

**REPORT
OF THE RESOURCE
MOBILISATION COMMITTEE**

VOL. I

75-06X792-2315-N8t
M1-1

750bX792 2315.N8t
M1 1
193081

**FINANCE DEPARTMENT
GOVERNMENT OF MAHARASHTRA
1981**

ERRATA FOR VOL-1, OF THE REPORT OF THE RESOURCE MOBILIZATION COMMITTEE

Sr. No.	Page No.	Location	For	Read
1	ix	Para. 0.4 Line-11.	Shri.K.B.Shrinivasan.	Shri. K.B.Srinivasan.
2	x	Para. 0.6 Line-4.	Annex Dha	Annexures.
3	2	Table-1.3 Line-1	666.	6.66
4	2	Table-1.3 Line-5	5989.	59.89
5	5	Statement-I Item-31. Col-8	=	Read only Rs.1 lakh per year.
6	5	Statement-I Item 32. Col-8 Line-3 from bottom.	providep.	provided.
7	6	Statement-I Item-32. Col.8	-	Read the portion "9% for forest revenue --- on the expenditure side" from page 5.
8	6	Statement-I Item-35. Col-I	samll	small.
9	6	Item-38 Col-3	Net in 73.71	-73.71.
10	6	Statement-I (IV).Item-9 Col-1	mordernisation	modernisation.
11	9	Para.2.1 Line-2.	-	After word "Government" add "are".
12	9	Para 2.2 Line-12.	turther	further.
13	9	Para.2.2 last line.	item	items.
14	9	Para.2.2 last line.	fiual	final.
15	9	Para.2.3 Line-3	forceasting	forecasting.
16	9	Para.2.3 Line-3 from bottom.	herefore	therefore.

Sr. No.	Page No.	Location	For	Read
17	9	Para.2.4 last line.	Resoruces	Resources.
18	9	Para 2.4 last line.	soruce	source.
19	10	Para 2.6 line-5	an education	on education.
20	10	Para 2.7 Heading.	proposales	proposals.
21	10	Para 2.7 Line-7	measures	measures.
22	10	Para 2.9 Line-3 from bottom.	acquire	accrue.
23	10	Para.2.9 Line-2 from bottom	Exchequeor	Exchequer.
24	11	Para 2.10 Line-8	movilisation	mobilisation.
25	11	Para.2.10 Line-12.	tradet	trade.
26	11	Para.2.11 Line-3	sate	state.
27	11	Para.2.11 Line-12.	doudt	doubt.
28	12	Table-3.1 Line-2 of heading	for	from.
29	16	Para.3.4-A (11)(d)- Line-9	basies	basis.
30	16	Para.3.4-A (11)(e). In column total against the last entry 31st March 1981.	1,83,000	1,89,000
31	24	Para.3.15 Line-3	-	Add word "with" between "chassis" and "shorter".

Sr. No.	Page No.	Location	For	Read
32	25	Table No.3.12 Col.1 Line-2	CSRTC	GSRTC.
33	27	Para.3.25 Line-3	imporant	important.
34	29	Para 3.31 Line-2	1 February 1981	1st February 1981
35	29	Para 3.32 Line-6	geniune	genuine
36	31	Para 3.43 Line-4 from bottom	any	and
37	38	Para 4.11 Line-3	Evern	Even
38	38	Para 4.11 Line-7	thas	has
39	38	Para 4.15 Line-8	echological	ecological
40	40	Para 4.23 Line-3	o	of
41	40	Para 4.25 Line-3	Porject	Project
42	40	Para 4.27 Last line	resoruces	resources
43	42	Para 4.33 Line-10	dringing	drinking
44	44	Para 4.43 Sub-para 2 Line-16	claculated	calculated
45	44	Para 4.43 Sub-Para 3 Line-8	wehich	which
46	45	Para 4.43 Sub-Para 4 Line-14	Rejadhyaksha	Rajadhyaksha
47	45	Para 4.43 Sub-Para 4 Line-27	Rajdhyaksha	Rajadhyaksha

Sr. No.	Page No.	Location	For	Read
48	46	Para 4.48 Line-3 on right hand side	evels	levels
49	46	Para 4.48, Line-3 from bottom	mey	may
50	46	Para-4.48 Line-4 On right hand side	itages	stages
51	46	Para 4.48 Line-5 On right hand side	sin	in
52	47	Para 4.50 Sub-para 4 Line-2 on right hand side	prosopus	prosperous
53	49	Para 4.53 Line-12	monitering	monitoring
54	49	Para 4.53 Line-4 from bottom	sactioning	sanctioning
55	50	Para 4.58 Line-5	Worsty	Worst.
56	50	Para 4.59 Line-1 heading	Plan	plant
57	50	Para 4.59 Line-8 right hand side	competance	competence
58	50	Para 4.59 last line right hand side	Theoermal	Thermal
59	51	Para 4.66 Line-3	tranmission	transmission
60	51	Para 4.66 Line-5	Generaton	Generation

Sr. No.	Page No.	Location	For	Read
61	52	Para 4.70 Line-5	ars	are
62	52	Para 4.70 Line-7	loade	loads
63	53	Para 4.71 Line-8	syastems	systems
64	53	Para.4.72 Line-1 Sub-para 2	substained	sustained
65	53	Para 4.72 Sub-para 2 Last line on left hand	or	for
66	54	Para 4.74 Sub-para 4 Line-3 right hand side	of	or
67	54	Para 4.75 Line-5 from bottom	indentified	identified
68	54	Para 4.75 Line-3 from bottom	agencies	agencies
69	55	Para 4.81 Line-1	Tamilnadu	Tamil Nadu
70	59	Recommendation No.25 Line-2	replication	duplication
71	61	Recommendation No.41 Line-4	acale	scale
72	62	Recommendation No.48 Line-3	claim	class.
73	63	Recommendation No.50, Line-7	subidised	subsidised
74	63	Recommendation No.54 Line-3.	goal	coal.
75	64	Recommendation No.60, Line-5	Road	Research

Report of the Resource Mobilisation Committee

Volume I



**FINANCE DEPARTMENT
GOVERNMENT OF MAHARASHTRA
1981**

CONTENTS

Chapter	Description	Pages
	List of Abbreviations	ii
	List of Tables	iii
	Definitions of Technical Terms	v
	Introduction	ix
Chapter 1	.. Development programme of the State : Assessment of Resource Position.	1
Chapter 2	.. Interim proposals on State's taxation	9
Chapter 3	.. Mobilisation of resources, Maharashtra State Road Transport Corporation.	12
Chapter 4	.. Mobilisation of resources, Maharashtra State Electricity Board.	36
Chapter 5	.. Summary of recommendations	56

LIST OF ABBREVIATIONS

A.P.S.	Annual Power Survey.	M.I.D.C.	Maharashtra State Industrial Development Corporation.
A.R.D.C.	Agricultural Refinance and Development Corporation.	M.K.W.H.	Million Kilo Watt Hours.
B.E.S.T.	Bombay Electric Supply and Transport Undertaking.	M.L.A.	Member of Legislative Assembly.
B.H.E.L.	Bharat Heavy Electricals Limited.	M.L.C.	Member of Legislative Council.
B.H.P.	British Horse Power.	M.P.	Member of Parliament.
B.M.R.	Bombay Metropolitan Region.	M.S.E.B.	Maharashtra State Electricity Board.
B.S.E.S.	Bombay Suburban Electric Supply Company.	M.S.R.T.C.	Maharashtra State Road Transport Corporation.
C.S.T.	Central Sales Tax	M.V.Tax.	Motor Vehicle Tax.
C.E.A.	Central Electrical Authority.	M.W.	Mega Watts.
D.A.	Dearness Allowance.	N.C.D.C.	National Co-operative Development Corporation.
D.P.D.C.	District Planning and Development Council.	N.D.C.	National Development Council.
D.P.C.	Delayed Payment Charges.	N.R.E.P.	National Rural Employment Programme.
EP.K.M.	Earnings Per Kilometre.	P.C.	Planning Commission.
E.G.S.	Employment Guarantee Scheme.	P.L.	Proof Litre.
F.C.A.	Fuel Cost Adjustment.	P.L.F.	Plant Load Factor
F.D.	Finance Department	P.M.R.	Pune Metropolitan Region.
G.P.	Gram Panchayat.	R.B.I.	Reserve Bank of India.
H.T.	High Tension.	R.E.C.	Rural Electrification Corporation.
H.P.	Horse Power.	R.E.Loss.	Rural Electrification Loss.
H.E.P.	Hydro Electric Project.	R. & D.	Research and Development.
H.S.D.	High Speed Diesel.	S.E.B.	State Electricity Board.
K.M.	Kilometres.	S.I.C.O.M.	State Industrial and Investment Corporation of Maharashtra.
K.L.	Kilolitres.	S.R.T.C.	State Road Transport Corporation.
K.P.T.L.	Kilometre Per Ten Litres.	S.T.	Sales Tax.
K.V.	Kilo Volt.	T. & D.	Transmission and Distribution.
K.V.A.	Kilo Volt Ampere.	T.E.C.	Tata Electric Company.
L.D.O.	Light Diesel Oil.	T.P.S.	Thermal Power Station.
L.F.	Load Factor.	U.P.	Uttar Pradesh
L.I.C.	Life Insurance Corporation	V.C. & G.M.	Vice-Chairman and General Manager, M.S.R.T.C.
L.O.L.P.	Loss of Load Probabilities.	W.C.L.	Western Coal-fields Limited.
LT.	Low Tension.		

LIST OF TABLES

Serial No.	Table No.	Contents	Page No.
1	1.1	Sectorwise Outlays under Sixth Five-Year Plan, 1980-85 and Annual Plan, 1981-82.	1
2	1.2	Financial Resources for the Sixth Plan, 1980-85	1
3	1.3	Estimated realisation from Stamp-duty Amendment Act and Sales Tax Amendment Act.	2
4	1.4	Likely Additional Realisation under Certain Major Taxes during the Sixth Plan.	3
5	1.5	Modifications to Mobilisation target set for the State Government for the Sixth Plan.	3
6	2.1	Taxation Measures as Recommended by the Committee and as Implemented during the Presentation of Budget 1981-82.	11
7	3.1	Financial Position of MSRTC for 1970-71 to 1979-80. ..	12
8	3.2	Capital expenditure proposed during Sixth Plan	13
9	3.3	Resources anticipated by the Corporation during Sixth Plan ..	13
10	3.4	Outlays Approved by the Planning Commission during the Sixth Plan.	13
11	3.5	Development Programme of the Corporation during the Sixth Plan.	14
12	3.6	Actual Growth rates	14
13	3.7	Growth rates suggested during the Sixth Plan	14
14	3.8	Statement of Planwise Capital Expenditure, Capital Contribution, Internal Resources, Borrowings and percentage thereof.	15
15	3.8A	Working Capital needs	18
16	3.9	Yearwise phasing of purchase of vehicles during the Sixth Plan ..	19
17	3.10	Comparing the achievements of MSRTC under certain performance indicators with best achievements of sister undertakings.	22
18	3.11	Accident Data of MSRTC	23
19	3.12	Comparative inventory levels	25
20	3.13	Increase in prices of important input items during January 1975 to January 1980.	28
21	4.1	Sixth Plan : Financial Plan	39
22	4.2	Sixth Plan : Physical Targets, 1980-85	39
23	4.3	Comparison in cost of Supply and Tariff Rates for different Consumers.	41
24	4.4	Composition of resources of different S.E.Bs.	42
25	4.5	Revised (Proposed) Tariff Rates for different Consumers ..	47
26	4.6	Performance of the M.S.E.B. over the last 5 years	50

DEFINITIONS OF TECHNICAL TERMS

- (1) *Delayed Payment charges* = These are the charges which are levied at the prescribed rates in the event of failure on the part of the consumer to pay the bills on or before the due date of payment.
- (2) *Demand and Energy* = Demand of any system or load is measured in terms of KW (or MW; this is 1,000 KW). This is the measure that any load demands at any instant. This demand depends upon the size and the rating of the motors (in case e.g. agriculture pump of 5 H.P. motor i.e. 3.75 KW), or connected load of any installation such as lighting, fan, a factory, etc.
- The demand may vary from moment to moment depending upon the extent to which the motors are being used or the lighting load is being switched on etc. 1 KW used for 1 hour is equivalent to 1 unit of energy measured in KWH. Thus demand used over a period of time gives a measure of the energy used by the load/consumer. In other words energy is demand multiplied by time.
- (3) *Derated capacity* = Actual working capacity of the generating plant.
- (4) *Earning per Kilometre* =
$$\frac{\text{Total earning.}}{\text{Effective Kilometres.}}$$
- (5) *Effective Kilometres* = Kilometres for which Revenue is earned.
- (6) *Extra High Voltage* = This covers the voltage levels above 33 KV, which means 66 KV, 110 KV, 132 KV, 220 KV and above. Consumers with a demand above 5,000 KW are normally given supply at EHV.
- (7) *Fleet Utilisation* =
$$\frac{\text{Average number of vehicles on the road}}{\text{Average number of vehicles held}} \times 100$$
- (8) *Forced outages* = Means the outages of generating plants caused by sudden and unexpected (or unplanned) failure of some equipment leading to non-availability of the generating capacity of the unit concerned.
- (9) *High Tension* = This is the voltage level of 11,000, 22,000 and upto 33,000 volts. Consumers with a demand existing 50 KW and upto 5,000 KW are normally supplied at any of these voltage levels.
- (10) *Kilometres per litre* =
$$\frac{\text{Gross Kilometre}}{\text{Litres of Diesel Consumed.}}$$

- (11) *Kilo-Volt* = Volt is a unit of measurement of the electrical pressure and one kilovolt is equal to one thousand volts.
- (12) *Load factor* = It is the ratio of number of units supplied during a given period to the number of units that would have been supplied if the maximum demand is maintained throughout the period.
It is also the ratio of average demand to the maximum demand.
- (13) *Loss of load Probability* = This is measured in terms of Number of days that load is lost in a year. This is a criteria for reliability of power supply to the consumers. In general it can be stated that if the total available generating capacity in the grid is adequate to meet the demand fully throughout the year there is no loss of load which occurs whenever the available capacity is short as compared to the demand from time to time during the year. If the capacity is less than adequate after considering all the contingencies such as maintenance outages, forced outages, partial outages etc. then there is loss of load which is measured in terms of Number of days in a year.
- (14) *Low Tension* = Low tension is the voltage level of 230 volts at single phase and upto 440 volts at 3 phase. At these voltage levels supply is given to L.T. consumers i.e. domestic and commercial consumers using light and domestic appliances as well as small industrial consumers upto 50 KW Demand including agriculture, flour mills, saw mills, oil mills, etc.
- (15) *Mega Watts* = Watt is a unit of measurement of the power and one mega watt is equal to one million watts.
- (16) *Nodal centres* = It is the point in Transmission Grid Network from where further radial EHV feeders are taken out to other Grid/s.
- (17) *Plant load factor* = It is the ratio of average demand on the plant to the plant capacity in KW.
- (18) *Power factor* = Theoretically this is a ratio between active current to total current which includes reactive current in any given electrical circuit. The active current represents the actual energy used for any beneficial use such as lighting, mechanical drive for pumps etc. The reactive represents, in an alternating current circuit that part of the current which does not contribute to any useful mechanical or lighting work as such but is required to be carried by the load or the circuit depending upon its inherent electrical characteristics. For example the induction motor like that of an agricultural pump has a very poor power factor of the order of 65 per cent. to 70 per cent. only. Lighting load has almost a near unity power factor.

The poor power factor of a load indicates that the circuit is carrying reactive current which has to be reduced by use of such equipment as capacitors. Low power factor of either an electrical circuit or an electrical equipment is caused by the reactive (inductive) character of the same. By installing suitable capacitors at suitable locations, power factor can be improved i.e. the reactive current proportion to the total current can be reduced and thereby losses are reduced and efficiency of transmission, distribution improved.

(19) *Staff cost per kilometre* = $\frac{\text{Total cost on staff}}{\text{Effective Kilometre}}$

(20) *System Improvement* = This means strengthening or augmenting the capacity of Sub-station or Sub-transmission/Distribution feeders installation of capacitors, voltage booster or installation of onload tap changers, so that voltage conditions improve and are within the prescribed limits. System Improvement works also help in reducing the T. and D. losses.

(21) *Vehicle Utilisation* = Average kilometres done by bus per day.

INTRODUCTION

0.1. The Committee on Resource Mobilisation was set up under Government Resolution, Finance Department, No. TCS-1080/RR-252/RES-4, dated 12th September 1980 for augmenting resources for financing the Sixth Five-Year Plan. The composition of the Committee and its terms of reference are presented in Annexure I to this report included in Volume II.

0.2. The Committee was initially requested to submit its report by 31st December 1980. Considering the wide terms of reference on which the Committee is expected to submit its recommendations, Government extended its period upto 31st December 1981. However, considering the need for additional resource mobilisation for the Annual Plan 1981-82, the Committee had initially decided to submit an interim report on three specific aspects, viz.:

(a) additional tax revenue to be raised by the State Government during 1981-82 keeping in view the mobilisation target set by the Planning Commission;

(b) mobilisation of resources by Maharashtra State Road Transport Corporation (MSRTC); and

(c) mobilisation of resources by Maharashtra State Electricity Board (MSEB). Since the Committee's interim report could not be submitted before the finalisation of Budget for 1981-82, (though the Committee's ideas and/or recommendations re: State Taxation and resources mobilisation by MSRTC & MSEB were duly taken note of by Government) the Committee now proposes to submit a series of reports on various issues referred to it as and when they are finalised, in appropriate volumes. The present report is the first volume in the series.

0.3. The Committee has held 13 meetings so far. During its first few meetings, it familiarised itself with the existing pattern of taxation in Maharashtra (including the Maharashtra Sales Tax Act, 1979—which is yet to be enforced) and the policy on resources mobilisation followed by public sector undertakings in the State. It also reviewed the resource position of the State in relation to the financial requirements of the Sixth Plan. The Committee then devoted its attention to the strategy to be adopted for submitting its interim report and also considered the detailed studies which would be needed

for completion of its final report, including methodology to be used for securing information.

0.4. In regard to the Committee's interim report, it was decided that the two major Corporations (MSRTC & MSEB) should first be requested to present their financial forecast, the new proposals for fare/tariff revision which they have already initiated or were under contemplation and any other important feature of their operations which have a bearing on resources; and that this should be followed by detailed discussions with the two corporations. It was also decided that the Committee should meet Dr. B. N. Adarkar, former Chairman, MSRTC, and Shri K. B. Shrinivasan, former Secretary (Energy), Maharashtra Government, because of their special knowledge with regard to the operations of MSRTC and MSEB, respectively. As for the interim measures to be suggested for State taxation 1981-82, it was felt that the Committee should for the moment confine its deliberations to the points raised in the detailed notes on State Taxation and State resources circulated by the Finance Department, as these contained a number of useful ideas/proposals for immediate policy decision in the context of the Annual Budget for 1981-82.

0.5. To complete its work on the Final Report, the Committee has organised a number of indepth studies on certain important subjects relating to State taxation and had simultaneously issued a questionnaire to elicit the views of concerned interests. The questionnaire (enclosed as Annexure 2 Vol. II) has been issued to distinguished Economists, Chambers of Commerce, M.Ps., M.L.As., M.L.Cs. and other knowledgeable persons whose views are likely to be of assistance in completing the Committee's deliberations and formulating its recommendations. The Committee also proposes to call a selected number of personalities/organisations to tender evidence in person. The Committee has also set up six working groups under the convenorship of each member of the Committee to examine selected subject matters in detail. The composition of the Working Groups is given in Annexure 3 in Vol. II. These working groups cover the following areas :—

- (a) Agricultural and Land Taxation;
- (b) Urban taxation;

- (c) Public Sector undertakings;
- (d) Local Finance;
- (e) Sales Tax; and
- (f) Institutional Finance and market borrowing operations.

We expect the study groups to submit their reports by the 15th of July 1981.

0.6. The present report is presented in two volumes. While Volume I deals with the main report and contains the recommendations made by the Committee, Volume II presents the different Annexure referred to in the body of the main report *i.e.* Volume I.

0.7. As already indicated, this report covers three issues viz. (1) State Taxation 1981-82, (2) Resource Mobilisation by MSRTC, (3) Resource Mobilisation by MSEB. We begin our report with a brief review of the present resource position of the State. In Chapter 2, we deal with taxation. We have broadly discussed the scope for augmenting the level of various taxes currently levied in the State. The Committee has also taken into account a number of new ideas suggested by the Members of the Committee as well as those mooted by the concerned Departments or those by Dr. Brahma-nanda. The Committee, however, felt that most of these ideas need to be carefully examined. Our major suggestions for tax augmentation, rationalisation or introduction of new taxes etc. would be made either in the course of the year or in our final report itself. However, a few proposals, which we thought could

be of use for implementation in relation to the 1981-82 mobilisation have been included in Chapter 2.

Chapters 3 and 4 contain our recommendations on MSRTC and MSEB. In these two Chapters dealing with the two premier undertakings, though we have basically confined ourselves to recommendations on tariff policy, a few related matters like economy, efficiency, structural and/or other changes which have a bearing on the financial resources of the Corporations have also been touched upon.

0.8. The Committee received utmost co-operation from MSRTC and MSEB in formulating its report. Both undertakings not only supplied the Committee with detailed information on various issues under discussion but were kind enough to discuss with the Committee members and others, at length, a number of points-technical and others—which arose from their submissions. In particular, the Committee wishes to express its gratitude for the considerable personal interest taken by Dr. P. G. Patankar, Vice Chairman and General Manager of MSRTC, Shri S. M. Mishra, Chairman MSEB and Shri S. V. Shevade, Technical Member, MSEB in the finalisation of the Committee's Interim Report on the working of the two undertakings. The Committee also wishes to record its appreciation of the valuable suggestions made by Shri B. N. Adarkar, former Chairman of the MSRTC and Shri K. B. Srinivasan, former Energy-Secretary, Maharashtra Government during their appearances before the Committee.

CHAPTER 1

DEVELOPMENT PROGRAMME OF THE STATE : ASSESSMENT OF RESOURCE POSITION

1.1. *Sixth Five-Year Plan and Resources.*—The size of the Sixth Five-Year Plan of the State (1980-85) has been placed at Rs. 6,175 crores and that of the Annual Plan for 1981-82 at Rs. 1,080.10 crores in the meeting held between the Deputy Chairman of the Planning Commission and the Chief Minister on the 12th December 1980 with Sectoral Outlays as set out in the table below :

TABLE No. 1.1
*Sectorwise Outlays under Sixth Five-Year Plan
1980-85 and Annual Plan, 1981-82*

Head of Development	(Rs. in crores)	
	1980-85	1981-82
1. Agriculture and Allied Services	4,22.35	79.83
2. Co-operation	57.44	13.97
3. Irrigation and Flood Control ..	11,39.26	2,02.21
4. Power	21,57.00	3,50.94
5. Industry and Minerals	1,92.16	33.65
6. Transport and Communication	4,40.60	74.83
7. Social and Community Service ..	11,99.95	2,26.08
8. Economic and General Service ..	35.24	8.51
9. Employment Guarantee Scheme including N. R. E. P.	4,50.00	75.00
10. Special Programme for Rural Development.	81.00	15.08
Total ..	61,75.00	10,80.10

1.2. *Scheme of funding of the Sixth Plan.*—The Scheme of funding of the Sixth Plan Outlay envisaged is as under —

TABLE No. 1.2
Financial Resources for the Sixth Plan, 1980-85

		(Rs. in crores)	
(i) Balance from current revenues at 1979-80 rates of taxes.			
(A) Current Revenues	..	1,04,23.74	
Less (B) Non-Plan Expenditure	..	82,41.88	21,81.86
(ii) Miscellaneous Capital Receipts net of expenditure.			(—)2,32.21
(iii) State Provident Funds	..		2,92.39
(iv) Share in Small Savings	..		8,24.18
(v) Market Borrowings	..		3,31.52
(vi) Internal Resources of Autonomous Bodies :—			
(a) M. S. E. B.	..	6,53.45	
(b) M. S. R. T. C.	..	94.39	

		(Rs. in crores)	
(vii) Assistance from Central Financial Institutions for Plan expenditure of State Government and autonomous bodies—			
(a) L. I. C.	..	..	1,69.74
(b) R. B. I.	..	..	5.15
(c) R. E. C.	..	..	39.15
(viii) Additional Mobilisation	..	..	11,03.46
(a) By Autonomous Bodies—			
M. S. E. B.	..	..	150
M. S. R. T. C.	..	..	250
(b) By Government including possible buoyancy, economy etc.			
	7,03.46		
(ix) Central Assistance	..	..	8,75.91
(x) Withdrawal from cash balances in 1980-81	..		24.79
Total ..			61,75.00

1.3. *Analysis of the State's Resources.*—The aggregate revenue receipts have been estimated at Rs. 10,423.74 crores and the aggregate Non-Plan expenditure at Rs. 8,241.88 crores yielding a net surplus of Rs. 2,181.86 crores for the five-year period. The estimates of revenue receipts in detail are given in Statement I*. The estimates of non-Plan revenue expenditure (separately for non-development and development) are given in Statement II*. Whilst arriving at these estimates, following assumptions have been made:—

(i) Provision for subsidy to MSEB for enabling it to earn a return of 9.5 per cent on its average capital base as per the stipulation of the World Bank has been made.

(ii) Provisions for repairs to buildings and repairs to communications have been especially stepped up in view of the price rise and to make up for the backlog and are not based on any specific growth rates.

(iii) The provisions for Dairy Schemes are made so that the losses would get reduced by Rs. 1 crore per annum.

(iv) A lump sum provision of Rs. 25 crores for each year from 1981-82 to 1984-85 for non-plan, new items (the expenditure on account of which has not been taken into account in the estimates of expenditure under individual items) has been made.

*Appended at the end of this Chapter.

(v) The estimates provide for increase in dearness allowance till 1st July 1980 and relief to pensioners sanctioned till 1st May 1980. According to the Government of India formula which has been adopted by the State Government also, an additional instalments of dearness allowance and relief to pensioners has become due from 1st September 1980. No provision, however, has been made for this or possible such increases in the future as per the advice of the Planning Commission. This is based on the consideration that any increase in price level necessitating increase in dearness allowance and relief to pensioners will also result in increased accrual of revenue to the State Government from the Sales Tax, share in Union Excise, etc.

1.4. Miscellaneous Capital account relates to all transactions on Non-Plan account outside the Revenue Account other than State Provident Fund and share in Small Savings (which are traditionally earmarked for financing Plan Development Programme). The transactions include on the receipt side recoveries of loans and advances given in the past, Non-Plan loans from the Government of India and net deposit from outside bodies made temporarily with Government. On the expenditure side, figure repayment of Central Loans and loans received from Central autonomous bodies viz. L.I.C., R.B.I., N.C.D.C., etc. disbursement of loans and advances and capital outlay on Non-Plan account. The excess of expenditure over receipts is mainly due to debt charges payable to the Central Government and Central autonomous bodies.

1.5. The estimates of resources have been framed on the basis of a study of the trend of receipts as well as expenditure, and after taking due note of the specific commitments made by Government to pursue its socio-economic objectives and finalised after detailed discussions with the Planning Commission.

1.6. *Mobilisation Target for the State Government.*— The target of additional resource mobilisation for the State Government takes into account : (i) the yield from the amendment to the Stamp Duty Act (brought into force from June 1980) whereby the stamp duty liability is determined on the basis of market value of the property : and (ii) the additional revenue likely to accrue on implementation of the new Sales Tax Amendment Act, 1981 from the financial year 1981-82. The yield from these measures is expected to be around

Rs. 200.17 crores during the Plan period as shown in table below :—

TABLE NO. 1.3

Estimated realisation from Stamp-Duty Amendment Act and Sales Tax Amendment Act

(Rs. in crores)

	Stamp Duty	New Sales Tax	Total
1980-81	6.66	.....	6.66
1981-82	8.00	20.00*	28.00
1982-83	8.24	42.35	50.59
1983-84	8.45	46.58	55.03
1984-85	8.65	51.24	59.89
Total	40.00	160.17	200.17

(*This takes into account the loss in revenue in 1981-82 due to the contemplated change in the mode of payment of Sales Tax by Small Traders from monthly to quarterly basis).

1.7. It may be noted that in assessing the State Government's overall resource position, the Committee has taken note of the possible improvement in the quantum of Central assistance that is likely to be available to the State Government during the Plan period. At present the Plan assistance to States from the Centre comprises of two components, viz. assistance under the updated Gadgil Formula and additional assistance (70 per cent of the actual loans realised from the World Bank) in respect of the World Bank assisted projects. A provision of Rs. 251.57 crores was made in the overall Central assistance figure settled in consultation with the Planning Commission in respect of World Bank Projects. We were, however, informed by the Finance Department that the State's entitlement for reimbursement would be higher at Rs. 321 crores on the basis of the actual provisions contemplated for the World Bank projects in the State's Sixth Plan. This matter, we understand, has already been taken up by the State Government with the Government of India for the increase in the additional Central Assistance payable to Maharashtra in respect of these projects. There is thus, a possibility of improvement of Rs. 69.53 crores over the figure settled with the Planning Commission. We, however, think that since the entitlement has not yet been accepted by the Government of India and also considering the possible short falls in the implementation of the World Bank Projects, it may be more realistic to scale down the additional Central Assistance on this account to a conservative figure of Rs. 35 crores.

1.8. Certain major taxes of the State have shown considerable buoyancy and are therefore expected to yield larger receipts than estimated in the forecast referred to earlier. If we take into account upward trend in the yields witnessed during the current year, the likely yields in the remaining years of the Plan period are expected to be larger even without any change in the growth rates in the yield assumed (because of the higher base of 1980-81). The additional realisation on this account has been estimated at Rs. 225.00 crores as shown below :

TABLE No. 1.4

Likely Additional Realisation under Certain Major Taxes during the Sixth Plan

	(Rs. in crores)
(a) Sales Tax (State and Central)	140.00
(b) Sales Tax on Motor Spirit	13.00
(c) Purchase Tax on Sugarcane	39.00
(d) State Excise	33.00
Total	225.00

1.9. The MSRTC is required to raise additional resources of Rs. 250 crores during the Plan period. The revision of passenger fares effected from the 15th of January 1981 was expected to yield additional net revenue of the order of Rs. 250 crores over the Plan period. However, these calculations have been upset by two recent developments : (i) the sub-stage concession in fares granted by MSRTC which is likely to cost the Corporation about Rs. 11.54 crores over the Plan period and (ii) the hike in fuel price from 13th January 1981 which is likely to cost the Corporation an additional amount of Rs. 42 crores over the next four years. Consequently the resource position of MSRTC is likely to worsen by Rs. 53.54 crores. We expect that this reduction in MSRTC's revenues may be offset partly on account of improvement in traffic and partly through economy measures visualised by the Corporation. Later in our Report we recommend the introduction of fuel and tyre adjustment charge on the normal fares charged by MSRTC in order to safeguard its resources position against future hikes in fuel and tyre prices. Finally while assessing State's resources mobilisation target. It is necessary to take into account the additional revenue which would be derived by the State Government by way of Passenger Tax as a consequence of the revised fare rise made effective from 15th January 1981. This would be of the order of Rs. 50 crores.

1.10. Thus, the Committee's overall assessment of the State's resource position for the Plan period as has

emerged after discussion by the State Government with the Planning Commission and subsequent developments mentioned at earlier places the net addition to the State Exchequer at Rs. 510 crores. Keeping this in view, the target for additional mobilisation set for the State Government at Rs. 704 crores in the Sixth Plan is accordingly reduced to about Rs. 194 crores as shown in Table 1.5 below. However, considering the various contingencies for which the State Government must make provision, it would be necessary, in our view, to set the target for additional mobilisation by the State Government at Rs. 200 crores. To achieve this target over the remaining period of the Sixth Plan, mobilisation of the order of Rs. 45 crores would be necessary in 1981-82. The Committee's approach to this report was guided by the overall assessment of the State's resource position as described above including the need to mobilise the target set for the year 1981-82.

TABLE No. 1.5

Modifications to Mobilisation target set for the State Government for the Sixth Plan

Item	Rs. in crores
1. Additional Mobilisation target set for the State Government in the Sixth Plan.	704
<i>Deduct :</i>	
2. Net addition to resources during the Sixth Plan after discussions with Planning Commission and after taking into consideration subsequent developments.	
(a) Additional revenue on account of amendment to Stamp Duty Act.	40
(b) Additional revenue on account of amendment to Sales Tax Act.	160
(c) Additional revenue on account of upward trend of yields in respect of sales tax, purchase tax on sugarcane, Sales Tax on Motor Spirit, and State Excise witnessed in 1980-81, providing a larger base for yields in subsequent years.	225
(d) Additional revenue in passenger tax, on account of increase in bus fares from 15th January 1981.	50
(e) Additional central assistance on of World Bank Projects.	35
Total—2	510
3. Net Mobilisation target to be achieved by the State Government during 1981-85 (1-2)	194

STATEMENT I

Estimates of Revenue Receipts adopted in the meeting with the Planning Commission for Assessment of Resource for the Sixth Five-Year Plan, 1980-85

(Rs. in crores)

Head (1)	1980-81 (R. E.) (2)	1981-82 (Estimate) (3)	1982-83 (Estimate) (4)	1983-84 (Estimate) (5)	1984-85 (Estimate) (6)	Total 1980-85 (7)	Growth rate (8)
I. Share in Central Taxes—							
1. Income Tax ..	1,02.10	3,57.72	3,83.45	4,11.00	4,40.60	19,15.00	
2. Union Excise Duties ..	2,17.21						
3. Estate Duty ..	2.92						
(The Government of India/P. C. did not indicate the item-wise details).							
Total I ..	3,22.23	3,57.72	3,83.45	4,11.00	4,40.60	19,15.00	
II. State Taxes (at 1979-80 rates of taxation)—							
1. Agricultural Income Tax	0.35	0.35	0.35	0.35	0.35	1.75	.....
2. Other taxes on Income and Expenditure.	29.53	31.89	34.44	37.20	40.18	1,73.24	8 per cent.
3. Land Revenue ..	20.50	20.50	20.50	20.50	20.50	1,02.50	.....
4. State Excise Duties ..	78.15	82.84	87.81	93.08	98.66	4,40.54	6 per cent.
5. Taxes on Vehicles ..	43.00	48.16	53.94	60.41	67.66	2,73.17	12 per cent.
6. Sales Taxes—							
(a) General ..	4,62.53	5,18.03	5,80.20	6,49.82	7,27.79	29,38.37	G. S. T. 12 per cent and C. S. T. 10 per cent for 1980-81. Thereafter at 12 per cent for both.
(b) Inter State ..	1,74.22	1,95.13	2,18.54	2,44.77	2,74.15	11,06.81	
(c) Tax on purchase of Sugarcane.	4.00	8.00	8.00	8.00	8.00	36.00	
(d) Motor Spirit ..	39.29	42.83	46.68	50.88	55.46	2,35.14	9 per cent.
7. Tax on goods and passengers.	46.84	52.46	58.75	65.80	73.70	2,97.55	12 per cent.
8. Taxes and duties on electricity.	64.95	72.74	81.47	91.25	1,02.20	4,12.61	12 Per cent.
9. Stamps and Registration	35.28	36.34	37.43	38.55	39.71	1,87.31	3 per cent.
10. Other Taxes and duties on Commodities and Services—							
(a) Entertainment Tax ..	43.59	47.95	52.75	58.02	63.82	2,66.13	10 per cent.
(b) Betting Tax ..	5.50	5.50	5.50	5.50	5.50	27.50	.....
(c) Luxury Tax ..	1.50	1.50	1.50	1.50	1.50	7.50	.....
(d) Education Cess ..	16.75	17.08	17.42	17.77	18.12	87.14	2 per cent.
(e) Building Repairs Tax	3.35	3.35	3.35	3.35	3.35	16.75	.....
(f) Others ..	0.15	0.15	0.15	0.15	0.15	0.75	.....
Total II ..	10,69.48	11,84.76	13,08.82	14,46.90	16,00.80	66,10.76	
III. Non-Tax Revenue—							
1. Interest Receipts ..	95.46	1,07.54	1,20.19	1,36.18	1,60.66	6,20.03	
2. Dividends and Profits ..	2.94	3.24	3.35	3.46	3.57	16.56	
3. Public Service Commission	0.06	0.06	0.06	0.06	0.06	0.30	
4. Police ..	3.85	3.90	3.95	4.00	4.05	19.75	Rs. 5 lakhs each year.
5. Jails ..	1.19	1.22	1.25	1.28	1.31	6.25	Rs. 3 lakhs each year.
6. Supplies and Disposals..	0.01	0.01	0.01	0.01	0.01	0.05	

STATEMENT I—contd.

Estimates of Revenue Receipts adopted in the meeting with the Planning Commission for Assessment of Resource for the Sixth Five-Year Plan, 1980-85

(Rs. in crores)

Head (1)	1980-81 (R. E.) (2)	1981-82 Estimate (3)	1982-83 (Estimate) (4)	1983-84 (Estimate) (5)	1894-85 (Estimate) (6)	Total 1980-85 (7)	Growth rate (adopted) (8)
7. Stationery and Printing	1.97	2.00	2.03	2.06	2.09	10.15	Rs. 3 lakhs each year.
8. Public Works	2.70	2.75	2.80	2.85	2.90	14.00	Rs. 5 lakhs each year.
9. Other Administrative Services	7.37	7.65	7.94	8.24	12.56	43.76	
(a) Justice	5.50	5.78	6.07	6.37	6.69	30.41	5 per cent.
(b) Elections	0.22	0.22	0.22	0.22	4.22	5.10	(Rs. 4 crores in 1984-85 for expenditure on elections.)
(c) Other Services	1.65	1.65	1.65	1.65	1.65	8.25	
10. Contribution towards pension.	1.30	1.30	1.31	1.31	1.32	6.54	
11. Aid materials and equipments.	2.91					2.91	
12. Miscellaneous General Services							
(a) Excluding Lottery	4.60	4.70	4.80	4.90	5.00	24.00	10 lakhs every year.
(b) Lottery	4.25	4.30	4.35	4.40	4.45	21.75	5 lakhs every year.
13. Education	2.90	2.95	3.00	3.05	3.10	15.00	5 lakhs every year.
14. Art and Culture	0.14	0.14	0.15	0.15	0.15	0.73	
15. Medical	18.39	19.46	20.58	21.74	23.03	103.20	5.75 per cent.
16. Public Health, Sanitation and Water Supply.	5.52	5.69	5.86	6.03	6.21	29.31	3 per cent.
17. Family Welfare	0.12	0.12	0.12	0.12	0.12	0.60	
18. Housing	5.30	5.33	5.36	5.39	5.42	26.80	3 lakhs every year.
19. Urban Development	3.80	3.85	3.90	3.95	4.00	19.50	5 lakhs every year.
20. Information and Publicity	0.18	0.16	0.14	0.14	0.12	0.74	
21. Labour and Employment	0.90	0.93	0.96	0.99	1.02	4.80	3 lakhs every year
22. Social Security and Welfare	0.90	0.92	0.94	0.96	0.98	4.70	Rs. 2 lakhs every year.
23. Other Social and Community Service.	0.27	0.27	0.28	0.28	0.30	1.40	
24. Co-operation	5.75	5.51	5.73	5.96	6.20	29.15	4 per cent.
25. Other General Economic Service	0.51	0.52	0.53	0.54	0.55	2.65	Rs. 1 lakh every year
26. Agriculture	3.50	3.58	3.76	3.94	4.14	18.92	5 per cent.
27. Minor Irrigation etc.	4.86	2.06	2.12	2.18	2.25	13.47	
28. Food and Nutrition	0.25	0.25	0.25	0.25	0.25	1.25	
29. Animal Husbandry	1.78	1.87	1.96	2.06	2.16	9.83	5 per cent.
30. Dairy Development	121.02	128.70	136.63	144.81	153.36	684.52	6 per cent.
31. Fisheries	0.20	0.21	0.22	0.23	0.24	1.10	Rs. 1 lakh every year

9 per cent for forest revenue, excluding recovery from the Forest Development Corporation. The recovery consists of lease payment of Rs. 1.10 crores per annum and the balance of working expenses of this Corporation. The provision for reimbursement of working expenses and payment of commission charges have been provided on the expenditure side.

STATEMENT I—contd.

Estimates of Revenue Receipts adopted in the meeting with the Planning Commission for Assessment of Resource for the Sixth Five-Year Plan, 1980-85

(Rs. in crores)

Head (1)	1980-81 (R. E.) (2)	1981-82 (Estimate) (3)	1982-83 (Estimate) (4)	1983-84 (Estimate) (5)	1984-85 (Estimate) (6)	Total 1980-85 (7)	Growth rate (adopted) (8)
32. Forest	52.26	56.35	60.81	65.67	70.97	306.06	
33. Industries	0.14	0.14	0.15	0.15	0.16	0.74	
34. Community Development	1.00	1.00	1.00	1.00	1.00	5.00	
35. Village and Small Industries.	0.09	0.09	0.09	0.09	0.09	0.45	
36. Mines and Minerals	2.73	2.78	2.83	2.88	2.93	14.15	Rs. 5 lakhs every year.
37. Water and Power Development Services.	0.60	0.60	0.60	0.60	0.60	3.00	
38. Irrigation, navigation, drainage, flood control.							
Gross	8.67	9.54	10.49	11.54	12.69	52.93	
Working Expenses	-10.23	-11.25	-12.38	-13.62	-14.98	-62.46	
Interest charges	-63.87	-72.00	-80.00	-88.00	-96.00	-399.87	
Net	-65.43	73.71	-81.89	-90.08	-98.29	-409.40	
39. Power Projects							
Gross	29.10	19.07	18.84	19.01	21.57	107.59	Based on Lease rent fixed for various hydropower projects.
Working Expenses	-1.78	-1.83	-1.88	-1.94	-2.00	-9.43	
Net	27.32	17.24	16.96	17.07	19.57	98.16	
40. Ports, Light Houses and Shipping.	0.18	0.18	0.18	0.18	0.18	0.90	
41. Roads and Bridges	0.83	0.05	0.05	0.05	0.05	1.03	
Total III	3,24.62	3,25.91	3,45.31	3,69.13	4,08.84	17,73.81	
IV. Grants from the Centre—							
1. In lieu of tax on Railway passenger fares.	2.58	2.58	2.58	2.58	2.58	12.90	
2. Art and Culture	0.07	0.07	0.07	0.07	0.07	0.35	
3. Education	0.09	0.09	0.09	0.09	0.09	0.45	
4. Railway Safety Work	0.20	0.20	0.25	0.25	0.25	1.15	
5. Central Road Fund	0.44	0.50	0.50	0.50	0.50	2.44	
6. Displaced persons	0.25	0.25	0.25	0.25	0.25	1.25	
7. National Discipline Scheme.	0.81	0.81	0.81	0.81	0.81	4.05	
8. Workers Education, etc. Schemes.	0.20	0.20	0.20	0.20	0.20	1.00	
9. Modernisation of Police	0.63	0.65	0.65	0.65	0.65	3.23	
10. Compensation for less sales tax on aviation spirit.	6.44	6.76	7.10	7.45	7.85	35.60	5 per cent.
11. Tribal Sub-Plan	3.21	....	....	....	....	3.21	
12. Other grants							
Central Sector.	58.54	....	....	....	....	58.54	
Total IV	73.46	12.11	12.50	12.85	13.25	1,24.17	
Aggregate Revenue Receipts	17,89.79	18,80.50	20,50.08	22,39.88	24,63.49	1,04,23.74	

STATEMENT II

Estimates of Non-Plan Revenue Expenditure adopted in the meeting with the Planning Commission for assessment of resources for the Sixth Five-Year Plan, 1980-85

(Rs. in crores)

Head	1980-81	1981-82	1982-83	1983-84	1984-85	Total 1980-85	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I. Non-Development Expenditure							
(a) Interest Payments ..	1,13·80	1,32·24	1,51·87	1,71·78	1,91·32	7,61·01	Vide Foot note A
(b) Other Non-Development Expenditure—							
(i) Organs of State. ..	21·74	16·82	17·65	18·52	23·74	98·47	Vide Foot note B
(ii) Fiscal Services. ..	34·40	36·40	38·52	40·76	43·13	1,93·21	
(iii) Administrative Services.	1,91·18	2,00·28	2,13·41	2,28·79	2,43·20	10,76·86	
(iv) Pensions and Miscellaneous General Services.	31·56	28·41	30·36	32·45	34·69	1,57·47	
(v) Food and Nutrition. ..	7·31	7·68	8·06	8·46	8·88	40·39	
(vi) Compensation and Assignment to local bodies and Panchayat Raj Institutions.	28·16	29·00	30·13	29·87	30·77	1,47·93	
(vii) Relief on account of natural calamities.	6·11	4·57	4·57	4·57	4·57	24·39	
(viii) Other items. ..	0·23	0·25	0·27	0·28	0·29	1·32	
Total—I. Non-Development Expenditure.	4,34·49	4,55·65	4,94·84	5,35·48	5,80·59	25,01·05	
II. Non-Plan Development Expenditure—							
(i) Social Community Services.	4,87·23	5,02·92	5,39·89	5,63·55	5,98·50	26,83·09	
(ii) Economic Services. ..	16·73	17·24	18·26	19·17	20·31	91·71	
(iii) Agriculture and Allied Services.	2,26·68	2,16·61	2,27·14	2,38·20	2,49·80	11,58·43	
(iv) Industries and Minerals	2·69	2·84	2·99	3·14	3·31	14·97	
(v) Water and Power Development.	79·10	1,25·37	1,51·02	1,71·83	1,96·86	7,24·18	
(vi) Transport and Communications.	13·51	13·90	14·45	15·03	15·63	72·52	
(vii) Other Transport and Communication Services.	0·49	0·52	0·55	0·58	0·61	2·75	
Total—II. Non-Plan Development Expenditure.	8,26·43	8,79·40	9,45·30	10,11·50	10,85·02	47,47·65	

STATEMENT II—contd.

Estimates of Revenue Receipts adopted in the meeting with the Planning Commission for Assessment of Resource for the Sixth Five-Year Plan, 1980-85

(Rs. in crores)

Head	1980-81	1981-82	1982-83	1983-84	1984-85	Total 1980-85	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
III. <i>Transfer to Funds</i>	72.25	86.96	1,03.19	1,07.01	1,16.02	4,85.43	
IV. <i>Other items not included above.</i>	1,06.62	82.19	83.67	85.19	86.75	4,44.42	
(i) Increase in the rates of dearness allowance and pension relief.	47.46	49.99	51.47	52.99	54.55	2,56.46	
(ii) Pension to destitutes and handicapped.	3.00	7.20	7.20	7.20	7.20	31.80	
(iii) Relief to small holder cultivators in respect of their crop loans.	49.00	....	....	....	....	49.00	
(iv) Subsidised sale of sugar.	7.16	....	....	....	....	7.16	
(v) New Items.	....	25.00	25.00	25.00	25.00	1,00.00	
V. <i>Centrally Sponsored (Outside the State Plan)—</i>							
(a) Central Sector	61.56	....	....	....	....	61.56	
(b) Tribal Sub-Plan	1.77	....	....	....	....	1.77	
Aggregate Revenue Expenditure	15,03.12	15,04.20	16,27.00	17,39.18	18,68.38	82,41.88	

Foot Notes.— A— Interest payments are calculated based on the loans outstanding on which interest is payable.

B— (i) The growth rates adopted are as under with the current year's estimates as the base after excluding unusual items like Write off of loans, arrears payment of pay revision, cost payable to Zilla Parishad employees by credit to their provident Fund account, etc. :—

(a) Tax collection charges, education 6 per cent per annum.

(b) Police, Pensions, Medical service 7 per cent per annum.

(c) Other items 4 per cent to 5 per cent per annum.

CHAPTER 2

INTERIM PROPOSALS ON STATE'S TAXATION

2.1. On the revenue receipt side the principal sources of the State Government:

- (a) share in Centrally collected taxes,
- (b) taxes collected by State, and
- (c) non-tax revenue.

Of the three, State taxes account for 55.3 per cent of the total revenue receipts, share in Centrally collected taxes forms 16.8 per cent and non tax revenue forms 27.9 per cent. Since the State's share in Centrally collected taxes is dependent upon the share allotted to the State by the Central Government on the basis of the recommendations of the Finance Commission and the amount available for distribution among the States depends upon the policy decision taken by the Union Government, it is not possible for the Committee to make any recommendations with regard to these taxes. In examining the feasibility of raising resources to meet the gap of the order pointed out in Chapter 1, the Committee has therefore to take into account the possibility of raising additional resources through the following main measures:—

- (1) Improvement in non-tax revenues.
- (2) Scope for increase in State tax revenues.

2.2. The receipts from non-tax revenue include such items as grant-in-aid from Central Government for Plan and non-Plan schemes, interest on loans and advances made by the State Government and other non-tax revenue. The last item (viz., other non-tax revenue) consists of a large number of small departmental receipts, the more important of which are receipts from the Dairy Development Department, receipts of the Medical Department, Forests receipts and receipts from Power and Irrigation projects. The Committee proposes to undertake a detailed study of these receipts to examine whether there is any further scope for increased revenue from this source considering the magnitude of expenditure incurred by the State Government on these services. We accordingly intend to make recommendations in respect of these item in our final reports.

2.3. In formulating our strategy for additional resource mobilisation, we have kept in view the buoyancy of revenue receipts. In forecasting the State's overall financial position, it is useful to take into account the growth in State revenues that normally occurs either due

to the growth of the real income or inflationary rise in prices. Recently, the State revenues have shown considerable buoyancy of which the Finance Department has taken credit in calculation of its revised resource forecast for 1981-82. The revised estimates show considerable improvement in the State's financial position in relation to what was settled with the Planning Commission earlier. If this trend continues, it is quite likely that during the course of the Sixth Plan the revenue estimates now prepared may again have to be revised upwards. It may be observed that the Sales Tax being a major source of revenue, the extent of buoyancy of the State revenues depends to a considerable extent, on the behaviour of prices. It must, however, be noted that when prices rise, not only the State revenue increases, but the State expenditure also increases *pari passu* because of the need to pay higher D. A. to its employees as also because of higher expenditure on projects. Therefore, though on the whole, the increases in revenue may outpace the growth of expenditure caused by inflation, it is not possible to make any reasonably accurate estimates of net increase in revenue on account of the buoyancy factor. We do not herefore propose to take any credit for this in our assessment of the State's resource mobilisation effort for the Sixth Plan.

2.4. Returning now to the question of resource mobilisation through taxation, we must first point out that of the 40 various items of State Taxation, sales tax contributes 64 per cent of the total tax revenue. Sales taxation was recently studied in detail by the Yardi Committee the main recommendations of which have been accepted by the Government and have been enacted. The Act, however, has not been enforced so far. However, the Finance Department has taken credit for increase in sales tax revenue on the basis that the new amending Act, Sales Tax Amendment Act 1981, would be implemented during 1981-82. It may be recalled that we have earlier referred to the additional generation of resources which the State Government is likely to achieve from this source. There is, in our view, not much scope at the moment to raise any further resources from this source.

2.5. In so far as taxes other than Sales Tax are concerned, the rates for these in force in Maharashtra are fairly high, and so, further increase in resources

from these taxes may have to come from tightening of the procedures and prevention of avoidance or evasion of the taxes rather than hike in the rates. We propose to take up a detailed study in this respect in our subsequent report. Amongst the categories of "other taxes", some of the taxes such as education cess on urban property, tax on residential premises and tax on professions, trades, callings, etc. overlap to some extent, with the taxes levied or leviable by the local bodies. The Committee intends to review these taxes in detail later while dealing with the finances of local bodies. Similarly, the question of raising additional resources to provide adequate funds for replacing Octroi, which the State Government is committed to abolish will also have to be considered. In view of this, we are not making any recommendations in regard to other taxes in this report.

2.6. So far as agricultural taxation is concerned, apart from land revenue, there is a cess levied by the Zilla Parishads in Maharashtra. The State Government also levies an education cess on important commercial crops, a surcharge an education cess and an E. G. S. surcharge on irrigated land. Further, agricultural income tax is levied in the State. In this context, we may observe that the recommendations made by the Raj Committee were examined by a Committee of Secretaries which suggested action for implementation of these recommendations on a long term and short term basis. The cesses referred to above are in accordance with the short term measures recommended by the Committee. The long term measures involve, in addition to the cesses, a quick revision of the land revenue rates which is still under the consideration of the State Government. We propose to examine later in our subsequent reports the entire gamut of agricultural taxation in a broad perspective, keeping in view the growth of agriculture, public investments in agriculture, the policies of price support for agricultural produce and other relevant factors.

2.7. *New Proposals.*—In the context of State taxation, we have decided to focus on a few selected measures for generating additional resources. Since new taxation proposals invariably involve legal and procedural complications which need to be sorted out before concrete recommendations are framed, we have limited ourselves to measures, which in our view, may involve minimum procedural and legal formalities to implement them. In selecting new tax measures, our approach was also influenced by the Governments socio-economic objectives, particularly, its concern to reduce inequalities in the distribution of income and wealth. With this objective in view, we have chosen

measures, which in our judgment, will have maximum incidence on upper income groups. Accordingly, we suggest the following :

2.8. *Taxation on liquor.*—In Maharashtra, there is already a tax on all types of liquor, including country liquor. The revenue earned from country liquor amounted to Rs. 19.95 crores during 1979-80. In our view, this revenue can be readily augmented sizably considering the fact that Maharashtra is the principal producer in the country of molassese with as many as 78 sugar factories in production. However, the present policy of the Government allows only about 20 per cent for production of country liquor. The distribution of liquor is made through licensed dealers who pay a prescribed licence fee for the sale of liquor.

2.9. The 20 per cent limit on the allocation to alcohol for the manufacture of country liquor has led of an acute shortage of liquor, particularly country liquor. This has resulted in certain malpractices such as collection of premium by sellers at different levels. Consequently not only the consumers suffer but the State also losses in revenue. It will be in the public interest to correct this situation. This can be done in three ways. First, the State should try to remove the shortage by increasing the allocation of alcohol for manufacture of country liquor. Second, since liquor trade invariably involves a large profit margin, there is a scope for increasing the rate of excise duty on country liquor from the present rate of Rs. 5 per proof litre (PL) of alcoholic content to Rs. 7 per PL. Third, there is also some scope of increasing the various licence, transport, and export fees levied on liquor. In our view, it is possible to increase the allocation of alcohol for liquor production from its present level of 320 lakhs bulk litres by at least 40 lakh bulk litres. If all the three measures suggested above are implemented, the total amount likely to acquire to the State Exchequer from alcohol related taxes and fees would be as shown below :—

	(Rs. in lakhs)
1. Increase in the quantum of alcohol allocated for country liquor and increase in the rate of excise duty.	13,40.00
2. Increase in the rate of fees on certain categories of licences.	1,73.76
3. Increase in the rate of transport fee on alcohol ..	1,08.00
4. Increase in the rate of export fee on alcohol and alcoholic beverages.	16.00
Total	16,37.76

2.10. The thinking of this Committee as outlined above was brought to the notice of Government by Special Secretary, Finance Department and it is gratifying to note that Government has implemented the recommendations partly in the Taxation proposals of 1981-82 Budget. However, there is considerable ground yet to be covered to fully exploit the scope for additional mobilisation through this source as will be seen from the Table 2.1 below. We would urge Government to take effective measures to tap this source further during the course of the year after observing the impact of present increases on illicit distillation, reaction of trader consumer, etc. We would particularly commend to Government the amendment of the Bombay prohibition Act on the lines of the U. P. Excise and Prohibition Act with a view to levy of licence fees not related to cost of services rendered :—

TABLE NO. 2.1

Taxation Measures as Recommended by the Committee and as Implemented during the Presentation of Budget 1981-82

Item	Taxation measures as recommended by the committee	Taxation measures as implemented in budget presented on 9th March 1981
1. Increase in the quantity of Alcohol made available for liquor production.	40 lakhs bulk litres. (12.50 per cent increase over present allocation).	30 lakhs bulk litres. (9.38 per cent increase over present allocation).
2. Increase in the rate of excise on country liquor.	Rs. 5 to Rs. 7 per proof litre.	Rs. 5 to Rs. 5.50 per proof litre.
3. Increase in the rate of transport fees.	5 paise to 17 paise per bulk litre.	5 paise to 17 paise per bulk litre.
4. Increase in licence and other fees (To be increased after the Act is amended).	Increase in export licence fees etc.	....

2.11. *Entertainment Tax on T.V.*—One of the traditional items of State taxation has been entertainment duty on film shows. The net revenue collected by the State from this source has amounted to Rs. 39.62 crores in 1979-80. In recent years, the source of revenue has come in conflict with the increasing popularity of film programmes shown regularly on T.V. In this context, we have given serious thoughts to one of the suggestions made by Prof. P. R. Brahmananda in his memorandum submitted to the Government as Chairman of a panel on resource mobilisation referred to earlier. His contention is that while T.V. no doubt, plays an educative role, its role as an entertainment medium is tending to deprive the State of some of its income from entertainment tax. We see that there is considerable force in this argument and accordingly endorse his idea. We, therefore, suggest that a small tax of Rs. 5 per TV set per month or Rs. 60 per annum would be well justified. We understand that the levy of such a tax is legally within the competence of the State Government. On the basis of the number of TV sets in use in Maharashtra, this tax may yield a revenue of about Rs. 3 crores per annum. The collection of this tax can be done through the agency of the Postal Department of the Government of India along with the annual licence fee levied by that Department on payment of reasonable collection charges to that Department.

2.12. We realise that the recommendations regarding additional resource mobilisation made above, would yield in the aggregate Rs. 19.37 crores per annum only as against the targetted level of Rs. 45 crores during 1981-82. However, detailed studies in regard to the existing tax-structure, its incidence, elasticity, etc. as also a number of suggestions for new levys are under progress through the working groups set by the Committee on sales tax, urban taxes, agricultural taxation etc. and therefore, in our subsequent reports we propose to indicate our views on the specific directions in which it would be possible to further augment or improve yields from the present taxes or through the levy of new taxes. We hope to be able to recommend measures which would enable the State Government to mobilise sufficient additional resources so as to reach the target level of Rs. 200 crores over the residual period of the Sixth Plan.

CHAPTER 3

MOBILISATION OF RESOURCES

MAHARASHTRA STATE ROAD TRANSPORT CORPORATION

Section I

Introductory

3.1. As one of the largest transport Corporations in the country operating 9,655 routes, with a fleet of 9,377 buses and employing over 69, 148 men and having at its disposal an infrastructural set up comprising 3 Central Workshops, 169 Depots, 369 bus stations and 2,497 pick-up sheds, 6 tyre retreading units, a training school, the affairs of MSRTC naturally attract considerable public attention. The organisational structure of the Corporation, the fare and route policies pursued by it, its performance in some of the crucial areas affecting operating efficiency and financial viability, the overall costs of its set up are matters of concern. Considering that the Corporation's operating costs (fuel as well as other input costs including staff costs) have continually escalated in recent years without any relief through the fare rise, it is imperative that remedial action be initiated quickly and effectively to secure to the Corporation a measure of financial viability at the same time keeping in view the social and economic objectives imposed upon it by the State Transport Nationalisation Act.

3.2. *Financial Performance.*—The financial results of the Maharashtra State Road Transport Corporation over the last 10 years (summarised in Table 3.1 below) reveal that the Corporation which was showing profits upto 1969-70 went into the red from the year 1970-71 mainly because of the drought conditions prevalent in most parts of the State for almost 3 years in succession and also because of the increase in the passenger tax by Government without a compensating fare rise to cover the additional impost. The Corporation turned the corner in 1975 chiefly through the fare rise then introduced and the policy of expansion and growth on remunerative routes then adopted. The stability in the prices of petroleum products and other cost components also helped the situation. Consequently, the Corporation continued to show profits upto 1978-79. Thereafter, however, the trend was reversed and in 1979-80 as against an expectation of a profit of Rs. 5.90 crores, the year ended with a loss of Rs. 4.05 crores.

TABLE No. 3.1

Financial Position of MSRTC for 1970-71 to 1979-80

	(Rs. in lakhs)		Profit(+) or loss(-)
	Total Revenue	Total Expenditure	
	Rs.	Rs.	Rs.
1970-71	55.22	56.47	(-) 1.25
1971-72	59.97	60.90	(-) 0.93
1972-73	64.30	70.80	(-) 6.50
1973-74	74.95	78.00	(-) 3.05
1974-75	85.82	93.49	(-) 7.67
1975-76	1,10.32	1,08.86	(+) 1.46
1976-77	1,22.87	1,19.06	(+) 3.81
1977-78	1,38.90	1,33.07	(+) 5.83
1978-79	1,62.38	1,56.48	(+) 5.90
1979-80	1,80.59	1,84.64	(-) 4.05

During the ten years' period, MSRTC has ended up with a cumulative loss of Rs. 5.45 crores. The operations for the period 1980-81 to 1984-85, at the fares operative prior to the revision introduced recently from 15th January 1981, and current input prices, were expected to show cash losses of Rs. 94.39 crores. All this highlights the urgent need for a cost-based revision of the Corporation's fares and the rationalisation of its operations so as to enable it to raise enough resources both to meet its escalating costs and to finance its expansion programme for satisfying progressively increasing demand, for improved services by the travelling public.

3.3. *Committee's Approach.*—The financial problems of the Corporation may be analysed in four parts:

A. Review of the Corporation's Financial Forecast

A broad review of the Corporation's financial forecast for the 5 years period 1980-85 and the assumptions underlying it with a view to identifying its deficiencies and presenting our reassessment.

B. Scope for Economy and Improvement in Productivity

An examination of scope for generating surpluses through internal economy and efficiency measures, including adequate managerial inputs.

C. Suggestions for improving MSRTC's organisational structure

- (i) Board of Management,
- (ii) Decentralisation.

D. Pricing Policy

Analysis of the fare rise recently introduced in the context of Corporation's development needs, recommendations of the Pande Committee, our approach to the fare policy and recommendations in regard to modifications to the present fare policy.

Section II

Review of the Corporation's Financial Forecast

3.4. The financial forecast presented to us by MSTRC is appended as Annexure 4 to this report (Volume II).

The general duty cast upon Road Transport Corporation by Section 18 of the Road Transport Corporation Act, 1950 requires the Corporation to provide adequate and economic system of road transport within the State. Ever since its establishment, the Corporation has been under pressure to meet increasing demand for inter-city passenger travel, particularly following 100 per cent nationalisation of stage carriages and contract carriages in Maharashtra. The 1950 Act also requires the Corporation to provide service on each motorable road even though the route may be uneconomic. In assessing MSRTC's performance and its requirements of funds to finance its plan outlays, it is important to bear in mind its socio-economic obligations.

It was explained to us that the traffic demand which MSRTC must meet and its consequent need for augmenting fleet have increased rapidly owing to a variety of factors, such as (a) development of traffic on existing routes on account of increase in population as well as growth of economic activities; (b) introduction of new routes for providing services to villages still unconnected; and (c) the need to maintain a larger fleet of buses in reserve for catering to seasonal requirements such as marriage and vacation seasons, educational trips, etc. Besides, the fact that a large portion (49 per cent) of the Corporation's fleet is over-aged also adds to the problem in that the Corporation must replace nearly half of its fleet in order to improve its efficiency standards and cater to the growth of traffic. Thus the Corporation is required to purchase new buses every year not only to cater for needs of growing traffic but also to replace its ageing fleet. It has also to provide and maintain certain minimum standards of amenities for passengers, such as opening of new bus stations, waiting sheds and progressively converting temporary bus stations into permanent

structures, particularly in Marathwada and Vidarbha areas where there is a considerable backlog to be cleared in this respect. In the initial need-based proposals made for the Sixth Plan, the Corporation had accordingly provided capital expenditure on the following scale:

TABLE NO. 3.2
Capital expenditure proposed during Sixth Plan

Particulars	Total cost during Sixth Plan (Rs. in crores)
1. Vehicles (10,620): 6,076 vehicles for replacement and 4,544 vehicles for new additions.	2,12.40
2. Lands and buildings	33.82
3. Plants and machinery	4.00
Total	2,50.22

To finance this programme as also to take care of the cash losses of the order of Rs. 94.39 crores which the Corporation would have incurred at the then ruling input prices and fares, the Corporation had planned to raise resources of the order and in the manner set out below:

TABLE NO. 3.3
Resources anticipated by the Corporation during Sixth Plan

Sources of Finance	Total amount during Sixth Plan (Rs. in crores)
1. Internal resources of the Corporation ..	1,63.46
2. Net borrowings	26.76
3. Capital contribution by State Government.	40.00
4. Capital contribution by Central Government.	20.00
Total	2,50.22

After discussions with the Planning Commission, the Corporation's planned outlays have been reduced to Rs. 180 crores (net) and these are expected to be financed as follows:

TABLE NO. 3.4
Outlays Approved by the Planning Commission during the Sixth Plan

	(Rs. in crores)
(i) Internal Resources	1,63
(ii) L. I. C. Loans	12
(iii) Capital contribution from the State Government.	5
Total	1,80

In addition to the outlays provided in the State Plan, additional funds of the order of Rs. 2.50 crores by way of capital contribution from the Central Government and Rs. 25 crores by way of borrowing (other than L. I. C. loans) will be available to the Corporation outside the State Budgetary Resources. As a consequence of the reduced resources indicated above the Corporation had to prune down its development programme as follows.

TABLE No. 3.5
Development Programme of the Corporation during the Sixth Plan

		(Rs. in crores)
(i) Vehicles	.. .. .	174.68
(ii) Civil Works	.. .. .	28.82
(iii) Plant, machinery and equipment	.. .. .	4.00
Total	.. .. .	207.50

The Proposed reduction in the Corporation's development programme is rather unfortunate as it will make it extremely difficult for it to meet the increasing pressure of traffic demand and the public expectation of quality service. In our view, the capital outlays proposed by the Corporation in its original development programme would need to be maintained as otherwise its resource generation programme would itself be jeopardised.

3.4A. *Observations on the Corporation's financial forecast.*—The financial forecast presented by the Corporation (referred to in para 3.4 above) is subject to a number of assumptions relating to growth rates, load factor, chassis availability and their costs, cost escalations in respect of inputs, settlement with the labour-unions, etc. which need to be carefully examined in order to assess whether the Corporation would be able to generate the expected amount of resources. The Committee's comments on different assumptions are set out below.

(i) *Growth rates.*—The Corporation has based its forecast on an average growth rate of 8 per cent (bus kilometres) with a load factor around 80. It would however, be seen from the table 3.6 below, that

the actual growth rates during the last 3 years averaged about 11 per cent :—

TABLE No. 3.6
Actual Growth rates
(Rs. in lakhs)

Year	Effective bus Kms. (in lakhs)	Per cent increase over previous year
1975-76	46.14	8.08
1976-77	48.96	6.02
1977-78	54.23	10.82
1978-79	61.37	13.17
1979-80	67.05	9.25
1980-81	74.30	9.26

It may be seen that during 1978-79 a growth rate of over 13 per cent was recorded. Thereafter however, the growth rate has declined to 9.25 per cent during 1979-80 and about 9.26 during 1980-81. Despite the decline in traffic growth in the last two years, in the Committee's view, it would not be unreasonable to assume a higher growth rate, say around 11 per cent for making the financial forecast. In fact the growth rate may be assumed at a still higher rate say 13 per cent in regions where railway network is not wellspread or is non-existent and where, therefore, the population depends mainly or exclusively on MSRTC's transport system (e.g. Vidarbha, Marathwada and Konkan areas) or in areas where because of inaccessibility the MSRTC network is relatively thinner (e.g. Konkan and Tribal area). The two years of 1979 and 1980 are rather exceptional in that there was severe drought which affected traffic in most districts. Besides, the year 1980 had witnessed a few bandhs which also affected the service. If we allow for these abnormal factors, then in our expectation the traffic is likely to grow at the trend rate of around 11 per cent. The Committee suggests that for the purposes of the resources forecast the following growth rates may be assumed:—

TABLE No. 3.7
Growth rate suggested during the Sixth Plan

	(Per cent.)
1980-81	9.26
1981-82	9
1982-83	10
1983-84	11
1984-85	11*

*This could have been projected higher, but we have stagnated it at 11 per cent in view of the possibility of a further fare rise before 1984-85.

It may incidentally be mentioned that the committee has not come across any systematic attempt to forecast MSRTC traffic demand due to lack of traffic surveys. We suggest that the Corporation should conduct periodic traffic surveys in order to facilitate projections of realistic traffic demand forecasts.

It may be observed that the growth of traffic has been hindered on account of constraints on the supply side. One of the major constraint has been the non-availability of adequate number of chassis. It is likely, as we understand from our discussions

with MSRTC, that as a result of the revised distribution system for chassis, MSRTC is likely to get a larger quota. Nevertheless, we suggest that its legitimate requirements for chassis should be adequately met so that it is in a position to meet the projected traffic growth without any supply constraints.

(ii) *Capital Contribution.*—(a) The capital contribution made by the State and Central Government to MSRTC during the successive plan periods is set out in the table below :

TABLE No. 3.8

Statement of Plan-wise Capital Expenditure, Capital Contribution, Internal Resources, Borrowings and percentage thereof

(Rs. in crores)

Year	Capital Expenditure	Capital Contribution (State and Central)	Percentage to Capital Expr.	Internal Resources	Percentage to Capital Expr.	Borrowings	Percentage to Capital Expr.
<i>Third Plan, 1961-66</i>							
1961-62	1.63	..	..	1.63	100	..	..
1962-63	2.11	..	..	2.11	100	..	..
1963-64	2.79	..	..	2.79	100	..	..
1964-65	3.17	..	..	3.17	100	..	..
1965-66	3.89	..	..	3.89	100	..	..
<i>Annual Plan</i>							
1966-67	5.91	1.07	18.10	4.84	81.90	..	..
1967-68	4.26	1.11	26.06	3.15	73.94	..	..
1968-69	6.31	1.50	23.77	4.81	76.23	..	..
<i>Fourth Plan, 1969-74</i>							
1969-70	6.18	0.83	13.43	5.05	81.72	0.30	4.85
1970-71	6.66	1.14	17.12	4.82	72.37	0.70	10.51
1971-72	7.79	1.91	24.52	5.88	75.48	..	..
1972-73	7.04	3.10	44.03	1.67	23.72	2.27	32.25
1973-74	8.63	0.84	9.73	5.17	59.91	2.62	30.36
<i>Fifth Plan, 1974-79</i>							
1974-75	10.05	6.17	61.39	2.77	27.57	1.11	11.04
1975-76	12.46	2.68	21.51	7.51	60.27	2.27	18.22
1976-77	16.34	1.93	11.81	13.07	79.99	1.34	8.20
1977-78	17.09	0.34	1.99	15.80	92.45	0.95	5.56
<i>Annual Plan</i>							
1978-79	22.40	1.50	6.70	20.12	89.82	0.78	3.48
1979-80	24.38	1.50	6.15	17.38	71.29	5.60	22.96
<i>Sixth Plan, 1980-85</i>							
1980-81	33.70	4.80	14.24	26.16	77.63	2.74	8.13

In the context of this actual level of capital contribution and also keeping in view the overall size of the State's Sixth Plan, the assumption of the Corporation that it would secure as much as Rs. 60 crores during 1980-85 from the State and the Central Governments by way of capital contribution seems to be on the high side. On the other hand, considering the necessity to sustain a capital programme of the order of Rs. 250 crores (visualised by the Corporation and which outlay in our opinion is necessary to meet the various demands on the Corporation), the provision of Rs. 5 crores by the State Government and Rs. 2.50 crores from the Central Government towards capital contribution is obviously inadequate. This means that even for the reduced capital outlay of Rs. 207 crores, the Corporation would be expected to raise as much as 96.39 per cent through internal resources generation. It would therefore be necessary in this context to recommend a higher level of Capital contribution from State Government and the Central Government keeping in view State's overall plan size past trend and a certain minimum level of a need-based capital programme which the Corporation must undertake. Any such recommendation would, however, tend to be somewhat *ad hoc*. We would, therefore, attempt to explore whether it is possible to suggest a broad approach which would more or less indicate the level of capital contribution which ought to come from the State and the Central Governments.

(b) The capital funds for acquisition of fixed assets are raised by the Corporation in three ways:—

- (i) Capital contribution from the State and Central Governments in the ratio of 2:1;
- (ii) Internal resources consisting of normal depreciation, additional depreciation and profit after income-tax, if any;
- (iii) Borrowings from Banks, financial institutions, Life Insurance Corporation and the public.

(c) The following table gives the percentage of capital funds from these three sources available to MSRTC at the end of last four years:

Cumulative position as on	State Government	Central Government	Internal Resources	Borrowings	Total
31st March 1978	24,89.00 (21.74%)	9,37.00 (8.18%)	75,72.00 (66.15%)	4,50.00 (3.93%)	11,448.00 (100.00%)
31st March 1979	25,89.44 (18.27%)	9,86.50 (6.96%)	93,29.53 (65.84%)	12,63.85 (8.93%)	1,41,69.32 (100.00%)
31st March 1980	26,89.44 (16.38%)	10,36.50 (6.31%)	1,10,16.78 (67.12%)	16,73.25 (10.19%)	1,64,15.97 (100.00%)
31st March 1981	30,89.44 (16.88%)	11,16.50 (6.10%)	99,90.14 (54.59%)	47,03.92 (22.43%)	1,83,00.00 (100.00%)

In the case of the three other major Corporations viz. Gujarat State Road Transport Corporation, Karnataka State Road Transport Corporation and Andhra Pradesh State Road Transport Corporation which are comparable with the MSRTC the percentage of internal resources to the total capital funds is much lower and varies between 32 per cent to 50 per cent.

(d) 80 per cent of the fixed assets of MSRTC consists of buses. Buses are fully depreciated at the end of the 7th year. The average annual rate of depreciation for the buses, therefore, works out to 14 per cent p.a. and the annual amount for depreciation on the buses in each year will be approximately equal to 14 per cent of the sum total of last seven years' purchases. Depreciation worked out at 14 per cent on straight line basis is almost equal to the depreciation permissible under the Income Tax Act. The details of the depreciation worked out for the five years on this basis are given in the statement II, appended at the end of this Chapter.

(e) As regards remaining 20 per cent assets, since investment on lands do not earn any depreciation and buildings earn depreciation at a very low rate of 1.67 per cent p.a., we need not take them into our calculations of internal resources.

(f) Generation of internal resources through the provision of depreciation, however, would enable accrual of resources far lower as compared to the size of the capital programme. As would be seen from statement III, as against the capital programme of Rs. 250 crores, the depreciation permissible under the Act would yield only Rs. 125.10 crores. It is essential that a transport undertaking must generate higher resources adequate not only to yield depreciation permissible under the tax law but even to provide for the replacement cost if it has to stay in business without sacrificing efficiency. In fact, in the context of the N. D. C. resolution, it ought to generate surpluses for expansion etc. also.

(g) In the above context, what should be the level of internal resources which a transport undertaking of

(Rs. in lakhs)

the size of the MSRTC should strive to generate becomes an important issue. MSRTC like MSEB is a public utility affecting key sectors of the economy. In the case of State Electricity Boards (SEB), this issue was examined by the Rajadhyaksha Committee, and it has recommended that SEBs should generate internal resources equivalent to about 50 per cent of the capital investment over the same period. In the case of Road Transport Undertaking, taking into account the short gestation period and having regard to the fast depreciating character of the assets mainly (buses) (unlike MSEB whose assets have a much longer duration and where the gestation period is very much longer) they ought to generate internal resources of a higher level than SEBs.

(h) In the Third Plan period, the Corporation financed its developmental and replacement programme fully out of its internal resources. Thereafter, from the year 1966-67 onwards, Government support in the form of capital contribution was made available to the Corporation. In these years, as would be seen from Table No. 3.8 yearwise percentages of internal resources to capital expenditure fluctuated widely from year to year; the lowest was 23.72 per cent recorded in 1972-73 and the highest was 92.45 per cent recorded in 1977-78. Figures for the three years ending 31st March 1980, on cumulative basis, shown in table in sub-para (c) above, show that the actual level of internal resources generation reached by the MSRTC during the three years ending March 31, 1980, was on an average 66.37 per cent. There was a steep fall in the level (54.59 per cent) in the year ending March 1981 due to substantial increase in HSD oil prices and other factors such as increase in prices of spare parts, increase in D. A. and delay in compensatory fare rise. This decline needs to be arrested. We emphasised this in our discussions with V. C. and G. M. who agreed that if the recommendation of the Committee in regard to automatic correction in fare to cover escalation in prices of HSD oil and tyres is accepted by Government, it may not be difficult to reach the 1977-78 level of internal resources generation provided further that the Corporation is able to achieve the improvements in performance which it hopes to achieve. Under the circumstances, in our view, the Corporation must, over the five year period as a whole progressively attain a level of resource generation at least of about 65 per cent.

(i) The gap between the internal resources generated by the Corporation and the total requirement of funds for capital expenditure will have to be found from resources outside the Corporation. If debt equity ratio is to be maintained at 1:1, then this gap will have

to be equally divided between the capital contribution and the borrowings. Out of capital contribution, one-third will have to come from Central Government and two thirds from the State Government. To sustain a capital expenditure programme of Rs. 250 crores, the Corporation would have to raise through internal resources Rs. 162 crores to attain the level of 65 per cent; the balance of Rs. 88 crores would have to be raised equally through equity (Rs. 44 crores) and borrowings (Rs. 44 crores). Two thirds of the equity (i.e. Rs. 29.34 crores) would have to come from the State Government and the balance one third viz. Rs. 14.66 crores from the Central Government. It would also be necessary that the Corporation's fares be adjusted to earn for it revenues sufficient to raise internal resources at least of the order of 65 per cent of its capital programme. At the same time, Government must be enabled to meet the higher level of capital contribution expected from it through appropriate adjustment of "passenger tax". In other words, the level of the passenger tax would have to be stepped up to enable the Government to pay to the Corporation the higher level of capital contribution expected from the State Government. Augmentation in passenger tax necessary to enable Government to pay to the Corporation capital contribution of the order of Rs. 30 crores and also to cover the special road improvement programme, which we have recommended later on in our report, would be from 17½ to 22 per cent. The increase in passenger tax would have to be allowed to be passed on to passengers as additional fare.

As regards the tax liability of MSRTC we have been given to understand that though the Corporation was not required to pay income tax in the last decade, substantial amount was paid by way of income tax prior to that. According to the estimates prepared by the Corporation as on 31st March 1981 it is likely to have a carry forward taxable loss of the order of Rs. 32 crores which will be available for set off against taxable profits, if any, in the future. The Corporation is not likely to have taxable profits in the immediate future. As the Corporation has increased its fares only recently, and since in the immediate future the fare increase may be limited to the cost escalations in HSD oil and tyres only, and having regard to the fact that prices of other inputs such as spare parts, batteries, etc. would go up and the additional burden on account of the wage settlement, we do not visualise that the Corporation would have a taxable surplus in the immediate future despite its efforts at building up sizable surpluses to generate higher internal resources.

In this connection, we would also like to suggest that the contribution of the State Government could be made partly in the form of land which MSRTC may

require in the future for locating its workshops, depots, bus stands, housing for employees, etc. (See Foot note).

(iii) *Borrowing from the Public*—The Corporation receives fixed deposits from the Public for various periods for financing its working capital requirements. It has indicated that over the five year period it hopes to have a net borrowing of Rs. 13 crores from this source. We are happy that the Corporation has taken the lead in developing this source of finance over the last 5 years. Recently, the Corporation has raised its borrowing rates* to bring them on par with the rates of interests offered by the Central Government Undertakings. The net projected receipts from this source estimated at Rs. 13 crores represent only 5.8 per cent of total capital programme (Rs. 212 crores). We believe that MSRTC could easily tap more money from this source. This could be done if necessary, by raising the borrowing rate by half per cent above that offered by the Central Government Undertakings, since this form of borrowing is intended for working capital needs, we do not think this will have any significant impact on the Corporation's financial position.

Earlier, in our report we have recommended an increase in the capital contributions made by the State and the Central Governments to enlarge the Corporation's equity base in order to enable it to borrow on a larger scale. We would add however, that MSRTC is not bound by the restrictions usually applicable to companies in this regard. Nevertheless it would be useful to strengthen the capital base of the Corporation as this adds to its credibility and capacity for borrowing larger funds from the Public and Financial Institutions.

Section 26(1) of the R. T. C. Act, 1950 permits the Corporation to borrow money from the open market for raising its working capital needs. The Corporation

Foot note :

MSRTC's needs of procuring Government lands for its various activities and needs are growing. Availability of Government land is limited. It is necessary that the MSRTC should prepare a perspective plan in this regard taking into account not only its immediate requirements, but those in the Seventh and Eighth Plan also. This would enable it to indicate to Government in advance its specific requirements of land both in term of locations and its sizes. A number of by-passes are being constructed on national highways so as to free heavy traffic from having to pass through crowded urban Townships. It would be necessary to locate some of MSRTC workshops and larger bus Depots on these by-passes. Unless the land locations particularly on the national highways are determined and booked in advance, it may be difficult to secure suitable and adequate sized land parcels because of pressure on land from other sectors. It is possible that MSRTC resources may not permit it to pay for this land in advance or in the immediate future. We feel, however, that incapacity of the Corporation to pay for the land should not come in the way of

has indicated to us its working capital needs for the period 1980-81 to 1984-85 as set out below:

TABLE No.3.8(A)
Working Capital Needs

Year	Rs. crores
1980-81	11.00
1981-82	12.00
1982-83	14.50
1983-84	17.00
1984-85	20.00

The MSRTC could strive to raise public borrowings to meet its working capital needs as shown above. This is not too large a target for MSRTC to achieve, provided adequate inducements are offered to the public. We would revert to this in our subsequent report/s, after the matter is examined in depth by the Working Group on Institutional Finance and Market Borrowings.

(iv) *Bonds*.—The Corporation can also raise money from the public by issuing long term bonds on the capital market for raising funds for its capital development programme. The Corporation has not so far tapped this source at all. However, it is necessary for the Corporation to secure previous approval of the Central Government under Section 26(2) of the R. T. C. Act, 1950.

Further as the Corporation has no previous experience in this regard, basic expert advice regarding floating of bonds in the capital market would also need to be obtained. The Working Group on Institutional Finance and Market Borrowings would be looking into this aspect also in greater details and we hope to make more specific recommendation on this in our subsequent reports.

(v) *Passenger Tax*.—One of the points made to us by the Corporation is that the State Government

its being enabled to secure adequate land in advangageous locations. We would, therefore, recommend that immediate planning in this regard be initiated and State Government informed of the Corporation's requirements. We would also further recommend that the Corporation should not be called upon, to pay in cash for the Government land it seeks to acquire for its various purposes. This could be achieved by the cost of Government land being refunded to MSRTC in the form of Government Capital Contribution.

***Revised Rate of interest on borrowings from the Public :**

Period of Deposit	Rate of Interest (per cent)
1 Year	11
2 Years	12
3 Years and above	13

Employees of the Corporation are allowed $\frac{1}{4}$ % extra.

should not raise passenger tax unless the Corporation is enabled to pass it on to the travelling public, as any increase in passenger tax, which is not accompanied by a corresponding fare rise, impinges upon the internal resources of the Corporation. We are in general sympathy with the Corporation's point of view and urge upon the Government to enable the Corporation to pass on the increase in passenger tax to the travelling public by making suitable adjustments in the fares so that the Corporation's resource position is not jeopardised. We may mention that the rate on passenger tax is at present only 17.5 per cent, which is very much lower than the rates of passenger tax obtaining in other States (e.g. 25 p.c. in Gujarat 50 p.c. in Haryana, 25 p.c. in M.P). In Maharashtra, passenger fares charged by the State and contract carriage operators are inclusive of the passenger tax (17½ per cent); whereas, in some States, the fares are exclusive of passenger tax; in some States there is a provision for compounding the amount of passenger tax. Inter-State comparison of rates will not be therefore fully meaningful. The scope for raising tax rates would have to be decided principally on the basis of our own experience and needs.

The rate of passenger tax in this State was as high as 22 per cent during the period prior to 9th June 1975. This rate was progressively brought down to 20 per cent and further to 17½ per cent from 9th June 1975, and 28th December 1975 respectively. MSRTC has, from time to time, demanded reduction in rates of passenger tax as an alternative to fare increase to meet the rising cost of operations. It was as a result of such demands from the Corporation at the time of fare revision that the passenger tax has been reduced in the past. It would, however, not be possible to continue such a policy in future. On the contrary having regard to the demands for higher levels of capital contribution from the State Government to MSRTC; the need for substantial improvements in road conditions on which the Corporation's buses ply, coupled with the pressure for larger allocations for roads and bridges programme (for new roads as well as for better maintenance of existing roads) to clear the regional backlogs etc., it has become necessary to mobilise more resources from the users of the transport service to satisfy these expectations from Government. It would, therefore, be necessary to raise passenger tax from 17½ per cent to 22 per cent and to allow MSRTC to pass this amount on to the passengers so that its internal resources do not get eroded. Concurrently, we would recommend that a fair portion of the increased receipts from the passenger tax be ploughed back for improving resources of the Corpora-

tion and for augmenting the roads programme drawn up in fullest co-operation with MSRTC. It is estimated that an additional revenue of about Rs. 45 crores would accrue to the State Government during the residual period of the Sixth Plan on the presumption that the revised passenger rate would be operative from the year 1982-83. As against this, we have recommended in para. 3.4 (ii) that in order to improve MSRTC's financial position and its capacity to raise its borrowings, the State's share towards capital contribution should be raised from Rs. 5 crores to Rs. 30 crores during the Sixth Plan. We have also made another recommendation in para. 3.51 that in order to ensure that the revenue realised from the fuel-cum-tyre cost adjustment charge FTCAC is available to the Corporation to offset its escalating fuel or tyre cost, the passenger tax should not be recovered from the proceeds of FTCAC. Though this measure would cause a revenue loss of about Rs. 9 crores to the State Government there is no direct outgo from resources. As such the balance from increased receipt of Rs. 45 crores, available for improvement of roads would be of the order of Rs. 20 crores during the 3 years' period beginning from 1982-83. A fair portion of this amount should be spent on roads programme specially for the benefit of the Corporation's operations executed through Public Works Department.

(vi) *Provision for replacement of vehicles.*—In its capital programme for the Sixth Plan MSRTC had proposed a provision of Rs. 212.40 crores for purchase of 10620 vehicles for meeting the expected traffic demands and also for replacing the overaged buses. The yearwise phasing of this programme is shown below :

TABLE No. 3.9

Yearwise phasing of purchase of vehicles during the Sixth Plan

Year	Replace-ment	Vehicles for new addi-tions	Total	Total Provision in VI Plan (Rs. in crores)
1980-81	.. 461	773	1,234	24.68
1981-82	.. 1,403	836	2,239	44.78
1982-83	.. 1,404	904	2,308	46.15
1983-84	.. 1,404	979	2,383	47.66
1984-85	.. 1,404	1,052	2,456	49.12
1980-85 Total	.. 6,076	4,544	10,620	212.40

The actual number of chassis received till 31st March 1981 is 1459. In the case of 225 chassis however bodies are being built, or are in the process of being put on road.

It will be seen from the above table that MSRTC has provided for purchase of 10,620 vehicles during the Sixth plan at the current purchase price of Rs. 2 lakhs per vehicle inclusive of body building. After discussion with the Planning Commission, the targetted programme has been reduced to 8734. In recent years, chassis prices have increased continuously from Rs. 1 lakh per chassis in 1976 to Rs. 1.51 lakhs in 1980 and considering the present inflationary trend of prices, it is quite likely that the prices of chassis may show further rise during the period of the Sixth Plan. Already the Leylands who provide about 40 per cent of MSRTC's chassis requirements have increased their chassis price by Rs. 8,000 effective from 1st January 1981. It is thus clear that MSRTC will need an additional amount of Rs. 8000 per vehicle to purchase its quota from the Leylands during 1981-82. From the present trends it will be prudent for MSRTC to allow for a cost escalation of the order of Rs. 10,000 per vehicle from the year 1982-83. On this basis, the total additional amount required for purchase of the remaining vehicles during the last three years of the Sixth Plan would be of the order of Rs. 14.65 crores if the MSRTC's original target for fleet-acquisition was to be achieved or Rs. 11.25 crores in case a lower target as agreed with the Planning Commission was to be retained. As no provision is made for cost escalation in the Corporation's financial forecast it is suggested that the Corporation may re-assess its financial position in the light of our observations.

(vii) *Provision for Contingencies.*—The Corporation, of course, has made a provision for 'Contingencies' in making its financial forecasts and has indeed set aside Rs. 35 crores to cover escalation on such items as staff cost, materials cost, interest cost, etc. We suggest that such provision be also made to cover cost escalation on account of chassis. In the Corporation's view, the main item in respect of which a contingent provision is needed relates to the additional burden which it may have to bear on account of the wage settlement with the unions. We understand that for the payment of interim relief to its employees the Corporation had to bear a burden of Rs. 4.50 crores per annum, provision for which has been made in the forecast under 'wages'. However, as a result of the settlement with the Unions reached on 1st May 1981, the total burden assumed by the Corporation would be of the order of Rs. 86 crores as per details set out

below. The settlement is operative for four years beginning from 1980-81; and for the year 1984-85, which is the last year of the current five year Plan, the wages will have to be re-negotiated. We fear that because of this, there may be some further increase in the wage burden in 1984-85. Accordingly, we have assumed that in 1984-85, the additional liability would be of the order of Rs. 20 crores.

Year	Rs. in crores
1980-81	16
1981-82	16
1982-83	16
1983-84	18
	66
1984-85	20
	86

Out of this, in the financial forecast presented to the Planning Commission, which we are discussing, the provision already exists for Rs. 35 crores in the shape of "contingencies" and Rs. 22.50 crores under 'wages'. The net additional burden following this settlement on MSRTC would, therefore, be of the order of Rs. 28.50 crores (86.00 less 35.00 less 22.50) which needs to be taken into account. It would thus be seen that the provision made for contingencies gets fully exhausted for meeting the Corporation's liabilities towards wage settlement and no provision is really available for escalations on other accounts.

The hike in the prices of petroleum products with effect from 13th January 1981 has already thrown a severe burden on MSRTC. The present estimates indicate that the additional burden on this account during the five year period would be of the order of Rs. 42.31 crores. In our view, the financial position of the Corporation needs to be safeguarded against hike in petrol and tyre prices, the two most important input items on which it has no control. We shall return to our ideas about this safeguard when we discuss our proposal for introducing cost adjustment device in determining the Corporation's fare structure. For the moment, we would like to emphasise the need for a proper provision of contingencies, so that the Corporation's development programme is not unnecessarily endangered. The Corporation should, therefore, reconsider the provision in respect of cost increase of the consumables like batteries, spares, etc.

On the basis of trend in prices of consumables like batteries and spares, a provision of Rs. 14 crores would be required for the last four years of the Sixth Plan on the assumption that on an average prices of these consumables may rise by about 12 per cent.

(viii) *The scope for Internal Economies.*—The question of internal economy in such a large organisation as MSRTC is obviously a complex and difficult problem depending, as it does, on several factors such as condition of roads on which its services operate, age of its fleet, response from staff and the crew, skills of the crew and policies followed regarding scrapping of vehicles, management inputs, the availability of new chassis etc. However, we have pointed out in Section 3 of this Chapter certain areas where scope exists for securing further economies and the line of action that needs to be undertaken to achieve them.

3.5. *Financial implications of the recent fare rise.*—The key factor in MSRTC's forecast of internal resource generation was its proposal for fare rise which has since been sanctioned and made operative from 15th January 1981. The new fare revision followed by withdrawal of substages caused more than 40 per cent hike in fares for short distance travellers. The Corporation has subsequently decided to restore this concession which would remove the gain of Rs. 9.52 crores that would otherwise have accrued to the Corporation during the remaining period of the Sixth Plan.

3.6. *The Committee's reassessment of MSRTC's Financial position.*—The Committee has made its own assessment of the Corporation's financial resource position in the light of our comments in the foregoing paras. The overall shortfall in resources to sustain the Corporation's original development programme of Rs. 250.22 crores would now work out to Rs. 13 crores exclusive of the increased burden of Rs. 42.31 crores owing to the fuel prices hike introduced from 13th January 1981 and Rs. 12 crores owing to anticipated increase in prices of tyre which will be taken care of by Fuel-cum-Tyre Cost Adjustment charge

recommended by us in Section 6 of this Chapter. This is the cumulative effect of the following factors :—

*Worsening of Financial Resources Position of MSRTC
1980-81 to 1984-85*

(Rs. in crores)

(a) Curtailment in resources mainly because of reduction in share capital contribution from the State and Central Governments.	52.50
(b) Fall in resources owing to restoration of the concession of substages.	9.52
(c) Additional provision necessary on account of escalation in costs of chassis.	14.65
(d) Escalation in costs of consumables other than HSD and tyres.	14.00
(e) Additional burden on account of wage settlement recently reached after taking into account provisions included in the fare cost under "Contingencies" (Rs. 35.00 crores) and "Wages" (Rs. 22.50 crores)	28.50
(f) Strengthening of staff to plug pilferages.	2.00
Total ..	121.17

3.7. As against this, owing to the various recommendations and improvements we have suggested in this respect, it is possible that the following additional resources would emerge :—

*Improvements in Financial Resources Position of MSRTC
1980-81 to 1984-85*

(Rs. in crores)

(a) Additional capital contribution from the State Government and Central Government.	37.50
(b) Net increase in receipts owing to improvement in growth rate (over the average of 8 per cent assumed by MSRTC.)	7.10
(c) Surcharge on Express Schedules ..	30.85
(d) Internal economies (including those through raising of efficiency levels.)	33.00
Total ..	108.45

This would still leave a gap of only about Rs. 13 crores in round figures for the five year period. The position in this respect needs however to be reviewed from year to year, carefully watched and steps would have to be taken to augment resources through an appropriate fare rise after exploring fully other avenues of resource generation (through economy, improvement in performance etc.)

Section III

Cost of Operations and Scope for Economy

3.8. The cost of operations of the Maharashtra State Road Transport Corporation is higher as compared to other State Transport Undertakings. Annexure 5 (Vol. II) indicates the comparative cost of operation of MSRTC and other neighbouring State Road Transport Undertakings under important items for the two latest years for which comparative figures are available. It will be seen that all input costs are higher in Maharashtra as compared with those in Gujarat, while in comparison with some of the other Road Transport Corporations, they are varying. The costs of staff of MSRTC are consistently higher. The costs during 1979-80 show a further rise and as such the position must have further deteriorated.

3.9. A committee under the Chairmanship of Shri Suresh Jain, MLA, was set up by Government in August 1980 to examine the scope for economies in the working of MSRTC and to suggest measures to prevent pilferages. The Committee has submitted its report recently and is still to be released.

The points which require attention in connection with internal economies mainly concern:

- (i) raising efficiency under various performance indicators.
- (ii) improvement in the operation of uneconomic routes.
- (iii) plugging revenue pilferages,
- (iv) inventory management, and
- (v) improvement in the organisational structure of MSRTC.

We propose to examine these items briefly.

3.10. *Efficiency.*—The table below shows a summary comparison of MSRTC's performance under certain important indicators achieved by the sister undertakings in other States. Detailed comparison under different performance indicators is presented in Annexures 6(A) and 6(B) (Vol. II).

TABLE No. 3.10

Comparing the achievement of MSRTC under certain performance indicators with best achievements of sister undertakings

	Maharashtra		Other State Undertakings	
	1977-78	1978-79	1977-78	1978-79
1. Fleet Utilisation (per cent)	83.10	82.66	94.00 (Haryana)	95.00 (Haryana)
2. Vehicle Utilisation (kms. per day)	245.10	249.00	497.00 (Assam)	309.00 (A.P.)*
3. K.P.T.L.	41.20	41.90	44.70 (Gujarat)	45.20 (Gujarat)
4. Average Km. per Tyre	33,485	33,572	55,447 (Haryana)	60,727 (Haryana)
(a) New				
(b) Retreaded	16,298	16,074	34,227 (Bihar)	40,282 (Bihar)
5. Staff cost per Km. paise	74.33	75.30	36.00 (Orissa)	40.40 (Haryana)

*Figures for Assam not available.

It must be noted that before drawing up conclusions about the relative performance of MSRTC allowances must be made for such factors as the differential age of the fleet of different State Transports, road conditions or topography of the area, infrastructural facilities at the disposal of the Corporation, the skills of the crew and other mechanical staff, the relations between labour and management, etc. We hold the view that even after making due allowance for the above factors, differences in the performance indicators as between MSRTC and its coun-

terpart in some other States is such that *prima facie* there appears to be considerable scope for improving operational efficiency in a phased manner. We have not considered it necessary to recommend any specific targets for improving MSRTC's performance levels since in our view this matter needs to be carefully examined. We suggest that the Corporation should look into its efficiency levels item by item internally if necessary by engaging the services of a consultant. We must at the same time point out that some of the factors accounting for

MSRTC's poor performance are quite obvious such as its overaged fleet and the poor conditions of the roads in the State. The improvement in the Corporation's efficiency level will, therefore, require additional investment in the form of replacement of its ageing fleet, modernisation of its workshop equipment, improvement of the road system and development of better infrastructure. etc. The investment programme proposed by MSRTC for the Sixth Plan has indeed been worked out keeping in view the need for improving its operational efficiency. We, therefore, urge that this programme should be safeguarded as far as possible by generating the necessary resources. However, to the extent that it is possible to improve operational efficiency through organisational innovation and essential managerial inputs we recommend that MSRTC should initiate immediate action so that it may show better results under various performance indicators in the short run.

3.11. It was indicated by the MSRTC that if some essential managerial inputs were inducted into the Corporation it should not be difficult in the short run to secure economies of the order of, say, Rs. 5.75 crores per annum on an average with effect from the financial year 1981-82. The areas were also indicated to us. They are :—

	(Rs. in lakhs p.a.)
(i) Additional Kms. for every 10 litres of HSD.	100.00
(ii) Additional Kms. per tyre both its new as well as retreaded life.	100.00
(iii) Vehicle utilisation ..	100.00
(iv) Improvement in crew utilisation ..	200.00
(v) Saving in consumption of stores ..	75.00
	575.00

However, if economies on the lines shown above are achieved, over the residual period of the current plan, this would yield a net saving of Rs. 23 crores. We have taken note of it whilst working out revised financial forecast.

3.12. *Driver Training and Inducement.*—One of the important factors accounting for improved operational efficiency and better quality of service is the efficiency and quality of driving shown by the Corporation's team of drivers. This highlights the need for recruiting properly trained drivers and providing them appropriate monetary and other incentives in service so as to get the best from them. We are happy to note that the Corporation has introduced a system of inducement for better driving since 1979. The system

provides for a reward of Rs. 500 to be given to a driver who is not involved in any major accident (Minor accidents excluded) for 1,300 days of steering duty, the bestowing of accident-free badges and rewarding the accident-free depots. Already a number of drivers (5585) have won badges and cash award (Rs. 2,869). The number of drivers who have already won badges represent 30.92 percent of the total number of drivers in the employment of the MSRTC. The accident data regarding MSRTC buses indicate that there has been no significant reduction in major accidents.

TABLE No. 3.11
Accident Data of MSRTC

	Number of Accidents			
	Fatal	Major	Minor	Total
1977-78 ..	243	451	1420	2114
1978-79 ..	256	540	1734	2530
1979-80 ..	267	808	1544	2619
1980 (April to September).	156	500	769	1425

We endorse the drivers incentive scheme operated by the Corporation and suggest that it should be made more attractive.

3.13. *Road Conditions.*—As we have already observed, one of the factors responsible for high cost of MSRTC's operations is the poor quality of mofussil roads. We have no doubt that if the entire road network on which MSRTC operates were upgraded to all weather road standards, this would substantially reduce its operating costs. The MSRTC has, for example, argued that if the network of mofussil roads on which its services operates were upgraded to all-weather standard, this would result in a saving of Rs. 6 crores per annum at current prices. The Government is indeed seized of the importance of improving the conditions of mofussil roads as is evident from the provision of additional Rs. 10 crores for maintenance of roads in the budget for 1980-81 and further Rs. 11.08 crores have been provided in 1981-82. The Government had also sanctioned provision of Rs. 1.50 crores for new roads in 1980-81. This amount was to be spent by the P.W.D. in consultation with MSRTC. While we endorse the action already initiated by the Government in this regard, we nevertheless suggest that considering the urgency of improving mofussil roads to all-weather standards, the Government should earmark a prescribed amount of funds to finance a specially framed Road Improvement

programme to be drawn up and executed in consultation with and in accordance with priorities indicated by the Corporation. Under this scheme only such roads are to be taken up for improvement where MSRTC is already operating its service and where it is likely that the service will have to be withdrawn if the road condition is not improved.

In this context, it is interesting to observe that MSRTC regularly forwards to the Government at the time of framing the Annual Plan detailed information regarding road works and bridges which need to be taken up on a priority basis to maintain its bus schedules and ensure full utilisation of its fleet capacity. The information is very specific in that it indicates the length of the K.M. affected and the estimated cost of repairs, etc. Unfortunately, we understand that the programmes communicated by MSRTC do not usually get reflected in the Annual Plans because of the absence of rapport between MSRTC officials and the Planning bodies of the State Government. There is urgent need for rectification of this State of affairs, by the establishment of appropriate liaison and collaboration between MSRTC and Road Development authorities of State Government. We suggest that the Planning Department should function as the coordinating agency for working out an integrated road development plan. Furthermore, as a broad guideline we also recommend that all road links on which a S.T. bus has been operating for over 3 years and where because of the heavy traffic improvement in road conditions will lead to significant improvement in MSRTC earnings, should be assigned the highest priority in allocating road repairs funds.

3.14. *Uneconomic routes.*—We have referred earlier to MSRTC operating a number of uneconomic routes largely because of its social obligation to provide a bus service on all motorable roads regardless of the economics of the trip. Such an obligation means that the Corporation has to operate a number of services which are unremunerative as they cannot pay even for short run costs. A large number of these services though prevalent in all regions, are predominantly in areas where no other mode of transport is available (for example coastal districts or interior areas where the railways have not reached). Accessibility to facilities like health, education, courts, bazaar places has to be provided to people in interior areas, and in this respect MSRTC has an important role to play. The passenger Kms. accounted for by these services are substantial and these are growing year by year. The operation of these services, must, however, be viewed in the broader context of social obligations cast on MSRTC. Hence, it would be in the interest of long term financial viability of the Corporation to convert as many of its unremunera-

tive routes as possible into remunerative services. We do realise that some of the unremunerative routes will have to be continued on socio-economic grounds by cross-subsidising from surpluses earned on its profitable routes.*

3.15. *Smaller Buses—Buses built on shorter wheel base chassis.*—One of the questions which we would like MSRTC to examine is whether it is possible to introduce buses built on chassis shorter wheel base, particularly having regard to the conditions of rural roads and existence of large number of unremunerative routes on which the present normal sized Corporation buses ply, often without adequate load. If this becomes feasible, MSRTC's operational cost would considerably get reduced.

We understand that the Board has already decided to purchase 32 small buses each costing Rs. 1.45 lakhs. We welcome this decision and suggest that MSRTC should develop a system of scheduling under which large sized buses, carrying 80 passengers are operated on State Roads and National High Ways, and smaller carrying capacity buses are operated in the mofussil and on the interior roads. We hope that the Corporation would carefully examine the experience it gains with its trial operations with these 32 smaller buses. If this experience proves successful, it may be possible to persuade Chassis manufacturers to produce smaller Chassis specifically designed for achieving fuel economy.

3.16. *Goods-cum-passenger-buses.*—One of the recent innovations in road transport is introduction of a goods-cum-passenger buses to service the requirements of agriculturists and artisans living in remote areas. These buses are used by farmers to procure essential inputs or sell surplus produce in the nearby Mandis. We understand that such services are already in operation in Andhra Pradesh.

A combined goods-cum-passenger service would be particularly useful in backward, or tribal and hilly areas where people do not have an easy access to market centres by modern motorised modes of transport. In view of its great utility we would like to recommend that the Corporation should examine the feasibility of

*Note.—In this connection, we may note that MSRTC regularly carries out route-wise analysis of the financial viability at the depot level by categorising routes into three categories : A, B and C routes. Routes under 'A' earn more than their long-run marginal cost ; those under 'B' just cover their short-run operating costs and those under 'C' do not cover even the short-run costs. In our view, it is highly commendable that M.S.R.T.C. is keeping the operation and financial viability of its routes under constant review which should enable the Corporation to gradually convert 'C' routes into 'B' routes by undertaking the suitable promotional measures.

introducing such joint product service on a priority basis as this may also help render its unremunerative routes financially viable.

3.17. *Revenue Pilferage.*—There is a presumption that considerable revenue is presently lost by the Corporation owing to pilferage. The incidence of pilferage is reported to occur mainly in areas where traffic inspection is difficult or ineffective and hence tampering by conductors becomes easy. The pilferage is particularly prevalent in remote areas or hilly and isolated routes. A number of areas prone to pilferage have already been identified by the Corporation. The losses incurred by MSRTC on this account are indeed difficult to

estimate, but rough estimates place them between Rs. 6 crores to Rs. 8 crores per year. Obviously, such losses are an unnecessary drag on resources of the Corporation. Corporation has noted this and assured us about suitable action. It would also be worthwhile if the Corporation were to introduce some suitable incentives for conductors to induce better collections. We have been informed that in this manner the Corporation would be able to improve its resource position by about Rs. 5 crores over the next four years.

3.18. *Inventory levels.*—The table below compares MSRTC's inventory levels with those of sister undertakings in selected States such as Gujarat, Karnataka and Andhra Pradesh.

TABLE No. 3.12
Comparative inventory levels
(Rs. in lakhs)

	1977-78		1978-79		1979-80	
	Overall level	Per one crore of Kms.	Overall level	Per one crore of Kms.	Overall level	Per one crore of Kms.
MSRTC	1081.53	19.94	998.72	16.28	1373	20.48
CSRTC	404.77	9.36	418.01	8.77	550	10.48
KSRTC	480.15	14.94	442.77	13.57	N.A.	N.A.
APSRTC	356.12	7.32	554.37	10.85	N.A.	N.A.

MSRTC's inventory holdings are substantially higher in relation to its counterparts in other States. The Corporation is of course fully aware of the urgent need to reduce its inventory holdings so as to optimise its expenditure on this account. However, considering the scale of its operations, the Corporation is doubtful if it will be able to achieve through inventory control a significant economy in expenditure in the short run. What it proposes to do is to peg its inventory at the present level during the Sixth Plan period. Inventory management is an extremely difficult and complex task, especially in an undertaking of MSRTC's size. In our view, MSRTC should seek expert advice on inventory control from reputed consultants. It should also explore the usefulness of computer services to control and monitor inventory levels. These measures, in our view, would enable the Corporation easily to save about Rs. 5 crores over the next 4 years.

Section IV

Structural reorganisation of MSRTC Reorganisation of the Board of Directors

3.19. The efficiency with which the Corporation's operations are carried out depends basically upon its

organisational set up and the procedures and tradition evolved for carrying out its day-to-day management. In our view, there is an urgent need to review the Corporation's organisational structure, considering the magnitude of its operations and the responsibilities it has to discharge if it is to provide adequate transport service and still run its business on sound commercial principles.

3.20. The Government has recently issued a notification enlarging the size of the Corporation from 19 members to 33 members, with the number of non-officials increasing from 13 to 27, including the Chairman.

3.21. Prior to the notification, the Corporation's Board comprised of 19 members which included the Chairman, the Vice Chairman and General Manager, a representative each of the two Railways, representative each of the Home, Finance and Public Works Departments of the State Government, two representatives of workers, and 10 non-officials from different regions of the State. In our view, the Board of this size was itself too large and unwieldy and was not quite suited to function effectively for monitoring and guiding the operations of the Corporation or initiating policies designed to improve its managerial efficiency. Generally

the Board Members functioned on a part time basis and therefore were not in a position to devote their full attention to the Corporation's operations. The non-official members were expected to serve the purpose of providing a feedback from the travelling public to the Corporation's executive decisions. There is a presumption that such a feedback has helped the Corporation to have a feel of travelling public's pulse regarding the quality of service provided. We believe that this objective can be secured most effectively by associating non-officials at the consultative level—both at the State as well as regional level—and hence there is no need for representation of non-officials on the Corporation's Management Board. There is also no logical reason for representing Railways on the Board as the original purpose of rail-road co-ordination is now being served by co-ordinating investment decisions at the level of the Planning Commission. We therefore recommend that this practice should be discontinued. Similarly the representation of the State Government through three different officials—one each from the Home, Public Works and Finance Departments is not justifiable on any rational ground. In our view, the size of the Corporation's Board needs to be made compact and this can be done most logically by discontinuing the practice of appointing non-officials and the representatives of the Railways and State Government as Board Members. In this connection, we may refer to the Maharashtra State Electricity Board whose size has been deliberately kept compact by appointing mainly professional experts as Members.

3.22. The Committee would therefore recommend the following structure for the Maharashtra State Road Transport Corporation Board :—

Chairman	1	Eminent personality with considerable background of administration or heading industrial or commercial undertaking.
Vice-Chairman	1	Professional from the field of Transport Engineering/ Transport Economics/Management with considerable experience of operating transport service.
Expert from the field of traffic.	1	
Expert from the field of Mechanical Engineering	1	

Expert from the field of Accounts and Costing.

Representative of labour.

Total 6

The Chairman, Vice-Chairman and General Manager and Members should be full-time officials of the Corporation.

3.23. The above structure would make the Board more compact and would have experts from fields which are most relevant to the efficient functioning of the Corporation. Such a fully professional Board will enable it to have an objective and critical look at proposals put forth by the Corporation administration to take quick and bold decisions, and above all, to provide the kind of initiative and leadership which is absolutely necessary for running an organisation of the scale and size of MSRTC on efficient lines.

3.24. Along with the reorganisation of the Board on the lines outlined above, it would be necessary to constitute a State Level Consultative Committee, patterned on the lines of a similar Committee established by the Railways and also to reorganise the existing regional level Consultative Committees established by the Corporation. On these Committees the State Government should nominate suitable non-officials to represent various commuter interests so that the Corporation is enabled to secure necessary feedback from the travelling public regarding the quality of service and passenger amenities or modifications to and introduction of bus schedules or routes in accordance with local needs. In this way, the Corporation will be able to attend to public grievances and other suggestions in time which would make its transport services adequate, sufficient, and comfortable. In our view, the Government should nominate on the State level Committee non-officials one from each region to represent the interest of local travelling public, and also representatives of trade and industry and of student community. It may also appoint a member to represent the interests of tribal or hilly areas. The State level Consultative Committee should meet regularly once a quarter with a minimum of three meetings during a year. The broad functions of State level Consultative Committee would be to render advice regarding—

(1) Provision of amenities.

(2) Proposals regarding opening of new bus stations, sub-stations, pick-up sheds, etc.

- (3) Modifications to existing routes and schedules operated thereon.
- (4) Improvements in the services and facilities provided by Maharashtra State Road Transport Corporation.
- (5) Any subject of general public interest or public convenience or such matters affecting the services and facilities which has been the subject of representation by users.

3.25. The foregoing recommendations on the restructuring of the Board of Maharashtra State Road Transport Corporation are vitally important in our judgment for toning up its organisation and improving its managerial efficiency without which it would be difficult to introduce and effectively execute the various economy and productivity measures we have recommended in this report. As has been pointed out earlier, Government according to recent notification has raised the number of non-official members to 27. The role of non-official members would however need to be confined to policy making and providing liaison with the travelling public. In order to ensure this, it will be desirable for the Government to use its powers under Section 44 of the R.T.C. Act, 1950 by amending the Bombay State Road Transport Corporation Rules (1952) appropriately so that the Corporation's day to day management is run efficiently. Also we would recommend that there should be only 2 Committees of the Board, a Standing Committee and a Tender and Stores Committee. The functions and powers of the Standing Committee would be as per statement appended at the end of this Chapter. While the official members would continue as members of these 2 Committees and the Vice-Chairman and General manager would function as the Chairman as heretofore, Government could associate a few of the non-official members of the Board on each of these Committees.

3.26. *Regional Corporations.*—One of the suggestions we have received is to split MSRTC into a number of regional Corporations as the present size of MSRTC has become rather unwieldy, resulting in over-centralisation. This has an adverse effect both on the quality of service as also the cost of operations. It is argued that small units with operational jurisdiction reduced to 4 to 5 districts would be conducive to raising the efficiency and performance levels of the Corporation. We have given considerable thought to this matter. Our considered view is that splitting up of the Corporation would involve wasteful replication of the central overheads without any significant concrete benefits in terms of either operational efficiency or the

quality of service provided. As regards the problem of over-centralisation, this can be tackled most effectively by appropriate restructuring of the Corporation's hierarchical structure with adequate delegation of financial and administrative powers at the regional and depot levels. We return to this issue in subsequent paragraphs. In our view, therefore, no useful purpose will be served by setting up regional Corporations.

3.27. *Need for Decentralisation.*—Apart from rationalising the professionalised management structure of the Corporation's Board of Management, it is also necessary to introduce certain structural changes within MSRTC set-up at the Head Office as well as in the regions which are designed to encourage decentralisation in decision making. This would help free the top administration at the Head Office of the day-to-day decision making pertaining to line functions and enable it to concentrate on matters of policy only. We understand that a Committee under the Chairmanship of Shri B. N. Adarkar, former Chairman of MSRTC, had initiated considerable work in this direction. We would recommend that the work initiated by Shri Adarkar could be pursued internally by MSRTC so as to design a proper structure of powers and functions to subserve the above objective.

3.28. *Need for Research and Development.*—In the present context of escalating fuel prices and the spectre of shortages of oil which we may have to face during the next few years, it is imperative that a large transport organisation like MSRTC, which is a public utility should have an adequate R & D wing. Such a wing should either directly or in collaboration with other agencies, organise research and development on a continuing basis in areas like alternate sources of energy for operating its buses, economising on fuel consumption through technical improvements etc. Various other technical problems, or those relating to construction of bodies, tyre retreading etc. could also be looked into by such an R & D wing. The possibilities of using natural gas as fuel for operating buses should also be explored. Another alternate fuel which could be looked into is using coal based producer gas in buses plying in regions nearer to coal mines (Nagpur Region). This wing should also compile periodically statistical reports on techno-economic feasibility of various alternative fuels and technical improvements for use in policy planning at the highest level in the MSRTC.

Section V

Fare Policy

3.29. Prior to the fare revision introduced from 15th January 1981 the main features of MSRTC's fare policy were as follows :—

MOFUSSIL SERVICES

For ordinary and express service, the fare charged was 36 paise per passenger for the first stage of 6 kms. and 6 paise per km. thereafter, with a minimum fare of 35 paise. In respect of luxury and night services the fares were as shown below :—

Luxury Service .. Not more than additional 50 per cent per stage of the ordinary fare with the minimum fare of 55 paise.

Night Service .. Fare chargeable per stage not more than additional 10 per cent of the ordinary fare with 40 paise per stage of 6 kms. as minimum.

As a measure of concession to the travelling public the Corporation had introduced sub-stages of 3 kms. where the proximity of villages, of traffic conditions warranted to do so. The passengers travelling for distances of 1½, 2½ and 3½ kms. chargeable stages were only given the benefit of fare for sub-stage travel. In addition, the Corporation used to extend a number of concessions to students, blind-persons, freedom fighters, journalists, leprosy patients, T.B. and Cancer patients, which in the aggregate, cost the Corporation Rs. 1.80 crores per annum.

CITY SERVICES

Prior to the fare revision the Corporation charged fare at 25 paise per passenger for the first stage of 3 kms. and 5 paise per km. thereafter. This fare structure, which was in operation since 1st December 1975 had completely gone out of tune with MSRTC's operating costs. The table below indicates the increases which have taken place in the Corporation's important cost items. A more detailed table showing increases in MSRTC's costs is also appended as Annexure 7 (Vol. II).

TABLE No. 3.13

Increase in prices of important input items during January 1975 to January 1980

Item	Unit	Price inclusive of taxes in January 1975	Price inclusive of taxes in January 1980	Percentage increase
1. H.S.D.	Per KL	Rs. 1003.52	Rs. 1376.76	37.19
2. Tyres Tubes and Flaps	Each	1329.94	2047.36	53.94
3. Batteries	Each	392.57	608.57	53.78

It will be seen that over the period 1975-80 the price of H.S.D. increased by 37.19 per cent, of tyres and tubes by 53.94 per cent and of batteries by 53.78 per cent. The result has been that MSRTC's operations, which were in profit during the period 1975-76 to 1978-79, recorded a loss of Rs. 4.04 crores in 1979-80 and were expected to result in a loss of Rs. 94 crores for the 5 years period ending 1984-85 at the existing fares.

3.30. The fare rise covering the Corporation's mofussil and city services as notified by Government vide its notification No. MVA-0680/5/TRA-2 and MVA-0680/3-TRA-2, dated 5th January 1981 can be seen at Annexures 8(a), 8(b) and 8(c). These revised rates are expected to yield an additional revenue of Rs. 257 crores (net) during the 6th Plan. The rise in fares on an average is about 40 per cent. The main features of the revised fare structure are.—

(i) Mofussil Services :

(A) The passenger fares for Ordinary and Express Services have been raised from 36 paise per passenger for the first stage of 6 kms. and 6 paise per km. thereafter to 50 paise per stage of 6 kms. The minimum fare has been raised from 35 paise to 50 paise.

(B) In respect of luxury services, the existing loading of 50 per cent per stage of the ordinary fare (with the minimum fare at 55 paise) has been raised to 100 per cent per stage of the ordinary fare with the minimum fare of 100 paise.

(C) In respect of night services the existing extra fare of 10 per cent of the ordinary fare continues unchanged, but the minimum fare which was 40 paise, has been raised to 60 paise.

(D) The concession of sub-stage was withdrawn.

(ii) *City Services*.—The existing passenger fare of 25 paise per stage of 3kms. has been raised to 30 paise upto 2 kms. For journeys exceeding 2 kms. the new fare envisages charging 7.5 paise per passenger per km. in place of the existing fare of 5 paise per passenger per km.

The fare rise notification also enables the Corporation to effect a further rise in fares, should that be necessary, upto the maximum indicated therein viz. 70 paise per km. in the case of mofussil services and 40 paise per km. for journeys upto 2 kms. in the case of city services.

3.31. It should be mentioned that effective from 1 February 1981 the Corporation has restored the concession of sub-stages which was earlier withdrawn and for which an allowance of the order of Rs. 2.77 crores per annum was made in the financial forecast for 1980-85. The restoration of this concession would mean that over the five year period there would be a reduction in revenue of the order of Rs. 11.54 crores (Rs. 9.52 crores net of Passenger Tax).

3.32. *Approach to Fare Policy*.—In an inflationary situation, MSRTC's financial position invariably comes under a severe strain due to increase in the prices of HSD and other essential consummable items. In such a context, it is imperative that its fare structure should be adequately flexible to accommodate genuine increases in its operating costs. Unfortunately, the Corporation under the present statutory provisions lacks requisite powers to adjust its fare structure automatically in response to variation in its costs. This is a matter of grave concern requiring an immediate attention if the Corporation's financial viability is to be safeguarded against inflationary cost escalations.

3.33. The National Transport Policy Committee has laid down some basic principles for pricing transport services which should serve as a basis in formulating MSRTC's fare policy. The first principle is that the fare must be cost based. The user must be made to pay at least the full marginal resource cost of providing his transport. Where for any reason (including the socio-economic policies pursued by the Government) this may not be feasible, the short run marginal cost is the minimum price which the user must in any case be charged. This would mean that MSRTC's fares would have to be raised for its 'C' routes which do not cover even the short-run operating costs, unless as a matter of

its socio-economic objectives, such as the promotion of development in backward areas of the State or providing minimum accessibility to remote or hilly areas. etc. Government wants to subsidise such services deliberately.

3.34. Of course, the Corporation can resort to cross-subsidization so long as it earns a surplus or is at least able to break even on its overall operations. This means that so long the Corporation is required to run 'C' routes which do not earn their minimum variable costs, it must earn a surplus on its relative prosperous 'A' and 'B' routes. However, since the present policy is to charge a uniform fare for different routes the only way by which it can generate a surplus on its prosperous routes is to strengthen its services on these routes by putting in more buses and other inputs. While the Corporation should make every effort to do this we should at the same time point out the need for keeping a continuous watch on the performance of its unremunerative services so that in the long run they are able to generate resources sufficient to cover their operating expenses.

3.35. Finally, in our view, it is imperative in the present day circumstances to safeguard or insulate the finances of the Corporation against frequent hikes in the costs of its two most important consummables viz. fuel and tyres as the prices of these inputs are generally determined by international factors and hence beyond the control of the Corporation. There is already the precedent of MSEB which adjusts its tariffs whenever fuel costs are raised by passing on the burden to a selected group of consumers. Later we are suggesting the need for making a similar adjustment in the fare structure of MSRTC in order to safeguard its financial position against sizeable hikes in the costs of fuel and tyres.

3.36. Against the background of our above general approach, we wish to make the following recommendations in regard to the fare structure of MSRTC

3.37. *City Services operated by MSRTC*—Prior to the fare revision, MSRTC was expected to lose about Rs. 2 crores on the operation of its city services. Even after the revision of the fares MSRTC is likely to incur a loss of Rs. 75 lakhs per annum on its city operations. There is no justification, in our view, for MSRTC operating the city services by covering less than the full long term costs. For otherwise this would amount to cross-subsidisation of the City Services which is essentially operated for short distance passengers, a practice which must be discontinued as early as possible. We recommend therefore, that MSRTC should make an appropriate revision of the fare structure of its city services so that

not only the losses expected on account of these services are wiped out but in the long term they start generating surpluses which are so badly needed to finance the corporation's capital investment programme.

It may be observed that MSRTC at present operates city services in 26 cities, operating about 486 schedules covering effective kilometreage of 27.83 lakhs. Annexure 9 (Vol. II) furnishes information regarding schedules operated, KMS generated, vehicles utilisation, passengers carried, revenue earned etc. for the period ending October 1980.

One of the factors accounting for the losses incurred on Maharashtra State Road Transport Corporation's city services is the fact that the vehicle utilisation in city operations is very poor. Because of the peculiar characteristics of city operations, it has been suggested that the local bodies within whose jurisdiction passenger services are provided by MSRTC should subsidize the Corporation by making good its losses. In our view, however, this suggestion may not be practical because of lack of funds at the disposal of Municipal Councils.

3.38. We are, however, concerned about the losses incurred by MSRTC on its city operations. One of the solutions we have suggested earlier is to empower MSRTC to charge fares for urban services reflecting the full costs of providing these services. This would of course widen the difference in fares as between city and long distance services—a discrimination however which is fully justifiable on economic grounds as it would enable MSRTC to cover its costs on its city operations and at the same time put an end to what we have described as regressive cross-subsidization. The second solution would be to entrust the operation of city services to Municipal Corporations and larger Municipal Councils say with a population of 2 to 3 lakhs or separate Statutory Corporations, thereby absolving MSRTC of responsibility in this respect. In fact, considering the altogether different economics of the operation of city services and special managerial skills required to successfully operate the city service, perhaps having separate organisation/s for City Transport Service would be preferable. To begin with, a start could be made by setting up a statutory City Transport Corporation for Nagpur. This approach in our view will be more fruitful not only because it will help reduce the losses of MSRTC on city operations, but will also improve the quality of passenger service in urban areas as the service will be planned and provided by a specialised agency with knowledge of local needs and in close collaboration with authorities concerned with local land use and urban planning.

3.39. The above suggestions would need detailed examination by the Government. Pending such examination and decision thereon, we would urge that the fares

for City Services be increased so as to at least cover their short-term marginal costs.

3.40. *Telescopic rates.*—We have examined the feasibility of introducing telescopic fare structure for road passenger transport. We had also discussed this question with MSRTC. We find, however, that as the major part of the traffic carried by MSRTC is short distance (less than 30 kms.), telescopic tariff has only a marginal relevance so far as MSRTCs' operation is concerned. Secondly, there is the question of whether in the context of diesel shortages in the country when one would in fact like to encourage a shift of traffic from road to rail, telescopic tariff on MSRTC routes will cause sub-optimal inter-modal mix. Thirdly, telescopic fares are likely to result in more denominational tickets being provided (in addition to about 23 currently in vogue). Finally, and what is the most serious objection in our view is that passengers who make most frequent journeys on short routes will feel discriminated if relief in fares was provided to long distance travellers who are mostly casual. We have, therefore, come to the conclusion that in the present context of diesel shortages and the overall energy crisis, it would not be expedient to attempt to induct into the S.T. fares the principle of telescopic rating. The Pande Committee, we note, has also not favoured the introduction of telescopic rating on road transport.

3.41. *Deliberate adjustment of road rates to bring about a shift of traffic from Road to Rail.*—One of the points debated by the Committee was whether wherever a parallel rail route is available MSRTC should adjust the tariff so as to render rail journey more attractive, thereby encouraging a shift of passenger traffic from road to rail. It is implicitly assumed that the railways have the necessary capacity to carry the additional traffic and that the cross-elasticity of passenger demand on S.T. routes with respect to rail travel is greater than unity. Both these assumptions need to be seriously examined before the proposal is put into effect. Besides, it is not clear if such a discriminatory rating is legally feasible or whether it may not be resisted by passengers. Despite these doubts there is no harm in our view in considering the feasibility of introducing such a selective tariff to reduce diesel consumption in road transport.

3.42. The introduction of a surcharge on travelling by express and super express buses corresponding to the night surcharge on Rat Rani fares is another issue which attracted our attention. We think that such a surcharge is both feasible as well as justifiable on the basis of specific service rendered to the commuter in the form of speedier transport. The incidence of the surcharge is also not likely to affect the relatively weaker sections, who would be travelling normally on the non-

express buses. We understand that the number of express buses may account for about 30 per cent of the traffic. Such a surcharge, if introduced, may, therefore, yield an additional revenue of Rs. 30.85 crores over the period 1981-82 to 1984-85.

3.43. Proposals for a fare revision are generally un-welcome to commuters and are normally resisted. It must, therefore, be the endeavour of transport undertakings to plan their fare proposals in such a way and with such a frequency that they generate minimum resistance from the public. Also it will be desirable that the justification for the fare rise is published adequately and in the manner in which the passengers as well as the general public will appreciate and understand. The Public Relations wing of MSRTC should show special vigilance in this respect. The passengers would also appreciate if the unduly large delays in arrivals and departures of S.T. buses could be properly announced in time through the public announcement systems at Bus Stations. This is an area which is not adequately looked after by the Corporation. We suggest that this be done so that the travelling public accepts any inconvenience caused with the least resentment. While it might be argued that fare revisions should not be too frequent, yet it is difficult to lay down any precise periodicity for fare revision, especially when one is dealing with a situation which holds out a variety of uncertainties about the future, including the prices of essential inputs such as fuel, tyres, etc. It is precisely to safeguard MSRTC against such uncertainties that we recommend the introduction of automatic fuel and tyre cost adjustments in its fare structure. However, even with these adjustments MSRTC's costs are likely to escalate under inflationary pressures. Hence, there will be a need for a fare revision from time to time. We are against too frequent a revision in fares. In our view, MSRTC should not ideally revise its tariff more than three times during a period covering two Five-Year Plans. This means that having already revised its tariff early this year MSRTC should undertake only two more fare revisions during the period of the Sixth and Seventh Plans. In view of our recommendations on Fuel and Tyre cost Adjustment Charges, such revisions will be warranted only if there are significant increases in other elements of operating costs such as cost of repairs, wages, etc.

Section VI

Fuel and Tyre Cost Adjustment Charge

3.44. While commenting on the fixation of passenger fares in Road Transport, the National Transport Policy Committee in the Report has drawn attention to the

lack of an in-built system which would bring about an automatic increase in fares commensurate with an increase in cost of inputs, individually or cumulatively. We have also earlier referred to the need to safeguard MSRTC's finances from inroads made by escalations in costs of such items as HSD, tyres etc. which account for a substantial portion of MSRTC's operating cost. The escalation of some of the cost items, particularly HSD, and tyres is governed by international factors and hence has no relevance to domestic inflation. It is also imperative that the impact of oil shortages and the consequent hike in oil prices abroad should be fully reflected not only by causing a corresponding hike in domestic oil prices but also of the prices of goods and services using the oil. MSRTC is one of the main consumers of HSD in the country. For example, the hike in petroleum prices announced by the Government on 13th January 1981 is going to cost MSRTC Rs. 42.31 crores over the residual period of the Sixth Plan. This has naturally upset all the calculations of the Corporation about the internal resource generation for financing its capital investment programme. It is our considered judgment therefore that not only the Corporation's financial position be safeguarded against sudden and unpredictable cost escalations of the type referred to above, but in all fairness to the Corporation the burden of these cost escalations should be passed on in an appropriate manner to the users of its service. Such approach would be consistent not only with sound principles of public finance, it would also be consistent with the objective of efficiency in the allocation of scarce resources such as HSD.

3.45. It is for this reason that we propose to recommend the introduction of Cost Adjustment Charge in the fare structure of MSRTC. There is a precedent in this respect. MSEB regularly adjusts its tariffs whenever fuel costs are raised (For details, see Chapter on MSEB). We recommend that MSRTC should also be empowered to effect similar adjustments in its fare structure whenever input costs are hiked. However, instead of confining cost adjustment to increases in fuel costs only we suggest that in the case of MSRTC, this adjustment should also be extended to cover increases in the costs of another important consumable item, viz. tyres. Our reasoning for this is that as in the case of fuel, the costs of tyres are also subject to international factors. Further more, tyre costs also account for a substantial portion of MSRTC's operating costs. For example, during 1979-80, while fuel cost accounted for about 37 paise or 26 per cent of MSRTC's variable cost of 144 paise per km., tyres accounted for 27 paise or 19 per cent of its variable cost. (Incidentally, another item which also contributes considerably to MSRTC's

variable cost is spares, nearly 20 paise per km. or 14 per cent of the Corporation's variable cost). In our view, therefore, if the Corporation's finances are to be effectively insulated against unforeseen as well as unpredictable escalations in the costs of its key consumables, the costs of tyres should also form an integral part of its cost adjustment charge. We accordingly recommend the introduction of a two-fold cost adjustment for MSRTC, viz. Fuel-cum-Tyre Cost Adjustment charges (FTCAC) in contrast to Fuel Cost Adjustment Charges (FCAC) which is applicable to MSEB. Considering its cost performance in recent years, such adjustment, if introduced, will safeguard MSRTC's operating costs by about 45 per cent.

3.46. To implement our proposal for the adoption of Fuel and Tyre Cost Adjustment Charges in the case of MSRTC, it would be necessary to make a suitable amendment in the Motor Vehicle Act. For while there are specific provisions enabling the recovery of F.C.A. in the Indian Electricity Act 1910 (Section 23) read with Electricity (Supply) Act, 1948 (Section 46) (vii), there are no similar enabling provisions in the Motor Vehicles Act.

3.47. Under the Motor Vehicles Act, the State Government gives directions (under Section 43) to the State Transport Authority regarding fixation of fares. These directions are issued after examining the proposal for a fare rise on the basis of such information as sought from the operator and in consultation with the State Transport Authority and after inviting objections and suggestions to the proposed fare revision through a notification in the official gazette. A period of not less than one month is allowed to enable those affected to react to the proposal. In order to obviate the necessity of having to go through this rather time-consuming procedure for a fare revision, a convention is followed under which only the minimum and maximum fares which might be charged are indicated to the State Transport Authority. Within the minimum and maximum so notified and sanctioned, actual fare rises are authorised by the State Transport Authority from time to time. Thus, MSRTC can get a further fare rise (over and above the current rise) so long as the same does not exceed the maximum limit agreed upon earlier by the Government.

3.48. While the foregoing procedure is suitable for making marginal revisions in the Corporation's fare structure, this may not prove useful if adjustments are to be made in the fare structure following a sharp-increase in the prices of petroleum products or of tyres. If FTCAS is to operate effectively and efficiently without having to go through any dilatory procedure it would be necessary for the Government to authorise MSRTC to adjust its fares to the extent it is necessary

to cover the increase in the cost of petroleum products or tyres as the case may be without having to approach either the Government or the State Transport Authority for the purpose. We accordingly recommend that a suitable amendment be introduced as early as possible in the Motor Vehicles Act, 1939, empowering MSRTC to revise its fares as it deems fit whenever a sizeable increase takes place either in its fuel cost or tyre cost or both.

3.49. In order to ensure that the powers under the above amendment are not misused, certain inbuilt safeguards may be incorporated in the amendment itself. This may be done in two different ways; First, the formula for computing FTCAC may be prescribed by the Act (A model formula is appended as Appendix I at the end of this Chapter). Second, a Standing Committee, consisting of the nominees of the State Transport Authority of the Directorate of Economic and Statistics and of MSRTC, may be constituted to go through and check the validity of the calculations whenever a fare revision is proposed consequent upon FTCAC. For this purpose, it may be useful to break up fares into two parts :—

(i) Fare proper.

(ii) Fuel and Tyre Cost Adjustment Charges (FTCAC). One might assume that the fare revision which was introduced by MSRTC from 15th January 1981 must have fully neutralized its fuel costs upto the point in time. If this is true, then FTCAC would be applicable to cost escalations which have occurred since then. A formal break-up of Fare Proper and FTCAC would then be useful as it would provide complete information to the travelling public in the future about the extent of fare revision which has occurred due to escalations in oil and tyre costs since a selected base year and the extent which is due to escalations in the residual components of the fare. The provision of such information might also perhaps make it relatively easy for MSRTC, from the point of view of public acceptability, to undertake revisions of the Fare Proper whenever they are warranted on account of cost escalations on items other than fuel or tyre or because of the need to generate more internal resources for development. The element of FCTAC should however be taken into account and merged with fare portion while working out the fares at the time of next fare revision.

3.50. In suggesting introduction of FTCAC we have assumed that fare revisions may not have to be undertaken too frequently but only when sizeable escalations take place in the costs of fuel and tyres. However, we do not expect any difficulty in the actual implementation of FTCAC even for marginal increases in the cost of fuel or tyres (such as printing of tickets of appropriate

denominations, etc.). At the same time, it would be advisable if the Corporation were not to resort to FTCAC for every marginal change in the cost of these inputs. Apart from the cost of publicity and printing of tickets, there is also the question of public psychology and acceptability which must be kept in view whenever fare revisions arising from FTCAC are proposed.

3.51. Finally, in order to ensure that the revenue realised from FTCAC is available to the Corporation to cover its escalating fuel or tyre costs, we recommend that passenger tax should not be recovered from the proceeds of the FTCAC. The entire gross revenue realised through FTCAC should accrue to the Corporation to cover its costs.

APPENDIX I

Formula for Computations of F.C.A. Charge

HSD is one single item on which MSRTC spent Rs. 56.73 crores in 1979-80 accounting for nearly 30.7 per cent of the total operating expenses of Rs. 184.64 crores. Fuel and other consumables accounted for 84.62 paise km. out of 143.68 paise of variable cost.

2. In what follows, an attempt is made to show increase in the fares per stage per passenger for the increase in price of HSD ex-Bombay.

3. For this purpose, the following assumptions are made :—

- (a) The KPTL is assumed to be 40.
- (b) The average seating capacity of bus is taken as 50.
- (c) The load factor level is taken at 80 per cent.
- (d) The HSD is purchased at various places in the State and the rates at these places differ due to transportation charges, local taxes, etc. Since it is intended to work out increase in fares with reference to the Ex-Bombay price, it is necessary that the overall price for the Corporation is worked out and the linkage between this over all price and Ex-Bombay price is established. For this purpose, the overall price (effective from 15th July 1980) for the Corporation is worked out by considering the percentage quantities of Divisional annual consumption for 1979-80 as weights. The average rates for the Divisions in turn are worked out by taking the simple arithmetical average of the rates of constituent Depots.
- (e) Since Diesel is consumed for operating the gross kms. and the fare is charged for the effective kms. the impact of price revision is adjusted by taking per cent dead kms. at 1.03 (same in 1979-80).
- (f) Where the increase in fare due to price increase in HSD is less than half paise per stage, the same is ignored. Increase of half a paise or more is rounded off to the next paise. The average issue rate for the State is calculated according to 3.
- (g) The issue price is found to be 1.047423 times the Ex-Bombay rate. For one paise increase in Ex-Bombay price of HSD, MSRTC will have to bear an increase of 0.09 paise due to sales tax at 9 per cent. Thus the net increase for MSRTC will be 1.09 paise.

The correction factor for increase in passenger fare per stage, for increase in HSD, price Ex-Bombay by 1 paise, is given by the following expression :—

Litres HSD for 6 km at 40 KPTL	Dead Kms.	Link Factor for Ex-Bom- bay price	Sales Tax
(1.5)	(1.0103)	(1.0474)	(1.09)

50
Seating
capacity

Load factor

which works out to 0.04325344

4. In terms of 3(f) above, the following table gives the range for increase in Ex-Bombay price of HSD—for increase in passenger fare per stage by one paise stepping :—

Increase in Ex-Bombay price of HSD in Rs. per Kilo litre between	Increase in paise per stage per passenger
0 to 115.58	Nil.
115.59 to 346.78	1
346.79 to 577.98	2
577.99 to 809.18	3
809.19 to 1040.38	4
1040.39 to 1271.58	5

Net Ex-Bombay price of HSD as on 15th July 1980 (excluding Sales Tax) was Rs. 1985.32 per Kilolitre.

5. Similar exercise can be made in respect of other consumables such as the cost of tyres, tubes or spares which are the other important component of variable costs.

6. With effect from 13th January 1981, the H.S.D. price ex-Bombay has gone up by Rs. 370 per KL. Taking into account the sales Tax at the rate of 9 per cent the increase is Rs. 403.30. In accordance with the formula suggested for an increase in cost of HSD from Rs. 346.79 to Rs. 577.98 per K.L. the passenger fare per stage would have to be increased by 2 paise. Though the Corporation would be entitled to additional fare of 2 paise per stage over and above 50 paise, it must be noted that it will have to absorb further increase in the fuel charges upto Rs. 577.98 inclusive of the increase which has already taken place before it is entitled to any further rise.

STATEMENT No. I

Function of the Standing Committee

- | | |
|--|--|
| <p>(i) To consider proposals regarding sites for structures and to finalise the same ;</p> <p>(ii) To consider the construction of various structures for State Transport and issue orders in connection with these ;</p> <p>(iii) To consider the expansion of services in and, outside the State of Maharashtra and issue orders regarding priority in taking them over, etc. ;</p> <p>(iv) To consider the reorganisation of the Administration and submit proposals in connection with those to the Corporations ;</p> | <p>(v) To consider the reports on the stores reconciliation work and pass suitable orders on them ;</p> <p>(vi) To make its recommendations on all business before submission to the Corporation after the proposals involving expenditure are examined by the Chief Accounts Officer ;</p> <p>(vii) To supervise generally the implementation of the decisions of the Corporation ;</p> <p>(viii) To perform on behalf of the Corporation such functions and to exercise such powers as are delegated to it by the Corporation.</p> |
|--|--|

STATEMENT No. II

Normal Depreciation on Vehicles

Year	Cost of Vehicles	1980-81	1981-82	1982-83	1983-84	1984-85
1974-75	886	124				
1975-76	960	134	134			
1976-77	1406	197	197	197		
1977-78	1468	206	206	206	206	
1978-79	1700	238	238	238	238	238
1979-80	1878	263	263	263	263	263
1980-81	2468	346	346	346	346	346
1981-82	4478		627	627	627	627
1982-83	4616			646	646	646
1983-84	4766				667	667
1984-85	4912					688
Total	29539	1508	2011	2523	2993	3475

STATEMENT No. III

Table showing capital contributions envisaged from the participating Governments

(Figures in lakhs of Rs.)

	1980-81	1981-82	1982-83	1983-84	1984-85	Total
1. Capital Expenditure	3370	5222	5381	5537	5681	25191
2. Normal Depreciation	1508	2011	2523	2993	3475	12510
3. Gap (1-2)	1862	3211	2858	2544	2206	12681
4. Borrowing (50 per cent of 3)	931	1605	1429	1272	1103	6340
5. State Government Capital (2/3rds of 4)	621	1070	953	848	735	4227
6. Central Government Capital (1/3rd of 4)	310	535	476	424	368	2113

CHAPTER 4

MOBILISATION OF RESOURCES MAHARASHTRA STATE ELECTRICITY BOARD

Section I

Introduction

4.1. Our main objective in this report is to review MSEB's tariff policy in order to see what can be done to generate additional resources to finance the Board's power development programme in the Sixth Plan. Before formulating any proposals, it would be useful to review briefly MSEB's present financial position, the Board's recent proposals for tariff revision and their impact on its financial position as appraised by the Board itself and to discuss briefly the problem of economy and productivity in the operation of MSEB. In this connection some important aspects like the T. and D. losses (transmission and distribution losses) the capacity utilisation of the thermal power stations, the inventory levels, the need for advance action on the development plans for the Seventh and Eighth Plans and the Rural Electrification programme will require special attention. As a background to this discussion, it is useful to begin by considering the generation of power by MSEB, the composition of power supply and demand and the imbalances which have arisen recently between the supply and demand for power in Maharashtra. Since power planning and development depends, among other factors crucially upon the accuracy with which the demand for power is projected, we shall also touch upon the controversy which has figured about the appropriateness of MSEB's methodology of power demand forecasting and also on management of power cut.

4.2. The Committee has benefited from notes and memoranda received from the Board, including its reaction to the Rajadhyaksha Committee report and a large amount of statistical data supplied by it. We also held discussion with the Board about its tariff and financial policies as also its power development programme. The present Secretary (Energy), Shri M. R. Natarajan and the former Secretary Shri K. B. Srinivasan also participated in the discussions. The main focus of the discussion was the Board's reactions to the Rajadhyaksha Committee report, its tariff proposals, the Board's generation programmes for the Seventh Plan and other related issues.

Section II

Power Development in Maharashtra

4.3. The Power Development in Maharashtra commenced in an organised manner, as part of the Planning process, after the formation of Maharashtra in 1960 and the establishment of the Maharashtra State Electricity Board under the Electricity Supply Act, 1948. Until then, the power supply was confined mostly to urban areas served by private licensees who operated diesel generating sets. However, among private licensees, Messrs Tata Power Co. a major licensee owned 3 Hydro Power Stations at Bhira, Bhivpuri and Khopoli each and later added a Thermal Power Station at Trombay. As the time passed, the Maharashtra State Electricity Board established new Thermal/Hydro power stations and expanded the then existing power stations in the Vidarbha Region.

The additions to the State's power generation capacity successively in the 3rd, 4th and 5th Plans etc. are indicated in Annexure 10.

4.4. *Present installed capacity.*—The total installed derated capacity in Maharashtra as on 31st March 1980 was 3106 MW, the station-wise break-up of which is given in Annexure 11. Subsequently, at the beginning of this year the 210 MW BHEL set at Bhusawal, which was synchronised in the last year, has also started giving fairly regular output and the present installed derated capacity has, therefore, gone upto 3316 MW comprising of 1161 MW of hydro, 1995 MW of thermal and 160 MW of nuclear power. The daily peak demand met by the State's power grid has already touched 3000 MW, which accounts for 90 per cent of the installed capacity. The M.S.E. Board's thermal power stations have attained high yearly *average* generation level of 6128 KWH per KW in 1979-80 and availability of the sets was maintained at 85 per cent by planned, timely and quick maintenance.

4.5. *Consumption Pattern.*—Annexure 12 indicates the pattern of electricity consumption in Maharashtra as in 1979-80. It will be seen that the industries accounted for 58.57 per cent of the total consumption in the State, the agriculture for 10.28 per cent and for domestic and commercial purpose for about 19.3 per

cent. The power consumption for the agricultural purpose has been rapidly increasing as a result of the extensive rural electrification programme taken up by the Board since 1960. This is evident from Annexure 13 which indicates the number of towns and villages electrified, the number of irrigation pumps energised and total number of the consumers connected by the Board each year from 1961-62 to 1979-80. It will be observed that the number of pumps energised has risen from a mere 8445 in 1962 to 577720 in 1979-80, number of villages electrified have gone up from 1191 in 1962 to 25,746 in 1979-80 representing an increase in village electrification of 71.39 per cent. In fact, it is estimated that the power consumption for all purposes, in the rural areas of Maharashtra is about 20—23 per cent of the total consumption in the State.

It is proposed to electrify the remaining 10,321 villages and energise additional 2.5 lakhs irrigation pumps during the 6th Five-Year Plan for which a provision of Rs. 287.72 crores will be required under the Plan as well as the non-plan sources. These remaining villages are remote and have low load potential. The Board would find it difficult to finance the programme only from the plan money and the presently estimated meagre amounts that may be available from the Commercial banks, A.R.D.C., R.E.C. etc.

Annexure 14 indicates the districtwise details of the number of pumps energised as on 31st December 1980 as well as the villages electrified and the percentage of villages electrified in each district.

Section III

Future Power Development

4.6. Planning for power development must be based on a realistic and scientific assessment of future power demand that would arise from the industrial and the special agricultural growth. It must take into account efforts made by the State Government not only to speed up the industrial progress but also dispersal of industries to the backward areas of the State. Similarly the tremendous efforts made by the Government for increasing the agricultural output, improving the living conditions in the rural areas etc. must also be taken into account while projecting the future power demand. It is true that an over-assessment of power demand may result in an over-investment in the power industry. On the other hand, the penalties of inadequate investments and the consequent power shortages have been extremely heavy because of the resulting loss of industrial and agricultural production. Therefore, any under-estimate of the future power demand is very dangerous. It introduces the power shortage in the planning stage itself. In the next step, the

inevitable slippages due to the delays in the deliveries of equipments, shortage of steel, cement etc. and labour problem during construction further enhance the power shortage. At the third step, when the equipment delivery by indigenous manufacturers fails (frequently), the power shortage and the consequent loss to the State become very heavy. Against this background, not only has the power demand assessment to be realistic but it should even be liberal and have enough margin to take care of aforesaid causes of power shortages.

4.7. Unfortunately Government of India's assessment of power demand for Maharashtra has been unrealistically low and has been one of the main causes of the growing severe power shortage in the State, inspite of the Board's maximum efforts to meet the day to day difficult situation. Annexure 15 indicates assessment of the power demand in Maharashtra made by the Board, by the Annual Power Survey Committee, by the Working Group of the Planning Commission and the actual unrestricted peak demand for the years 1974-75 to 1979-80 and for 1983-84. It will be observed that the unrestricted peak demand of the State is nearly the same as the demand forecast by the Board, while the figures adopted by the Working Group of the Planning Commission are substantially lower.

4.8. *Load forecasting.*—The work of load forecasting in Maharashtra is being carried out continuously almost all the the year round. There is a separate cell in the Maharashtra State Electricity Board which is entrusted with this work. The methodology followed by the Board for assessing power demand is set out in detail in Annexure 18. The consumers are divided in 8 categories. The future power demand of Domestic, Commercial, Small Industries at low tension supply, Public lighting etc. is assessed by trend method after establishing their actual growth rates over past 10 years. The demand of agricultural pumps is estimated from the yearly targets of pump energisation and their consumption rates. The requirements of consumers with loads of 1 MW and above are estimated by individual studies regarding new industries being set up and the programme of expansion of existing industries. For arriving at correct forecasts, detailed discussions are held with the State Government agencies like, SICOM, MIDC etc. which are responsible for the licensing and industrial development. The forecasts made on the basis of above are exhaustively checked by adopting the following different methods to arrive at realistic estimates:—

- (i) Trend Method.
- (ii) Shear's Formula Method.
- (iii) Exponential Model Method.
- (iv) Econometric Model Method.

The forecasts are made both on a long term time horizon as well as for the ensuing year. Forecasts for ensuing years are corrected to take into consideration inputs such as slippages, dropping of the schemes in industrial sectors etc.

4.9. Upto 1972-73 the State had almost no power cuts. However, since 1972-73 because of inadequate generating capacity it has become unavoidable for the State Government to enforce power cuts on demand and energy and these cuts are continuously rising from year to year.

4.10. The unrestricted peak demand has always been much above the available generating capacity. Therefore the peak demand had to be artificially curbed since last several years by the imposition of the following restrictions:—

- (i) Staggering of holidays.
- (ii) Rostering of agricultural feeders.
- (iii) Shifting of day loads to night loads.
- (iv) Staggering/shifting of lunch recesses.
- (v) Curbing the use of air-conditioners, introducing only two shift industrial loads, disallowing L. T. industries to use power in peak periods etc.
- (vi) Introducing heavy power cuts.

With these restrictions, a relief of upto 800 MW in the daily peak demand has been obtained. These restrictions imposed in order to control the maximum demand because of shortage of generating capacity cannot however be continued *ad-infinitum*, especially because they cause considerable hardships to the industrial and agricultural sectors, the labour and the people in general.

4.11. The present derated generating capacity in Maharashtra (3316MW) is less than the present unrestricted demand (3741 MW). Even after enforcing heavy power cuts (upto 35 per cent) and severely restricting the power supply of agricultural pumps (only 5 hours continuous supply per day) the restricted peak demand in the State has already reached 3080MW. Thus there is hardly a gross capacity margin of 7 per cent to 8 per cent which is totally inadequate.

4.12. The action of the Annual Power Survey Committee to curtail the Board's assessment of 6500 MW by 1983-84 to only 4450 MW as well as the action of the Working Group to further cut it down to only 3815 MW is not only unwarranted but also very dangerous for the State, because the sanctioning of new power projects for Maharashtra is now based on this unrealistically low assessment made by Working Group of the Planning Commission.

4.13. The Maharashtra State Electricity Board as well as the Western Regional Electricity Board have very

strongly opposed the aforesaid arbitrary, drastic cuts and have given strong notes of dissent to the 10th Annual Power Survey as well as to the Working Group. Unfortunately, no cognisance of this dissent has been taken.

4.14. In the view of this Committee, artificial deflation of the power demand on the basis of present restricted supply, various power cuts, and curbs and restrictions enforced to curtail the peak demand, the financial constraints etc. would seriously harm the industrial and agricultural growth in Maharashtra where the power shortage has been acute and is growing year after year. In view of the long gestation period of the power projects, advance action has to be initiated immediately for power schemes to yield benefits not only in the Sixth Plan but also in the 7th and subsequent Plans. While doing so sufficient margin has to be kept for the planned annual maintenance, forced outages of the generating sets, spinning reserves etc. The Maharashtra State Electricity Board has developed a computer programme for estimating, for the State's power system, the Loss of Load Probability, capacity margin required, load shedding required to be carried out if adequate margins are not available. This study based on the probability technique is not only the most recent scientific techniques available but also quite accurate in its results. While doing these studies, a study for optimisation of investment of additional installed capacity in relation to the production loss was also made by the Board and on this basis the Board has calculated that the margin required for covering the forced outages of the set would be 23 per cent, and the gross margin required, taking into account the annual maintenance, spinning reserves etc. would be about 38 per cent. Annexure 30 indicates the details of these studies.

4.15. *Development of Power System.*—Taking into consideration the emphasis on the dispersal of industries, the boosting of agricultural production as well as the development of backward areas of the State, the realistic forecasts of the power demand for the State are used for determining the location and size of the load centres in Maharashtra. Based on the availability of coal, water, transportation facilities as also ecological considerations, the locations of the power stations is determined. Planning of the major transmission system is thereafter done to meet the requirement of the loads from these power stations in an optimal manner as well as on the consideration of stability of the entire power system.

4.16. *Nodal Centres of MSEB's Power System.*—The Maharashtra State Electricity Board has been successfully adopting the above method of identifying the nodal centres of the power system on the basis of long term planning, which has resulted in the development of

the present network. A map indicating the present power system of Maharashtra is enclosed at Annexure 17. In this map the 8 primary nodal centres of Koradi, Parli, Chandrapur, Karad, Pune, Bombay, Baleshwar and Bhusawal and the 16 secondary nodes located at Ambazari, Wardha, Warora, Pusad, Solapur, Koyna, Kolhapur, Lonand, Apta, Kandalgaon, Aurangabad, Nashik, Pune, Trombay, Chalisgaon and Amravati are indicated. In the system planning, all the 8 primary nodes and the major power stations are being interconnected by 400 KV lines and the 16 secondary nodes will be connected to the primary nodes by 220 KV voltage level. The tertiary nodes are connected to the secondary nodes by 132/110/66 KV. From the secondary and tertiary nodes, power will be further distributed over the H. T. distribution net-work at 33/22/11 KV.

The primary nodes and the 400 KV transmission lines (the Primary Transmission Grid) are so formed and designed that it can merge in the Regional and the National Grid without any problems of compatibility.

Section IV

Power Development Programme for the Sixth Five-Year Plan Period 1980-85

4.17. The total outlay for the power projects for the Sixth Five Year Plan period 1980-85 as finalised after discussions with the Planning Commission is fixed at Rs. 21,57.11 crores. The summary position of this outlay is shown in the table below :

TABLE NO. 4.1

Sixth Plan : Financial Plan, 1980-85

	(Rs. crores)
1. Hydro	194.64
2. M.S.E.B. Thermal	1098.10
3. Transmission	654.37
4. R.E., R.E.C. etc.	160.00
5. General Assets	50.00
Total M.S.E.B. (2 to 5)	1962.47
Grand Total-Power (1 to 5)	2157.11

The Sectorwise details are presented in Annexure 19.

4.18. *Physical Targets.*—The physical targets for additional Generation, Transmission and Rural

Electrification for the period 1980-81 to 1984-85 are set out in the table below :

TABLE NO. 4.2

Sixth Plan : Physical Targets, 1980-85

	Target
(1) Hydro (MW)	215
(2) Thermal (MW)	2550
(3) Transmission—	
(a) 400 KV KM	1927
(b) 220 KV KM	3108
(c) 132/110/66 KV KM	3121
(d) 33 KV KM	8850
(4) Villages	10321
(5) Pumps	250000

The yearwise phasing is indicated in Annexure 20.

4.19. In spite of the addition of the proposed capacity of 215 MW from the Hydro Schemes, 2550 MW from the Thermal Schemes undertaken by the M.S.E.B and 500 MW Generation capacity being added by the Tata Electric Company (totalling to 3265 MW) during the period 1980-85, a severe shortage of power is likely to continue beyond 1985. While considering the outlays and sanction of the Generation Schemes for the period 1980-85, the C.E.A./Planning Commission have made an allowance for availability of power for Maharashtra from other States. This, however, will depend upon a number of factors and therefore cannot be fully relied upon. It will, therefore, be necessary to step up the generation programme during the Seventh Plan and advance action therefore is necessary in the Sixth Plan period to provide for much larger outlays for generation and transmission in the Seventh Plan so as to meet increased load requirements.

4.20. *Perspectives in Regard to Seventh Plan.*—The Maharashtra State Electricity Board proposes to provide for an outlay of Rs. 4123 crores for the Seventh Plan period 1985-90 to build up an additional generation capacity of 5978 MW of which Thermal will contribute 4740 MW and the balance (viz. 1238 MW) will be contributed by Hydro. Suitable 400 kV, 220 kV Transmission lines for evacuation of power generated at Power Stations and 220/132/66 kV and 33 .kV lines for meeting the load requirement in the various areas will also have to be provided for. Provision for new generation and transmission schemes, which are required for the period beyond 1990 have also been proposed. During the period 1985-90, only those villages where Gaothans remained to be electrified, will have to be given supply. A large number of Wadis (hamlets) also will have to be provided with power. It is proposed to give supply to 3,70,000 agricultural pumps during the 7th

Plan period. The break-up of this programme, financial as well as physical, is given in Annexures 21 and 22.

4.21. The details of the power stations with capacity both in respect of Hydro and Thermal Generation Schemes envisaged for the commissioning in 1985-90 are enclosed as Annexure 16.

4.22. The financial outlays for the 6th Plan as settled in consultation with the Planning Commission are basically tailored to meet the power demand in Maharashtra as assessed by the Planning Commission which is 4181 MW. This demand projection is very much lower as compared with the estimated demand projected by the Board at 6956 MW. Unless power demand is controlled by following an appropriate tariff policy, artificial curtailment of power demand to suit the constraints of financial resources, is likely to have harmful consequences affecting the growth of Maharashtra's industrial and agricultural economy and could also affect the overall industrial climate in the country should a power-famine grip Maharashtra in the post 1980-85 period. We have already expressed our view that the Board's Projections should be taken as a basis for Maharashtra's power planning and financial allocations for power sector should be made accordingly. While it may be difficult to revise plan outlays immediately, an attempt should be made to augment the financial allocations for the Power Plan even during the residual period of the Sixth Plan. It would also be necessary to initiate advance action on power projects for the Seventh Plan in view of long planning delays and gestation lags involved in the power sector.

4.23. The original capacity expansion programme as contemplated in the period of Sixth Plan would undergo a change in the light of the discussions the Chief Minister of Maharashtra had with the Union Energy Minister in Bombay recently. We understand that the Central Government has cleared the following projects enabling additional capacities of 1661 MW being added :—

	(in M.W.)
(a) Khaperkheda—3x210	630
(b) Chandrapur Stages V and VI— 2x500	1,000
(c) Bhatghar—1x15	15
(d) Vavasgaon—2x8	16
Total	1,661

4.24. The hydel potential in the heavy rainfall areas of Sahyadri ranges has so far remained unutilised and untapped due to various difficulties. We are happy to note that a Committee headed by Shri P. M. Belliappa

of the National Hydro Power Corporation has been entrusted with the work of carrying out investigations in the matter and is to submit a Report before the end of March 1981. We also understand that for this purpose, the national space Agency is being requested to undertake aerial surveys to suggest locations for hydro projects. We urge that sufficient funds be earmarked for these projects in light of the difficult power situation and the oil situation which is likely to develop in future.

4.25. In our discussions with the Board, we have urged the Board to present to the Government of India more project reports, for meeting the expected demand in the Seventh Five Year Plan after taking into account the following broad principles :—

(a) that it should rest on strong foundation both in regard to availability of coal, water and other inputs;

(b) that the locations must reckon with the fact that any significant improvement in the availability of railway wagons or its capacity to handle coal may not materialise ; and

(c) the potentialities of existing power houses should be maximised particularly in view of the fact that additional ideal locations with easy proximity of coal and water are really difficult.

4.26. The precise picture as to how the power shortage in Maharashtra could be eliminated is difficult to envisage at this stage. For the same reason, and owing to various uncertainties regarding the establishment of Super Thermal Stations under the Central Sector and also the resources picture, it would not be possible for us to indicate in this report any fixed location, their capacities and the financial outlays needed to implement the Energy programme. However, in our discussions it was indicated that they would proceed on the assumption that the power programme during the Seventh Plan could be in the neighbourhood of Rs. 4123 crores and that 40 per cent to 50 per cent of this allocation could be spent on generation of power.

4.27. Generation (Hydro plus Thermal) accounts for Rs. 2629 crores i.e. 64 per cent of the total outlay for power. These projections would need to be studied in detail in the context of actual generation gap required to be bridged (minimum target to be settled) without losing sight of the allocation needed for transmission which has so far lagged behind and also the overall allocations for power that could be released in the context of the size and resources for the Seventh Plan.

4.28. The Committee observes that the power demand in Maharashtra would reach 6956 MW by 1984-85 requiring an installed capacity of about 11,000

MW. The power demand in the State will reach 10,718 MW by 1989-90 and will require 14,790 MW as the installed capacity. As the first step towards achieving these installed capacities, the State Government is visualising to sanction the following generation projects immediately:—

	(In MW)
(i) Chandrapur Units 5,6, and 7 of 500 MW.	1,500
(ii) Khaperkheda Extension 3 × 210 MW	630
(iii) Ujani—2 × 500 MW	1,000
(iv) Bhusawal—4 × 500 MW	2,000
(v) Dabhol—2 × 500 MW	1,000
(vi) Gas Turbine Units 5,6, 7, and 8	240
Total	6,370

4.29. We understand that the State Government has already approached the Union Government for setting up a Super Thermal Power Station as a Pit Head Station in Rajura area of Chandrapur district as a project of the National Thermal Power Corporation and that the Government of India has agreed, in principle, to the establishment of such a station after the possibility of exploitation of adequate coal in that area is established. Similarly, the need for augmenting the capacity of Tarapore Atomic Power Station and the establishment of a new Atomic Power Station in Maharashtra at a location selected by the Site Selection Committee of the Government of India has been posed by the Chief Minister to the Union Minister for Energy at a meeting held on 29th January 1981 in Bombay.

Section V

MSEB's Present Tariff Policy

4.30. The last tariff revision of the Board was approved by Government in October 1976 and implemented with effect from 1st November 1976. The existing tariff for different categories of consumers is presented as Annexure No. 23. The Board's present policy in regard to framing of tariff is partly based on historical considerations and partly on the principle "what the consumer can bear". The Annexure 23 also shows the proposals of the Board for revising the tariff from 1st April 1981.

4.31. The contribution from the various classes of tariff categories to the revenues of the Board at current rates is set out in the Annexure 24. It would be seen that H. T. consumers, who constitute 29.66 per cent of the total consumers, accounted for 35.62 per cent of the total consumption. Next in importance are distributing licensees (37.22 per cent), agriculture (11.56 per cent) and domestic (6.01 per cent).

4.32. The broad approach influencing the present tariff policy of the Board could be briefly stated as under:—

(i) As compared to the cost of supply based on 1979-80 costing, the present level of tariff provides a substantial subsidy to a number of categories of consumers ranging from 12.27 Ps/Unit in the case of "commercial" to 34.95 Ps/Unit in the case of "Irrigation" as per details shown below:

TABLE NO. 4.3

Comparison in Cost of Supply and Tariff Rates for different Consumers

Category	Cost of supply Ps/Unit	Existing average tariff rate per Units Ps/Unit	Difference Ps/Unit
(1)	(2)	(3)	(4)
Domestic	51.80	30.84	(—)20.96
Commercial	51.80	39.53	(—)12.27
L.T. Industrial	51.80	34.53	(—)17.27
H. T. Industrial	24.49	24.52	(+)0.03
Street Lighting	51.80	29.85	(—)21.95
Irrigation ..	51.80	16.85	(—)34.95

(ii) The Board is required as a matter of Government Policy not only to encourage the farmers to take to energisation of pumps but also to give power at the lowest possible tariff. At present, an option is given to farmers either to opt for energy tariff (20 Ps/Unit) or H. P. tariff at Rs. 125/BHP to suit their respective consumption needs. This policy concession has entailed a loss of the order of Rs. 44.27 crores in 1979-80.

(iii) Besides the basic tariff rates, the Board levies fuel cost adjustments charge on a variety of categories of consumers other than those covered by Domestic Tariff, Commercial tariff for lights and fans and for heat and small power, Public lighting and Agricultural Tariff. The objective is to recover in full any variation in the total cost of fuel i.e. coal, L. D. Oil and furnace oil burnt in the Board's Thermal Power Stations.

(iv) Both in respect of domestic and commercial categories, there are two separate rates for meters; one for lights and fans and the other for heat and small power.

(The BEST has already introduced a common meter for these two categories of consumers.)

(v) A concessional tariff is given to power intensive industries. There is a differential of about 4 Ps. in tariff between general and power intensive industries, the rates of the latter being lower.

(vi) Bulk sale rate to Tatas is lower than the rate for other bulk purchasers.

(vii) For Street lighting to Gram Panchayats, the tariff is in two parts: one as a fixed charge per pole and the other being energy charge per KWH. This fixed charge per pole is construed as a rental charge per pole, though in fact it is intended to serve as a 'minimum' charge for power used.

(viii) In areas taken over from Thane Electric Supply Company the tariff charge by TESCO is continued.

(ix) The low tension rates are generally higher than H.T. rates. In H.T. also there are 3 categories.

4.33. In addition to the concessional tariff for power intensive industries and for Agricultural pumps mentioned in para 4.32 above, the Board has sanctioned a number of concessions to sick industries particularly mini steel plants in regard to minimum charges, levy of D.P.C. and interest (costing Rs 1.65 crores) and to Khandsari factories, Textile Mills as well as Lift Irrigation Societies. Concessions have been extended to Gram Panchayats to enable them to repay their overdues. For rural dringing water supply schemes also a concessional tariff of 20 Ps/Unit for metered supply and Rs. 125 per BHP for unmetered supply has been extended. This involves a loss of Rs. 44 lakhs p.a. Free service connections are also extended to members of scheduled caste and scheduled tribes (1.60 lakhs connections involving a loss of Rs. 1.92 crores).

Section VI

Financial Resources of the MSEB (VIth and VIIth Plans)

4.34. In our discussion with M.S.E.B. we have drawn attention to the need for adequate generation of internal resources in order (a) to initiate advance action on an adequate number of projects to be taken up at the end of VIth plan or later in VIIth plan as also (b) for augmenting provision for transmission and systems improvement (which have considerably lagged behind). To what extent the financial resources needed to sustain these supplementations to the 6th Plan could be generated needs to be carefully examined. This will need to be viewed against the background of MSEB's performance in the past, its projections for the future at the existing tariff, the State's contribution in the form of R.E. loss subsidy and loans, and the recommendations of the Rajadhyaksha Committee

regarding the return of 15 per cent of capital base etc. and the N.D.C. resolution dated 30/31st August 1980.

4.35. *Financial Position of MSEB.*—Annexure 25 depicts the financial position of MSEB from 1970-71 to 1975-76 at the rates of tariff prevalent in the respective years and also from 1976-77 to 1984-85 at the current rates of tariff. The net surplus (without subsidy on R.E. loss) which was Rs. 1192 lakhs in 1970-71 has arisen to Rs. 7739 lakhs in 1978-79. But in 1979-80, the net surplus without R.E. loss subsidy was only Rs. 3622 lakhs. The projected receipt at the current rates of tariff for the Sixth Plan period (1980-85) would show a net surplus of Rs. 106.78 crores only (without R.E. Subsidy). In terms of rate of return, the rate was 6.9 in 1970-71 and 14.2 in 1978-79 without R.E. subsidy. The rate of return without R.E. loss subsidy works out to only 5.8 per cent, whereas the same inclusive of R.E. Subsidy was 9.5 per cent in 1979-80. The MSEB was given R.E. loss subsidy of Rs. 2360 lakhs in 1979-80 to generate a return of 9.5 per cent over its capital base as guaranteed to the World Bank and accepted by the Seventh Finance Commission. The guaranteed rate of return viz. 9.5 per cent of capital investment comprises 6 per cent interest for capital works 3 per cent profit and 1/2 per cent general reserves. No sufficient surplus resources could be generated under the above formula for new capital works. The magnitude of internal resources presently generated by MSEB through its tariff and other economy measures is far from adequate to finance the capital investment programmes as embarked upon by the Board.

4.36. Comparative position of different SEBs regarding the composition of their resources according as they came from (a) internal generation, (b) Government loans and (c) other net borrowings, with the MSEB's position, as it has emerged at the end of 1978-79, is presented in the table below :

TABLE NO. 4.4

Composition of Resources of Different S.E.Bs.

	per cent distribution of resources		
	Internal Resources	Government Loan	Other borrowing (Net)
(1)	(2)	(3)	(4)
Maharashtra ..	23.9	55.3	20.8
Gujarat ..	24.8	50.9	24.3
M.P. ...	21.7	53.8	24.5
A.P. ...	18.4	54.7	27.3
Karnataka ..	34.2	36.4	29.4
Kerala ..	24.9	41.2	33.9
Tamil Nadu ..	34.2	40.4	25.4

4.37. The internal resources generated by the Board (inclusive of R.E. loss subsidy) compare unfavourably with the position obtained by SEBs in Karnataka, Tamil Nadu and marginally better than the position of SEBs in Gujarat and Kerala. As regards borrowing from the State Government, MSEB with 55.3 per cent stands at the top of list with Karnataka, Kerala and Tamil Nadu having lower percentage of Government borrowings. It is clear, therefore, that MSEB has to generate adequate internal resources by adopting measures such as tariff revision, appropriate economy measures through reduction of T and D losses and other expenditure in order to reduce its present excessive dependence on State Government loans and subsidy. Although the C.E.A. has prescribed the level of internal generation at 25 per cent only, the Rajadhyaksha Committee has recommended the level of internal resource generation nearer to 50 per cent (para 5.47 of their Report). We are generally in agreement with the recommendation of the Rajadhyaksha Committee and accordingly urge upon MSEB to raise its internal resources to the level recommended by the Committee. We do realise that since the principal means by which MSEB can reach this level is tariff revision, it will be difficult for it to reach this level at one stroke. MSEB will have to achieve this objective by revising tariff, in phases. Considering the enormity of MSEB's development programme, it would be necessary to fix appropriate targets for tariff revision for the Sixth Plan period. We are, however, of the view that MSEB should not (save in exceptional circumstances) attempt tariff hikes frequently. We may also suggest that in the revision to be made during 1983-84, MSEB should aim at generating internal resources at 45 per cent. This percentage may be raised to 50 per cent in the tariff revision which will be due in 1986-87 or early in the Seventh Plan. A rationalisation in the structure of MSEB resources on these lines would leave Government with a greater flexibility in the allocation to be made to power sector since the raising of internal resources would correspondingly reduce the R.E. loss subsidy and possibly the loan component as well.

4.38. Apart from raising internal resources of the Board in the manner discussed above, it may be possible to tap borrowings for the Board's Power Development Programme. It will be seen that the borrowings in some of the other States are as high as 33.9 per cent, whereas they constitute only 20.8 per cent in Maharashtra. A quick survey of the principal agencies from which the Board draws funds shows that there may be scope for augmenting resources from these agencies.

4.39. This would however, involve certain policy decisions on the part of the State Government and

M.S.E.B. for which purpose discussions may have to be held with R. B. I., L. I. C., Government of India, etc. We propose to deal with this aspect in greater detail later in our Report dealing with resource availability from financing institutions.

Section VII

Brief Summary of MSEB Tariff Review Proposals— Proposal for Tariff Revision Formulated by MSEB

4.40. The proposals for tariff revision formulated by MSEB envisage an increase of 31.13 per cent in the tariff revenue (see Annexure 23). If these proposals were accepted, the Board anticipates the revenues to increase by Rs. 80.20 crores on the basis of 1979-80 actuals from Rs. 257.60 crores to Rs. 337.80 crores per year. For the full five year period it is expected that these proposals would yield an additional revenue of Rs. 542.32 crores as indicated in Annexure 27, Statement II.

4.41. The Chief features of this revision are as follows :—

(i) The concessional tariff 20 ps / unit for metered supply and Rs. 125/BHP/year for un-metered B.H.P. tariff can be availed of only by the small and marginal farmers. All other farmers would have to pay Rs. 180 B.H.P. per year or 30 ps / unit for metered supply with an opportunity to exercise fresh option (expected to yield between Rs. 6-7 crores per annum).

(ii) Both in respect of domestic and commercial categories, it is proposed to have a single meter tariff instead of 2 separate tariffs, one for L and F and the other for Heat and Small Power. This will secure to the Board savings in the initial capital as well as simplify billings. This system has already been introduced in BEST.

(iii) In respect of H. T. industrial categories, it is proposed to have two sets of tariffs, one applicable to B.M.R./P.M.R. Regions and the other to the rest of the State. The former will be about 11 per cent higher. This will be in conformity with the general policy of the Government to provide incentives for dispersal of industries. We are aware that since a large area in the B. M. R. is serviced directly by the Tata Electric Companies, B.S.E.S. and the B.E.S.T., there will be some disparity in tariff between those that these agencies charge and those that the M. S. E. B. will be charging. We do believe that if the general policy of the Government to disperse industries from the B. M. R. area is to be really effective, ways and means will have to be found to see that the tariffs charged by the B.E.S.T., B.S.E.S. and the Tata Electric Companies in the B. M. R. area are brought, as early as possible, to the level of the rates charged by the M.S.E.B. This could perhaps be done by levy of

differential electricity duty for these areas. The legality of charging of such differential rates of electricity duty will need to be examined. In case there are legal difficulties the Government would have to think of other methods of achieving what we have suggested above.

4.42. *Committee's Approach to Tariff Policy.*— Considering the financial objectives of the Sixth Plan, viz. to mobilise maximum internal resources to finance massive investment programme for power development contemplated in the Plan on the one hand and the relatively discouraging financial performance of the electricity undertakings on the other, it is desirable that we recommend tariff policies and practices that are increasingly oriented towards economic and commercial objectives and discipline. In general, the aim of policy should be to charge an economic price for the supply of electricity and to reduce subsidies as far as possible. In this connection, Rajadhyaksha Committee has observed that—

- (a) Financial returns should be adequate to sustain the growth of the utility without excessive dependence on external finance. A rate of 15 per cent of the average capital base (after providing for operating expenses and depreciation) has been recommended on the assumption that the composite burden of Government and non-Government borrowings does not exceed 7 per cent. Precautions have, however, to be taken to prevent monopolies like SEBs from exploiting consumers;
- (b) Tariffs should be related to both costs and the consumer's capacity to pay;
- (c) Tariffs should discourage waste, promote only justified use of power and increase capacity utilisation by flattening the load curve;
- (d) A distinction should be drawn between the role of a utility as outlined above and the policy of the State to grant explicit subsidies to special categories of consumers and levy duties on others as part of a wider socio-economic objective.

4.43. If these guidelines are to be translated into practical policy prescriptions for tariff making, it would be necessary first of all to agree upon what should be an appropriate rate of return for a SEB to earn on its capital investments. The determination of the appropriate rate of return which SEBs should earn has undergone a certain amount of evolution. The Electricity Supply Act, 1948 under which these Boards were constituted did not wish these Institutes to be profit oriented. The Venkatraman Committee (1964) recommended that the finances

and financial practices of SEBs should be so realigned to fetch a minimum of 9½ per cent return on the invested capital. The State Government has given a guarantee to the World Bank that MSEB would be provided with a Government subsidy to cover its rural electrification losses and enable it to earn a return of 9½ per cent on its average capital base. The Fuel Policy Enquiry Committee (1970) suggested a return of 10 per cent for SEB on their investments.

The Rajadhyaksha Committee has prescribed a rate of return of 15 per cent on the average capital base, i.e. after providing for operating expenses and depreciation. It has also prescribed certain norms for calculating the capital base and the rate of return. Thus according to the Committee, the capital base should be defined as the average at the beginning and at the end of financial year of the total of the gross value of the fixed assets in operation and cost of intangible assets and working capital to the extent of 1/6 th of the administrative and operative costs for the fiscal year reduced by the amount of accumulated depreciation, consumer's Contributions to fixed assets and security deposits from the consumers, i.e., the same base as is used for calculating the return on external borrowings. As regards the return, it should be calculated, according to the Committee, by taking the gross revenue receipts of the Board consisting of revenue from tariffs, subsidy from the Government and miscellaneous receipts like meter rates, licence fees, etc. (excluding receipts from electricity duty) and subtracting from it operating cost consisting of fuel cost, cost of power purchase, administration and establishment charges, operation and maintenance charges and Central excise payments and provision for depreciation of fixed assets in use, and dividing this net revenue figure by the capital base.

We have examined the Rajadhyaksha Committee's recommendations keeping in view the guidelines for tariff review approved by the N. D. C. at its meeting held on 30th/31st of August, 1980 when it *inter alia* emphasised that determined efforts would need to be made to improve the financial returns of State Electricity Boards particularly considering the massive investments which are envisaged for the power sector during 1980-85, and that the *minimum* objective should be to wipe out all losses. It also visualised reduction of budgetary *subsidies* and higher financial returns from public enterprises both at the Centre and States as this offers substantial scope for generating additional resources for financing the investments contemplated in the Sixth Plan. N.D.C. felt that there is a strong case on grounds both of efficiency and equity to reduce subsidies and to charge economic prices for supply of water, electricity and transport services.

We are in agreement with the guidelines of the Rajadhyaksha Committee and suggest that the aim of MSEB's tariff policy should be to endeavour to earn a 15 per cent return on its capital investments, its capital base to be calculated in the manner set out by that Committee. In principle, the tariffs charged by MSEB for any category of its consumers should duly incorporate this rate of return. However, as a monopoly supplier of electricity, MSEB can discriminate between different customers segments by charging differential tariffs but in no case should a single class of consumer be sold power at less than MSEB's short-run marginal cost. The "short-run marginal cost" for this purpose is to be defined, following the norms of the Rajadhyaksha Committee, as the costs of meeting all operating expenses that can be allocated to each class of consumers, i.e. exclusive of the interest on borrowed funds and return on capital. The short-run marginal cost is a *floor-price* which MSEB should by and large seek to recover from all categories of consumers irrespective of considerations of socio-economic policy of the Government. However, if there is any group or region which the State, for meeting its socio-economic objectives, feels should be sold power at less than this cost, MSEB should do so on specific written instructions from the Government to this effect, provided the loss on this account is quantified and made explicit. The Rajadhyaksha Committee has suggested that SEBs should be fully reimbursed these losses by paying to them specific subsidies by the State from the Budget so that the public is aware of the quantum of subsidies paid and who their recipients are and these subsidies can be voted on by the legislature. In the context of MSEB, the Government is already paying subsidy to it for the loss incurred on rural, electrification. At the same time we feel that cross subsidiation is justifiable within limits. The Board should from time to time examine the extent and precise consumer groups for whom subsidised tariffs need to be framed or continued.

4.44. *Recommendations of the Committee.*—In the light of our approach to tariff policy, as discussed earlier, we would like to make specific recommendations in regard to the following:—

- (A) Basic Revision in tariff to augment the level of internal generation of resources.
- (B) Review of the present tariff concessions.
- (C) Rationalisation of the Fuel Cost Adjustment tariff.
- (D) Frequency of tariff revisions.

4.45. *Basic augmentation of tariff.*—We have already drawn attention to the fact that internal generation of the Board accounts for only 23.9 per cent of its total resources, whereas the loan component from Government and other sources accounts for as much as 76.1 per cent. In the context of the Rajadhyaksha Committee's recommendation, which we endorse, that the internal generation of resources should be around 50 per cent, the need for augmentation of the Board's internal resources is thus obvious.

4.46. We have already indicated our endorsement of the Rajadhyaksha Committee's recommendation regarding the 15 per cent return to be targetted on average capital base. Both on theoretical consideration and also from the point of view of raising the Boards' capacity for internal resource generation and reducing Government subsidies, a policy objective of earning a 15 per cent rate of return on capital base without R.E. loss subsidy is amply justifiable and we generally support this recommendation. Nevertheless, keeping in view the steep tariff hike which may have to be initiated to earn additional revenue to meet the Rajadhyaksha Committee's target, a more cautious approach may have to be considered. Besides, the Rajadhyaksha Committee envisages direct State subsidies for specific tariff concessions granted by MSEB as per directions of the State Government, which we do not support. In view of all this, it is our considered view that Rajadhyaksha Committee's targetted return of 15 per cent plus $\frac{1}{4}$ per cent for R and D exclusive of R. E. loss subsidy may not be reached immediately.

4.47. At our request, MSEB made an exercise to compute the year by year additional revenue required to be generated during the Sixth Five Year Plan to earn a 15 per cent return plus $\frac{1}{4}$ for Research and Development (See calculations shown in the working sheet at Annexure 27).

It has been calculated that over a 5 years period, i.e. 1980-85, the additional revenue which would need to be mobilised to yield 15 per cent return *without R. E. loss subsidy* plus a $\frac{1}{4}$ per cent return to cover costs of R and D would be of the order of Rs. 617.16 crores over and above the effort already initiated by the Board. Additional mobilisation of this order over and above the tariff revision under consideration would hardly be prudent or practicable for obvious reasons. However, a further step up from 1st April 1983 onwards to earn a return of 15 $\frac{1}{4}$ per cent (without R. E. loss subsidy) on the average capital base applicable could be recommended so that at least during the last two years of the current plan the Board is enabled to earn revenue to reach the prescribed return.

As will be seen from Annexure 27-II, the additional mobilisation necessary to achieve this limited objective would be of the order of Rs. 257.93 crores. It is also pertinent that as a result of this mobilisation effective from 1983-84, M.S.E.B. would generate internal resources of the order of Rs. 895.03 crores during the five year period which would come to 45.6 per cent of its capital programme. The target of 50 per cent internal resource generation recommended would have thus been nearly realised. This analysis would demonstrate that the target of achieving 15½ per cent return on average capital base from the year 1983-84 onwards with the overall generation of the order of 50 per cent may not really be, difficult to achieve. It would be seen from last column of Statement III of the Annexure 27 that for realising this objective of internal resource generation of 50 per cent over the five year period, a further mobilisation of the order of Rs. 86.20 crores would be needed. This could be partly covered in 1983-84 revision or a portion may be left over for being covered early in the seventh plan.

4.48. In any case, once this tariff hike becomes operative from later in this year, it is expected that the R.E. subsidy during the five year period would get reduced to Rs. 139.79 crores. Actually in the year 1981-82 ordinarily subsidy of only Rs. 49.72 crores is likely to become payable in accordance with the present criteria for sanctioning such subsidy. In the subsequent three years, the subsidy may get reduced to a nominal level or may get eliminated altogether depending upon the actual mobilisation effort initiated. Though the overall surpluses resulting from the tariff revision may obviate the need to pay the subsidy in future years, the fact remains that on account of rural electrification and because of the other concessions sanctioned at Government instance the Board's resources may be affected adversely. While we basically endorse the Rajadhyaksha Committee's recommendation that the tariffs should be cost based and the Board should generate adequate internal resources (say 50 per cent as recommended by Rajadhyaksha Committee) this does not preclude such cross subsidisation as is considered necessary and feasible. While the basic approach for charging of power supply should, as a rule, be as stated above, in practice, it may not always be feasible for the Board to charge the full cost-based prices in all cases and this may lead to difficulties in raising its internal generation capacities to the levels recommended by the Rajadhyaksha Committee. As indicated earlier, the raising of the internal generation capacities to the level of 50 per cent recommended by the Rajadhyaksha Committee over the five year period as a whole may need additional mobilisation of the order of Rs 344.13 crores. Since any further mobilisation over the one under con-

sideration by Government may not be possible immediately, there may be no option but to reach the levels recommended by the Rajadhyaksha Committee in stages. We would, therefore, recommend that attempt in this direction may be made in 1983-84 and to the extent to which the task remains unfinished, a further review of tariff may have to be done at the appropriate time in the Seventh Plan. In order that the entire burden for reaching higher level of internal generation is not cast on tariff hike, we urge that the Board should simultaneously do its utmost to economise on various fronts viz. T and D losses, inventory levels, staff costs etc. so as to reach the prescribed return level. To sum up, as a result of our recommendation, from the year 1983-84 onwards at least, MSEB would have to strive to earn a return of 15½ per cent on its average capital base keeping in view the objective of reaching a level of internal generation of resources of the order of 50 per cent through appropriate tariff review and other measures. The Board will have to be extremely vigilant about it so that the shortfall in reaching the level of revenues indicated by these twin considerations are identified in time and corrective action to remedy the situation over a period of time could be initiated.

4.49. Since the changes in the fuel costs are taken care by the F.C.A., it should not be difficult to anticipate the price escalations in regard to other consumables, administrative costs as well as the capital programme to be taken up during any Plan period. To the extent to which these estimates are sufficiently realistic, frequency of tariff revision would be obviated. Our general view in this regard has been that over two Plan periods it should ordinarily not be necessary to resort to tariff revision more than three times.

4.50. *Concessional Tariff to Agricultural Consumers—Review of present tariff concession.*—The Agriculturists have been agitating for the lowest possible energy tariff and also for an H.P. tariff on the lines of a system of unmetered supply, based on H.P. billing, already prevailing in States like Uttar Pradesh, Punjab, Haryana. There was also a 'meter hatav' campaign mainly promoted by errors in billing as well as excesses in meter readings. As a consequence, Government issued a directive permitting MSEB to supply electricity to farmers at the lowest possible energy tariff. The farmers were accordingly given an option of getting power either on energy tariff based on metered supply or H.P. tariff. As a result of this concession, the Board has been incurring a revenue loss in both the cases. The small and marginal farmers, whose consumption was fairly low, opted for energy tariff which itself was highly subsidised (20 Ps/unit as against the cost to MSEB of 51.80 Ps/unit); while the farmers with larger

consumption including lift irrigation societies naturally opted for H.P. tariff because their consumption was several times larger than that covered by the H.P. Tariff. The larger agricultural consumers thus paid much less than they would have paid if charged on the basis of K.W.H./BHP. The effect of this rating has been to encourage unrestricted consumption of power by the farmers with the consequent dent on the Board's resources. It has been estimated that during 1979-80 itself this subsidy had cost the Board Rs. 44.27 crores. This burden would increase as additional pumps (2.50 lakhs) are energised during the Sixth Plan.

It is clear that under these circumstances it would not be advisable to charge cost based Agricultural tariff in one stroke in view of the stiff resistance it may evoke from farmers. A revision in the agricultural tariff in a phased manner will therefore be necessary. In our view, to begin with, the following steps may be initiated :

- (i) The System of unmetered supply should be Completely discontinued. No consumer should be given supply without a meter.
- (ii) For small and marginal farmers, the existing subsidised metered tariff of 20 Ps/unit should be continued.
- (iii) For all other agriculturists, a rate of 40 Ps/unit should be made applicable.

It will be noticed from details given in Annexure 31 that the average revised tariff (proposed) works out to 31.91 paise per unit. Thus even the revised rate (proposed) for irrigation purposes for other than small farmers viz. 30 paise per unit would actually be a little lower than this average rate. The other classes of consumers pay much higher than this average rate. Besides, even the proposed rate of 30 paise per unit now under consideration does not yield the full return of 15 ¼ per cent, which we have recommended; but it enables the Board to achieve a return of only 9.5 per cent. Therefore even after the revision now under consideration by Government, the irrigation consumers would continue to be subsidised on a substantial scale. It is in this context that we recommend that the proposed rate of 30 paise needs to be further raised to 40 paise at the next available opportunity.

These changes should be considered for implementation at the earliest possible time, in any case not later than 1st April 1982. We would have liked if recommendation of discontinuance of un-metered supply could be implemented even from an earlier date as M.S.E.B. does have enough stock of energy meters which can be used in going back to metered tariff system. We are aware that this is rather a sensitive issue. The suggested

tariff revision, however, would check unrestricted energy consumption by relatively prosperous farmers and also confine the concessions to small and marginal farmers, i.e., only to the relatively weaker sections amongst the agricultural community. In fact, it would be necessary in due course to raise the tariff even for small farmers from so low a level as 20 Ps/unit to 25 Ps/unit as in Gujarat. In our judgment the concessional rate of 40 Ps/unit for 'other farmers' should also be discontinued in a phased manner by the end of the Sixth Plan. Needless to say, the adoption of such costbased approach to tariffs charged to the agriculturists is warranted because of the twin considerations of energy conservation and resource mobilisation.

The Committee is, of course, deeply concerned about the farmers' grievances concerning wrong billing and meter reading. We understand that the Board is seized of these complaints and has already initiated action to eliminate the grievances by undertaking such measures as better recruitment policy in regard to operating staff, better vigilance through streamlining of administration and spot billing. Computerisation of billing and staggering of meter reading are also expected to improve the efficiency and accuracy of the system. The Board is presently facing a difficulty in procuring the requisite supply of good and sturdy meters. There is a need for augmenting the production capacity for meters of first-rate standard. We may suggest MSEB should look into this problem seriously by providing, if necessary, adequate funds under R and D.

The MSEB has on our suggestion worked out the cost of supplying power to various consumer groups on regional basis. The calculations take into account both operating costs plus depreciation as well as full economic costs to indentify the level of subsidy implicit in the present tariffs. Annexure 31 indicates the details and basis of these cost calculations. The calculations indicate the extent of subsidisation in the proposed rates. The data furnished by the Board has been summarized as follow :—

TABLE NO. 4.5
Revised (Proposed) Tariff Rates for different consumers

Category	Cost of supply Ps/Unit	Revised Ave. Tariff Ps/Unit	Difference Ps/Unit
Domestic ..	51.80	34.98 (—)	16.82
Commercial ..	51.80	52.50 (+)	0.70
L. T. Industrial ..	51.80	44.47 (—)	7.33
H. T. Industrial ..	24.49	32.48 (+)	7.99
Street Lighting ..	51.80	31.73 (—)	20.07
Traction ..	24.49	31.03 (+)	6.54

Category	Cost of supply Ps/Unit	Revised Ave. Tariff Ps/Unit	Difference Ps/Unit
Bulk sale to Tatas ..	20.65	29.68 (+)	9.05
Bulk Sale to Distributing Licensees.	24.49	33.77 (+)	9.25
Irrigation ..	51.80	21.97 (—)	29.83

(1) (—) Sign indicates the extent of subsidisation per KWH sold. The tariffs which are so subsidised are all Low Tension Categories of consumers.

(2) All other tariffs i.e. H. T. Industries, Bulk Sales etc. are not subsidised and there is in fact 15-20 per cent surplus.

(3) The above cost of supply is based on actual of 1979-80 operation. In that year, the Board earned a return of 5.75 per cent without subsidy and 9.5 per cent with R.E. loss subsidy.

The table reveals that even after the introduction of the revised tariff some low tension categories of consumers and agricultural consumers will continue to be subsidised.

4.51. *Tariff for Power Intensive Industries.*—We are of the view that the subsidies given to power intensive industries should be gradually phased out. The MSEB has concurred in our view and has accordingly incorporated this suggestion in the tariff revision proposals it has recently submitted by hiking the rates charged for these industries but not to the extent the other industries are required to pay. They have however, clarified that although the revised concessional tariffs for these industries is lower than that charged for other industries, it is pegged above the Board's short-run operating costs, so that no subsidy is involved on marginal pricing cost basis. The Board will, however, be able to generate extra revenues if the power intensive industries were to pay tariffs at the same rates as are charged for other industries. The Board informed us that no concessional tariff exists for these industries in the non-MSEB areas.

The concessional tariff at present enjoyed by power intensive industries is shown below :

	General Industries	Power Intensive Industries
Demand charges ..	Rs. 16/KVA*	Rs. 12/KVA
Energy charges ..	Ps. 11/Unit* + FCA	Ps. 9/Unit + FCA

*Revised Rs. 20/KVA 24 Ps/Unit Ps/Unit +
/Revised Rs. 20/KVA 22 Ps/Unit + FCA

In overall terms, the difference between the general industries and power intensive industries works out to

be about 3.5 to 4 Ps/Unit. The number of power intensive industries enjoying this concession is 12, and these consumed 664 MUs as compared to 2606 MUs by industries other than power intensive industries during 1979-80. They account for 20.30 per cent of the total consumption by industries. The revenue lost in subsidisation is Rs. 2.65 crores.

There is a strong opinion in favour of total discontinuance of concessional tariffs charged to power intensive industries on the ground that these industries can easily absorb the burden of the withdrawal and in any case there is no social justification for subsidising these industries at the cost of MSEB resources. The cost-based tariffs charged to these industries will also lead to energy conservation. The Committee of Officials (1978) constituted *inter alia* to define power intensive industries and the nature of concessions required by them recommended withdrawal of the concession in tariff within 3 years and bring them on par with General Industries consuming HT power. There have been misgivings that any sudden withdrawal of the concession may result into some of these industries falling sick. We have, however, been assured that such a situation may not develop partly because similar industries in non-MSEB areas, which do not get the benefit of any such concessions, have not fallen sick and partly because these industries are of such a type as can absorb this burden either through adjustment of the selling price or through appropriate economies in cost of production or other R. and D. measures. Although the Committee of Officials had recommended withdrawal of the concession by MSEB after providing a corresponding relief through exemption in the payment of electricity duty, we feel that the withdrawal of the concessional tariff can easily be brought about in 2 phases (without offering any reduction in electricity duty) after carefully watching the impact on the industries affected in the 1st phase of the withdrawal of the concession. In fact, these industries could, with adequate notice, be taxed at higher rates than charged for the general industries because of their heavy drawal on energy which needs to be conserved. We would also like to suggest that these industries should examine the cost benefit of generating their own supplies of power through installation of the diesel sets. The power thus released could be made available to meet the current shortages.

4.52. Other concessions in tariff given by MSEB relate to (1) Sick Industries (Rs. 1.65 crores), (2) Gram Panchayats (Rs. 60 lakhs), (3) Scheduled Castes and Tribes (Rs. 1.82 crores) and (4) Rural drinking water schemes (Rs. 44 lakhs). These concessions have been given at the instance of the State Government for achieving socio-economic goals of Government policy.

The Rajadhyaksha Committee has recommended that such costs should be borne directly by the State Government. In our judgement, however, since the State Government already bears heavy burden in one form or another for these classes of consumers, it would be appropriate that the cost of such concessional tariffs is met by MSEB through cross-subsidisation.

4.53. *Concessional Tariff for off peak consumptions.*—The feasibility of introducing an off peak tariff (particularly during night) for all bulk consumers who take loads of 1 MW and above so as to flatten the load curve was carefully considered by us. On close examination of the present situation, when night loads are quite high and thermal power stations have no surplus capacities, we believe that any further shifting of peak loads to night would necessitate the running of hydro stations also at night, which will result in using up water in lakes within few months thereby causing heavy load shedding in other periods of the year. There is also the problem of monitoring night load consumption in that the country also does not produce time differentiating meters of reasonable reliability; and the alternative equipment used viz. time switch coupled with a trivector meter is very costly which few industries can afford. Adequate supply of cheap, reliable and good quality energy meters with built in time switches is absolutely essential if a concessional tariff for off peak consumption is to be introduced. Further, the pressure of power demands has been so great that a conscious diversion of load to nights has in fact been practised effectively by Government at the time of sacking fresh or additional load even *without the bait of any concessional tariff*. We, therefore, feel that there is no real need for a special off peak tariff in the present context.

4.54. *Concluding Remarks.*—We are happy to note that in formulating their proposals for revision of tariff, the Board has already initiated some action which designed eventually to bring its tariff into full conformity with the principles and norms which were discussed with the Board by the Committee. The prescription of a higher tariff (by about 14 per cent) for HT industrial categories in BMR/PMR areas as compared to the rest of the State, the curtailment of the tariff concession to no-marginal farmers, and the prescription of a metered supply to all Agricultural Consumers at a differential rate of tariff according to the level of consumption (as a measure of restraint on wasteful consumption) are illustrations of these changes.

4.55. *Fuel Cost Adjustment Charge.*—The formula for fuel cost adjustment charge (which enables full recovery of fuel cost over and above the basic cost

assumed in the tariff rate) was designed about 15 years back. The MSEB has proposed to review the same to bring it in line with subsequent developments such as :

(a) The increase in thermal efficiency that has occurred from about 21 per cent to nearly 32 per cent because of the growth in size of the thermal units.

(b) The change in the pattern of generation as well as in the pattern of sales that has occurred over the years.

The revised formula which the MSEB seeks to adopt is appended at Annexure 26. The existing formula is to be modified in three respects viz. (i) the increase in the base charge from Rs. 10 per Million Kilo Calories of fuel delivered to Rs. 12 per MKC; (ii) the method for calculating the variation in excess of Rs. 12 per MKC; and (iii) the procedure for recovery and adjustment of the provisional FCA.

The FCA is presently applicable to only the HT consumers on the ground that the number of these consumers (4000), who account for 80 per cent of the total consumption, being small, it is least costly and most convenient to recover the charge from this class instead of spreading the cost over the entire range of consumers involving vexatious billing and adjustment problems. This appears to us a reasonable method of recovering escalation in fuel costs. However, the current practice of adjusting fuel cost at the end of each financial year on the basis of an assumed average monthly rate would need to be reviewed because the adjustment accounts remain pending for too long. A six monthly computation of FCA and adjustment on the basis would be desirable. The formula operated by TATAS and BEST and the BSES would need to be studied particularly because the FCA charges are substantially different in their case.

Section VIII

Scope for improvement of performance

4.56. The yawning gap between the demand for power and supply thereof to which we have referred to in an earlier Chapter, can be partly corrected if adequate attention could be paid by M.S.E.B. to : (i) Performance of Thermal Power Stations, (ii) reduction in T. and D. losses, (iii) proper maintenance of inventories and (iv) a measure of control of its rural electrification programmes. The problems arising out of these aspects may have to be tackled through R. and D. The performance of the M.S.E.B. in regard to these vital factors affecting power supply are briefly discussed in the subsequent paras.

4.57. The M.S.E.B. is one of a few well-magaged Electricity Boards in the country. It is managed by

a Board of Directors, comprising mainly of professionals, headed by a Chairman—who is from the engineering faculty and consisting of a Technical Member, and Accounts Member and a Member-Secretary who belongs to the I.A.S. A few (3) non-officials members have recently been added. The Professional Composition of the Board has been one of the main factors responsible for its efficient functioning. Such a composition is conducive to speedy and result-oriented decision and promotes an approach to policy making which is free from extraneous pressures and influences. We accordingly recommend the continuance of the present composition in the future as a matter of policy.

4.58. *The performance of the M.S.E.B. Thermal Power Stations:*—Performance of M.S.E.B. Power Stations during 1979-80 is presented in the Annexure 28-B. It will be seen that the overall "Plant load factor" PLF during 1979-80, which is considered the worst year, has been as high as 56.2 per cent. With the exception of the Nashik III, Koradi IV and V and Khaperkheda all the other Stations have consistently shown higher than 60 per cent plant performance. The Parli Power Station topped the all India list in 1978-79 and won a national Award. In fact, M.S.E.B.'s performance is not only consistently best in the country (All India Average 45 per cent) but has shown a steady improvement over the past few years (see table below) :

TABLE NO. 4.6

Performance of M.S.E.B. over the last 5 years

Year				M.S.E.B. KWH/KW Performance
1975-76	..	..	..	5323
1976-77	..	..	..	5507
1977-78	..	..	..	5943
1978-79	..	..	..	5974
1979-80	..	..	..	6123

No other State Electricity Board except Gujarat (48.4 per cent) and M. P. (53.1 per cent), Plant load factor is any where near Maharashtra. We understand that the performance of these Stations even during 1980-81 indicates that the higher levels have been maintained.

4.59. *The average performance in terms of plant utilisation factor of all M.S.E.B.*—Thermal Stations taken together (See Annexure 28 A and B) is the best in the country. Despite the constraints of coal supplies, its quality (poorer grades of coal in relation to what the set design could accept), unsatisfactory performance of sets supplied by BHEL, M.S.E.Bs' thermal plant utilisation performance has been exemplary. Similarly

the availability factors of all M.S.E.B. Stations taken together has ranged between 82.6 per cent and 89.63 per cent (The large high pressure reheat units at Nashik have recorded an availability of 91.67 per cent and 93.99 per cent) which compare very favourably with the best in the world and reveal a high level of performance and of the standard of maintenance of plant and efficient operation as well as technical competence. We understand that the scope for increasing the plant load factor of Thermal Stations of M.S.E.B. is limited.

4.60. We note with satisfaction the arrangements made by M.S.E.B. for capital maintenance through the organisation of two centralised maintenance groups—each group consisting of 3 qualified engineers and 33 technicians and equipped with tools, tackles and precision instruments which enables pooling of expertise, accumulation of experience and keeping the teams fully engaged from job to job is apparently adequate. M.S.E.B. also plans its maintenance programme utilising the PERT-Net Work thereby reducing the period of annual forced outage substantially. The M.S.E.B. has also set up a system of preventative maintenance by using the Bradma system. We recommend that the capacities of these units need to be augmented to keep pace with the increasing new units to be maintained as new capacity is added.

4.61. As regards the difficulties arising from the new power plants such as repeated shut downs which prevent attainment of full capacity utilisation in short-time because of defects of design and manufacture it is necessary for BHEL to improve its efficiency both in regards to manufacturing and observing its delivery schedules.

4.62. For improving performance we would like to recommend as follows :—

(i) *Problems of supply of coal.*—We understand that M.S.E.B.'s stocking policy have been in conformity with the National norms and consistent with economy of operations, and that efforts made by it as also by the W.C.L. to maximise coal supplies even at the high cost of transport by road and by accepting poorer grades, have been adequate. All the same, we emphasize the need for further adjusting W.C.L.'s programme to suit the power development plan since the latter is known fairly in advance.

(ii) *Problems of quality and quantity of coal supplies.*—
(a) Since the problem is basically one of organising close co-operation and coordination between W.C.L. and MSEB a high level Co-ordination Committee at the level of Chief Engineer would be useful. The establishment of Power Stations nearer the pit heads as also the development of the Silewara and Kamptee

mines to full capacity to meet Koradi's eventual needs must also be stressed.

(b) The diversion of the Ambi River to unlock 35,000 million tons of coal lying beneath (Centre having already agreed to bear the cost of Rs. 20 crores) needs to be pursued. The M.S.E.B. and W.C.L. should organise long term studies to carefully study the benefits and techno-economic, feasibility of establishing beneficiation plants.

(c) As there are real difficulties in securing quality coal, time has come for BHEL to develop boilers which could function effectively even on the basis of low grade supplies of coal. The feasibility of using alternative fuels such as "bagasse" already used by Sugar Factories for generation of power would need to be examined by M.S.E.B. as part of its R and D programme.

4.63. *The M.S.E.B.'s T and D losses.*—Though these have shown a slightly downward trend in 1979-80 before which they were higher ranging 17.36 per cent to 17.50 per cent, the position as compared with the all India average of 19.50 (1977-78), looks satisfactory. The Board has pointed out that owing to introduction of H.P. tariff for agricultural consumers, almost 50 per cent of agricultural consumers are not metered at all. This leads to difficulties in determining accurately the percentage loss in the system as a whole. Yet the trends in other States particularly U. P., Punjab, Kerala show a downward trend. The T and D losses of M.S.E.B. look very high in comparison with some other States.

	(Per cent)
Maharashtra	17.40
West Bengal	12.00
Kerala	14.40
Karnataka	16.34

The 10th A.P.S. Committee had recommended that efforts be made to bring down the total T and D losses to 18.5 per cent on all India basis by the end of 1983-84. The Rajadhyaksha Committee has recommended that effort needs to be made at the All India level to reduce these losses gradually from 18 per cent in 1982-83 to 15 per cent in 2000-01 and added that had it not been for the policy of rapid spread of rural electrification even lower T. and D. losses could have been aimed at.

4.64. The M.S.E.B. pointed out that it has been constantly improving the T. and D. system and that they have established a Special System Improvement Circle for the purpose of studying distribution systems, particularly those systems suffering from low voltage. Not only the new 220 KV substations are being commis-

sioned, but R.E.C. has sanctioned 23 System improvement Schemes. The Board is also installing 11 KV capacitor banks at 33 KV Sub-Stations with a view to improving the power factor. The Board is not in a position to quantify the actual reduction in T and D. losses likely to result from these measures.

4.65. The view of M.S.E.B. has been that it would be extremely difficult for it to bring down the T. and D. losses because of a number of constraints such as: (i) extensive R. E. pump energisation programme carried out, (ii) long length of transmission and distribution net work needed to connect villages, (iii) large number of transmission lines required to be installed to connect villages and pumps, (iv) lower load density and poor load factors for agricultural consumers. Further more the Board has pointed out that its efforts in reducing losses through continuous improvement in the system of transmission and distribution are seriously handicapped because of (a) inadequacy of allocations in the State Plan for transmission; and (b) total inadequacy of the Plan grants allocated by D.P.D.C. (Rs.10.34 crores) for the system improvement programme involving a total outlay of Rs. 50 crores (comprising installation of H.T./L.T. shunt capacitors 33/11 KV transformers with LTC, construction of new 11 KV and 22 KV and 33 KV feeders, installation of automatic voltage boosters etc.). The backlog in regard to transmission programme and the system improvement which is well over Rs. 198 crores (Rs. 157 crores plus 41 crores respectively) would now cost much higher in view of the escalation in cost of material and labour.

4.66. The Rajadhyaksha Committee had suggested that as a rough thumb rule for investment in T. and D., the ratio of expenditure on generation, transmission, distribution and Rural Electrification should be 4: 2: 1: 1 i.e. 50:50 between Generation and Transmission and Distribution. On the basis of all India figures it is seen that except for the 1st and 4th Plan, the investment in T. and D. and R. E. has not been anywhere in the neighbourhood of 50 per cent, as recommended by the Rajadhyaksha Committee. It has been only 40 per cent as at the end of the 5th Plan. This backlog in investment in T and D. leads to rising T. and D losses. The speed of Rural Electrification with its long distribution lines and low load densities adds to the T. and D. losses.

4.67. We are in full agreement with M.S.E.B. that all impediments to quick implementation of a system improvement and transmission programmes need to be eliminated particularly if we realise that every 1 per cent reduction in line losses could, apart from improving reliability of supply of voltages to the consumers, would yield to the Board an additional

revenue of the order of Rs. 7 to 8 crores per annum. We would therefore recommend that—

(i) A comprehensive programme for strengthening of transmission and systems improvement be drawn up taking into account the current trends in prices as also the recommendations of the Rajadhyaksha Committee. This will of course require an additional provision for transmission and system improvements in the 6th Plan for which appropriate re-adjustment should be made in the inter priorities of the Plan.

(ii) We would like to suggest that the allocations made in the Plan for System Improvement should be removed from the purview of D. P. D. C.s and like the R. E. C. programmes, should be brought under the direct purview of the Planning Department which should make the necessary allocations in consultation with M.S.E.B. The concerned D. P. D. C.s would in that case be obliged to provide for the necessary outlays for system improvement automatically. This would remove the present uncertainty surrounding these programmes.

The M.S.E.B. should try to reduce the losses progressively to 12 per cent over the next two plans

1982-83	15.50 per cent
1983-84	14.50 per cent
1985-90	12.00 per cent

through appropriate investments in transmission lines, system improvement and R. and D., on design of cheap capacitors, small transformers etc. to secure reduction in these losses.

(iii) We recommend that all supply should hereafter be metered. It should therefore be possible for the Board to monitor its losses and have a firmer grip on the problem.

4.68. *Urban Renovation.*—The quantum of renovation of urban distribution system has also assumed considerable importance.

4.69. Renovation of the power distribution system in urban areas like Aurangabad, Nashik, Kolhapur, Solapur, Pune, Nagpur, Bhandup, Bhivandi has become a matter of urgent necessity because of the ageing of the equipment (which has become very old) and the great strain due to ever increasing loads. The Board has pointed out that the existing systems are totally inadequate to meet the demands of the additional load and the resultant low voltage and system losses are very high. The urban losses have been as high as 8 per cent in Nagpur and 7.42 per cent in Pune. These have

also shown a tendency to increase as will be seen from the table below:—

	Nagpur	Pune
1977-78	6.61	5.66
1978-79	5.44	7.09
1979-80	8.00	7.72

4.70. The interruptions and line losses and voltages affect industrial and commercial activity due to unreliability of the supply. These cities give a considerable amount of revenue to the Board and the service expected is also of a high standard. The loads in these areas are growing very rapidly and it is necessary that adequate funds are made available for meeting the rising loads efficiently. The Board urged the Committee that it should recommend to the State Government to provide adequate allocations for urban renovations in the State Plan. These allocations should be outside the purview of the D. P. D. C.s which do not provide adequate funds for the purpose. The Board also urged upon us to recommend for authorising it to draw appropriate loans from Commercial Banks for urban renovations. The efforts of the Board to draw loans for this purpose from the Nationalised Banks have not been fruitful despite willingness on the part of the Banks to lend to M.S.E.B. One of the reasons for this is the policy of the R. B. I. not to permit the Banks to provide loans to M.S.E.B. for the renovation schemes. The Committee is concerned with the delay in carrying out urban renovations which would not only yield additional revenue for the Board but also additional employment opportunities in the various firms benefiting from the renovations. We are particularly unhappy over the R. B. I. stalling advance of loan by Commercial Banks for these programmes despite the fact that—

(a) the schemes themselves being fully viable and capable of sustaining the Commercial rate of interest, and capable of being repaid in about 8-10 years;

(b) the schemes would add to employment and trade opportunities in urban areas; and

(c) the fact that the Banks would have in the normal course been permitted to provide loans to the former private Licensees operating in the areas and the mere change in the agency now operating the licence should not stem the flow of commercial banks' loans to the programme.

We would therefore recommend that the matter should be pursued at the highest level with the R. B. I. and the Finance Ministry to enable M.S.E.B. to draw the requisite loans from the Commercial Banks enabling the Board to eventually reduce the losses in urban areas by about 3 per cent to 4 per cent in the next four years

as it would be relatively easier to check these losses in urban areas.

4.71. We are informed that the R. E. C. which was financing Systems Improvement Schemes upto 1979-80 has stopped sanctioning further loans in view of the fact that the P. C. have not approved of placing any funds at the disposal of R. E. C. for this purpose. We would recommend that M. S. E. B. as well as the State Government should impress on the P. C. as well as the R. E. C. to resume the grant of loans for Systems Improvement in view of the vital importance of the programme in conserving energy losses and bringing to the system a fair amount of reliability.

4.72. Presently, the Board's Plan Schemes are divided into two portions, i.e. the State Level Schemes and the District Level Schemes. The Generation and Transmission Projects, the Acquisition of Licensees, General Assets etc. are included in the State Level Schemes for which the Budget Allocation is made by the State Government. The District Schemes are however categorised as District Level Schemes, the funds for which are allotted by various District Planning and Development Councils (D. P. D. C.s). In line with the State Government's policy of according high priority to power schemes, the State Level Power Schemes mentioned above get an allocation of more than 40 per cent of the State Level Plan. The D. P. D. C.s however give a low priority to the Power Distribution Schemes and allot only 9 per cent to 10 per cent of the District Level Plan to these Schemes. This low importance and inadequate provisions of the distribution schemes prevents the Board from planning and constructing a strong distribution network which in turn results in higher distribution losses, poor voltages, numerous interruptions which result not only in loss of agricultural and industrial production but also in loss of revenue to the Board. Annexure 29 indicates for the last three years the needbased amounts required by the Board and the allocations made by the D. P. D. C.s.

There is also a sustained political and social pressure on the Board to energise more and more irrigation pumps. In fact, even the definition of electrification of a village indicates that even if one pump is energised in a village, it is to be declared as electrified. This emphasis on pump energisation has two adverse impacts on the Board's financial operations. First, the Board has to raise large amounts outside the Plan from Nationalised Banks, A. R. D. C. etc. for completion of these higher targets. These loans have to be taken at high rates of interest (12 per cent to 14 per cent). Second, as pointed out in para 4.50 the Board loses 29.83 paise on every unit supplied to the Irrigation Pumps. When

the total power availability is limited, emphasis on energising more pumps and supplying more power for lift irrigation would only mean increasing the losses of the Board, specially when this power supply is done at the cost of power supply to other consumers like H. T. Industries, commercial consumers, etc. which give the Board the revenue surplus.

The inadequate allocation by the D. P. D. C., which has to be spent mostly on energisation of pumps leaves very little money for giving connections to the industrial units, domestic consumers, etc. in the rural areas. Apart from adversely affecting the Board's revenue as mentioned above, it also adversely affects the State Government's policy of dispersal of industries to backward areas. We therefore recommend that power distribution schemes should not come under the purview of the D. P. D. C.s but should be treated as State Level Schemes and Board should be allowed to plan and execute them in full co-ordination with the generation and transmission schemes. This will enable the Board to formulate an integrated power development plan and to obtain its revenues.

4.73. The irrigation pumps draw heavy reactive power (useless components of the current). All this reactive power has to be generated at the power stations, transmitted throughout the transmission and distribution lines which not only overloads the power stations but also results in higher T. D. losses. To combat this problem the Board has in its tariff structure introduced penalty if the consumer keeps the power factor below 0.85. However, in the case of the agriculturists and rural consumers it is impossible to monitor and enforce this condition. Alternatively the Board insists that each agricultural consumer should instal capacitors at the terminals of his motor and ensure for himself a regular and reliable supply of power with high power factor. However, this condition cannot be enforced in respect of about 4.3 lakhs of old agricultural consumers, who are prepared neither to instal their own capacitors nor to pay rent to the Board if the Board instals them. The consequent loss of power amounts to an equivalent power cut to other consumers particularly under conditions of severe power shortages through which the State is passing. Under these circumstances, we recommend action in the following three directions:—

(a) The speedy implementation of systems improvement scheme calculated to augment the transmission and distribution capacities and improve the load factor. The Rs. 51 crores System Improvement Programme drawn up by M.S.E.B. which has run into trouble because of inadequate allocation of resources by D.P.D.C.s (only Rs.10.34 crores have been allocated by D.P.D.C.s) needs to be implemented

swiftly by ending the dependence on D.P.D.Cs for the implementation of the programme. The R.E.C. should also lend a helping hand in financing these programmes,

(b) Allocation of adequate funds and scarce material for the construction of transmission lines required for enabling efficient and reliable operation of the system. The M.S.E.B. has pointed out that the transmission programme has lagged behind and that an investment of Rs. 150 crores would be necessary to clear the backlog.

(c) Provision of alternative rural energy supplies which will reduce the incidence of line losses in rural distribution through decentralising generation. A number of captive sets (aggregating to 280 M.W.) are at present functioning in industrial sectors to augment their power supplies. The industries may be willing to instal these sets at their own expense in rural areas provided they are assured of an equivalent extra power in their respective industrial units. The M.S.E.B., the concerned industrial units and Government should sit together and explore the possibilities of these schemes. Similarly, the use of wind mills, solar pumps, bagasse shall be encouraged.

We would further suggest that in the rural situation where most of the demand for power is for agricultural pumps or for lights and fans, the device of wind mills for deriving power needs to be developed and propagated particularly for areas where wind velocities are favourable. The development of solar devices would also need to be pursued. We later recommend that M.S.E.B. should spend adequate funds on R and D in these and other areas, as the investment would, apart from yielding rich dividends to Board would to the extent to which it brings about conservation of consumption of energy devised from thermal or diesel sources, be in the long term overall national interest.

4.74. Inventory Norms and Scope for Economy.—The present position of inventory i.e. stores in hand as on 31st March 1980 was Rs. 56.47 crores. The rough break-up of this value sector-wise is as follows :—

	(Rs. in lakhs)	
(i) Generation	596	
(ii) Transmission	576	
(iii) Distribution	1,630	2,802
(iv) O and M and spares	1,800	
(v) Coal, Fuel, Oil, etc.	442	
(vi) Obsolete scrap and Misc.	603	2,845
Total	5,647	

It is seen that the value of stores acquired for capita programme was Rs. 28 crores only as against a capital programme of Rs. 292 crores undertaken during 1979-80

and amounts to just 10 per cent. Similarly, the inventory for O and M purpose, including coal and oil etc. was of the order of Rs. 22.4 crores, which also constituted a small proportion of the total operating expenditure of Rs. 257 crores during 1979-80.

As regards coal and furnace oil, the Board stocks are extremely poor and in fact hand to mouth. The value of stock was Rs. 4.42 crores as against the annual expenditure of Rs. 64.14 crores, which is hardly 7 per cent in terms of value. As regards O and M and Spares required for transmission and distribution, the value of inventory was Rs. 18 crores as against the O and M expenditure (excluding general establishment) of Rs. 43.37 crores.

It was explained that it has not been possible to either formulate or follow any specific norms for inventory either for capital or for revenue. However, the above figures do suggest that the level of inventory is reasonable and not at all excessive. The Board procures stores only to the extent the budget provision in the year permits, and there is no policy of building up inventory for the sake of building up a buffer stock as such. In fact, we were told that in recent years, the procurement according to the required schedule is becoming increasingly difficult.

We are happy to note that the Board proposes to undertake a detailed review of stores item and stores which are obsolete or are fit to be scrapped, etc. and would be expeditiously disposed of through sale or auction. A special post of Superintending Engineer (Disposal) has been created under the control of Controller of Stores, with his specific assignment. This process has already started and is expected to effect substantial economy to the extent of Rs. 5 to 6 crores.

4.75. Research and Development (R. and D.)—During our discussions with the Board we came across a number of areas in which the Board was confronted with serious problems emanating from design defects or including inadequacies of the power generation system, other technological obsolescence which we reckon can only be solved through organising research at the hands of competent agencies on a scale commensurate with the magnitude of the problem. So far no conscious planning and concrete efforts worth the name have gone into this crucial inputs. In our view, a premier organisation like M.S.E.B. charged with power development and spending thousands of crores on power generation and distribution should have already established a full scale R and D Wing, with appropriate laboratory support; identified problems which could be referred to this wing and framed out projects to other established agencies willing to undertake such problems. In fact, expenditure on R and D. should not be construed as a luxury to be undertaken only when large surpluses occur

but rather as a consciously planned input of development. We had suggested to the Board that it could think the terms of levying $\frac{1}{4}$ per cent cess on its regulars. The investments thus made could yield rich dividends not only to the Board but also to its many consumers.

4.76. The problems which could be referred to the R. and D. Wing are many and complex. Some of them are urgent though perhaps it may take long time and investment before solution emerge. We have listed below a number of such issues in the hope that Government/M.S.E.B. will appreciate its importance and urgency; and after arranging priorities and formulating programmes arrange implementation in a time bound fashion with adequate funding :—

(1) Feasibility of establishing coal beneficiation plants in consultation with coal Suppliers.

(2) The problem of designing sound and sturdy equipment meters, cheap capacitors, small transformers (10 KVA and 16 KVA capacity etc.) develop sealed transformers and in the lower rating even dry distribution transformers.

(3) Reduction of the T and D. losses

(4) Containing of the pollution problem arising from sulphur throw ups from thermal plants.

(5) The pollution and other problems created by the large fly ash generation of power stations, a problem further aggravated because of low quality of coal—and it is feared that in the years to come, quality of coal may not improve.

(6) Impact on ecological balance as a result of the steam thrown out from power stations.

(7) The cheapening of the cost of rural electrification through appropriate technology and efforts at evolving alternate sources of power such as wind mill, solar energy, use of bagasse in areas where the same may be available.

(8) To develop small L.T. load breakers for use on the secondary side of distribution transformer and replace existing rewirable fuse switches.

(9) In order to reduce voltage variation in rural areas, the feasibility of installing automatic voltage regulators.

Section IX

Management of power cut

4.77. Owing to inadequate generating capacity in the State to meet the full demand in a satisfactory and reliable manner, power cuts both on demand as well as energy have been, enforced by the State Government. Varying degrees of power cuts and restrictions have been enforced almost since 1974-75. As the demand is growing at much faster rate, the gap between the generating capacity and the demand, if anything, is

widening over the years. The Management of the power cut is, therefore, assuming increasing importance.

4.78. The power cuts have been imposed mainly on various industrial consumers only, The extent of cut on demand and energy has been carefully selected, based on the nature and the process of various industries. The domestic and commercial consumers have been made to suffer only energy cut and that too to a limited extent.

4.79. The problem of power shortage arising partly from in the area of shortage of generating capacity but partly also from the fact that tariff are set too low in relation to costs. It has been observed that next only to industrial consumers, the peak demand of agricultural pumping consumers is the highest being of the order of about 800 MW. As a policy, no cut, either in the form of energy or power demand, has been applied in regard to the agricultural loads. Only timing restrictions have been imposed. In other words, roastering has been resorted to so that nearly half of rural Maharashtra gets power between 6 a.m. to 11 a.m. and the other half between a 11 a.m. to 4 p.m. This enables the Electricity Board to obtain the relief in the system peak to the extent of about 350 MW during day time. This practice has been enforced since August 1979, and has helped to operate the system more satisfactorily i.e. without load shedding.

4.80. It has been observed that owing to power cuts which are imposed mainly on industrial consumers, the Board suffers an immense loss of revenue, bulk of which (60 per cent) comes from industrial sector. It is, therefore, desirable that the non-profitable consumers and the agriculturists cultivate discipline of roastering their operation so that their impact on the system peak is reduced as much as possible thereby avoiding adverse impact on the Board's revenue. In fact it may be seen from figures given in Annexure 24 that the Board's surpluses arise mainly from sales to H. T. Industries. The Commercial Sector gives marginal surpluses. The Board incurs losses in supplying consumers receiving powers at subsidised rates.

4.81. In fact in the State like Tamilnadu, Karnataka, Punjab, Haryana, the agriculturists have voluntarily agreed to operate their pump sets in a staggered manner and also during night hours when the system can afford surplus capacity for the purpose. Similar discipline in agricultural sector of Maharashtra is the imperative need. M.S.E.B. has a huge programme of energisation of pump sets and by March 1985, as many as 9 lakhs pump sets will have been energised. This will contribute to the peak demand by as much as 1,000 to 1,200 MW. This underscores the need to adopt measures to optimise the capacity utilisation by the Electricity Board.

CHAPTER V
SUMMARY OF RECOMMENDATIONS

Serial No.	Chapter	Recommendation	Refer para No.
1	2	3	4
1	I	Considering the State's overall resource position for the Sixth Plan period <i>vis-a-vis</i> the development programme settled in consultation with the Planning Commission and other related factors and contingent situations, the modified target for State's additional mobilisation for the remaining four years of the Sixth Plan would be Rs. 200 crores.	1.10
2	II	After a quick review of the possibilities of raising additional resources, as an interim measure, the following proposals which would yield additional resources of the order of Rs. 1,937.76 lakhs for the year 1981-82 are recommended :—	
		Tax Measures	(Rs. in lakhs) Additional Revenue (Estimated) 1981-82
		<i>(i) State Excise—</i>	
		(a) Increase in the quantum of alcohol made available for the manufacture of country liquor and foreign liquor and increase in the rate of excise from Rs. 5 per litre to Rs. 7 per litre.	1,340.00
		(b) Increase in the fee on certain categories of licences — —	173.76
		(c) Increase in the transport fee on alcohol .. — —	108.00
		(d) Increase in the export fee on alcohol and alcoholic beverages ..	16.00
		Total ..	1,637.76
		Amendment of the Bombay Prohibition Act on the lines of the U. P. Excise and Prohibition Act with a view to levy of licence fees not related to cost of services rendered is recommended.	
		<i>(ii) Entertainment tax on T. V. at the rate of Rs. 5 per month or Rs. 60 per annum per T. V. set.</i>	300.00
		Total (i) + (ii) ..	1,937.76
3	II	The Committee would eventually formulate a set of recommendations which would ensure that during the four-year period as a whole the target of Rs. 200 crores set for additional mobilisation is more than fulfilled.	2.12
4	III	The Financial Forecast of MSRTC at fares operative prior to 15th January 1981, projected a cash loss of Rs. 94.39 crores during the Sixth Plan period 1980-85. This under-scored need for cost based revision of the Corporation's fares and rationalisation of its operations on an urgent basis so as to raise enough resources to meet its escalating costs and to finance its expansion programme for satisfying the ever-increasing demand for improved services by the travelling public.	3.2

Serial No.	Chapter	Recommendation	Refer para No.
1	2	3	4
5	III	<p>On the basis of growth rate trend and the needs of areas where the Railways network is not adequate or where the MSRTC service is relatively thin and keeping in view the possibility that MSRTC may receive adequate supplies of chassis from manufacturers, MSRTC should strive for much higher growth rates i.e. 11 per cent and 13 per cent (in backward regions). For purposes of the resources forecast, progressively higher rates of growth ranging from 9 per cent in 1981-82 to 11 per cent in 1984-85 be assumed. This would yield higher revenue receipts (additional net revenue Rs. 7.10 crores).</p> <p>Periodic traffic surveys be conducted to facilitate projections of realistic traffic demand forecasts.</p>	3.4.A (i) 3.7 (b)
6	III	<p>The existing ad-hocism in the matter of providing capital contribution to MSRTC should be replaced by some systematic approach. This rational approach would be that the gap between resources available through internal generation of the order of 65 per cent built up by MSRTC and the outlay needed for the capital programme should be found through capital contributions from the participating Governments (State and Centre) and borrowings. On the assumption of a debt-equity ratio of 1:1, the gap will have to be equally divided between borrowings and capital contribution. On this basis, the capital contributions from the State Government should be raised from the present level of Rs. 5 crores over the five-year period to about Rs. 30 crores. This would enable the Corporation to secure another Rs. 15 crores from the Central Government. The capital contribution from the State Government to MSRTC should also be partly made in the form of Government land being made available to it to house some of its workshops, bus depots, housing project, etc.</p>	3.4.A (ii) Foot Note below 3.4.A (ii)
7	III	<p>In view of the Corporation's needs of working capital during the Sixth Plan, the Corporation could aim at a higher target of Rs. 20 crores through public borrowings through deposits to match its growing needs of working capital provided adequate inducements are offered to the public.</p>	3.4.A(iii)
8	III	<p>MSRTC could enter the capital market to raise funds for financing its capital programme particularly for its purchases of chassis by issue of Bonds with appropriate rate of interest. The Corporation should seek expert advice in regard to floating of bonds in the capital market. The Committee would make some specific recommendations in regard to targets, modalities etc. in this regard in its subsequent reports.</p>	3.4.A(iv)
9	III	<p>The State Government should allow the Corporation to pass on the increase in passenger tax to the travelling public by making suitable adjustment in fares so that the Corporation's resource position is not jeopardised. Raising of the passenger tax to 22 per cent with a commitment that a fair portion of the increased receipts are ploughed for payment of increased capital contribution (Rs. 30 crores) and for augmenting roads programme (Rs. 20 crores) to be drawn up in fullest collaboration with MSRTC has been suggested.</p>	3.4.A(v)
10	III	<p>In view of rising trend of prices, it is necessary to provide in the financial forecast an additional expenditure of Rs. 14.65 crores for purchase of chassis.</p>	3.4.A (vi)

Serial No.	Chapter	Recommendation	Refer para No.
1	2	3	4
11	III	Similarly, additional provision would be needed during the Sixth Plan for meeting the increased cost of inputs like spares, batteries, etc. (other than H.S.D. and tyres) and also for giving increases to staff on account of wage settlement with Unions. Additional expenditure of Rs. 28.50 crores for wage settlement and Rs. 14.00 crores for batteries, spares etc. be included in the forecast.	3.4.A (vii)
12	III	There is a considerable scope for improving the operational efficiency in a phased manner; and more resources can be found through targetting and reaching higher performance levels. MSRTC should informally work out realistic target in this regard. If necessary, the services of a Consultant may be engaged. A saving of Rs. 23 crores net is expected to be achieved through this exercise over the residual period of Sixth Plan.	3.11
13	III	The present system of rewards for accident free record of drivers be made more attractive.	3.12
14	III	Government should allocate larger funds to finance a specially framed road improvement programme to be drawn up and executed in accordance with the priorities indicated by the Corporation. All road links on which a S.T. bus has been operating for over 3 years or where because of the heavy traffic, improvements in road conditions will lead to significant improvement in MSRTC's earnings, should be assigned a higher priority in allocating provisions in the Annual Plan. In road planning, closest collaboration between MSRTC and Planning Department must be ensured and the Planning Department should function as the co-ordinating agency for working out an integrated road development plan.	3.13
15	III	The entire question of uneconomic routes and trips operated thereon needs to be viewed in a rational manner keeping in view factors such as social obligations on Government and the overall need to convert such routes into economic ones through conscious efforts at developing traffic.	3.14
16	III	The decision to operate smaller buses on selected routes on an experimental basis is welcome. The performance of these operations need to be carefully watched and studied as these along with the exploration of introducing buses constructed on shorter wheel base chassis could possibly provide a solution to the problem posed by the operations on a large number of uneconomic routes.	3.15
17	III	The introduction of goods-cum-passenger transport service in this State would be specially significant from the point of view of developing backward or tribal and hilly areas where people do not have an easy access to Market centres. MSRTC should examine the feasibility of introducing such a joint product service on a priority basis as this may also help to render its unremunerative routes financially viable.	3.16
18	III	The loss on account of traffic pilferages is estimated around Rs. 6-8 crores per year. The Corporation has been urged to take suitable action in this regard. Some suitable incentives for conductors to induce better collections have also been suggested. These measures would yield to Corporation about Rs. 5 crores over the next four years.	3.17

Serial No.	Chapter	Recommendation	Refer para No.
1	2	3	4
19	III	Inventory management at optimum levels to suit the magnitude and spread of MSRTC's operation is a science by itself. Therefore, the MSRTC should seek expert advice on inventory control from reputed consultants and also explore the usefulness of Computer services to control and monitor inventory levels. Savings of Rs. 5 crores is anticipated through this.	3.18
20	III	There is an urgent need to review the Corporation's organisational structure, considering the magnitude of its operations and the responsibilities it has to discharge in providing adequate transport service and still to run its business on sound commercial principles.	
21	III	To tone up top level management, the Corporation's Board should be made more compact by discontinuing the practice of appointing non-officials and the representatives of the Railways and State Government as Board Members since their membership is not justified on any rational ground.	3.21
22	III	The Committee recommends that the Board should consist of six full-time members, one as a Chairman with considerable background of heading commercial undertakings, another member as a Vice-Chairman and General Manager from professional side and other members each one from traffic, mechanical engineering, accounts and costing and representative of labour.	3.22
23	III	Along with the re-organisation of the Board, it would be necessary to constitute a State level Consultative Committee patterned on the lines of a similar Committee established by the Railways and also to re-organise the existing Regional Consultative Committee established by the Corporation.	3.24
24	III	The Board membership has recently been enlarged from 19 to 33 increasing non-official membership from 13 to 27. In the context of this development, it must be ensured that the non-official members' role must be confined to policy making and liaison with the public and that they do not take part in the day-to-day management and operations of the Corporation. There should be only two Committees of the Board—Standing Committee and Tenders and Stores Committee. Vice-Chairman and General Manager, would function as Chairman of these Committees and all official members would continue as members as heretofore. Government should associate a few of the non-official members on each of these two Committees.	3.25
25	III	Splitting up of the MSRTC into a number of regional Corporations would involve wasteful replication of the central overheads without any significant concrete benefit in terms of either operational efficiency or the quality of the service provided. No useful purpose will therefore be served by setting up regional Corporations.	3.26
26	III	In order to introduce expert-oriented administration, it would be necessary to introduce certain structural changes within MSRTC set-up at the Head Office as well as in the Regions which are designed to encourage decentralisation in decision-making. Similarly, the work initiated in this regard by Shri B. N. Adarkar should be pursued internally by the Corporation.	3.27

Serial No.	Chapter	Recommendation	Refer para No.
1	2	3	4
27	III	The MSRTC should earmark allocations for Research and Development (R & D) on problems vitally connected with transport business such as alternate sources of energy for operating its buses, economising on fuel consumption through improvement in engine design, fuel, pumps, road surfaces etc. Compilation of periodical statistical reports on effectiveness of various engines or alternate costs of various fuels, useful for policy planning, should be entrusted to this wing.	3.28
28	III	The MSRTC incurs losses in running its services on un-economic routes, and also in its City Services. As a broad policy guideline, the S. T. earnings from economic routes should cross subsidise routes which are required to be operated as part of Government's Socio-economic responsibilities of reaching transport facility to remote villages and backward areas. However, the Corporation should keep a continuous watch on the performance of unremunerative services so that in the long run they are able to generate resources sufficient to cover at least their operating expenses. Similarly the Corporation should be insulated from the impact of escalation in prices of H. S. D. and tyres through an automatic increase in fares to match the erosion in resources following price escalation.	3.34 3.35
29	III	The continuance of losses on city routes amounts to a cross subsidisation of city operations from out of earnings generated by the mofussil services and this would not be defensible. Early steps be initiated to do away with the subsidy by appropriate revision in fares. The second alternative is that in all towns having population over three lakhs a start should be made to transfer the responsibility of operating city services to the respective Municipal Corporations/Councils or separate statutory Corporations. Considering the altogether different economics of the operation of city services and special managerial skills required to successfully operate the city service, perhaps having separate organisation/s for City Transport Service would be preferable. To begin with a start could be made by setting up a statutory City Transport Corporation for Nagpur.	3.37 & 3.38
30	III	In the present context of diesel shortages and overall energy crisis, it would not be expedient to attempt to induct into S. T. fares, the principle of telescopic rating.	3.40
31	III	The feasibility of introducing a selective tariff in such a way as make rail journey more attractive and thus reduce pressure on diesel consumption on road transport may be carefully studied and cautiously experimented.	3.41
32	III	A surcharge on travelling by express and super express buses equal to night surcharge should be introduced as the same is feasible and justifiable on the basis of specific service rendered to the commuter in the form of speedier transport. Additional revenue of Rs. 30.85 crores is expected to accrue over the residual period of the 6th Plan.	3.42
33	III	Revision of fares should not occur ordinarily more than thrice during two Five Year Plans. The Public relations wing of MSRTC must also publish periodically adequate justification for fare rise if and when the same is required to be resorted to. The passengers would also appreciate if the unduly large delays in arrivals and departures of S.T. buses could be properly announced in time through the public announcement systems at Bus stations. This area is not adequately looked after by the Corporation.	3.43
34	III	An inbuilt system to enable automatic increases in fares commensurate with increase in costs of fuels and tyres, which forms a substantial portion of variable costs, should be introduced.	3.44 & 3.45

Serial No.	Chapter	Recommendation	Refer para No.
1	2	3	4
35	III	The introduction Fuel Tyres Cost Adjustment Charge (FTCAC) pattern in the MSRTC fare would need appropriate amendment of the Motor Vehicle Act, 1939. As the new system needs to be made operative at the earliest in view of frequent cost escalations and its impact on MSRTC finance, suitable amendments in the M. V. Act, 1939 be introduced at the earliest to enable MSRTC to revise its fares whenever a sizeable increase takes place in fuel or tyre costs.	3.46 to 3.48
36	III	For introducing the FTCAC, the present fare structure would need to be broken into (a) fare proper and (b) Fuel and tyre cost adjustment charges so that further changes in FTCAC could be automatically revised according to a formula (to be prescribed by law) to match the rise in costs of fuel, tyre and tubes over a base period. The FTCAC should be merged with the Fare proper at the time of next fare rise. To ensure accuracy and to safeguard that non-fuel costs are not allowed to be reflected in the FTCAC the calculation in this respect should be checked by a Committee consisting of (i) a nominee of S.T.A. (ii) an officer of Directorate of Economics and Statistics and (iii) a nominee of MSRTC.	3.49
37	III	The question of public psychology and acceptability should be kept in view whenever fare revisions arising from FTCAC are proposed and therefore every marginal increase in the costs of these inputs are not covered by a fare increase through FTCAC.	3.50
38	III	In order to ensure that the entire revenue realised from FTCAC charge becomes available to the Corporation to fully neutralise its escalating fuel and tyre costs, passenger tax should not be recovered on the increase in the FTCAC component of the fare which would be made hereafter.	3.51
39	IV	Maharashtra State Electricity Board makes the power demand forecast by using a variety of acknowledged forecasting methods and models. It is observed that the projections of M.S.E.B. have been realistic and are borne out by the actual recorded demands each year. The demand forecast made by M.S.E.B. should, therefore, be used for future capacity planning and other power development Schemes of Maharashtra. The Board's demand estimates of 6500 MW for 1983-84 and 6956 MW for 1984-85 should be adopted for this purpose.	4.8 4.11 4.12 4.22
40	IV	The present derated generating capacity in Maharashtra (3316 MW) is less than the present unrestricted demand (3741 MW). Even after enforcing heavy power cuts (upto 35 per cent) and severely restricting the power supply of agricultural pumps (only 5 hours continuous supply per day) the restricted peak demand in the State has already reached 3080 MW. Thus there is hardly a gross capacity margin of 7 per cent to 8 per cent which is totally inadequate.	4.11
41	IV	Based on the widely acknowledged and accepted loss of load probability (LOLP) technique, MSEB has, after detailed computer studies, determined that in order to ensure a reliable and firm supply, it is necessary to provide a gross margin of atleast 38 per cent over the demand. The large scale load shedding that has to be carried out because of the aforesaid inadequate margin is adversely affecting not only the revenues of the Board but also the industrial and agricultural production in the State. Therefore, the aforesaid gross margin of 38 per cent which also takes into account the economic considerations, should be provided. It may not be possible to provide this margin by 1984-85. However, all efforts should be made and additional power generation schemes should be got approved so that atleast by 1989-90 and thereafter the power system in Maharashtra has this necessary margin.	4.14

Serial No.	Chapter	Recommendation	Refer para No.																
1	2	3	4																
42	IV	<p>On the aforesaid consideration, the power demand in Maharashtra would reach 6956 MW. by 1984-85 requiring an installed capacity of about 11000 MW. Further, the power demand in the State will reach 10718 MW. by 1989-90 and will require 14790 MW. of installed capacity. As a first step towards achieving these levels of installed capacity, it is necessary to sanction the following generation projects immediately :—</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: right;">MW.</th> </tr> </thead> <tbody> <tr> <td>(i) Chandrapur Units 5, 6 and 7 of 500 MW.</td> <td style="text-align: right;">1500</td> </tr> <tr> <td>(ii) Khaperkheda Extension 3 × 210 MW.</td> <td style="text-align: right;">630</td> </tr> <tr> <td>(iii) Ujani-2 × 500 MW.</td> <td style="text-align: right;">1000</td> </tr> <tr> <td>(iv) Bhusawal-4 × 500 MW.</td> <td style="text-align: right;">2000</td> </tr> <tr> <td>(v) Dabhol-2 × 500 MW.</td> <td style="text-align: right;">1000</td> </tr> <tr> <td>(vi) Gas Turbine Units 5, 6, 7 and 8</td> <td style="text-align: right;">240</td> </tr> <tr> <td></td> <td style="text-align: right; border-top: 1px solid black;">6370</td> </tr> </tbody> </table>		MW.	(i) Chandrapur Units 5, 6 and 7 of 500 MW.	1500	(ii) Khaperkheda Extension 3 × 210 MW.	630	(iii) Ujani-2 × 500 MW.	1000	(iv) Bhusawal-4 × 500 MW.	2000	(v) Dabhol-2 × 500 MW.	1000	(vi) Gas Turbine Units 5, 6, 7 and 8	240		6370	
	MW.																		
(i) Chandrapur Units 5, 6 and 7 of 500 MW.	1500																		
(ii) Khaperkheda Extension 3 × 210 MW.	630																		
(iii) Ujani-2 × 500 MW.	1000																		
(iv) Bhusawal-4 × 500 MW.	2000																		
(v) Dabhol-2 × 500 MW.	1000																		
(vi) Gas Turbine Units 5, 6, 7 and 8	240																		
	6370																		
43	IV	For the balance requirements, the Government of India has agreed in principle to establish a Super Thermal Station in the Central Sector in Chandrapur District as a Pithead Station. The Union Government has also been requested to set up a Nuclear Power Plant in Maharashtra, at a location selected by the Site Selection Committee, set up by the Government of India for locating future Nuclear Power Stations.	4.29																
44	IV	The Board's proposals for hiking their tariffs recently submitted to the State Government involves an overall increase of 31.13 per cent. These revised proposals of the Board have, in large measure, been based on various recommendations made by the Rajadhyaksha Committee. However, there is an exception to this in regard to the subsidised tariffs applicable to agriculturists in pursuance of the Government directives issued to the Board.	4.40																
45	IV	The new tariff proposals will earn for the Board an additional revenue to the extent of Rs. 542.32 crores. This will not be sufficient to neutralise fully the gross amount of subsidy, which is of the order of Rs. 682 crores, leave alone generating additional surplus. At best, the hike in tariffs will reduce the burden of subsidy for the State Government.	4.40																
46	IV	While the Board must strive to reach the level of internal resource generation as recommended by the Rajadhyaksha Committee, viz. 50 per cent, considering the large tariff hike which this would entail, this objective should be reached in phases early in the Seventh Plan or by 1986-87.	4.37																
47	IV	In order to increase the proportion of borrowing of the Board, it is necessary to have a dialogue with R.B.I., L.I.C., Government of India and Commercial Banks, so that a larger proportion of finances is made available to the Board. More particularly Maharashtra State Electricity Board is in need of substantial finances for undertaking electrification works in urban areas which is a high revenue earning area.	4.39																
48	IV	The Board should eventually aim at achieving 15 per cent return on average capital base without R. E. loss subsidy plus a $\frac{1}{2}$ per cent for R and D. Provided on the whole the board breaks even cross subsidisation by one claim of consumer to another particularly in respect of categories for which it has to subsidise because of rent directives etc. would have to be practised. As the Board may not be able to charge cost based tariff in all cases, the objective of reaching a return of $15\frac{1}{2}$ per cent may have to be phased.	4.48																

Serial No.	Chapter	Recommendation	Refer para No.
1	2	3	4
49	IV	In order to earn a return of 15½ per cent, the Board would require to earn Rs. 617.16 crores over and above the revenue earned as per the recent tariff hike proposals. This additional hike would be of a high magnitude and can be achieved only over a period. Assuming that the proposed tariff hike becomes operative in the next few months, the next tariff hike, should ordinarily be attempted sometime in 1983-84. In order to earn a 15½ per cent return on average capital base from 1983-84 onwards (which yields an internal resource generation of 45.6 per cent) a further hike in tariff from 1st April 1983 over and above the proposals now under consideration, to yield Rs. 257.93 crores would be needed. As, however, this does not bring the level of internal resource generation to 50 per cent over the five year period 1980-1985 as a whole, a further mobilisation of Rs.86.20 crores would be needed. this may be covered either in 1983-84 itself or early in the 7th Plan.	4.46
50	IV	In the agricultural sector, it is desirable to explore the possibility of discontinuing the practice of H.P. tariff involving unmetered supply. It is understood that MSEB does have enough stock of energy meters which can be used in going back to metered tariff system. This will be in line with the Rajadhyaksha Committee's recommendations and the possibility of discontinuing H.P. tariff should be explored both at administrative as well as political levels. For small and marginal farmers, the existing sub idised meter tariff of 20 P./unit will continue. For all other Agriculturists a rate of 40 P./unit should be made applicable. In fact, in due course the rate for small farmers should be raised to 25 P. per unit as in Gujarat and that for other Agriculturists raise beyond 40 P. per unit to cover the short run marginal cost. This will lay a foundation of healthy financial working of MSEB.	4.50
51	IV	Although the recent tariff review proposals of the Board have reduced the gap between H.T. industrial tariffs and concessional tariff to power intensive industries, the gap should be altogether eliminated and the two tariffs brought on par in the next 2 years or so.	4.51
52	IV	The introduction of a concessional tariff for off peak consumption is not a practical proposition at this stage. This can be adopted when good quality and reliable time differentiating meters are available and the system as a whole, has enough thermal capacity to be able to spare energy in the off peak period.	4.53
		In lieu of the existing yearly adjustment of Fuel Cost charges claimed, a six monthly computation of Fuel Cost adjustment charge would be desirable.	4.55
53	IV	In order to avoid the problem of shortages of coal as well as the present practice of transporting coal by road over long distance, the coal mines at Silewara and Kampti be developed and exploited fully, so that the need of Koradi Power Station is exclusively met from these mines.	4.62(ii)
54	IV	While there is a need to improve the quality of coal through beneficiation, it is also necessary for BHEL to develop boilers which can function effectively even on the basis of low grade of the coal presently being supplied.	4.62 (ii)
55	IV	A comprehensive programme for strengthening transmission and distribution be drawn up and the outlays needed for such a plan should be provided for in the Sixth Plan by appropriate readjustment. The Board should strive to progressively reduce T and D Losses to about 12 per cent over the next two plan periods.	4.67

Serial No.	Chapter	Recommendation	Refer para No.
1	2	3	4
56	IV	In order to enable the Board to improve its financial working and to be able to mobilise additional resources, it is necessary that power development in the urban areas is allowed to be undertaken to the fullest extent. The present constraint in obtaining institutional finance for this purpose has created serious hurdles in this direction. The matter, therefore, should be pursued at the highest level with Reserve Bank of India and the Finance Ministry to enable the Board to draw the requisite loan from Commercial Banks for development/strengthening the urban areas.	4.70
57	IV	The Board should implement the system improvement works swiftly by ending dependance on D.P.D.Cs. for implementation of the programmes. R.E.C. should also take a hand in financing these programmes.	4.73 (a)
58	IV	Adequate funds and scarce material for the construction of transmission lines required for reliable operation of the system should be provided in order to clear the past backlog.	4.73 (b)
		Permitting use of captive sets for industrial and [for Agricultural purposes needs consideration. Measures such as use of wind mills, solar pumps and bagasse plants should be explored to the maximum extent.	4.73 (c)
59	IV	Distribution works now financed by District Development Councils are treated as district level schemes. They should be taken away from the purview of these D.P.D.Cs., as the experience shows that enough funds are not allocated by these bodies for distribution works. The Board should be free to plan and execute distribution works in a more co-ordinated manner i.e. in co-ordination with Generation and Transmission Planning, in order to optimise the capacity utilisation and its revenue mobilisation.	4.72.
60	IV	The Maharashtra State Electricity Board should establish a full scale research and Development Wing with appropriate laboratory support, identify problems which need to be referred to this Wing and Undertake research thereon. It is suggested that even a $\frac{1}{2}$ per cent. tariff hike could be justified and considered merely for supporting Road and Development activities.	4.75, 4.76

DR. M. Q. DALVI
(Chairman)

DR. NAROTTAM SHAH
(Member)

S. K. GANGOPADHAYA
(Member)

DR. S. R. JICHKAR
(Member)

P. D. KASBEKAR
(Member)

V. PRABHAKAR
(Member)

Bombay,

Dated the 5th May 1981.