

GOVERNMENT OF MADHYA PRADESH

DEPARTMENT OF MANPOWER PLANNING

\*

\*

\*

DRAFT PROPOSALS OF

SEVENTH FIVE YEAR PLAN

( 1985-90 )

AND

ANNUAL PLAN 1985-86

OF

\*

\*

TECHNICAL EDUCATION

DIRECTORATE OF TECHNICAL EDUCATION

MADHYA PRADESH, BHOPAL.

@\*\*\*\*\*@

-543  
379.15  
MIAD-D

Sub. National Systems Unit,  
National Institute of Educational  
Planning and Administration  
17-B, Sri Aurobindo Marg, New Delhi-110016  
DOC. No. 2116.....  
Date 28-1-85.....

Dup

SEVENTH FIVE YEAR PLAN (1985-90) AND  
ANNUAL PLAN 1985-86 OF TECHNICAL EDUCATION:

...

I N D E X

	<u>Pages:</u>
1. Introduction-Importance of Technical Education.	1.
2. Activities of Development.	1-3
3. Review of Achievement (up to Vth Five Year Plan)	4.
4. Achievements of the Sixth Plan.	4-9
5. Urgencies of the Seventh Five Year Plan.	10-12
6. PRIORITIES of the Seventh Five Year Plan.	12-15
7. PROPOSALS for Seventh Five Year Plan.	16-35
<u>I- Consolidation of Existing Institutions:</u>	16-19
Scheme No.1-Non-Recurring cost of Spill Over.	
Scheme No.2-Recurring cost of Spill Over.	
<u>II- Quality Improvement:</u>	19.
(Need explained)	
Scheme No.3-Improvement of Staff student ratio.	19-20
Scheme No.4-Training & Placement Department.	21.
Scheme No.5-Improvement of Library Services.	21-22
Scheme No.6-Leave & Training Reserve.	22-23
Scheme No.7-Student Amenities	23-24
Scheme No.8-Staff Quarters.	24-26
Scheme No.9-Hostels in Technical Institutions.	26.
Scheme No.10-Scholarships.	26
Scheme No.11-Modernisation of laboratories & Workshops of Technical institutions.	27

..contd.

Scheme No.12-	Reprographic Unit in Colleges and Polytechnics.	27-28
Scheme No.13-	Strengthening of Administrative Machinery.	28
Scheme No.14-	Development of Technical institutions with Central Assistance/Foreign assistance.	28

III- Expansion of Technical Education:

	Need explained.	29-35
Scheme No.15 & 16.	New Engineering Colleges & Polytechnics.	29-31
Scheme No.17-	Post-Graduate studies and Research.	31.
Scheme No.18-	Facilities of Part-time Education.	32.
Scheme No.19-	Facilities for Womens' Education-more Polytechnics for Women.	32
Scheme No.20-	New courses in emerging technologies.	33.
Scheme No.21-	Computer Centre.	33-34
Scheme No.22-	Institute of Higher Learning/ Technological University.	34.
Scheme No.23-	Institute of Management.	34.
Scheme No.24-	Vocationalisation of Education.	35.
	Conclusion. . . . .	35.

LIST OF ANNEXURES (STATE PLAN)

Annexure-A-	Division-wise/District-wise details of technical institutions in Madhya Pradesh.	36-37
Annexure-B-	List of Districts having no Poly-technic/no Technical institution.	38
Statement GN-1..	Outlay & Expenditure.	39
Statement GN-2..	Development schemes/Project-wise outlay & expenditure.	40-43
Statement GN-6	Centrally sponsored schemes.	44.
Statement-EMP-1	Employment statement Outlay & expenditure.	45.
Statement-EMP-2	Employment statement Targets & Achievement.	46
Statement-DP I	Distribution of outlay as State & District.	47-48

...

DRAFT PROPOSALS FOR THE SEVENTH FIVE  
YEAR PLAN OF TECHNICAL EDUCATION  
(1985-90) AND ANNUAL DEVELOPMENT PLAN  
1985-86.

\*\*\*

INTRODUCTION :

Technical Education provides nucleus for all developmental activities. It goes without saying that success of all major sectors of a developing economy depends on the efficiency, availability and quality of manpower. In the context of the economic and industrial development of our country, technical education has assumed even greater importance. This sector of development had, in the past, not been given the importance it really deserved. There is now need, greater than ever, to give appropriate priority to the growth and consolidation of technical education. It has been recognised that the growth of Technical Education should be dovetailed with the manpower needs of such sectors of the national economy as industry, mineral resources, agriculture, transport and communications, defence needs, Irrigation, power etc. These are the main users of technical manpower.

ACTIVITIES OF DEVELOPMENT :

There is vast scope of development in almost all fields. For example, the 10 big rivers of Madhya Pradesh (Narmada, Tapti, Chambal, Betwa, TONS, SON, Benganga, Mahanadi, Mahi and Indrawati) together have a capacity of 150 million acre feet of water of which 10.5 million acre can be utilised for irrigation and power generation. The ground water development programme also needs to be stepped up. So far, roughly about 7.5 million acre feet

...contd..2/-

ground water out of the available 26 million acre feet is being utilised. It is proposed to step-up the irrigation potential by 3.44 lakhs hectares by means of 30 medium irrigation projects and 50 small irrigation projects with the help of World Bank. This is in addition to 62 Tribal area Projects, 8 major and 8 medium projects which aim to irrigate an additional area of 17.59 million hectares.

Further, the State has huge deposits of manganese, bauxite, limestone, iron ore and Coal etc. The State, at present, is the second largest in the matter of mineral production with 20.5% of the total national production. The N.M.D.C. and the Coal India Ltd. have ambitious plans for boosting up of the mineral production.

The rate of power generation and consumption of electricity has been on the increase. The total power generation was over 76810 lakhs Kw.hours and the consumption was 58779 lakhs Kw.hours in 1982-83 having registered an increase of 17.80% and 16.82% respectively. A total of over 35,400 villages out of over 76800 villages have been electrified. It has been accepted that lack of power generation has adversely effected industrial production in a number of sectors, for example news print. This calls for special efforts to be made to step up power generation on the one hand and to improve the working efficiency of the power system, as a whole, on the other hand. At present, the total power generation capacity is 1840.5 MW. It includes the Thermal Power generated by the Satpura Thermal Power Station.

.....3/-

In the industrial sector, in 1983, the number of new factories went up to 6628 showing a percentage increase of 4.59. An increased rate will have to be ensured to put the economy of the State on sound lines and also to put it on the industrial map of the Country. Some of the heavy industries like the B.H.E.L., the Bhilai Steel Plant, the National News Print and paper mills, Nepanagar and the Bharat Aluminium Plant, Korba has plans of further expansion, on the one hand and plans of improvement in the productivity, on the other. The Cement industry is also passing through a planned phase of expansion. Two Cement Plants are coming up in Raipur and Mandasaur. Action is in offing to set up Cement Plants in the districts of Sidhi, Durg, Raipur and Narsinghpur. Besides, a Tin processing plant would be coming up soon at Raipur and also a fertiliser Plant at Guna.

Already, a number of slum clearance, housing and other construction activities are going on and these activities will get a boost in the near future. Here, the construction activity in the private sector has not been taken into account.

These important sectors of development have shown an upward trend of their working capacity. The same growth rate, if not an increased rate, will, in all probability, have to be maintained in the Seventh as well as the subsequent Five Year Plans. The increased level of activity will require sizeable investment as also technically trained manpower which is the main concern of the Department of Manpower Planning.

.....4/-

REVIEW OF ACHIEVEMENTS : End of Fifth Plan):

At the end of Fifth Plan, in Madhya Pradesh there were 9 Engineering Colleges, 23 Polytechnics including one for girls, 6 Fine Arts Institutions, 15 Secondary Technical Schools including Kalaniketan, Jabalpur which runs a department of Printing Technology and 6 Pre-Vocational Training Centres. Actual intake of Engineering Colleges was 1480 of Polytechnic 3201, of Secondary Technical Schools 900, of Pre-Vocational Training Centres 270. Three of the 9 Engineering Colleges also offer post-graduate courses in Engineering with an intake of 135 seats besides M.Sc. courses in Applied Physics, Applied Chemistry and Applied Geology at Government Engineering College, Jabalpur, Indore and Gwalior (127 seats) and Applied Geology at Government Engineering College, Raipur (10 seats). Part-time degree courses were also run in 2 Engineering Colleges and 4 Polytechnics with an annual intake of 90 and 480 seats. Out of the 4 Centres sanctioned for Part-time diploma courses, only 3 were being run with a sanctioned capacity of 360 students in Civil, Mechanical and Electrical Engineering.

ACHIEVEMENTS DURING THE SIXTH PLAN :

The Sixth Plan of Technical Education originally envisaged a provision of Rs. 614.82 lakhs. However, looking to the urgent need of Consolidation of the existing institutions/programmes, on the one hand, and qualitative improvement of technical education on the other hand, a total provision of roughly Rs. 14.80 crores has been made available for the Annual Plans 1980-85.

Broadly speaking, there are, at present, 11 Engineering Colleges with an intake of 2629 and 26 Polytechnics with an intake of 4712 including part-time courses. Out of these Engineering College and Polytechnics, one Engineering College at Jagdalpur and

.....6/-



2 Polytechnics, one each at Jhabua and Ambikapur were started from July, 1983. The number of Colleges running part-time degree courses and Post-Diploma B.E. has increased from 2 to 5 and 1 to 3 respectively. Total intake capacity for part-time degree course is now 265 seats and for part-time diploma course 540 seats.

The table hereunder give a comparative view of the physical achievements.

:: TABLE-I ::

Item.	Number of Institutions.		Intake capacity	
	In 1979-80	1983-84	In 1979-80	1983-84
<b>(1) <u>ENGINEERING COLLEGES</u> :</b>				
a) <u>Post-Graduate course:</u>				
i. Science	4	5	117	127
ii. Engineering	4	4	207	207
b) <u>Degree courses</u> :				
i. Regular Programme	9	11	1540	2030
ii. Part-time programme	2	5	90	265
			-----	-----
			1954	2629
			-----	-----
<b>(2) <u>POLYTECHNICS</u> :</b>				
i. Post-Diploma courses.	3	3	37	82
ii. Diploma courses:				
a) Regular programme.	23	26	3190	4090
b) Part-time programme.	3	5	360	540
			-----	-----
			3587	4712
			-----	-----

Important achievements during the Plan period have been listed hereunder :-

.....6/-

- (1) Two new Engineering Colleges and 2 Polytechnics have by this time come up ;
- (2) Intake capacity of Engineering Colleges has been raised by 490 seats out of which 270 seats by opening the new courses/colleges. 120 seats have been increased by opening B.E.transfer course for Diploma holders at the Third Year level of the Five Year course. Intake capacity of Polytechnics has also been raised by 900 seats out of which 470 seats have been increased by opening new polytechnics/new courses and 430 seats by raising intake capacity of existing polytechnic.
- (3) Following diploma courses have been started in the polytechnics :-

<u>COURSE.</u>	<u>NAME OF INSTITUTION.</u>
1. Diploma in Electronics ;	Polytechnic, Bhopal, Durg, Nowgong, Indore.
2. Diploma in Textile Technology ;	Polytechnic, Indore.
3. Diploma in Electrical & Mechanical Engineering ;	Polytechnic, Seoni and Ashoknagar.
4. Diploma in Automobile-Engineering ;	Polytechnic, Jabalpur.
5. Post-Diplom in Production Engineering.	Government Polytechnic, Bhopal.
6. Part-time Diploma course in Civil Mechanical, Electrical Engineering.	Government Polytechnic, Durg.

- (4) Following Degree courses have been started in Engineering Colleges :-
  1. Part -time B.E.in Civil, Mechanical and Electrical Engineering for Diploma Holders in Engineering ; Raipur, Ujjain & Gwalior.
  2. B.E. Transfer course (Civil, Mechanical and Electrical Engineering) for Diploma Holders. Rewa and Bilaspur.

3. Electronics. Gwalior.
4. Degree course in Computer Science. G.S.Institute of Technology & Science, Indore.
5. Degree course in Industrial Engg. G.S.Institute of Technology & Science, Indore.

(5) The following new Diploma and Degree courses are being started from this academic session :

DIPLOMA COURSES :

1. Chemical Engg. Polytechnic,Ujjain.
2. Applied Photography. Polytechnic,Bhopal.
3. Pharmacy Polytechnic,Jabalpur.
4. Television Engg. Womens' Polytechnic,Bhopal.
5. Electronics. Polytechnic,Ashoknagar.
6. Expansion of the existing diploma course in Pharmacy (30 additional seats). Polytechnic,Bhopal.
7. Mines Surveying. Polytechnic,Shahdol.

DEGREE COURSES :

1. Architecture. Raipur and Gwalior.
2. Chemical Engg. Ujjain.

(6) 63 staff quarters have been constructed, 11 for the staff of Polytechnic, Durg and 52 for the Staff of Engineering College, Jabalpur ;

(7) Two new hostels with a total seating capacity of 100 boys and 50 girls have been constructed at Government Engineering College, Raipur. A new block of 100 seated hostel is coming up at Government Engineering College, Rewa. Similarly, a hostel for 100 students is also being built at Polytechnic, Balaghat. Work on 100 seated hostels would be taken up this year at Engineering College, Gwalior, Bilaspur, Indore, Raipur, Polytechnic, Khirsadoh and Shahdol and Higher Secondary Technical School, Chhindwara ;

:: 8 ::

- (8) Buses were provided for 6 Engineering Colleges and 2 Polytechnics with a view to facilitate out-of-campus visits and training of the students ;
- (9) Grant-in-aid amounting to over Rs. 83.00 lakhs was paid to Non-Government Institutions as State share towards strengthening the original schemes of establishment/expansion ;
- (10) Refresher courses and seminars (27) have so far been organised for the benefit of the teaching staff of Engineering Colleges and Polytechnics. 22 Curriculum Workshops were also organised in Engineering Colleges and Polytechnics for reviewing and re-structuring the curriculum. This year laboratory innovation Workshops were conducted in 5 Engineering Colleges and 9 Polytechnics ;
- (11) Value of Merit Scholarships and Merit-cum-Means Scholarships was increased from Rs.75 to Rs.125/-p.m. and Rs.40/- to Rs.75/-p.m.in respect of Engineering Colleges and Polytechnics respectively. This has benefitted 237 undergraduate students and 440 diploma students annually. The number of Scholarships for students studying in outside-the-State institutions has been increased from 10 to 30 and the rate has also been increased from Rs.100/- to Rs. 250/-p.m. Besides, the number of stipends for Higher Secondary Technical Schools has been increased from 420 to 460 and their rate from Rs.20/- Rs.30/-p.m.to Rs.50/-p.m. The number of Post-Graduate Scholarships have also been increased from 5 to 10 and their rate from Rs.125 to Rs.400 p.m. ;
- (12) Special Coaching Programme has been started in all Engineering Colleges and Polytechnics for the benefit of students belonging to scheduled castes and scheduled tribes ;

.....9/-

- (13) Separate book banks have been started for the scheduled caste/scheduled tribe students in all Engineering Colleges and Polytechnics ;
- (14) Drawing Instruments, Calculators and stationery is supplied to all the scheduled caste/scheduled tribe students of Engineering colleges and Polytechnics. The cost per boy comes to Rs. 750/- ;
- (15) Staff structure of Engineering Colleges is being improved so that, ultimately, the teacher student ratio is improved from the existing 1:12 to 1:10 By 1983, 21 new posts have been sanctioned for Government Colleges. The cadre of Assistant Lecturers in Polytechnics has been abolished. 36 posts of teachers of various cadres in Engineering Colleges and 35 posts of lecturers in Polytechnics have been created for leave and training reserve. Besides, Training and Placement Departments have been set up in all Engineering Colleges and 11 Government Polytechnics with Training and Placement Officers as their heads ;
- (16) In 1982-83, additional outlay of Rs. 50 lakhs was sanctioned for :-
- i. payment of grant-in-aid of Rs.9.50 lakhs to Madhav Institute of Technology & Science, Gwalior for construction of a library block and for setting up a reprographic unit ;
  - ii. payment of grant-in-aid of Rs.8.96 lakhs to polytechnic, Seoni, Ashoknagar and Balaghat for equipment furniture and hostels ;
  - iii. improvement of library facilities in all Engineering Colleges, Polytechnics and Higher Secondary Technical schools at a cost of Rs. 10 lakhs ;
  - iv. provision of minimum instructional facilities in newly opened engineering colleges at Sagar (Rs.15.39 lakhs) and the newly opened Polytechnic at Aidhan (Rs.5.35 lakhs).
- (17) A further amount of Rs. 32.50 lakhs was sanctioned in 1983-84 for augmenting the stock of books and journals in the libraries of all technical institutions.

URGENCIES OF THE SEVENTH PLAN :  
EXISTING CIRCUMSTANCES :

The review note in respect of the Sixth Five Year Plan shows, in detail, the achievements made and target fixed for the remaining period of the Sixth Five Year Plan.

Besides the Consolidation and strengthening of the existing technical institutions, special programmes have been started with a view to improve the quality of technical education by way of increased provision for library books and Modernisation of Laboratories and Equipment, Training and Placement Department in the Institutions as also creation of leave reserve posts and implementation of major recommendations of the All India Council of Technical Education.

Concrete steps have also been taken to provide additional hostels and staff quarters at problem places. In course of time, the institutions will have facility of play grounds, garages as also auditoriums. Drinking water facility and other amenities have to be provided at new institutions.

It was provided in the plan that 2 new engineering colleges and 4 new polytechnics will be opened during the Plan period. As planned, 2 new Engineering Colleges and 3 Polytechnics have already come up. One more Polytechnic has been started at Morona this year. It would be interesting to note that 50% of these new institutions are located in the Tribal Sub-plan area.

In addition to the new institutions, need-based courses of degree and diploma level have also been started.

Considerable importance is attached to the development of Scheduled Castes and Scheduled Tribes. Extra facilities in the form of library books, free supply of drawing material, stationery and calculators, special

:: 11 ::

coaching have been provided. A novel scheme of Teacher Guardian has also been taken up. All these efforts are being made with a view to attract more and more Scheduled Caste/Scheduled Tribe students, on the one hand, and to bring about, on the other hand, a definite improvement in the efficiency of their education and training. It is pertinent to note here that a large number of seats reserved for S.C. and S.T. students remain vacant in spite of the fact that facilities of full free-ship-special stipends, free distribution of drawing equipment and stationery, book banks and a number of other concessions are being offered to them. The data in respect of reservation of seats and their utilisation by the SC/ST students may be seen in the following table :-

Type of Institutions.	Sanctioned capacity.	Seats Reserved.		No. of seats utilised.	
		S.C.	S.T.	S.C.	S.T.
<b>(1) ENGINEERING COLLEGES :</b>					
<b>(B.E. Regular) :</b>					
1981-82	1660	249	283	238	87
1982-83	1670	250	284	247	196
1983-84	1750	263	299	274	305
<b>(2) POLYTECHNICS :</b>					
<b>(Diploma Regular)</b>					
1981-82	3840	576	691	554	156
1982-83	3940	591	709	572	38
1983-84	4000	600	720	612	159

Most of the existing Engineering Colleges and Polytechnics were started at least 18 years hence. There are deficiencies in almost all these institutions. The laboratories and workshops lack many basic machines and equipment. The laboratories and class room furniture is worn out. Hostel facilities have fallen short of the actual requirements more so now because admissions are now offered on the basis of common admission test with the result that only few students get institutions of their choice and a large number of them have to seek

admission elsewhere. The demand for hostel facilities has increased. Libraries of all the institutions need fresh stock of books and technical journals and this is a need which has to be taken care of on a continuing basis. Provision made in the past for the above mentioned purposes was insufficient.

Initially, the institutions were opened with 120 seats for the conventional courses in engineering. By this time, not only the intake capacity of all the institutions has been expanded over the years but also new courses/new programmes have been introduced resulting in considerable load on the available instructional facilities. It is absolutely necessary to make provision, on the basis of priority, for expansion of existing accommodation and refurbishing of laboratories and workshops.

There are few institutions in our State where such basic facilities as common room, canteen, auditorium, games and sports (specially play grounds) are available. Similarly, residential accommodation for staff exists only in a very few institutions. Problem of accommodation is becoming more and more acute day by day due to growing industrialisation and urbanisation of the population. The dearth of teaching staff in technical institutions is a universal phenomenon. Even the scales of pay of the All India Council for Technical Education, have not been found contributive to the improvement in staff position. The lack of such basic needs as residential accommodation is largely responsible for the alarming staff position.

PRIORITIES OF THE SEVENTH PLAN :

The position as explained in the foregoing paragraphs makes it incumbent that priorities should be fixed up. On the basis of the urgencies, the priorities of the Plan have been arranged hereunder in proper order:-

- (i) Spill over schemes :- The various plan programmes which would have been started by the end of the Sixth



Plan have been spelt out elsewhere in this note. These schemes/programmes are incomplete and the main thrust of the Seventh Plan will have to be the completion of such schemes, on the one hand, and their strengthening, on the other ;

- (ii) Improvement of Quality :- The next but not the least important requirement is the improvement of quality of Technical Education. This is important more so because it is vital to ensure maximum efficiency, maximum out-put and increased rate of productivity of the industries/ services which our trained manpower is required to man. The quality of the product would be determined not merely by the inputs in the form of materials but also by the quality of the Engineers and supervisors who are involved in the process of manufacture. This programme includes qualitative improvements in working conditions of teachers, measures which would increase the efficiency of the training system as a whole, including, of course, the proper maintenance of laboratories and workshops, an improvement in the laboratory and study situations, infusing innovations, continuous evaluation and assessment procedures, training and retraining of the faculty and improvement of campus life by way of providing suitable aids and amenities to the learners ;

- (iii) Expansion of facilities of Technical Education:

Any Five Year Plan with particular reference to trained manpower (Engineering personnel) is not a preparation for that particular Plan but the following Plan or Plans. The facilities which have been added during the Sixth Plan will start showing results from 1987 and

their full impact would be felt only from the Eighth Plan.

The rate of growth which would be built up by the end of Sixth Plan will more or less be maintained in the Seventh Plan. Special efforts may be made looking to the extreme industrial backwardness of the State. In that case, it is expected, the investments in the core sectors of the economy would be increased and, as a consequence thereof, there would be increased demand of technically trained manpower. The demand will have to be taken care of in the Seventh Plan by way of opening new technical institutions.

Diversification of products and industry is taking place at a fast rate <sup>and</sup> new areas of technology are emerging calling for properly trained manpower in those emerging technologies. New courses will have to be opened and diversification of the existing courses will have to be attempted ;

(iv)

HIGHER INSTITUTE OF LEARNING/TECHNICAL-UNIVERSITY :-

The Indian Institute of Technology, similar Institutes of higher learning and the Regional Engineering College were supposed to work as pace-setting institutes for the State Engineering Colleges besides being centres of excellence. Experience has shown that these institutions have come up as centres of excellence in their own way but, so far as the State Engineering Colleges are concerned, they have not been able to derive desired benefits of active collaboration with the Indian Institutes of Technology. Network schemes are yet to develop properly. In fact, the expertise which they are able to build up is confined to them. It is necessary

that the State should have an Institute of higher learning which would offer excellent facilities of learning and research, on the one hand, and, on the other, it would work as a real pace setter for our own institutions. Establishment of an Institute of higher learning like the IITs carries all the priority for the State of Madhya Pradesh ;

(iv) INSTITUTE OF MANAGEMENT :-

Facilities of management education are almost non-existent in Madhya Pradesh. The University Departments do have facilities of management Education but, by no standard, this system is adequate enough to help the industry and the other important sectors of the State economy to gain the same sound position in which the industry in our neighbouring States is placed, at present. The meagre facility of management education which is available is only conventional and it has very little to offer to the Engineer or the technician which would make him readily acceptable to the industry. It is essential that, without further loss of time and without waiting any further for the centre to give us a Central Institute of Management like the Institute of Management Calcutta, Ahmedabad, Lucknow or Bangalore, the State of Madhya Pradesh itself moves forward in the matter of establishment of an Institute of Management. Such an institute at the doorstep would not only prove a boon to our graduates, and diploma holders but would also throw open to our industry the much-needed managerial skills. This sort of an institution is bound to serve the interests of the State as much as any project of development would do.

PROPOSALS FOR THE SEVENTH PLAN :

SCHEMewise DETAILS :-

The Seventh Five Year Plan of Technical Education is, thus, expected to meet the priority needs so that the facilities created already get proper strengthening, the quality of the end-product of our institutions is improved, the demands of additional manpower for the Seventh and the subsequent Five Year Plans are effectively met and that the State has an Institute of higher learning/Technological University and an Institute of Management either as an independent entity or as a project of the proposed Technological University. Schemewise details of the proposed Seventh Plan are given hereunder :-

(I) CONSOLIDATION OF EXISTING INSTITUTIONS :  
(Spill-Over Schemes) :-

The data showing the pace of expansion of facilities of technical education during the Third Five Year Plan and thereafter will give quite an interesting reading :-

	<u>Number in, 1960.</u>	<u>Number in 1970.</u>	<u>Number in 1984.</u>
1. Engineering Colleges	4	9	11
2. Polytechnics	12	22	26
3. Higher Secondary Technical Schools.	6	45	15
4. Intake capacity of :-			
i. Engineering Colleges	940	1750	2030
ii. Polytechnics	1220	3200	4090
5. Centres of Part-time Education :-			
i. Degree level	X	2	5
ii. Diploma level	X	4	5

This development required huge investment in terms of teaching and supporting staff, building accommodation, equipment and machinery in laboratories and workshops, class rooms and laboratory furniture, hostel

facilities and training charges. But the investment in technical education never matched with the quantitative expansion which has taken place so far. There are few institutions which have the minimum required instructional facilities e.g. equipment, furniture, library, hostels, staff accommodation. The All India Council of Technical Education has revised the rate of per Capita training wastage charges from Rs.130 in respect of Polytechnics and Rs.170 in respect of Engineering Colleges per boy per year to Rs.600/- and Rs.500/- per boy per year respectively. As against this, the actual provision of training wastage charges in our institutions continues to be around Rs. 100 per boy per year. It is needless to point out here that this low investment has resulted in the falling of standards of our pupils and, as a consequence of this, quality of the product offered and services rendered by them has deteriorated.

Today, the non-recurring cost of an Engineering College works out to a minimum of Rs.625 lakhs and that of a polytechnic works out to Rs. 305 lakhs. The annual recurring expenditure of a Polytechnic and an engineering college comes to Rs.17 lakhs and Rs.42 lakhs respectively. The review of the needs of the existing institutions and the on-going-programmes as given elsewhere would show that the gaps between the minimum facilities required and the facilities available in our institutions are considerably wide. In brief these gaps in terms of money are indicated hereunder :-

	(Rs.in lakhs)				
	<u>Building.</u>	<u>Equipment.</u>	<u>Furniture.</u>	<u>Hostels.</u>	<u>Total.</u>
1. Govt. Engg. Colleges (7)	880	540	35	25	1480
2. Regional Engg. College (1).	25	-	-	-	25
3. Private Engg. Colleges (3).	100	60	15	50	225
4. Govt. Polytechnics (16).	740	340	56	300	1436
5. Private Polytechnics (10).	25	150	35	20	230
6. Higher Sec. Tech. Schools (15).	20	60	30	30	140
	-----	-----	-----	-----	-----
	1790	1150	171	425	3536
	-----	-----	-----	-----	-----

Here, only those buildings and hostels have been taken into account on which construction has already started or it would be started in the current financial year.

In the above calculations, the requirement of gaps in respect of staff and training wastage charges has not been included.

The gap of teaching staff in old institutions has been taken care of elsewhere. Besides the gaps in teaching staff, there is shortage of supporting staff, administrative, technical and maintenance, in all institutions. It is necessary to make a provision of Rs.50 lakhs for this purpose.

Similarly, for the 2 new colleges and 4 new polytechnics of the Sixth Five Year Plan the requirements of funds would work out to Rs.70 lakhs in 1985-86, Rs.88 lakhs in 1986-87, Rs.106 lakhs in 1987-88, Rs. 124 lakhs in 1988-89 and Rs.142 lakhs in 1989-90 = Total Rs.5.30 crores.

The gap in respect of laboratory charges is shown in the following table :-

=====				
	Number Existing	Minimum	Difference	Total
	of boys.	provision.now	per boy.	require-
		needed.		ment.
				(Rs.in lakhs)
=====				
1.Engineering				
Colleges.	10,150	Rs.100	Rs.600	Rs.500
		per year.		50.75
2.Polytechni-	12,270	Rs.100	Rs.500	Rs.400
cs.		per year.		49.08
				-----
				99.83
				-----
I-	Requirement of additional			499.15
	funds for laboratory expenses			
	for five years ;			
II-	Requirement for salary of			580.00
	staff for five years in			
	<u>respect of new colleges</u>			
	<u>and Polytechnics and</u>			
	<u>supporting staff of old</u>			
	<u>Institutions.</u>			-----
				1079.15
				-----

The total needs for the gaps in existing institutions works out to Rs. 4.15 crores. However, a provision of Rs. 11.10 crores is proposed for these schemes during the VIIth Plan and Rs. 175 lakhs for the Annual Plan 1985-86.

(II) Quality Improvement :-

The priority next to the process of initial establishment is improvement of quality of the system, as a whole, which would help in the production of first rate force of engineers and technicians. To achieve this goal of improvement of quality of the end-products, additions to the input alone would not help. There are measures which would directly and indirectly affect the entire process of education and training. For example, if the institutional training is supplemented by industrial training or training in actual environment of design, production and construction, far better and far more practical engineers would be available.

This is just to emphasise here the need of producing quality engineers who would possess appropriate skill and whose institutional training has been appropriately and sufficiently supported by training in the field. It is essential to take the following measures :-

3- Improvement of staff student ratio in Engineering Colleges and Polytechnics :-

At present, the approved teacher student ratio is 1:12 which is the minimum. The All India Council of Technical Education has modified the norms of staffing pattern in addition to (a) creation of Training and Placement Department in Colleges and Polytechnics ; (b) creation of leave and training reserve; and (c) improvement of structure of the workshops.

The Council has recommended (i) revised teacher student ratio of 1:10, (ii) ratio between

Professor; Reader and Lecturers be 1:2:4 (iii) in Polytechnics there should be 3 cadres viz. Head of Department, Senior Lecturer and Lecturer (instead of Head of Department and Lecturer, as at present). This ratio will have to be adopted in our colleges and Polytechnics. Requirement of additional teachers in Engineering Colleges and improved ratio and the annual recurring expenditure on account thereof is shown hereunder :-

S.No.	Posts needed in Govt. & non-Govt. institutions.	Number of posts.	Scale of pay.
1.	Professors	40	1500-2500
2.	Readers	60	1200-1900
3.	Lecturers	142	700-1600

The total requirement of additional teachers in Polytechnics should be as given hereunder :-

- (i) Creation of 117 posts of Senior Lecturers in the scale of Rs. 1200-1900 ;
- (ii) Creation of additional 114 posts of Lecturers in the scale of Rs. 700-1600 ;
- (iii) Upgradation of 21 posts of Workshop Superintendents in the scale of a Senior Lecturer of the scale of Rs. 1200-1900 ;
- (iv) Upgradation of 20 posts of Asstt. Workshop Superintendents and creation of new 29 posts of Assistant Workshop Superintendents in the scale of Rs. 700-1600.

The total cost of this programme would come to Rs. 3.98 crores.

However, a provision of Rs. 80 lakhs is proposed for this scheme in the VIIth Plan and a sum of Rs. 10 lakhs for the Annual Plan of 1985-86.

.....P.21/-



4- TRAINING AND PLACEMENT DEPARTMENTS :

It has been emphasised that the quality of practical training should be improved and one of the ways of achieving this is to provide out-of-the-campus training i.e. industrial training outside the campus of the institutions on a regular basis. The industries will have to be groomed and their interest in technical education invoked.

The State Government have already sanctioned Training and Placement Departments for all the 9 old Colleges and 11 Government Polytechnics. Except 4 Engineering Colleges, the status of the Training and Placement Officers is that of a lecturer. It is necessary that Training and Placement Departments are established in the remaining institutions besides provision for secretarial services and further strengthening of the existing departments. Facility of transport will also have to be provided.

The cost of this programme works out to Rs. 26 lakhs. It is, however, proposed to make for this scheme a provision of Rs. 15 lakhs in the seventh Plan and a provision of Rs. 5 lakhs for the Annual Plan of 1985-86.

4- IMPROVEMENT OF LIBRARY SERVICES :

(a) Stocks in libraries :

Library in Technical Institutions plays major role in the preparation of an engineer/technician. For Engineering Education, library is all the more important because self-study techniques involving library assignments and extra reading habits invigorate the learning process of the students.

It is, therefore, absolutely necessary that (i) the libraries of technical institutions are well-stocked with old volumes of technical journals, new editions of technical books and reference books ;

(ii) Reading room facility is expanded to accommodate more students; and (iii) the library management is further strengthened.

Libraries in Colleges and Polytechnics should have the following additional staff :-

COLLEGES :

<u>Post.</u>	<u>Scale of pay.</u>	<u>No.of required.</u>
1. Senior Librarian (equal in status to a Lecturer).	Rs.700-1600 (A.I.C.T.E. scale).	1
2. Store-Keeper.	Rs.575-880	1
3. Book-Lifters.	Rs.485-740	2

The minimum requirement of funds for five year period works out to Rs. 378 lakhs. -

For the Seventh Plan period, it is proposed to make for this purpose a provision of Rs.20 lakhs. A provision of Rs.5 lakhs is proposed for the Annual Plan of 1985-86.

6- Provision for Training and Leave Reserve in Engineering Colleges and Polytechnics :-

The teaching staff proceeds on leave for various purposes. They are also sent on training programmes organised by such accredited centres as Indian Institutes of Technology, major industries, selected Polytechnics under various schemes of quality improvement programme. It is essential for a teacher of an engineering college and polytechnic to keep him informed of the latest knowledge to be able to maintain teaching effectiveness. Training is a continuing process and it would be intensified further with a view to enable the teachers to keep them abreast of the new developments.

.....P.23/-

It is essential that training and leave reserve equal to 10% of the various teaching cadres is created as against the recommended 20%. On this basis, the net total requirement of staff in colleges and polytechnics has been worked out in the following table :-

CADRESS	Total.	Posts needed @ 10%.	Posts already created.	Additional Posts nec- ded to make a reserve @ 10%.
---------	--------	---------------------------	------------------------------	--

Colleges:

1. Professor	90	9	2	7
2. Reader	199	20	14	6
3. Lecturers	440	44	20	24

Polytechnics:

1. Head of Deptt.	95	10	-	10
2. Lecturer/ Workshop Supdt.	635	64	35	29

The total expenditure for five year period would come to Rs.129 lakhs. However, a provision of Rs. 10 lakhs is proposed for this scheme for the Seventh Plan and no provision for the Annual Plan of 1985-86.

7- Student Amenities :

Campus of Educational Institutions are not quiet these days. It is essential to restore normalcy on the campus. Quiet and congenial atmosphere is all the more essential in institutions imparting professional education. No time or resource should be allowed to be wasted in strikes or turmoils. It is essential to tone up the entire environment.

As a step towards this toning up process, it is absolutely necessary to provide basic amenities on the Campus of the institutions.

.....P.24/-

As per standards laid down by the All India Council of Technical Education, a Technical Institution should have the following facilities :-

<u>Items.</u>	
1. Canteen	2,880 Sq.Ft.
2. N.C.C. store	1,500 Sq.ft.
3. Dispensary	704 Sq.ft.
4. Co-operative store	660 Sq.ft.
5. Bank	560 Sq.ft.
6. Re-creation room	2,200 Sq.ft.
<hr/>	
TOTAL PLINTH AREA & COST.	8,504 Sq.ft.x Rs.100 per Sq.ft.=
7. Cycle sheds for 300 cycles in 1st phase @ Rs.80 per cycle.	
8. One Gymnasium, fully furnished and equipped.	
9. Play field for hockey, Volley Ball, Cricket, Foot Ball.	
10. Utensils for Canteens and student hostels @ Rs.5.00 lakhs for big colleges, Rs.3.00 lakhs for remaining colleges and polytechnics and Rs.1.00 lakhs for remaining schools.	
11. Sports material costing Rs.35,000 for each college Rs.25,000 for each polytechnic and Rs.15,000 for each school on an annual basis.	

This work would be taken up and completed in phases. Economy in expenditure would be further ensured by the use of institutional resources. It is proposed to make a provision of Rs.10 lakhs for the Seventh Plan and <sup>no</sup> provision for 1985-86.

8- Staff Quarters in Technical Institutions :-

Teaching profession does not offer charm to all. Only a small percentage of intellectual elite is attracted towards further pursuit of knowledge and its dissemination. The attraction is less day by day due to changing environments on the campus of educational institutions. Residential accommodation poses

serious problem in so far as teachers are concerned. Private accommodation is mostly and real emoluments of a teacher are further eroded in the form of high rentals.

It is, therefore, essential that residential accommodation should be provided in all technical institutions. The strength of staff in our institutions and the requirement of staff quarters may be seen in the following table :-

:: STRENGTH OF STAFF ::

Institutions.	Number of Posts			
	Class- I.	Class- II.	Class- III.	Class- IV.
1. Engg. Colleges	438	32	530	292
2. Polytechnics.	283	309	909	163
3. Higher Secondary Technical Schools	-	67	400	123
4. Pre-Vocational Training Centres.	-	-	48	12
	721	408	1887	590
50% staff of the above:	360	204	944	295

:: REQUIREMENT OF STAFF QUARTERS ::

Type.	No. of Staff quarters required.	Estimated cost as per GAD's norms.
1. C Type Quarters.	80	2,26,400
2. D Type Quarters.	100	1,12,920
3. E Type Quarters.	180	37,600
4. F Type Quarters.	389	53,850
5. G Type Quarters.	490	37,600
6. H Type Quarters.	409	26,920
7. I Type Quarters.	155	16,200
	-----	
	Total :-	1803
	-----	

Similar facility will have to be provided in non-Government Engineering Colleges and Polytechnics. On proportionate basis, for 3 Colleges and 10 Polytechnics the estimated cost of construction of staff quarters would come to Rs.300 lakhs. The total cost of construction of staff quarters at this scale comes to Rs.12.18 crores.

It is proposed that a sum of Rs.85 lakhs be provided for construction of staff quarters in the Seventh Five Year Plan and a provision of Rs.5 lakhs for the Annual Plan of 1985-86.

9. Hostels in Technical Institutions :

Admissions to Engineering Colleges and Polytechnics are now regulated by pre-engineering tests and there is no certainty that a boy will get the institutions of his first choice.

This being so, it seems necessary that the hostel facilities are expanded. At present, on an average, there is provision of hostel facility for 30-40% strength of student population.

This will facilitate the education of boys who come from interior of the State and who come from the lower strata of population. It is proposed to include in the Seventh Five Year Plan a provision of Rs.100 lakhs and a provision of Rs.5 lakhs in the Annual Plan of 1985-86.

10- Provision of Scholarships in Technical Institutions:-

Professional Education is costly. Cost of stationery, drawing instruments and other material has gone up considerably. It is essential that a student possesses text books, stationery and drawing equipment. The increasing cost of living has made it difficult for a boy of average means to devote himself to his studies freely.

The Government of India has recommended that 25% of enrolment in Engineering Institutions should be covered by scholarships. At present, 197 scholarships are

sanctioned for Colleges and 400 scholarships for Polytechnics. It is proposed to increase the number of scholarships so as to ensure a coverage of atleast 18%.

On this basis, additional 167 scholarships for colleges and 370 scholarships for Polytechnics will have to be created.

It is proposed to make for this purpose a provision of Rs.10 lakhs in the Seventh Plan.

11- Modernisation of Laboratories and Workshops in Technical Institutions :-

The equipping of laboratories and workshops should be governed by careful consideration of the needs of the courses. The course-curriculum is being constantly reviewed and the needs of workshops and laboratories also need review. The Workshops and laboratories of technical institutions need modernisation so that the latest developments are accommodated and training and education imparted in our institutions is made upto-date.

It is proposed that a provision of 20 lakhs only should be made in the Seventh Five Year Plan for this scheme.

12- Repographic Units :-

Study situations in our institutions need improvement on priority. The institutions do not have copying, duplication and other repographic aids which have become essential for efficient teaching-learning process. It is, therefore, proposed to set up in all Engineering Colleges and Polytechnics a repographic unit with Instant Photocopier (50,000), Electronic scanner with duplicating unit (40,000), English Typewriter in each department of the Institution (7 Departments) (28,000), Anonia Printing Machine (5,000), Audio-

visual aids (Epidiascope and Film projectors)(20,000), Electric Typewriter (12,000). A provision of Rs.20 lakhs is made for this scheme in the Seventh Plan.

14- Development of Technical Institutions with Central Assistance/External aid:-

There is need to develop the institution for better laboratory facilities. Also there are special programmes for which the State Government are required to supplement the external assistance besides the Central Assistance. It is proposed to make provision of Rs.20 lakhs in the Seventh Five Year Plan for such special programmes.

13- Strengthening of Administrative Machinery :-

As already explained in the fore-going paragraphs, the Seventh Five Year Plan is a step towards application of corrective measures in the matter of Technical Education.

The scope and functioning of the Directorate has been greatly extended already. The Directorate will be called upon further to take up programmes of Seventh Five Year Plan including evaluation of programmes, academic inspection, tribal sub-plan, special component plan besides secretariate for the Board of Technical Education.

Similarly, the Board of Technical Education need strengthening so that it is able to function on modern lines. It is also necessary to introduce improved methods of evaluation and also to have a good repographic unit.

It is proposed to make a provision of Rs.10 lakhs in the Seventh Five Year Plan and a provision of Rs.2 lakhs for the annual plan of 1985-86.



III- EXPANSION OF TECHNICAL EDUCATION :-

Besides the needs of the spill over Schemes and the needs of qualitative improvement, there is need of further expansion of technical education based on requirements of technical personnel in the user development departments/industries. It has already been explained that the State has achieved the take-off stage of industrial development.

The State of Madhya Pradesh has vast natural resources with high development potentials, but its inability to utilise these resources has caused it to be identified as the Sixth lowest backward State in the country in terms of total over-all indicators of industrial backwardness. In the recent years, concerted efforts have been made by the Government to tap these natural resources. It may not be out of place to mention here that whereas, an expenditure of Rs.40.18 crores took place during the First Five Year Plan(1951-56) on the major production sector, the same has been increased to Rs.315.17 crores in 1984-85 which is the last year of the current plan. It is a manifold increase. This clearly indicates the increase in the employment potentials of the production sector. To match further increase in the employment potential of the development departments/industries, it is important that we make in advance preparations so that trained technical personnels are readily available for the needs of the departments/industry not only during the Seventh Plan period but also during the subsequent Plans.

15 and NEW POLYTECHNICS & ENGINEERING COLLEGES :  
16.

The capital expenditure during the last three years of the Sixth Plan works out to Rs.1035.53 crores. This gives an average annual expenditure of Rs.345.17 crores. The increase in expenditure during the last year (Budget) is 24.65% over the year 1982-83. The

.....P.30/-

point which needs emphasis here is that the rate of investment has been growing at a very steady rate and by the end of 1984-85 the level of growth would be 24% more than the previous year. Almost the same rate of investment will have to be maintained during the ensuing plan. The increase in investment would require minimum technical manpower in any case.

The need for more manpower than we would have already planned by the end of the current plan is further strengthened by the fact that the State is required to increase (i) its per capita consumption of electricity; (ii) the surfaced highway per 100 Km. of roads; (iii) electrification of villages; and (iv) industrial production, besides, (i) the new major irrigation projects; (ii) expansion programmes of the heavy industries like the Bhilai Steel Plant, Bharat Heavy Electricals Ltd., (iii) establishments of a Fertiliser Plant at Guna, a chain of Cement factories; the Centre of Advanced Technology including the Heavy Water Plant at Indore, the Electronic estate at Indore; (iv) the commissioning of remaining units of the Satpura Super Thermal Project; (v) the Narmada Valley Project which ultimately aims to develop inland water transport; and (vi) the consequential huge construction and ancillary industrial complexes around the above mentioned projects.

The Narmada Valley Project envisages (i) construction of 29 major/multipurpose irrigation projects, 440 medium and 3000 minor irrigation schemes to provide irrigation facilities for an area of 27.5 lakhs hectares and (ii) generation of power with an installed capacity of about 2600 MW. It is expected that execution of this huge project would cost Rs. 7000 crores and a large force of Engineering personnel would be needed for the construction phase, on the one hand, and for the maintenance, on the other.

It is proposed to open 1 new Engineering College and a few more Polytechnics during the VIIth Plan.

The information contained at Annexure-'A' and Annexure-'B' would be found interesting if it desired to know the location of existing institutions as also the position of districts which lack facilities of Technical Education. A provision of Rs.60 lakhs is proposed for this Scheme in the Seventh Five Year Plan.

17- Post-Graduate Studies and Research Work:-

The horizons in the field of science and technology are ever-increasing and it is the need of the hour that due consideration is given to the development of Post-Graduate studies and research in the Technical Institutions of the State. It may be mentioned here that a considerable number of the staff of Engineering Colleges have participated in the quality Improvement programme of the Government of India and they have acquired advanced knowledge and expertise in the various disciplines of Engineering.

It is important that facilities of research are provided in our Engineering Colleges so that there is proper utilisation of the training and their interest in research is sustained in the coming years also.

Facilities for research will also have to be stepped up now that a Centre of Advanced Technology, is coming up at Indore and facilities of all kinds would be available to our Colleges. Exchange of personnel programme of research projects and laboratory development in cooperation with the CAT & BARC would be the salient features of the Seventh Plan.

A provision of Rs.10 lakhs is proposed to be made for this activity in the VIIth Plan to develop support facilities.

18- Facilities for Part-time Education :-

The Government have been aware of the need of increasing the facilities for part-time education of industrial workers and employees of engineering departments both at the diploma and degree levels. At present, 5 Engineering Colleges and 5 Polytechnics offer facility of Part-time education of degree and diploma holders respectively. This facility needs to be further expanded so that the upcoming centres of industrial/engineering activity are covered. A provision of Rs.5 lakhs is proposed for this scheme in the Seventh Five Year Plan.

19- Facilities for Women Education :

Economic emancipation of women is very necessary. Efforts will have to be made not only to include the Women folk in the literacy programme but also in providing to them such technical skills as would help them become economically independent. Women in all advanced countries put their efforts in all fields.

It is necessary that facilities of technical education in such technologies and technical trades are extended which suit the women folk. Such fields are :- Electronics, Television, Secretarial Practice and Stenography, Costume Design and Dress making, Library Science and Medical Laboratory Technician, Computer Technology.

At present, only one Polytechnic is being run in the State. This facility is quite insufficient.

It is proposed that new Women's Polytechnics should be opened. This coincides well with the recommendations made in the conference of the Western Zonal Council of Education held in Poona under the Chairmanship of the Union Minister for planning in cooperation with the A.I.C.T.E. A provision of Rs.40 lakhs will have to be made in the Seventh Five Year Plan and provision of Rs.8 lakhs for the Annual Plan of 1985-86.

20- New courses in emerging Technologies :

A large percentage of resources is being utilised for the conventional courses in engineering although 5 out of 11 Engineering Colleges run such new courses as Chemical Engineering, Mining Engineering, Metallurgy, Electronics/Tele-Communication Engineering, Architecture, Computer Science, Industrial Engineering etc. Similarly, 8 out of 25 Polytechnics run such new courses as Mining Engineering, Mines Surveying, Automobile Engineering, Metallurgy, Electronics, Textile Technology, Structural Engineering, Town Planning and Architecture (both post-diploma courses) etc.

New areas of engineering and technology are emerging. Courses based on forest produce, sophisticated technologies such as fibre technology, ceramics, instrumentation, Computer Technology, production Engineering, Geo-Physics, Computer Science, Wood Technology, Chemical Engineering with special emphasis on paints and varnishes etc. pharmacy paper technology, jigs and fixtures etc. will have to be opened in the near future.

It is proposed to make for this purpose a lump provision of Rs. 30 lakhs.

21- Computer Centre :-

The growing influence of computers in the advancement of science and technology needs hardly any emphasis. Any development department/industry worth its name now goes for the computers. It is, therefore, essential that our boys are given enough training-in both hard-ware and soft-ware components of the computer so that they are ready to take-up the challenging tasks in their professional career. Our endeavour should now be to provide a couple of advanced units at a few selected colleges and looking to the emphasis given on the spread of computer literacy programme, it is proposed to provide computers in a few selected polytechnics.

A provision of Rs.5 lakhs only is being proposed for the Seventh Five Year Plan.

22- Institute of Higher Learning/Technological University :-

The need of establishment of a Technological University/Institute of Higher learning needs hardly any emphasis. It is proposed that work on this should be started in the Seventh Plan so that the Engineering Colleges of the State have appropriate leadership in the matter of development and research, on the one hand, and on the other, they may have unanimity in curriculum, rules and regulations and other academic requirements.

It is proposed that a provision of Rs.10 lakhs be made for this purpose in the Seventh Plan.

23- Institute of Management :-

In the matter of management education Madhya Pradesh State seems to have been badly neglected. Some of the country's prestigious projects i.e. the BHEL the Bhilai Steel Plant the Korba Aluminium Plant, the Malajkhand Copper Project, the Satpuda Super Thermal Project etc. are situated in Madhya Pradesh. The stage is set for a big leap in industrialisation. The Narmada Valley Project and a number of other projects envisage huge investment and all these projects need first rate managerial skill for efficient organisation of resources and result oriented working.

It is essential that an Institute of Management is established in Madhya Pradesh without further loss of time. It is proposed to make, in the Seventh Plan of the State, a provision of Rs.10 lakhs.

24- Vocationalisation of Education :-

The State Government have decided to implement, from this very session, the new pattern (10+2+3) of Education. There is provision of appropriate Vocational Education at the plus 2 stage. To make this programme of national importance a success, it is essential that the Technical Institutions play their role appropriately. At plus 2 stage, new technical/Vocational trades are proposed to be provided in various institutions. This will require expansion of the existing facilities as well as new additions in the laboratories, workshops and also staff.

It is proposed to make a provision of Rs.20 lakhs for this purpose in the 7th Five Year Plan.

CONCLUSION :

These proposals give a clear out-line of what is to be attempted in the immediate future. No amount of planning for the fullest exploitation of the natural resources of the State would stand the test unless vigorous efforts are made to have engineers and technicians of the required quality and standard simultaneously. It is necessary that the big gaps in the instructional facilities in institutions are bridged and definite steps are taken towards qualitative improvement. An out-line of the needs based on all-India norms have been given in this proposal impact of the efforts would be felt beyond the 5 year period in a big way.

These proposals are inclusive of funds needed for the Tribal Sub-Plan and the Special Component Plan for Harijans. Provision needed for the Tribal Sub-Plan and special component plan has been shown separately in Statement-GN-2.

The schenewise allocations for the Seventh Plan period as also for the Annual Development Plan of 1985-86 may be seen in Annexure-GN-2.

Director, Technical Education Unit,  
Department of Educational  
2116  
28-1-85

DIVISIONWISE/DISTRICTWISE DETAILS OF  
TECHNICAL INSTT'S. IN MADHYA PRADESH.

S.No.	Name of Division.	Name of District.	No. of the Institutions & Place where Established/ Proposed.		
			Engg. Colleges.	Polytechnics.	Higher Sec. Technical Schools.
			No. Place.	No. Place.	No. Place.
1.	Indore.	Indore, Dhar, Jhabua, West Nimar, East Nimar.	1. Indore.	4. 1. Indore, 2. Khandwa, 3. Sanawad, 4. Jhabua.	2. 1. Dhar, 2. Khandwa.
2.	Ujjain.	Dewas, Ujjain, Ratlam, Shajapur, Mandsoore.	1. Ujjain.	2. 1. Ujjain, 2. Jaora.	-
3.	Gwalior.	Gwalior, Shivpuri, Guan, Datia.	1. Gwalior.	2. 1. Gwalior, 2. Ashoknagar.	1. Gwalior.
4.	Rewa.	Rewa, Shahdol, Sidhi, Satna.	1. Rewa.	2. 1. Shahdol, 2. Waidhan.	2. 1. Shahdol, 2. Satna.
5.	Sagar.	Sagar, Damoh, Panna, Chhatarpur, Tikamgarh.	1. Sagar.	3. 1. Damoh, 2. Khurai, 3. Nowgong.	3. 1. Sagar, 2. Panna, 3. Tikamgarh.
6.	Bhopal.	Bhopal, Sehore, Raisen, Rajgarh, Vidisha, Betul.	2. 1. Bhopal, 2. Vidisha.	3. 1. Bhopal, 2. Vidisha, 3. Womens' Poly., Bhopal.	1. Sehore.
7.	Hoshangabad.	Hoshangabad.	-	1. Harda.	-
8.	Jabalpur.	Jabalpur, Narsinghpur, Chhindwara, Seoni, Mandla, Balaghat.	1. Jabalpur.	5. 1. Jabalpur, 2. Khirsadoh, 3. Seoni, 4. Balaghat, 5. Kalaniketanj, Jabalpur.	3. 1. Jabalpur, 2. Chhindwara, 3. Kalaniketanj, Jabalpur.

.....



S.No.	Name of Division.	Name of District.	No. of the Institutions & Place Where Established/ Proposed.					
			Engg. Colleges.		Polytech-nics.		Higher Sec. Technical Schools.	
			No.	Place.	No.	Place.	No.	Place.
9.	Bilaspur.	Bilaspur, Raigarh, Sarguja.	1	Bilaspur.	2	1. Raigarh. 2. Ambikapur.	1	1. Raigarh
10.	Raipur.	Raipur, Durg, Rajnandgaon.	1	Raipur.	2	1. Dhamtari. 2. Durg.	2	1. Raipur 2. Khairagarh.
11.	Chambal.	Murena, Bhind.	-	-	1	1. Murena	-	-
12.	Bastar.	Bastar.	1	Jagdalspur.	-	-	-	-
TOTAL :			11		27		15	

|jharna|

Annexure-"B"

List of districts where there is no  
Polytechnic /No Technical Institution.

S.No.	District without Polytechnic.	Districts which have neither an Engineering College, nor a Polytechnic nor a Higher Secondary Technical School.
1.	Bhind.	1. Bhind
2.	Dhar.	2. Dewas.
3.	Shajapur.	3. Shajapur.
4.	Mandsour.	4. Mandsour.
5.	Shivpuri.	5. Shivpuri.
6.	Datia.	6. Datia.
7.	Rewa.	7. Raisen.
8.	Satna.	8. Betul.
9.	Dewas.	9. Narsingpur.
10.	Panna.	10. Mandla.
11.	Tikamgarh.	11. Rajgarh.
12.	Sehore.	
13.	Raisen.	
14.	Betul.	
15.	Narsingpur.	
16.	Mandla.	
17.	Bilaspur.	
18.	Rajnandgaon.	
19.	Bastar.	
20.	Rajgarh.	

DRAFT SEVENTH FIVE YEAR PLAN 1985-90 AND ANNUAL PLAN  
1985-86 HEADS OF DEVELOPMENT STATE/UNION TERRITORIES  
OUTLAY AND EXPENDITURE :

Code No.09030

Statement  
GN-1  
(Rs.in lakhs)

Head/Sub-Head of Development.	Code No.	Sixth Five Year Plan (1980-85) Agreed outlay.	1980-83 Actual Expenditure.	1983-84 Actual Expenditure.	1984-85 Appro-ved out-lay.	Anti-cipa-ted Expen-diture.	Seventh Plan. 1985-90 Pro-posed out-lay. con-tent.	Of whi-ch Capi-tal con-tent.	1985-86 Pro-posed out-lay. con-tent.	Of whi-ch Capi-tal con-tent.
-------------------------------	----------	---	-----------------------------	-----------------------------	----------------------------	-----------------------------	--	------------------------------	--------------------------------------	------------------------------

SOCIAL & COMMUNITY SERVICES :

Technical Education.	- 09030	614.82	325.64	331.00	580.00	580.00	2233.00	1498.00	335.00	209.00
TOTAL :-		614.82	325.64	331.00	580.00	580.00	2233.00	1498.00	335.00	209.00

DRAFT SEVENTH FIVE YEAR PLAN 1985-90  
AND ANNUAL PLAN(1985-86)DEVELOPMENT  
SCHEMES/PROJECTS OUTLAY & EXPENDITURE

Code No.09030

Statement GN-2 Code  
 State: M.P. No.09030.  
 (Rs. in lakhs)

Name of the schemes/ projects.	Sixth	1980-85	1985-84	1984-85		Seventh Plan		1985-86		
	Five Year Plan (1980-85) Agreed outlay.	Actual expen- diture.	Actual.	Approv- ed out- lay.	Antici- pated expen- diture.	Proposed outlay.	Of wh- ich capi- tal compo- nent.	Propo- sed Out- lay.	Of whi- ch Ca- pital compo- nent.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.

SOCIAL & COMMUNITY SERVICES :

TECHNICAL EDUCATION :

A-1. Consolidation of

Technical Institutions:

1. Equipment, Hostels, institutional buildings, library, furniture, salary and allowances including Development Project under external aid.	360.00	838.473	213.187	385.80	385.80	960.00	750.00	165.00	120.00
2. Training Expenses.	-	-	-	-	-	150.00	-	10.00	-
<b>TOTAL:</b>	360.00	838.473	213.187	385.80	385.80	1110.00	750.00	175.00	120.00

II- QUALITY IMPROVEMENT PROGRAMMES :

3. Improvement of staff Structure in Engg. Colleges & Polytechnics.	74.82	33.091	8.736	20.55	20.55	80.00	-	10.00	-
---	-------	--------	-------	-------	-------	-------	---	-------	---

.....contd.page. 2 Statement GN-2 Main Plan.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
4. Training & Placement Department.	-	-	-	-	-	-	15.00	10.00	5.00	3.00
5. Improvement in Library Services.	15.00	34.826	25.410	1.30	1.30	1.30	20.00	15.00	5.00	-
6. Training & Leave Reserve for Engg. Colleges and Polytechnics.	-	-	-	-	-	-	10.00	-	-	-
7. Student Amenities.	15.00	0.370	0.020	0.35	0.35	0.35	10.00	10.00	-	-
8. Staff Quarters.	50.00	49.515	3.910	3.85	3.85	3.85	85.00	85.00	5.00	5.00
9. Creation of Hostel facilities.	-	-	-	-	-	-	100.00	100.00	5.00	5.00
10. Increase in Scholarships.	20.00	18.484	4.470	7.73	7.73	7.73	10.00	-	-	-
11. Modernisation of Laboratories & Workshops.**	-	-	-	-	-	-	20.00	-	-	-
12. Repographic Units in Technical Institutions.	-	-	-	-	-	-	20.00	20.00	-	-
13. Strengthening of Administrative Machinery of D.T.E.	10.00	17.493	2.414	11.85	11.85	11.85	10.00	-	2.00	-
14. New Development Projects of Technical Institutions with central assistance/ external aid.	-	-	-	-	-	-	20.00	10.00	-	-
TOTAL :	184.82	153.779	44.965	45.63	45.63	45.63	400.00	250.00	32.00	13.00

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
<u>EXPANSION OF TECHNICAL EDUCATION:</u>										
15. New Engg.Colleges.	-	-	-	-	-	-	20.00	15.00	-	-
16. New Polytechnics.	-	-	-	-	-	-	40.00	20.00	-	-
17. Post-Graduate studies and Research.**	-	-	-	-	-	-	10.00	5.00	-	-
18. New Part-time Degree-Diploma courses.	-	-	-	-	-	-	5.00	1.00	-	-
19. New Women's Polytechnics.	-	-	-	-	-	-	40.00	30.00	8.00	4.00
20. New courses in Engg. Colleges & Polytechnics.	-	-	-	-	-	-	30.00	20.00	-	-
21. Computer Centres.	-	-	-	-	-	-	5.00	4.00	-	-
22. Institute of Higher Learning.	-	-	-	-	-	-	10.00	7.50	-	-
23. Institute of Management.	-	-	-	-	-	-	10.00	7.50	-	-
24. Vocationalisation of Education.	-	-	-	-	-	-	20.00	5.00	-	-
TOTAL :-	-	-	-	-	-	-	190.00	115.00	8.00	4.00
Tools & Plant.	-	29.92	7.63	21.57	21.57	-	-	-	-	-
Total(I,II & III)	544.82	1022.172	265.782	453.00	453.00	1700.00	1115.00	215.00	137.00	

42

...contd. page.4 Statement GN-2 Main Plan.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
B- Provision for Tribal Sub-Plan.	70.00	214.336	55.43	115.00	115.00	510.00	383.00	110.00	72.00	
C- Provision for Special Component Plan.	-	37.910	9.79	12.00	12.00	23.00	-	10.00	-	
TOTAL :-	70.00	252.246	65.22	127.00	127.00	533.00	383.00	120.00	72.00	
Grand Total(A+B+C)	614.82	1274.424	331.002	580.00	580.00	2233.00	1498.00	335.00	209.00	

NOTE :- \* This is also supposed to be a Central Scheme. In that case, the provision made here would be diverted to Scheme No.14 ;

\*\* This scheme is supposed to be a Central Scheme. In that case the provision made in the State Plan would be diverted to Scheme No.3 where more funds are needed.

DRAFT SEVENTH FIVE YEAR PLAN(1985-90)AND  
ANNUAL PLAN 1985-86 CENTRALLY SPONSORED  
SCHEMES :

Statement GN-6  
 (Rs. in lakhs)

Code No.09030.

Name of Scheme.	Pattern of sharing expenditure (i.e.50:50, 100% etc.)	Sixth Plan outlay (1980-85)	Actual Expen- diture 1980-83.	Actual Expen- diture 1983-84.	1984-85		Seventh Plan	
					Alloca- tion.	Antici- pated expendi- ture.	Proposed outlay 1985-90.	1985-86 proposed outlay.

SOCIAL & COMMUNITY SERVICES :

Post-Graduate courses & Research Works.	100%	75.00	18.10	5.64	8.40	8.40	200.00	30.00
<b>TOTAL :</b>		75.00	18.10	5.64	8.40	8.40	200.00	30.

NOTE :- This takes into account the new Post-Graduate courses for which proposals are under consideration of the Government of India.

[jharna:11284]

\*\*\*\*\*



DRAFT SEVENTH FIVE YEAR PLAN -1985-90 AND

ANNUAL PLAN 1985-86

EMPLOYMENT CONTENT OF SECTORAL PROGRAMS 1985-90

OUTLAYS AND EXPENDITURE

EMr-1

Employment  
Statement  
State: M.P.

Code No.09030

(in lakhs)

Name of the Sector.	Outlay and Expenditure.					
	1980-85 Agreed outlay.	1980-83 Actual Expendi- ture.	1983-84 Actual Expendit- ure.	1984-85 Anticipated Expendit- ure.	Seventh Plan * 1985-90 Proposed outlay.	1985-86 * Proposed outlay.

SOCIAL & COMMUNITY SERVICES:

Technical Education.	614.82	325.64	331.00	580.00	2233.00	335.00
Total:-	614.82	325.64	331.00	580.00	2233.00	335.00

\* This is inclusive of funds needed for the Tribal Sub Plan and Special Component Plan.

.....

DRAFT SEVENTH PLAN - 1985-90 AND ANNUAL PLAN 1985-86

EMPLOYMENT CONTENT OF SECTORAL PROGRAMMES- 1985-90

EMP- 2

TARGETS AND ACHIEVEMENTS.

Employment  
Statement  
State:M.P.

Name of the Sector.	1980-85		Additional Direct Employment generated(Nos.)							
	Targets		1980-83	1983-84	1984-85	Seventh Plan	1985-86			
	Const- ruction	Conti- nuing	(Actuals)	Actuals	Anticipated	1985-90 Pro- posed.	Target Proposed			
	(Persons days)	(Per- sons year)	Const- ruct- ion(P- ersons days)	Conti- nuing (Person Year)	Const ruct- ion (Per- son days)	Conti- nuing (Person Year)	Const- ruct- ion (Per- son days)	Conti- nuing (Person Year)	Con stru- ction (Per- son days)	Con- tinu- ing (Per- son Year)

SOCIAL & COMMUNITY SERVICES:

Technical Education.	-	832	-	522	-	645	-	353	-	3500	-	350
Total:-	-	832	-	522	-	645	-	353	-	3500	-	350

DRAFT SEVENTH FIVE YEAR PLAN -1985-90 AND  
ANNUAL PLAN - 1985-86

D.P.I.  
State: M.P.  
(Rs. in lakhs)

S.No.	Head of Development.	1980-85 Sixth Plan outlay.			1980-1983 Actuals.			1983-1984 Actuals.		
		State	Distt.	Total.	State	Distt.	Total.	State	Distt.	Total.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.

SOCIAL & COMMUNITY SERVICES:

TECHNICAL EDUCATION:

1. Schemes implemented/ proposed in all Technical institutions in 27 Distts.	614.82	584.82	584.82	325.64	325.64	325.64	331.00	331.00	331.00	324.12	324.12
2. Head Quarter Schemes.		30.00	30.00		9.51	9.51		6.88	6.88		
<b>Total:-</b>	614.82	614.82	614.82	325.64	325.64	325.64	331.00	331.00	331.00		

..contd ..

