	618	680	748	823	905	1000	20
Management	286	341	627	690	759	835	919	1011	21
Science	119	84	203	223	245	270	297	327	7
Humanities	559	403	962	1058	1164	1280	1408	1549	31
Law Law (III Yr.)	74	103 100	177 100	304	334	364	400	440	9
Total	1479	1208	2687	2955	3250	3572	3929	4327	88

Source: PN Campus

Note: A steady rate of growth of 10 percent per annum is assumed

Even if it may not be true for one year, it will be approximately true if 5 to 10 years time period is taken.

Table 7.11: A Tentative Maintenance and Construction Plan for PN Campus

Activity / Year	1996	1997	1998	1999	2000
Maintenance and Renovation	All campus buildings maintenance				
Library Expansion	Construction of additional building	Procurement of books, furnitures and equipment			
Classrooms	--	35 rooms, 2 buildings	Furnishing them		
Departmental Cabins	--	72 cabins, Meeting halls, etc.	Furnishing them		
Laboratory	--	One building with about 12 rooms	Furnishing them		
Miscellaneous	--	Hostels, quarters, sport complexes, laundry walls etc.			

The constituent satellite campuses, which are also required to phase-out the PCL programme, have a comparatively small graduate programme. None others than TC, Palpa have the post-graduate programme. It runs post-graduate programme in Economics and Management.

The total number of students enrolled at various levels in the satellite constituent campuses is given in Table 7.4. The campuses at Gorkha, Palpa, Butawal, Bhairahawa and Baglung have 36, 38, 20, 33 and 16 percent enrolment in graduate and post-graduate programmes respectively. In other words, 64, 62, 80, 67 and 84 percent space (see Table 7.8) is occupied respectively by PCL programme. So even if the natural growth rate of 10 percent per annum is maintained even if new Three-Year Bachelor's programme is introduced, after the phasing out of PCL, they may not require immediate expansion in classrooms. The vacant space left by PCL phase-out can be used for it, and also for some additional programmes. But they immediately require maintenance and renovation of their buildings.

In addition to it, introduction of the phase-out plan may require the construction of some classroom buildings, laboratories and libraries for the phasing-in institutions. A hypothetical space requirement estimate for institutions phasing-in the students phased-out by PNC is given in Table 7.12. Eight different institutions with various amount of space requirement, in successive years after 1995 with total number of 56 classroom spaces, 10 laboratory rooms, 8 library rooms with a total cost of Rs. 22.2 million rupees is presented in the table. Similarly, the constituent satellite campuses are required to phase-out 5,928 students. They would require 119 classrooms and about 12 laboratories in receiving institutions. Assuming the same construction cost as in Pokhara, a total amount of Rs. 3,93,00,000 would have to be spent.

Table 7.12: Construction Requirements for Phased-in Institutions to Accommodate PN Campus Phased-out Students

Type of Construction	Pvt Cmp, J		Pvt Cmp, P		Pvt Cmp, K		HSS - A		HSS - B		HSS - C		HSS - D		HSS - E		Total
	1995	1996	1995	1996	1996	1997	1997	1998	1997	1998	1997	1998	1997	1998	1996	1997	
Class Room	4	4	4	4	5	5	3	3	3	3	3	3	4	4	2	2	56
Lab. Room	2	--	--	--	--	--	2	--	2	--	2	--	2	--	--	--	10
Library Room	1	--	1	--	1	--	1	--	1	--	1	--	1	--	1	--	8
*Estimated Construction Cost	33		27		33		27		27		27		33		15		222
*Extra cost of equipment, books and furnitures	7		3		4		6		6		6		7		3		42

- Note:
1. Pvt Cmp = Private Campus, J,P,K = Symbolic name for the private campuses
 2. Construction cost estimates is based on recent construction experience in Pokhara.
 3. Figure for books, furnitures and equipment is simply a rough estimate
 4. * - All figures in NRs. 10,000

Apart from it the furniture, educational and communication equipment, books, journals and newspapers will be required for all the lead, satellite and phasing-in institutions.

The whole programme would have to be designed and implemented by cluster office at the lead campus under the broad guidelines given by the Preparatory and Consultative Committee and due approval of HEP Board, T.U. and the active participation of Higher Secondary Education Board.

Resource Management Problems

Establishment and management of the cluster system requires an appropriate system of resource management. Most important of the resources are human, financial and physical resources. Human resources management required the establishment of a system in which the existing human resources are re-trained and made capable of facing the new challenges; arrangements are made to use fruitfully the surplus manpower, and additional manpower supply scheme for satellites and higher secondary schools is prepared. Similarly, physical resources like laboratories and library facility sharing scheme is to be developed. Raising financial resources and using it optimally within the cluster system is another area of concern is resource management.

a. Human Resource Management

The HEP Board decision has made it compulsory for all the lead and constituent campus of the cluster system to phase-out PCL programme. Details of this programme are discussed earlier. The phasing-out of the PCL programme releases a number of teaching and non-teaching staff from work, i.e. they would not have any work load.

The actual number of manpower made idle depends on the strength of the phased-out programme. The actual comparative strength of PCL programme as presented in Table 1 is 61, 64, 62, 80, 67 and 84 percent in PNC, Gorkha, Palpa, Butwal, Bhairahawa and Baglung campuses respectively. The figures for PNC are a little inflated comparatively. For example, Table 1 presents the total strength of students at Bachelor's level at 1558 for 1993/94 whereas the same for 1995/96 (Table 7) taken from PNC registers shows 2687. The PCL strength has rather gone down than to increase. In case of other campuses too the same may be true.

The comparative picture of the strength of PCL programme in various campuses tends to suggest that after PCL phase-out the same percentage of teachers may be left idle. This will not actually happen to be so. T.U. has also a programme to introduce Three-Year Bachelor's programme. The implementation of this programme itself will increase the Bachelors' level workload by about 33 percent. So the actual teachers' number without workload comes down to about 40, 42, 41, 52, 43 and 56 percent respectively for PNC, Gorkha, Palpa, Butawal, Bhairahawa and Baglung campuses. Moreover, part-time teachers are working to the extent of 4.3, 3.6, 6.9, 17.1 and 6.0 percent respectively in PNC, Palpa, Butwal, Bhairahawa and Baglung campuses (Table 7.13). Information are not available for Gorkha campus. The actual workless percentage of teachers comes down to 35.7, 37.4, 45.1, 25.9 and 50 percent respectively. Similarly, about 35 percent of workload of graduate-level will go up while bringing down the class-size from 30 to 40-50. So, without taking into account the growth and expansion in graduate programme, the actual graduate-level workload will increase to about 70, 65, 68, 35, 59 and 29 percent of the present total load in PNC, Gorkha, Palpa, Butwal, Bhairahawa and Baglung campuses respectively (Table 7.14). Moreover, the already discussed expansion programme of PNC, addition of graduate programme in Humanities and Management in Gorkha, Management and Education in Baglung, Education in Palpa, Science and Management in Butwal and Science and Education in Bhairahawa will help to absorb the extra manpower of 30, 35, 32, 64, 41 and 71 percent respectively. Non-teaching staff will also be used in respective programmes.

Table 7.13: Proportion of Part-time Teachers in Various Constituent Campuses of T.U. in WDR

Campus	No. of Total Teachers	No. of Part-time Teachers	Percentage of Part-time Teachers
Prithvi Narayan Campus	208	9	4.3
Tribhuvan Campus	83	3	3.6
Butawal Campus	58	4	6.9
Bhairahawa Campus	35	6	17.1
Mahendra C., Baglung	33	2	6.0
Total	417	24	5.5

Source: CEDA

Teachers Work-load Survey of TU Constituent Campuses, A Project Report, Assessment of Tertiary Education Project, May 1994.

Table 7.14: Description of Workload Increase in Bachelor's Level

Campus	Actual percentage of graduate load	Increase by the introduction of 3-year's graduate programme			Increase by bringing down the class size to 40-50			Actual Percentage
P. N. Campus	39	39	12.87	51.87	51.87	18.15	70.02	70.02
Gorkha Campus	36	36	11.88	47.88	47.88	16.76	64.64	64.64
Tribhuvan Campus	38	38	12.54	50.54	50.54	17.69	68.23	68.23
Butawal Campus	20	20	6.6	26.6	26.6	9.31	35.91	35.91
Bhairahawa Cmp.	33	33	10.89	43.89	43.89	15.36	59.25	59.25
Mahendra C.,Baglung	16	16	5.28	21.28	21.28	7.45	28.73	28.73

In addition to it, the introduction of Three-Year Bachelor's Programme necessitates the thorough orientation and training of teachers. The administrative staff also need training. The lead campus would have to make arrangements for it.

The cluster system, through the lead campus, would have to design the future higher education development plan and training programme in the region.

b. Financial Resource Management

The cluster requires large amount of financial resources for the implementation of the system itself and future higher education development in the region. Major problems in financial resource management come up in compensating the income loss from PCL phase-out, in financing the matching fund requirement for the construction requirements of the cluster, and the future higher education development in the region.

The total loss of income for the cluster system due to phase-out is estimated to be about Rs. 61,09,110 (Table 7.15) whereas the introduction of Three-Year Bachelor's Programme, natural annual growth of graduate students and graduate and post-graduate programme expansion in various campuses is estimated to generate Rs. 36,20,820 with net regional loss of Rs. 24,88,290 per annum. At the moment of impending more on higher education expansion and development, the cluster system cannot compensate the income loss. In addition to it, the cluster system as a whole requires additional Rs. 1,80,00,000 to it, the cluster system as a whole requires additional Rs. 1,80,00,000 for matching fund. Further development of the regional educational system and moving ahead to regional autonomy and ultimately a regional university may need added amount of funds. So during the period of the development of the cluster system and moving ahead to a regional university, almost a period of 5 years, the whole system of higher education in the region need about Rs. 5 crore in addition to the amount that comes from the cluster programme in the form of credit assistance.

Table 7.15: Estimate of Campus Revenue Loss from Phasing-out PCL Programme

Campus	Phased-out students 1995/96-97/98 and revenue loss			Revenue increase from Natural growth of graduate student			Revenue from graduate expansion			Revenue from 3-year graduate programme			Post-graduate expansion			Total loss	Total gain	Total loss or gain (+ or -)
	No.	per h*	Total	No.	per h*	Total	No.	per h*	Total	No.	per h*	Total	No.	per h*	Total			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)			
PN Campus	3769	630	2374470	512	740	378880	--	--	0	659	740	487660	465	895	416175	2374470	1282715	-1091755
Gorkha	647	630	407610	123	740	91020	350	740	259000	167	740	123580				407610	473600	+65990
Palpa	2144	630	1350720	367	740	271580	350	740	259000	501	740	370740				1350720	901320	-449400
Butawal	1862	630	1173060	156	740	115440	350	740	259000	180	740	133200				1173060	507640	-665420
Bhairahawa	755	630	475650	129	740	95460	350	740	259000	176	740	130240				475650	484700	+9050
Baglung	520	630	327600	33	740	24420	400	740	296000	90	740	66600				327600	387020	+59420
Total	9697		6109110	1320		976800	1800		1332000	1773		1312020	465		416175	6109110	3620820	-2488290

Note:

1. Column one based on Table 7.4
2. Column 4 is based on the assumption of 10% annual growth rate of graduate students.
3. Column 7 based on the graduate expansion in humanities and management, 50 each in Gorkha, Education in Palpa, Science and Management in Butawal, Science and Education in Bhairahawa and Management and Education in Baglung, I, II & III year in all.
4. Column 10 is based on Table 1 with 7.4 percent drop-out.
5. Column 13 based on the programme of post-graduate expansion in Stat. 45, Zoology 35, Botany 35, Chemistry 50, Physics 50, Sociology 90, Culture 35 and Education 125 (I+II yr.) in PN Campus. Proposed new subjects and training programmes are not included
6. Total of column 17 is worked out by deducting total of column 15.

Table 7.16: Estimated Number of Students in the Cluster System after Phase-out and Implementation of the Graduate and Post-graduate Expansion

Campus	Number of graduate students					Total graduate level	Post-graduate			Total post- graduate	Grand total
	Present Number		III year	Natural growth	expansion		Present Number		III year		
	I year	II year					I year	II year			
PN Campus	826	732	659	512	--	2729	383	416	465	1264	3993
Gorkha Campus	184	185	167	123	350	1009	--	--	--		1009
Tribhuvan Campus	554	556	501	367	350	2328	139	87		226	2554
Butawal Campus	269	200	180	156	350	1155	--	--	--		1155
Bhairahawa Campus	192	195	176	129	350	1042	--	--	--		1042
Baglung Campus	69	31	90	33	400	623	--	--	--		623
Total	2094	1899	1773	1320	1800	8886	522	503	465	1490	10376

Source: Table 7.4 and Table 7.15

Among the sources of revenue, the most important sources are the students. If the graduate students are requested to pay Rs.600 more per annum and post-graduate ones Rs.750, they may contribute, during this 5-year period, an amount of about Rs. 3,37,00,000. Additional Rs.1,63,00,000, that is Rs.32,60,000 per annum, possibly at higher rates in the initial years and lower at later years, will have to come from other sources, that may be contribution by local organisations and individuals, local taxes, etc.

Thus, the students and the community will have to bear an amount of cost to the tune of about Rs. 5 crore for the modernisation and development of higher education in the region. This does not include the amount of about Rs. 3 crores required for the expansion of physical facilities in phasing in institutions.

c. Physical Resource Management

The regional cluster of campuses of WDR is a big reservoir of physical infrastructures and resources. The old buildings and the new ones constructed under the cluster system need continuous maintenance and renovation. Similarly, the regional library of the lead campus will be developed into a research library. Departmental laboratories of the lead campus would have higher level research facilities. Various equipment of the same level would be maintained in the lead campus.

The lead campus, as per project provisions, will have a maintenance centre. The technicians and the personnel in the centre will look after the maintenance needs of the cluster system, i.e. the lead campus and the satellites. The satellites would have to comply to the procedures designed for the purpose and inform the centre of their own requirements and the available resources. Similarly, the resources developed at the regional library such as cameras, photocopiers, books and references and other research facilities can be shared by all the members of the cluster system. Even electronic mail system could be established to communicate required information, if it is technically and financially viable. Similarly, arrangements will be made to share the research facilities in the Departments, and laboratories of the lead campus and sharing of equipment designed for that.

Educational Management Information System

Information is an important managerial variable which is very much essential for effective monitoring, evaluation, co-ordination, control and appropriate decision making on crucial issues. Formation of the regional cluster of campuses changes the pattern of inter-relationship between various campuses and central administration of T.U. The regional cluster develops into a system with the lead campus as the regional centre and satellites as its affiliates. The regional system of academic, financial and personnel administration will develop with the lead campus as the administrative centre monitoring all the academic, financial and administrative activities and communicating them to the central administration at T.U.

So the implementation of the cluster system will introduce a changed environment. In this situation, the satellites should be linked with the lead campus and through it with the centre via some communication channels. All the information on academic, financial, and administrative matters such as student registration, examination forms and other exam-related activities, curriculum development, dissemination and orientation and training, research needs, faculty development, scholarships, financial matters and administrative ones like transfer, appointment at vacant positions, new requirements, etc. should flow from satellites to the lead and through the lead campus to satellites and the centre. Monitoring and evaluation will also be the lead campus activity.

Thus, a new system of communication and information and a scientific EMIS should be introduced among satellites and the lead campus, and hence the central office of T.U.

Role of the Lead and Satellite Campuses

A cluster of campuses is, as said earlier, an informal association evolved through mutual agreements between the lead and satellite campuses. The role that each satellite and the lead campus would have to play to make the agreement to form the cluster effective would also have to be evolved mainly on their own keeping in view the objectives like Decentralisation and EMIS development. Other objectives like phasing-out PCL programme and resource mobilisation are designed for attaining success in case of the first two objectives. So the role and activities of the lead campus and the satellites should be directed towards the achievement of the major goals.

a. *Role of the Lead Campus*

The lead campus, as the word 'lead' connotes, is supposed to play a leadership role to evolve a system of decentralised academic management in which educational information is readily available to all concerned units. However, the major role of the lead campus is expected to conform to the following:

- take academic, financial and administrative leadership of the cluster system,
- create necessary regional administrative structures,
- make all satellites and most of the regional bodies to participate in the decision making process,
- inform the centre and the satellites of all decisions, procedures and problems related with cluster management,
- create a financial pool of the cluster,
- identify the regional needs and capabilities,
- encourage the local institutions to work independently,
- manage academic activities like curriculum development, examinations, faculty development, research and training programmes,
- implement the phase-out plan, cluster development programme, and EMIS, etc.

b. *Role of the Satellites*

Satellites are also very important ingredients of the cluster system. The cluster will be no-where without satellites. Success of the cluster indicates the success in the achievement of the major goals which is not possible without effective participation and co-operation of the satellites. So their role is much more important. The important role activities can be enumerated as:

- to participate in the cluster system,
- to contribute towards all cluster activities- academic, financial and administrative,
- prepare plans and programmes for their own campus development and contribute to that for the cluster as a whole,
- mobilise resources for their own development and contribute to regional pool,
- prepare and implement phase-out and phase-in plans for respective campuses,
- contribute to the formulation of rules and regulations for cluster management,
- participate in all decision making process of the cluster and make the decisions effective in their own campus,
- participate in and contribute towards the development of regional EMIS,
- develop a habit of working independently, etc.

The activity-roles of the lead and satellites campuses enumerated above are only a few of their respective role activities. Many more will be evolved in the process of implementation of the cluster system itself. The role of the T.U. administration at centre is much more important. Its clear policy guidelines, timely and appropriate decisions, encouragement of the participating cluster campuses and framing of required rules and regulations is very important. The rules and regulations to be framed must be directed towards encouraging and promoting the campuses for participating actively and effectively in the cluster system and making it a success. Particularly, the framing of rules and regulations must be guided by the motive of achieving success in realising the objectives of the formation of regional cluster of campuses.

Conclusions

Formation of regional cluster of campuses in higher education is a recent experience for Nepal. However, the monolithic centralised structure of higher education had produced tremendous problems. Emergence of regional academic centres did not appear as a natural process of higher educational development. Decentralisation and Regionalisation or creation of regional clusters came, thus to be a logical response to the necessity. Proposal to develop a regional cluster of campuses in Western Development Region is one of the attempts to create such regional academic centres.

Creation of regional cluster is the initial process of decentralising higher education, creating regional academic centres and pushing and dispersing higher academic activities to far and near villages and human settlements. None will be the loser in the process. All will gain according as their efforts and devotion may deserve.

As the initial process the academic, infrastructural, financial and administrative management and decision-making activities will be decentralised to the regional centre and gradually to all those institutions and centres which develop themselves as deserving ones. This is a process. Participation in the process will bring one nearer to the home, ultimately making him capable and responsible for managing his own home. Let us have a start to make us ultimately the manager of our own autonomous home institutions.

The planning and implementation tasks at the present stage is very much crucial for the organisation of the cluster. Making rules and regulations providing each member with some duties and responsibilities, creating new institutions, convincing all participants, including administrators, teachers, students and the guardians about the end results and benefits to them all, is a tremendous task. Our effort and devotion to the achievement of the goal is the only basis of success. Let us successfully start the discussion on ways and means to promote activities which will ultimately make it possible for all of us to be an active member of our own 'Gurukul Ashram' and gain from it.