

# ENGINEERING EDUCATION IN NEPAL: PROSPECTS AND CHALLENGES IN THE NEW ENVIRONMENT

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March 12, 2009

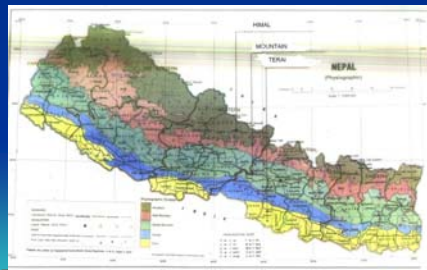
## ORGANIZATION

1. Introduction
2. Present Status of Engineering Education
3. Opportunities for Employment and Linking with Consulting Industries
4. Prospects and Challenges
5. Conclusion

# 1. INTRODUCTION

## 1.1 The Country

- ❖ 147,181 sq km
- ❖ 26m Population
- ❖ Elevation 70m-8,848m



- 8% in
- 37% Himalayan region
- 47% in
- 49% Mountain region
- 45% in
- 14% Terai region

- ❖ Low Economic Growth
- ❖ Lots of Opportunities
  - Temperate to Alpine Crops
  - Bio Diversity
  - Wind Energy
  - Solar Energy
  - Water Resources
  - Semiprecious stones + minerals

## 1.2 Education System

- ❖ Vedic Philosophy: 500 BC
- ❖ Durbar School 1853
- ❖ 16% do not go to School
- ❖ 8% Pass Higher Secondary
- ❖ Present School System
  - 0 - 5 Primary
  - 6 - 8 Lower Secondary
  - 9 - 10 Secondary
  - 11-12 Higher Secondary

- ❖ Being Changed to 2 tier
  - 0 - 8 Compulsory
  - 9 – 12 Secondary
- ❖ Higher Education

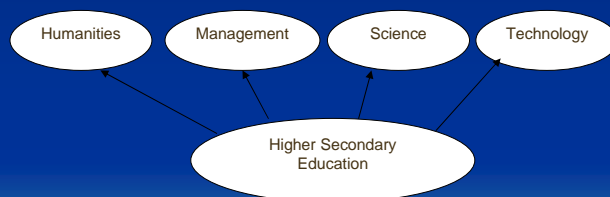


Fig. 1: Higher Education System

## ❖ University Education to Private Sector

### ❖ Current Status

S.N	Level of Education	No of Schools	Public %	Student's Enrolment	Girls %
1	Primary	27,525	77.3	4,502,697	47.4
2	Lower Secondary	8,471	67.8	1,374,796	45.7
3	Secondary	5,039	62.3	587,177	45.7
4	Higher Secondary	1,018	52.6	364,404	43.3
5	University Education	520	16.2	141,636	32.7

Source: Ministry of Education and Sports 2007

Table 1: Status of Education

## 1.3 History of Higher Technical Education

- ❖ Trade School 1930
- ❖ Basic Engineering 1942
- ❖ Nepal Engg. School 1951
- ❖ Overseer Program 1954-1961
- ❖ IoE - 1972
- ❖ BE - 1978
- ❖ *nec* - 1994
- ❖ ME - 1988
- ❖ Ph.D. - 2007

## 2. PRESENT STATUS OF ENGINEERING EDUCATION

### 2.1 Institutions and GoN Expenditure

- ❖ 4 Universities offer Programs
- ❖ 30 Colleges 8 in Public sector
- ❖ 15 Programs against 1 in 1992
- ❖ Expenditure Decreasing

Fiscal year	Budget for Education Sector %	Budget for Higher Education, % of 2	Budget for Engineering Education, % of 3
1	2	3	4
1999-2000	13.2	15.8	0.31
2001-2002	14.1	11.9	0.21
2003-2004	15.25	9.79	0.12

Source: Pahari ( 2008:43)

Table 3: Spending on Higher Education

## 2.2 Enrolment Capacity and Preference

- ❖ 1978 - 22 Students
- ❖ 1993 - 96 Students
- ❖ 1994 - 96 + 60
- ❖ 1996 - 96+48+60+30 =234
- ❖ Today's Enrolments

University	Engineering College			Students Enrolment Capacity
	Constituent	Affiliated		
Tribhuvan University	4	7	11	1638
Purwanchal University	1	8	9	1078
Pokhara University	0	9	9	1522
Kathmandu University	1	0	1	179
<b>Total</b>	<b>6</b>	<b>24</b>	<b>30</b>	<b>4417</b>

Table 4: Enrolment Capacity Under Various universities

- ❖ Preference is Fluctuating

## 2.3 Cost of Education

- ❖ Cost Rs. 0.6m
- ❖ Offer Rs. 0.25 – 0.4m
- ❖ Efficiency lowers cost
- ❖ IoE Rs. 4m
- ❖ Direct cost Rs. 0.35m – Rs. 1.0m
- ❖ Compare with Medical

## 2.4 Quality Aspect

- ❖ University
- ❖ NEC
- ❖ Market
- ❖ Some say it is low
- ❖ No
  - National market
  - International Market
  - International Universities

## 3. EMPLOYMENT OPPORTUNITIES

### 3.1 Need of the country

❖ Projection for 2020

Table 6 : Plan for Infrastructure Development

S. N	Infrastructures	Status as of 2005	Plan for 2020
1	Safe drinking water supply	60 % of population	100 % of population
2	Hydropower Installation	600 M W	10, 000 M W
3	Airport International Airport Regional	1 6	3 15
4	Telephone	0.3/100 Persons	10/100 Persons
5	Irrigation	1.2 m. Ha	2.5 m. Ha
6	Roads	18,000 KM	50,000 KM

### ❖ New area of Employment

Tables 7: Employment in the New Sector

S.N o.	Sector Identified	Employment by 2020
1	Defense industry	500
2	Communication Technologies (Telephone/ TV/ Radio/ Printing/ Media	4,000
3	Packaging	1,500
4	Service Industries (consulting, education)	10,000
5	Processing industry	4,000
6	Construction Material	2,500
7	Housing Development	5,000
8	Knowledge Industry	12,000
<b>Total</b>		<b>39,500</b>

## 3.2 Opportunities Abroad

- ❖ 1000 India
- ❖ 1000 other countries

## 3.3 Prospects for linking with Industries

- ❖ Curricula often debated
- ❖ Industry exposure
- ❖ Archi Vs Engg.
- ❖ Adding one semester is being discussed
- ❖ Possibilities to link
  - Hands on experience to students
  - Cheap labor to industry
  - Industry knowledge to academia
  - Industry experience for curriculum upgrading