

REPORT OF THE WORKING GROUP ON SECONDARY
AND
HIGHER SECONDARY EDUCATION FOR
VIII FIVE YEAR PLAN
(1990-95)

CONSTITUTED BY
THE PLANNING COMMISSION
GOVERNMENT OF INDIA
NEW DELHI

C O N T E N T S

<u>S.INGO).</u>	<u>CHAPTER</u>	<u>PAGE NO.</u>
1..	INTRODUCTION	1
2..	THRUST AREAS IN SIXTH AND SEVENTH PLAN	3
3..	STATISTICS REGARDING SECONDARY EDUCATION	5
4..	NPE 1986; AIMS OF SECONDARY STAGE	6
5..	NEW INITIATIVES AFTER NPE	11
6..	THE AREAS REQUIRING SPECIAL ATTENTION	21
7..	RECOMMENDED PROGRAMMES FOR THE EIGHTH PLAN	26
8..	SUMMARY OF RECOMMENDATIONS	80
9..	FINANCIAL REQUIREMENTS	90

REPORT OF THE WORKING GROUP OF SECONDARY AND HIGHER SECONDARY
EDUCATION FOR VIII FIVE YEAR PLAN (1990-95)

CHAPTER I

INTRODUCTION

1. Secondary Education is an important stage for various reasons. It builds upon the Elementary Education which every child is expected to have in accordance with Article 45 of the Constitution. Secondary Education provides preparation to students who would subsequently go in for higher and professional education. In this regard the quality of Secondary Education assumes an important role. Also, by the time a student completes higher secondary stage, he is around 18 years of age and is, therefore, ready to join the world of work. The vocational bias in Secondary Education thus becomes important for ensuring that those who do not pursue higher education acquire useable skills for helping them to settle in a related vocation gainfully.

1.2. The Fifth Educational Survey has ascertained that the enrolment in class I (September, 1986) was 200 lakhs, enrolment in class IX was 63.97 lakhs and in class XI was 20.69 lakhs. Thus, the enrolment in class IX is 31.98 per cent and in class XI 10.34 per cent of the enrolment in class I. Clearly, a small proportion of children who enroll in class I go in for Secondary Education. But the enrolment at secondary level has increased by 63% between 1978 (Fourth Survey) and 1986 (Fifth Survey) and at Higher Secondary stage by 87% compared to increase of 35.90% at primary level in this period. The higher rate of increase in enrolment at secondary and higher secondary level has been generating large demand for new secondary and higher secondary schools. This trend is expected to continue as the country makes progress in achieving Universal Elementary Education (UEE). The experience of the developed countries is that after

achievement of UEE, the social demand favours Universal Secondary Education. Many of the developed countries have already achieved more than 90% rate for Secondary Education. The trend for Universal Secondary Education is logical also because it stands to reason that a child continues to receive education till he attains the age of work i.e. around 18 years of age. This indicates the perspective for the early decades of the Twenty First Century.

....3

CHAPTER 2

THE MAIN AREAS IN SIXTH AND SEVENTH PLAN

2.1 The 6th Five Year Plan recognised that

- "i. Secondary and higher education are important terminal stages in the system of general education
- ii. Secondary education provides a first stage for linking education with the world of work and
- iii. with the expansion in elementary education the number of students who would be reaching the secondary education level would be very large.

In view of this recognition, facilities for secondary education would have to be increased. Since education is the only means for social mobility and economic independence, particularly to the weaker sections, care has to be taken to ensure that opportunities for secondary education are extended to rural and backward areas".

2.2 The 6th Five Year Plan also stressed the need to pay special attention to:

- i) Improving the quality of education at this stage
- ii) Improving the internal efficiency of the system
- iii) Enhancing the employability of its products
- iv) Updating the curriculum and syllabus
- v) Producing better text books and instructional material and
- vi) Creating an awareness of the emerging development perspective and the associated technologies in fields such as energy conservation, population stabilisation and environment protection among the members of younger generation.

2.3 The 7th Five Year Plan has emphasised :

- i) Vocationalisation and skill training programmes at different levels of education
- ii) Upgradation of standards and modernisation at all stages of education with effective links with the world of work and with special emphasis on science and environment and on value education.
- iii) Provision of facilities for education of high quality and excellence in every district of the country.

As the thrust areas in Secondary Education the 7th Five Year Plan Document has noted the growing demand for Secondary Education. It has envisaged that:

- i) Special attention will be given to the need of backward areas and of under privileged sections of the population and of girls. Girls education will be free up to the Higher Secondary Education. The teaching of Science and Mathematics at the Higher Secondary stage of education will be strengthened and made universal. Efforts will be made to update and modernise Science curricula, improve laboratories and libraries in schools and ensure the quality of Science Teachers through large-scale in-service training programmes. Environment Education will form an important aspect of Science Education.
- ii) A major impetus will be given in the 7th Plan to vocationalisation of Higher Secondary stage. Facilities for Vocational Education will be suitably diversified to cover a large number of fields in Agriculture, Industry, Trade and Commerce and Services. The current intake will be considerably increased by introducing Vocational Courses in many more Institutions.
- iii) The present wide reach of the media will be used for improved education, establishment at the secondary stage facilities for production of requisite audio-visual material including educational software for broadcasting and telecasting will be augmented substantially in the 7th Plan.
- iv) During 6th Plan a small beginning was made in providing computer literacy to students in selected secondary schools. Based on this experience, steps will be taken to extend the programme to cover different aspects for computer appreciation and application.
- v) Effective system of in-service training of teachers. The existing facilities will be assessed, additional requirements identified and steps taken to meet them.
- vi) There is great need for an integrated and value-oriented education with a national perspective. Suitable revision of textbooks, strengthening of school libraries and training of teachers would be important from this point of view.

CHAPTER 3

STATISTICS REGARDING SECONDARY EDUCATION

The Fifth Education Survey conducted by the NCERT with 30th September 1986 as the reference date reveals the following statistical situation in regard to Secondary Education:

- ii) There were 52208 secondary schools in the country of which 38720 were in rural areas. The corresponding number of Higher Secondary Schools were 15498 and 7225 respectively.
- iii) The number of Secondary Schools has increased by 42.35% after the Fourth Survey in 1987. The number of Higher Secondary Schools has increased by 48.60% during this period of 1978-86. This is against an overall increase of 16.03% for all schools. The total enrolment at Secondary stage (Classes IX and X) was 114.75 lakhs and at Higher Secondary stage 149.16 lakhs. The enrolment has increased by 63% at secondary stage during 1978-86 and by 87% at Higher Secondary stage.
- iii:) In comparison to the overall increase in enrolment the enrolment of scheduled caste children has increased by 121% at secondary stage during 1978-86 and by 1132% at Higher Secondary stage. The corresponding figures for scheduled tribe children are 124% and 185% respectively. The figures for girls are 74% and 132% respectively and for rural children 80% and 127% respectively. This would indicate that considerable progress has been achieved in equalisation of educational opportunities at Secondary stage.
- iv) The Survey has revealed that 85% of Higher Secondary Schools had Arts stream, 68% had Science, 36% had Commerce, 6% had Agriculture, 6% had Technical Courses and 11% Home Science stream. 94 schools had Computer Science as a subject and 170 schools had Vocational Courses with an enrolment of 134377. 70% Secondary Schools had separate teacher for Physical Education and Yoga whereas 81% Higher Secondary Schools had such a teacher.
- w) There was an overall pupil teacher ratio of 21 at secondary stage and 15 at higher secondary stage..
- wi) The 90.23% teachers at secondary stage were trained whereas 88.55% teachers had training at higher secondary stage.

CHAPTER 4

THE NATIONAL POLICY ON EDUCATION (NPE) 1986; AIMS OF SECONDDAARY

The educational scene in the country was reviewed in 1984 and the new national policy on education was formulated in 1986. The NPE incorporates specific and detailed exposition of the policy and programmes in various areas and to that extent the analysis and policy statements in the 7th Five Year Plan Document stand modified. The NPE has included the following major statements about policies and the programmes for the secondary sector :-

- i) The national system of education will be developed and it will be based on a national curriculum framework which contains a common core alongwith other components that are flexible.
- ii) All educational programmes will be carried on in strict conformity with secular values.
- iii) The educational system will promote equality. It will be necessary to provide for equal opportunity to all not only in access but also in the condition for success. The core curriculum will strive to create awareness of the inherent equality of all.
- iv) Minimum levels of learning will be laid down for each stage of education.
- v) A series of programmes have been envisaged for women's equality, education of the Scheduled Castes and the Scheduled Tribes to promote equity.
- vi) Emphasis has been placed on integration of the physically and mentally handicapped with the general community as equal partners.
- vii) Secondary Education should expose students to the differentiated roles of Science, Humanities and Social Sciences. The children should be provided with a sense of history and national perspective and they should be helped to understand their Constitutional duties and rights as citizens. Healthy work ethics and values of a humane and composite culture should be brought through appropriately formulated curricula.
- viii) Access to Secondary Education will be widened to cover unserved areas and in other areas there should be emphasis on consultation.

- ~~ix)~~ ~~Pace setting~~ schools for children with special talent will be established with full scope of innovation and experimentation (Navodaya Vidyalaya).
- x) Vocationalisation has been strongly emphasised and its integration with health planning and health service management and similarly with Agriculture, Marketing, Social Services etc. should come about. The NPE visualises Vocational Education as a distinct stream intended to prepare students for identifying occupations. The graduates of vocational courses are to be given opportunities for professional growth, career improvement and lateral entry into courses of general, technical and professional education through appropriate bridge courses. The NPE envisages non-formal flexible vocational courses and vocational courses at tertiary levels. It envisages review of recruitment policy to encourage diversification at secondary stage.
- xi) Provision of better facilities in Institutions.
- xii) Value Education has a profound positive content, based on cultural heritage, national goals and universal perceptions. Value Education should help eliminate obscurantism, religious fanaticism, violence, superstition and fatalism.
- xiii) Faithful implementation of Three Language Formula.
- xiv) Educational Technology will be employed in the spread of useful information, the training and re-training of teachers, to improve quality, sharpen awareness of art and culture, inculcate abiding values, etc. both in the formal and non-formal sectors.
- xv) Environmental consciousness should inform teaching in schools.
- xvi) Teaching of Mathematics will be suitably re-designed to bring it in line with modern technological advances.
- xvii) Science Education will be strengthened.
- xviii) Sports and Physical Education will be integrated into the educational programme in schools and will be given more attention.
- xix) The examination system will be re-cast so that it is a valid and reliable measure of student development and a powerful instrument for improving teaching and learning. It would include:
- (a) De-emphasise of memorisation
 - (b) Continuous comprehensive evaluation covering non-scholastic areas also.
 - (c) Improvement in conduct of examinations
 - (d) Introduction of Semester system and use of grades in place of marks.

ix) NPE has strongly underlined the need for in-service training of teachers.

The NPE has endorsed the areas emphasised in the 7th Plan Document and has added additional areas and indicated programmes to be taken up in those areas. The NPE was finalised after consideration in the National Development Council and it was debated in both Houses of the Parliament. Therefore, the NPE represents the finality of the policies and programmes enunciated by it. Viewed in this light the provisions of the NPE should guide the programmes in the 8th Plan.

The Terms of Reference for the Working Group

The programmes for the 8th Plan have to be worked out keeping in view the policy pronouncements in the NPE. Therefore, the Working Group has been given the following terms of reference by the Planning Commission :-

1. To take stock of position likely to be reached by the end of 1989-90; identify problems, and suggest effective remedial measures.
2. To suggest a feasible perspective of development upto 2005 particularly with a view to equalising educational opportunities for all sections of the people including the weaker sections viz. SC/ST/Women and all regions of the country including particularly the backward, hilly and inaccessible areas and enable the national education system to make its maximum contribution to the development of a modern society.
3. To specify in clear terms the objective of educational development programmes in relation to national development goals particularly in the contexts of the National Policy on Education (NPE), 1986 and Programme of Action (POA) 1986.
4. To make specific recommendations regarding policies and programmes for ensuring the availability of an adequate supply in inputs, particularly suitably qualified teachers, functional buildings, equipment etc., in the concerned sections of education.
5. To examine in detail the several aspects of making education relevant to development needs and to enhance the employability of the educated with particular reference to the need to develop extensively useable skills among the people.

1. To take note of and suggest innovative measures and opportunities to improve the existing facilities and introduce low-cost alternatives to achieve various specified goals and objectives of educational plans.
2. To recommend measures for effective institutional linkages between education on the one hand and rural development, environment, health, industry and other developmental sectors.
3. To explore the possibilities of introducing meaningfully long distance learning techniques particularly the utilisation of modern communication technology.
4. To suggest ways and means of augmenting resources for educational development.
5. To suggest measures for decentralised educational development involving not only Panchayati Raj bodies but also voluntary local organisations.
6. Without prejudice to the generality of the above terms, to examine critically the following:-
 - i) Progress of initiatives under NPE, 1986/POA 1986 and suggest new initiatives if any in terms of above.
 - ii) Problems if any faced by any State Governments in respect of completion of structural re-organisation of secondary stage viz. 10+2 pattern and remedial measures for the same.
 - iii) Feasibility of dovetailing vocationalisation of plus two stage with change-over to 10+2 pattern in States referred to in (ii).
 - iv) Progress of Science/Mathematics teaching both as a foundation for vocationalisation and as general preparation. To assess innovative programmes in this area in any State and consider ways and means of extension if the same nationally.
 - v) Progress achieved in attaining the NPE target of vocationalisation of higher secondary stage viz. 10% coverage by 1990 and the prospect of achieving 25% coverage by 1995 and measures required to be taken to achieve the target. Problems if any in implementation of the programme including need for amendment of Apprentices Act.
 - vi) Progress of examination reform in terms of NPE/POA and suggest measures to expedite the same.
 - vii) To consider feasibility of introducing national/regional tests to assess learning achievements on a comparable basis, keeping in view the international experience in this regard and also the need to make our attainments comparable internationally.

- viii) To consider problems of special children - viz. handicapped children and gifted children and suggest viable programme with a view to equalise educational opportunity on the one hand and to encourage talent on the other keeping in view existing schemes in this regard.
 - ix) Progress of Navodaya Vidyalayas and measures to extend it to States where they do not operate at present.
 - x) To consider the role of Navodaya Vidyalayas, Sainik Schools, Kendriya Vidyalayas and other progressive schools in upping the standards of facilities in secondary education in surrounding areas.
 - xi) To review the programme of educational technology including INSAT I-B, CLASS Project and other initiatives, to suggest measures to ensure that use of modern communication technology including radio/TV/Computer is optimum across school system with due regard to considerations of equity and effectiveness.
 - xii) Evolution of national and State-wise norms of pupil teacher ratio and yardsticks for provision of minimum teaching facilities consistent with the need for geographical rationalisation and avoidance of waste. In particular, examine widespread adoption of school-mapping technique for avoidance of irrational location decisions in respect of secondary schools.
12. To formulate proposals for the Eighth Five Year Plan (1990-95) in the light of the above perspective indicating priorities, policies and financial costs.

The Working Group has accordingly deliberated within the parameters of the terms of reference and the recommendations in this report are based accordingly.

CHAPTER 5

NEW INITIATIVES AFTER NPE

After the NPE was finalised the Programme of Action, has been developed to indicate the methodology and content of schemes and programmes required to implement the provisions of the NPE. A series of new initiatives has been taken by the Department of Education (Ministry of Human Resource Development) at the national level for initiating and implementing a number of new programmes and for revision the earlier programme of Education Technology and the Integrated Education for the Disabled children. Some initiatives would have been taken in the States also but the information about them is not available and in any case they are not as significant in extent and coverage as the initiatives at the national level. The initiatives in the form of schemes taken up at the national level along with the outlays involved and position expected to be reached at the end of the 7th Five Year Plan, i.e., in March 1990 is indicated below :-

(i) Vocational Education: A new Centrally sponsored scheme for Vocational Education at plus two stage has been started in February, 1988 with an overall outlay of R.409.82 Crores. However, it was decided that the outlays will be determined on year to year basis through the mechanism of Annual Plans. The scheme envisages a management structure at school, district, state and national level to attend to the new, complex and technical issues involved in implementation. For this a Joint Council of Vocational Education (JCVE) is to be set up at national level. It will have representation of all concerned agencies and will be the umbrella Body responsible for coordination, review and policy directions at

national level. It will have representation of all concerned agencies and will be the umbrella Body responsible for coordination, review and policy directions at national level. At the State level there will be corresponding State Councils of Vocational Education. At district level there will be the District Committee. There is to be a Wing of Vocational Education in the Directorate of Education in States and in the SCERTs. There would be a small unit for Vocational Education in the District Education Officer's Office and a small supportive staff in the school. Each identified school is to have 3-4 vocational courses determined through a District Vocational Survey and, on the basis of consultation in the District Committee. Assistance is provided under the scheme for development of course and course material, work-sheds, equipments and 2 teachers per vocational course in school. The outlays envisaged in the scheme and that have become available, (expected outlay for 1989 based on the provision for 1988-89) are as under :-

		Amount in crores
Year	Outlay envisaged in the scheme	Expenditure/ Actual Outlay
1	2	3
1987-88	78.80	32.26
1988-89	128.42	50.00
1989-90	202.80	47.00 (Anticipated)
TOTAL :	409.80	129.26

Going by the outlays that have become available, it is expected that vocational courses in 2500 schools would get sanctioned by the end of Seventh Plan. These would cover 7500 courses with an expected enrolment of 187500. The sanction of courses in 1989-90 can be expected to be implemented in the following academic session. Thus,

against the target of 10% coverage through vocational courses, the enrolling capacity in vocational courses would be 6.5 percent at the end of the Seventh Plan.

ii) Science Education: A new scheme for strengthening teaching of Science Education was started in January, 1988. It envisaged an allocation of Rs.161.17 crores but it was decided that the actual allocations will be determined through the mechanism of Annual Plans. The scheme seeks to provide a cost effective, integrated Science Kit at upper primary level and to remove deficiency in laboratory equipment in reference to the equipment required in relation to the prescribed syllabus. It also envisages assistance to procure 400-500 books for the library of secondary/higher secondary school in Science and Mathematics and a large in-service training programme for Science teachers.

As against the outlays envisaged in the scheme, the actual availability has been (projected for 1989-90 on the basis of allocations in 1988-89) as below :-

Year	Outlay envisaged in the scheme	<u>Amt. in crores</u> Expenditure/ Actual Outlay
1987-88	23.89	29.27
1988-89	52.99	29.14
1989-90	84.28	20.00 (Anticipated)

It is expected that the following coverage would have been achieved by March, 1990 :

Science Kits to Upper Primary Schools	60,000	Schools
Laboratory assistance to Secondary/Higher Secondary Schools	20,000	Schools

Library Assistance to
Secondary/Higher Secondary Schools 25,000
Schools

In addition, the scheme envisaged assistance to NGOs for implementing programmes for promoting scientific temper for Science Education. It is expected that about 20-30 NGOs would have been assisted for innovative programmes by the end of the Seventh Plan. A notable case is of assistance to National Council of Science Museums which has been assisted under the scheme for setting up District Science Centres at schools at the rate of 2 per district. These Centres would involve students and teachers in innovative experiments, project work, Science Quiz, etc. It is expected that about 150 - 200 districts may be covered by the end of the 7th Plan.

The scheme also seeks to cover teaching of Mathematics. Some achievement in this regard would be possible by provision of books for the libraries and by in-service training of Mathematics teachers. The attempt to increase the coverage of Mathematics Olympiad in the country would also help but it must be observed that in so far as Mathematics teaching is concerned, the programme is likely to remain modest.

iii) CLASS: The programme of Computer Literacy and Studies in Schools was started in 1984-85 with 250 schools. The objective of the programme was to familiarise the students with Computers and their potential for application in various fields and to demystify Computers by providing hands on experience to students. 250 schools were included in the programme in 1984-85 and then 500 were added in 1985-86

another 500 in 1986-87 and another 700 in 1987-88. About 4000 schools may be covered by the programme by the end of 7th Five Year Plan, i.e. by March 1990.

The NCERT has been the nodal agency for academic input and it has created a Unit for this purpose. The Ministry has been looking after the implementation and management aspects through the State Governments. 53 Resource Centres located in Institutions of higher learning and technical Institutions have been set up which provide a 3 week training to identified school teachers. Three teachers from each school are trained and the number of students covered by 2 micro computers given to a school has been about 60. The programme was evaluated by the Space Application Centre, Ahmedabad in July 1986.. The main findings were:

- Demystification objective is partially achieved.
- Students are not using all the packages.
- Implementation is best in Kendriya Vidyalayas followed by Government Schools and then private schools.
- Language, i.e. English poses problems for teachers and students.
- There is considerable time lag between sanctions and installations in schools.

The Programme of Action envisages coverage of 13,000 Higher Secondary Schools by the CLASS Project by 1990.

The Ministry appointed a Committee of eminent experts under the Chairmanship of the Education Secretary in October, 1986 to re-examine the programme objectives and to suggest management design for the regular CLASS

Programme. The Committee had completed its work in November, 1987. Its main recommendations are :

- 1300 Higher Secondary Schools should be covered by the Programme by 1990.
- All the students in the school should be covered by the Programme and for this reason a school should be given 5 computers which should include in big schools 11 personal computer.
- The hardware choice should remain the same, i.e. BBC-ACORN but hardware choice should be reviewed periodically.
- 300 District Resource Centres should be set up, preferably in existing educational Institutions like the DIETs and 150 Regional Resource Centres should be similarly set up. The District Resource Centres would give basic training to teachers and provide day to day assistance to schools. The Regional Resource Centres would provide higher level of training and training to educational administrators..
- A large programme of software generation with increasing emphasis to regional language should be taken up.

The Ministry has accordingly prepared a programme proposal which however is still under consideration of the Government. The CLASS Programme has been running on year to year basis with the result that long-term management arrangements for developing resource support within the school sector and adequate software generation has not materialised. Also, the uncertainty about the programme in the succeeding year

has continued an element of ad-hocism with some adverse effect on implementation.

(17) FRESHIP TO GIRLS IN CLASSES IX-XII

The new scheme for making education of girls free in classes IX-XII was started by the Ministry in 1985-86. The education of girls has already been free in Classes I - VIII. This was done to promote girls education at secondary level. The scheme re-imburses the State Government concerned for making girls education free. States for which the Eighth Finance Commission could not consider this liability, i.e., those which made the education free after 1982-83 are re-imbursed under this scheme. The re-imburement has been as below :-

<u>Year</u>	<u>AMOUNT IN CRORE</u>
	<u>Expenditure/Actual Outlay</u>
1985-86	18.00
1986-87	13.61
1987-88	13.19
1988-89	9.00
	<hr/>
	33.80
	<hr/>

Since the Ninth Finance Commission would take into consideration the situation of girls education having become free in all States during the Seventh Plan period, the scheme will not require to be continued during the Eighth Plan.

(18) YOGA EDUCATION: The NPE has envisaged that as a system which promotes an integrated development of body and mind, Yoga will receive special attention. Efforts will be made to introduce Yoga in all schools. Yoga Education was introduced in about 366 Kendriya Vidyalayas as an experimental measure

in 1981-82. It was similarly started in Delhi Schools. experimental programme in the KVS was evaluated through a Committee of educationalists and after effecting some modifications the KVS has decided to introduce this in all Kendriya Vidyalayas. This can be expected to come about by the end of the Seventh Plan. The Delhi Administration is evaluating its experimental programme and all schools in Delhi can be expected to be brought under the scheme by the end of Seventh Plan. For the school system in the country as a whole the Ministry has approved a scheme in 1988-89 which will really be implemented in 1989-90 only. This envisages assistance to eminent Yoga Institutions for setting up a minimum infrastructure to accommodate teacher trainees to the schools assistance for deputing teachers for training to such Institutions. The scheme is based on the premise large schools where there is enough work load to justify a full-time Yoga Teacher should engage one and the small schools should train one of the existing teachers or employ a part-time teacher to impart Yoga Education to schools. The scheme aims to cover about 15,000 schools by 1990 but in view of the sanction of the scheme in 1989 only, real progress in implementation can be feasible only during 8th period.

vi) ENVIRONMENT EDUCATION

EDUCATION TECHNOLOGY

INTEGRATED EDUCATION OF THE DISABLED : These three

programmes have been under implementation for the elementary schools thus far. A mention of these programmes is pertinent here because it is subsequently recommended that these should be implemented in secondary schools also during the 8th

The Environmental Education Programme envisages enhancement of environmental consciousness among students and teachers by strengthening the input about environmental concerns in the syllabi and text-books. However, this general awareness can be supplemented by locale specific programmes which will vary from area to area with variations in ecological situations. Therefore, the scheme envisages a project approach with each project covering an ecologically homogeneous area. Within this area the text-books have to be revised to make illustrations and examples conform to local environmental situations, teachers oriented about local environmental concerns and work experience activities in schools to be redesigned for enhancing environmental awareness and involving students in improving environment. Schools having some land and assured availability of water are also to be assisted for setting up a plant nursery. The scheme also assists NGOs for taking up programmes in a compact area for improving environmental awareness and involving students in improvement/protection of environment. This approach of supplementing the basic thrusts in the syllabi and text-books with a locale specific intensive programme may be appropriate for the secondary sector also during the 8th Plan.

The Education Technology Programme started under the INSAT Utilisation Programme. The launching of INSAT and subsequent setting up of a large number of transmitters has made it possible to reach a large number of schools by TV for the first time. Under the Education Technology Programme, State Institutes of Education Technology (SIET) have been

set up in six States, i.e. Uttar Pradesh, Bihar, Orissa, Andhra Pradesh, Maharashtra and Gujarat. These have become functional now. Full production responsibility for educational TV Programmes has been taken over by the educational system from the Doordarshan. Under the Sixth Plan 1 lakh colour TV sets and 5 lakh Two-in-ones were expected to be supplied to elementary schools by the end of the Plan. Because of the less than envisaged allocations and late start of the programme the coverage is expected to be about 35% of the original envisaged. The educational technology programme including use of TV, radio and audio cassette player in schools is relevant for secondary schools also with some modifications.

The integrated Education of the Disabled is being attempted at elementary school level since the Sixth Plan. Although the total coverage is still small, there has been consistent progress during the Seventh Plan period. It is expected that more children will start coming out of elementary schools. It is necessary that assistance is continued to them at secondary stage in the VIII Plan.

CHAPTER 6

THE AREAS REQUIRING SPECIAL ATTENTION

While the secondary school system has expanded in last four decades and its coverage, except in remote, hilly, tribal and deser areas can be said to be reasonably adequate, the management sturcure and systems, the quality of education and school facilities, inservice training of teachers, relevance to the emploment sector and examination/evaluation arrangements remain promient areas of weakness.

A weak management structure and system is not conducive to attainment of acceptable standards. It reduces the efficiency of an programme that is taken up for the improvement of the system. A rough measure of the efficiency of the system is the examination results at the X and XII Board examinations which are trrninal stages for a large number of students. The results of these levels have been consistently around 40-50 % over the years. It indicates that the system is working at roughly half the efficiency. This is in consonence with the general impression also hat any measure for improvement of the system becomes substntially defeated during implementation. The reasons for this re many. Each State has come to have a large system of schoos in which individual schools, barring a few noteable good schoos, have anonymity. Not only the syllabi and teaching progmmes but also management practices and assistance progmmes are dispensed across the Board without ascertaining the secific needs and therefore the areas where assistance is required. Specific needs of a particular school remain generally unattended to. This faceless existence and the pracfice of a unil dispensation is largely responsible for coming about of

the lowest common denominator as the prevailing standard of education. This cycle has to be broken and the present time a particularly suitable one because for the first time in many decades large programmes have been taken up to improve the facilities and the secondary education sector generally. These programmes would gather more momentum during the 8th Plan and would be a large waste if the efficiency of the system is not improved. Fortunately, there is adequate experience now of autonomous schools and school complexes and their beneficial impact on the quality of education in secondary schools. These measures for bringing about the desired change in the management structure and system require overriding priority during the 8th Plan.

Although there are general opinions about the standard of education and some research studies have been made by NCERT and other academic Bodies from time to time to assess the standard of education at secondary level, there is no reliable and regular system for assessing the quality of education at secondary stage in the country. The NPE has stipulated that levels of learning will be laid down for every stage of education. However, apart from a somewhat generalised statement and the levels expected to be attained in the curricular framework finalised by the NCERT in 1987, the levels of learning expected at secondary and higher secondary stage have not been developed in specific details. The NCERT had done this exercise for primary level in 1970, and this has been revised after the NPE but for other levels this exercise is yet to be done. The NCERT should lay down the levels of expected learning at secondary and higher secondary stages during the 8th Plan and then update

periodically. The Ministry has recently formulated a programme for ascertaining the levels of attainment at secondary and higher secondary levels which will be implemented through the NCERT in alternate years for appropriately selected sample of schools and students in all the States and UTs. This would give the levels of attainment comparative to the CBSE affiliated schools. Once the levels of attainment are specifically developed by the NCERT, they can easily become the reference point. Regular conduction of this exercise and its publication would be useful for the educational system to know where it stands and this will hopefully generate public pressure in States where the levels may be found to be particularly low. This programme needs to be continued during the 8th Plan.

The examination system has been examined and written about continuously and with a degree of thoroughness during last two or three decades. The sustained efforts to improve the examination system have succeeded to some degree. The Board examinations have acquired considerable validity. There have been commendable achievements in ensuring confidentiality of question papers, in developing question banks and in improving the design of question paper and many States have implemented centralised evaluation of answer scripts thereby improving objectivity in assessment. However, some of the major weaknesses remain untouched. The use of unfair means, particularly in remote areas is a serious problem. Marks are awarded in practicals at unjustifiably high levels in routine. The fidelity of the system of awarding marks remains in serious doubt and the examinations being at the end of the year or 2 years the element of memorisation continues to dominate. The system of awarding

marks has consistently made co-curricular activities, which are unquestionably important for development of personality, less and less important in schools. The NPE has envisaged re-structure of examination system with emphasis on continuous evaluation and replacement of examinations and marks by semesters and grades. However, a beginning in this direction has yet to be made. One of the obstacles in doing so is that for such a system to succeed it would be better if all States could switch over to the new system simultaneously, and secondly for admission to Institutions of higher education and professional Institutions a national or regional testing service and its acceptability by the University and professional Institutions is required.

The curriculum at secondary stage, like at other stages is subjected to repeated criticism that it is over loaded and at the same time there are continuing suggestions for adding more and more areas for study. However, the overall load of curriculum has not been objectively assessed. It may be observed that the perception about the curriculum load is also influenced by the number of teaching days being less which increase the work to be done in one period or one day, inadequate competency of the teacher because of which much of the load is transferred to the students and short duration of school hours which is more acute in the case of 2 or 3 shifts schools. In this regard a point to bear in mind is that in assessing the curriculum load one has to look at the curriculum and the standards in other developed countries also in comparison to which Indian curriculum and its load do not seem to be heavy.

The other aspect of curriculum is that co-curricular activities being of no significance for determining the overall

performance of the student at the terminal stage, are getting less and less attention in schools. The sports fields are empty most of the time, the participative activities like drama, debates etc are confined mostly to annual functions, the reading of books other than text-books is an infrequent phenomenon. These deficiencies and lack of any specific programme for it have made value education a very weak programme in schools. These areas have a very important bearing on development of overall personality of the students and therefore require urgent attention.

Although about 90% of the teachers at secondary stage have pre-service training, the overall quality of teachers generally leaves much to be desired. To an extent, because of the requirement of pre-service training which forces candidates joining B.Ed. Courses to commit for teaching career only one or two years early, only the second best and third best candidates are joining the teaching profession. Perhaps making it possible for the brighter students to be recruited as teachers and then receiving an equivalent of pre-service training through correspondence courses will improve the situation. However, for the large body of teachers already in service in-service training arrangements are required. There is as yet no systematic programme large enough for the requirements. Under many of the new schemes started in the Seventh Plan a large programme of in-service training has been provided but such training will take place at large enough a scale only after one or two years because all the schemes have been started effectively only in last two years of the Seventh Plan. Because of this the quality of teachers remains poor and the teaching methods remain mechanical and lecture oriented with very little interaction in the classroom between the teacher and the students, so, improvement of teacher education should be one of the important activities in the VIII Plan.

.....

CHAPTER-7

Recommended programmes for the Eighth Plan

Having taken note of the statistical situation revealed in the Fifth Educational Survey, the directions laid down in the NPE and having taken note of the expected implementation of the new initiatives by the end of the Seventh Plan, the Working Group has given consideration to the appropriate package of programmes for development of the secondary sector during the Eighth Plan.

Looking at the present situation in regard to the school system the Working Group feels that the programmes in the Eighth Plan should be characterised basically by four thrust areas:

- i) Quality of Education
- ii) Expansion needs of the system
- iii) A strong bias in favour of vocational education
- iv) Teacher education

The Working Group has come to the conclusion that in working out the specific programmes an overall view of the requirement of the secondary sector should be taken. Isolated programmes in different areas will have less than optimal impact. The working group believes that an appropriate strategy would be to have a number of foci for development which, moving synergetically, would ensure balanced and adequate development of the secondary education sector. The foci can be:-

- a) Improvement of Management System,
- b) Expansion of the System;
- c) Operation Blackboard type of programme to ensure the minimum necessary infrastructure in secondary schools;
- d) Quality Improvement Programmes;
- e) In-service training programme for increasing the competencies of teachers;
- f) Special programmes like Navodaya Vidyalayas, Kendriya Vidyalayas, Integrated Education of the Disabled, etc.;
- g) Vocational Education
- h) Distance learning through Open Schools for those who cannot attend whole day schools.

Within this framework the following programmes are recommended for the Eighth Plan:

7.1. Management System

Because the schools belong to large State-wide systems, the individual needs of the schools do not get identified and the assistance to them does not flow on that basis. Also, despite consistent recommendations of expert groups, the various levels of schools, that is, the primary, upper primary, secondary and higher secondary schools work mostly in isolation of each other. The Working Group has noted that the schools complex experiment has been conducted in Maharashtra for last many years with beneficial results. In Maharashtra, the school complexes formed have confined themselves to only academic programmes and despite their success, the extension of this idea has not taken place to all parts of the State. The National Policy on Education has also commended the development of school complexes. They would be an appropriate response

to the management needs for optimum development of individual schools and one school in the complex assisting the other when needed. In view of the present weak management structure, the Working Group feels that all the schools in the country should be attempted to be brought under school complexes with one or more higher secondary schools and all the feeder secondary, upper primary and primary schools constituting a complex. These schools complexes should be given administrative, academic and financial powers which should be in conformity with the accepted views of the Government for decentralisation. Within limits, the power of transferring teachers and non-teaching employees should be delegated to the complex. The school complex would also have the power to assign work to a teacher or a group of teachers in one school to assist another school in the complex. Financially, the drawing and disbursing power and powers of the controlling officer can be considered to be delegated to the Principal heading the school complex. The financial allocation for various purposes should be given to the school complex which can then allocate it to individual schools looking at their specific needs. Academically the school complex would coordinate with schools within it to prepare and implement institutional development programme. It would arrange seminars, etc., in specific areas and arrange talks by eminent experts in different fields from time to time. The Working

Group feels that development of school complex and devolution of powers to them on these lines can form the bedrock of development of the schools during the Eighth Plan. Since there is a large number of private schools for which administrative and financial powers cannot be exercised by any other school and which cannot exercise such powers for Government Schools, the school heading the school complex may have to be a Government school and the financial and administrative powers exercisable by it would have to be limited only to Government schools.

These items of work will develop considerable office work for which an Accountant and a Typist will require to be given to the school heading the complex. This would require about Rs.5,000/- per month as salary and allowances to these people. Although the school complexes will be of different sizes, presuming a school complex to have two higher secondary schools on an average, 11650 (about 12000) school complexes will be required to be set up for which the requirement of funds for providing an Accountant and a Typist to each complex would be as below during the Eighth Plan:

Rupees in crores

	1990- 91	1991- 92	1992- 93	1993- 94	1994- 95
No. of School complexes to be set up in the year	2500	2500	2500	2500	2000

Financial requirements (Rs. in crores)	15.00	30.00	45.00	60.00	72.00
	(Grand Total 222.00 crores)				

It is recommended that this may be shared equally between the Centre and the States.

7.2. Expansion needs:

As revealed by the Fifth Educational Survey and the earlier Surveys, the demand in the society is increasing faster for secondary and higher secondary schools than for all schools as a whole. Although most parts of the country, excepting the hilly, tribal and desert areas, have an adequate network of secondary and higher secondary schools, the demand, and, therefore, the expansion of the secondary school system is not showing any sign of slowing down. This is understandable because as the consciousness about benefits of education is spreading and as the programme of universal elementary education is succeeding, the demand for next higher level of education, that is, for secondary education is continuing to remain at a high level. Because proportionately a much smaller number of students are presently availing of secondary education, the Working Group feels that new schools will have to be provided during the Eighth Plan at the rate at which they have been started during the Seventh Plan.

The Working Group has noted the trend in some parts of the country, particularly in the urban areas, is for running two or three shift schools to cater to the requirement of

large number of students. However, the quality of education in such institutions invariably suffers because no school can run a reasonably good programme in three or four hours during which one shift of the school functions. The Working Group strongly recommends that multiple shift schools should not be resorted to. Also, the Working Group has observed that unguided expansion of the school system has been continuing in most States in the country with the result that new institutions are opened with grossly inadequate resources and consequently they turn out grossly sub-standard students year after year. The Working Group would recommend that the expansion of the school system should be guided by the need of -

- a) unserved areas and groups should be aimed to be covered by the new institutions.
- b) new schools should be opened where presently schools are running in two or three shifts.
- c) new schools should be opened where students are having to go longer than reasonable distance to attend the school.

According to the available data, new secondary and higher secondary schools have been opened in the country as below:

	<u>1984-85</u>	<u>1985-86</u>	<u>1986-87</u>
New Secondary Schools	2865	1778	3578
New Higher Secondary Schools	763	1618	No increase due to closing of old Hr. Secondary Schools.

Judged by this data, 2000 secondary schools and 1000 higher secondary schools will have to be opened annually during the Eighth Plan period. Providing three classrooms, one library, two laboratories, two office rooms and two miscellaneous rooms (staff room, store room, etc..) with a total built up area of 4850 sq. ft., for a secondary school and similarly for a higher secondary school which will have to be given two more classrooms to accommodate at least two subject streams at +2 level bringing the requirement of area would be 1500 sq.ft. the building cost for a new one section secondary school would be Rs.9.7 lakhs and for a new higher secondary school Rs.3.00 lakhs. In addition a new school will require furniture for classrooms and for laboratories at the rate of Rs.1/- lakhs per school, laboratory equipment @ Rs.75,000/- per school at secondary level and Rs.1/- lakhs per school at higher secondary level and Rs.25,000/- for library books. With these the overall requirement of funds for a secondary school would be Rs.11.75 lakhs and for a higher secondary school would be Rs.5.25 lakhs. On this basis the requirement of funds and their phasing during the Eighth Plan period will be as below:

(Amount in crores)

		1990-91	1991-92	1992-93	1993-94	1994-95
New Secondary Schools	No.	2000	2000	2000	2000	2000
	Amount	235	235	235	235	235
New Higher Secondary Schools	No.	4500	4500	4500	4500	4500
	Amount	52.50	52.50	52.50	52.50	52.50
Total Amount:		Secondary	: 1175			
		Hr. Secondary	: 262.5			

The enrolment at secondary level is expected to increase by 8% per year and at higher secondary level by 11% per year during the Eighth Plan. The Fifth Educational Survey has ascertained that the pupil teacher ratio at secondary stage has been 21 and 15 at higher secondary stage. These are reasonable ratios and using them to project the requirements of additional teachers during the Eighth Plan, which will include the requirement of teachers in new schools, 345660 teachers would be required at the secondary stage and 309524 teachers for higher secondary stage. Taking the average salary and allowances of a higher secondary teacher at Rs.3,000/- p.m., and of a secondary teacher at Rs.2,500/- p.m., the requirement of funds and their phasing during the Eighth Plan for providing additional teachers would be as below:-

Amount in crores

		1990-91	1991-92	1992-93	1993-94	1994-95
New Secondary Schools	No. of teachers	50,000	50,000	50,000	50,000	50,000
	Amount	150	300	450	600	750
New Higher Secondary Schools	No. of teachers	1 lakh	1 lakh	1 lakh	1 lakh	1 lakh
	Amount	360	720	1080	1440	1800
Total Amount		} Secondary 2250 } Hr. Secondary 5400				

of the hilly, tribal and desert areas also. In these areas secondary and higher secondary schools cannot be provided on the basis of distance from the habitations because the habitations being smaller and far between a secondary school on that basis will have too small an enrolment to be cost effective. The Group had in this context noted the programme for Border Area Development under which educational institutions are being provided in the development blocks bordering Pakistan. Many of these areas are hilly or desert and their problems are somewhat of the general nature and in common with the other hilly, desert and tribal areas. The Working Group recommends that an appropriate facility for such areas would be to provide a hostel for 75 boys and 25 girls in suitably located secondary and higher secondary schools in these areas so that children of habitations within 30-40 Kms can come and stay in these hostels to pursue secondary education. The Working Group feels provision of such hostels in 1,000 schools during the Eighth Plan period would provide the needed facility to children in these areas. On the basis of Rs.20,000/- per seat for creating hostel accommodation, the requirement of funds and their phasing during the Eighth Plan period in 1,000 schools would be as below:-

(Amount in crore)

	1990-91	1991-92	1992-93	1993-94	1994-95
No. of hostels	200	200	200	200	200
Amount	40	40	40	40	40
Total Amount:	200				

The expansion programme has been traditionally funded in the State sector. Therefore, the requirement for new schools and new teachers is recommended to be funded in the State sector. However, the requirement for hostel should be funded under a centrally sponsored scheme with 75% assistance to the States.

7.3. Infrastructure Development Programme

A very notable beginning in the form of Operation Blackboard has been made after the NPE for ensuring that the basic minimum infrastructure facilities become available in all primary schools in the country. Such a programme is inescapable for ensuring acceptable standard at secondary stage also. Therefore, the Working Group recommends that an infrastructure development programme for secondary and higher secondary schools with the objective of providing the minimum essential infrastructure in secondary and higher secondary schools should be taken up during the Eighth Plan. This programme may consist of the following components:

a) Building

Although there has been no specific data about the availability of classrooms and other accommodation in secondary and higher secondary schools, it is generally known that a large number of schools have very inadequate accommodation. The Working Group recommends that two classrooms should be provided to all secondary and higher secondary schools which do not have accommodation as per the norms mentioned in para.2

The cost of two classrooms can be taken as Rs.1/- lakh. The schools can construct classrooms or if they require laboratories, libraries, etc., in substitution of classrooms. For 61306 secondary and 20433 higher secondary schools expected to be in the country at the end of Seventh Plan and presuming this assistance to be required by 75% of these schools, the requirement of funds and their phasing in the Eighth Plan would be as below:-

(Amount in crore)

	1990-91	1991-92	1992-93	1993-94	1994-95
No.	12,000	12,000	12,000	12,000	12,000
Extra Class Room:					
Amount	120	120	120	120	120
Total=600					
Amount					

b) The NPE has emphasised science education and a new centrally sponsored scheme providing assistance for (i) science kits to upper primary schools; (ii) removing deficiency in science laboratories; (iii) assistance for book in library; (iv) in-service training of teachers has been started by the Ministry in 1987-88. The Group recommends that this scheme could become part of the infrastructure development programme in the Eighth Plan. The provision of assistance for inservice training under this scheme is not shown here because the Group is recommending separately in this regard subsequently.

Continuing with the norms developed under this scheme, the average requirement of assistance for a school would be Rs.75,000/-. Since 2500 secondary and Senior secondary schools are expected to be assisted by the end of Seventh Plan under this programme, further assistance would be required by 55000 secondary and higher secondary schools during the Eighth Plan. The requirement of funds and their phasing during the Eighth Plan would be as below:-

(Amount in crores)

		1990-91	1991-92	1992-93	1993-94	1994-95
Secondary Schools & Higher Secondary Schools	No.	11000	11000	11000	11000	11000
	Amount	82.5	82.5	82.5	82.5	82.5
Total		412.5				
Amount						

c) An Educational Technology programme has been under implementation earlier as part of INSAT Utilisation Programme and since 1987-88 as a revised centrally sponsored scheme in pursuance of the NPE. This scheme has been so far confined to elementary schools. Under the scheme the Central Institute of Educational Technology and the State Institutes of Educational Technology in six States of Andhra Pradesh, Uttar Pradesh, Bihar,

Orissa, Maharashtra and Gujarat have been set up. They would become fully functional by the end of the Seventh Plan.

They would not require further infrastructural assistance. The staff and maintenance costs in the SIET and the SIETs would become part of Non-Plan expenditure in the Eighth Plan. The production of educational programmes will require to be funded as Non-Plan expenditure during the Eighth Plan because the development of production capability and attainment of good standards in programmes produced is a slow process. Each SIETs would require Rs.5 lakhs per year for this activity during the Eighth Plan. Under the scheme two-in-ones were expected to

be supplied to 5,00,000 schools during the Seventh Plan and colour TV sets to 1,00,000 schools. However, about 1,40,000 schools are expected to be assisted for two-in-ones and 40000 schools for colour TV sets during the Seventh Plan. Therefore, 3,60,000 schools will be required to be assisted for two-in-ones during the Eighth Plan and 60,000 schools for the colour TV sets.

The on-going ET programme is usable in Orissa, Andhra Pradesh, Maharashtra, Gujarat and all the Hindi speaking States. The other States in the country are presently not covered. Coverage of these States would require setting up SIETs in a number of non-Hindi and

Hindi States and transmission arrangements in these various languages. This has implication for satellite design and allocation of adequate satellite capacity

for the educational sector. To take an integrated view of the requirement and to suggest an integrated plan for these purposes, an Expert Group under Shri Kiran Karnik, DECU - Space Applications Centre, Ahmedabad was set up by the Ministry in August, 1987. The Group has concluded its work and has given its report. The recommendations made by the Group can appropriately form the basis of the programme during the Eighth Plan period. The requirements projected by the Group are as below:-

- ETV time requirements have been worked out to 9 hours 10 minutes on each of the 13 regional networks and 8 hours 10 minutes on the National Network.
- Based on these time requirements, the group has estimated that total no. of programmes for the regional network will be 2500 and 600 hrs of programme production for national network.
- To meet these production requirements 80 studios for regional network and 5 studios for national network would be needed total manpower requirement for these production centres would be 113511 persons.
- In order to meet the training requirements of these personnel, a total of 13 training centres are envisaged with a capital cost of Rs.5 crore each.
- The total financial requirements to build up these facilities to meet the ETV transmission requirements are estimated at Rs.1140 crores.

Similarly for Radio, to cover 90% of the population, broadcast time are 450 minutes on each regional network and 550 minutes on the national network. Capital costs envisaged are approx. 325 crores for the setting up of radio broadcast facilities.

The Government decisions on the report submitted by the Kiran Karnik Group will determine the requirement of funds for implementing the relevant programmes. The

- 4 -

recommendations made by the Group are of far reaching consequence. Essentially, the recommendations can be broadly categorised as relating to -

- a) maximising the use of TV and Radio for education and for this making concerted attempt to reach all the schools in different parts of the country;
- b) maximising the transmission of educational programmes on TV within the existing transmission capability and recommendation for an exclusive channel for educational programmes in the medium-term and the long-term;
- c) systematic creation of large and well distributed programme production facilities for radio and TV programmes and setting up arrangements for creating skilled manpower for manning these facilities;
- d) use of radio on a much bigger scale for educational purposes.

The Working Group would strongly recommend for the favourable consideration of the Government the recommendations made by the Kiran Karnik Group.

All the above projected requirements are to be effective for 1995 onwards. However, the group has recommended immediate start to implementation of the proposed system by providing additional transponders for ETV and by re-scheduling existing transmission for Radio.

The Group has noted that the ongoing ET programme does not cover the secondary and the higher secondary sectors. This may be because the elementary education has naturally the highest priority and when the pro-

gramme began on a substantial scale after the availability of the national satellite and setting up of the extensive chain of transmitters, the initial priority has been rightly to provide this input to elementary schools. The basic facilities like the transmission arrangement, an extensive chain of transmitters in the country and programme production facilities in the educational sector have now been set up and, therefore, extension of the educational technology programme to the secondary sector can be considered. The secondary schools can actually benefit more from educational technology because the students are of a more matured age and the teaching assistance is better. However, across the board transmission performance has to address itself to the lowest common denominator and also variation and diversifications in the country is more at secondary and higher secondary stages. Therefore, the Working Group is not in favour of transmissions on TV for secondary sector. The Working Group has noted that the VCRs are increasingly becoming available and during the Eighth Plan period they are likely to be manufactured in large numbers in the country which will bring down the costs also. Educationally also, a VCR - Colour TV combination is more efficacious because in this mode the programmes can be viewed at the convenience of the learner/class and repeatedly. The Group feels this can become a powerful tool for not only improving subject matter learning at secondary stage but also for taking programmes for promoting values and

national integration to the schools. Therefore, the Group recommends that a sizeable beginning of the Educational Technology Programme in the VCR-Colour TV mode should be made in the Eighth Plan. It is recommended that 5,000 secondary and higher secondary schools may be assisted under the programme in the Eighth Plan. The cost of a TV-VCR will be Rs.20,000/- and of 20 cassettes to be given with the set would be Rs.4,000/-. Similarly, the cassette player at the rate of two cassette players costing Rs.2,000/- and 40 audio cassettes costing Rs.1,200/- per school should be given to all 75,000 secondary and higher secondary schools. The group was of the view that if funds to the extent projected in the report are not available, this ET programme should have second priority as compared to items pertaining to buildings, infrastructure and provision of teachers.

Even though the hardware part of this programme has heavy foreign exchange requirement.

The total amount required for educational technology in the VIII Plan on this basis would be as below:-

(Rupees in crores)

Item	TV-VCR to 5000 schools	Cassette players to 25000 schools	TV to 60,000 schools	RCCP to 33.5 lakh schools	10 New SIETs	5 New Training Institutes
Amount	12.00	24.00	54.00	336.00	50.00	25.00
Total 201 Amount						

d) Computer Literacy and Studies in Schools (CLASS) project is being implemented since 1984-85.

By the end of the Tenth Plan about 4,000

secondary and higher secondary schools are expected to be brought under the programme. This programme was started with the objective of demystifying the computers and for familiarising the students with computer use and its applications in various fields. The Group has noted that the Space Applications Centre, Ahmedabad, has evaluated the programme and

the Ministry has re-examined the programme objectives and management design through a group of experts. The Ministry is considering a regular programme for imparting computer literacy but the Group understands that a sizeable progress may not be achieved because of the constraint of resources during the remaining periods of the Seventh Plan.

However, a large enough beginning has been made under the CLASS project already and valuable experience has been gained. There is no doubt now that it is necessary to expose students to computers and their use because without this they will face innumerable problems in their adult life. Besides, the Computer Literacy Programme has to develop in course of time as an aid of learning in specific subject areas also. Computer science as a subject has already been started in 94 schools according to the Fifth Survey and computer related vocational courses would have started in a fair number of schools by the end of the Seventh Plan under the centrally sponsored scheme for Vocational Education. The Working Group has noted that the expert group

appointed by the Ministry has recommended that the literacy programme would move to a lower level of schools progressively. Therefore, the Working Group feels that provision of micro computers in schools should be a part of the infrastructure in the secondary and higher secondary schools. The Literacy Programme should be implemented in all secondary schools in the country, that is 4000 (electrified) schools, during the Eighth Plan. At the +2 level, the emphasis should be for computer science as a subject and computer related vocational courses. The requirement of vocational courses has been taken care of in subsequent paragraphs dealing with Vocational Education. Therefore, the requirement of literacy programme in 40000 secondary schools during the Eighth Plan (Rs.80,000/- per school for a five micro computer set) and for computer science in 2000 higher secondary schools (Rs.3/- lacs per school) would be as below:-

(Rupees in crrs)

Item	Amount
I Literacy	
(a) hardware training	400
(b) software	50
(c) resource centres	10
I Computer Science Courses	60
Total	520

Sharing :- The Group recommends that 75% assistance for infrastructure development programme should be given by the Central Government with the remaining 25 % to be provided by the State Government concerned. Giving 100% assistance for a programme does not ensure sufficient interest at the School and State level and expecting 50 % or more from the State Government creates the problem of feasibility in States which are financially not well off.

7.4 Special Programmes

Integrated Education of the Disabled :

Since 1982-83 the programme for Integrated Education of the Disabled has been transferred to the Department of Education. At present integrated Education of the Disabled, that is, children who have minor handicaps and who can study along with other students and follow the same course is looked after by the Department of Education and the education and rehabilitation of those with severe handicaps is being looked after by the Ministry of Welfare. The size of the programme has increased after the National Policy on Education but it is still a very small programme. It is by and large being implemented in elementary schools and the programme is expected to cover 22000 children by the end of the Seventh Plan. These children will be completing their elementary education and the working Group feels that arrangements should be made in secondary schools for them to continue education.

Therefore, the Working Group recommends that the scheme should be extended to secondary schools during the Eighth Plan.

The Ministry of Welfare may also be considering provision for this sector. However, to ensure that this important area is not left out, the Working Group is recommending for this area in this report also. The requirement of continuing the integrated education programme for elementary schools is as below:

<u>Year</u>	<u>Rs.(in crores)</u>
1990-91	30.00
1991-92	37.50
1992-93	45.00
1993-94	48.75
1994-95	52.50
Total	<u>213.75</u>

The integrated Education Programme in the Secondary schools will require the same facilities and these would be

<u>Year</u>	<u>Rs(in crore)</u>
1990-91	10.00
1991-92	12.50
1992-93	15.00
1993-94	16.25
1994-95	17.50
Total	<u>71.50</u>

On this basis the requirement of funds and their phasing for this programme in the Eighth Plan

would be as below :-

(RS. in crore)

	1990- 91	1991- 92	1992- 93	1993- 94	1994- 95
Elementary Education	30.00	37.50	45.00	48.75	51.50
Secondary Education	10.00	12.50	15.00	16.25	17.50
	<u>40.00</u>	<u>50.00</u>	<u>60.00</u>	<u>65.00</u>	<u>70.00</u>

Grand Total = Rs. 285.00
crores

Kendriya Vidyalaya Sangathan :

The Kendriya Vidyalayas are fully funded by the Government of India out of Non-Plan budget. The KVs were started in 1963-64 on the basis of the recommendation of the Second Pay Commission which recommended setting up of 100 such schools in the country to ensure uninterrupted education of the children of the employees transferable all over the country. In course of time the number of KVs has grown to 729 in 1988 and 40-50 new KVs are being opened every year. The annual expenditure on KVs in 1988-89 is Rs. 116.63 crores and is expected to be Rs. 140.43 crores in 1989-90. In course of time the KVs are now getting opened in the civil sector, in the Defence sector and in the project sector including Public Sector Undertakings and Institutions of Higher learning. The overall enrolment is about 5 lakhs in 1988. These Vidyalayas have been very

popular because they have maintained good standard and they follow a common medium of instruction all over the country. Therefore, they are demanded not only by the Central Government and Public Sector Undertaking employees but also by the other categories of general public. The working Group feels that the KVS is already reaching a limit in terms of its size and it cannot go on expanding indefinitely without adversely affecting the quality. The Working Group therefore, recommends that during the Eighth Plan the KVs should only be opened at district places which are still not covered. In the Defence Sector and in the Project sector, of course, as many KVs as may be required may be opened. This may mean opening 20-30 KVs annually during the Eighth Plan period. Additional commitment should be met by opening more new sections liberally and by adding the necessary rooms to existing schools wherever required. However, the working Group is not making financial projections for the KVs because it is not a Plan activity.

lavodya Vidyalayas

It is universally accepted that children with special talent or aptitude should be provided opportunities to proceed at faster pace than others, by making good quality education available to them irrespective of their capacity to pay for it. Such children are, in fact, found in every section of the society in all areas and even in the most backward

areas of the country irrespective of their caste, creed, colour and sex. However, the facility of providing good quality modern education, has been available to affluent sections of the society living in urban areas, whereas the majority of the children living in the country-side, particularly the poor have been left out of the main-stream, as their parents can not afford to pay for it. Thus, there was an imperative need to set up good quality modern educational institutions in the rural areas for the purpose.

In the past also, the Education Commission (1964-65) had recommended selection of a certain percentage of schools as pace-setter institutions. However, it was not found practicable to select schools/institutions within the existing system for a pace-setter improvement programme, due to the competing local claims for selecting a few suitable institutions out of many, transferability of teaching staff to maintain continuity and non-availability of financial resources to pay special attention to quality education.

It is in this context and in pursuance of PM's directives that the National Policy on Education, 1986, envisaged that pace-setting institutions, intended to serve this purpose, should be set up in various parts of the country on a given pattern with full scope for innovation and experimentation. Their aims will be to serve the objective of excellence,

coupled with equity and social justice (with reservation for SC and ST) to promote national integration by providing opportunities to the talented children, largely rural, from different parts of the country to live and learn together, to develop their full potential and most importantly, to become catalysts of a nation-wide programme of school improvement. At least one-third of the students in each Navodaya Vidyalaya will be girls. These schools will be residential in character and free of charge.

Accordingly, a scheme, so called Navodaya Vidyalaya Scheme, was launched, under which it was decided to set up co-educational-cum-residential schools, on an average, one in each district of the country, during the 7th Five Year Plan. The Programme was started in 1985-86 with two experimental schools. So far, 256 Navodaya Vidyalayas have been established in 29 States/UTs. However, obviously, it is not possible to cover all the districts in the country before the end of Seventh Five Year Plan, as envisaged originally, due to financial constraints being foreseen now. Therefore, 194 schools will have to be opened during Eighth Five Year Plan.

In addition, the schools opened during the Seventh Five Year Plan, are adding one class every year. A school will go upto Class 12th in 7 years after it is opened. Therefore, the schools opened during the 7th Plan period will require more teachers

and more boarding & lodging expenses for more students during the 8th Plan. Further, all Navodaya Vidyalayas have been started without their own buildings. The buildings have to be provided as soon as possible because without these, the schools would not perform well. The buildings for 203 Navodaya Vidyalayas are expected to be ready in next 1-2 years and would require Rs.575.00 crores during the 8th Plan period. In addition, new buildings for 194 schools will have to be constructed during the 8th Plan itself. The requirement of funds and their phasing during the 8th Plan would be as under :-

(Rs. in crores)

Year	No. of NVs to be opened during Eighth Plan	Operational cost of new NVs during the Eighth Plan	Requirement of funds for construction during Eighth Plan
1990-91	50	23.00	104.00
1991-92	50	55.00	104.00
1992-93	50	73.00	104.00
1993-94	44	106.00	103.00
1994-95	-	123.00	3.00
		<u>380.00</u>	<u>418.00</u>

Approximately, Rs.5,000/- per student per annum is incurred on boarding, lodging and supply of uniforms, text-books, stationery, rail/bus fares 'to and fro' to the homes etc. as the education is free for all students.

Lastly, in the Indian way of thinking, a human being is a positive asset and a precious

national resource, which needs to be cherished, nourished and developed with tenderness and care, coupled with dynamism. The catalytic action of quality education in this context and dynamic growth process requires meticulous planning and execution with great sensitivity. The rural areas, with poor infrastructure and social services will not get the benefit of good quality education unless rural-urban disparities are reduced and determined measures are taken to promote diversification and dispersal of opportunities to the bright rural children at the door-steps in their own local environment. Thus, the objective of the good quality modern education is to integrate rural and urban children as equal partners to prepare them for national development as also to enable them to face the realities of life with courage and confidence. This is a unique scheme which has no parallel in the field of education history in the world as a whole and as such has to be given a fair trial even if the expenditure on the functioning of the Navodaya Vidyalayas is slightly on higher side.

Language Teaching

It is being increasingly felt that one of the prominent reasons for low standards of education at secondary levels is the poor standards of language teaching. If a student remains weak in language, he is not able to acquire good understanding in other subjects also. The only way this weakness can be removed is by having effective programmes of inservice education which is dealt with in subsequent paragraphs. However,

in addition to that there is the requirement of promoting the teaching the third language under the Three language Formula. Even with the acceptance of the Three languages Formula by most of the States for three decades, the arrangements for teaching languages in accordance with the Three Language Formula are not adequate in most parts of the country. The working Group feels and this has been the view in other for also, that without provision of a language teacher for the third language, its teaching is not likely to take place. There has been programme for assisting the States for providing Hindi teacher in non-Hindi States and that has been found to be very helpful. The Working Group feels that this programme should be extended to cover Hindi speaking States by providing assistance to them on 50% basis for teaching of third language in accordance with the 3-language formula. For providing this facilities in at least one secondary school in a block in about 3,000 blocks in the Hindi speaking States and for 3000 schools in the urban areas, that is, in all to 6000 secondary schools and taking the salary of a language teacher to be Rs.2,500 /- p.m. the requirement of funds and its phasing during the Eighth Plan would be as below :-

(Amount in Crore)

		1990-	1991-	1992-	1993-	1994-
		91	92	93	94	95
Language	Nos.	1200	1200	1200	1200	1200
	Teachers	4.32	8.64	12.96	17.28	21.60
					Total	<u>64.80</u>

- 35 -

7.5. Vocational Education

Need for diversification at higher secondary stage has been emphasised by all the Commissions particularly Kothari Commission and its absence in the Indian education system has been a large weakness. The National Policy on Education, 1968 and the NPE, 1986 both have strongly underlined the need to provide a strong programme for vocational education. The NPE 1986 does not merely emphasise the importance but has indicated the specific nature of the programmes required in this regard which has been recapitulated in paragraphs 5.16 to 5.23. However, so far this programme did not make much headway except in some states like Tami Nadu and Maharashtra because adequate planning technical assistance, administrative and financial resources could not be provided by the States. In Tami Nadu and Maharashtra also although the coverage achieved has been notable but the quality of the programmes was not as could be desired because sufficient time in the curriculum and emphasis on practical skills did not come about. In one of the very important initiatives after the NPE, a centrally sponsored scheme for vocational education at + 2 stage has been started in 1987-88. The scheme provides a comprehensive and systematic support for vocational education in so far as management structure, academic support at the national level and in the State and School facilities are concerned. However, the implementation in schools is expected to start on a substantial scale from the

academic session 1989-90 only because of the time lag inevitable for implementation of a complex programme like this in a diverse and large country like ours. It is expected that the management structure including State Councils of Vocational Education as umbrella bodies for planning and review, Vocational Wings in the Directorate of Education and SCERTs would have been started by the end of the Seventh Plan in all the States and UTs. 2500 schools with 7500 vocational courses with an enrolment capacity of 1.87 lakhs would have started (sanctioned) by March, 1990. This enrolment would mean a coverage of 6.5% against the target of 10% enrolment set in the NPE. The deficiency and further expansion to achieve 25% diversion by 1995 would be required to be achieved during the Eighth Plan by opening more vocational courses in higher secondary schools. The Working Group believes that by the end of the Eighth Plan period there should be vocational courses, 3-4 courses in a school, in about 7,500 higher secondary schools in blocks and an equal number of higher secondary schools in urban areas. This means that vocational courses by the end of the Eighth Plan should be available in 15,000 higher secondary schools in the country. On the norms developed under the scheme in operation in the Seventh Plan, the requirement of funds and their phasing during the Eighth Plan would be as below:

(Amount in crore)

S.No.	Item	Estimated requirement					Total
		1990-91	1991-92	1992-93	1993-94	1994-95	
1.	Equipment & Building	67.50	90.00	112.50	135.00	157.50	562.50
2.	Resource Material Development	1.00	1.00	1.00	1.00	1.00	5.00
3.	Text Book Subsidy	2.40	3.60	5.10	6.90	9.00	27.00
4.	Apprenticeship Training	1.80	3.60	5.76	8.64	12.24	32.04
5.	Training of teachers	1.51	2.11	2.71	3.32	3.92	13.57
6.	Examination & Certification	0.50	0.50	0.50	0.50	0.50	2.50
7.	Raw materials	16.57	25.50	36.98	51.00	67.58	197.63
8.	District Vocational Surveys	0.15	0.15				0.30
9.	Management Structure	12.30	13.65	14.35	15.05	15.80	71.15
10.	School Staff	119.95	202.51	310.32	444.64	606.79	1684.21
11.	Evaluation & Monitoring	0.15	0.15	0.15	0.15	0.15	0.75
12.	Voluntary Organisations	0.10	0.15	0.20	0.25	0.30	1.00
Total :		223.93	342.92	489.57	666.45	874.78	2597.65

The programme in the Seventh Plan and the proposed programme in the Eighth Plan would amount to a very rapid expansion. It is necessary to ensure that this does not mean a haphazard growth in which money is spent and facilities are provided in areas and of a nature not warranted by the local employment needs. Also, an important activity under the programme (during the Eighth Plan) will have to be increasing emphasis for sponsored vocational courses and for giving orientation in favour of self-employment in general courses. It is essential for the success of the programme that a sufficiently high percentage of successful candidates are absorbed in meaningful employment. There are large and medium size employer groups in all parts of the country. They require trained people in various skills. It will be beneficial for the students of vocational education and to these employers if in as many areas as possible the school involve

....

these employers in design of a course suitable for their needs and start such a course with assistance in teaching being also taken from the personnel in these departments/organisations. These courses will, of course, be opened after arriving at a working arrangement with these employers for priority in absorption of the students completing these courses. A notable beginning in this regard has been made by the Central Board of Secondary Education by working out a vocational course for general insurance in cooperation with the General Insurance Corporation, in which students securing more than 50% marks have an assurance of being absorbed by the Corporation. Similar potential exists in regard to large Government offices and a large number of industrial and commercial organisations in the country. Also, another large area is the health sector where there is pronounced shortage of skilled manpower at the level of technical persons in the fields of nursing, technicians, health workers etc. Such sponsored/dedicated courses should receive the highest importance during the VIII Plan.

Another aspect which needs to be given attention during the VIII Plan is the development of bridge courses for the mobility of vocational stream students for higher education. One of the greatest deterrent to the acceptability of vocational courses by students is the fear of vocational stream at +2 stage being a "dead end" not leading to further education. According to ideas accepted in the NPE, those who pass vocational courses and work for sometime in the vocation, for example nurses or pharmacists, should get admission to higher professional courses by a separate test against 10% seats. +2 vocational students should also be allowed admission to undergraduate general or employment oriented streams. If necessary, bridge courses may be designed for the purpose by the State Boards of Education.

They must also ensure the teaching of such courses in schools within easy reach of the students of a given area.

Special emphasis should be given to starting vocational courses particularly suited for rural areas and women and requiring multi-skills. These courses should provide a common core and supplementary modules leading to specialisation in several skills under a common occupational area. Since the enrolment in rural areas and of girls for vocational courses is not adequate and there is need for intervention for these groups, a few vocational school complexes may be started with adequate facilities and a hostel. These complexes could run their production unit on semi-commercial basis. The recommendations of the CABE Committee on Vocationalisation may be seen in this regard.

The training of vocational teachers continue to be neglected area. The NCERT and its Regional Colleges of Education need to be adequately strengthened to help the States not only in training resources/key persons, but actually training teachers for different vocational courses. The RCEs should also provide in-service training to vocational teachers on regular basis for upgradation of their skills. As the requirement increases Regional Vocational Teacher Training Colleges may also be established on the pattern of TTIs with the function of providing formal pre-service or extended in-service training courses.

The ongoing scheme for Vocational Education is confined to the +2 stage. The Working Group understands that the Ministry considered a larger programme for work experience as indicated in the NPE for different levels of schools and vocational education programme at classes below the +2 level. In principles, there is a large need to provide vocational education to those who do not pursue education beyond Class VIII and the NPE has underlined this need. This is partly met by the ITIs. However, the problem of providing sufficient time in the curriculum to allow for adequate skills to be acquired by the students at this stage has to be resolved by the NCERT in the light of much previous thinking on work experience. As far as work experience is concerned, despite the emphasis recommended for it all through and notably in the NPE, this area remains a very weak area in the school system. One problem in this regard has been the total non-availability of financial resources even on modest scale to allow schools to organise any activity of this nature and the other problem has been that the work experience area involves a large number of specific skills for which there are not enough resources to provide teachers. However, the concept of work experience is beyond argument and in view of the generally perceived lack of proper work ethic in the society, this programme should not be ignored further. The Working Group recommends that Rs. 50/- per student per year should be provided to at least 25,000 upper primary and secondary schools in the country for pursuing an appropriately designed work experience programme. It would be

appropriate that this programme is implemented either through the existing teachers or more appropriately by engaging part-time teachers. This would keep the teaching cost low and at an acceptable level and it will also allow the schools to offer a number of activities to the students.

Thus the requirement of funds for the programme of vocational education and work experience during the Eighth Plan and its phasing would be as below :-

Requirement of funds in crore

<u>S.No.</u>	<u>Year</u>	<u>Vocational Education</u>	<u>Work Experience</u>
1.	1990-91	223.93	82.94
2.	1991-92	342.92	98.09
3.	1992-93	489.57	91.59
4.	1993-94	665.45	107.02
5.	1994-95	874.78	134.96
		<u>2597.65</u>	<u>513.58</u>

It is recommended that this programme should be implemented as a centrally sponsored scheme with 75% assistance being provided by the Government of India.

....

6. Programmes for improvement of quality

In view of the current rather low standards prevailing, there is a need to have a continuous programme for improvement of quality of secondary education, which is the foundation of quality in all further education. Therefore, the Working Group recommends that in the Eighth Plan there should be a sizeable programme for improving quality of secondary education.

The quality of education in an educational institution is determined by some intangible features and some tangible features. (a) Intangible features would consist of the objectives of the schools and the ethos of the school which have a profound bearing on the education imparted in the school. For these there cannot be any specific external programmes. The initiative for these must come from within the school. At best by promoting the culture of consultation among the managers, principals and teachers an atmosphere can be created for the functionaries to improve all aspects of working - such as conscientious performance of duty, efficiency, friendly atmosphere, cleanliness, attention to well-being of students as well as employees, etc. The tangible features would consist of the infrastructure about which the Group has given its recommendations in the preceding paragraphs in the form of an 'Operation Blackboard' type of programme. The other tangible feature would be the quality of staff of which the teachers are usually the most important sector. The measures for improving the quality of teachers are recommended by the Working Group in the preceding paragraphs. In addition to these, the quality of education can also be influenced substantially by some specific programmes which are enumerated below. The Working Group would like to emphasise that when one

talks of programmes for improvement of quality of education, the reflex reaction is for programmes aimed at the upper end of the spectrum. The public schools illustrate this phenomenon. They cater to the needs of the children from comparatively well-off families who can afford to pay for many of the facilities and programmes. The Working Group, however, feels that in the over system the guiding principle in the programmes for improvement of quality of education should be that these programmes should focus on the lower end of the spectrum, where improvement is most urgently needed.

(a) Environment Education

There is an ongoing programme started after the NIPEE for environmental orientation to school education. This programme started in 1982-89 and, therefore, its impact will be felt only at the time the Eighth Plan begins. However, an interesting thing developed in this programme is the project approach. While consciousness about environment concerns and awareness about it is sought to be strengthened by better coverage of this area in the syllabi and textbooks, this is only the background information. The environmental concerns are locale specific and a set of concerns is applicable to an ecologically homogeneous area. Therefore, to provide intensive education about environmental concerns, a work experience programme attuned to these concerns, the scheme seeks to cover a number of schools under a project having similar environmental situation. The Working Group feels that this programme needs to be extended into the secondary sector during the Eighth Plan with continuing emphasis on the programme through non-Government organisations which are particularly well placed for such a role. The ongoing scheme would cover about 1100 schools by the end of the Seventh Plan. The Group feels that about

projects should be sought to be covered by the end of Eighth Plan. These projects would include secondary schools also. The requirement of funds and its phasing during the Eighth Plan period would be as below :

<u>Year</u>	<u>Rs. in crore</u>
1. 1990-91	30.00)
2. 1991-92	52.00)
3. 1992-93	75.00)
4. 1993-94	90.00)
5. 1994-95	105.00)

	352.00)

(b) Value Education

Value education has been emphasised by everyone and it has also been pointed out by almost everyone; but arrangements for it are inadequate at present in schools. Its importance does not require to be argued. One measure taken since 1982 in this direction is the review of textbooks from the point of view of national integration and for deleting portions leading to communalism, regionalism, casteism, etc. The NCERT has been the nodal agency for this and it works through the State agencies. In the first phase it took the history and language textbooks. The NCERT developed the tools for evaluation and on that basis the textbooks were reviewed in all the States and UTs.. The Ministry has advised the State Governments and the State Textbook Agencies to build in the process of such evaluation and review during the process of writing of the textbooks by subjecting each new textbook to such a review when the manuscript is ready and before it is printed. The Ministry has recently decided to set up a national committee for an ongoing review on a continuous basis of new textbooks as they are prepared from year to year. This is a good

programme and the Group expects that this will be continued during the Eighth Plan.

After the NPE a scheme has been started by the Ministry for Culture, Art, Value Education and for assistance to schools implementing innovative programmes. The assistance to programmes for value education obviously has to be for values derived from the Constitution and the universal values. The Working Group feel that this programme needs to be intensified, and in particular audio and video programmes to be produced should take this aspect into account. The level of funding under the scheme which is expected to be around Rs.50 lakhs per year by the end of the Seventh Plan should be appropriately increased to Rs.2 crores per year during the Eighth Plan.

(c) Co-curricular activities; Talks by resource person. Project work.

Co-curricular activities have the obvious importance for ensuring all round development of the personality of the student. Because most of these activities are not amenable to specific marking and because even minimal financial resources have not been available to schools, these activities have suffered with obvious adverse effect. In most schools participation in games and sports, cultural activities, debates etc., has become confined to only annual day celebration. Similarly, interaction between experts and resource persons in various fields with students and teachers is an important measure for exposing the students and the teachers to the latest development and to kindle the urge for extra achievement. The schools are becoming more and more confined to transacting only the syllabi. Inviting experts and eminent people regularly and periodically to talk to the students and teachers would be one important activity to increase the motivation and enthusiasm among students and teachers.

For these purposes an appropriate way would be to provide 1,000/- per year to each secondary school for these activities. 80,000 secondary schools in the country the requirement and phasing during the Eighth Plan would be as below :-

	90-91	91-92	92-93	93-94	94-95
Number of Secondary schools	16000	16000	16000	16000	16000
Expenditure in crore	16.00	32.00	48.00	64.00	80.00
Grand Total	= Rs.240 crore.				

Teacher Training

The teacher is the focal point of learning in the school. It is a generally felt weakness that the teacher motivation and competencies are low leading to low standards. The National Council for Teacher Education is envisaged to become a much more active agency in the NPE and in the POA. Simultaneously a new scheme for restructuring and strengthening teacher education has been initiated in 1987-88 in pursuance of the NPE requirements. The scheme has five components:

- 1. Mass orientation of school teachers;
 - 2. Setting up of District Institutes of Educational Training (DIEs) in each district for pre-service and in-service training of elementary school teachers;
 - 3. Strengthening of secondary teacher training institutions;
 - 4. Strengthening Departments of Education in selected Universities;
 - 5. Setting up institutes of advanced learning.
- Emphasis under the scheme has been on the elementary school sector during the Seventh Plan which is quite appropriate. Although the programme envisages assistance to secondary teacher training institutions but the working Group is of the view that

these institutions being the university sector will continue to function in an autonomous manner and the present weak linkage between such institutions and the school sector is likely to continue. Because of this while the strengthening under the scheme will benefit the pre-service training of teachers, much should not be expected from this arrangement for inservice training of teachers. A vigorous programme of in-service training of secondary teachers is necessary for improving the standards of education in all areas of school activity. The Group has come to the conclusion that for inservice training of secondary teachers it will be more appropriate if a wing for inservice training of secondary and higher secondary school teachers is created in the DIET during the Eighth Plan. Such a wing would require the following inputs:

- i) Building about Rs.5 lakhs
- ii) Equipment & Furniture about Rs.1.5 lakhs
- iii) Staff - two language lecturers, one for regional language and one for English; one for Commerce; one in Humanities stream.

Obviously these teachers will not cover all the areas but they will provide an adequate nucleus for arranging regular program of inservice training. The requirement of trainers can be made in part by these teachers with the rest being contributed by guest lecturers from neighbouring institutions. On the pattern of the ongoing scheme, training in one subject area can be held for 2 weeks for about 30 teachers at a time, with at least 10 programmes conducted per year. The requirement of funds for this programme for setting up such a wing in 400 DIETs during the Eighth Plan period and for training 300 X 40 = 1,20,000 per year would be as below :-

.....

<u>Items</u>	<u>Amount (in crores)</u>
1. building @ 5 lakh per for 400 SECJET	20.00
2. Furniture & Equipment @ 1.5 lakh for each SECJET	6.00
3. Salary cost @ 20,000 per SECJET per month for 400	4.80
4. Training cost (minus TA) @ Rs.20/- per day per head for 15 days for 5 lakh teachers	24.00

TOTAL :	54.80

In addition to the inservice training of teachers through formal courses, the teacher competencies and motivation can also be favourably influenced by the following :

- a) The teachers magazines should be institutionalised and they should contain more material of professional interest.
- b) There could be monthly or two-monthly meetings of subject teachers in the school complex where individual teachers can benefit from the experience of their colleagues.
- c) The teacher organisations should be persuaded to set up fora for subject teachers which should be encouraged to meet at least once in a year at divisional (a group of districts)/district level to discuss areas of professional interests and innovations made by individual teachers in that area.
- d) The Kendriya Vidyalayas have emerged as schools with considerably better than average facilities and standards. The Navodaya Vidyalayas are also emerging as such institutions. Through school complexes and otherwise measures should be worked out for these schools to interact

with the neighbouring schools and influence them by making available their facilities and by associating them with their well-designed programmes.

7.8 Examination Reforms

The present system of examination has many shortcomings. It emphasises memorisation and because the co-curricular areas are not amenable to marking, it de-emphasises them. The assessment by awarding marks is not as reliable as the specific marks would indicate. Thus, the present examination system is distorting the whole of educational process in the country. Therefore, the NPE has emphasised the need for reform of examination. The reform should make examination a tool for improving education in schools. The new system would emphasise continuous evaluation and introduction of semester system and use of grades instead of marks in assessing the candidates. However, nothing very tangible has happened in this direction so far. The reasons for this are fairly obvious. If semester system is introduced and candidates are assessed in terms of grades then in order to ensure comparability among students from different states, such a system should be introduced simultaneously in all the States. Also for admission to institutions of higher learning like universities after the higher secondary stage and for admission to engineering and other professional institutions there has to be a basis for selection of students for admission. This would require the candidates desirous of coming in this direction to be assessed on national or regional basis, that is, a national test supplemented by or a series of regional tests will have to be introduced simultaneously with the switch over to the grades. This whole

operation would require the concurrence and agreement among the States on the basis of a detailed scheme of the new arrangement including the phasing for the switch over to the new system and infrastructural arrangements required for the national and/or regional tests. This has not been done so far and without this there can be no substantial progress for carrying out the objectives of the National Policy. The Group is of the view that this work must be attended to on a priority/^{basis} and the switch over to the system envisaged in the NPE should take place in the first two years of the Eighth Plan. The Group is not projecting any financial requirements for this because the examination Boards in the country are self-supporting. They are able to meet expenses by collecting appropriate fees from the students. Therefore, there would be no substantial additional requirement for setting up this system.

In recommending as above the Group is conscious of the difficulties involved in making the whole country-wide system change in a short period of time. This fact may indicate the need to go about examination reforms in phases. The phase can consist of encouraging those schools which have the necessary capability and who have the desire to switchover to the examination system recommended in the National Policy. These schools can be encouraged to give up the prevailing examination system by being given them autonomy. This would require the system of autonomous schools to be created and encouraged on the lines of autonomous colleges now coming up in the country. There are a few schools in the country having such autonomy but the trend has not been on the increase;

the demand of uniformity has so far prevailed. At school stage the concept of autonomy poses some more problems than at the college stage and the matter requires to be considered by the Government in all its ramifications. However, autonomous schools will certainly help in reform of the examination systems.

This is an area in which Government has to take initiative by convening a meeting of all secondary and higher secondary boards and making them take the relevant decisions.

.....

7.9 Programme for the talented

The need to have a distinct programme for the students who are particularly talented has been under consideration of the various academic agencies in the country for some time now. However, one cannot see any coherent programme in this field as yet. Such a programme is needed in the larger national interest, firstly if talent can be nurtured and talented people are allowed to achieve their full potential then they can be expected to make some original contribution in research and development and secondly if talented people are helped to complete the educational courses early the benefit of a longer working life can be had. However, one major problem involved is in identifying the talented person. The National Talent Search Examination Scholarship scheme started by the NCERT has not succeeded in the sense that ^{only} good achievers are getting identified under the scheme rather than people who have innate talent. Some other mechanism, perhaps, involving nomination by a group of eminent professionals in various disciplines of young boys and girls accompanied by a screening mechanism may be the one way of doing so. When the other issue involved is that persons with exceptional talent tend to have it in a particular subject area. Therefore, it is not right to expect them to go through the usual courses of study. This indicates that a different academic programme involving laying down of higher levels of achievement in the area of interest

would be required for the education of the talented. Finally there has to be a link up with the employment bodies for such people. Unless attractive employment, for example, as Scientists and Faculty Members in educational institutions is made available on an assured basis to such people, the talented people will tend to drift into the general stream as has been happening so far pursuing professional courses which assure a reasonable employment. This would indicate a three step programme involving selection mechanism, a specialised education programme in a selected number of good educational and research institutions in the country and provision of assured employment for having a meaningful programme for promoting education of the talented children. The working Group feels that in the overall national interest it seems necessary to make a beginning in this area during the Eighth Plan. Some crucial fields like Physics, Mathematics, Informatics, Bio-technology etc., can be identified and a beginning can be made in these areas during the Eighth Plan. A specific requirement of funds for such a programme can be worked out only on the basis of a detailed analysis and programme design but an amount of Rs.50/- crores should be provided for such a programme in the Eighth Plan.

With or without a programme as above, there is a possible easy way of looking at the programme for the talented and it is that the talented children could complete their courses of study in a shorter period.

progress at the pace they can handle. This indicates that the age of entry in the school and in the university should not be rigidly adhered to if the child is bright then it should be possible to provide accelerated progress through the classes to such children. Levels of performance can be laid down and those few who perform above these levels can be allowed to jump one class at a time. The Working Group would recommend that this should be considered for implementation by the educational agencies.

7.10. Distance learning

The Indian tradition favours informal and non-formal learning. The practice of candidates appearing privately in examinations at university and school levels has been a long standing one. Subsequently in past decades correspondence courses have been started by the State Boards of Secondary Education in many States. These courses have not been very successful generally because the quality of material supplied to the students has been indifferent and the authorities have not been able to ensure regularity in supplying the material and extending assistance to the students. Fresh ground was broken with the opening of the Open School as a part of Central Board of Secondary Education in 1979. It started at the secondary level and has added higher secondary level from 1989. The school has attained an overall enrolment of about 57,000 students in not only Delhi, but

various other parts of the country. In order to consolidate the work done already and to provide the mechanism for use of modern educational technology, the Ministry is considering converting this open school into a National Open School. The working Group understands that the Project report for the National Open School has already been with the Government and the National Open School may come into existence during the Seventh Plan period.

The Open learning system is important for providing opportunity for continuing and developmental education to people who cannot attend whole day schools through general educational programmes, life related enrichment programmes by using a diversified teaching learning strategies including appropriate communication technology. It essentially is a second choice education to those who have missed the formal system. It also provides this important facility to those like working children, house wives, jail inmates, armed forces and police personnel, etc., who require a different type of education. The Working Group is of the opinion that a chain of open schools should be developed in states jointly with the National Open School during the Eighth Plan period. The Ministry has assessed the requirement of the National Open School to about Rs.7.5 crores during the Plan period. An amount of Rs.40/- crores should be provided for 15-20 Open Schools in the State which can be shared on 50% basis between Central Government and the State Governments.

.....

7.11 Monitoring and Evaluation

The Working Group has noted that till the Sixth Five Year Plan there was no major Centrally-sponsored scheme for the secondary education sector. In fact, for the whole of the school sector, there were only two substantial schemes, one for non-formal education and the other for educational technology which were both for the elementary sector. During the Seventh Five Year Plan, after the National Policy on Education, 1986, a number of substantially funded Centrally-sponsored schemes have been initiated for vocational education, for science, education, for value/culture education, for computer literacy, for yoga education. And the schemes for integrated education of the disabled, for the educational technology and for environmental education are getting ready to be extended into the secondary sector. The Group has also noted that the Ministry is seeking to set up an arrangement for concurrent evaluation of these schemes so that the deficiencies can be identified as they occur and remedial action can be taken. The Group itself has recommended in the preceding paragraphs a number of new initiatives for the Eighth Plan. All these various programmes will not yield expected results unless there is a well-thought out arrangement for concurrent evaluation for each sizeable programme. The Working Group, therefore, would recommend that concurrent evaluation should be worked out simultaneously with the working out of the scheme itself and that it should be operationalised as soon as the scheme is put in operation. During the Seventh Plan since most of the schemes have been started effectively in the last two years of the Plan, the need and relevance of summative evaluation at the end of the Plan is in question. However, in the Eighth Plan and thereafter the practice of subjecting every sizeable scheme to summative evaluation at the

end of the Plan period should be institutionalised. Not only the NCERT should assume some responsibility for working out an appropriate monitoring and evaluation mechanism for these programmes in the secondary and higher secondary education sector, but also in a general sense competence for evaluative studies should be developed in Government sponsored consultancy organizations such as the Edcil. Independent organizations, carrying out such studies would lend greater credibility to the evaluation.

7.12 Resources

The School sector cannot pay for itself as it has not paid for itself anywhere else in the world. Even so, it is true that the fees at secondary and higher secondary level are very low. The tuition fee has been waived for girls in classes IX-XII already. On economic consideration there may be a case for levying a fee at this stage but considering that the participation rate in secondary education is still very low in the country if the fees are increased they will have impact for psychological reasons. In any case one would not be able to raise a very large amount by increase in fees but an increase in fee may have an adverse impact on growth of enrolment. Therefore, the Working Group does not recommend that the fees should be increased. However, the Working Group feels that it will be legitimate and it would not involve any adverse consequence if the schools charge about Rs.10/- per student ^{per year} for activities in the school and provide facilities like materials for the projects, a variety of co-curricular activity etc. if this money remains in the school possibly in the form of activity fund, it can provide a welcome degree of flexibility and manoeuvrability to the Head of the institutions to make available essential facilities and amenities to the students. It would have positive influence on the general environment in the school and hopefully on the standards of education.

CHAPTER--8

SUMMARY OF RECOMMENDATIONS

- 8.1. In the secondary education sector the 8th Plan should have clear-cut thrust areas. These should be:
- (a) Expansion needs;
 - (b) Programmes to improve quality of education;
 - (c) Vocational Education Programme; and
 - (d) Programme for upgrading the quality of teachers.
- 8.2. Without reform of management structure and systems efficiency of all programmes will remain low. Reform of management structure and systems requires overriding priority during the 8th Plan.
- 8.3. The levels of learning have not been worked out and laid down in detail by the NCERT except for primary level. These should be worked out and laid down by the NCERT without delay.
- 8.4. The programmes of ascertaining the levels of attainment at secondary and higher secondary levels beginning in 1989 is a very salutary programme and it should be continued in the 8th Plan.
- 8.5. Because of the pre-occupation with the performance in examinations and inadequacy of instruction/assessment of non-cognitive areas, value education has remained perfunctory. This area requires emphasis in 8th Plan.

8.6 Because of poor teacher competency the quality of instruction continues to be unsatisfactory. The programme for teacher education deserves importance in the 8th Plan.

8.7 To strengthen the management system of schools the working group recommends that all the schools in the country should be attempted to be brought under school complexes with one or more higher secondary schools at the apex and that all the feeder secondary and upper primary and primary schools should constitute the complex.

8.8 New schools will continue to be opened during the 8th Plan at least at the rate at which they have been started during the 7th Plan.

8.9 The existing pupil teacher ratio of 21 and 15 at the secondary and higher secondary stages respectively is reasonable one and this can continue as the norm for the 8th Plan. According to this norm 345760 teachers at secondary stage and 309524 teachers at the higher secondary stage would be required additionally during the 8th Plan.

8.10 For the hilly, desert and tribal areas which have scattered population, the strategy in the 8th Plan should be not to open schools everywhere but to ensure schools in towns with hostels in

1000 schools, each with capacity for 75 boys and 25 girls where students of the surrounding area can come and pursue their studies.

8.11 In view of the general inadequacy of infrastructure in secondary and higher secondary schools which adversely affects the teaching in schools, an Operation Blackboard type of programme is recommended for the 8th Plan under which essential physical facilities should be ensured in every secondary school. It should be a Centrally sponsored scheme with the following broad components, (a) and (b) having priority.

- (a) Two additional class rooms, estimated to be required about 75% of schools;
- (b) Strengthening the set up for Science Education by giving Science Kits to upper primary schools, removing the deficiency of the equipment in Science Laboratories and assistance for purchase of Science/Mathematics books for school libraries;
- (c) (i) Supply of at least one colour TV and Radio-cum-cassette players to each school
(ii) With the increasing availability and expectation of lowering of costs of VCR due to obvious educational advantage in using TV-cum-VCR, 5000 secondary/higher secondary schools should be given colour TV-cum-VCR during the 8th Plan for enhancing the educational outcomes.

While educational transmissions on Doordarshan and AIR should focus on the elementary age-group children, at the secondary and higher secondary stage the Colour TV-cum-VCR mode should be emphasised.

(d) CLASS projects should be subsumed into the infra-structure development programme. All the Secondary Schools should implement the literacy programmes by the end of the 8th Plan with Computer Science as an Elective Subject and Computer related vocational courses at plus two level being attempted on a large enough scale.

8.12 Use of TV and Radio for education can become very valuable but for this a systematic programme for availability of skilled manpower, infrastructure for programme production and academic support is needed. / The Group has noted the report of the Kiran Karnik Group in this regard and it feels that the recommendations made by this Group require careful attention of the Government.

8.13 The requirement of various sectors of education is so large that TV cannot serve education adequately unless a separate educational channel is created. This should be aimed at during the 8th Plan.

8.14 The Integrated Education of the Disabled has made some progress in last 2 years but the

urally schools
t on teachers or
s rooms and
ratories and
er equipment, can
ly benefit from
o or video
ramres.

programme is still very small. This programme should be expanded and strengthened during 8th Plan.

8.15 The Group recommends that new Kendriya Vidyalayas should be opened only at the district level during the 8th Plan period. They should continue to be funded out of the non-plan expenditure of the Government.

8.16 (i) The Group feels that all the districts should not have Navodaya Vidyalayas by the end of 7th Plan. The remaining districts should be provided with Navodaya Vidyalayas during the 8th Plan.

(ii) The building programme for the Navodaya Vidyalayas has started only in 1988-89 and therefore the requirements of funds will be largely during the 8th Plan. In view of the large requirements for the infrastructure and in view of the fairly high recurring cost there is need to think of ways to economise on the norms of expenditure for Navodaya Vidyalayas.

8.17 The Group feels that teaching of third language in the schools will be promoted only if a Centrally sponsored scheme makes available assistance to States on the lines assistance has been provided to non-Hindi speaking States

provision of Hindi teachers. The Group feels that assistance for 3000 schools in the rural areas and for 3000 schools in the urban areas should be provided in the 8th Plan for third language teacher.

8.18 The Centrally sponsored programme for Vocational Education at plus two stage has started in the last 2 years of the 7th Plan and must be continued during the 8th Plan. For the success of the programme the consultative machinery and the management/academic manpower in the States must be developed as envisaged in the scheme.

8.19 Vocational courses should be available in 10000 Higher Secondary Schools by the end of the 8th Plan.

8.20 The Group has noted the good beginning made in the CBSE affiliated schools for starting sponsored vocational courses in the field of Insurance and the efforts initiated in the Ministry for similar courses in health sector. The Group recommends that maximum importance should be given for developing sponsored courses during the 8th Plan.

8.21 A programme for work experience should be started during the 8th Plan at upper primary and secondary level in at least 25000 such schools by

making available resources to the school at a rate of Rs.50/- per student per year for a programme to be worked out locally on decentralised basis.

8.22 In view of the generally perceived low standard a comprehensive programme for quality education deserves importance during the 8th Plan. The programme for quality education requires continuing attention. Such a programme would include the programme for teacher education for continuing improvement in curriculum and text-books. It should also include :-

- (a) Programme for linking education with environment. For this large clusters of schools in the form of 500 projects on lines envisaged in the ongoing scheme should be covered during the 8th Plan.
- (b) Value Education should be emphasised. As a first step the programme for review of textbooks from the point of view of national integration and for cultivating his for communalism, regionalism, casteism should be continued.
- (c) The scheme for culture/art/value education started by the Ministry earlier in the 7th Plan should be continued with larger allocation.

...../

- (d) Regular programme for inviting notable freedom fighters, eminent Scientists, Literateurs, Musicians and eminent artisans for performance in the schools and for interaction with the students should be started during the 8th Plan.
- (e) Co-curricular activities including regular participation in debates, dramas, seminars, projects and outdoor activities should be seen as contributing to value education also. For a vigorous programme of such activities in schools Rs.10,000 per school per year should be provided during the 8th Plan.

8.23 The quality of teachers at the time of induction is not likely to improve unless the requirement of pre-service training at the time of recruitment is given up. The Group recommends that to improve the quality of teachers at the time of induction fresh graduates should be considered at least on equal footing and they should be trained by correspondence and open courses over the next few years.

8.24 The group feels that the B.Ed. Colleges being in the University Sector, will not be able to fully answer the requirement of a large and sustained programme of in-service teacher training. For this a Wing for inservice training of secondary

teachers should be created in the DIETs of the 8th Plan.

8.25 The reforms in examination have not made progress. The Group feels that the provision of the NPE, i.e. for introducing semester grading in examinations must be accomplished during the first two years of the 8th Plan. This needs almost simultaneous switching in all the States and setting up of a national regional testing service on optional basis for determining the admissions to professional and higher education institutions. On a large scale this can be done by encouraging the growth of autonomous schools.

8.26 In Classes I-VIII there is no academic or management problem hindering switching over to new grades. This should be done straightaway.

8.27 The talented children if nurtured properly contribute significantly to the national development. However, a programme for their development would require arrangement for their accelerated progress, giving up the requirement of admission at various levels, designing of courses emphasising the area in which the student has the talent and a simultaneous arrangement for the placement of such students in reasonable employment. The Group recommends

that such a programme should make a beginning in at least some selected science and technology areas in the 8th Plan. It could be related to the autonomous school scheme.

8.28 In order to widen the access and also to provide education to those who cannot attend whole day schools, distance education should be developed during 8th Plan. The network of Open Schools should cover all the States/UTs during the 8th Plan.

9. SUMMARY OF REQUIREMENT OF RESOURCES FOR SECONDARY SECTOR DURING THE EIGHTH PLAN AND THE SUGGESTED SHARING BETWEEN THE CENTRE AND THE STATES

(Rs. in Crores)

No.	Programme	Total Requirement	Central Share (Percentage)
2.		3.	4.
	Setting up School Complexes	222	50
	New Schools	1437.5 (1175 + 262.5)	0
	Additional Teachers	7650 (2250 + 5400)	0
	Hostels in hilly/desert/tribal areas	200	75
	Infrastructure Development:		
	(a) Class Rooms	600	75
	(b) Science Education	412.5	75
	(c) Education Technology	201	75
	(d) Computer Literacy/Science	520	75
	Integrated Education of the Disabled Children	285	75
	Navodaya Vidyalayas	1373	100
	Third Language Teachers	64.80	50
	Vocational Education	2597.65	75

Total:Rs. 15,563.45

..../-

2.	3.	4.
Work Experience	B.F.15,563.45 505.38	50
Improvement of Quality of Education:		
(a) Environment Education	352	75
(b) Value Education	10	100
(c) Interaction with eminent experts and Co-curricular activities	240	50
Teacher Education	54.80	75
Programme for the talented Children	50	100
Distance Education	47.50	75
Total Rs.	<u>16,317.75</u>	