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IMPLEMENTATION COMPLETION AND RESULTS REPORT

FOR

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (TEQIP)

March 12, 2003 to March 31, 2009

**MINISTRY OF HUMAN RESOURCE DEVELOPMENT
GOVERNMENT OF INDIA, NEW DELHI
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ABBREVIATIONS AND ACRONYMS

AIT	Asian Institute of Technology
BoG	Board of Governors
CFI	Centrally Funded Institutions
CIP	Concise Institutional Proposals
FMRs	Financial Management Reports
FSD	Faculty Staff Development
Gol	Government of India
GPA	Grade Point Average
ICR	Implementation Completion and Results Report
INDEST	Indian National Digital Library in Engineering Science & Technology
IRG	Internal Revenue Generated
JRM	Joint Review Mission
MHRD	Ministry of Human Resource Development
MoUs	Memorandum of Understandings
NIT	National Institute of Technology
NPIU	National Project Implementation Unit
PA	Performance Audit
PG	Post Graduate
PIP	Project Implementation Plan
R & D	Research & Development
SCE	Services to Community & Economy
SOEs	Statement of Expenditures
SPFU	State Project Facilitating Unit
TDP	Tribal Development Plan
TEQIP	Technical Education Quality Improvement Programme
TNA	Training Need Analysis
UG	Under Graduate

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PROJECT AT A GLANCE

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I. Background

Technical Education Quality Improvement Programme of Government of India (TEQIP), aims to upscale and support ongoing efforts of Gol to improve quality of technical education and enhance existing capacities of the institutions to become dynamic, demand-driven, quality conscious, efficient and forward looking, responsive to rapid economic & technological developments occurring both at National & International levels. The programme was designed as a Centrally Coordinated, multi-state and long term of 10 to 12 years period.

II. Project Description

The first phase of TEQIP supported 127 Technical Education Institutions from 13 States; including 18 Centrally Funded Institutions (CFIs), 68 State Government Funded Institutions, 22 Private Unaided Institutions and 19 Polytechnics. List of Project Institutions is given in Annexure I.

- **The Project components:**

- 1) Institutional Development
 - a) Promotion of Academic Excellence
 - b) Networking of Institutions for Quality Enhancement and Resource Sharing
 - c) Enhancing Quality and Reach of Services to Community & Economy
- 2) System Management Capacity Improvement

- **Unique Features of the Project**

- Freedom to Institutions to develop their own Institutional Plan (the top down approach was rejected)
- Freedom to Institutions to determine their own path for excellence

III. Project Objectives

1. To create an environment in which Engineering Institutions selected under the Programme can achieve their own set targets for excellence and sustain the same with autonomy & accountability.
2. To support development plans including synergistic Networking and Services to Community & Economy of competitively selected institutions for achieving higher standards.
3. To improve efficiency and effectiveness of the technical education management system in the States and institutions selected under the Programme.

IV. Achievement of Project Objectives

The component wise achievements are described below:

A. Institutional Development**a) Promotion of Academic Excellence**

The academic excellence in the project institutions was achieved as described below:

(i) Accreditation:

During the project period overall, 93% of UG eligible courses and 83% of eligible PG courses were either accredited or applied for. In the States of Andhra Pradesh, Himachal Pradesh, Karnataka, Kerala, Maharashtra and Tamilnadu the eligible courses were accredited in the range of 90 to 100%. In the same range, the PG eligible courses were accredited in the States of Andhra Pradesh, Haryana, Kerala & Uttarakhand. It is note worthy to mention that all the eligible UG and PG courses were accredited in the 10 CFIs. The details of accreditation status are given in Annexure II.

(ii) Faculty and Staff Positions:

During the project period 88% of the sanctioned faculty positions and 78% of the staff positions were filled. As 12% vacancy of faculty positions at the national level existed at the end of the project. However, in many institutions, 30 % positions remained vacant against the sanctioned positions, due to varied reasons such as non-availability of qualified & experienced faculty and eligible faculty from the reserved categories.

On account of introduction of new courses in the project, additional 476 faculty and 548 staff positions were filled.

(iii) Faculty and Staff Development:

Faculty and Staff Development (FSD) was stressed upon throughout the project period. A study on, "Assessment of Faculty Development/Training under TEQIP and Approach to Scale-up for Future" was conducted for a sample of 35 institutes (Summary of the study report is given in Annexure III). The study revealed that the 75-100 % faculty undertook the training in pedagogy, subject competence, laboratory development, research competence, management skills, continuing education, qualification up-gradation, and in consultancy. Training Need Analysis (TNA) was required to be conducted by each institution regularly keeping in view the career objectives and institutional goals. There was plenty of scope to improve the method adopted for TNA. The faculty could not proceed for training due to academic commitments leading to gaps in achievements. Contract faculty in most cases was not sent for the training. Institutions reported that the faculty on an average got training for 8 days per person. Similarly, technical staff undertook short-term and long-term trainings during the project with an average of 7 days per staff on industrial training and processes, laboratory and workshop instructions, maintenance of laboratory and workshop equipment, etc. The details of the FSD are given in Annexure IV.

(iv) Modernization of Teaching Learning Facilities:

The provision for Goods was made for modernization of laboratories/ computer centers, setting up of new laboratories improving teaching learning process etc. Computer Centers in all the 127 Institutions were modernized with state-of-the art facilities. Campus wide Networking was also developed in all the project Institutions. The facilities like multimedia lab, e- library, e- journals; EDUSAT, etc. were added in all the Institutions. Eighty project institutions obtained membership of the Indian National Digital Library in Engineering Science & Technology (INDEST) Consortium.

38 new constructions like computer centers, libraries, media-centers, etc. were carried out and put to use. In addition, the refurbishment of 98 buildings; renovation of 153 laboratories and extensions to 51 buildings were also carried out.

(v) Revision of Existing Courses:

With the implementation of academic autonomy, 91% of the 765 UG/Diploma and 556 PG/Post Diploma courses were revised by the State project institutions and CFIs revised 100% of their courses. Details of revision of existing courses are given in Annexure V.

(vi) Starting of New Courses:

A total of 164 new courses consisting of 136 PG and 28 UG courses were proposed to be started. However, out of which only 89 PG (66%) and 20 UG (71%) courses were started during the project period. Given the diminished and unforeseen decline in demand for PG courses from students for those proposed initially, starting of all new PG courses, did not make it economically viable and hence the shortfall of 55 courses remained. However, institutions offered other UG and PG courses on demand other than listed in the project with their own funds.

(vii) Evaluation and Placement of Students:

The students' performance was evaluated systematically through periodic tests, assignments, tutorials and holding technical competitions. This helped in improving the percentage of high quality graduates (those passing with 75% or above or equivalent overall GPA) increased from 35 % to 50% in UG and 36% to 51% in PG during the project period. The employability of UG students increased from 41% at base year to 76% and for G students it increased from 25% at base year to 56% at the end of the project. The average annual emolument of the UG students increased to Rs. 0.290 millions from Rs. 0.166 millions and in case of PG, it increased to Rs. 0.358 millions from Rs. 0.190 millions.

(viii) Academic Output:

The most significant academic outputs of the project were demonstrated through increased research publications, patents, research guidance and technology transfer. The creditable achievement is in the area of publication of Research Papers from the project institutions. The baseline figure for publications was 4951 in the year 2003-04. The target set for the achievements was 100% increase. Where as the actual achievement was 700% i.e. 37,542 papers were published at the end of the project. A total of 290 R&D products were commercialized, 180 patents were obtained and 376 applied for. The enrollment of students in PG courses was increased to 13,389 from 8,942 in the project institutions. Similarly, the Ph.D. students' enrollment was increased to 2,043 from 1,212 from base year 2003-04 and 587 Ph. Ds were awarded every year in the project institutions. This increase of PG and Ph.D. enrollment is expected to mitigate partially the shortage of faculty.

(ix) Tribal Development Plan (TDP):

All the 127 Institutes implemented a wide range of measures to assist socio-economically disadvantaged and academically weak students. Institutes developed a systematic approach of Diagnostic Test to assess the student’s academic weakness and provided them with appropriate ‘remedies’. A total of 1797 activities including remedial teaching, coaching for communication skills development, summer schools, grievance redressal, earn-while-learn scheme, etc. were undertaken.

b) Networking of Institutions for Quality Enhancement and Resource Sharing

Through Networking of Institutions 786 joint R & D projects, 1339 joint consultancies, 4417 joint publications, 1452 joint training and continuing education programmes, 1713 joint guidance for M. Tech. & Ph. D. and 2357 joint seminars and conferences were conducted. The details of activities carried out during the project period are graphically represented in the figure 4.1.

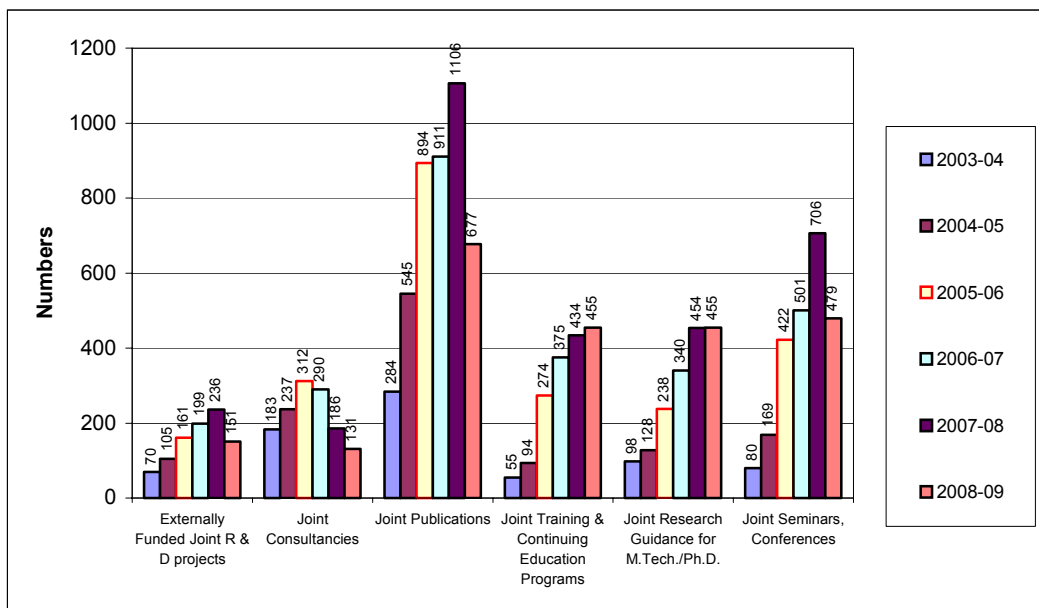


Figure 4.1: Year wise activities - Networking of Institutions for Quality Enhancement and Resource Sharing

The concept of Lead and Networking was incorporated in the project design, where Lead Institute (40) would Network (68) with the other institutes in its proximity so that the institutions could benefit mutually by sharing each other’s resources. But the achievements under this sub-component were not up to the desired level. As networking partners were pre fixed, in many cases like NIT Jalandhar, NIT Jaipur, etc., which was Lead Institutions, could not network as no other project institute was in their proximity as the States of Punjab and Rajasthan did not join the project.

c) Enhancing Quality and Reach of Services to Community & Economy

A total of 4,388 activities were conducted. Mini-projects like biogas plants, solar energy harvesting, rainwater conservation and its utilization for housework, recycling of waste paper, fertilizer from garbage, etc. were developed, which benefited a total of 5,16,300 community, in the vicinity of the institutions.

B. System Management Capacity Improvement

For the effective exercise of autonomy, each project institutions was to establish a Board of Governors (BoG) for guiding the institutions for the overall development. Consequently, 122 institutions had established BoG with participation of eminent Educationist & Industrialists including stakeholders. During the project period BoG meetings in the range of 2-4 were held at the respective institution.

88% of the institutions were granted full managerial autonomy. 1,209 training programmes on planning and management were arranged benefiting 13,531 officials. The details of the System Management Capacity

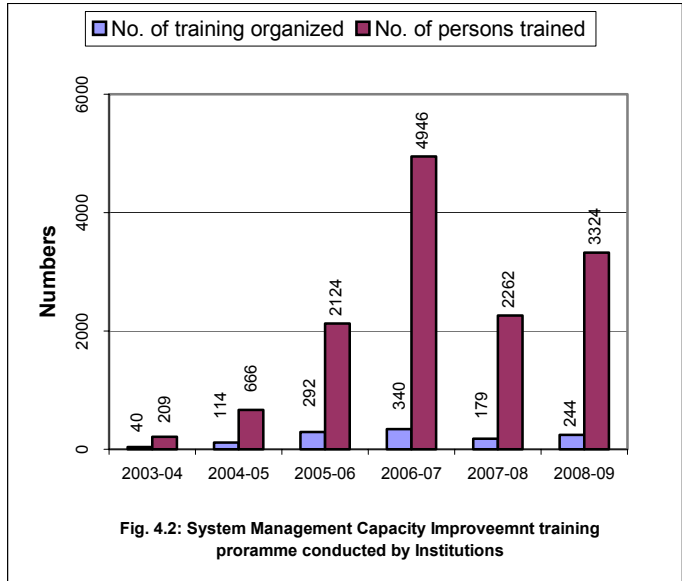


Fig. 4.2: System Management Capacity Improvement training programme conducted by Institutions

Improvement training programmes conducted by the institutions during the project is graphically represented in fig.4.2. Seventy-seven institutions under the project enhanced administrative and management capacities by fully computerizing their financial management system, students record and faculty records.

NPIU arranged training programme to increase the ‘Management Capacity Development’ of Institutions and SPFUs for 135 senior faculty and officials of SPFUs at MDI Gurgaon. In addition, NPIU organized two programmes at AIT, Bangkok on ‘System Management & Capacity Improvement of Technical Education’ in which 6 Directors of Technical Education, 16 NIT Directors/HoDs and 4 MHRD/NPIU officials participated. Similarly, 13 NIT Directors and 7 MHRD/NPIU officials visited Finland, Germany and USA through three Study & Networking Tours organized by NPIU.

V. Academic and Non-Academic Reforms

A series of Academic and Non-Academic Reforms were undertaken to improve the efficiency of the Institutions and make the academic process more flexible for the students. Following are the achievements:

- 68% (86) of the Institutions (18 CFIs + 68 State Institutes) achieved full academic autonomy and 32 substantial autonomy.
- 87% of the Institutions implemented full financial autonomy, 80% implemented full administrative autonomy and 88% implemented full managerial autonomy, while remaining institutions were granted substantial administrative, managerial and financial autonomies.
- 98% of the Institutions established all four funds (Corpus, Staff Development, Maintenance and Depreciation funds) for continuous improvement and sustaining gains after the closure of the project.
- Block grant scheme was introduced fully in 1 State (Haryana) and partially in 9 States.
- All the 18 CFIs complied with all the Legal Covenants and Institutional Reforms except the block grant funding.
- The number of days required to complete the admission process got reduced to 33 from 41.
- The number of days required to conduct the examination got reduced to 22 from 28.

The States of Andhra Pradesh, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal complied well with the major Academic and Non-Academic reforms. The details of Academic and Non-Academic reforms are given in Annexure VI (a) & VI (b).

VI. Utilization of Funds & Financial Management

The project was declared effective on March 12, 2003 and closed on March 31, 2009 with 9 months (actual date of closure of project was June 30, 2008) extension to achieve higher objectives and reduce the gap for the second phase of TEQIP. The signed amount was Rs. 15,500 million (US\$ 281.2509 million) and nearly US\$ 40 million was diverted to aid the Tsunami disaster victims in December 2004. The total funds utilized at the end of the project (as on 30th June 2009) were Rs. 13241.182 millions (99.42%) against the funds release of Rs. 13318.306 millions. CFIs and States also earned an interest of Rs. 391.059 million on grants released for project. The utilization of the funds planned initially did not match with actual utilization of funds as providing training on financial guidelines took time. However, as the project progressed, the funds utilized exceeded the planned utilization of funds. The year wise utilization of funds planned and the actually utilized is represented in figure 8.1 and details of utilization of funds are given in Annexure VII.

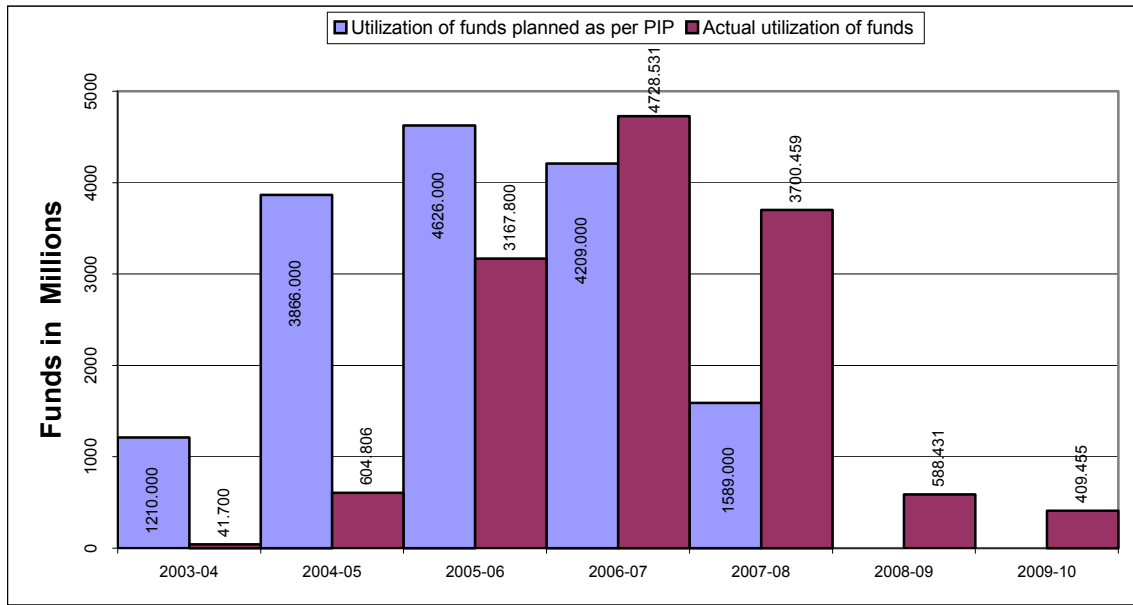


Figure 8.1: Year wise Funds Planned & Actual Utilized

Financial Management Manual was developed by NPIU and made available to all the Project States and Institutes, which included guidelines regarding audit process, instructions, time lines, terms of references and formats, etc, that resulted in better quality Financial Management at the Project States and Institutions. The impact was assessed as the FMRs were being received regularly and timely. The information presented in FMRs matched with the disbursement summary of the World Bank. FMRs were also used as a tool for monitoring the progress on the Project and reviewing the performance of the States and Institutions. The process of the filing the reimbursement claims was based on Statement of Expenditure (SOEs). Adequate training on financial management and reimbursement claim process was given to States and Institutions.

VII. Project Implementation Mechanism

The National Project Implementation Unit (NPIU) was the nodal agency at the National Level for facilitating, monitoring and implementation of the project. The State Project Facilitating Units (SPFUs) of 13 project States performed similar functions for the institutions in their respective States. The 18 Centrally Funded Institutions (CFIs) were facilitated by NPIU. Each institution had a TEQIP cell with a coordinator for academic, procurement and finance.

The above structure functioned very well in the later stages of the project, as each State took its time in forming the SPFU. The SPFU and State Institutions staff got benefited from 12 workshops on Implementation, 12 workshops on Fiduciary Aspects and 14 workshops and trainings on Financial Management and repeated short-term technical assistance throughout Project Implementation by MHRD/NPIU.

All 127 project Institutes undertook a self-assessment on the performance of their Institution. The States of Andhra Pradesh, Haryana, Himachal Pradesh, Gujarat, Karnataka, Maharashtra, Uttarakhand and West Bengal implemented the project well and showed more effective performance and achievements, as the SPFU team maintained the continuity of officials during the entire project period. The States of Madhya Pradesh, Uttar Pradesh, Jharkand, Kerala, Tamilnadu experienced difficulty in implementing the project due to the frequent changes at the SPFU team of officials.

- **Monitoring & Evaluation**

The project was regularly monitored through organizing bi-annual Joint Review Missions (JRM). Ten JRMs were held at different locations, keeping in view to assist the participating States in the best possible manner. The Principal Secretaries, Directors of State Technical Education, SPFUs, Institute officials and officials from MHRD/NPIU took active part along with the World Bank. The JRMs helped not only in monitoring the achievements, but also gave solutions to the identified problems. It is worth mentioning that in one of the JRMs, Mentoring of Institutions was suggested; through the experienced educationists who provided guidance to the Institutions for effective implementation of the project. Thus, the mentoring of the institutions became the unique feature of this project. Subsequently, seven rounds of mentoring were carried out through mentors who also acted as Guide and Facilitator to help Institutions to achieve both the output and outcome targets, identify delays and shortfalls and suggested remedial actions.

The mentoring of the project was also done through the Key Performance Indicators, Post Procurement Audits and Post Civil Works Reviews. The evaluation of the project was done through the Performance Audit, Studies & Surveys.

The details of the Mentoring & Evaluation parameters are given below:

(i) Key Performance Indicators: In pursuance of achieving the institutional development objectives and institutional reforms, the performance of the Project Institution was measured through the key output indicators and outcome indicators.

The key output indicators were designed as 1) Number of graduates successfully completing a UG course, 2) Number of PG students, 3) Professional Outputs, 4) Internal Revenue Generation, 5) Number of joint programmes/ activities from formal networking, 6) Services to Community and Economy and 7) Availability of trained institution managers

Similarly, following five outcome indicators were designed as 1) Employment rate and earnings of engineering graduated and postgraduates, 2) Cooperation and resource sharing between TEQIP institutions, 3) Internal efficiency of the engineering education system, 4) Services to Community & Economy and 5) Planning of management of technical education system and the outcome is given below:

- Enhanced Academic Excellence through increased employment rate and earnings of engineering graduates and Postgraduates.
- Enhanced Formal Networking through Cooperation and Resource sharing between TEQIP Institutions.
- Enhanced Internal efficiency of the engineering education system through training to institutional faculty, staff and management.

TEQIP

- Enhanced Services to Community and Economy through involvement of institutions with the community.
- The most significant output of the project was all round encouragement to creative and innovative endeavors demonstrated through publications, patents, R & D, and technology innovations, etc.

The graphical representation of the key performance outcomes is given in Annexure VIII.

(ii) Post Procurement Audits: The World Bank appointed Auditors conducted yearly audit of the Procurement activities undertaken by institutions during the year. On a sample basis Post Procurement Audit was done in six State and two CFIs namely the States of Gujarat, Maharashtra, Karnataka, Himachal Pradesh, Tamilnadu and Uttar Pradesh and NIT Hamirpur and VNIT Nagpur. Also all the institutions were advised to conduct self-audits in the later period of the project. The observations made by the World Bank Auditors were sent to the respective State/Institutions for their compliance.

In addition to Post Procurement Audit, the Procurement Management System was also reviewed at NIT Calicut and in the States of Andhra Pradesh and Kerala.

(iii) Post Civil Works reviews: The Post Civil Works reviews were conducted to assess the quality of the construction and its conformity to the design & specifications and timely completion. NPIU, World Bank and SPFUs together conducted the Civil Works review at 10 construction sites in the states of Karnataka, Uttarakhand & West Bengal. Review remarks were shared with the SPFU, identifying areas for improvements and the methods to ensure timely completion of works.

(iv) Performance Audit: 70-member panel of highly experienced academicians from institutions of repute viz. IITs, NITs, IISc, etc. was formed to carry out rigorous assessment of performance audit. 7 rounds of Performance Audit assessment (perceived scores) and 5 rounds of stakeholders' assessments (calculated scores) were carried out. National averages of the Perceived and Calculated Scores were 8.5 and 7.4 respectively at the end of the project (Annexure IX). The States of Andhra Pradesh, Gujarat and Karnataka achieved scores of 9.1, 9.2 and 8.8 respectively which were above the National Average of Perceived Scores. Similarly, the States of Andhra Pradesh, Kerala, Karnataka, Tamilnadu, Uttarakhand, West Bengal and Himachal Pradesh achieved scores of 8.0, 7.7, 7.6, 7.5, 7.7, 7.9 and 7.5 respectively which were above the National Average for Calculated Scores.

(v) Studies and Surveys: The Project carried out relevant research studies and surveys as discussed below:

- 1) Study on Assessment of Faculty Development/Training under TEQIP and Approach to Scale-up for Future, with the objectives:
 - I) To assess the gains in faculty development/training,
 - II) To identify the reasons for deficiencies noticed in meeting the desired objectives for faculty development/ training,
 - III) To identify best practices for faculty development/training in the project, and
 - IV) To recommend actions for scaling-up faculty development/ training and making the process more effective in future

Conclusion of the Study: Many of the institutes have a good record of faculty development/training for many years, even in the pre-TEQIP period. However, this has been properly oriented, funded and strengthened during the TEQIP period. This activity has to be nurtured further, maintained and formalized in the post-TEQIP period as well. Although the progress of the TEQIP activities at many of the institutes was slow in the initial years, subsequent progress was observed to be quite good. It is too early to see the results of faculty development/training initiatives taken up under the TEQIP scheme. However, the initial outcome is indicative of a need to broaden/deepen training in all areas of academic work, like curriculum planning/design, course presentation/ delivery/ examinations etc. The initial results of faculty development/training programs conducted under TEQIP are indeed encouraging. In general, the assessors have observed that due to the participation in the TEQIP, the faculty development/training programs at the institutions got properly oriented, funded and strengthened. It was also noted that the faculty members and the institutions gained significantly as a result of the TEQIP. For example, the program has given opportunity to the faculty members for up-gradation of their qualification, participation in national/international conferences and participation in various types of training activities making them better equipped professionally. Summary of the study is given in Annexure III.

- 2) Faculty Satisfaction Survey: The faculty satisfaction survey examined faculty with emphasizes on faculty's working environment. The overall faculty satisfaction increased from 55% in 2006 to 69.1% in 2008. The brief on Faculty Satisfaction Survey is given in Annexure X.
- 3) Student Satisfaction Survey: The student satisfaction survey illustrated students' satisfaction of the institutions and also measured how the project improved the quality of engineering education. The average student satisfaction score increased from 6.67 to 8.5 (by 27%) over the life of the project, on a scale of point 10. The brief of Student Satisfaction Survey is given in Annexure XI.
- 4) Implementation Survey: The objective of the implementation survey was to gain an understanding of the design, implementation and impact from the viewpoint of its implementers. The web-based questioner was sent to the officials of SPFUs and project institutions implementing unit and MHRD/NPIU officials. The main results of the implementation survey are provided in Annexure XII.

VIII. Bank Performance

The Bank task team's contributions during Project conception, design, planning and implementation and their visits to various sites and frequent interaction with central and state government officials had significantly helped in making the Project implementation a success.

The World Bank Project team handled the implementation with great understanding and adopted a supportive role. This accelerated clearance of various proposals and Project progress and ensured target accomplishment. Bank officials provided guidance on all issues and fiduciary management, in conjunction with the NPIU to the States. The excellent support provided by the World Bank, its mission members, the architect, consultants and other officials is highly appreciated.

IX. Borrower Performance

During the preparation, the concept was shared and discussed with all the stakeholders and consensus was built for change in the technical education system through an extensive process of consultations with beneficiaries, but some implementation difficulties were encountered in the initial stage. Borrowers learnt from experience during the Project and ensured timely outcomes and achievements. State level implementation mechanism closely monitored the Project and worked for achieving targets. The National Project Directorate guided and facilitated Project implementation at all stages and monitored Project closely with NPIU. During each JRM, NPIU team prepared and delivered to the bank well-documented project implementation progress reports. It enabled the Project States in overcoming obstacles, which impeded developments. Consensus about the strategies and measures was visible right through the Project in all activities.

X. Key Lessons Learnt

- The institutions and States were confused about the concept of Services to community and economy. There was less participation of students and faculty in these activities. For greater participation of students and faculty, an element of incentive could have included in the design.
- The major difficulty was faced by the institutions in implementing the academic reforms due to non-cooperation from the affiliating universities. Formally, the universities were not a part of the project. Also, these reforms require substantial restructuring before implementing. These factors were not taken into account project design. Thus, the project was only partially successful in achieving academic reforms.
- Only 56% of the courses remained accredited at any one particular time over the project period. Thus, a thorough planning was required on the part of the institutions and the system granting the accreditation, as process of obtaining accreditation was slow during the project. The States also needed to take more active role in these issues.
- Networking among institutions was the weak component in the project and needed more conceptual clarity. Networking should have been need based and not by force or restrictions.
- Industry-institution interaction was not monitored properly and thus impact is not seen.

**LIST OF INSTITUTIONS UNDER
TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (TEQIP)**

Centrally Funded Institutions (18)	
1	Motilal Nehru National Institute of Technology, Allahabad (L)
2	Maulana Azad National Institute of Technology, Bhopal (L)
3	National Institute of Technology, Calicut (L)
4	National Institute of Technology, Durgapur (L)
5	National Institute of Technology, Hamirpur (N)
6	Malaviya National Institute of Technology, Jaipur (L)
7	Dr B R Ambedkar National Institute of Technology, Jalandar (L)
8	National Institute of Technology, Jamshedpur (L)
9	National Institute of Technology, Kurukshetra (L)
10	Visvesvaraya National Institute of Technology, Nagpur (L)
11	National Institute of Foundry & Forge Technology, Ranchi (L)
12	National Institute of Technology, Rourkela (L)
13	National Institute of Technology, Silchar (N)
14	National Institute of Technology, Srinagar (L)
15	Sardar Vallabh Bhai National Institute of Technology, Surat (L)
16	National Institute of Technology, Surathkal (L)
17	National Institute of Technology, Tiruchirappalli (L)
18	National Institute of Technology, Warangal (L)

Andhra Pradesh		Govt. Funded/Aided/Pvt.
19	University College of Engineering, Osmania University, Hyderabad (L)	Government Funded
20	AU College of Engineering, Vishakhapatnam (L)	Government Funded
21	JNTU College of Engineering, Kukatpally, Hyderabad (L)	Government Funded
22	SUV College of Engineering, Tirupati (L)	Government Funded
23	JNTU Institute of Science & Technology, Kukatpally, Hyderabad (Formally known as Institute of Post Graduate Studies and Research, JNTU, Hyderabad) (N)	Government Funded
24	JNTU College of Engineering, Anantpur (N)	Government Funded
25	JNTU College of Engineering, Kakinada (N)	Government Funded
26	Osmania University, College of Technology, Hyderabad (N)	Government Funded
27	Rajeev Gandhi Memorial College of Engineering & Technology, Nandyal (N)	Private
28	Sreenidhi Institute of Science & Technology, Ghatkesar, Hyderabad (N)	Private
29	Bapatla Engineering College, Bapatla (N)	Private
30	Govt. Institute of Electronics, Secunderabad (P)	Government Funded

Gujarat		
31	LD college of Engineering, Ahmedabad (L)	Government Funded
32	DD Institute of Technology, Nadiad (N)	Government Funded
33	Government Engineering College, Gandhi Nagar (N)	Government Funded
34	Government Engineering College, Modasa (N)	Government Funded
35	Govt. Polytechnic, Ahmedabad (P)	Government Funded
36	Dr. S & SS Ghandhy College of Engineering & Technology, Surat (P)	Government Funded
Haryana		
37	Deen Bandhu Chottu Ram University of Science & Technology, Murthal (N)	Government Funded
38	Guru Jambheshwar University, Hissar (N)	Government Funded
39	Kurukshetra University, Kurukshetra (N)	Government Funded
40	YMCA Institute of Engineering, Faridabad (N)	Government Funded
41	Government Polytechnic, Nilokheri (P)	Government Funded
Himachal Pradesh		
42	Govt. Polytechnic College, Sundernagar (P)	Government Funded
43	Govt. Polytechnic College for Women Kandaghat (P)	Government Funded
44	Govt. Polytechnic College, Hamirpur (P)	Government Funded
Jharkhand		
45	Birla Institute of Technology, Mesra (L)	Government Funded
46	BIT, Sindri (N)	Government Funded
47	Government Polytechnic, Ranchi (P)	Government Funded
48	Government Polytechnic, Dumka (P)	Government Funded
Karnataka		
49	Shri Jayachamarajendra College of Engineering, Mysore (L)	Aided
50	Basaveshwar College of Engineering, Vidyanagar Bagalkot (L)	Aided
51	University of Vishweshwaraiah College of Engineering, Bangalore (L)	Government Funded
52	NMAM Institute of Technology, Nitte, Udupi (L)	Private
53	National Institute of Engineering, Mysore (N)	Aided
54	Shri Dharmasthala Manjunatheshwara College of Engineering, Dharwad (N)	Private
55	Poojya Doddappa College of Engineering, Gulbarga (N)	Aided
56	MS Ramaiah Institute of Technology, Bangalore (N)	Private
57	Dr. Ambedkar Institute of Technology, Bangalore (N)	Aided
58	University BDT College of Engineering, Davangere (N)	Government Funded
59	Malnad College of Engineering, Hassan (N)	Aided
60	Siddaganag Institute of Technology, Tumkur (N)	Private
61	Sri Siddhartha Institute of Technology, Tumkur (N)	Private
62	BMS College of Engineering, Bangalore (N)	Aided
Kerala		
63	College of Engineering, Trivandrum (L)	Government Funded
64	College of Engineering, Chengannur (N)	Aided
65	Model Engineering College, Kochi (N)	Aided
66	Sree Chitra Thirunal College of Engineering, Trivandrum (N)	Aided
67	LBS College of Engineering, Kasaragod (N)	Aided

Madhya Pradesh		
68	Jabalpur Engineering College, Jabalpur (L)	Government Funded
69	Shri GS Institute of Technology & Science, Indore (L)	Government Funded
70	Rewa Engineering College, Rewa (N)	Government Funded
71	Rajiv Gandhi Proudhogiki Vishwavidyalaya, Bhopal (N)	Government Funded
72	Ujjain Engineering College, Ujjain (N)	Government Funded
73	Sardar Vallabh Bhai Polytechnic College, Bhopal (P)	Government Funded
74	Kalaniketan Polytechnic, Jabalpur (P)	Government Funded
Maharashtra		
75	College of Engineering, Shivani Nagar, Pune (L)	Government Funded
76	University Institute of Chemical Technology, Mumbai (L)	Government Funded
77	Veer mata Jijabai Technological Institute, Matunga, Mumbai (L)	Government Funded
78	Government College of Engineering, Aurangabad (N)	Government Funded
79	KES Rajarambapu Institute of Technology, Sakharale, Islampur, Distt. Sangli (N)	Private
80	Dr. Baba Saheb Ambedkar Technological University, Vidyavihar, Lonere (N)	Government Funded
81	Walchand College of Engineering, Sangli (N)	Government Funded
82	Yashwantrao Chavan College of Engineering, Nagpur (N)	Private
83	Shri Guru Gobind Singhji Institute of Engineering and Technology, Vishnupuri, Nanded (N)	Government Funded
84	Shri Sant Gajanan Maharaj College of Engineering, Shegaon (N)	Private
85	Government College of Engineering, Amravati (N)	Government Funded
86	Vishwakarma Institute of Technology, Pune (N)	Private
87	GH Raison College of Engineering, Nagpur (N)	Private
88	DKTE Society's Textile & Engg. Institute, Ichalkaranji (N)	Private
89	Government Polytechnic Mumbai (P)	Government Funded
90	Government Polytechnic, Pune (P)	Government Funded
91	Government Polytechnic, Nagpur (P)	Government Funded
Tamil Nadu		
92	Government College of Technology, Coimbatore (L)	Government Funded
93	Alagappa Chettiar College of Engineering & Technology, Karaikudi (L)	Government Funded
94	College of Engineering, Guindy, Chennai (L)	Government Funded
95	Madras Institute of Technology, Chennai (N)	Government Funded
96	Government College of Engineering, Tirunelveli (N)	Government Funded
97	Thanthai Periyar Government Institute of Technology, Vellore (N)	Government Funded
98	Government College of Engineering, Salem (N)	Government Funded
99	AC College of Technology, Anna University, Chennai (N)	Government Funded
100	Central Polytechnic College, Tharamani, Chennai (P)	Government Funded
101	DD Government Polytechnic College for Women, Tharamani, Chennai (P)	Government Funded
102	Tamil Nadu Polytechnic College, Madurai (P)	Government Funded

Uttar Pradesh		
103	Harcourt Butler Technological Institute, Kanpur (L)	Government Funded
104	Kamla Nehru Institute of Technology, Sultanpur (N)	Government Funded
105	Institute of Engineering & Technology, Lucknow (N)	Government Funded
106	Madan Mohan Malviya Engineering College, Gorakhpur (N)	Government Funded
107	Bundelkhand Institute of Engineering & Technology, Jhansi (N)	Government Funded
108	Uttar Pradesh Textile Technology Institute, Kanpur (N)	Government Funded
109	Shri Ram Murthi Smarak College of Engineering & Technology, Bareilly (N)	Private
110	United College of Engineering & Research, Allahabad (N)	Private
111	Integral University, Lucknow (N)	Private
112	Dr. Ambedkar Institute of Technology of Handicapped, Kanpur (P)	Government Funded
Uttarakhand		
113	Govind Ballabh Pant Univ. of Agriculture & Technology, Pantnagar (L)	Government Funded
114	Dehradun Institute of Technology, Dehradun (N)	Private
115	Govind Ballabh Pant Engineering College, Paurigarhwal (N)	Government Funded
116	Government Polytechnic Dehradun (P)	Government Funded
West Bengal		
117	Bengal Engineering and Science University, Howrah (L)	Government Funded
118	Jadavpur University, Jadavpur (L)	Government Funded
119	University College of Technology, Calcutta University, Kolkata (L)	Government Funded
120	Netaji Subhash Engineering College, Kolkata (N)	Private
121	Asansol Engineering College, Asansol (N)	Private
122	Govt. College of Engineering & Textile Technology, Serampore (N)	Government Funded
123	Kalyani Government College, Kalyani (N)	Government Funded
124	Haldia Institute of Technology, Haldia (N)	Private
125	Jalpaiguri Government Engineering College, Jalpaiguri (N)	Government Funded
126	Government College of Engineering and Ceramic Technology, Kolkata (N)	Government Funded
127	Institute of Engineering & Management, Kolkata (N)	Private

L=Lead Institution, N=Network Institution, P=Polytechnic

ACCREDITATION STATUS

Table 1: Accreditation Status for the Graduate Courses

S. No.	Name of the State	No. of courses eligible for accreditation	Number of courses for which NBA/NAAC accreditation	
		Bachelor/ Diploma	Obtained + Renewal	Applied for
1	Andhra Pradesh	72	70	1
2	Gujarat	40	33	0
3	Haryana	18	8	10
4	Himachal Pradesh	10	10	0
5	Jharkhand	29	14	5
6	Karnataka	124	103	10
7	Kerala	20	20	0
8	Madhya Pradesh	45	25	15
9	Maharashtra	121	110	7
10	Tamil Nadu	70	60	10
11	Uttar Pradesh	53	48	4
12	Uttarakhand	21	16	4
13	West Bengal	67	47	8
States Total		690	574	74
CFIs Total		121	93	15

Table 2: Accreditation Status for the Post Graduate Courses

S. No.	Name of the State	No. of courses eligible for accreditation	Number of courses for which NBA/NAAC accreditation	
		Masters/ Post Diploma	Obtained + Renewal	Applied for
1	Andhra Pradesh	96	88	6
2	Gujarat	11	0	11
3	Haryana	3	3	0
4	Himachal Pradesh	0	0	0
5	Jharkhand	20	11	9
6	Karnataka	68	32	28
7	Kerala	15	15	0
8	Madhya Pradesh	21	1	5
9	Maharashtra	69	25	39
10	Tamil Nadu	64	35	26
11	Uttar Pradesh	14	0	8
12	Uttarakhand	4	4	0
13	West Bengal	47	23	5
States Total		432	237	137
CFIs Total		134	96	26

**SUMMARY OF THE STUDY REPORT ON
ASSESSMENT OF FACULTY DEVELOPMENT/TRAINING UNDER TEQIP AND
APPROACH TO SCALE-UP FOR FUTURE**

The World Bank assisted Technical Quality Improvement Programme (TEQIP) which was started in 2003 has given major focus of attention on faculty development and training to meet the overall project goal of upgraded teaching-learning process. Large number of Institutes, Colleges and Universities throughout the country was selected for TEQIP support. Subsequently the National Project Implementation Unit (NPIU) has conducted a study to assess the effectiveness of the program and to scale-up for future. The study was conducted during October 2008-February 2009 with an objective to assess the gains in faculty development/training during TEQIP project, to identify the reasons for deficiencies noticed in meeting the desired objectives for faculty development, to identify best practices for faculty development/training in the project, and to recommend actions for scaling-up for faculty development/training and making the process more effective in future. For the assessment, 35 representative institutions were chosen and the assessment was conducted as per the guidelines and format provided by NPIU. The assessment was done through visits by the assessors appointed by NPIU at the chosen institutions. The assessors have subsequently submitted reports to NPIU on their findings. The summary of these assessment reports is presented in this Section.

It was noted by the assessors that the institutions have been engaged in faculty development/training programs for many years, even in the pre-TEQIP period. But this was not a well-planned activity. However, this activity is now properly oriented, funded and strengthened under TEQIP, resulting in the institutions getting benefited from the outcome. In general, it was observed that the progress of TEQIP activities at many of the Institutes seems to have been rather slow in the initial years due to various reasons. However, subsequent progress was observed to be quite good.

At majority of the institutions, a comprehensive and systematic Training Need Assessment (TNA) based on the needs of the departments had not been carried out. While only a few institutes followed the NPIU format exactly, at many institutes the TNA was sketchy and was done on an ad-hoc basis without following any scientific and/or systematic approach. In view of this, it is necessary that the TNA activity needs to be fine-tuned and microscopic analysis needs to be carried out at departmental level to improve its effectiveness. The TNA format provided by NPIU needs to be simplified.

Almost at all institutes, initially the number of faculty members undergoing training was low. However subsequently the number had improved and in general, it was observed that 75-100 % faculty members had undergone one or the other training and by and large most of the faculty members have been covered under various training programs. At number of institutes a gap was observed between the total number of faculty members identified after TNA and the actual number who finally went for training. The slippage was largely due to clash of the timing of their commitment at institute with the timing of the training program.

The institutions have been observed to get substantial gains as a result of the faculty development/training initiatives taken up under TEQIP in the last few years. From the interactions with the faculty members, it was noted that most of the faculty members were happy about the program in general. The significant gain has been achieved in qualification up-gradation. Notable gains at faculty members' level in the departments are higher level of interest in and commitment to teaching and student related tasks and higher competence in guiding and advising students.

The TEQIP program has resulted in motivating the faculty members to take new initiatives and start certain programs/activities in their own institutes. Large number of faculty members have initiated steps to upgrade their qualification. Many institutes have initiated in-house programs for the benefit of the faculty members and conducted conferences and workshops at national as well as international levels. A number of institutes have established contacts/signed MoUs with universities/research laboratories for faculty development.

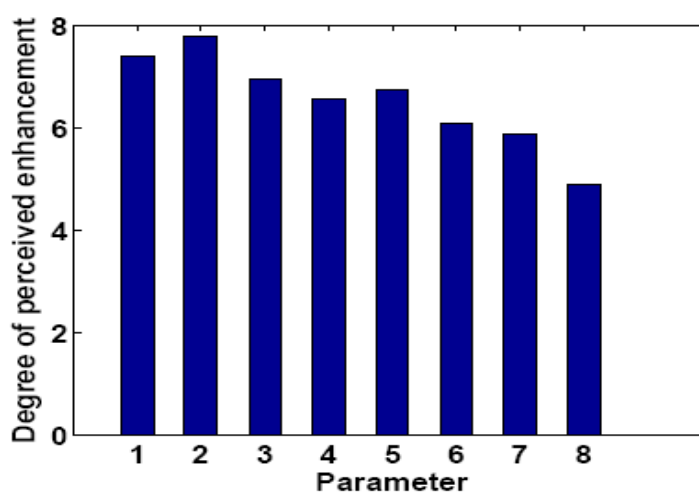
In the TEQIP program, numbers of deficiencies were also observed. As stated earlier, in general TNA was not carried out in a systematic and scientific manner due to various reasons. The faculty development program at many institutes had been usually a class room exercise with poor industry related participation/contents. At number of institutes, a wide gap was observed between the TNA and actual deputations of faculty members due to clash of timing of training programs with the academic calendar. Also TEQIP could not lead to better consultancy output primarily due to lack of proper incentives to the faculty members. One important deficiency was that faculty members at few institutes could not participate/present papers in conferences/programs abroad due to State Govts' bureaucratic policies.

After analyzing the findings of the assessors, a number of recommendations have been made in order to scale-up the program and also to make the faculty development/training more effective.

Conclusion of the Study: Many of the institutes have a good record of faculty development/training for many years, even in the pre-TEQIP period. However, this has been properly oriented, funded and strengthened during the TEQIP period. This activity has to be nurtured further, maintained and formalized in the post-TEQIP period as well. Although the progress of the TEQIP activities at many of the institutes was slow in the initial years, subsequent progress was observed to be quite good. It is too early to see the results of faculty development/training initiatives taken up under the TEQIP scheme. However, the initial outcome is indicative of a need to broaden/deepen training in all areas of academic work, like curriculum planning/design, course presentation/delivery/examinations etc. The initial results of faculty development/training programs conducted under TEQIP are indeed encouraging. In general, the assessors have observed that due to the participation in the TEQIP, the faculty development/training programs at the institutions got properly oriented, funded and strengthened. It was also noted that the faculty members and the institutions gained significantly as a result of the TEQIP. For example, the program has given opportunity to the faculty members for up-gradation of their qualification, participation in national/international conferences and participation in various types of training activities making them better equipped professionally. Summary of the study is given in Annexure III.

Bar No.	Parameter
1	Pedagogy
2	Subject Competence
3	Laboratory Development
4	Research Competence
5	Management Skills
6	Continuing Education
7	Qualification Up gradation
8	Consultancy

Parameters for evaluating faculty



Degree of perceived gain capabilities

DETAILS OF FACULTY & STAFF DEVELOPMENT

JRM	Number of Faculty positions filled	Number of Faculty Deputed for training	Number of Staff positions filled	Number of Staff Deputed for training
10 th	15465	4745	17575	1378
9 th	14521	7883	17618	4054
8 th	14281	5216	17384	2391
7 th	15484	9346	18743	3356
6 th	25074	5968	30314	2529

STATUS OF REVISION OF EXISTING COURSES

Status of Revision of existing in Centrally Funded Institutions - CFIs						
Particulars	UG			PG		
	Target	Achieved	% Achieved	Target	Achieved	% Achieved
Status of Revised Courses in CFIs	124	124	100	134	134	100
Status of New Courses in CFIs	3	2	66.67	36	27	75
Fellowship Proposed	120	123	102.5	533	396	74.29
Status of Revision of existing Courses in State Institutions						
Particulars	UG			PG		
	Target	Achieved	% Achieved	Target	Achieved	% Achieved
Status of Revised Courses in SPFUs	641	586	91.42	422	384	91
Status of New Courses in SPFUs	25	18	72	100	62	62
Fellowship Proposed	868	857	98.74	1155	908	78.62
Status of Revision of existing Courses at National Level						
Particulars	UG			PG		
	Target	Achieved	% Achieved	Target	Achieved	% Achieved
National Status of Revised Courses	765	710	92.81	556	518	93.17
National Status of New Courses	28	20	71.43	136	89	65.44
National Fellowship Proposed	988	980	99.19	1688	1304	77.25
Total	1781	1710		2380	1911	

ACADEMIC AND NON ACADEMIC REFORMS

Table 1: Status of Legal Covenants Compliance by CFIs

S. No.	Legal Covenants	CFIs
1	Grant of autonomies	
	a) Academic autonomy	18
	b) Financial autonomy	18
	c) Administrative autonomy	18
	d) Managerial autonomy	18
2	Changing pattern of non-plan funding to block grant basis	NIL
3	Encouraging establishment of corpus, staff development, depreciation and maintenance funds	16
4	Encouraging institutions to increase recovery of cost of education	18
5	Permitting institutions to generate, retain and utilize the revenue generating by them through a variety of activities	18
6	Encouraging networking of institutions	18
7	Formulating a policy to enable institutions to fill up all existing teaching and staff vacancies	18
8	Ensuring that project institutions implement the agreed institutional reforms	18
9	Carrying out of the 2 independent performance audits	18
10	Ensuring implementation of TDP by each Programme Institutions	18
11	Submission of audit reports of NPIU and Centrally sponsored institutions	18
12	Preparation and sub-mission of Financial Management Reports	18
13	Submission of annual training and tour program by April 30 each year	18
14	Preparation of National targets for Output Indicators	18
15	Formation of National Steering Committee	18

ACADEMIC AND NON ACADEMIC REFORMS

Table 2: Status of Legal Covenants by the States/Institutions

S. N.	Legal Covenants	13 States (109 Institutes)
1	Grant of autonomies	
	a) Academic autonomy	13(73F + 30S + 6 NG)
	b) Financial autonomy	13 (92F + 17S)
	c) Administrative autonomy	13 (87F + 22S)
	d) Managerial autonomy	13 (94F + 15S)
2	Changing pattern of non-plan funding to block grant basis to publicly funded and aided institutions	1(5)F + 9(92)P + 3(12)NG
3	Providing funds to private institutions	9 (22)*
4	Providing prompt and adequate funds to project institutions in a timely manner	13 (109)
5	Encouraging establishment of corpus, staff development, depreciation and maintenance funds	13 (109)
6	Encouraging institutions to increase recovery of cost of education	13 (109)
7	Permitting institutions to generate, retain and utilize the revenue generating by them through a variety of activities	13 (109)
8	Encouraging networking of institutions	13 (109)
9	Formulating a policy to enable institutions to fill up all existing teaching and staff vacancies	13 (109)
10	Ensuring that project institutions implement the agreed institutional reforms	13 (109)
11	Having in place a fully operational SPFU with adequate staff and resources as provided in the PIP	13 (109)
12	Carrying out of the 2 independent performance audits	13 (109)
13	Ensure preparation of Annual Faculty and Staff Development Plans by each participating Institution by March each year, compile the Plan for the whole State and forward the same to NPIU by March end, so that a National Level SD Plan reaches World Bank by April each year	13 (109)
14	Ensuring implementation of TDP by each project institutions	13 (109)
15	Submission of financial audit reports of SPFU and state sponsored institutions	13 (109)
16	Preparation and submission of Financial Management Reports	13 (109)
17	Submit consolidated Audit Certificate by 30 th September each year	

F – Full, S – Substantial, NG – Not Granted

The private unaided institutions from the States of Gujarat, Himachal Pradesh, Madhya Pradesh & Tamilnadu have not supported any private unaided institutions in the project.

ANNEXURE: VII

(Figures in Million Rs.)

UTILIZATION OF FUNDS (as on 30th June 2009)

State	Project Life Allocation	Cumulative Expenditure	Disbursement
ANDHRA PRADESH	1452.834	1451.154	1451.154
GUJARAT	503.703	498.393	498.496
HARYANA	326.86	322.707	320.885
HIMACHAL PRADESH	79.953	79.452	79.452
JHARKHAND	318.7	318.7	318.7
KARNATAKA	1624.757	1606.577	1604.898
KERALA	529.765	529.95	529.95
MADHYA PRADESH	458.476	444.321	441.297
MAHARASHTRA	1625.594	1625.239	1612.571
TAMIL NADU	961.63	954.68	954.251
UTTARAKHAND	349.951	349.073	346.835
UTTAR PRADESH	625.06	621.262	616.433
WEST BENGAL	1470.97	1468.096	1455.234
Sub Total (A)	10328.253	10269.604	10230.156

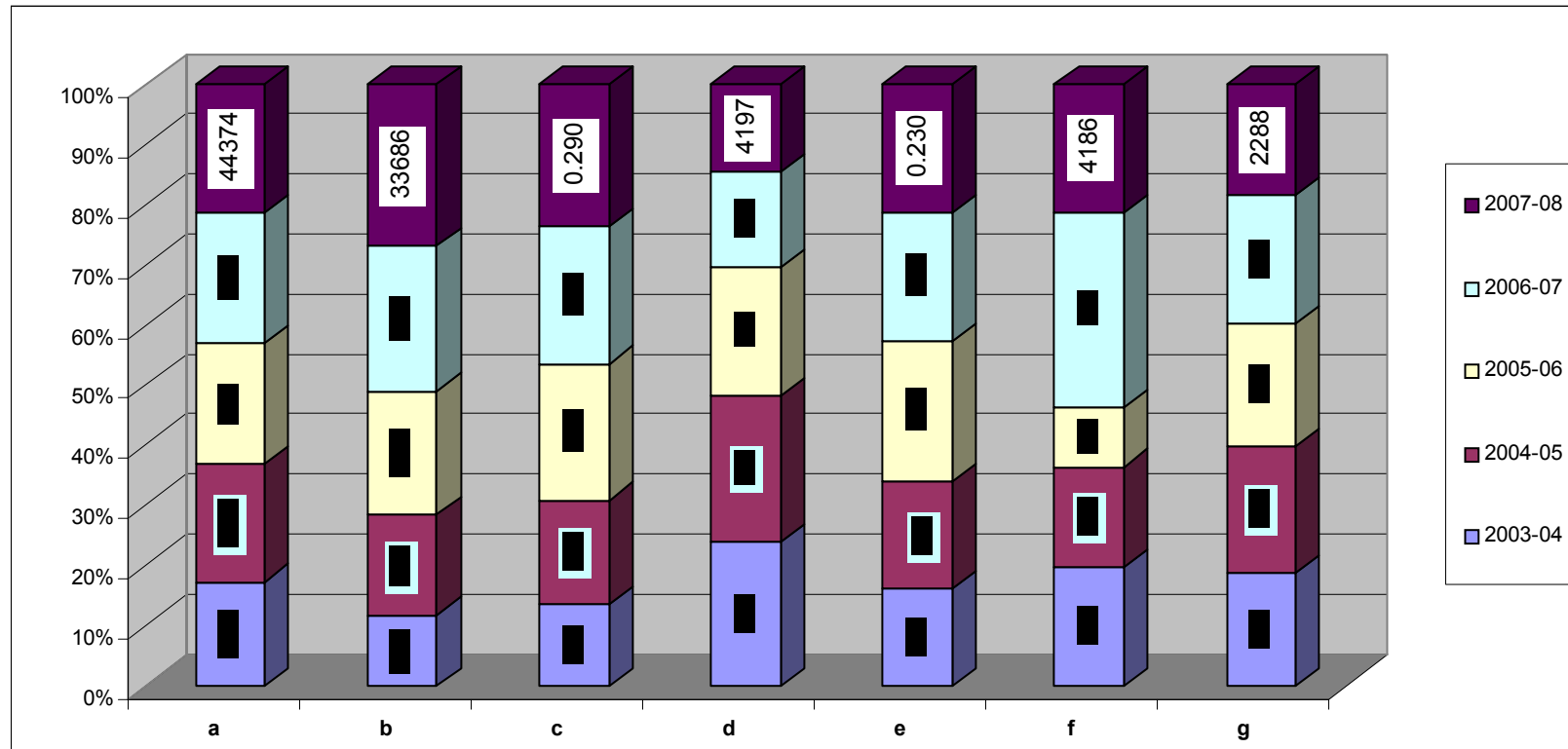
CFI + NPIU	Project Life Allocation	Cumulative Expenditure	Disbursement
MNIT Allahabad	170	170	170
MNIT Bhopal	201.2	200.267	200.267
NIT Calicut	211.606	211.606	211.606
NIT Durgapur	210	210	210
NIT Hamirpur	183.634	183.7	179.717
MNIT Jaipur	85.394	85.394	85.394
DBRANIT Jalandhar	102.7	102.7	102.7
NIT Jamshedpur	93.729	88.484	88.485
NIT Kurukshetra	187.513	177.193	176.392
VNIT Nagpur	200	200	200
NIFFT Ranchi	93.819	90.81	90.81
NIT Rourkela	152.796	152.7	152.7
NIT Silchar	126.78	126.8	126.78
NIT Srinagar	79.252	75.729	75.719
SVNIT Surat	229.3	229.286	229.3
NIT Surathkal	218.654	218.654	218.654
NIT Tiruchirapalli	200	200	200
NIT Warangal	194.1	194.1	194.1
NPIU	125	54.155	54.155
Sub Total (B)	3065.477	2971.578	2966.779

Total (A+B)	13393.73	13241.182	13196.935
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ACADEMIC AND NON-ACADEMIC REFORMS

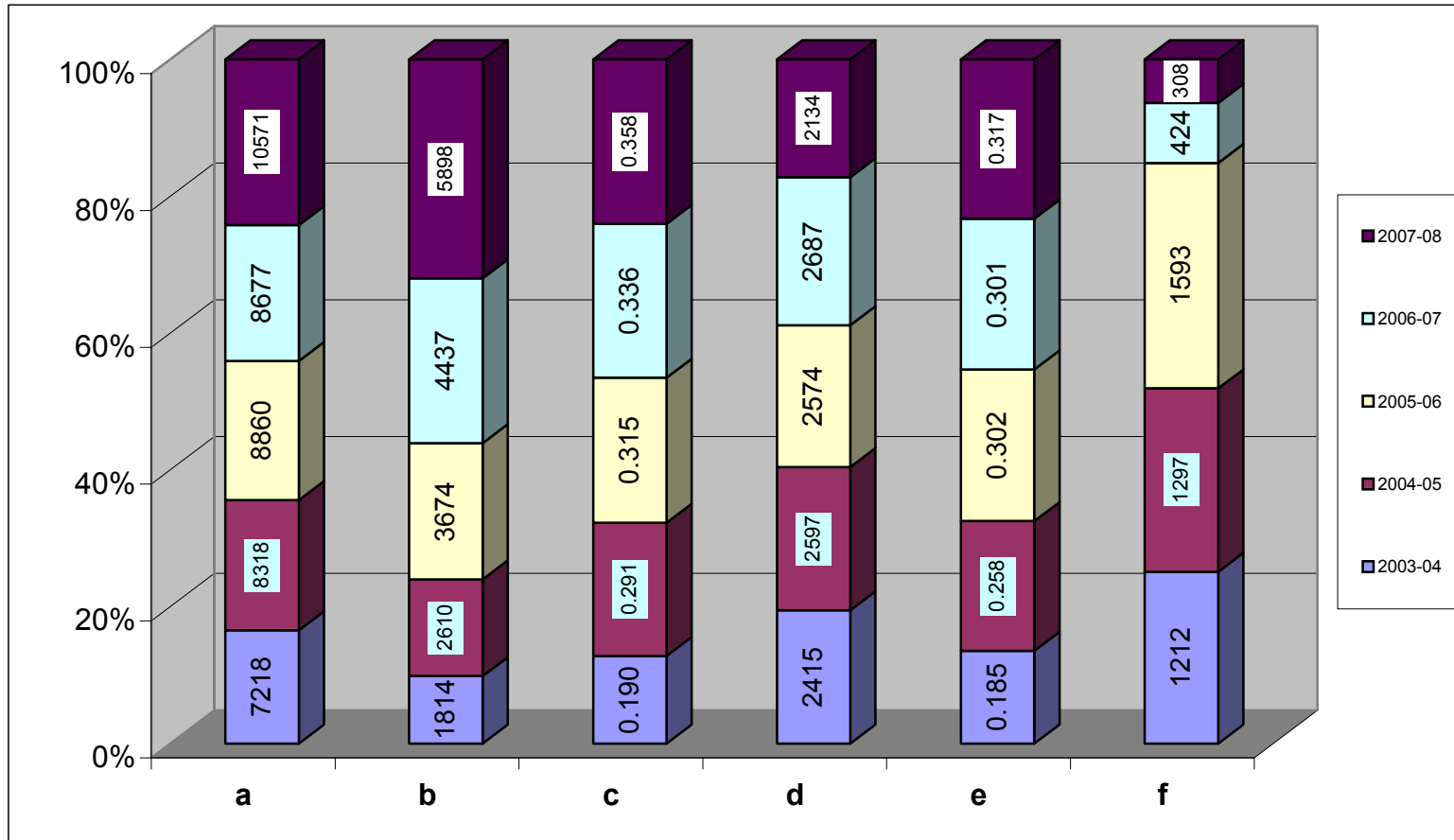
1. Outcome Indicators: Academic Excellence

Employment rate and earnings of engineering graduates



a) Students that graduated in the academic year, **b)** Students out of (a) employed through campus interviews, **c)** Average annual emolument through campus interviews as at (b), Rs. Million, **d)** Students out of (a) employed through other means within 1-year of graduation, **e)** Average annual emolument through other means within 1-year of graduation as at (d), Rs. Million, **f)** Number of graduates out of (a) remaining unemployed after 1-year of graduation, **g)** Number of graduates out of (a) that got selected/ admitted for full-time postgraduate programs

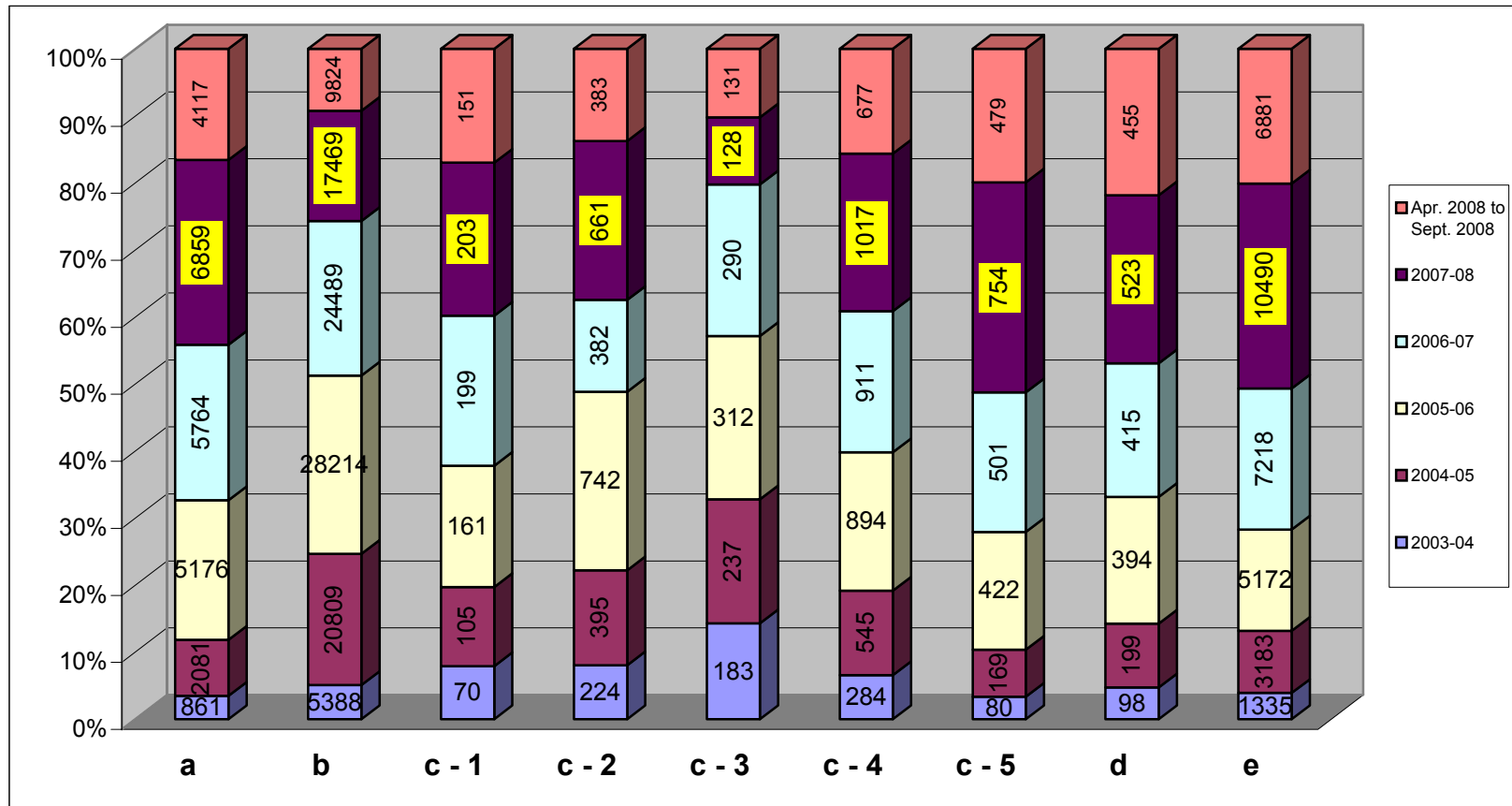
Employment rate and earnings of engineering Postgraduates



a) Students that completed their postgraduate degree, b) Postgraduates out of (a) that got employment through campus interviews, c) Average annual emolument employed through campus interviews as at (b), Rs. Million, d) Postgraduates out of (a) employed through other means, e) Average annual emolument of those employed through other means as at (d), Rs. Million, f) Postgraduates out of (a) selected/ admitted for full-time PhD programs

2. Outcome Indicators: Formal Networking

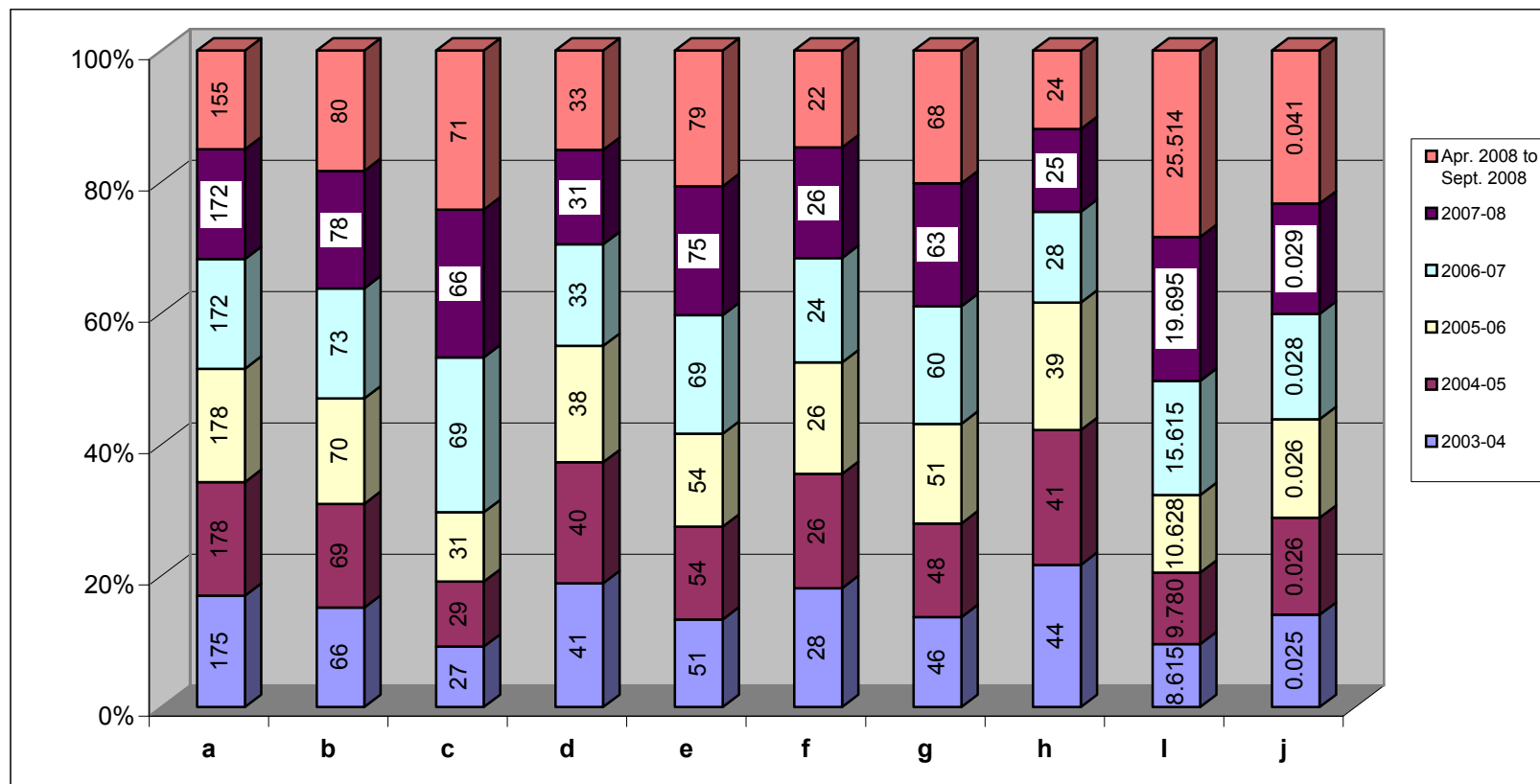
Cooperation and Resource sharing between TEQIP Institutions



a) Faculty-days loaned to network institutions for academic activities, b) Student-days to network institutions for curricular and co-curricular activities, c) Joint Activities – c-1 Externally-funded R&D Projects, c-2 Training programs for faculty & industry personnel, c-3 Consultancies completed, c-4 Publications, c-5 Seminars/ workshops/ conferences organized, d) Joint M.Tech. & Ph.D programs conducted, e) Person-days for which your laboratories and workshops were used by faculty and students from other TEQIP institutions

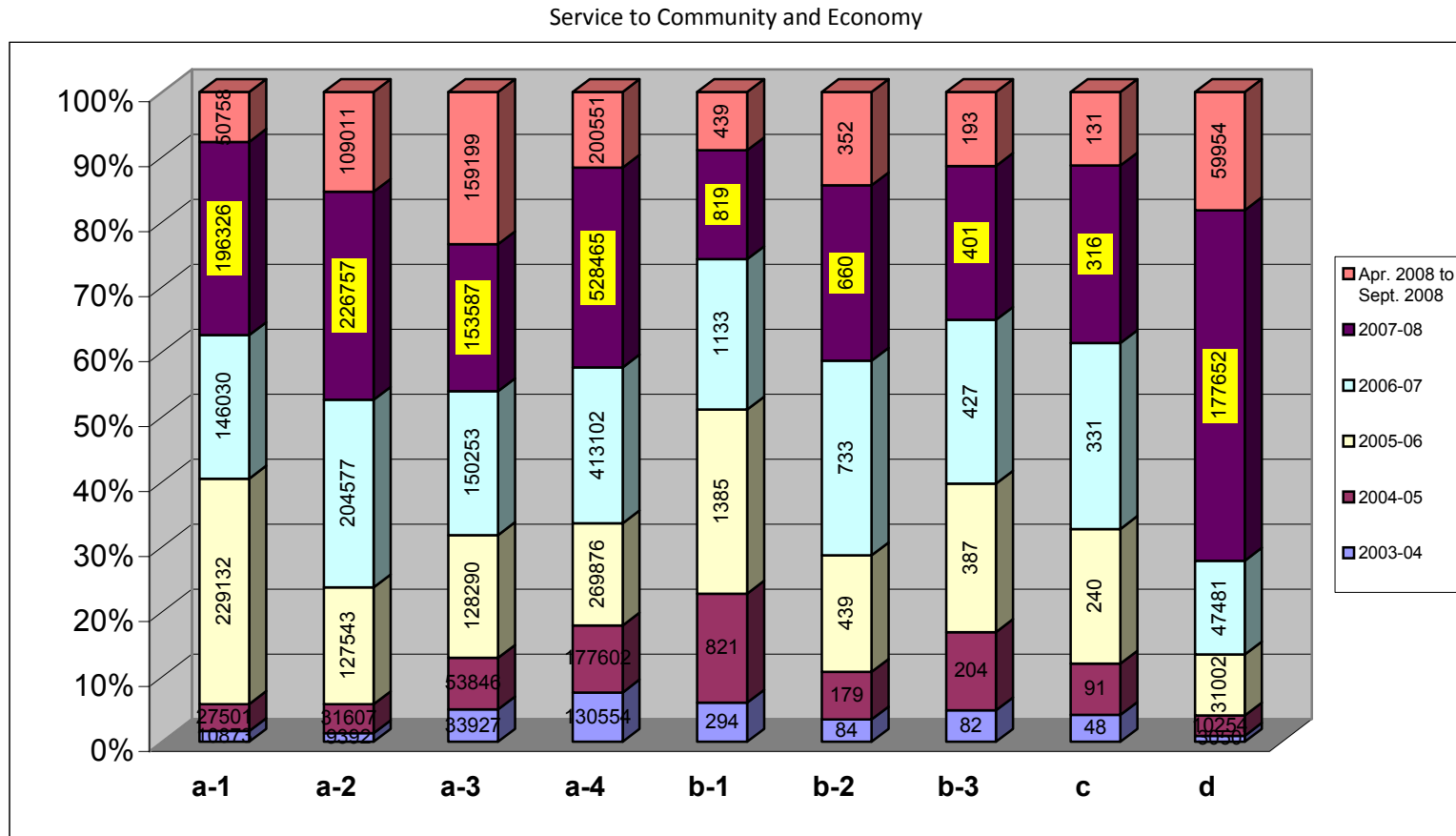
3. Outcome Indicators: Internal Efficiency

Internal efficiency of the engineering education system



a) Teaching days in an academic year, b) Is the academic calendar under your control? –Yes/No, c) Is the admission process under your control? –Yes/No, d) Days taken for completing the admission process, e) Is conduct of examinations under your control? –Yes/No, f) Days taken for completion of semester/ annual examination, g) Is declaration of results under your control? –Yes/No, h) Days taken for declaring semester or annual examination results, i) Total office expenditure (excluding all salary expenditure and the expenditures on maintenance of equipment and infrastructure) (Rs. Million), j) Total salary expenditure per student per year (Rs. in million)

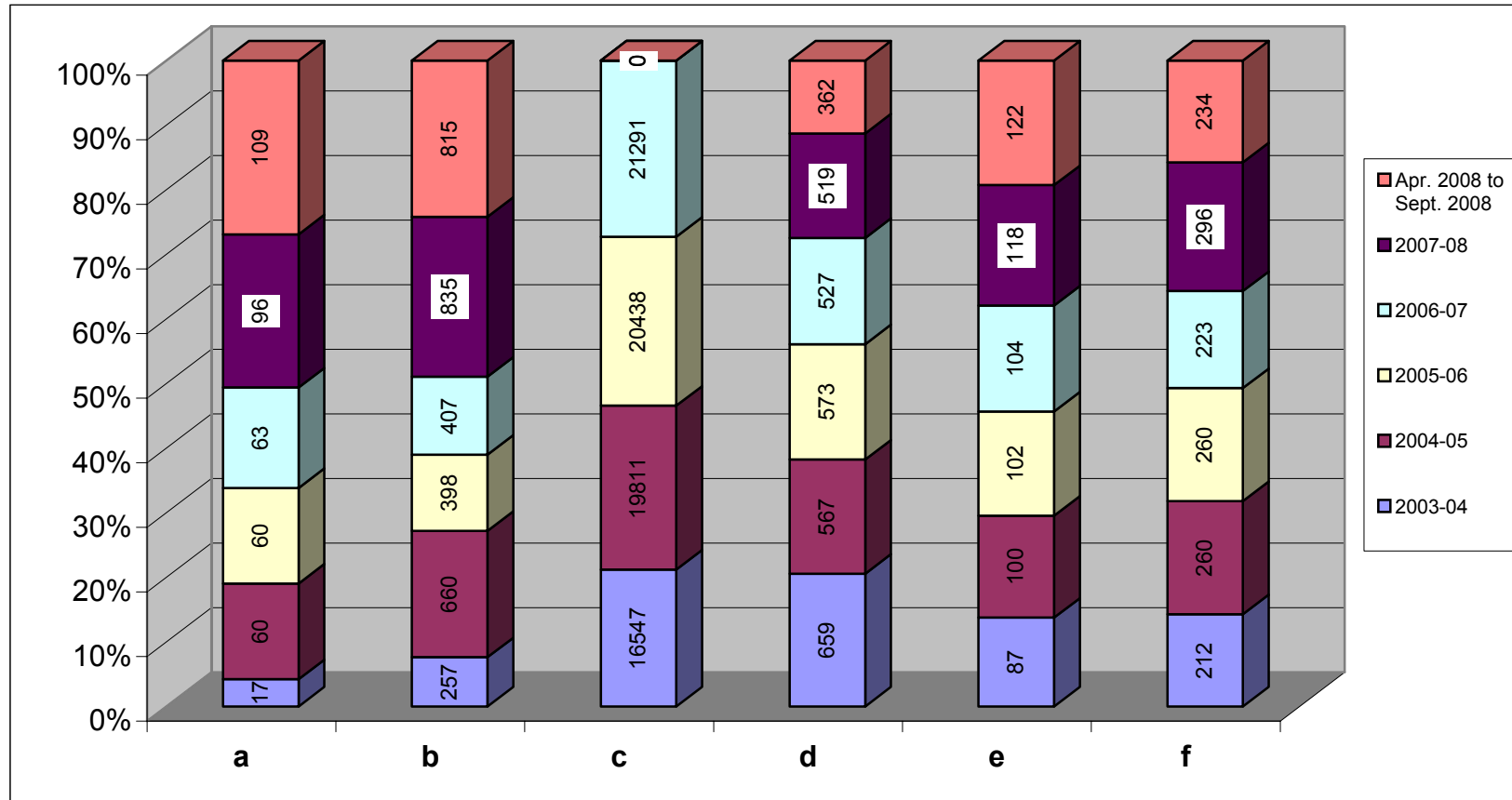
4. Outcome Indicators: Service to Community and Economy



a) Involvement of institutions with the community – a-1) Faculty- community interactions in person-hours, a-2) Staff- community interactions in person-hours, a-3) Student- community interactions in person-hours, a-4) Visit of community members to the institution in person-hours, b) Number of programs conducted for – b-1) Community, b-2) Unorganized labor force, b-3) Industry personnel, c) Technologies transferred to the community, d) Beneficiaries from skill-oriented programs for the community and the organized labor force

5. Outcome Indicators: Internal Efficiency

Planning & Management of Technical Education System



a) New UG and PG engineering programs started during Project life, b) UG and PG engineering programs that were reoriented/ restructured, c) Students graduating in cutting edge technology disciplines, d) Average time taken for revising/ updating curricula in days, e) Has a Board of Governors (BOG) been constituted? Yes/No, f) BOG meetings held during the academic year

OUTPUT INDICATORS

1. Output of High Quality Graduates in Cutting Edge Technology

High Quality Graduate/Post Graduates in Cutting Edge Technology					
Indicator/Year	2003-04	2004-05	2005-06	2006-07	2007-08
Students Graduating in all Cutting Edge Technology disciplines - UG	16547	19811	20438	21587	21288
High Quality Graduate (75% or above or equivalent to GPA) - UG	6014	7556	8021	8863	10842

2. Output of Post Graduate Students

Post Graduates Students Completing Degree in all Disciplines					
Indicator/Year	2003-04	2004-05	2005-06	2006-07	2007-08
Post Graduate Students admitted in all disciplines – PG (M.Tech. / M.Sc. or equivalent)	8942	9781	10846	11196	13389
Post Graduate Students completed Degree in all disciplines – PG (M.Tech. / M.Sc. or equivalent)	7218	8318	8860	8705	10571
Students admitted in – Ph.D.	1212	1297	1593	1761	2043
Students completed – Ph.D.	342	485	506	485	587

3. Professional Outputs

Achievement under Professional Outputs							
Indicator/Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	
Publications	4951	6670	7803	8407	6328	3383	
Academic Products	404	454	520	837	1144	802	
Patents obtained	22	34	34	42	34	14	
Patents applied for	12	23	58	95	86	93	
Faculty members serving as reviewers of refereed journals and books	370	460	602	840	824	982	
R&D Products	Commercialized	29	39	45	75	65	37
	Not commercialized	30	42	47	82	406	262

4. Internal Revenue Generation

Internal Revenue Generation (in million Rs)	Recurring Expenditure (RE)	Tuition Income	Other Income	Total Income	IRG as % of RE
2003-04	11899.68	5992.31	2412.40	8404.71	71
2004-05	13703.54	7355.01	2437.82	9792.83	71
2005-06	14781.11	8205.06	2649.62	10854.67	73
2006-07	15708.59	8365.53	3353.74	11719.27	75
2007-08	13905.19	7058.13	1514.51	8572.64	62

5. Networking of institutions

Achievement under Networking of institutions						
Indicator/Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Externally funded research, design and development projects	70	105	161	199	236	151
Joint consultancies	183	237	312	290	186	131
Joint publications	284	545	894	911	1106	677
Joint training and continuing education programs	55	94	274	375	434	220
Joint research guidance for M.Tech/PhD work	98	128	238	340	454	455
Joint seminars, conferences, etc.	80	169	422	501	706	479

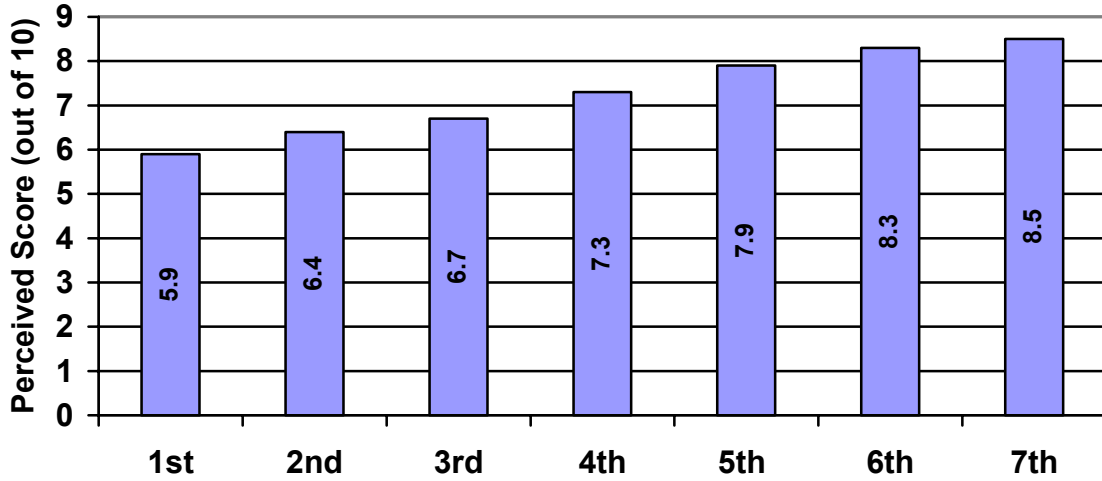
6. Services to Community and Economy

Achievement under Services to Community and Economy							
Indicator/Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	
a) Technical activities for the community	Programs conducted	117	235	612	979	779	439
	Beneficiaries	3392	8708	22803	35800	116664	27221
b) Assistance to the unorganized sector	Programs conducted	84	179	439	733	676	352
c) Appropriate technologies for the community and unorganized sector	Technologies developed	25	51	91	158	115	90
	Technologies transferred	23	39	181	226	320	131
d) Activities undertaken for organized sector (industry personnel)	Programs conducted	82	204	387	427	453	193
	Beneficiaries	1377	3442	6682	11681	27514	16939

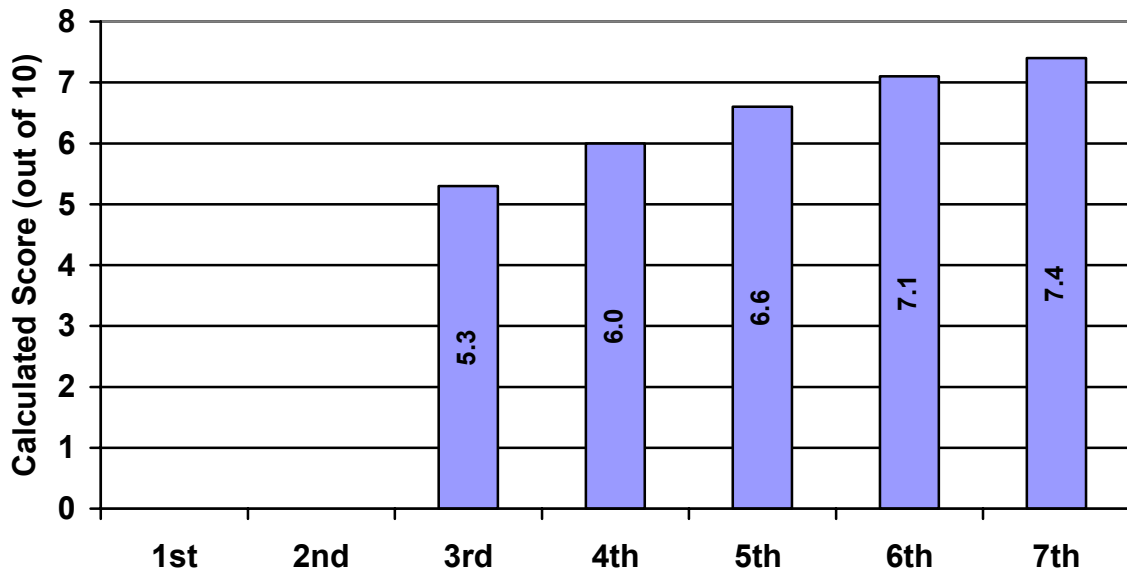
7. Availability of trained institution Managers

Achievement under Training in Planning and Management						
Indicator/Year	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Training programs organized	40	114	292	340	179	122
Persons trained in planning and management	209	666	2124	4946	2262	1662

National level Data on Quality Performance Audit



Conduct of Audit (w.r.t. Perceived Score)



Conduct of Audit (w.r.t. Calculated Score)

FACULTY SATISFACTION

This faculty satisfaction brief illustrates faculty satisfaction from the institutions in the state participating in the Technical/Engineering Education Quality project (TEQIP). The brief examines faculty satisfaction with emphasis on the following nine important aspects of faculty's working environment; (1) Overall Satisfaction, (2) Status & Satisfaction with incentives, recognition and administration, (3) Professional Development, (4) Improvement/quality in teaching-research infrastructure, (5) Satisfaction with quality of library, (6) Status & Satisfaction with teaching (self-reported), (7) Utility of and Satisfaction with Teachers Evaluation of Students, (8) Utility of and Satisfaction with Students Evaluations of Teachers, and (9) Extent of outside collaboration (community & network activities). It compares faculty satisfaction from individual institutions within the state as well as with the state and national averages.

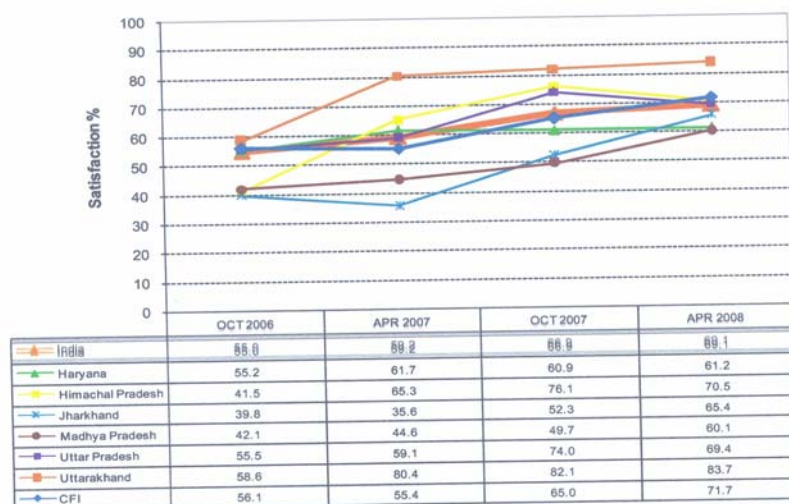
The survey was administered in four rounds from September 2006 to March 2008 to collect faculty opinions and perceptions about satisfaction of working environment in the institutions. On the average, 30 faculties from each of the participating 127 institutions were surveyed in each round. In every round approximately 3,800 faculty members from all project institutions answered 77 questions in complete confidentiality.

This brief summarizes the 70 most essential questions grouped into the above nine categories. The annex details the questions in each category. The faculty satisfaction, expressed in percent, is the average of the faculty satisfaction in each question in that category. Faculty satisfaction for each question is the share of faculties that answered either "Fully satisfied", "Very good", or "Yes".

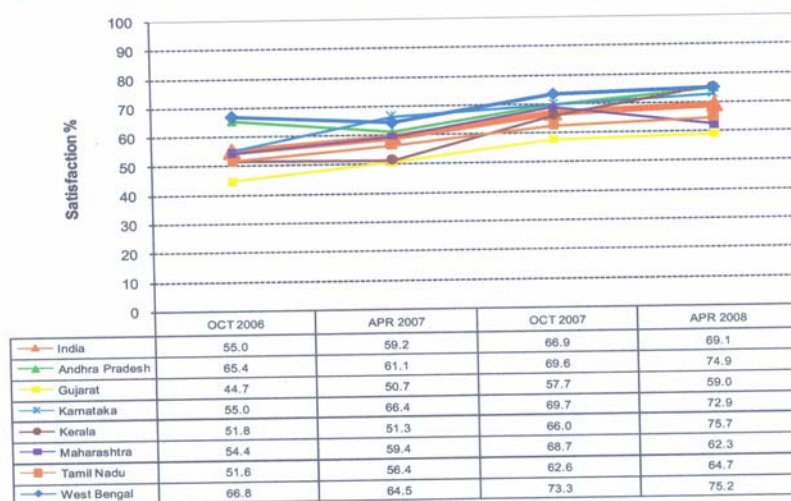
The faculty survey has important limitations in comparability across institutions and states, since faculty characteristics and expectations regarding quality of working environment may differ across time, institutions and states. Further, the composition of the faculty group that responded to the questionnaire may have changed as well. Therefore, the brief only partially and imperfectly reflects the quality of working environment at the institutions as perceived by the faculty. There are other important aspects of an education institution than teachers' satisfaction, and the results of survey should be combined with other information to evaluate the overall performance and quality of the institutions. We therefore caution against over-interpretation of this information.

Notwithstanding these shortcomings, this brief provides a broad picture of faculty satisfaction in the TEQIP institutions at institutional, state, and national level and sheds light on opportunities for improvement. Institutional leaders, faculty, and government officials could use this information to improve faculty satisfaction and quality of engineering education to the benefit all.

I. OVERALL SATISFACTION -1



I. OVERALL SATISFACTION -2



STUDENT SATISFACTION

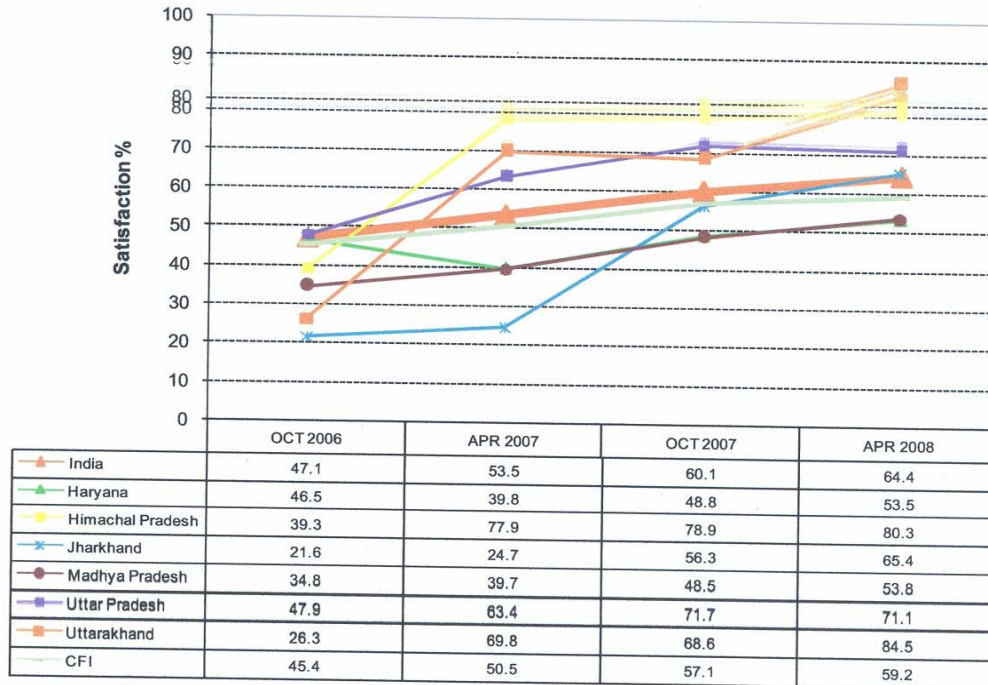
This student satisfaction brief illustrates student satisfaction of the institutions in the state participating in the Technical/Engineering Education Quality Improvement project (TEQIP). Student satisfaction is one instrument among others to measure how TEQIP improves quality of engineering education. The brief presents student satisfaction in eight categories; *overall student satisfaction, satisfaction with teaching & learning environment, infrastructure, industry interactions, teaching of professional skills, special provision for SC/ST/OBC students, student involvement, and application of technical knowledge in the community*. It compares student satisfaction from individual institutions with the state and national averages. The source of information is four rounds of student surveys from September 2006 to March 2008. On average, 70 students from each of the participating 127 institutions were surveyed. In each round, about 8,800 students answered in complete confidentiality 81 questions regarding their educational experience and their perception of their institution.

This brief summarizes the 48 most essential questions grouped into the above eight categories. The annex details the questions in each category. The percentage of student satisfaction is the average of the student satisfaction of each question in that category. Student satisfaction for each question is the share of students that answered the best (Fully satisfied, Very good, and Yes).

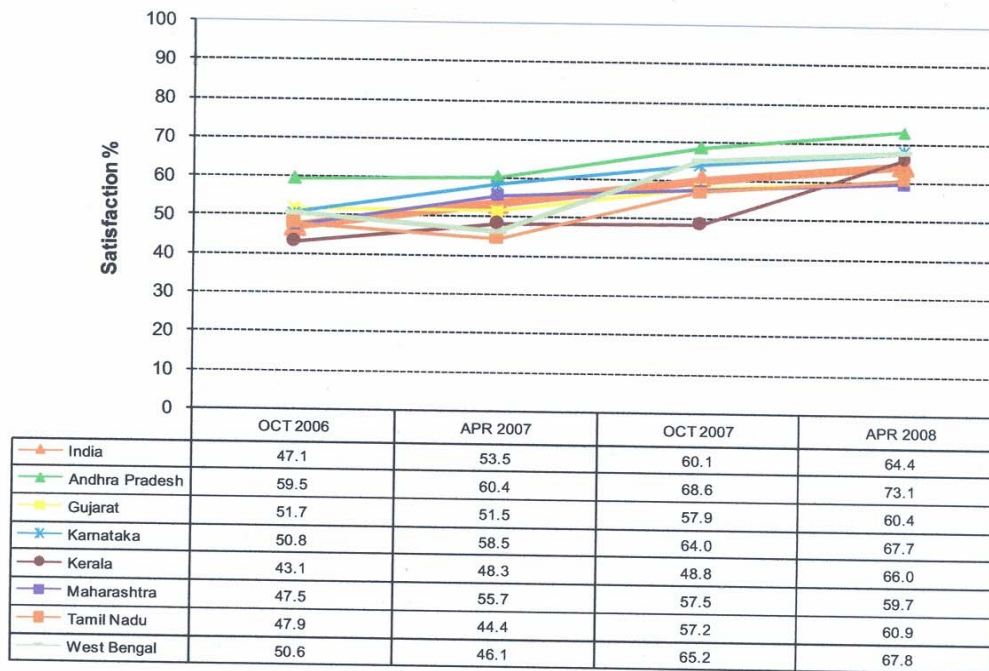
The student survey has important limitations in comparability across institutions and states, since students' characteristics and expectations regarding quality of education may differ across time, institutions and states. Further, the composition of student groups that answered the questionnaire may have changed as well. Therefore, the brief only partially and imperfectly reflects the educational experience as perceived by the students. There are other important quality aspects of the education program and institutions that are not measured by this student satisfaction survey. We therefore caution against over-interpretation of this information.

Notwithstanding these shortcomings, this brief provides a broad picture of student satisfaction in the TEQIP institutions at institutional, state, and national level. The institutional leaders, faculty, and government officials could use this information to improve student satisfaction and quality of engineering education to the benefit all.

1. OVERALL STUDENT SATISFACTION - NORTH INDIA



1. OVERALL STUDENT SATISFACTION – SOUTH INDIA, WEST INDIA, EAST INDIA



SUMMARY RESULTS OF TEQIP IMPLEMENTATION SURVEY 2008

This note very briefly summarizes the main results of the TEQIP Implementation Survey for 2008. The salient ratings from each question are described, and the recurrent comments/suggestions from each question are included. We have equally quoted a few comments that summarized frequent comments. These are marked in *Italic*. It is important to emphasize that this is only a summary of the results. The MHRD and World Bank team has taken note of the full set of results and comments/suggestion.

1. Overall Satisfaction with the Project

Ratings

- Participants generally feel very proud to be a part of the project, with a high rating of 9.6, while the rating of the overall project implementation 8.1 indicates room for improvement.

Comments

- The project should focus more on Research, Development and Innovation.
- The project should improve monitoring of utilization of equipment.
- Deadlines of project activities should be informed with more in advance to improve planning.
- Flexibility of grants should be enhanced.
- Too much paper work constrains efficient project implementation, and an efficient MIS should be established to reduce the paper work.
- Better understanding of project concept and discussion involving faculty could have improved impact of the project.
- There was a problem with frequent turnover of staffing.

2. Project Design and Preparation

Ratings

- Ratings show that the feature of competitive selection of institutions is well received (8.8).

Comments

- One of the received comments summarizes the major issues of services to community and networking; *“Services to community and networking were the weak components in the project. Need more conceptual clarity on these two components. Networking has to be based on need based, not by force or restrictions. (Choice available for formal networking was limited during the first phase of TEQIP)”*
- While networking and service to community are deemed important, there are few incentives for community services and networking among students and faculty.
- Autonomy is important for community services and networking.
- Some institutions did not have clear understanding of the project concepts.

3. Project Implementation – Policy Reform-

Ratings

- “The intended government policy reform (autonomy and block grants) have been achieved” is not strongly agreed with rating of 6.9. Quality of function in the Board of Governors seems to be ambiguous (8.0).

Comments

- Initiatives of State Govt. could be of more help to facilitate the project implementation.
- The feature of BOG is well received, but there is room for improvement, in particular through higher representation of industry.
- More detailed guidelines for project implementation would be helpful.
- Some feel that autonomy should be given immediately while others prefer gradual steps to autonomy.

4. Project Implementation – Institutional Reform-

Ratings

- Students’ evaluations of teachers is rated quite positively (8.4)
- Ratings show that creating incentives to teachers has not yet been achieved in a satisfactory manner.

Comments

- Awareness on what institutional reform really means is crucial to smoothly implement the project. *“A number of Reforms could not bear desired results due to lack of awareness amongst the stakeholders. Such awareness building exercise should be made an essential activity”.*
- *“Incentives to teachers and recognition will alone help in fostering competitiveness and improvement in performance”.*
- The use of four funds receives support, but due to lack of financial autonomy, the future use of these funds are questioned.

5. Project Implementation – Implementation of Soft components (Faculty Development, Networking, Service to economy and Tribal Development)-

Ratings

- The importance of support to weaker students in each institution was rated high (8.2)
- Other ratings point to a relatively weak implementation of the soft components.

Comments

- There is strong support for the softer components of the project, but the design and/or the implementation of networking and service to community needs to be rethought.
- Networking activities are limited due to faculty shortage, slow dissemination of the project concept, pre-determined networks, and few incentives for participation for students and faculty.
- The concept of services to community was not fully understood.

6. Project Implementation – Joint Review Missions-

Ratings

- Implementation of JRMs is very well received, in particular the opportunity to sharing experiences and learning (9.0).

Comments

- More advanced notice of the JRMs could help institutions/states prepare better.
- More knowledge sharing and discussion would be desirable during the JRMs.

7. Project Implementation – Project Monitoring and Reporting-

Ratings

- Ratings clearly show a demand for a web-based MIS (9.0).

Comments

- Frequent changes in reporting format delays project implementation. Advanced preparation of a standardized set of indicators to be reported during the entire implementation period would be preferred.
- There is a need to review the stakeholder questionnaire as some questions were not clearly defined.
- Performance audit are considered beneficial. Some respondents suggest that the performance audit could be once a year in stead of twice a year.
- Excessive and repetitive paper work take away time from academic work.

8. Project Implementation – Financial management and Procurement-

Ratings

- The ratings of “The World Bank procedures are cumbersome” are not strongly agreed. (Relatively closer to disagree with rating of 5.2)

Comments

- Desire for clearer guidance and continuous training with relevant case studies within procurement and fiduciary procedure dominates most of the comments.

9. Project Impact

Ratings

- Many agree on improvement of internal efficiency of project institutions. (8.55)
- “The project increased demand from industry for high quality professionals” is not strongly agreed. (7.75)

Comments

- Many comments point to an important impact on improved management of the system and the institutions.
- Qualified faculty and institute-industry relationship are still bottlenecks.
- Some respondents suggest that improvement of academic performance and management capacity have helped students’ placements.

10. Project Impact - the project’s best and second best features -

Ratings

- The best feature of the project is improvement in teaching-training infrastructure, and the second best is improvement in quality of education in institutions.

Comments

- Change in Mind-set was equally suggested by many

11. Project Impact - the project’s greatest and second greatest weakness -

Ratings

- Ratings show that too much paperwork is the greatest weakness of the project (29%), and absence of reward for good performance as the second (18%).

Comments

- Top-down communication sometimes happens.
- Absence of government support or policy for autonomy is a part of weakness of the project.

12. Performance of the World Bank

Ratings

- Overall, the respondents were quite satisfied with the Bank’s assistance (8.9). Nevertheless, there is a room for improvement in timely provisions of technical assistance from the Bank and the Bank’s responsiveness to inquiries.

Comments

- More interaction with the Bank would be helpful in all areas of project implementation.
- The Bank could act more as a guide.

13. Performance of NPIU/MHRD

Ratings

- Overall, the performance of NPIU/MHRD was clearly deem satisfactory (8.5), especially with procurement in terms of procedures and guidelines (8.5).

Comments

- More direct interactions with NPIU/NHRD would have been helpful for smooth implementation.
- Frequent changes in implementing officers adversely affect project implementation.

14. Performance of the State Governments (SPFUs)

Ratings

- Overall, performance of SPFUs was rated satisfactory (8.2); especially their timely provision of funds (8.4) and responsiveness to inquiries (8.2) are appreciated.

Comments

- Frequent changes in SPFU coordinators cause confusion to some extent.
- More timely provision of funds would be necessary.

15. Performance of Mentors/Auditors

Ratings

- Respondents rated the work of mentors and auditors as satisfactory (8.1).
- Many agree that results and suggestions from performance auditors helped in improving institutional project implementation (8.6).

Comments

- *“Mentors contributed but it has become very personal and it is essential to have mentors from other states than from the same state as some of the mentors are faculty members of the same institution earlier - thus it has promoted unhealthy practices.”*
- Sample auditing should be conducted without notification.
- Quality in mentoring varies.