Higher Education through the Five Year Plans—I

Introduction

In the previous units of the earlier Block, we discussed how education can best be used as an instrument of change, particularly in the context of economic and social development. We discussed the notion of development in a much larger sense and described how education is related to it. From our discussions, it is clear that, from the economic and social standpoint, a country's educational system is its main means, both of perpetuating the values and skills of its population, and of preparing it for the changes which progress requires. At the same time, educational systems are the by-products of the societies in which they operate. They depend on the prevailing social structure and the cultural goals of different sections of the society, the demands for and status accorded to different occupations, the aspirations of people for personal and professional development, the size of the nation's budget and its fiscal capacity, and on its general political and administrative system.

Educational planners usually find themselves confronted by an existing educational edifice combining elements of both the old and the new. An archaic educational system cannot be scrapped, and rebuilt in a year or two. Changes in educational systems have to be brought about by a set of policies spread over time with careful regard being paid both to the priority needs of individual sectors and the evolution of the system as a whole.

The unit opens the discussion of the need to integrate educational plans with economic and social development. This is followed by an appraisal of the objectives of planning in education through the Five-Year Plans. A final section, discusses the progress and development of higher education, both in quantitative and in qualitative terms.

Learning outcomes

By the end of this unit, you should be able to

- appreciate the need of planning in general, and in education in particular, in the context of the vital role it plays in the overall development of any society;
- describe the major objectives and thrust areas of planning for general higher education and technical and other professional education;
- evaluate, critically, the achievements and failures with regard to planning in higher education; and
- explain the main features of university development in quantitative and qualitative terms.
Why plan?

As resources are limited, different sectors of development including education compete for the scarce resources, which should be effectively utilized to obtain optimum results. In this context, planning refers to the process of efficient deployment of physical and financial resources for realizing the set targets. It is concerned with the arrangements made for utilizing resources to realize the set goals and to serve given ends. These ends, which are political, social, cultural, humanistic and moral, are given to the planner by the statesmen and politicians whom they serve, and are not the planner’s own creation. It is important to point out here that each country has its own type of planning depending on its political system and ideology. For instance, educational planning in all centrally planned economies is an integral part of overall economic planning. All long-term development plans in these countries invariably include targets for education and culture, which are closely linked up with other economic and social targets. However, the need for planning arises from the fact that the material and physical means at our disposal, are always limited and cannot match our needs and fulfill our aspirations. In the context of education, as Coombs has pointed out, “educational planning in its broadest generic sense, is the application of rational, systematic analysis to the process of educational development with the aim of making education more effective and efficient in responding to the needs and goals of its students and society” (1970:4). What are the kinds of questions that an educational planner is confronted with? The main questions are: What is the physical target for raising students’ participation in education? What measures should be taken for quality assurance? What is the level of investment to be made in education? What is the optimum relation between the different levels and sectors of the educational system? How can the productivity of educational systems be improved? How can education best be financed? and What are the returns on investment in education? It can be said that planning is an exercise in attempting to answer all these questions and many more.

In India, planning exercises are undertaken at the levels of both the Center and the States governments, which have the mandate to establish and manage the institutions of higher education, such as, the Central and the State universities, deemed to be universities and institutions of national importance - IIMs / IITs, etc. The private (self-financing) universities/colleges accordingly fall under the jurisdiction of the Center or State governments.

There are many approaches and techniques of relating educational planning to development planning. We will just mention some of the methods in use, these are:

i) the social method, ii) the manpower approach, iii) education - output ratio method, iv) the aggregate method, v) the human resources assessment method. It is not within the purview of this unit to discuss each of these individually, but we are sure, you would, on your own, try to find more about these techniques.

Role of education in development reemphasized

The crucial role of education in accelerating the pace of socio-economic development through the development of human resources of the requisite caliber has been recognized all through the plans. The First Five-Year Plan (1951-56) emphasized the basic importance of education in the planned development of the nation. It was also stated that for the successful implementation of the Plan, the educational programmes should “help to train the people to place responsibilities before rights and to keep the self-regarding outlook and the force of acquisitive instinct within legitimate bounds. The educational system should also satisfy the “cultural needs…” and “stimulate the growth of creative faculties, increase the capacity for enjoyment and develop a spirit of critical appreciation of arts, literature and other creative activities” (1951:225). In the context of higher education, the Plan laid emphasis
on building up of a new system (or systems) more suited to national needs and working out of the relationship of the various systems.

The Second Five Year Plan (1956-61) noted that 'the rapid increase in the number of students in universities and colleges has affected the standards of education'. The plan therefore stressed on improvements of standards of college and university education.

The Third Plan (1961-66) recognized education as the most important single factor in achieving rapid economic development and technological progress and in creating a social order founded on the values of freedom, social justice and equal opportunity. It also emphasized that ‘programmes of education lie at the base of the effort to forge the bonds of common citizenship, to harness the energies of the people and to develop the natural and human resources of every part of the country’ (1961; 573).

The Seventh Plan (1985-90) has also emphasized the importance of human resource development in the development strategy, particularly in a country with a large population. It pointed out that ‘trained and educated on sound lines, a large population can itself become an asset in accelerating economic growth and in ensuring social change in desired directions. Education develops basic skills and abilities and fosters a value system conducive to, and in support of, national development goals, both long term and immediate’. The Plan stressed on removal of obsolescence and modernization of technical education as well as forging of beneficial linkages with industry and development agencies.

The Eighth Plan stated that the goal of Plan efforts is human development, of which human resource development is a necessary pre-requisite. Education is a catalytic factor, which leads to human resource development. In the context of higher education, it was noted that the higher education system at present suffers from several weaknesses such as proliferation of sub-standard institutions, failure to maintain academic calendar, outdated curriculum, disparities in the quality of education and lack of adequate support for research. In this backdrop, the following thrust areas were identified:

- integrated approach to higher education;
- excellence in higher education;
- expansion of education in an equitable and cost effective manner, in the process, making the higher education system financially self-supporting;
- making higher education relevant in the context of changing socio-economic scenario;
- promotion of value education; and
- strengthening of management system in the universities (para 11.7.1).

It was also stressed that adequate resources should be mobilized and provided to support higher education sector, so that the nation is fully equipped to face the challenges of the future, which is increasingly becoming information and knowledge intensive (para 11.8.2).

The Ninth Plan observed that the deterioration in quality, resource crunch leading to poor infrastructure and the serious problems of governance are the main problems affecting the development of higher education. The Plan stressed the fact that the country is going through major economic and technological changes, the system of higher education has to prepare its products for participation in the emerging social, economical and cultural environment. Universities are witnessing a sea change in their outlook and perspective. Information technology is leading to fundamental
changes in structure, management and mode of delivery of the entire educational system (para 3.3.80).

In the action plan it was indicated that 'teaching in post-graduate and doctoral programmes and research will be oriented towards applied fields so as to establish relevance, need based specialization and technology driven skill generation'(para 3.3.82.i(b)).

Broadly, the Ninth Plan emphasized on the following strategies to improve the higher education system:

- consolidation and expansion of institutions;
- development of autonomous colleges and departments;
- redesigning of courses;
- training of teachers;
- strengthening of research;
- improvements in efficiency;
- review and monitoring etc.

All the Plan documents have duly emphasized the need for promotion of non-formal education to ensure life long learning. Open and distance education have been accorded high priority, as evident from growth of distance education institutions and enrolment particularly since the early sixties. There are as many as eleven open universities - Central (one) and State (10) and over hundred centers of distance education established by the conventional universities, which enroll about 2 million students for various types and levels of programmes. They have established study centers in almost every part of the country and adopt multi-media approaches for teaching and learning. They offer a wide range of programmes and courses to cater for education and training needs of various clientele group.

In the beginning of the Tenth Plan (2002-2007), there was “massive institutional infrastructure for promotion of higher education and research in the country”. The Tenth Plan identified its major objectives, key issues and focus as under:

"The main objective in the Tenth Plan is to raise the enrolment in higher education of the 18-23 year age group from the present 6 per cent to 10 per cent by the end of the Plan period. The strategies would focus on increasing access, quality, adoption of state-specific strategies and the liberalization of the higher education system. Emphasis would also be laid on the relevance of the curriculum, vocationalisation, and networking on the use of information technology. The plan would focus on distance education, convergence of formal, non-formal, distance and IT education institutions, increased private participation in the management of colleges and deemed to be universities; research in frontier areas of knowledge and meeting challenges in the area of internationalization of Indian education”

The Plan has stressed on the need: (i) to promote centers of excellence with the triangular partnership of academia, industry and government, which is considered essential to make India a knowledge super power and competitive in the global economy; (ii) to make accreditation process more transparent, time-bound and free from the regime of controls. There is need to enforce quality assurance measures.

In the following sections, we shall discuss the planning approaches that were adopted to realized the goals stated above.
Objectives of planning for higher education

In this section, we will discuss some of the principles that have influenced planning with regard to higher education in India. This will also give us an idea of the various methods and techniques that have been adopted by our planners in our context.

General education

From the First Plan, it was recognized that university education needs to be reorganized. The constituents of the reorganization of higher education as delineated in the First Plan were three-fold:

- the reform of the existing system to enable it to yield the best results it is capable of yielding;
- the building up of a new system (or new systems) suited to our national needs; and
- working out of the relationship of the various systems, while they exist side by side.

These guiding principles of reforming the system of higher education have been reiterated in the successive Five-Year Plans as also in the reports of the University Grants Commission from time to time. The basic policy objectives of the development of higher education, as set out in the Tenth Plan are:

General objective: To achieve a profound transformation of higher education in order that it becomes an effective promoter of sustainable human development and, at the same time, improve the relevance with closer links with world of work and achieve quality in its teaching, research and business and community extension functions including life long learning.

Specific objective: To contribute to the transformation and improvement of the conceptions, methodology and practices related to:

- the relevance of higher education;
- quality, evaluation and accreditation;
- research and development;
- outreach activities in business & community and life long learning;
- the knowledge and use of the new information and communication technologies;
- management and financing;
- export of higher education, and reorientation of international co-operation.

The Plan also provides the agenda for higher education in 21st century, as under:

"The scope and demand for higher education is increasing and the new paradigm, in higher education, involves creation of intellects (and that means promotion of global standards in institutions of higher education) of world standards and also training of skilled human power at a mass level without compromising on quality (and that means making quality as an integral part of working of institutions of higher education)."

(Source: Xth Plan Profile of Higher Education Institutions, UGC, 2001, pages 14-15.)

Technical and management education

In the Tenth Five-Year Plan (2002-07), the main emphasis has been placed on the following aspects of technical and management education:
The key issues in technical and management education during the Tenth Plan would be a continuing focus on increasing intake, quality of education, including research in technology. Other issues include: faculty development; optimal utilization of resources through networking; development of information technology education; modernization of the curriculum; international benchmarking; developing capacity in new and emerging technology areas; strategic planning and management of the technical education system and developing the informal sector.

Technical/management education is provided through a large number of institutions in the Central and State sectors as well as self-financing institutions under the private management. There has been a phenomenal increase in number of institutions, which have made significant contributions to the growth of technical and professional manpower in the country. The technical/management education sector is however beset with several problems which include lack of highly qualified faculty for the knowledge in institutions, shortage of funds, inadequate linkages between the institutions and industries. The Tenth Plan has therefore stipulated that ‘the thrust of knowledge based industries calls for strengthening the existing infrastructure, modernization of laboratories, workshops, libraries, computer facilities and research and development’. (Para 2.5.29)

In order to upgrade the quality of technical education, several new institutions have been proposed in the Tenth Plan. To make the system flexible and to enable the students to learn at their own time and space, distance and web-based learning is planned in the various engineering and management institutions. Education Technology Centres are being established/strengthened at select institutions. These centers are responsible for preparation of course materials and multi-media software to put them on-line.

In the area of bio-technology full-fledged department are being established at the various institutions of national important for undertaking teaching and research programmes. The advances in bio-technology would provide a competitive edge to the country in the long term development of bio-technology potential.

**Medical education**

Over the Plans, the emphasis in medical education has shifted from expansion of facilities to the improvement of the system of education. As stated in the Sixth Five-Year Plan ‘The policy of the Government is not to increase the number of medical colleges or their intake capacity. The emphasis would be on bringing about qualitative improvement in medical education and training’ (1980: 371).

This position was reiterated in the Seventh Plan which, besides laying emphasis on improving the quality of training in medical education, laid stress on making it ‘need-based and community centered’ (1985: 276)

The Tenth Plan merely noted that pharmaceutical institutions would be supported for starting advance level courses, R&D and continuing education programmes.

**Agricultural education and veterinary sciences**

The priority areas are to make agricultural education and research useful to farmers, and to give priority to human resource development, with special emphasis on weaker sections of the society.

You would have noticed that all through the Plans, the basic objectives of development of higher education have been:

i) **Consolidation and improvement** of the system of higher education so as to make it more relevant to the national needs and aspirations;
ii) Provision of due access in higher education to weaker and hitherto deprived sections through promotion of open and distance learning;

iii) Promotion of post-graduate education and research programmes of an interdisciplinary character;

iv) Restructuring and modernization of courses at the undergraduate and post-graduate stages;

v) Selective expansion of facilities for professional education in order to meet the needs of professionally trained manpower in crucial areas of development;

vi) Accelerating the pace of research and development so as to give a spurt to the process of scientific and technological development; and

vii) Inculcating social and cultural values among the recipients of higher education, so that they could become useful, productive and democratic members of the Indian society.

Self-assessment

1. Discuss the main objectives in planning with regard to general and education in the Five Year Plans.

Progress of higher education

The objectives of Plans will remain mere platitudes if an assessment is not made of how higher education has progressed and performed during the last five decades. The focus of this section is to appraise the development of higher education particularly, in the context of overall educational efforts made during the Plan periods.

In pursuance of the national goal of ‘education for all’, concerted efforts have been made to expand school infrastructure. As a result, the bases of elementary and secondary education have widened. The number of aspirants for post-secondary education has therefore risen considerably. Consequently, pressure of enrolment in higher education has been increasing, as evident from Table 1, which shows the quantitative expansion of secondary education. The number of institutions, students and teachers has increased manifold.
Table 1: Number of high/higher sec. schools, students and teachers (1950-2000)

<table>
<thead>
<tr>
<th>Year</th>
<th>High/Higher Secondary Schools/Inter/Pre-degree/Junior Colleges</th>
<th>Students (in lakh)</th>
<th>Teachers (in lakh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>7416</td>
<td>15.0</td>
<td>1.27</td>
</tr>
<tr>
<td>1990-91</td>
<td>79796</td>
<td>191.0</td>
<td>13.34</td>
</tr>
<tr>
<td>1995-96</td>
<td>90134</td>
<td>249.0</td>
<td>14.93</td>
</tr>
<tr>
<td>1998-99</td>
<td>112438</td>
<td>277.6</td>
<td>17.47</td>
</tr>
<tr>
<td>1999-2000</td>
<td>116820</td>
<td>282.1</td>
<td>17.20</td>
</tr>
</tbody>
</table>

Figure 1 Number of high/higher sec. schools, students and teachers (1950-2000)

(Source: Selected Educational Statistics, MHRD, 1999-2000, as quoted in Approach Paper on Education, Deptt. of education, Govt. of India, 2001.)

In response to the growing social demand for education of all types and levels, allocation of financial resources during the Plan periods has also increased considerably, as may be seen in Table 2. It shows that the policy on investment in education is consistent with the increasing demand for education.

Table 2: Expenditure on education in the Five Year Plans

<table>
<thead>
<tr>
<th>Five Year Plans</th>
<th>Elementary (%)</th>
<th>Secondary (%)</th>
<th>Higher (%)</th>
<th>Total Expenditure (Rs.lakh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>85 (56)</td>
<td>20 (13)</td>
<td>14 (9)</td>
<td>15300</td>
</tr>
<tr>
<td>II</td>
<td>95 (35)</td>
<td>51 (19)</td>
<td>48 (18)</td>
<td>27300</td>
</tr>
<tr>
<td>III</td>
<td>201 (34)</td>
<td>103 (18)</td>
<td>87 (15)</td>
<td>58900</td>
</tr>
<tr>
<td>IV</td>
<td>239 (30)</td>
<td>140 (18)</td>
<td>195 (25)</td>
<td>78600</td>
</tr>
<tr>
<td>V</td>
<td>317 (35)</td>
<td>156 (17)</td>
<td>205 (22)</td>
<td>91200</td>
</tr>
</tbody>
</table>
In the backdrop of quantitative expansion of the school and secondary education as well as the Plan expenditure, the developments in different sectors of higher education are reviewed and assessed below:

**Quantitative growth**

**General education:** The system of higher education received a great fillip on account of the enthusiastic policies pursued by the Central and State governments since the beginning of Five Year Plans. As a consequence, there has been a spectacular progress in higher education, as is evident from growth of institutions and enrolment. From about 2.6 lakh students in 1950-51, the enrolment (excluding intermediate and P.U.C.) rose to about 88 lakhs in 2001-02. The number of institutions has also increased considerably (Table 3).

**Table 3 Growth of higher education institutions, students and teachers**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Colleges</th>
<th>Number of universities/university level institutions</th>
<th>Students (in lakh)</th>
<th>Teachers (in lakh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>695</td>
<td>32</td>
<td>1.74</td>
<td>0.24</td>
</tr>
<tr>
<td>1970-71</td>
<td>3604</td>
<td>102</td>
<td>19.54</td>
<td>1.15</td>
</tr>
<tr>
<td>1990-91</td>
<td>7346</td>
<td>190</td>
<td>49.25</td>
<td>2.72</td>
</tr>
<tr>
<td>2000-01</td>
<td>12806</td>
<td>256</td>
<td>83.99</td>
<td>4.12</td>
</tr>
</tbody>
</table>
Figure 3  Growth of higher education institutions, students and teachers
(Source: University Development in India, UGC, 2002).

The number of colleges has risen from 695 in 1951 to 12,806 in 2001. At least one-third of colleges are in rural areas. The number of universities, which stood at 32 in 1951 rose to 256 in 2000-01. This includes institutions deemed to be universities under the U.G.C. Act (1956). In 2002, the number of higher education institutions increased to 265, the break up of which is as under: Central University (18), State Universities (178), Institutes deemed to be universities (52). Institutions established under state legislature Act (5) and institutions of national importance (12).

Table 4 shows type-wise number of colleges in the country. Nearly three-fourths of the institutes cater for students in Arts, Science and Commerce.

Table 4 Type-wise number of colleges in the country (2000-01)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Type</th>
<th>Number of Colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Arts, Science, Commerce &amp; Oriental Learning Colleges; Developing</td>
<td>9466</td>
</tr>
<tr>
<td>2.</td>
<td>Teachers Training</td>
<td>694</td>
</tr>
<tr>
<td>3.</td>
<td>Engineering/Technology/Architecture</td>
<td>678</td>
</tr>
<tr>
<td>4.</td>
<td>Medical</td>
<td>1069</td>
</tr>
<tr>
<td></td>
<td>Break-up of Medical Colleges:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Allopathy</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td>Ayurvedic Medicine</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>Homeopathic Medicine</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>Unani/Tibbia</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Dental</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>Nursing</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>Pharmacy</td>
<td>189</td>
</tr>
<tr>
<td></td>
<td>Physiotherapy/Naturopathy</td>
<td>95</td>
</tr>
<tr>
<td>5.</td>
<td>Agriculture</td>
<td>102</td>
</tr>
<tr>
<td>6.</td>
<td>Veterinary Science/Animal Science</td>
<td>50</td>
</tr>
<tr>
<td>7.</td>
<td>Law</td>
<td>335</td>
</tr>
<tr>
<td>8.</td>
<td>Others*</td>
<td>412</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>12806</strong></td>
</tr>
</tbody>
</table>

(Source: University Development in India, UGC, 2002, Table 1.6, p: 9.)
Others includes Colleges exclusive for Library Science, Physical Education/Yoga, Music/Fine Arts, Social Work, Journalism/Mass Communication etc.

@ These colleges are not necessarily be exclusive for Art/Science/Commerce courses. Some of the colleges are also offering professional courses like Teacher’s training, Journalism, Law etc. in addition to the Arts/Science/Commerce courses.

It is interesting to note that the participation of female students in higher education has increased considerably from 11 percent in 1950-51 to 39 per cent in 2001.

Table 5 indicates faculty-wise break up of enrolment, including female students. The relative shares of students in different faculties show that participation of students in technical and professional disciplines is lower than the arts and social science programmes.

Table 5 Faculty-wise student, including women enrolment (2000-01)
(University Teaching Departments/University Colleges & Affiliated Colleges)

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Total Enrolment</th>
<th>Women Enrolment</th>
<th>Percentage of Women</th>
<th>% of Faculty Enrolment out of Total Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>3875102</td>
<td>1712010</td>
<td>44.2</td>
<td>46.1</td>
</tr>
<tr>
<td>Science</td>
<td>1670263</td>
<td>658769</td>
<td>39.4</td>
<td>19.9</td>
</tr>
<tr>
<td>Commerce/Mgt.</td>
<td>1500609</td>
<td>547342</td>
<td>36.5</td>
<td>17.8</td>
</tr>
<tr>
<td>Education</td>
<td>109196</td>
<td>55923</td>
<td>51.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Engg./Tech.</td>
<td>576649</td>
<td>123992</td>
<td>21.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Medicine</td>
<td>262753</td>
<td>115557</td>
<td>44.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Agriculture</td>
<td>50308</td>
<td>8773</td>
<td>17.4</td>
<td>0.6</td>
</tr>
<tr>
<td>Vet. Science</td>
<td>13588</td>
<td>2838</td>
<td>20.9</td>
<td>0.2</td>
</tr>
<tr>
<td>Law</td>
<td>267043</td>
<td>53337</td>
<td>20.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Others</td>
<td>73932</td>
<td>27869</td>
<td>37.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Total</td>
<td>8399443</td>
<td>3306410</td>
<td>39.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure 5 Faculty wise student, including women enrolment: 2000-01

(Source: University Development in India, UGC, 2002, Table 2.4, p. 20.)

Arts includes Oriental Learning

Science includes Home Science, Computer Application, Computer Science etc.

Commerce includes Management
Indian Higher Education: Policies and Plans

Education includes Teachers Training, Shastri

Engineering & Technology includes Agricultural Engineering & Technology, Dairy Technology and Architecture

Medicine includes Homeopathy, Ayurveda, Unani, Tibbia, Dentistry, Physiotherapy, Naturopathy, Nursing, etc.

Agriculture includes Horticulture, Sericulture & Forestry.

Veterinary Science includes Fisheries, Dairy Science, Animal Science.

Law

Others includes Music/Fine Arts, Drawing & Painting, Library Science, Physical Education, Journalism & Social Work, etc.

Level-wise enrolment shows that 89 and 9 percent students are studying at graduate and postgraduate levels respectively. The share of research students is less than one per cent (Table-6). Over 80 per cent of students join courses in colleges.

Table 6 Level-wise student, including women, enrolment (2000-2001)
(University Teaching Department/University Colleges & Affiliated Colleges)

<table>
<thead>
<tr>
<th>Level</th>
<th>Total Enrolment</th>
<th>Women Enrolment</th>
<th>Percentage of Women</th>
<th>% of level enrolment out of total enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate</td>
<td>74,88,736</td>
<td>29,43,807</td>
<td>39.31</td>
<td>89.16</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>7,75,303</td>
<td>3,15,236</td>
<td>40.66</td>
<td>9.23</td>
</tr>
<tr>
<td>M. Phil.</td>
<td>11,964</td>
<td>5,359</td>
<td>44.79</td>
<td>0.14</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>45,447</td>
<td>15,277</td>
<td>33.61</td>
<td>0.54</td>
</tr>
<tr>
<td>Diploma/Certificate</td>
<td>77,993</td>
<td>26,731</td>
<td>34.27</td>
<td>0.93</td>
</tr>
<tr>
<td>Total</td>
<td>83,99,443</td>
<td>33,06,410</td>
<td>39.36</td>
<td>100.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Total Enrolment</th>
<th>Women Enrolment</th>
<th>Percentage of Women</th>
<th>% of level enrolment out of total enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate</td>
<td>74,88,736</td>
<td>29,43,807</td>
<td>39.31</td>
<td>89.16</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>7,75,303</td>
<td>3,15,236</td>
<td>40.66</td>
<td>9.23</td>
</tr>
<tr>
<td>M. Phil.</td>
<td>11,964</td>
<td>5,359</td>
<td>44.79</td>
<td>0.14</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>45,447</td>
<td>15,277</td>
<td>33.61</td>
<td>0.54</td>
</tr>
<tr>
<td>Diploma/Certificate</td>
<td>77,993</td>
<td>26,731</td>
<td>34.27</td>
<td>0.93</td>
</tr>
<tr>
<td>Total</td>
<td>83,99,443</td>
<td>33,06,410</td>
<td>39.36</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Figure 6 Level-wise student, women enrolment (2000-2001)
(Source: University Development in India, UGC, 2002, Table 2.16.)

Technical education: There was considerable progress in the expansion of technical education, the need for which was realized in the years following the Second World War. In 1945, the All India Council for Technical Education was set up for advising the Central and State governments on the schemes of development of technical and vocational education. Early in 1947, the Scientific Manpower Committee was given the task of assessing the requirements of scientific and technical personnel in relation to the post-war development programmes, which were then under consideration. A number of steps were taken to increase the facilities for technical
education before the First Five-Year Plan was launched. These included the establishment of the Indian Institute of Technology at Kharagpur, selection of 14 technical training institutions for further development, the provision of research training scholarships, and stipends for practical training, and other schemes for the promotion of scientific and technical education and research.

As a consequence of various programmes initiated under the Five Year Plans, there has been a considerable expansion in the number of institutions of engineering and technology, their intake capacity and output. In 1950-51, there were 53 degree level institutions of engineering and technology with an intake capacity of 26,702. The number of colleges has increased to 678 in 2001, which have augmented opportunities for technical education. Of late, due to initiatives taken during successive plan periods, and particularly because of large-scale private sector participation, the number of AICTE approved technical and management institutions has risen to 4791 in 2001-02 with an annual intake of 6.7 million students (para 2.5.22 of the Xth Plan).

**Medical education:** There has been a sizeable increase in the number of medical colleges in the country. From 42 medical colleges in 1951-52, the number of medical colleges and enrolment increased to 1069 and 2.63 lakhs, respectively, in 2001. There are 18 medical universities. Besides, the institutions imparting education in the indigenous system of medicine namely, Ayurveda, Unani, Siddha, Yoga and Naturopathy as also Homeopathy continued to grow and enroll large number of students.

**Agricultural education and veterinary sciences:** There has been a considerable expansion in the enrolment and institutions catering for agriculture and veterinary sciences. The number of colleges rose from 26 in 1950-51 to 152 in 2001. The corresponding increase in student enrolment was from 4,408 to 63,896 in 2001. Besides, there are 40 agricultural universities catering mainly to agricultural and veterinary sciences.

**Stage-wise enrolment**

It has been reckoned that the bulk of enrolment, about 89 per cent, is constituted by the undergraduate stage, the postgraduate and research students account for about 10 per cent of the total student enrolment. Less than one per cent students take up the diploma/certificate courses.

**Faculty-wise enrolment**

The bulk of university enrolment (about 84 per cent) is composed of students pursuing the general education courses like Arts, Science, Commerce, etc. The professional courses like Engineering and Technology, Medicine, Agriculture etc. account for only 16 per cent of the total university enrolment.

**Sex-wise enrolment**

There has been a considerable improvement in the proportion of women students in institutions of higher education. From a mere 11.5 per cent of the total enrolment in 1950-51, the proportion of women students increased to 39 per cent in 2001. However, it has been observed that in 2001 at the higher education level, the bulk of women's enrolment was in Arts subjects in comparison to Science (22.5%) and Commerce (18.3%). In case of professional courses, women's enrolment in teaching profession is high (51.2%) in comparison to Engineering (21.5%) and Medicine (44%) during 2001.

**Institutional break-up**

It has also been found that, by far the largest enrolment (87 per cent) is in the affiliated colleges (Table 7). The university departments including university
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Constituent colleges account for a little less than 13 per cent of the total enrolment. At the postgraduate level college enrolment is about 66% and in research 9%. The point that emerges is that the colleges are the repositories of the largest enrolment. Hence, any improvement in higher education has to take this reality into account.

Table 7 Stage-wise enrolment*: University Teaching Departments/University Colleges & Affiliated Colleges (2001-2002)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Stage</th>
<th>University Depts./University Colleges</th>
<th>Affiliated Colleges</th>
<th>Total (%age to Grand Total)</th>
<th>%age in affiliated colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Graduate</td>
<td>7,90,182</td>
<td>70,72,406</td>
<td>78,62,588 (89.13)</td>
<td>89.95</td>
</tr>
<tr>
<td>2.</td>
<td>Post-Graduate</td>
<td>2,77,42</td>
<td>5,38,908</td>
<td>8,16,335 (9.25)</td>
<td>66.02</td>
</tr>
<tr>
<td>3.</td>
<td>Research</td>
<td>55,158</td>
<td>5,358</td>
<td>60,516 (0.69)</td>
<td>8.86</td>
</tr>
<tr>
<td>4.</td>
<td>Diploma/Certificate</td>
<td>43,381</td>
<td>38,275</td>
<td>81,656 (0.93)</td>
<td>46.87</td>
</tr>
<tr>
<td></td>
<td>Grand Total</td>
<td>11,66,148</td>
<td>76,54,947</td>
<td>88,21,095</td>
<td>86.78</td>
</tr>
</tbody>
</table>

Figure 7 Stage-wise enrolment: University teaching departments/University Colleges & Affiliated Colleges: 2001-2002
(Source: UGC Annual Report, 2001-02.)

Self-assessment

2. What were the reasons for the decline in enrolment in higher education in the early '70s?

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3. In terms of enrolment in higher education among girls and boys, what is the noticeable discrepancy? Can you think of the reasons for this?

Qualitative improvement

Implicitly and explicitly, there have been references to a decline in the quality of education, as a whole, and also in higher education. To counteract the erosion in the quality of higher education, various suggestions have been made in the plans as also by the University Grants Commission and other specialized bodies set up by the central government in the field of higher education.

In the First Plan, some suggestions were made like raising the age limit for admissions to universities, the encouragement of an atmosphere of discussion and free thinking in the universities, increasing the number of working days to at least 180 and so on. A number of other measures were also undertaken during the subsequent plans. For example, it has been suggested that the affiliated colleges, which have been responsible for the bulk of university enrolment, should be given financial assistance for their general improvement. It has also been accepted that a few colleges, selected on the basis of their achievements, existing facilities and potentialities would be provided assistance for their fuller development. Promising university departments were also developed as Centres of Advanced Study (C.A.S.). The scheme is intended to encourage the pursuit of ‘excellence’ and teamwork in study and research and to accelerate the realization of international standards in specific fields.

All the Five Year Plans have stressed the need for improvements in quality of teaching and research. In the Tenth Plan, for instance, the issue of quality improvement would be addressed through “the modernization of syllabi, increased research, networking of universities and departments and increased allocation of funds” (para 2.5.10). Initiatives are taken to encourage the institutions to adapt to modern methods of teaching and learning, develop learner friendly teaching materials, and change their evaluation method. The universities and colleges are encouraged to establish Internal Quality Assurance Cells and go through the assessment and accreditation process.

In the area of distance education, the overall progress with regard to expansion and diversification of activities is noteworthy. Since the inception of the planning era, efforts have been made to take advantage of educational technologies so as not only to improve access and equity in provision of educational services but also to enhance quality of education. The development of open and distance education system which cater for nearly one-fifth of the total students in higher education has been very significant in augmenting opportunities for learning, especially for the deprived groups like rural communities and women, and for those working population who wish to pursue higher studies. Table-8, presents the enrolment with regard to open universities and centers of distance education established by conventional universities. The distance education institutions offer all types and levels of programmes in general higher education and professional/technical and vocational disciplines. The use of information and communication technologies and the support of conventional system have provided necessary impetus for growth of distance education. The growing convergence between the open learning system and the conventional system, particularly with respect to sharing of resources, augurs well for revolutionising the development of higher education.
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Table 8 Growth of open and distance learning system (2000-01)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Indicator</th>
<th>Open Universities</th>
<th>Correspondence Course Institutes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enrolment (of which Female)</td>
<td>632214</td>
<td>1123344 (404105)</td>
<td>1755558 (404105)</td>
</tr>
<tr>
<td>2</td>
<td>Teachers/academics (of which female)</td>
<td>730 (134)</td>
<td>1120 (241)</td>
<td>1850 (375)</td>
</tr>
<tr>
<td>3</td>
<td>Programmes on offer</td>
<td>325</td>
<td>702</td>
<td>1027</td>
</tr>
<tr>
<td>4</td>
<td>Courses on offer</td>
<td>2102</td>
<td>3082</td>
<td>5184</td>
</tr>
<tr>
<td>5</td>
<td>No. of study centres</td>
<td>3449</td>
<td>573</td>
<td>4022</td>
</tr>
</tbody>
</table>

Figure 8 Growth of open and distance learning system

(Source: Distance Education Council, 2002.)

All these measures are intended to bring about a qualitative improvement in the system of higher education and to make the system more responsive to the emerging requirements of the society.

Post-graduate education and research

It has been recognized that post-graduate courses occupy a key position in the university system. Schemes have, therefore, been launched to increase facilities for post-graduate courses and research. Selected university departments have been developed as centers of excellence, inter-disciplinary research facilities have been given special encouragement. Besides, more departments are proposed to be brought within the fold of Special Assistance Programmes initiated by the UGC in order to allow certain promising departments in the universities to operate their post-graduate programmes and research facilities at standards approaching international levels.

Specifically, the UGC has been providing development grants to improve the infrastructure and basic facilities in the universities so as to achieve at least the threshold level and to promote excellence of education. Special grants are provided to the institutions in backward regions and for replacement of outdated and old equipments, and modernization of facilities. Support is also provided for inter-disciplinary and multi-disciplinary research studies.
Top priority has been given to strengthening infrastructure of existing post-graduate departments. This involves provision of adequate academic as well as technical and other support staff, removal of obsolescence, modernization of laboratories, provision/strengthening of workshops and enrichment of library as well as reprographic facilities. Universities have been advised to ensure the creation of adequate faculties before the launch of new programmes in existing departments or starting of new departments. It has also been suggested that the culture of sharing of the available facilities should be inculcated among the users and expensive equipment may be pooled together as central facilities.

In the case of developed universities, new specialization/courses/departments could be opened with an inter-disciplinary approach. Teaching and research in such emerging areas should be undertaken, which could be sustained by existing facilities within the university with a minimal support. In the case of other universities, opening of new departments should be conditioned by overall needs of such departments, within the state or region as a whole. Courses, which have no relevance or are outdated should be dispensed with.

For the development of collegiate institutions, the UGC has introduced, among others, the College Humanities and Social Science Improvement Programme (COHSSIP) and College Science Improvement Programme (COSIP). The intention is to accelerate the capabilities of students undergoing these courses and to initiate a process of self-renewal. This is brought about through an integrated approach comprising simultaneous improvements in subject matter, methods of instruction, syllabi, curriculum, laboratory exercise, workshop, library and teaching aids. The programmes have been introduced in a large number of colleges.

The UGC has planned to promote quality and relevance in higher education in the Tenth Plan by initiating complementary skill oriented courses. The career development of students is promoted through courses with a professional focus. A major programme of vocationalisation of education has already been initiated in 35 subjects at undergraduate level. New programmes in such areas as Information Technology, Bio-Technology, Biomedicine, Genetic Engineering, etc. are proposed to be introduced in a large number of universities. Initiatives for teachers’ training and staff development would be supported.

Self-assessment

4. Write a small note in about 100 words on the steps undertaken to bring about qualitative changes in technical education after Independence.

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5. List the important programmes that have been undertaken to improve the quality of post-graduate education and research.

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Summary

Planning in the context of education arises from two important needs: (i) to be able to state clearly the aims to be achieved and define the educational objectives of development policy and (ii) to optimally and rationally utilize the time, material and the human resources available, which are, in any case scarce.

An appraisal of the Five-Year Plans in India reveals that the objectives of planning for higher education are related to access and equity, improvement in standards, relevance to national needs and encouragement of research and critical studies. These commensurate well with the socio-economic goals that we've set before us as an independent nation. A further examination of the development of higher education (qualitative and quantitative) points out the impressive expansion and diversification of education. It also highlights the lopsided growth in certain areas. Moreover, amongst other problems, growth has not kept up with the principle of equity of access. Realising this, several measures have been suggested and various bodies set up to fill up this gap and to make education more responsive to the needs of national development and people.

In the unit that follows, we will discuss at length, the problems related to university development.

Unit-end activities

1. Procure a copy of the Five-Year Plans, read the section(s) relating to education. All the Plan documents are available on-line at the Web page of the Planning Commission. Now that the Plans have already been implemented, answer the following:

   a) Which of the objectives in higher education have been achieved? Can you see any particular circumstances which favoured the realization of these objective(s)?

   b) Which objectives have been realized in part? What could be the possible explanations for this?

   c) Which objectives have fallen by the wayside? Do you have an opinion as to whether time, money or other resources had been misjudged?

Points for discussion

1. Discuss the importance of planning in a developing country. Is a similar exercise done in your College/University?

2. “Plans are not arbitrary but are based on a series of negotiations between social actors”. In what way do these “social actors” intervene in Planning? How are they important?

3. Do you think that the political manifesto of any party at the Centre has influenced planning in education at any point? Discuss with your colleagues.

Suggested readings

For a comprehensive list of readings on “Higher Education and Five-Year Plans”, see the last section of unit 8.