

Improving Technical Education System in India - A Concerted Effort Through TEQIP

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Abstract

Govt. of India started Technician Education Project I & II with massive World Bank assistance of Rs. 2000 crores. Encouraged by the success of this project, World Bank sanctioned the following projects: Technician Education Project III and TEQIP (Technical Education Quality Improvement Program) for degree level engineering institutions. The objectives of TEQIP Program are described at the outset. Criteria for selection of States and engineering institutions therein are discussed in detail. In June 2004, TEQIP Program was revised to overcome the initial reverses and to put the project back on rails. A separate agency NPIU (National Project Implementation Unit) was constituted to keep track of progress of the project. The progress of the project under supervision of NPIU is described in the paper.

In the year 1947-48, the country had 38-degree level Institutions with intake capacity of 2500 and 53 Diploma Level Institutions with intake capacity of 3670. The intake for postgraduates was 70.

In the year 2000, the total size of the system had increased to 4146 Institutions with approved intake capacity of 544,660. These included 838 Engineering Degree Institutions with admission capacity of 232,000 students; and 1224 Engineering Diploma Institutions with admission capacity of 188,000. Approximately, two-third of these Institutions were in the private sector. Postgraduate education was being offered in 246 Institutions with admission capacity of 21,460.

The three tiers of Technical Institutions prevailing in the country covers the Indian Institute of Technology (IITs), Indian Institute of

Science, Bangalore, Indian Institute of Management (IIMs), the National Institutes of Technology, (NITs, formerly known as Regional Engineering Colleges) and other State and Central Colleges including NITIE, NIFFT, Ranchi etc.

The MHRD and Govt. of India brought out a National Policy on Education in the year 1986, which was subsequently revised in 1992 to regulate and promote the education system of the country towards excellence. However, the main issues despite the positive intentions of the Govt. in implementing the National Policy on Education were :

- a) Multiple control mechanisms and controlling regulations had stifled innovative initiatives in recruitment of faculty, admission of students, curricula revision and upgradation, and financial

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management in most Institutions.

- b) Resource constraints, low efficiency of utilization of existing resources and lack of mechanism for sharing physical and human resources of sister Institutions had led to large scale obsolescence of physical resources, deterioration of quality of teaching/learning processes and lowering of competence of teachers.
- c) Low internal efficiency of most institutions due to large drop outs and failure rates.
- d) Rapid obsolescence of curricula and course contents due to infrequent revision and much delayed response to technological advances and consequent market demands.
- e) Failure to attract and retain high quality faculty due to archaic recruitment and promotion procedures, absence of incentives for quality performance, and non-existent staff development policies in most Institutions.

for the polytechnics.

- b) A Technical Education Quality Improvement Programme (TEQIP) for a selected number of Engineering Degree Institutions who by their achievements can motivate the sister Institutions to grow producing a multiplier effect, which would finally result in contributing to major improvements in the Technical Education.

Consequently, TEQIP was conceived and a number of documents were prepared and circulated to the participating States/Institutions. The Programme aims to upscale and support ongoing efforts of GOI 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 and technological developments occurring both at National and International levels.

The broad objectives of the Programme as given below were derived from the National Policy on Education.

Efforts made by MHRD, Govt. of India

The Govt. of India took the initiative to improve the polytechnic education system in the country by implementing Technician Education Project I & II with World Bank assistance of more than Rs. 2000 crores covering 532 polytechnics in 19 States and Union Territories. Based on the successful implementation of the 2 Projects, an attempt was made to cover a majority of the Technical Institutions both Govt. and aided in an ambitious project, which was discussed with the World Bank extensively. The World Bank carried out an independent study of the development needs of the country through experts. After extensive discussions, the World Bank finally recommended the following which were accepted by the GOI :

- a) Technician Education Project – III covering the Northeastern States and Union Territory of Andaman & Nicobar Islands

- a) 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 and accountability.
- b) To support development plans including synergistic networking and Services to Community and economy of competitively selected Institutions for achieving higher standards.
- c) To improve efficiency and effectiveness of the Technical Education Management system in the States and Institutions selected under the Programme.

The States participating under TEQIP were selected for the TEQIP Programme based on the following criteria :

- a) To sponsor Government funded and aided,

- and private Engineering Institutions that meet the prescribed eligibility criteria for participation in the Programme through open competition.
- b) To accept results of open competition for selection of Lead and Network Institutions by a National Selection Committee.
 - c) To provide the agreed required financial support to the selected Institutions and seek reimbursement as per norms.
 - d) To provide funds to private Institutions in accordance with an agreed mechanism for loan repayment by Institutions.
 - e) To support both academic and non-academic reforms to be carried out in the selected Institutions.
 - f) To accord and sustain very significant academic autonomy and full financial, managerial and administrative autonomy to the selected Lead Institutions.
 - g) To accord and sustain full financial, managerial and administrative autonomy and substantial academic autonomy to selected Network Institutions.
 - h) To change pattern of fund releases to block grant basis.
 - i) To permit selected Institutions to establish Corpus Fund, Staff Development Fund, Depreciation/Renewal Fund (for equipment replacement) and Maintenance Fund (for maintenance of equipment and buildings) and issue guidelines for proper management of these funds.
 - j) To permit the selected Institutions to increase recovery of the cost of education from students.
 - k) To permit the selected Institutions to generate, retain and utilize the generated revenue.
 - l) To formulate a policy for enabling Institutions to fill all teaching and staff vacancies.
 - m) To permit total participation of the Institutions (all staff and students) in community and industry service.
 - n) To continue supporting needy students as per current Government policy and practice.
 - o) To agree to implementation of the provisions of Tribal Development Plan as envisaged under the Programme.
- The selection of Institutions under TEQIP was based mainly on the parameters given below :
- a) The Institution has accredited programmes with NBA or has applied for the same.
 - b) The Institution has accredited academic autonomy with accountability.
 - c) The Institution has accredited financial autonomy with accountability.
 - d) The Institution has accredited managerial autonomy with accountability.
 - e) The Institution has accredited administrative autonomy with accountability.
 - f) The Institution agrees to participate in all three sub-components of Institutional Development Component, namely, promotion of Academic Excellence, Networking, Service to Community and Economy.
 - g) The Institution agrees to increase recovery of cost of education from students.
 - h) The Institution agrees to accept funding on block grant basis
 - i) The Institutions agrees to establish

distinct Corpus Fund, Staff Development Fund, Depreciation/Renewal Fund and Maintenance Fund from the revenue generated and savings and to accept Central/State guidelines for utilization of these funds.

- j) The Institution agrees to accept the results of the enunciated process for award of competitive grants
- k) The Institution agrees to secure participation of faculty and student in providing service to community and economy.
- l) The Institution agrees to implement the Tribal Development plan as envisaged under the Programme

In addition to the above, there were other parameters for selection related to Academic attainment and also for Lead and Network Institutions. The details of the same are listed in NPIU Website www.npiu.nic.in. Based on the above criteria, the selection of the States and Institutions was broadly made with relaxations with discretion to ensure that a reasonable number participated. The Project while being initiated underwent certain changes, which were not envisaged and became more of prescriptive nature by GOI and NPIU. This resulted in loss of valuable time and poor implementation attracting severe comments from the World Bank.

In the year June 2004, certain changes in the Central Govt. resulted in NPIU and World Bank officials making a tremendous effort in putting the TEQIP back on track with its inherited problems. The Project became effective practically from January 2005. Each Institute's officials participated in the deliberations along with their respective Heads/Directors of Technical Education to make the Programme for self-development of the Institutes by themselves rather than the prescriptive method adopted earlier. The possibilities of

progress that could be envisioned on a long time basis and what could be achieved within the time span of TEQIP Phase - I (December 2007) was emphasized which resulted in the Concise Institutional Plan (CIP). This became the reference document covering Academic, Administrative, Financial, Services to Community and Industry and Networking areas. The final shape of the Programme has 128 Institutions including 18 Centrally Funded Institutions (CFIs) and an outlay of Rs. 1550 crores. Approximately, 80% of this expenditure is to be financed by the World Bank.

The physical progress achieved so far has resulted in reasonable number of Institutions both CFIs acquiring modern equipments like Scanning Electron Microscope, Large numbers of Computers etc. The concept of Campuswide Networking was made clear to all the Institutions through workshops held in 4 places with the participation of industry resulting in implementation of Campuswide Networking particularly in those, which did not have them. The Civil Works are in progress in a majority of the Institutions, which are focusing mainly on repairs/renovation.

The expenditure has jumped from Rs. 4.0 crores in March 2004 to Rs. 555 crores as on August 2006 with a commitment of nearly Rs. 235 crores representing a reasonable level of achievement and progress from its poor stage of implementation. The World Bank also has now graded the implementation process as satisfactory.

The focus of this TEQIP is to improve the performance of the Institutions particularly in academic excellence resulting in better employment of the student and also improve their productivity by reducing the gestation period. This is only possible with the active participation of the industry, State Govt. and community. The reforms are the main thrust in the Programme, which unfortunately is progressing at a slower pace than required. Grant of Autonomy to Institutions is one of the basic

requirements which all State Govts. agreed to but have not been pro-active in its implementation. NPIU continues to emphasize the need for granting autonomy to that the decision making process is assigned to the Institute along with accountability and responsibility. The granting of autonomy can solve many issues of the Institutions like recruitment of faculty members both existing as well as for the TEQIP activities with the approval of the respective Board of Governors. The reappropriation of funds could be done by the Head of the Institution with the approval of BOG on a need basis. Many such improvements have been envisioned but are in progress at a slower pace.

NPIU has been providing platforms for training in reputed Institutions in India like Management Development Institute, Gurgaon where a large number of Heads of Departments, Administrators have been trained on leadership and self-development to improve their performance. A number of Technical Training Programmes have been arranged for the non-teaching staff in collaboration with industry. Industry-Institute-Interaction workshops have been arranged at Pune and Hyderabad to bring the industry closer to the Institutes and promote their active participation for mutual benefit. Training programme for 19 participants was arranged in Canada for Project Management.

NPIU has been emphasizing vigorously that enrolment for PhD Scholars should increase in all Institutions and research activities taken up as an essential activity. Cyber laws have now been made to protect the citizens of the country. A number of workshops have been arranged by

Institutions themselves and in collaboration with NPIU to spread the awareness regarding Cyber Laws so that Institutions can take necessary precautions. Faculty members in International forum are giving high level of encouragement for presentation of papers. The faculty members of Institutions have been able to develop a number of equipments by virtue of their creative/innovative efforts. The new products/items developed have not been systematically patented. Efforts are on to conduct workshops to make people aware of the rules and regulations as per Indian Patents Law.

NPIU has also been arranging mentoring and performance audit of the Institutions. Special workshops have been organized with the assistance of the World Bank and experts to tune the State level mentors to the concept of TEQIP and ensure that they are able to guide the Institutions in the right perspective.

The number of activities and initiatives taken by Govt. of India, NPIU and World Bank on listing out could be very lengthy. Suffice it to say that no efforts are being spared to ensure the progress of the Institutions in the right direction towards achievement of goals as envisioned and meeting the National and Global challenges in technological development. It has been noticed that there is a fairly large population of the faculty, students and administrators who are keen to excel individually and also contribute for growth of their Institutions and meet the challenge posed by developed countries and make the country attain the status of a developed country.

