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EDUCATION IN INDIA



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THE GOVERNMENT OF INDIA IS CONVINCED THAT A RADICAL RECONSTRUCTION OF EDUCATION..... IS ESSENTIAL FOR ECONOMIC AND CULTURAL DEVELOPMENT OF THE COUNTRY, FOR NATIONAL INTEGRATION AND FOR REALISING THE IDEAL OF SOCIALISTIC PATTERN SOCIETY.

From : "NATIONAL POLICY ON EDUCATION"

1 TRENDS AND ORIENTATIONS

POPULATION 1971
(in millions)

AGE GROUP	PERSONS	FEMALES
6-17	154	73
17-23	57	28
23-45	149	73

The years under report constitute a crucial period in the educational development in India both for the consolidation of the educational efforts of the past and for the introduction of new educational strategies designed to meet the increasing demands on the educational system. Steady progress was maintained in the expansion of educational facilities in all parts of the country. Basic facilities were not only expanded, but were spread over and brought closer to learners both in urban and rural areas.

The total number of educational institutions in the country increased from 550,000 in 1972-73 to nearly 700,000 in 1974-75. Similarly the total enrolment in educational institutions reported an upward trend from 86.3 million in 1972-73 to 89.2 million in 1973-74 and about 100.0 million in 1974-75.

While the primary school enrolment of the children of the age group 6—11 increased from 61.43 million in 1972-73 to 63.72 million in 1973-74 and 66.10 million in 1974-75, the corresponding increase in enrolment of the children of the age group 11—14 was 14.08 million in 1972-73 and 16.5 million in 1974-75. On percentage basis, 86% of the children of the age group 6—11 and 36% of the children of the age group 11—14 had been enrolled in schools by the end of 1974-75, the corresponding percentages in 1972-73 being 81.9 and 35.3 respectively.

The total enrolment at the secondary stage also showed an increase from 7.08 million in 1972-73 to 7.48 million in 1973-74 and 7.9 million in 1974-75.

Owing to the steps taken in the Fourth Five Year Plan, there was a diminishing rate of increase in enrolment at the post-secondary level. At the all-India level, the number of students in Universities and Colleges increased from 1,566,103 in 1968-69 to 2,233,547 in 1973-74. The annual rate of increase during this period was 14.5%, 8.9%, 5.7%, 5.0% and 3.0%. The diminishing rate of increase in enrolment is confined, however, to the undergraduate level. At the post-graduate level, there was a constant increase of approximately 11% during this period.

In the field of technical education there was no increase in the number of educational institutions : it being 141 at the degree level and 289 at the diploma level. The admissions to these institutions were restricted and regularised according to the needs. It stood in 1974-75 at 20,500 at the degree level and 42,000 at the diploma level, against an annual intake capacity of 25,000 and 47,500. However, greater diversification of technical education to cater to the specialised manpower requirements of the country was undertaken.

In the area of adult education, the past biennium witnessed a stocktaking and consolidation of past experiences and projection of perspectives and possibilities. Several adult education programmes have been expanding. These are : Non-formal education programmes for the age group 15—25; functional literacy programmes and non-formal education programmes for urban situations. The educational programmes for underprivileged out-of-school youth is intended to be the largest non-formal educational activity for this group. In the Farmers Functional Literacy Programme, in 1974-75 alone, more than 150,000 farmers have been enrolled. A large number of adult education programmes were organised by over 100 voluntary organisations, many in co-operation and with financial assistance from Government authorities. Over 700,000 adults have benefited from these programmes.

TOTAL SCHOOL ENROLMENT

BOYS	
1951	19 million
1975	67 million

GIRLS	
1951	7 million
1975	33 million

TOTAL	
1951	26 million
1975	100 million



However, it is obvious—as in many other countries—that the growing educational needs cannot be achieved merely through traditional ways and conventional educational institutions and modalities. Both the rising quantitative targets and the new socio-economic and socio-cultural requirements call for rethinking of some aspects of the educational system in general, as well as for introducing essential innovations at every educational level and for specific categories of learners. The Union Education Minister has described this necessity and perspective thus : “The existing system of education is almost exclusively formal and relies mainly on full-time institutional instruction at all stages. This leads to several major weaknesses. It can be availed of by the non-working population, whether children, youth or adults, and the needs of the working population are almost totally neglected. It divides life into two water-tight compartments—one of full-time education and no work and the other of full-time work and no education, instead of expecting an individual to participate in work and educate himself throughout his life. Education cannot be properly integrated with the life of the community and become truly meaningful so long as this dichotomy continues. Above all, the cost of such a system, both recurring and non-recurring, is high and beyond the resources of a developing nation like ours. It is also doubtful whether the investment in formal education, particularly formal higher education, would offer adequate returns in terms of social benefits, if made beyond a certain limit. We have, therefore, to take immediate steps to create an integrated form of a national educational system in which all the three channels of instruction—full-time institutional, part-time institutional and non-institutional self-study—are properly developed at all stages and for all sections of society.” In the last two years a lot of thinking, programming and initial experimenting has been done in that direction.

The Central Advisory Board of Education, which includes Education Ministers of all the States as well as other eminent educationists, met in September, 1972, in June, 1973 and in November 1974 to review and reappraise the educational policy and programmes in the context of the total policies and strategies of

national development. The following are some of the policies and strategies that have been adopted and formulated :

The exclusive emphasis on the formal system of education should be given up and a large element of non-formal education should be introduced within the system. Multiple-entry and programmes of part-time education have to be adopted in a big way. At the secondary and university stages, part-time and correspondence education should be developed and all encouragement given for programmes of self-study. A big programme of non-formal education for out-of-school youth in the age group 15—25, as well as other youth services on a large scale, have to be developed. All State plans should henceforth include programmes of non-formal education as an integral part of educational provision, and suitable machinery be set up in each State to formulate, devise and implement programmes of non-formal education, including functional curricula, integrated and inter-linked with the formal system.

There should be concentration of efforts on a few major programmes of identified significance and priority. These may include; universalisation of elementary education, programmes of qualitative improvement, vocationalisation of secondary education, adoption of the new pattern of 10+2+3.

The haphazard and unplanned expansion in secondary education should be controlled through proper planning and location of new secondary schools, rationalisation of existing institutions and maintenance of proper standards.

In higher education more drastic steps will have to be taken to regulate enrolments; emphasis should be laid on expansion through correspondence courses and other non-formal channels so that the demands of the weaker sections of the society for higher education can be accommodated.

A climate of enthusiastic and sustained hard work should be created in all educational institutions through a deep involvement of teachers, students and the community in all programmes of educational reconstruction.

PERCENTAGE OF ENROLMENT	
6-11 AGE GROUP	
1950-51	42.6%
1964-65	75.5%
1974-75	86.2%

11-14 AGE GROUP	
1950-51	12.7%
1964-65	29.4%
1974-75	37.8%

These policies and strategies have been reflected in the Fifth Five Year Plan (1974—79) programmes of the States and Central Governments. A sum of Rs. 17 billion have been provided for the development of education in the draft Fifth Five Year Plan of the country. This is in addition to the non-plan budgetary expenditure of the States and the Central Governments, which is estimated to be of the order of Rs. 15 billion per year, or about Rs. 75 billion during the Plan period of the Fifth Five Year Plan. Thus the total plan and non-plan expenditure for education is estimated to be over Rs. 90 billion. This by any yardstick would be a major achievement.

Nevertheless, economic constraints have imposed some restrictions on educational development. On the one side, the rate of increase in employment opportunities and the size of unemployment inevitably influence trends in education; on the other side, the limitations in investment funds have an adverse effect too on educational development. Owing to unprecedented rise in oil prices, failure of rains and consequent shortfall in agricultural production the world-wide inflationary pressure and other unanticipated factors led to constraints of resources which affected adversely the development programmes in all sectors including education. The shortage of funds compelled the education planners and policy makers to devise alternate strategies and think of educational innovations for continuing the development of education according to the objectives and policies of the Government.

The following measures have been emphasised in order to achieve the better utilisation of the existing scarce resources allotted for the development of education :

* Reviewing all non-Plan expenditure with a view to eliminating programmes and practices which are no longer relevant and using the funds thus saved for initiating new programmes or for supporting existing programmes which are in need of additional funds ;

PERCENTAGE
OF ENROLMENT

17-23 AGE GROUP

1950-51	0,8%
1964-65	2,2%
1974-75	4,4%

* Pooling non-Plan and Plan funds together so that any economies on the non-Plan side become available for developmental activities ;

* Making a more effective use of teaching personnel ;

* Making better use of available buildings and equipment to accommodate more students or to develop new programmes ; and

* Mobilising community support to supplement allocations.

Several important educational aspects from the conceptual, methodological and operational angles have been taken into account in devising the new strategies and in the formulation of the programmes for educational development. Emphasis has been placed on :

* Ensuring equality of educational opportunities as a part of the overall plan for ensuring social justice.

* Improving the quality and relevance of education.

* Establishing closer links between the pattern of education on the one hand and the needs of development and the employment market on the other.

* Involving the academic community, including students in the task of social and economic development.

The various developments in the last two years and the programmes contemplated for the future which would implement the strategies referred to above are indicated in some detail in the succeeding chapters.





2 EQUALISATION OF EDUCATIONAL OPPORTUNITIES

India has accorded a very high priority to the programme of universal elementary education, which is an indispensable first step towards the provision of equality of educational opportunities to all its citizens. Apart from the constitutional obligation as a basic human right, the provision of universal elementary education is a contribution to socio-economic development, democracy and justice.

Elementary education is free in all parts of the country. In Jammu & Kashmir, Nagaland and Lakshadweep education is free at all levels. Secondary education has been made free in Andhra Pradesh, Gujarat, Kerala, Karnataka, Dadra and Nagar Haveli and Pondicherry. In order to promote the education of girls some States offer special facilities : in Madhya Pradesh, Manipur, Rajasthan, Orissa, Tripura and Uttar Pradesh, girls receive free education up to the end of the secondary stage. In West Bengal, education is free up to the junior high stage. In Andhra Pradesh girls get free education up to the junior college stage. In some States special schemes are instituted for the economically weaker sections of the population : *i. e.*, in Maharashtra, secondary education is free to children of all parents whose income is less than Rs. 2400 per year; in a few States like Maharashtra, Gujarat and Rajasthan free higher education is provided to the children of all parents whose annual income is less than a prescribed ceiling.

In Tamil Nadu, Andaman and Nicobar Islands and Arunachal Pradesh, free education is provided up to the pre-university stage. Wherever fees are charged at the secondary and university levels there have been liberal schemes of freeships and scholarships to ensure access to the meritorious students who cannot otherwise afford such education.

The target of the Fifth Five Year Plan (1974-79) is to provide education to 97% of the children of the age group 6—11 and 47% to that of 11—14. With these targets it is proposed to reach the goal of universal elementary education for the whole age group 6—14 by the end of the Sixth Plan period *viz.* 1983-84.

This is a challenging task. The obstacles which stand in the way of its achievement are not mainly financial, nor even educational : they are largely economic, sociological and psycho-social.

This calls for a serious reconsideration of the whole problem and the formulation of new alternatives in order to achieve our essential objective.

First

During the past few years it has been increasingly realised that there is a double correlation between socio-economic inequalities and educational opportunities : on the one hand, the equalisation of educational opportunities and particularly the universalisation of elementary education help in reducing social and economic disparities and income discrepancies; on the other, the existence and continuance of these disparities and discrepancies gravely impair the effort to provide elementary education as well as education on other levels on an equal basis to various categories of the population.

An interesting innovation, from the viewpoint of global planning, marked the Fifth Plan. To ensure the successful implementation of the programme of universal elementary education in the country, resources have been included in the National Programme of Minimum Needs which aims at establishing throughout the country a network of certain essential services on a coordinated and integrated basis, given certain pre-determined criteria of uniformity and equality. In other words this means : (a) that the financial allocations for universalising primary education will remain stable and will not be subject to reductions; (b) that a close link is established between minimum educational needs and the minimum needs in social, economic, health, housing and similar areas. The main purpose of this programme is to ensure that the funds allocated for the purpose will be utilised only for the expansion of elementary education and to further equalise the spread of elementary education with a view to removing regional and other disparities that have developed during the last several years. The highest emphasis will be placed on extending this programme to girls and to the weaker sections of the community, especially the Scheduled Castes and Scheduled Tribes.

The National Programme of Minimum Needs, as incorporated in the Fifth Five Year Plan, is the result of the conclusion that the provision of social consumption has so far not had the desired impact, partly because the related programmes were not given a high priority particularly in relatively poorer States and partly because decisions regarding individual sectors were taken without any effort to bring about an integration of the facilities provided. The Programme, therefore, envisages a frontal attack on this problem by attempting to allocate adequate resources for social consumption for all areas, irrespective of the resources constraints of individual States.

The provision of facilities for elementary education to children up to the age of 14 at the nearest possible places to their homes is one of the major objectives of the National Minimum Needs Programme.

Second

As the goal of universal education cannot be realised through an exclusive reliance on the formal system of education with its single point entry and full-time institutional instruction with full-time professional teachers, it has been planned to introduce the adoption of a multiple entry system and a large-scale programme of part-time education for those children who cannot attend school for some reason or the other, on a whole-time basis. A comprehensive programme of non-formal education particularly for the children of the age-group 11-14 to suit the local requirements of the people has been recommended in order to cover the bulk of the children of the age-group who had either dropped out without completing elementary education or those who cannot, due to certain economic reasons or social constraints and prejudices, join the formal system of elementary education.

A special Commission, appointed to study the problem of Elementary Education came out recently with the following proposals :

(1) The single-point entry system must be replaced by a multiple-point entry system under which it will be open for older children to join the schools in separate classes specially organised for their needs.

(2) The sequential character of the system must be de-emphasized: and it should be possible for older children to join the prescribed courses at any time and also to complete them in a such shorter period.

(3) The exclusive emphasis on full-time institutional instruction should be replaced by a large programme of part-time education which should be arranged to suit the convenience of children who are required to work.

The Fifth Plan target for covering children of the 11-14 age group under the programme of non-formal education is about 7.8 million children, that is about 10% of the school going population of this age group.

INCREASE OF LITERATES

1961
105 million
1971
160 million

LITERACY PERCENTAGE 1971

AGE 0-14	50%
AGE 15-24	48%
15-34	41%
ALL AGES (except 0-4)	34%

Third

In order to encourage the enrolment of girls and of children belonging to weaker classes, particularly of Scheduled Castes and Scheduled Tribes, who are lagging far behind other communities or groups in educational development, several schemes of incentives are being implemented.

Notable among such schemes are the provision of mid-day-meals, free uniforms for girls, free textbooks and stationery, attendance scholarships etc.

Besides these incentives, other scholarship schemes, such as the rural talent scholarship scheme at the rate of two scholarships for every development block in the country, the post-matric scholarship scheme for all children belonging to Scheduled Castes and Scheduled Tribes and a variety of other scholarship schemes, such as the National Scholarships Schemes at the Centre and other merit-cum-means-scholarship scheme in the States are developed in order to provide equal educational opportunities to all sections of the society.

For the children belonging to Scheduled Tribes, Ashram Schools have been set up and are being further expanded. These are residential schools in which free education, including free boarding and lodging, is provided in order to spread educational opportunities among the Scheduled Tribes who have been deprived of all these facilities in the past, so that they may come up to the level of other communities.

Fourth

Another new scheme of "Non-formal Education Programme for the age-group 15-25" has been formulated and is designed to be a major contribution to the objective of equalising educational opportunities. In reality, it is a programme that aims to offer some educational facilities to young boys and girls who, for various reasons, have been

deprived of them. The scheme has been formulated as part of a larger strategy of correlating and integrating formal and non-formal modalities of education. Priority is being given to the age-group 15-25, so that this most sensitive and productive segment of the community becomes an asset to the nation. The scheme also seeks to correlate all non-formal educational efforts with developmental activities in which this youth group can be meaningfully involved. The scheme is being planned for implementation throughout the country in cooperation with the State Governments and Union Territory Administrations. The programme of non-formal education is conceived as a decentralised and environmentally-based one. Both the content and the methods have to correspond to the local needs and the learners characteristics and desires. The Union Ministry is encouraging those responsible for the implementation of the programme (State and District authorities, as well as voluntary organisations) to adapt programme component to the respective environments and to use local facilities.

The Central Advisory Board of Education has made the following recommendations :

that the programme for the 15-25 age group should begin in 1974-75 : (a) in one district in each of 22 States with central assistance, and (b) in at least one additional district with the State funds;

that adequate financial allocations should be made in the State Plans for non-formal education of the age-group 15-25 on the basis of well defined norms set up by the State Governments.

The programme of non-formal education correlates educational efforts with developmental activities in which the youth of the country, particularly of the age-group 15-25, can be meaningfully involved. In this programme emphasis is being laid on imparting information and knowledge about the living environment and the development processes in this country, basic knowledge and understanding of the various social, economic, scientific and technological changes in the midst of which the youth live and

YOUTH
IN THE AGE GROUP
15-25

(IN MILLION)

	TOTAL	RURAL	URBAN
1	47.6	41.9	5.6
2	7.3	5.7	1.6
3	36.8	22.6	14.2

- 1- ILLITERATES
- 2- LITERATES (WITHOUT EDUC. LEVEL)
- 3- EDUCATED



work and to which they have to adjust in terms of knowledge and skill, and the elementary principles of family life health and hygiene. Introductory vocational and occupational skills which will prepare youth for employment and self-employment, also receive due emphasis.

With these and other programmes, and with the steps outlined above it is hoped that educational facilities will spread among various areas and sections in the country and make equalisation of educational opportunities an accomplished reality.

3

LINKING EDUCATION WITH NATIONAL DEVELOPMENT

In the last few years more emphasis has been placed on the link between advances in the educational field and the country's overall development.

Practically in all educational areas and at all levels of learning some measures have been undertaken to strengthen this link. Here are a few examples :

First

Like many other societies, learners in India are largely inclined to see education as a way of escaping from manual work and from living and working conditions prevalent in rural areas, as well as a means for getting white-collar jobs and moving towards urban settlements. Therefore, the introduction of work experience, from the beginning of elementary schooling upto class X of general education becomes an important innovation. The programme of work experience aims at developing in the students the basic attitudes, skills and personality traits which increase their general employability. At the higher secondary stages, emphasis has been laid on vocationalisation of courses providing the needed skills to the learners. Area skill surveys are being conducted to estimate the manpower needs of specific geographical areas, so that proper courses and curricula may be devised.

EDUCATIONAL LEVEL OF LITERATES 1971

	MALES	FEMALES
1	109	48
2	32	16
3	21	7.6
4	14	3.9
5	2.8	0.7

(IN MILLION)

- 1- ALL LITERATES
- 2- PRIMARY LEVEL
- 3- MIDDLE LEVEL
- 4- SECONDARY LEVEL
- 5- POST SECONDARY AND ABOVE

An Expert Committee on School Curriculum, appointed by the NCERT (National Council for Educational Research and Training) has worked out and made proposals for modernising the school curriculum and making it relevant to work.

Some particularly important suggestions concerning work experience in schools are that :

Work experience should be a central feature of school education at all levels. It should be oriented to technology and industrialisation; to the application of science to productive processes, including agriculture. Universalisation of work experience will provide an opportunity to learn from the use of hands and give insight into material and human relationships that are involved in organised productive work, create the attitudes necessary for cooperative accomplishment of tasks and discharging of social responsibility within the framework of the equality of man and freedom of the human spirit.

There is an urgent demand for making education job-oriented and to bridge the gap between the world of school and the world of work.

Work experience programmes can serve the following objectives :

- (i) to learn from work; to become familiar with basic materials, tools and processes and to develop occupational skills;
- (ii) to develop insight into productive processes and relationships and to develop good work habits;
- (iii) to develop a cooperative attitude and realise the dignity of labour through social and useful work experience;
- (iv) to acquire a sense of achievement self-help and self-confidence.

EDUCATIONAL STATUS OF WORKERS, 1971

	MALES	FEMALES
1	56.9%	88.5%
2	11.8%	3.4%
3	18.3%	4.2%
4	8.1%	1.6%
5	4.9%	2.3%

- 1 - ILLITERATES
- 2 - LITERATES WITHOUT EDUCATIONAL LEVEL
- 3 - ELEMENTARY EDUCATION
- 4 - SECONDARY EDUCATION
- 5 - GRADUATE AND ABOVE

Second

The programme of vocationalisation is being linked with the adoption of a new uniform pattern of 10 + 2 + 3 which is being introduced in all the States. In other words, this means that the school education (elementary and secondary) will extend over twelve years and thereafter higher education will begin with a three year degree course.

It is expected that the 10 + 2 + 3 pattern would permit the achievement of two objectives :

- * It would help to vocationalise the higher secondary stage and divert students in different walks of life.
- * It would also help in reducing pressures on higher education.

Apart from vocationalisation, the courses at present provided in various polytechnics are being modified to introduce an element of practical training for students of these institutions.

Third

Another major programme of linkage of education with national development is the programme of adult education which has been oriented to and integrated with the general economic and social activities of the people, as producers or beneficiaries. Increasing interest was shown in inter-linking developmental objectives and adult education programmes; some programmes based on such a relationship were implemented; the idea that a certain proportion (1-2%) of funds for some development schemes should be set aside for adult education and for the training of those directly involved in the implementation of these schemes has been accepted in principle and practical steps are under consideration.



EXPANSION OF THE FARMERS' FUNCTIONAL LITERACY PROGRAMME

The Farmers' Functional Literacy Project constitutes the biggest country-wide programme of non-formal education in which education is linked to development particularly for increased production. It is one of the three components of the integrated Farmers' Training and Functional Literacy Programmes jointly operated by the Ministries of Education, Agriculture and Information and Broadcasting. The other two components are Farmers' Training and Farm Broadcasting.

The Project is based on the premise that there is a direct correlation between Physical and human resources inputs, and that the practising farmers would be interested in literacy if it comes to them as part of the process of employing new techniques for improving their farming practices as well as their rural environments. The programme has so far been confined to districts in which high-yield varieties of food crops are grown.

During the Fifth Plan period (1974—79), while the programme will be extended to more districts, it will also be linked with other development schemes such as : dry farming, small and marginal farming, industrial development, family planning, etc.

Upto the end of 1973-74, more than 300,000 farmers had benefited from the functional literacy component of the programme. 150,000 farmers were enrolled in 1974-75 in the functional literacy groups. The programme is now spread in 107 districts in various parts of the country.

Fourth

An effort is being made to restructure the present courses of studies in the universities and colleges in order to make them more relevant to development needs, improving the employability of students and enabling them to acquire greater experience of practical work. An Expert Committee is drawing up a programme for reorienting the courses of study suited to rural environment and urban needs.

YEAR	EXPENSES	NUMBER OF DISTRICTS
1969-70	Rs.1.040.000	25
1971-72	Rs.1643.000	48
1973-74	Rs.1688.000	83
1974-75	Rs.5.518.000	103

Special diploma courses for improving the employability of students have already been started in a number of universities in the country. Vocational courses were introduced undergraduate programmes in some universities. A number of production units have been established in universities, in order to provide practical experience to students. Details of projects for linking education with work experience are now being drawn up.

Fifth

As part of efforts to forge a closer relationship between education and development, the National Service Scheme provided opportunities to students in institutions higher learning to participate actively in social and economic programmes, as well as to contribute towards the promotion of the practical side of learning and to make it less theoretical. The objective of the scheme is to provide opportunities for university and college youth to participate in meaningful activities of community service and national re-construction as part of their educational development. Activities taken up include : village work; service in urban areas; campus programmes; adult education work; service in hospitals, orphanages and institutions for the handicapped; projects designed to confer economic benefits, such as, poultry farms, fisheries, kitchen gardens; health services, relief work; work in backward and tribal areas etc.

A significant feature of the NSS Activities in recent years has been the special camping programmes in which a large number of student and non-student youth volunteers have been involved in programmes of special national significance, such as, "Youth Against Famine", and "Youth Against Dirt and Disease".

The NSS programme is now in implementation in all the States of the country and involves student youth in nearly 80% of the universities and colleges. Its membership exceeds 200,000 or about 10% of the undergraduate population. About 2,000 teachers are participating in the scheme.

HIGH-LEVEL TRAINED MAN-POWER

AGRICULTURISTS	61,000
DOCTORS	138,000
ENGINEERS / DEGREE HOLDERS	185,000
SCIENTISTS / DIPLOMA HOLDERS	244,000
SCIENTISTS	1800,000

More than 65,000 youth were involved in the Youth Against Famine Programme in about 750 camps, and over 75,000 youth in about 900 camps in the Youth Against Dirt and Disease Programme.

Sixth

Education linked to technological development and the adoption of new technologies have also received a fillip during the period under review. Technical education is provided through Institutes for Industrial Training (IIT), Regional Engineering Colleges and other engineering and technical institutions located in various States numbering about 138 during 1973-74. Industry-oriented courses and practical laboratories are being organised at the Regional Engineering Colleges and other selected institutions in consultation with the industry in the neighbourhood. Research and development activities are being encouraged in suitable institutions within the framework of the national plan of science and technology. Keeping in view the long term needs of the country, it is proposed to set up a few centres of advanced study and research in special fields in engineering colleges. Other innovations are being introduced at this stage of education with a view to make it more meaningful and relevant to the economic and national needs of the country. More "sandwich courses" are being introduced and schemes of practical training are being further expanded and made more productive. The National Institute for Training in Industrial Engineering (NITIE) and other specialised institutions are being expanded in order to link technical higher education with the country's economic needs. Further, with the modernisation of production enterprises in the country, the need to provide management training to technical personnel has been felt and steps are being taken to increase the number of institutions providing management courses to the technical hands under various schemes.

The total enrolment in the degree courses in the field of technical education is of the order of 25,000 per year.

NITIE provides comprehensive training facilities Industrial Engineering and allied fields. It conducts two-year Post-graduate courses in Industrial Engineering and organises various short-term courses for industrial executives.

Apart from the development of existing Institutes of Management at Ahmedabad and Calcutta, those at Bangalore and Lucknow are being strengthened and provision is being made to expand and develop management studies in the various universities in the country.

Seventh

Scientific and technological research in the universities and other institutions of higher learning has been encouraged on an adequate scale during the period under review so as to develop first-rate research capabilities within the educational system linked with the industrial and economic requirements of the country. The requirements of the national economy, the necessary growth of scientific discipline and the interest of the individual researchers in that order are the criteria which are applied in choosing institutions and areas and in determining the level of financing research in the universities. Collaboration between the universities themselves and between them and the National Laboratories is being encouraged in the field of scientific and industrial research. Resources have been provided for R & D projects identified by the National Committee on Science and Technology and assigned to the universities.

Although a considerable impact has already been achieved and somewhat closer correlation between development needs and educational strategies has been established, these measures and achievements have to be maintained, continued and expanded vigorously in the years ahead.





4 QUALITATIVE IMPROVEMENT

All educational developments—both from the conceptual and operational point of view, and from the standpoint of ideas and practices—have a real meaning only if a correlation between structural transformations, [quantitative expansion and learning contents can be established. It has become increasingly evident that the relevance of education, its significance, its validity for personal aspiration, its link with societal needs and goals, its efficiency and impact are some of the basic parameters of every educational system. It is admitted that many real achievements in expanding and equalising educational facilities, or in bringing educational closer to developmental programmes, have been depreciated by the socio-political or socio-cultural non-relevance of educational contents. The period under review witnessed a growing awareness for these aspects of educational policies and practices in India.

Governmental agencies, research bodies, educational institutions and individual educators, as well as various voluntary organisations intensified their existing efforts and initiated new schemes for qualitative improvement and in search of educational innovations: from the renewal of curriculum to examination reform; from the applica-

tions of findings in child psychology to the modernisation of textbooks; from the emphasis on science education to regeneration of teachers' training; from experimenting with new ideas on curriculum building for non-formal education to the utilisation of satellite for educational and instructional television; and so on.

A few significant illustrations are given in the following paragraphs :

Curriculum Renewal

The stage has been set for bringing about a complete transformation of the existing curriculum at the school stage keeping in view the national goals and aspirations. The new pattern visualizes a common programme of general education for all, for ten years, followed by two years of diversified education. The first degree will come after fifteen years of education.

Work experience, vocationalisation of education, upgrading of syllabi in various academic subjects, laying considerable emphasis on the inclusion of social and democratic values and programmes for the inculcation of the right type of attitudes and values are some of the significant features of the new approach to curriculum.

A new programme for the renewal of curriculum at the primary stage will be undertaken during the Fifth Five Year Plan.

Expansion of Science Teaching at the School Stage

The programme of improvement of science teaching, with UNICEF assistance, was extended beyond the primary stage in several States. An encouraging feature of this programme has been a wider introduction of the improved science curriculum by the States entirely on their own. A comprehensive project for the evaluation of this programme has been undertaken to further strengthen its quality.

Inservice Training of Teachers

Regional Colleges of Education, various Departments of the National Institute of Education of the NCERT, State Institutes of Education, State Institutes of Science Education and Extension Services Departments in various States have been conducting programmes of inservice training of teachers in their respective spheres.

The National Council of Educational Research and Training added a new dimension to its programme of inservice education of teachers by inviting a large number of office-bearers of the Associations of Primary School Teachers in the country and exposing them to new ideas developed in the field of primary Education.

This programme was well-received and has encouraged a large number of teachers to get directly involved in the qualitative improvement of primary education. Various States evinced keen interest in this programme and provided opportunities to teachers to raise their professional competence.

The National Council of Educational Research and Training is continuing to organize summer institutes for science teachers of secondary schools. A scheme of inservice education has been prepared in order to enable all teachers to undergo in-service training once every five years and get acquainted with modern developments in education.

A programme of awarding prizes to primary school teachers reporting outstanding innovations and experiments undertaken by them was introduced to encourage innovativeness and creativity on their part. Similar programmes have already been in operation in respect of secondary school teachers for a number of years.

Teacher Education

India has a well developed system of teacher education with teacher training colleges, the training courses being geared by and large to two levels, namely the primary

TEACHERS IN:

UNIVERSITIES

AND COLLEGES 174.000

SECONDARY SCHOOLS 648.341

PRIMARY SCHOOLS 1.872.515

and the secondary. Large numbers of in-service training courses are also organised each year besides special seminars on specific issues. The National Council for Educational Research and Training also runs Regional Colleges of Education at Ajmer, Bhopal, Bhubaneswar and Mysore which have special integrated four-year courses in teacher education, one-year M. Ed. courses at the Regional Colleges of Education Bhopal and Bhubaneswar and the one year M. Ed. Course in Science Education started at the Regional College, Ajmer in July, 1971. A two-year post-graduate course in Science Education leading to M. Sc. in Education was started at Mysore to prepare science teachers for the two-year higher secondary classes. All the four colleges organised summer & correspondence courses leading to B. Ed. degree for clearing the backlog of untrained teachers.

Regional Colleges have suitably modified some of their programmes so as to enable the teachers to teach work-experience in addition to their special subjects.

The Central Institute of Education at Delhi continued to offer regular courses leading to the B. Ed. and M. Ed. degree of the University of Delhi. Besides, the part-time two-year M. Ed. evening course was continued. Facilities for research leading to the Ph. D. degree are also being continued.

Textbooks

A large number of textbooks being taught in schools were evaluated and concrete suggestions offered to the States for their improvement. The programme of nationalisation of textbooks in order to make available quality textbooks at a relatively lower cost was adopted by almost all the State.

The National Council of Educational Research and Training brought out a number of textbooks reflecting the latest developments in various subjects disciplines to be adopted or adapted by the States and Boards of Secondary Education

SOME EDUCATIONAL INNOVATIONS

Educational Technology

The use of educational technology to improve the quality of instruction gathered considerable momentum during the period under report. The educational technology project designed to stimulate and promote integrated use of mass media and instructional technology at all levels of education including non-formal education of adults, was instituted. For these purposes a Centre of Educational Technology has been established as a separate institution in the NCERT at New Delhi. Educational Technology cells are being established in the States in a phased manner. These cells assist in the training of teachers, preparation of programme and follow-up action so far as the school television broadcasts are concerned. To ensure the quality of broadcast programmes, subject committees, teachers guides, workshops and seminars are to be pressed into service in an increasing measure.

A UNICEF assisted programme of children media laboratories is proposed to be taken up during the Fifth Five Year Plan.

SITE—(The Satellite Instructional Television Experiment)

India is launching a one-year experiment : an artificial satellite will relay instructional and educational programmes for school-going children, youth and adults in rural communities in 2400 villages. The satellite will be over India from mid 1975 until mid 1976. This provides an opportunity to conduct a large experiment for providing data on suitable hardware and the kind of satellite India should utilise in future, as well as for getting data on software for educational objectives.

The total broadcasting time of four hours per day is divided in two parts : ninety minutes in the morning hours for school children and one hundred and fifty minutes in the evening for the adult audience (including news, agriculture, family planning and



adult education). During the school vacation period, the satellite will be used for in-service teachers' training.

The satellite will be used also for in-service training of teachers. In October 1975, 24,000 primary school teachers will follow a 12-day course in science teaching and three more series of similar seminars will be held in 1976, bringing the number of teachers who will derive benefit from the TV programme for their on-going training in various subjects, near to one hundred thousand. The in-service training materials will be in the form of multi-media package, including television programmes, radio programmes, activity guides, enrichment materials and tutorials. One of the basic aims of these programmes is to familiarise the teachers with the following essential features of the pedagogy associated with the Science Education Programme : an enquiry approach in teaching science; an increased use of demonstration and class experiments; active involvement of children in all stages of a learning unit; utilisation of low cost and no cost apparatus; and relating the learning content to the children's everyday environment. It is hoped that important lessons and conclusions will be drawn from this part of the whole programme.

Non-formal education

The period under review was also marked by new approaches, innovative in character, towards the improvement of quality in the sphere of non-formal education. A few examples deserve to be cited in this connection.

At Bhumiadhar in Nainital an experiment was conducted which proved the efficacy of non-formal education to school drop-outs particularly from the deprived sections of the community like Scheduled Castes and Tribes. Not only were the drop-outs given the incentive to rejoin the school but also to actively participate in the programme. The instruction included work-experience and service towards community development. This innovative experiment gave encouraging results.

PROPORTION BETWEEN GIRLS IN PRIMARY

1950-51 3,

1960-61 4,

1968-69 5,

1973-74 6,

Also worth a brief reference, is the series of youth programmes organised by the Birla Institute of Technology, Pilani. These programmes, through innovations and experimentation brought home to the participating youth the concept that the university is a total system wherein knowledge is not fragmented. The structure of the programme is sought to be made flexible with multiple entry points, enabling a student to plan his career and discover new horizons.

The project undertaken by the Social Work and Research Centre, Tilonia, Rajasthan, covers 110 villages in the district of Ajmer and aims at providing 3 basic technical services in rural areas: educational, medical and water-development with rural based institutions working in the field. Several services of social and economic value are supervised by this project which has yielded good dividends.

Another significant programme to be undertaken during the Fifth Five Year Plan is "Developmental activities in Community Education and Participation."

Shri Aurobindo Ashram at Pondicherry is trying out a unique experiment on individualized instruction by providing a very flexible programme of education. The rigid class organization and school time-table have been completely done away with and each and every child is encouraged to choose its own curriculum according to its individual needs and interests.

The introduction of population education in school curricula, experimentation on the ungraded school system, organising mobile creches for working mothers' children, science teaching through community development programmes, economic and educational rural development through voluntary efforts, rural Vigyan Mandirs (Science Clubs) and various other programmes directly connected with the quality of education and greater involvement of the community in school programmes, received considerable attention during the period under review.

BOYS
EDUCATION

TEN

TEN

TEN

TEN

Programme for non-student youth

In response to an increasing concern over the needs of non-student youth hitherto largely neglected, a programme for establishing a network of district youth centres for organising activities for youth and by youth was taken up during this period.

These youth centres which are called Nehru Yuvak Kendras have been sanctioned for 110 districts in the country and it is hoped that as the programme develops, every one of the 350 districts in the country will be served by a youth centre.

A typical Nehru Yuvak Kendra organises activities in five major areas: programmes of nonformal education for non-student youth as most of them have been deprived of formal education; employment facilities and promotion of self-generating employment for youth in cooperation with the appropriate services; voluntary services by youth to the community; entertainment and leisure activities including cultural and artistic programmes; development of sports and games and promotion of physical education; and programmes which will enable youth to participate in the community life, be involved in community problems, activities and search for solutions.

Problem-solution oriented curriculum

For adult education and adult literacy programmes some new type of curriculum has been elaborated and experimented. More particularly, the content of the Farmers' Functional Literacy Programme, although from the very beginning designed around some basic agricultural inputs needed for High Yielding Variety Crops, has recently been more closely linked to farmers needs and environmental parameters.



In the Jaipur District in an area of bajra growers the educational content and the learning/teaching materials have been so oriented as to help farmers to understand their difficulties, to overcome the obstacles in reaching fixed objectives, to improve their skills in farming practices and to be ready for solving their outstanding problems. In other words, the content and the materials which are experimented now in this District are problem-oriented.

It became more and more necessary to build the curriculum on an Initial Survey whose aim consisted of identifying the crucial problems faced by farmers, the remedial measures that should be taken, and how conscious farmers were of the problems and how prepared they were to take remedial action. The content (curriculum) and the learning/teaching material evolved in that way are built around such skills, knowledge and practices which the farmer should learn to offset those physical, socio-cultural and economic factors which hinder the attainment of the agricultural objectives as well as of other objectives in transforming and improving the rural environment.

A similar approach is being tested in some urban-based programmes of nonformal education, as well as for non-agricultural rural groups.

Although non-formal education programmes for urban situations need to be expanded, a few experiments deserve to be mentioned, viz., the Polyvalent Adult Education Centre (Shramik Vidyapeeth) in Bombay conducting a variety of integrated vocational-cum-general education programmes for groups of workers in organised and unorganised sectors, the Workers Social Education Institutes at Indore and Nagpur, the Workers Education Scheme in various parts of the country and an experiment in Bombay using television for a functional literacy programme for slum-dwellers.

It is hoped that these types of problem-oriented programmes would help in gaining experience for similar educational activities on a larger scale.

Examination Reform

A new scheme of examination was developed and introduced by the Central Board of Secondary Education.

The main features of the scheme are the abolition of the system of 'pass' and 'fail', the introduction of subject-wise grades and the option to candidates to reappear for examinations in individual subjects to improve their grades.

Another significant programme undertaken in examination reform was the introduction of a comprehensive scheme of internal assessment in two hundred and fifty schools in Tamil Nadu emphasising more the improvement purpose rather than the classification purpose of evaluation in both scholastic and non-scholastic areas.

It is proposed to extend it to another 200 schools in the state during 1975-76. This experiment has already been in operation in all the secondary and higher secondary schools of Rajasthan.

National Talent Search

The scope of the scheme of talent search launched by the NCERT over a decade ago which was so far confined to talent search in science only, is now being expanded to the social sciences and humanities. A scheme of rural talent search is also in operation. States like Tamil Nadu have started special institutions for providing education to the scholarship holders of this scheme in their State. This programme has a great potential for improving the quality of school education.

FOR TECHNICAL
EDUCATION THERE ARE :
5 INSTITUTES
OF TECHNOLOGY
15 REGIONAL
ENGINEERING COLLEGE
122 ENGINEERING
COLLEGES
290 POLYTECHNIC

Higher Education

During the period under report, the University Grants Commission gave special assistance to Centres of Advanced Studies, towards the development of Higher Education. It also gave assistance towards the improvement of the quality of post-graduate teaching and research, to college education through college science improvement programmes (in which at present, 26 universities and 117 colleges in the country are participating), for the organisation of Summer Institutes, reorientation of University courses of study in order to relate them to the needs of the community, for the introduction of special cells which would be responsible for examination reforms, for including work-experience as part of college education, for the provision of facilities for research, and for annual awards to outstanding scientists.

To strengthen the teaching of the Humanities and Social Science subjects at the undergraduate level in colleges and to provide opportunities to under-graduate students to develop the aptitude, interest and ability in the study of the subjects of their choice, a new programme was initiated in 1974, covering forty-two selected colleges in the country in the first instance. The Commission continued to provide during the year research fellowships in Science, Engineering and Technology.

The National Policy in Education had emphasised the need for raising the status of teachers and introducing uniform scales of pay all over the country. The Central Government which has a direct responsibility for coordination of higher education, has accordingly, introduced schemes of financial assistance to bring about the required increases in emoluments for college teachers in the entire country. Under the latest scheme which has been accepted in all Central Universities and by many State Governments the emoluments are broadly comparable to those available for the highest administrative service personnel. The State Government have also made similar

	ARTS	SCIENCE	COMMERCE
1973	479,792	310,344	125,220
	842,166	513,093	254,572
1974	1,004,483	472,609	341,222

efforts in the field of school education, and the emoluments of school teachers have risen significantly in the last two years, although the real value of this increase has been affected to a certain extent as other fixed incomes, by inflation.

Technical Education

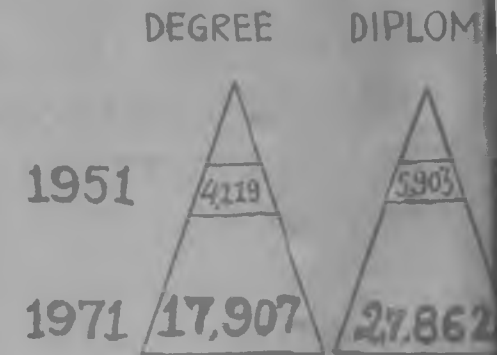
The Government of India initiated a programme of qualitative improvement in the Fourth Plan which included : M. Tech. and Ph.D.-fellowships for Engineering College teachers; short-term training of teachers from Engineering Colleges and Polytechnics; curriculum development for degree and diploma courses; summer institutes; and practical training in industry for serving teachers.

This programme has provided facilities to the teaching faculty of the Engineering Colleges and Polytechnics to improve their academic qualifications and practical experience and to acquaint themselves with modern developments in their respective fields. Besides this programme, the four Technical Teachers Training Institutes in the country organised a number of short-term in-service training programmes and full-time training programmes for the benefit of teachers from the polytechnics.

Mention should also be made of the National Graduate Scheme of Bombay University which provided opportunities to selected graduates of various disciplines to serve for one year in specified villages in an attempt to coordinate the development of these villages.

These are but a few examples of concrete schemes of qualitative significance in the fields of formal and non-formal education.

ENROLMENT IN TECHNICAL INSTITUTIONS



5

ADMINISTRATION AND FINANCE

Education in India is primarily the responsibility of the State Governments but the Union Government is concerned with general guidance, coordination of educational facilities, promotion of new educational schemes and innovations, determination of standards in higher education, technical education, promotion of Hindi and of research in Hindi, and the development of all Indian languages. The Union Government is also responsible for running the 7 Central Universities and such other institutions of national importance as Parliament may by law declare.

A number of advisory bodies, like the Central Advisory Board of Education help the Ministry in working out the programmes and policies in accordance with the principles enunciated in the National Policy on Education approved by Parliament.

The obligations of the Union Government are discharged by the Ministry of Education and Social Welfare, as well as through several of its autonomous, attached and subordinate bodies such as the University Grants Commission (U.G.C.), National Council of Educational Research and Training (NCERT), National Council for Women's Education, All India Council of Technical Education, Central Hindi Directorate, Directorate of Adult Education, etc.

BUDGETED EXPENDITURE FOR EDUCATION

	1973-74	1974-75
CENTRAL LEVEL	1,163	1,422
STATE LEVEL	13,575	15,705

(FIGURES IN MILLIONS)

A working partnership has been evolved between the Centre and the State Governments in implementing the educational development plans. Many educational schemes are formulated and implemented by the State Governments with some assistance from the Centre.

The Ministry of Education and Social Welfare consists of two Departments viz. Department of Education and Department of Social Welfare. The Department of Education is responsible for guiding, planning and coordinating the educational activities in the country. Besides, there is a separate Department of Culture which is also under the Minister of Education and Social Welfare.

The Secretariat of the Department of Education is headed by Secretary to the Government of India. The Secretariat consists of 17 Divisions and 6 Units, the Divisions being grouped under 6 Bureaus, headed by officers of the rank of Joint Secretaries.

One important recent change in the structure of the Central administration consisted in creating the "Bureau of Planning" as part of the Department of Education, in order to achieve better coordination, higher level of globality and efficiency in planning the implementation of educational strategy, the allocation and utilisation of resources for overall educational development.

There are 23 subordinate offices and in addition 40 autonomous organisations that are financed and supported by the Department of Education. The subordinate offices and autonomous organizations execute directly the Department's policies and programmes in their respective spheres of activities.

In each of the State Governments there is a Department of Education and in every District and Block an administrative unit headed by the District or Block Education Officer. State Institutes of Education are responsible for the professional, research and training support to the educational administration.



The distribution of financial allocations for educational development and facilities reflects the same set-up : the responsibility is shared between the Centre and the States; States have a larger share, since the responsibility for education is primarily at that level; the major portion of educational expenditure is covered by budgetary resources.

The expenditure in 1973-74 amounted to Rs. 13,575 million (\$ 1729.46 m; £ 752.08 m) while during the next year 1974-75, a sum of about Rs. 15,706 million (\$ 2000 million; £ 870.14 million) is estimated to have been provided for education in the various Departments of State Governments and Union Territory Administrations.

On the basis of estimates central expenditure excluding grants-in-aid to States and Union Territories) amounted in 1974-75 to Rs. 1,423 million (\$ 181.29 m; £ 78.84 m), compared to Rs. 1164.00 million (\$ 148.29 m; £ 64.49 m) in the previous year (1973-74).

Budgeted expenditure in the year 1974-75 compared with that of the previous year, shows an increase of more than 14 per cent in the case of States and Union Territories and 22 per cent in the case of the Central Budget. When compared with the 1972-73 budget figures, the increase becomes more conspicuous. For all States and Union Territories taken together, the percentage of educational expenditure to the total budget of States and Union Territories was estimated at 23.3 per cent in 1973-74 as compared to 26.3 per cent in 1974-75.

Thus, a bigger financial share of the aggregate was progressively coming to the educational sector.

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Courtesy : T. Kkasi Nath