Chapter- IV

PROFESSIONAL AND HIGHER EDUCATION

The single most important indicator of a country’s future may well be the status of its Higher Education. There are conflicting views among the educationists about the relative importance of Higher Education. While Secondary Education exposes students to the differentiated roles of science, humanities and social sciences, higher education provides people with an opportunity to reflect on the critical, social, cultural, moral and spiritual issues facing humanities. It contributes to the national development through dissemination of specialized knowledge and skills. It is therefore, a crucial factor for survival. Being at the apex of educational pyramid, it proves to provide a key role in producing teachers for the educational system. As pointed out by JawaharLal Nehru

“If all is well with the universities
All would be well with the nation”

The importance of college education can hardly be over-emphasized in India, it has its special importance in kind of the leadership which made Indian independence possible. It is recognized that today there is an increasing demand for skills of the most varied and exacting kinds and institutions act as the promoters of such skills. This helps in the development of economic and social aspects of life of a developing country. Higher Education and Research therefore cannot be disassociated. At the undergraduate stage, the emphasis is on teaching and communication and the college teachers’ are encouraged more to acquire effective techniques and communication. Higher Education for women has helped to provide a society, in which the women are trained in agriculture, arts, medicine, science and technology and various other professions. It strives to promote equality and social justice and to reduce social and cultural differences through diffusion of education.


Punjab has a long history of Higher Education whether formal or non-formal. In the 20th century, several high level Commissions were set up to provide policy orientation to the development of higher education, such as University Education Commission 1904, Sadler Commission 1917-19, the Central Advisory Board of Education, the University Education Commission, presided over by Dr. Radha Krishnan. In 1976 education was made a concurrent subject with the 42nd Amendment of the Constitution. The Kothari Commission 1964-66 examined various aspects of education at all levels and gave a very comprehensive report. This report became the basis of the National Policy on Education 1968. With this a common structure of education 10+2+3 was introduced and implemented in Punjab, in addition to laying down a common scheme of studies for boys and girls. Science and Mathematics were incorporated as compulsory subjects. Work experience was assigned a place of importance. The National Policy on Education 1986 was put in place.  

In 1947 India was partitioned. It had an impact on the Higher Education in Punjab. All the Higher Education institutions in Punjab University went to Pakistan. At that time 17 Education Departments and three Constituent Colleges were under the university, it created a vacuum in the field of higher education. After independence Punjab University Chandigarh was established with a grant of 10 lacs from the Central Government. The University provided affiliation to colleges; and high schools. The University however, faced financial crunch.

At the time of reorganization of Punjab in 1966 Chandigarh become U.T. The control of Punjab University was partially under the centre and partly Punjab Government. Number of Punjab colleges, were affiliated under the university. Punjab also founded other universities like (1) Punjabi University Patiala 1962 (2) Punjab Agricultural University Ludhiana 1961. (3) Guru Nanak Dev University Amritsar which was established in 1969 under Punjab.

---


Female and Higher Education in Punjab in Early 20th Century

In the beginning Punjab did not take much interest in the development of higher education of girls. However it was largely due to efforts of people like Leitner that the famous Oriental College was set up, as a first step towards the spread of education for women in Punjab. In 1897 the Sikhs established the Khalsa College at Amritsar. By 1890 to 1901 the number of Arts Colleges increased to 12 with 2148 matriculation candidates and 1214 passes. But there were no girl’s college till 1912.

As far as the professional education among girls was concerned, CMC College, Ludhiana, was founded in 1884, imparting training to girls for medical profession. The North India Medical School for Christian Women at Ludhiana had 44 students on its rolls at the end of the year, of whom 14 belonged to the medical class 3 to the midwifery class; and 16 to the nursing class, of these students 9 were European or Eurasians, 26 Native Christians, 8 Mohammaden’s and one a Non Brahmin Hindu.

In the sphere of Professional Education status quo had been maintained and no further development took place, in opening new professional institutions for women. However, there is a stray reference to the work done in this field by the Young Men’s Christians Association and the Young Women’s Christian Associations. These Organizations offered various types of professional courses to men and women. The reports of these Associations indicated, increase in attendance and there was an increasing demand, for the services of the qualified women. These associations offered training in Typing, Accountancy etc.

The Chief Inspector remarked “that the girls who took Higher Education were increasingly attracted by the medical profession, apparently because of its lucrative prospects and freedom. Punjab had lagged behind so far, as the higher education of females was concerned. The enrollment of girls was less at this time. Due to socio-economic factors such as poverty, lack of transportation, lack of schools, prejudice against women education etc. The first Indian women to be graduates were

---

Kadambini and Chandra Mukhi Bose of the Bethune College in 1901-02, 264 girls had been enrolled, out of these 28 Hindu and none Muslim girls.\footnote{Shashi, Bala, 

The only institution which imparted Higher Professional Education was the Medical College, Lahore, established in October 1860, which was raised to collegiate status in 1870. In 1889 the founding of the Lady Lyell Home for female students added to its usefulness. In 1902-03, 21 girls enrolled in the college, from which all belonged to Christen Community. In 1911-12 Victoria Marry School Lahore was renamed Queen’s Marry College. It came to be the first college for girls in Punjab. Intermediate classes were added to the existing institutions. In 1919-20 there were only 89 girls from this college enrolled for intermediate classes and they cleared the examinations.\footnote{Punjab Annual Progress Report, 1901-02, Lahore: Civil and Military Press, p. 41.} The existing Mary’s College was followed by the opening of Kinnaird College. Intermediate classes for girls were added to the Kinnaird School in 1913-14. It was only in 1917-18 that Kinnaird College got affiliation for B.A courses. There were five girls preparing for the B.A. Degree in other arts colleges. Lamenting on the poor status of women’s Higher Education in Punjab, The Tribune observed in 1910 “so far not one Hindu or Mohammedan girl has graduated in Punjab, it suggested girls should be encouraged in all possible ways to receive higher education which the country can give them. Facilities should be afforded to all, who aspire for higher education and are able to reach that stage working against odds.”\footnote{The Tribune, 24 May 1916.} By now awakening had been aroused among the people of Punjab, to impart higher education to their daughters. But unfortunately hardly any facility existed. The Government, Missionary bodies and local bodies hardly took any initiative for providing Higher Education to the girls keeping in view this state. A proposal was submitted to the government of India, for opening of Government Intermediate Colleges at Multan and Ambala in 1917. Reports of the progress of education in Punjab for the year 1918-19 states that 61 total females belonging to different castes and creeds, were attending different colleges for receiving collegiate education of which 30 were Anglo-Indians, 20 Indian
Christians, 2 Brahman 6 non Brahmins, one Sikh one Muslim one Parsi. These figures tell the tale of woe regarding women’s higher education.  

Medical Education also received the attention of the government and a scheme was formulated by her Excellency Lady Harding for a school to train Indian Nurses and Midwives. It was proposed to combine this scheme with a Medical College for Women at Delhi in commemoration of the visit of Queen Empress. Generous subscriptions were given by princes and wealthy land owners for the purpose and Lady Harding Medical College for women, an institution of its kind in India, was opened by Lady Harding in February, 1916 as a memorial to its founder. The hospital attached to it was opened by Lady Chelmsford in March, 1917. The main object of this institution was to provide complete courses to Indian women who wished to qualify for a university degree in medicine or to receive full training as nurses or compounders. Medical College was affiliated to the Punjab University (Lahore) and its students were allowed to appear for the university examination for M.B.B.S Degree. Students from all parts of India were admitted to this college. The college was maintained on the earning from the interest on the original donations, subscriptions and grants from central revenues. The results of its first public examinations showed that the quality of work done by the students was outstanding. In some schools attention was paid to physical training as well as to the instructions of the girls, and special courses of the Calisthenics’ etc; were prescribed in place of drill and gymnastics. But the only institution, where the physical training of girls had received careful attention; was the KanyaMahaVidyalaya at Jallandhar. The managers of the schools had devised a special set of exercises for girls schools.

The reports for 1901-1920 record a distinct improvement in female education. Another encouraging feature noticeable during this period was that a few industrial schools for girls had been started in few towns, where girls from low income groups got training and in course of time would become an economic asset. What was more shocking to the orthodox, was the fact that some women had started working as

---


teachers and they became earning members of the family. Independence of women could prove disastrous to the male hegemony. Consequently, when some professional and technical courses were started for boys and somewhat later for girls; the opposition offered was even greater, even than more and more girls had started going in for, at least middle and high school education and later went in for teacher training in order to adopt a teaching career.

Another profession that attracted girls as a career was nursing and medicine. Women Doctor’s became popular, because women, who had always lived in seclusion, were shy of being examined by a male doctor. Another factor that increased the demand for lady-doctor everywhere was, the establishment of maternity homes, and hospitals exclusively for women. This was made possible, with the establishment of Countess of Dufferin fund for this purpose. Scholarships were given to girls, willing to go in for medical education.

But at initial stages, the Anglo-Indian Indian-Christian and Parsi girls took advantage of the new opportunities, but the Hindu and Muslim girls who were meant for the home could not even dare to think of a career as doctors and nurses. It was to take them another half century to come out of their homes and become doctors and nurses. In the beginning of 20th century some Hindu women had become teachers.  

The number of arts colleges for boys decreased from 10 to 9 or by one in 1920, but the number of students increased from 2,539 to 4,076 the difference being 1,537. The number of professional colleges remained the same as in the previous quinquennial, Viz one. The number of students also remained the same, i.e 15 and the professional college for girls increased from 1 to 2 and number of female teachers increased from 30 to 38. Obviously, the pace of progress in women’s higher education was rather discouraging, because few women were taking advantages of collegiate education in Punjab. The report of 1920 adds, “That in 1916, only Six Hindu, One Sikh, and no Muslims were studying in Arts College and Professional Colleges.”

Some important events that occurred during the period were:

---

Two Government Intermediate Colleges were started at Multan and Ludhiana in May, 1920; and the two others had been sanctioned for Ambala and Rawalpindi.

The Honors Schools of Punjab University had begun to operate.

The staff of the Central Training College at Lahore had been increased.

A new Training College had been started at Lyallpur.17

The prospects for Higher Education for women began to brighten, somewhat during the years 1921-22 to 1926-27 which becomes evident on the perusal of annual educational reports, for these years. Encouraged by the Success of Queen Mary College and Kinnaird College, another Intermediate College for Girls opened in Lahore in 1921-22. Hans Raj Vidalia Lahore was started in 1927. Outside of Lahore Modern College for Women were started. Intermediate College was opened in 1923 and 1932 respectively at Amritsar. College classes were added to Kanya Mahavidyalaya, Jullundur in 1931.18

During this quinquennial the government adopted the policy of opening Intermediate colleges, in place of degree colleges. ‘These colleges; the report for the year 1924-25 observes, provided the students, the benefits of that school’s training, and discipline, which India lacked so badly. A college of this type comprised of four classes, two higher and two intermediate classes. The methods of teaching were that of the class, rather than lecture, while the total number of the students in each college was such, which students came under effective supervision.

In pursuance of this policy an intermediate college was started for girls in Lahore which, in a short period made great progress. In 1924-25, there were 72 pupils on its rolls and 26 of them were boarders. The examination results were “remarkable,” not a single candidate failed.19

The already existing Degree Colleges for Girls at Lahore and elsewhere continued to make satisfactory progress during this period. All the reports for this period mention the achievements of the Kinnaird College, Lahore and Queen Mary College, the Kanya Mahavidyalayas at Lahore and Jalandhar. The Kinnaird College distinguished itself for the third consecutive year. In the B.A. examination Miss Mona Benjamin was placed fourth in the merit list of both men and women, taking honors in English and Miss Jamila Siroj-ud-Din was the first Indian women to obtain honors’ in Economics in Punjab. The Shah Din Gold Medal was awarded to Miss Josephine Hakim Khan. It is evident that not many girls went in for college education. Also most of the girls who joined college, came from affluent and cultured families from the cities, such as Lahore, Amritsar, and Jalandhar etc. In the backward districts, higher education for girls was looked upon, with suspicion because in these areas the process of modernization had not made any noticeable impact.

This also explains that very few women went in for Professional Education. For many years, The Women Christian College Ludhiana had been the only medical institution, imparting medical education to women institution. Most of the women, who attended this institution, were Christians though some Hindu girls had also begun to enroll themselves as students in this college. The college made rapid progress under the Principalship of Dr. Edith Brown.\(^{20}\) The popularity of these courses was also due to increasing unemployment among matriculates and even graduates. They lacked any professional and technical qualification and, therefore, couldn’t get even job as clerks. There were no arrangements in their institutions for imparting professional training to young men and women, so that they could get jobs in offices and commercial institutions. Even in this field, it was the Christians, who took the initiative but their examples were not followed by any Hindu, Muslim or Sikh organizations.\(^{21}\)

**Higher Education in 30’s**

During this period there was large and insistent demand for Higher Education and the government felt, that more provision would have to be made in the existing colleges as well to start at least, one more intermediate college for girls. The principal of the Lahore College for Women reported that the number of students had more than

\(^{20}\) *Ibid.*, p.79

doubled itself since 1927 and stood now at 135 as against 60 in 1927 and that the number of resident students, has risen from 25-65. The Queen Mary College (actually it was school) also made arrangements for starting intermediate arts classes, for its own students who wished to continue their studies after matriculation.

The report also refers to opening of B.Sc. classes and making more provisions for M.Sc. classes for girls in these colleges, when the Lady Harding College at Delhi was to close its science classes. The main reason for the influx of more girls in women colleges at Lahore, was a considerable increase in high schools, in the province and girls from moffussil schools wanted to join women colleges of repute of Lahore. Due to lack of accommodation in these colleges, admission had to be refused to many applicants.  

Table No. 4.1
Showing Enrolment in Arts Colleges in Punjab

<table>
<thead>
<tr>
<th>Year</th>
<th>1924</th>
<th>1925</th>
<th>1926</th>
<th>1927</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>5370</td>
<td>6583</td>
<td>7238</td>
<td>8676</td>
<td>9578</td>
<td>10527</td>
<td>11652</td>
</tr>
<tr>
<td>Females</td>
<td>96</td>
<td>110</td>
<td>84</td>
<td>77</td>
<td>93</td>
<td>128</td>
<td>161</td>
</tr>
<tr>
<td>Oriented</td>
<td>157</td>
<td>138</td>
<td>145</td>
<td>129</td>
<td>150</td>
<td>164</td>
<td>154</td>
</tr>
<tr>
<td>Total</td>
<td>5623</td>
<td>6831</td>
<td>7467</td>
<td>8882</td>
<td>9821</td>
<td>10819</td>
<td>11967</td>
</tr>
</tbody>
</table>

The above table indicates a steady increase from year to year, and in the case of boys the increase is about 1000 students per year. This increase in number was due to opening of more intermediate colleges in the province. The enrolment of girls in women colleges also continued to record an upward trend though the increase is not spectacular. The reports strike an optimistic note in the following words; “Given an atmosphere most suitable to quiet work, there is very hope that girls education will continue to grow and develop on good lines.”

Another radical departure that took place in the year 1930-31, was that some girls joined boy’s colleges at Lahore. Formally one or two Christian girls had been

---

attending the Men Christian College for boys. This inclination on the part of Indian girls, towards joining Boys College demonstrated that some girls at least were bold enough to make a clean break with the ancient traditions, which young girls could do as well in every sphere of life and were in no way inferior to boys. There were old people still alive, who raised a voice of protest against it. But in course of time, every section of society wily nily had to accept the fact that women could not be much longer, confined to the four walls of the home.

The report also states that these girls’ colleges, continued to win distinction, in the academic field as well as in the sphere of extra-moral activities. The Lahore College had several activities for Women. Prizes were gained in the Arts and Crafts Exhibition of the universities. Distinction of another kind was won by a team of two, who represented the college at an inter college debate, and won the first prize. Examination results were 100%. One of the candidates of the Kinnaird College of girls, stood first in university inter-mediate examination. The result of the Lahore College for women was also good. Out of the fourteen students, 11 cleared the intermediate examination in 1930-31. One of its students topped in Sanskrit and won the gold medal in the B.A. examination, all its three candidates passed. 23

The Amritsar Girls High School had secured service of a visiting mistress, for giving some elementary kind of training in music. The Queen Mary College was attended by girls mostly belonging to well to do families. The report goes on to observe that demand for accomplishment in social art, which would make the homes a pleasant place, was on the increase in a large number of girls schools. 24

The number of female students increased from 240 to 648 or by 408, but the numbers of degree colleges for girls were not increased, correspondingly in the province. The Lahore College for Women and the Kinnaird College for women could not accommodate all the girls desirous of joining colleges. During this period the Lahore College for Women was affiliated to the Panjab University for the B.Sc. courses in chemistry and botany; thus meeting a long felt need as until then, there was no women’s college offering science courses to girls, and it would also produce

science teachers, for teaching science subjects in the schools in the province. Hitherto women science teachers had been taught from other provinces.  

The Stratford Intermediate College was opened at Amritsar in November 1932, but by 1936, the college was to be raised to the level of a Degree College. In June 1934; an intermediate college for girls was started at Lyallpur and was affiliated for Geography, Biology and Mathematics among other subjects. Women’s Christian College Ludhiana continued to do good work, in its own specialized field. The report of 1935-36 records: “the total number in all classes was 325 as against 280 in the previous year. Eleven professional licentiates, eight compounders, 10 nurses, 12 midwives, 21 nurses dais and 9 indigenous dais passed their respective qualifying tests. Medical School Amritsar prepared students for L.S.M.F. Diploma and Dispenser. The number of students on the rolls increased from 416 in 1934-35 to 435 in 1935-36. The Schools had to refuse admission to many students for want of accommodation and equipment necessary for medical education. There were 43 women students in the school. Various teacher training courses were also opened with the passage of time. The need for imparting higher education to girls, came to be felt all the more. According to The Tribune “the demand for higher education which was large and insistent had come so quickly, that it would be necessary before long, either to make further provision in the existing college or to start an intermediate college for girls.” In the year 1932, several girls joined colleges for men which may be taken as implying a distinct indication towards co-education at the college stage. Two Degree Colleges for Women in Lahore were full and had to refuse admission to many students. The Kinnaird College had a long waiting list. Queen Mary College was arranging Intermediate Arts classes for its own students who after matriculation wished to continue their study. The report for the year ending 1936 -37 records that at the beginning of the quinquennial two government and eight private industrial schools were at work and the total number of girls under going industry training was 739.

26 Ibid., p.100.
28 The Tribune, 12 May, 1932.
Higher Education in 40’s

People had apprehensions and reservation in sending their daughters to the co-educational institutions, but with the passage of time attitude seemed to be changing. Parents began to send their daughters in co-educational institutions. But these girls attended boys’ institutions, which offered those subjects, which were not taught in girls colleges or the college happened to be nearer their homes. Girls opting for co-education largely belonged to the well to do families. In 1940 there were 394 girls studying in boys colleges in Punjab. It clearly laid down that up to now, the parents and the girls themselves began to realize the importance of education. Therefore due to lack of women’s college, and women began to enroll in the men’s colleges. Private agencies up to now did not seem to be in a mood to take initiative for the development of higher education of girls in the province.

The spread of Secondary Collegiate Education among women, in early period had created a band of women workers who could take intelligent interest in the social, political and economic questions facing the country. They now came forward and began agitating for the education of women and the amelioration of their social position. All India Women’s Educational Conference was held in 1927.29

Somewhat larger number of girls began to go for collegiate education, particularly those who were intelligent and aspired to pursue a career. During this period number of girls studying in boys colleges increased and some girls studied science subjects, in order to become doctor or did M.sc. in Science subjects. In 1944-45 the Government Intermediate College for Girls at Lyallpur and Ludhiana was raised to the Degree level, which accounted for an increase of 50 Girls Colleges which opened in 1943-44.30

At the time of independence in 1947 there was no university in Punjab and the number of affiliated colleges were Twenty nine in all, out of them Twenty five were co-educational and four for women. After independence Punjab University Chandigarh was established, with the grant of 10 lacs from central Government. This university gave affiliation to colleges; it provided examination facility to colleges and

high schools. However the university faced financial problems. At the time of reorganization of Punjab in 1966, Chandigarh becomes a U.T. The control of Punjab University was partially under the centre and partly Punjab Government. Number of Punjab colleges, were affiliated under this university. Punjab had other universities like (1) Punjabi University Patiala 1962 (2) Punjab Agricultural University Ludhiana 1961. (3) Guru Nanak Dev University Amritsar was established in 1969 totally under the Punjab Government. The state faced challenges of bringing about a basic transformation in its education system, to fulfill the developmental need of the state and country.

To achieve their objective, the University Grants Commission (UGC) was setup in 1956, as the Apex National Organization, which was concerned with the establishment and maintenance of standards in higher education. The UGC acted as a vital link between the policy-making bodies of government and institution of higher education. In Punjab, female education was in an extremely backward condition. It recommended the allocation of more funds for the development of female education.

As Higher Education in Punjab grew in size, its problems and prospects increased both in number and size and its relevance to development and especially to the socio-economic needs of society increasingly became issues of debate. Comparing the situation of higher education in other states and at the all India level, its development in Punjab is seen to be relatively superior, but there were problems in women higher education, such as imbalanced and unplanned institutional growth, lack of infrastructure facilities, excessive and discriminatory system of admission, financial problems, placement of degree holders, gap in general and professional course, bias of society.

**Education after Reorganization of State in 1966**

The reorganization state of Punjab (1966) experienced a large number of changes in its size, social fabric and economy. It was trifurcated into Punjab, Haryana and Himachal Pradesh. The reorganized Punjab had 11 districts. These were directly

---


linked with the development of education in the state. The structure and system of higher education in the state followed the national pattern such as colleges, university education in general and professional degrees. The current position of higher education in Punjab, although considered as the core sector for achieving the objective of employment for an individual, is also oriented towards socio-economic, environmental and human resources development.34

Relevance and Access of Higher Education to the Disadvantaged

The Education Commission (1964-66) rightly stated, ‘Indian society is hierarchical, stratified and deficient in vertical mobility. The social distance between the different classes, particularly between rich and poor, the educated and the uneducated, is large and is tending to widen …’ Similar is the situation in Punjab, and this complex character of the population affects the socio-economic development of the state. People living in rural areas, and especially Scheduled Castes and Backward Castes and other economically weaker sections of society, are exploring the same educational opportunities as the other castes, but continue to remain behind, because of lack of financial support. Although the number of women students in all the subjects at the higher level is increasing relatively in successive decades, the equality of women and men remains an issue of debate in relation to higher education. The Education Commission 1964-66 recommended the need to strengthen linkages between higher education and productivity, which leads to socio-economic development. There is no follow-up record of higher-level degree holders available in published or unpublished form; therefore, it is difficult to assess the social and economic relevance of higher degrees. The existing educational system has not undergone any change, nor has it any direct linkage with the socio-economic needs of the people. Hence, a tremendous gap has developed between the supply and demand of an educated workforce. In this context, some studies highlight a large surplus of degree holders who could not find a suitable place in the employment market, since they do not possess the relevant education or skill formation needed in the job market.35

34 Ibid., p.485.
35 www.planningcommission.nic.in
This demands immediate attention. In this context, the National Policy on Education (1986) has rightly emphasized the need for removal of disparities and equal educational opportunities for all sections of society.

**Co-Education**

There are only a few co-educational colleges in the country. Rather there are men’s colleges to which women have been admitted as students. Quite frequently in co-educational colleges, there are scarcely any amenities. Sanitary facilities for women are totally inadequate, and sometimes wholly lacking. In co-educational colleges women have little or no share, in college life. Women’s hostels usually accommodate few women and sometimes none. The question of the wisdom of co-education was frequently raised, and divergent opinions were expressed. There seems to be a definite preponderance of opinion that from the 13th or 14th year of age until about the 18th, separate schools for boys and girls were desirable. Whether this opinion is chiefly based on custom or upon experience is not wholly clear. The modern trend is for equality of opportunity for women in all spheres, and need of no distinction of any kind after the matriculation stage”. On the other hand, probably a majority of those who commented, favored separate colleges for women, when that was feasible, though not to the extent of denying women educational opportunities by excluding them from existing colleges, organized primarily for men.

Some of the arguments given were that a women could not develop her personality in a men’s college and that there was no need for women to undergo the nervous strain of examinations; that women’s education should be no more in keeping with the temperament and needs of women as wives and mothers; and that overcrowding was more serious for women, than for men. “A pleasing feature of colleges for women has been the intimate relations of students and teachers”. Some of these arguments have greater weight in the absence of truly co educational colleges, where the need of men and women would be given equal weight, in designing the programme.36

---

Higher Education after 70’s

In Punjab it was the pressure of public opinion, which compelled the government to pay attention towards the progress of Higher education and to respond to the growing need of technical hands, of which there was a dearth.In the development of higher education, the private enterprises as in the field of Primary and Secondary Education, made no less significant contribution, perhaps their contribution in the field of higher education was more than that of the government. The Educational Planner had recognized the bi-directional linkages, between education developments. The need for a literate work force was considered to be as essential in this context as the education and training of an adequate pool of highly skilled manpower. Considerable emphasis was also given to Higher Education to strengthen the educational system as a whole and particularly to Scientific and Technological component therein, so as to meet the requirement of high-level capabilities in the realm of knowledge as well as skills. The pivotal role of education in our system assumed greater significance with incorporation of the 47th Amendment in 1976, which put the subject on the current list in the constitution.

Status of Technical and Professional (Vocational) Education

In Technical and Vocational Education courses open to women before independence were medicine, nursing, teaching, law and a few Industrial Schools. In 1913-14 the number of Industrial Schools was 24 in which two Industrial Schools for Girls at Gujarat and Jabalpur. In Lahore Division a Board Industrial School was opened at Kasur and a Missionary Industrial School for Girls was opened at Clarkbad. In the Rawalpindi division the Board of Industrial School was opened at Kalabanga(Mianwali) ,KotFateh Khan(Attock) and Gujar Khan (Rawalpindi). Such two schools were also opened at Multan and Lyallpur. The Government ZenanaIndustrial School and LadyMynard Industrial Girls School was opened at Lahore, which were the two pioneer institutions for the Industrial Education of Girls in the Punjab. A Scheme for the Re-organization of the Government Zanana Industrial School was approved during the year 1928-29. Two new Industrial Schools were opened at Rewari and Panipat in 1929. The demand for Industrial Education for Women increased. For the progress of Industrial Education among the girls, an

industrial instructor was appointed in 1927, to organize that kind of education for women. In 1928 two technical schools for girls were started by the Red Cross Society. In 1933-34 there was a steady growth and development, in the matter of industrial education for girls. The number of government aided and unaided industrial schools for girls, went up from 11 to 14 and the students under training from 930 to 1003. This was the first year, in the history of the Industrial Schools for Girls, that a regular system of final examination was evolved. But despite all the Technical and Industrial Education by the government, no proper care was taken in its planning which it deserved.39

Initially there was only one Medical College for Women, Christian Medical College, at Ludhiana. But now girls began to join King Edward Medical College Lahore and Medical School Amritsar. These colleges also ran Para Medical classes for women training them as nurses, dispensers. In 1940-41 there were 332 women attending various kinds of Medical and Paramedical courses out of which 57 were on the rolls of boys colleges.40 1942-43 the number of girls attending medical courses was 279 and 64 of them in Boys College. In 1944-45 their number came down to 254, but the number of girls attending men’s Medical College went up which was 1969 an encouraging sign. The girls attending boys’ colleges were studying to obtain M.B.B.S degrees. During this period large number of girls began to join Teacher Training Colleges and Schools. In 1944-45, 372 girls were students of B.T classes 594 of Normal and Training Schools, 1908 of Technical and Industrial Schools.

After Independence, due to efforts by the government and voluntary organizations, substantial increase, in the intake of women in various types of education and institutions could be seen. The first admission of women into Engineering College occurred after 1948. Engineering education was generally a long and expensive course. Parents naturally preferred to spend their scarce resources, to support the sons in an Engineering College. They thought that a son as a future engineer would support the parents, in their old age and also discharge other family responsibilities. The first priority of the parents is to get a girl married as soon as possible. If a girl joined an Engineering College, the parents could not think of marrying her for the next four years. Parents thought that money spent, on the Engineering Education of girls, brought no return to the family. As a result of these

factors, women students formed a tiny fraction of the total strength, in Engineering College. Although women were active agents of development, their knowledge was often ignored or diminished, because their role in production, did not fit neatly into existing economic models. Along with invisibility of women’s knowledge, was the assumption, that women were essentially user, as opposed to producer of information. As a result, technological development was often approached, without the input of women, even though they may be involved with its use or maybe affected by it. The term *appropriate technology* was a familiar slogan, but a technology was often inappropriate, when gender concerns were not recognized and taken into account who decided what technology was appropriate and whose interest does it serve? Women needed information about new technology, but they also require an increased capacity to share the information they already possessed. In addition, educating women in information Management, technology and Policy Development would promote their understanding of the issues involved in these areas and permit the capture, organization, and sharing of information by and for women. Women were being encouraged to pursue education and professional careers in broadcasting, journalism, communications and similar fields.

Technical Education which is one of the most important factors of social mobility and development are not shared alike by rural and urban population. The opportunities for education and its benefits favor the urban areas. Rural women are among the most backward sections of the population. An urban environment, high educational and occupational status and a high income level of the parents are the most important factors that help students to corner the benefits of Engineering Education.

Technical institutions also included Polytechnics and Industrial Training Institutes that impart Technical and Industrial Training as well as paramedical and veterinary Sciences Education. The Department of Technical Education and Industrial Training looked after 16 Engineering colleges (13 Government and three affiliated private and three private), 41 Polytechnics/institutes including Pharmacy (diploma level institutions), and Hotel Management Institutions and about 129 Industrial and vocational centers at the ITI level. Every year a total of about 2,800 engineers, 5300

---

diploma holders and about 16,800 craftsmen, at the certificate level are being trained by these technical institutes. Besides, three Engineering Colleges, seven Polytechnics and 33 new Industrial Training Institutes, are in the pipeline at various levels of establishments in the state. These developments indicate that the Government of Punjab considers professional’s education, and especially industrial training, as high priority. In the circumstance, action needs to be initiated on different fronts to make the technical education system responsive to the needs and requirement of industry. Participation of the private sector needs to be encouraged, for continuous up-gradation and expansion of HRD facilities. Keeping in view the expansion of Technical Higher Education, besides the promotional activities of Punjab Technical University in the field of Professional Education, it is necessary to establish a Higher-Level Apex body like IIT as a separate unit.44 Though the first Post Independence University Education Commission, headed by Dr. Radha Krishnan was too charged, significantly in subsequent Commissions of the 1950s and 60s, such as DurgabaiDeshmukh Committee on Women’s Education, the HasnaMetha Committee and the Kothari Commission. Desai and Mazumdar underscored that all the committees, whether headed by men or women, whatever their political inclination, faded to articulate the relationship, between women’s equality, their participation in National Development and the development of education itself. The condition of the majority of the female population, especially in rural areas, had in fact deteriorated.45

Many Industrial Training Institutions and Polytechnics were established. Growth of Financial Independent Private Institutions had been the most significant development, over the 90’s. Private trusts and societies started to set up higher education institutions and run them in a large numbers. Private institutions were affiliated to the exiting universities or new universities, carved out from the existing ones. There impact on provision for higher education, was most significant, so much so that private higher education, now occupied the centre stage in the debate on education, such as Engineering and Technology, Medicine, Teacher Education at the undergraduate level, Computer Applications and Management at the post-graduate level.46 Private institutions in the higher education sector were a post 1980, till then all universities were public universities, but the colleges were allowed to be established on self financing basis after 1980. These were referred to as private aided

44 www.planningcommission.nic.in
institutions, or government dependent private institutions. In recent years, private universities on self financing basis have been allowed to be set up. The government took much of the financial responsibilities of these colleges through Grant-in Aid system. Many of the new private colleges had to be run, without government support. With greater economic prosperity, more and more people could afford higher fees. They were ready to pay higher fees for professional courses, where the capacity was extremely limited. 74 private universities and colleges in India, imparted professional education. Professional education expanded along with growth of private education sector.\textsuperscript{47}

The main focus had been on consolidation and expansion of facilities, in the existing institutions. The National Policy on Education 1986 or the programme of action, 1992, the section on education for women’s equality, was brought forward from being the chapter four of the 1986 Programme of Action to chapter one in the 1992 version. The following ideas were inserted \textit{Education for Women’s Equality} is too important to be left, to the individual proclivities of persons in charge of implementation. It should be incumbent on all actors, agencies and institutions, in the field of education at all levels, to be gender sensitive and ensure that women have their rightful share, in all educational programs and activities. The National Policy of Education is a landmark, in approach to women’s education. It has attempted for the first time to address the basic issues of women’s equality. In the section titled \textit{Education for Women’s Equality} the policy states.\textsuperscript{48}

The successive plan provided an explicit target, for enrolment expansion. In the Sixth Five Year Plan low priority was given to the expansion of educational facilities, by way of new universities, centers for post-graduate studies. In the Seventh Plan, therewas focus on making optimum use of existing facilities, in the universities /colleges, especially physical facilities. In the Eighth Five Year Plan, emphasis continued on strengthening existing institutions with a provision to support new departments and courses in developing universities, if the need was justified. The Ninth Five Year Plan paid attention to higher education institutions, in backward areas, and in underrepresented social groups such as, SC/ST candidates, women, the

\textsuperscript{47} Ibid., p.86.

disabled and minority candidates. The development of university education has been examined in the table as given below:

**TABLE 4.2**

*Growth of Universities*

<table>
<thead>
<tr>
<th>Years</th>
<th>General</th>
<th>Technical**</th>
<th>Medical, Veterinary*** And Agriculture</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-1980</td>
<td>3</td>
<td>1</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>1981-1990</td>
<td>3</td>
<td>1</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>1991-2000</td>
<td>3+</td>
<td>4</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

Notes: *Amritsar-1, Jalandhar-1, Ludhiana-1, Faridkot-1, Patiala-1, Talwandi Saboo-1, and + Chandigarh-1

By 1991-2000 Seven universities were serving Punjab, such as Punjab University, Chandigarh, Punjabi University, Patiala and Guru Nanak Dev University, Amritsar, were highlighted imparting general as well as professional and extension services, in the field of agriculture. Punjab Technical University at Jalandhar, Punjab Medical University at Faridkot, and Punjab Veterinary University at Talwandi Sabo are in the process of being established, exclusively for Technical Education, Medical and Veterinary sciences. These universities and institutes are autonomous bodies, created by Acts of State/Central Legislature. The range, diversity and sophistication of subjects, offered by these universities, are the same as anywhere in the country. Punjab Agriculture University at Ludhiana is well known for its contribution, to education, research and extension services, in the field of agriculture. These Universities and institutes are autonomous bodies, created by Acts of states/central Legislatures.

In quantitative terms, the increase in the number of Institutions of Higher Education in Punjab has been spread equally across universities, imparting arts/science/commerce, technical and professional education. The facilities they

---


provide, however, appear to be inadequate to meet the present requirement, especially for the population of rural areas, as these are located in urban areas. In qualitative terms, standards of attainments of most of these universities are comparable, with that elsewhere. Nevertheless, there is need and scope for further improvement, in respect of their goals and pursuit of excellence. Views of the members of the faculty, administrative staff and students of different universities, highlight great scope for introducing changes in higher education, for improving the performance of the system and making it more relevant to the needs of the day. The structure of governance of the universities in Punjab has followed the pattern evolved by other universities in the country, and based on the model developed in Europe. However necessary changes have to be made time to time.\textsuperscript{51}

**Colleges**

This table 4.3 shows that there were nearly about 248 Arts, Science and other Professional (vocational) Colleges in 2000, in the state and most of them are affiliated to one or the other of the seven universities of Punjab. The table highlights the growth of the colleges during the last three decades.

**TABLE\textsuperscript{52} 4.3**

<table>
<thead>
<tr>
<th>Year</th>
<th>Arts, Science, Commerce and Home Science colleges</th>
<th>Engineering, * Technology and Architecture Colleges</th>
<th>Medical (Allopathic only) and Veterinary Colleges</th>
<th>Teacher Training Colleges (B.Ed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Total</td>
<td>Boys</td>
</tr>
<tr>
<td>1971-80</td>
<td>110</td>
<td>52</td>
<td>162</td>
<td>3</td>
</tr>
<tr>
<td>1981-90</td>
<td>118</td>
<td>53</td>
<td>171</td>
<td>3</td>
</tr>
<tr>
<td>1991-00</td>
<td>131</td>
<td>73</td>
<td>204</td>
<td>16</td>
</tr>
</tbody>
</table>

**NOTE:** * Perspective Plan of Department of Technical Education, on Industrial Training, Punjab-Vision 2002 Report defined 19 engineering Colleges, 41 Polytechnics/Institutions including Pharmacy Institutes and 129 Industrial Training Institutes in Punjab.


The table 4.4 shows that the number of girl’s colleges in Arts, Science, Commerce, Home Science and B.ed Colleges had increased after 1971 but there were no separate colleges of Engineering, Technology, Architecture and Medical Colleges for women. Women received this education in co-educational institutes.

Table 4.453

Number of Girl Students in Universities and Colleges, 1971-2000

<table>
<thead>
<tr>
<th>Years</th>
<th>Ph.d</th>
<th>M.Phil @</th>
<th>M.A</th>
<th>M.Sc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Total</td>
<td>Boys</td>
</tr>
<tr>
<td>1971-80</td>
<td>56</td>
<td>46</td>
<td>102</td>
<td>138</td>
</tr>
<tr>
<td>1981-90</td>
<td>74</td>
<td>74</td>
<td>148</td>
<td>263</td>
</tr>
<tr>
<td>1991-2000</td>
<td>102</td>
<td>170</td>
<td>272</td>
<td>18</td>
</tr>
</tbody>
</table>

Continued………….

<table>
<thead>
<tr>
<th>Years</th>
<th>M. Com.</th>
<th>B.A/B.A.(HONS.)</th>
<th>B.SC/B.SC(HONS)</th>
<th>B.Com/B.com(HONS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Total</td>
<td>Boys</td>
</tr>
<tr>
<td>1971-80</td>
<td>22</td>
<td>5</td>
<td>27</td>
<td>33436</td>
</tr>
<tr>
<td>1981-90</td>
<td>61</td>
<td>59</td>
<td>120</td>
<td>26590</td>
</tr>
<tr>
<td>1991-2000</td>
<td>153</td>
<td>441</td>
<td>594</td>
<td>56218</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Years</th>
<th>B.E/B.Sc(eng.)</th>
<th>B.ARCH/B.TECH</th>
<th>M.B.B.S.</th>
<th>B.ED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
<td>Total</td>
<td>Boys</td>
</tr>
<tr>
<td>1971-80</td>
<td>1676</td>
<td>31</td>
<td>1707</td>
<td>1629</td>
</tr>
<tr>
<td>1981-90</td>
<td>1943</td>
<td>168</td>
<td>2111</td>
<td>1312</td>
</tr>
<tr>
<td>1991-2000</td>
<td>10787</td>
<td>2444</td>
<td>13231</td>
<td>1327</td>
</tr>
</tbody>
</table>

Note: @ The decrease of enrollment in M.phil is due to closure of M.Phil class in Punjabi University Patiala and GND University Amritsar.

53 Ibid., pp. 520-524.
Education can be used as an agent of basic change in the status of women, in order to neutralize the accumulated disadvantage of the past. The National Education System has played a positive, interventionist role in the empowerment of women. It has fostered the development of new values through redesigned curriculum, textbooks, training and orientation of teachers, decision makers and administrations. Introduction of Women’s studies programs have given new dimensions, in teaching, research, training and extensions. Women’s issues have been incorporated in courses under various disciplines.\textsuperscript{54}

**Efficiency, Standards and Quality of Higher Education System**

Higher education has contributed to the development in every area, by providing educated and trained manpower, for economic and industrial set-up. Higher education and economy are closely related, and have a direct impact on each other. The efficiency of the system is, therefore, judged by the quantity and quality of the product at the given cost. Efficiency can be considered, as to (1) whether the turnout of graduates and postgraduates of university education, are up to the mark in terms of quantity (number passed) and quality (level of academic achievement), or (2) whether the graduates and postgraduates are equipped with skills and capabilities required by the existing economy, or whether there is a mismatch between the training imparted and the skills needed. This can be assessed by examining extent to which graduates and post-graduates are absorbed, in the job market (Higher Education in India, pp.89-90). The present position of higher education in regard to efficiency and quality reveal the level of wastage and the number of failures at the first-degree stage or passes in third division. This adds to the number of educated unemployed. This is a major issue, which needed to be addressed. The quantitative expansion of higher education in the state has been unplanned and unbalanced. The expansion has taken place not by choice, but by compulsion. Sometimes it was made in order to satisfy social and political demands. While the system has expanded in terms of institutions and enrollments, there has been no change in the basic infrastructure facilities, for meeting the educational needs of the growing number of students. One of the obvious implications of this numerical growth, without qualitative improvement, is that students, who do not get the education desirable, related to the demand. The colleges do not have adequate space, classrooms, and playgrounds, libraries and laboratories.

Inadequate infrastructure facilities contribute to low academic standards, in the affiliated colleges, where more than 80 per cent of the enrollment is concentrated. The problem is particularly acute in urban areas where, due to political and social pressures, colleges have to enroll students beyond the allotted number of seats, strength, or unqualified or, below average students. Overcrowding in the affiliated colleges has almost made it impossible, to produce quality pass-outs or to introduce any change or innovation. Even the condition of the professional colleges is not very healthy, where admissions are also made after charging heavy fees, in the form of endowment funds. In these cases the merit and capabilities of the candidates, are generally ignored. In such circumstances, retention of the quality and standards of education is impossible. This state of affairs demands serious attention.55

Financial Inputs, Monitoring and Co-Ordination

In regard to the financial position, there is some difference in allocation of funds to government and non-government colleges. Statistics in previous tables revealed that the quantitative growth in higher education is noteworthy, but the flow of financial resources into the system of education is slow, insufficient and unevenly distributed. Financial resources are divided into two parts: (i) General Education and (ii) Technical and Professional Education.

Table 4.5

<table>
<thead>
<tr>
<th>Plan Periods</th>
<th>Plans after reorganized Punjab</th>
<th>General Education</th>
<th>Technical Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969-74</td>
<td>4th Plan</td>
<td>2100-00</td>
<td>85-00</td>
</tr>
<tr>
<td>1975-79</td>
<td>5th Plan</td>
<td>4237-00</td>
<td>125-25</td>
</tr>
<tr>
<td>1980-85</td>
<td>6th Plan</td>
<td>5300-00</td>
<td>300-00</td>
</tr>
<tr>
<td>1985-90</td>
<td>7th Plan</td>
<td>7637-00</td>
<td>2504-00</td>
</tr>
<tr>
<td>1992-97</td>
<td>8th Plan</td>
<td>21678-00</td>
<td>19600-00</td>
</tr>
<tr>
<td>1998-2003</td>
<td>9th Plan</td>
<td>41310-49</td>
<td>26202-50</td>
</tr>
</tbody>
</table>

Source: Prepared from different Plans and also recorded from Department of Higher and Technical Education.

---

Figures in Table 4.5 indicate a regular increase in the allocation of funds from the Fourth Plan to the Ninth Plan. The successive Five-Year Plans indicate that the allocation of funds has increased in Technical and Professional Education, but general education has relatively suffered. The financial resources, though considerably increased in absolute terms, have been found grossly inadequate, for imparting higher education to the major portion of the population. Inadequacy of funds has also affected adversely the qualitative development of education. As the number of institutions of Higher Education in the state has increased considerably and enrollment of students too, expenditure on Higher Education needs to be increased.\textsuperscript{56}

**Growth of Teaching Staff**

Along with the expansion of institutions and students, there has been a corresponding growth in the number of teachers, in the universities and colleges, from 483 and 6,052 (1971-1980) to 839 and 10,057 (1991-2000) respectively as Table 4.6 highlights.

\textsuperscript{56} Ibid., p. 500.
Table 4.6

Number of Teachers in Universities and Colleges, 1971-2000

<table>
<thead>
<tr>
<th>Decades</th>
<th>Universities</th>
<th>Arts, Science, Commerce and Home science colleges</th>
<th>Engineering, Technology and Architecture colleges</th>
<th>Medical colleges (Allopathic only)</th>
<th>Teachers’ Training colleges (B.ed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Wo-Men</td>
<td>Total</td>
<td>Men</td>
<td>Wo-Men</td>
</tr>
<tr>
<td>1971-80</td>
<td>398</td>
<td>85</td>
<td>483</td>
<td>3105</td>
<td>1604</td>
</tr>
<tr>
<td>1981-90</td>
<td>504</td>
<td>115</td>
<td>622</td>
<td>3401</td>
<td>2653</td>
</tr>
<tr>
<td>1991-00</td>
<td>613</td>
<td>226</td>
<td>839</td>
<td>3421</td>
<td>3804</td>
</tr>
</tbody>
</table>

Progress and Problems of Higher Education: -

Besides the above discussion, it is imperative to discuss issues, which need serious attention.

• It is evident that the higher education system in Punjab has expanded significantly, since the reorganization of the state. The number of universities has increased from three to seven in the last three decades (1971-2000), a more than 100 per cent rise. Colleges general and professional, which were 188 in 1971-80 increased to 287 in 2000 and are located in both rural and urban areas. The students have enrolled nearly two lacs in various undergraduate and post-graduate courses. Women and Scheduled Caste students constitute about 60.3 per cent and 9.7 per cent of the total enrollment in institutions of higher education. Nevertheless higher education still demands specialized human resource development with improved infrastructure facilities.

• Despite the extremely high growth rate of higher education, Punjab still lags behind, in terms of international standards’ in providing opportunities of higher education to the relevant age group (17-23). The UNESCO Statistical Yearbook 1995 indicated that a very small portion (6%) of the relevant age group of population of India was enrolled in institutions of higher education. However, In Punjab about 90 per cent of the total enrollment into higher education is for undergraduate courses. About nine per cent of the students are enrolled for postgraduate courses and less than one percent (0.2%) for Ph.D and M.Phil research work. The maximum numbers are in liberal arts/science courses (89.25%). Engineering, Technical and Professional courses attract a very small percentage (10.75%) of students. In the circumstances, there is urgent need to encourage students to shift from liberal arts/sciences to paramedical and applied sciences. This will bridge the gap between technical and professional and arts/sciences courses.

• Despite all encouragement from the University Grants Commission and the State Education Department, no autonomous college exists in Punjab. The scheme of autonomous colleges, suggested by the Commission and the
National Policy on Education (1986) and Programme of Action of (1986), needs to be activated.\(^{58}\)

- Maintenance of quality and standards in the institutions of Higher Education is the responsibility of the University Grants Commission and the State Education Departments. The University Grants Commission has suggested some norms for maintenance of minimum standards of the teaching-learning process, in universities and colleges. According to U.G.C. norms there should be 200 working days, 40 working/teaching hours per week by per teacher, and 75 per cent minimum attendance of students at tutorials, along with lectures. But, in practice, universities and colleges work for not more than 100 days in a year. If an institution of higher education works for only 100 days, instead of 200 days, then the quality of the teaching-learning process is bound to suffer. Keeping this in view, it was suggested that there was need to revamp the whole system of examination, vacation and admission pattern. Motivation is needed for the involvement and dedication of teachers.

- As far as the performance of students is concerned the rate of wastage at the undergraduate level is almost 40 per cent to 50 per cent (AIU, 1985) and 40 per cent to 60 per cent (AIU, 1996) at the post-graduate level. These percentages have been obtained from specific case studies. The performance of college and university students in Punjab is also more or less the same. This wastage could possibly be reduced by providing new opportunities for a career in research and management with better incentives.

- The University Grants Commission has initiated various schemes, for curriculum development and restructuring courses, to reorient these to the needs of the society. A study by AIU (1985) indicated that the system of higher education had become obsolete. It neither helped those who wanted to go for self-employment, nor those who wanted to go for jobs of any kind. The present system in Punjab apparently is in a similar position and has not undergone any significant change. Although, one or two universities and some colleges have gone for restructuring of courses and adopting an

\(^{58}\) Ibid., pp. 502-503.
interdisciplinary approach in the teaching-learning process, this is not sufficient, hence a fundamentally fresh approach is needed.\(^{59}\)

- Although the participation of women in higher education has increased in relative numbers, they continue to participate only in such traditional courses as arts, humanities and education. Maximum participation of women candidates (45.6% to 60.3%) in total enrollment has been seen during the last three decades, but their participation in technical and professional courses is comparatively extremely low. The participation of SC candidates in institutions of higher education has increased relatively. They constituted 9.7 per cent of the total enrollment in higher education, which has increased marginally (8.1% to 9.7%), within the last three decades. For greater participation of women and Scheduled Castes students in job-oriented science subjects, there is need to change the attitude of families concerned and society, as a whole.

- The share of higher education in the public current expenditure in India is 14.7 per cent, which is much lower than that of some of the developed countries (UNESCO Statistical Year Book, 1995). Hardly one per cent of the GNP is spent on research and development in science and technology. Expenditure on research and development and higher education ultimately determines the level of future development of the country. Punjab, being a developed state, financing higher education is an important issue and the question is who should be responsible -- the State, or the Centre, or the beneficiaries, or everyone? The World Bank’s view is that higher education in India is subsidized for children of well-to-do families. A similar situation exists in Punjab. The beneficiaries have the capacity to pay, therefore, they should pay. A similar view has been taken in a White Paper prepared by the Ministry of Finance, Government of India. It treats higher education as a non-merit good and maintains that as the substantial benefit of education goes to individuals, it should be treated as private good, for which students should pay. Financial assistance is essential for research-oriented courses. Earn while learn schemes may help generate more participation in the existing system of education.

\(^{59}\) Ibid., p. 504.
• There is need for development in other areas, such as microelectronics, informatics, telemetric, biotechnologies, engineering design, material sciences, instrumentation and space technology. A well-concerted and co-coordinated approach to the introduction of emerging technologies, in innovative industries might further accelerate the development and socio-economic growth of the state.\textsuperscript{60}

• Private affiliated colleges receive government aid to the extent of 95 percent of their recurring expenditure based on their staff strength (according to the Directorate of Education). This aid has now become inadequate in view of the increase in the administrative and teaching staff of these colleges. The grants, more often than otherwise, are not available in time, which causes considerable hardship to the institutions and their staff. This system needs to be reviewed. The Education Reforms Commission, Punjab, 1985, pointed out, that the state has a well-founded system of university education. The prime objective of the university is to engage itself in the pursuit of creating new knowledge. The need of the economy is to further the development processes which would help to utilize the already discovered knowledge for the benefit of society.

An analysis of the manpower needs of any organized socio-economic system would reveal that, for its successful functioning, it requires 80 per cent of its personnel trained in skills, for utilizing the existing knowledge and only 20 per cent of those for generating new knowledge. While our universities are geared to train only the latter category, our tertiary system has no provision for training the former, which constitutes the bulk of the manpower needs of the economy. Until the gap is filled, or facilities for doing so are fully developed, education at this level will remain unbalanced. This mismatch between needs and achievements in manpower development is responsible for educated unemployment and pressure on universities, leading to a fall in standards of education.

• Government should encourage private enterprises and avoid creating a system, based on affiliation of institutions with central agencies. It is also

\textsuperscript{60} \textit{Ibid.}, p. 505.
suggested, that the government may follow the Bits-Pilani pattern (practical school, where practical training has been given more importance) for technical education in Punjab.\textsuperscript{61}

This limited goal acted as a disincentive barrier for women for equal educational opportunities. The advent of independence no doubt ushered in a new era in the field of women’s education. The Constitution granted equal educational opportunities for all citizens irrespective of sex. At the outset it looked, as if all hurdles in the way of education of women had been removed, but even after 40 years of independence, a wide gap remained between the percent of men and women receiving education. Women even today suffer from various social handicaps that come in the way of their taking full advantage of opportunities given to them. Most of the relevant issues concerning higher education were first discussed by the University Education Commission 1904, Sadler Commission 1917-19, the Universities Education Commission (1948-49) and then by the Education Commission (1964-66). Both expressed grave concern, about the deteriorating quality of higher education. The National Policy on Education (1968) too proposed various measures for the improvement of women education. It has suggested the need for effective measures for all-round improvement and emphasized consolidation and expansion of facilities in existing institutions. The scheme of re-designing courses has been introduced by UGC to re-model the conventional three subjects’ course of the first-degree level. The National Policy (1986) suggested that teachers’ performance should be systematically assessed and also proposed provision of enhanced support to research and steps to ensure its high quality.

A firm determination and a strong political will are the essential instruments, which can pave the path to success. If the Government of Punjab has desirable intentions and is willing to bring about qualitative improvement in female higher education, then the suggested measures might be helpful in shaping and reshaping the existing educational system of higher education.