E.C. No. 779

ESTIMATES COMMITEE
(1973-74)

(FIFTH LOK SABHA)

SIXTIETH REPORT

MINISTRY OF INDUSTRIAL DEVELOPMENT

AVAILABILITY AND DISTRIBUTION OF CEMENT

LOK SABHA SECRETARIAT
NEW DELHI

April, 1974/Vaisakha, 1896 (Saka)

Price : Rs. 4.40

CORRIGENDA

TO

THE SIXTIETH REPORT OF ESTIMATES COMMITTEE (FIFTH LOK SABHA) ON THE MINISTRY OF INDUSTRIAL DEVELOPMENT - AVAILABILITY AND DISTRIBUTION OF CEMENT.

Page	Para	Line	For	Read
4	1.12	7	20.2	2.2
7	1.17	22	8740	8.40
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8	1.19	5 from bottom	achieving	achieved
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39	2.81	5	beings	begins
42	2.88	2	outlay	outlay of
44	2.94	1	160	60
46	2.101	3	blash	blast
46	2.101	4	slunge	sludge
49	2.111	Items 5 - last column	1973	21.7.1973
50	2.114	3	puzzolane	pozzolana
50	2.115	3	pozzolans	pozzolana
51	2.119	2	member	number
51	2.121	2	states	status
54	2.131	15	granted a further increase of Rs.13 per tonne	Officer of Rs.3.75, Rs.2 and Rs.8.35 per tonne
62	2.162	12	undertake designing, fabrication and installation of shaft kiln	supply shaft kiln plants of various capacities. It is estimated
71	3.26	6	ensourage	encourage
80	3.52	8	1968-78	1968-72
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93	3.95	12	raid	road
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109	4.40	7	dificit	deficit
113	5.4	11	agrement	agreement
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Page	Para	Line	For	Read
114	5.9	14	per cent	per centage
121	5.33	3	6 toones	60 tonnes
121	5.33	13	or	of
121	5.33	15	3,600	3000
123	5.43	4	100-2000	1000-2000
124	6.1	5	whole of	whole
124	6.1	17	develop	to develop
125	6.5	5	G.S.I.R.	C.S.I.R.
125	6.5	9	building	building
125	6.5	11	G.I.R.	C.R.I.
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(1973-74)

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Shri G. D. Sharma—*Deputy Secretary.*

INTRODUCTION

I, the Chairman, Estimates Committee, having been authorised by the Committee to submit the Report on their behalf, present this Sixtieth Report on the Ministry of Industrial Development—Availability and Distribution of Cement.

2. The Committee took evidence of the representatives of the Ministry of Industrial Development on the 7th and 8th November, 1973. The Committee wish to express their thanks to the Officers of this Ministry for placing before them the material and information which they desired in connection with the examination of the subject and for giving evidence before the Committee.

3. The Committee also wish to express their thanks to Dr. H. C. Visvesvaraya, Director, Cement Research Institute of India, New Delhi, Shri R. D. Shah, President, Cement Manufacturers' Association, Bombay, Lala Charat Ram, Shri K. N. Modi and Shri G. L. Bansal, President, Vice-President and Secretary-General, respectively of the Federation of Indian Chambers of Commerce and Industry, New Delhi for furnishing Memorandum to the Committee and also for giving evidence and making valuable suggestions.

4. The Committee also wish to express their thanks to all the Associations and bodies who furnished memoranda on the subject to the Committee.

5. The Report was considered and adopted by the Committee on the 11th April, 1974.

6. A summary of recommendations/conclusions contained in the Report is appended to the Report (Appendix XIII).

7. A statement showing the analysis of recommendations/conclusions contained in the Report is also appended to the Report (Appendix XIV).

NEW DELHI;
April 22, 1974.
Vaisakha 2, 1896 (*Saka*).

R. K. SINHA,
Chairman.
Estimates Committee.

CHAPTER I

DEMAND AND ITS ASSESSMENT

A. Introductory

The development of cement industry in a country is an index of its material prosperity. Cement is one of the most essential building materials and used in construction of all kinds of building structures, dams, bridges, roads, aerodromes and docks; in fact almost every kind of construction work requires cement.

1.2. The ancient Romans made a sort of cement by mixing slaked lime with-volcanic ash, but it was soon forgotten. It was in 1756, the first cement was manufactured in England. The cement was patented as Portland cement in 1824. It is called Portland cement because of strong resemblance of this synthetic product to a popular English limestone of Portland in England and used for building purposes.

1.3. The main raw material used in the manufacture of cement is limestone or chalk, which supply the basic component of cement viz., Calcium, while the acidic components are provided by silica and alumina which are partly present in the limestone itself and is further made up by addition of clay and laterite.

1.4. The various types of cement that are manufactured today are as under—

(i) Portland
(ii) Slag
(iii) Pozzolana
(iv) White
(v) Hydrophobic
(vi) Rapid Hardening
(vii) Oil-well.

1.5. Despite natural advantages, the development of cement industry was much delayed in the country, as the demand for cement was created only when urbanisation and development of industries assumed considerable importance in the twentieth century. The beginning of cement industry had been small and the first attempt was made in manufacturing Portland cement in the country in 1904 and a small factory was established at Madras. This factory used sea

shells as a source of lime. But after some time the factory was closed. After one decade, the industry revived and three factories were established, one at Porbandar (Gujarat) in 1913, one at Katni (M.P.) in 1915 and one at Labheri (Rajasthan) in 1916.

1.6. The first World War (1914—18) gave an impetus to the industry so that the production increased considerably after the war. The three already existing cement factories doubled their production and seven new factories were established. In 1924, the cement production rose to 2,37,000 tonnes from 945 tonnes in 1914. The production in cement rose so much that there was surplus in production of cement and the industry suffered. By 1936 competition in cement industry yielded place to cooperation and with the amalgamation of most of the existing cement factories, the Associated Cement Co. Ltd. (ACC) was established with a total production capacity of 1.45 million tonnes.

1.7. In 1947, India was partitioned and this affected the production of cement which fell to 144000 tonnes. However, the industry developed remarkably and at present there are 51 cement factories in production with a total capacity of 19.76 million tonnes. A list showing the names of factories, state-wise and their capacity is given at Appendix I.

B. Per Capita Consumption of Cement

1.8. The Ministry of Industrial Development have stated that the per capita consumption of cement in India was of the order of 25 kg. at the end of 1970 and 27 kg. during 1972. The Ministry have further stated that according to the figures indicated in the Draft Fifth Plan, the population of the country by the end of 5th Plan period would be 641.8 million and availability of cement will be 25 million tonnes. Hence, the per capita consumption of cement in India at the end of the 5th Plan will be approximately 39 kgs.

1.9. The comparative figures of consumption in other developing countries and advanced countries for the year 1970, as furnished by the Ministry, are given in Appendix II. It will be seen that the per capita consumption is the highest in Switzerland at 753 kgs., in Austria it is 615 kgs., in Italy 606 kgs., in U.K. 307 kgs. and in the U.S.A. 325 kgs.

When asked to state the reasons for very low per capita consumption of cement in India, the representative of the Ministry stated that while non-availability was certainly one reason, it was not the only one. He felt that cement consumption could not be considered in isolation and it had linkages with steel consumption as was

seen from the fact that those countries which consumed more cement also consumed steel in that proportion. The witness further stated that the second correlation was between the per capita income and consumption of such items as steel and cement, as for example, in Israel, the per capita income was Rs. 12,271 and the cement consumption was 492 kgs. and the steel consumption was 227 kgs. The witness, therefore, felt that unless overall economic situation changed, there could be no rise in per capita consumption, for, basically the consumption of cement would be in such things as road, works, irrigation projects, other big projects concerning national development.

1.10. The Committee regret to note that the per capita consumption of cement in the country, in 1970, was 25 kilograms which was not only, much lower than the developed and developing countries like Iraq, Iran, UAR, Turkey etc. but even lower than the neighbouring countries like Malaysia, Thailand, Pakistan and Ceylon. The Committee note that the per capita consumption of cement would show an increase of 14 kilograms from the existing level of 25 kgs. at the end of the Fifth Plan period but by then the gap in the per capita consumption in relation to these countries will widen further. Since per capita consumption of cement is one of the indices indicating the level of development of a country, it is evident that gigantic development efforts will have to be made by the country to reach the level of consumption of cement not only of the developed countries but even of the developing countries.

1.11. The Committee feel that one of the main reasons for the low per capita cement consumption is the scarcity in the availability of this commodity. The Committee have no doubt that with the easy availability of cement, its consumption will increase considerably. They, therefore, urge that effective measures should be taken by Government to increase the production of cement in a big way. It is also important that the pricing and distribution mechanisms are so evolved that cement becomes easily available in the remotest areas of the country of reasonable prices. The Committee have dealt with these matters in detail in subsequent Chapters.

C. Demand for Cement

1.12. The Ministry of Industrial Development have stated that the growth of the cement industry followed an erratic pattern during the past four Plan periods. During the entire Plan periods of 20 years, availability of cement exceeded the demand only on two occasions, once for about a year and a half in 1958-59 and the

other for a year or so in 1967. The demand and the actual production at the end of each Plan period was as under :

	Demand	Production	Gap
		(Million tonnes)	
1st Plan (1951-56)	4·5 to	4·86 4·6	Nominal
2nd Plan (1960-61)	8·7 to	8·8 7·9	·9
3rd Plan (1965-66)	13	10·8 10·8	20·2
4th Plan (1973-74)	19·16 (Estimated)	16	3·16

1.13. In the course of evidence, the representative of the Ministry of Industrial Development stated that so far as the demand for the Fifth Plan was concerned, the Task Force which was appointed by the Ministry had come to certain conclusions in regard to the demand during 1973-74 and the demand that would be at the end of the Fifth Plan, and that, according to the Task Force, the demand for 1973-74 was 19 million tonnes. He also stated in reply to a question that the production today was of the order of 15 million tonnes, leaving a gap of 4 million tonnes between the demand and availability. When asked whether it would be wrong to say that even this demand worked out by the Task Force would be on the lower side, the witness stated:—

> "So far as that is concerned, we have to go by some of these studies. For example, the Planning Commission seems to think that even the demand of 19 million tonnes is a little on the high side and that the real demand is of the order of 18 million tonnes for the year 1973-74. There may be other views—that it is not 19 but 20 or 21. There may be a difference of about a million tonnes this way or that way, but I don't think that people are disputing that the order would be quite different—that instead of 19, it will be 30, 35 or 50. The difference is certainly not of that order."

1.14. When the attention of the witness was specifically drawn to the fact that there was much greater shortage of cement than assessed and that people were getting accustomed to taking the shortage for granted, the witness stated:—

"I fully appreciate the point you are making and I certainly accept that there is a basic difference between the actual demand as it stands, and the potential demand as it stands, and the potential demand which might have come if the conditions prevailing were different. Now we have been thinking in terms of the actual demand as drawn up from the demands of the various Plan requirements and an assessment of what the demand of the private sector would be; there is no dispute about that. But within this particular framework, we have come to the conclusion that if we were in a position to supply 19 million tonnes of cement in 1973, then the position certainly would not be that people will have to go and buy it in the black market."

1.15. When the representative of the Ministry was asked whether the rate in black market reflected the demand or need of the nation, he stated that, personally speaking, they should keep that point in view in assessing the demand but he did not consider that it could be taken as a firm indicator, for, he felt, it could also be an indicator of the apprehensions prevailing in the minds of the people and their judgements as to how long it would take to get the material.

1.15. The Ministry of Industrial Development have stated that Task Force on cement worked out that the average annual growth rate of demand over the last 20 years had been about 8.7 per cent. The production target at the end of the Fourth Plan i.e., 1973-74 was fixed at 18 million tonnes Assuming an unsatisfied demand of 1 million tonnes at the end of the Fourth Plan i.e., 1973-74, the demand had been estimated at 19 million tonnes. Explaining the reasons for arriving at the figure of 19 million tonnes the witness stated during evidence:

"The idea was that the demand would be 19 million tonnes and at that time, when the Task Force was appointed, they did not envisage the degree of power cut, and the

degree of difficulty about coal movement etc. They estimated that the production will be of the order of about 18 million tonnes. That is why, we said that the shortage will be one million tonnes. But, as it is, since the production is going to be less this year, about 15 or 15.5 million tonnes, the shortage will certainly not be one million tonnes, but, much more, about 3.5 million tonnes or so. What was envisaged was that the demand would be 19 million tonnes and whatever the production was, which was estimated to be 18 million tonnes, would be less than the demand. Therefore, there will be a shortage. Actually, the shortage will be dependent upon the production that will take place. This figure of 19 million tonnes, was arrived at more or less on the basis of the figure that we used to get from the State Governments and various Departments of the Central Government for the period, 1-7-73 to 30-6-1974. The Task Force also took into consideration the despatches that took place in 1972 and the outstanding orders that were there at that point of time, at the end of 1972, and it was found that on the basis of the despatches, and the outstanding orders, at the end of 1972, the total came to 19.6 million tonnes. It was on this basis, that the Task Force came to the conclusion, on the basis of the past performance, the actual despatches, the outstanding orders and the various demands that were received for a period of 1973-74 from the Central Government Departments and the State Governments, that it was of the order of 19 million tonnes. Now, I certainly cannot claim and will not claim that this is the best method of making an assessment of the demand. But, this was some sort of a method that was being followed and that was followed by the Task Force. I would like to point out one thing here. The Planning Commission seem to do things at least now on the basis of certain models and on the basis of some input-output method and they seem to think that in 1973-74, the demand would be of the order of 18 million tonnes."

Assessment of Demand for the Fifth Plan period

1.17. The Ministry have stated that the growth rate in capacity had been calculated at 9 per cent for the First Five Year Plan and 13 per cent for the Second Five Year Plan in the following manner:

	Installed Capacity (millions tonnes)	Actual Production (millions tonnes)	Annual capacity growth during the plan period %	Annual cumulative capacity growth during the plan period %
First Plan				
1951-52	3·75	3·20	6·93	8·92
1952-53	4·01	3·57	9·22	
1953-54	4·38	4.03	5.47	
1954-55	4·62	4·42	8·65	
1955-56	5·02	4·60	14·33	
Second Plan				
1956-57	5·01	5·16	15·73	13·20
1957-58	6·96	5·98	19·79	
1958-59	7·09	6·10	13·36	
1959-60	8740	7.29	7·47	
1960-61	9·30	7·97	9·66	

1.18. The growth rate of capacity for the Third and Fourth Plans was 5.23 anud 5.81 per cent respectively and had been arrived in the following manner:—

	Installed Capacity (million tonnes)	Actual Production (million tonnes)	Annual capacity growth during the plan period %	Annual cumulative capacity growth during the Plan period %
1	2	3	4	5
Third Plan				
1961-62	9·47	8·28	1·82	5·23
1962-63	10·00	8·85	5·59	
1963-64	10·50	9·43	5·00	
1964-65	11·24	9·78	7·04	
1965-66	12·00	10·82	6·76	

1	2	3	4	5
Fourth Plan				
1969-70 . . .	15·96	13·80	6·60	
1970-71 . . .	17·59	14·55	10·21	
1971-72 . . .	19·55	15·07	11·14	5·81
1972-73 . . .	19·75	15·50	·02	
1973-74 . . .	19·75	15·00	..	

1.19. For the Fifth Plan, the Task Force appointed by the Ministry, with which the Planning Commission was also associated, has assumed a growth rate of 8 per cent per annum and the demand of 19 million tonnes in 1973-74 has been projected to 28 million tonnes by 1978-79 i.e., the end of the Fifth Plan period. Asked why the growth rate of demand for the Fifth Plan period has been fixed at 8 per cent only, when the growth rate of demand over the last 20 years was found to be 8.70 per cent, the Ministry have stated:

"It is true that the average growth rate for the last 20 years was found to be 7.8 per cent. However, this was so because during the earlier periods of First and Second Five Year Plans the base level capacity was comparatively very small with the result that even small increases in capacity gave a higher percentage of rate of growth. For instance, in the First Plan, the actual production increased from 2.95 to 4.60 million tonnes giving an annual rate of growth of 8.92 per cent even though absolute increase was 1.65 million tonnes. In the Second Plan period, the production increased from 4.60 to 7.97 million tonnes giving an annual rate of growth of 13.20 per cent. However, as base became wider the rate of growth reflected a comparatively lower percentage even though absolute increase were in many cases higher than earlier increases. For instance, in the Third Plan period the production increased from 7.97 million tonnes to 10.82 million tonnes giving an annual rate of growth of 5.23 per cent. During the 3 years of Plan holiday, the rate of growth was 7.65 per cent.

Considering the rate of growth of production in the first 4 years of the Fourth Plan and taking into account the rate of growth achieving during the 3 years of Plan holiday and the 5 years of Third Plan period, it was the judgement of the Task Force that an average rate of growth of 8 per cent for the Fifth Plan period would be realistic."

1.20. Explaining the position further, the representative of the Planning Commission stated:—

"At the moment we have got a model which indicates the allocation of investment resources for different sectors of economy like the industry, agriculture, rural housing and so on. On the basis of the total investment that would go into the economy, whether public or private, we have worked out the average estimated requirement. We are currently finalising the specific investment allocations for the public sector and the investment allocations for the private sector. In the light of these, we would work out separately what will be the requirements of the public sector and the private sector."

"I was mentioning that investment in each particular sector has a cement component. For that we have some statistical data. Based on that we are projecting it into the Fifth Plan."

"Really none of us has done a detailed micro-exercise as you would probably be thinking of."

1.21. When it was pointed out to the witness that with the increasing tempo of planned development, people would have more money and would require cement for construction in rural areas, to repair houses, wells and so on, he stated:

".....Keeping in view all these factors, the growth rate of 8 per cent would have to be catered for. This was our logic. There may be something wrong with our logic.

I am not saying it is perfect. We have to take into account so many different considerations. It was rather difficult for us to reach our estimates. As a matter of fact we are still seeing to get the problem solved through various agencies."

1.22. Again when asked to state about rural community needs, the representative of the Ministry stated:

"I agree that we should devise some mechanism through which we can do it."

1.23. When asked whether the State Governments were called upon to do that, the witness stated:—

> "This idea did not come to me earlier. I was going through all the papers when this idea came that we should ask one of the consulting organisations to make a pilot survey to select different types of areas to make a random study."

1.24. The attention of the witness was drawn again to the fact that shelter was a basic human necessity. He was asked whether Government had devised a method to see that people might have a little money for housing and better shelter. The witness stated:—

> "As I explained earlier, we have taken all the factors into consideration but because of constraints—resource-wise, machine-wise, managerial type-wise, we could not solve our problem to the level which would have met the reasonable requirement of all different sectors. I certainly agree that even when we reach 32 million tonnes in 1978-79 we would not be able to meet the requirements to the entire satisfaction of the community or various interests."

1.25. The Ministry was asked to furnish a note regarding the estimated demand of cement among the Government Departments, Public Undertakings etc. (Rate Contract Parties) and the consumers in the Private Sector during each year of the Fifth Plan. The Ministry in reply have stated that no study had been made to estimate the demand for Government Departments, Public Undertakings etc. (Rate Contract Parties) and consumers in the Private Sector for each year of the Fifth Plan. The Ministry have, however, stated that in arriving at the estimated demand of 28 million tonnes by the end of the Fifth Plan period, the Task Force on Cement Industry had taken into account all important consumers in the Public and Private Sector. The Ministry have also stated that the Planning Commission have made an analysis which took into account the various sectoral outlays and the requirements of cement in these sectors.

1.26. The Planning Commission in the Draft Fifth Five Year Plan (1974-79—Part I) have stated at page 10:—

> "For purposes of formulation of specific investment projects and production programmes, it is necessary to work out a break down of the projected sectoral rates of growth into targets for individual items of output. For items

like foodgrains, coal, from ore and cement which form independent sectors in the input-output matrix, the growth model worked out for the perspective period itself yields the physical targets".

On this basis the Draft Fifth Five Year Plan has projected the demand at 25 million tonnes at the end of 1978-79, at the end of 1983-84, 38 million tonnes and at the end of 1985-86, 44.7 million tonnes.

1.27. The Committee note that the demand for cement which was assessed at 4.8 million tonnes at the end of the First Plan, was increased to 8.8 million tonnes at the end of the Second Plan, to 13 million tonnes at the end of the Third Plan and to 19 million tonnes at the end of the Fourth Plan i.e., an increase of 83 per cent, 44 per cent, 47 per cent, respectively. It is evident that the percentage increase in demand during the Second Plan period, was reduced by 39 in the Third Plan and was further reduced by 36 in the 4th Plan period. The Committee consider that the assessment of the demand for cement has been underestimated since the Second Plan, leaving a sizeable unsatisfied demand of cement in the country. This is also evident fro mthe fact that according to the admission of the Ministry, the availability of cement has always been far short of the demand during the entire planning period of 20 years, barring 2 occasions, once in 1958-59 and another in 1967. The Committee feel, keeping in view the extent of scarcity of cement throughout the country and the prevailing high market rates, the demand assessed by the Task Force at 19 million tonnes during the 4th Plan period was on the lower side. The Committee consider that the projection of demand has not been fully related to all the requirements in the country, notably unorganised industrial sector, housing in rural areas, etc., as evidenced from the fact that little or no cement is available in these areas.

1.28. As regards the assessment of demand for the Fifth Plan, the Committee note that whereas the Ministry of Industrial Development feel that the demand would be 28 million tonnes at the end of the Fifth Plan period on the basis of the report of the Task Force, the Planning Commission has placed the demand only at 25 million tonnes The Committee are not convinced that there has been any scientific evaluation regarding the growth rate of demand in the absence of any information with the Government as to what would be the demand every year during the Fifth Plan period in various sectors like the Government Departments, Public Sector Undertakings, organised industries and so on. The Committee feel that consideration of mere sectoral outlays cannot lead to a proper evaluation of the demand.

1.29. The Committee feel, in particular, that with growing economic prosperity in rural areas, the demand for cement would be increasingly felt there. The Committee regret that no methodology has been evolved so far to make a realistic assessment of the demand in rural areas. The Committee feel that, looking at the needs for rural housing, every encouragement will have to be given to the people of rural areas to construct their own houses so that the surplus money in the hands of the agriculturists may be usefully employed in providing shelters for themselves.

1.30. The Committee, therefore, urge that a more scientific study may be immediately undertaken to reassess the likely demand for cement in each sector during every year of the Fifth Plan period as in the opinion of the Committee even the figures of 28 million tonnes suggested by the Ministry is on the lower side. The Committee would suggest that in the reassessment not only the potential demand that would develop as a result of easy availability of cement, but the prospects of exports of Cement, particularly to the oil producing countries, should be taken into consideration. The Committee would further like to emphasise that planning for an important commodity like Cement should be for sufficiency and not for scarcity as has been the case hithertofore.

CHAPTER II

PRODUCTION

A. Targets, Achievements and Shortfall

Cement is a scheduled industry having been included at S. No. 35 of the First Schedule to the Industries (Development and Regulation) Act, 1951. The Ministry of Industrial Development are accordingly responsible for the development of the cement industry.

(i) Targets of capacity and production

2.2. The following table indicates the cement industry targets and achievements at the end of the last year of each Plan from the First Plan period:—

(In million tonnes)

	Target		Achievement	
	Capacity	Production	Capacity	Production
First Plan (1955-56)	5·4	—	4·9	4·6
Second Plan (1960-61)	16·0	13·0	9·2	7·9
Third Plan (1965-66)	15·0	13·0	11·6	10·8
Fourth Plan	21·5	18·0	19·0	16·0 (estimated)

2.3. Production targets laid down during the Third and Fourth Plan periods, year-wise are as follows:—

Third Plan

	Production Targets
	(Million Tonnes)
1961-62 1962-63 1963-64 1964-65 1965-66	13

Fourth Plan

1969-70 1970-71 1971-72 1972-73 1973-74	18

2.4. The actual production during the Third Plan and Fourth Plan period, yearwise, was as follows:—

	Production (million tonnes)
Third Plan	
1961-62	8·28
1962-63	8·85
1963-64	9·43
1964-65	9·78
1965-66	10·82
Plan Holiday	
1966-67	11·07
1967-68	11·48
1968-69	12·24
Fourth Plan	
1969-70	13·80
1970-71	14·55
1971-72	15·07
1972-73	15·50
1973-74 (Estimated)	16·00*

*While a capacity for the targeted production of 1·8 million tonnes exists, the actua l production during 1973-74 is not expected to exceed 16 million tonnes due to the continuing severe power cuts imposed by the State Electricity Boards, shortage of power, coal and inadequacy of Wagons.

(ii) *Varities of Cement and their Production*

2.5. The different varieties of cement being produced in the country presently are Portland cement, White cement, Pozzolana cement, Blast furnace Slag cement, Oil-well cement and Rapid Hardening cement. The last two varieties are special purposes cement manufactured in small quantities to meet specific requirements. Blast furnace Slag cement is manufactured by inter-grinding blast furnace slag, after granulation, with cement clinker. This has the same properties as the portland cement for all practical purposes. Pozzolanas are described as siliceous, aluminous or ferroginous materials which,

though not cementitious in themselves, contain constituents which will combine with lime in the presence of water to form compounds with cementitious properties, Pozzolana cement is made by blending portland cement with natural or artificial pozzolana and thoroughly intergrinding the mixture to the fineness of cement. This variety is preferred in works requiring prevention of damage by alkaline reaction or sulphate waters. The production of all these varieties since 1968 is given below:

(in lakh tonnes)

Varieties of Cement	1968	1969	1970	1971	1972
1 Portland Cement		124·70	125·21	132·92	139·49
2 Pozzolana cement		1·67	0·80	0·26	0·19
3 Blast Furnace Slag cement .		9·27	13·02	15·39	17·45
4 Oil well cement .		0·12	0·05	0·05	0·05
5 Rapid Hardening cement .		0·03	0·04	0·09	0·04
6 White cement .		0·45	0·44	0·61	0·67
TOTAL	118·95*	136·24	139·56	149·32	157·89

*Break-up is not available.

(iii) *Special Cements*

2.6. Oil-well cement, Rapid Hardening cement and White cement, being used for special purposes, are known as Special Cements. It will be seen from the above table that the production of these cements is not much in the country.

The Rapid Hardening cement is usually produced by Kymore, Dwarka, Bhupindra, Manchevial, Khalani, Chaibasa and Gadry factories and there are three cement factories which manufacture White cement *viz.* Kymore, Porbandar and Kottayam.

(iv) *Licensed Capacity*

2.7. The licensed capacity, separately in public and private sectors, in existence at the end of Third and Fourth Plans (including Plan Holiday period) is given in Appendix III. It will be seen that

the licensed capacity at the end of the Third Plan period was 114.33 lakh tonnes in the private sector and 5.95 lakh tonnes in the public sector. The licensed capacity at the end of the Fourth Plan period stood at 174.53 lakhs tonnes in the private sector and 23.07 lakh tonnes in the public sector.

(v) *Licences issued during Fourth Plan period*

2.8. The cement industry remained exempted from Licensing Provisions from 13-5-1966 to 19-2-1970. The details of the capacity licensed after 19-2-1970 are shown in Appendix IV. The capacity licensed in the public sector was 23.00 lakh tonnes and in the private sector it was 65.83 lakh tonnes. The Ministry have stated that this capacity includes the factories already in existence and they were granted Carrying on Business Licences for having set up capacity during the delicensing period *i.e.* from 14-5-1966 to 19-2-1970.

(vi) *Capacity actually installed*

2.9. The details of the capacity actually installed during the Fourth Plan period (including Plan Holiday period) yearwise upto 1972-73 (separately, in Public and Private Sectors) are given in Appendix V. It will be seen therefrom that the additional capacity installed upto 1972-73 in private sector was 60.97 lakh tonnes as against the licensed capacity during the Fourth Plan period of 65.83 lakh tonnes and the installed capacity in the public sector was 17.12 lakh tonnes as against the licensed capacity of 23 lakh tonnes.

(vii) *Growth Rate of Capacity*

2.10. The Ministry of Industrial Development have stated that the annual cumulative growth rate of capacity during the Fourth Plan period has been as follows:—

1st Plan	8·92%
2nd Plan .	13·20%
3rd Plan	5·23%
4th Plan . . .	5·81%

(viii) *Production Capacity and Actual utilisation*

2.11. A statement showing the cement plants which are in production at present with production and capacity actually utilised during the last three years is given in Appendix VI. It will be seen therefrom that there are 51 cement factories which are in production in our country.

2.12. The percentage of actual capacity utilisation in cement industry as a whole during 1969-70, 1970-71, 1971-72, 1972-73 and 1973-74 has been as follows:—

Year	Capacity	Production	Gap	Utilisation %
	(Figures in million tonnes)			
1969-70	15·96	13·80	2·16	87·09
1970-71	17·59	14·30	3·29	81·29
1971-72	19·55	15·00	4·55	76·73
1972-73	19·76	15·50	4·26	78·44
1973-74	19·76	15·00	4·76	75·9

2.13. The shortfall between the targeted capacity and the actual installed capacity at the end of the various Plan periods has been as follows:—

	Targeted Capacity	Capacity Installed	Shortfall
	(million tonnes)		
I Plan	5·4	4·9	0·5
II Plan	16·0	9·2	6·8
III Plan	15·0	11·6	3·4
IV Plan	21·5	19·76	1·75

2.14. The performance of the cement industry since 1966-67 has been as follows:—

Year	Installed Capacity	Cement Producted	Capacity Utilisation %
1966-67	12·56	11·07	88·1
1967-68	13·78	11·48	83·3
1968-69	14·96	12·24	82·0
1969-70	15·96	13·80	87·09
1970-71	17·59	14·30	81·29
1971-72	19·55	15·00	76·73
1972-73	19·76	15·50	78·44

2.15. During the evidence the representative of the Cement Manufacturers' Association, explaining the reasons for lower utilisation of capacity, stated: "If it is to be fully utilised, you will have to feed it well and for that you need, in the first place, power and coal. Another thing is that if cement is produced you need wagons to move the cement. These were the factors which disabled the industry and prevented it from producing to full capacity."

2.16. The Committee note that the highest utilisation of installed capacity for production of cement, achieved in cement industry, was 88.1 per cent in 1966-67. They regret to note that the percentage utilisation has gone down from 88.17 per cent in 1966-67 to 76 per cent in 1973-74. The lower utilisation of capacity has been attributed to (i) power cuts, (ii) difficulty about supply of coal in sufficient quantities and (iii) non-availability of wagons for movement of finished products. Compared to the maximum utilisation of installed capacity, achieved in 1966, the under-utilisation has resulted in a loss of about 10 million tonnes in cement production during the last five years. In view of the urgent need of stepping up the production of cement in the country for internal consumption as well as export, the Committee recommend that concerted efforts should be made by Government to remove the bottlenecks in cement production so as to achieve at the earliest the maximum utilisation of capacity in the cement industry. This could make available about 2 million tonnes of additional cement from the existing plants.

2.17. The Committee further suggest that the feasibility of giving production incentives for cement production over and above the maximum production attained may also be examined by Government in the interest of bridging at the earliest the wide gap between requirements and production.

(ix) *Reasons for Shortfall in Production and the steps taken:*

(a) *Causes in General*

2.18. The production target for cement for the year 1973-74 was kept at 18 million tonnes but the actual production has been estimated to be around 15 million tonnes, thus leaving a gap of 3 million tonnes. It may also be noted that the actual installed capacity is 19.75 million tonnes. Explaining the low utilisation of the installed capacity during the year 1973-74 and the steps taken to remove the difficulties, in the course of evidence, the representative of the Ministry of Industrial Development stated:—

> "The basic reason for under-utilisation was firstly power cuts imposed during the earlier part of the year-particularly

in Tamil Nadu plants were very badly affected and in some other States also, plants were affected on this account. Secondly, the difficulty was about the supply of coal in sufficient quantity. And thirdly, the difficulty was about the movement of the finished products. Over and above these difficulties, of course, there were other conditions which retarded the production. Some time in the month of October last year, there was a strike call by the Labour Unions of the factory. But as far as we know, we have been keeping a close watch to see that the industry does not intentionally cut down the production."

2.19. When asked to state what steps were being taken to ensure that such shortfalls do not occur in future, the representative of the Ministry stated:—

"From a study of the various targets that we had, we have learnt that we have had shortfalls, whether they are in capacity or production of cement. We have learnt that unless the projects are monitored throughout the Plan, and a watch is kept on their progress, it will be extremely difficult to achieve even those capacities for which we have planned. Of course, if we have an over-ambitious Plan as we had in the Second Plan in the context of the capabilities and capacities of those days, there would naturally be a very much more wide gap. Unless we monitor it regularly from the very beginning, it will be extremely difficult to achieve those particular capacities. And this is what we are trying to do in the Fifth Plan period. As a matter of fact, we have started monitoring now, even before the Fifth Plan period has started. We are getting regular returns from them. We are watching the ground."

(b) *Lack of adequate supply of coal to the industry*

2.20. One of the main factors leading to shortfall in production has been the lack of adequate availability of coal to the cement industry.

2.21. In a memorandum to the Committee, the Cement Manufacturers' Association has stated that the industry has been facing acute shortage of coal, both on account of inadequate wagons for inward movement and lack of adequate stocks at coal mines. Even after nationalisation of coal mines in February, 1973 there are no signs of improvement in coal supply position. This has resulted recently in shut of two mills by Rohtas Industries Ltd. and one mill each by

Ashoka Cement Ltd. and Mysore Cement Ltd. They have further stated that if the coal supply position does not improve soon, more mills will have to be closed down and the capacity utilisation of the industry would further go down.

2.22. The Ministry of Industrial Development have stated that during the calendar year 1971 (figures on the basis of financial years are not available), a quantity of 4.04 million tonnes of coal was supplied to the cement industry while during 1972 a quantity of 4.01 million tonnes was supplied. During these two years, a number of factories were using furnace oil as fuel in lieu of coal because in some cases it was convenient to obtain furnace oil for manufacturing special quality of cement for export. If these factories had also consumed coal, the actual requirements for the entire industry would have been about 4.80 million tonnes per annum. Now with the difficulties in regard to furnace oil, coal requirement would go up.

2.23. A statement, showing the monthly quota now fixed for each factory against their actual demand is given in Appendix VII.

2.24. The Ministry have also stated that the annual demand of coal by the cement industry is in the range of 6.2 million tonnes for a production of cement of 19 million tonnes. The gap between the total yearly quota and the total demand would, therefore, be almost one million tonnes. The quotas fixed in August, 1973 were still in operation and the question of increasing the quotas to the level of full demand was constantly reviewed in the meetings of the Linkage Committee.

2.25. Explaining the steps taken to ensure the supply of coal according to the quotas fixed, the Ministry have stated that a Monitoring Cell in Calcutta has been entrusted with the task of reviewing the position of coal every ten days. The Cell receives the information about coal loadings to cement factories every 10 days, and the Cement Controller furnishes the stock position at the cement factories every 10 days to the Cell. On the basis of this data, the Cell takes corrective steps wherever necessary to rush supplies to needy factories. During the months of September to November, 1973, the actual supplies have ranged between 3 to 3.4 lakh tonnes per month against a quota of 4.5 lakh tonnes per month. In other words, there was considerable shortfall.

2.26. It has been stated in reply to Unstared Question No. 2874 on 13th March, 1974 that in the months of December, 1973 and January, 1974 the supplies were 3.25 and 3.27 lakh tonnes respectively against the monthly quota of 4.57 lakh tonnes.

2.27. The Ministry of Industrial Development have further stated that according to the Railways, there was by and large no shortage of rail wagons for the movement of coal to cement factories and that within the overall availability of coal, Railways give very high priority to the movement of coal to cement factories.

2.28. A standing Linkage Committee, consisting of representatives of the Ministries of Mines, Railways, Industrial Development and Planning Commission etc., meet every month to review the performance and the coal requirements of all the cement factories in the country. This Committee lays down rational linkage between the different coalfields and cement factories both for the existing as well as for the future cement factories so that adequate coal supplies and transport availability is assured. A very close watch is kept on the movement of coal to cement factories. Even then, when cement plants report shortage of coal, the matter is taken up with the Railways for early solution.

2.29. It is also seen from the reply given to Unstarred Question No. 2874 on the 13th March, 1974 that a high level Committee under the Chairmanship of Deputy Minister in the Department of Mines has been set up to review the measures needed for improving coal transport and distribution.

Priority in Movement of Coal to Cement Industry

2.30. The Ministry of Industrial Development have also stated that for the movement of coal, different priorities depending on the use of coal have been fixed. Coal to Thermal Power Stations, Steel Plants, Railways, Cement Factories and other important industries etc. moves under various high priorities and coal for domestic consumption, small scale industries and brick industries etc. moves under comparatively lower priorities. Within this priority, commodity quotas have been fixed, so that adequate quantities of coal move to consumers under different priorities and no industry suffers for want of coal.

Assessment of Coal Requirement

2.31. Monthly coal requirement of a cement factory is assessed in consultation with D.G.T.D. on the basis broadly indicated below:—

1. For Wet Process Plants 30 per cent of total capacity
2. For Dry Process Plants 25 per cent of total capacity
3. For Slag Cement Plants 50 per cent of the normal requirements as calculated under (1) or (2) above.

4. For Thermla Plants attached to cement plants their requirements are certified by D.G.T.D;

Grade and Size of Coal supplied to Cement Industry

2.32. When the attention of the Ministry was invited to the complaints regarding the sub-standard quality of coal supplied to the cement industry, the Ministry stated that the grade and size of coal normally supplied to the Cement Industry was (a) for manufacture of cement clinkers-Grade I non-coking slack; and (b) if the raw material was exceptionally poor, selected 'B' non-coking slack which was a better quality coal. The coal supply to cement plants was affected on the basis of the linkages made by the Standing Linkage Committee set up by the Government. In fixing the linkages, the Committee takes into account the quality of coal required by the cement plant and the quality of coal available from the colliery.

The cement manufacturers are free to bring any complaint about quality of coal supplied to the notice of the C.M.A. Necessary remedial action is taken by them on such complaints.

Loss of Production due to Shortage of Coal

2.33. The Ministry of Industrial Development have stated that during the period July-September, 1973, a production of 253,923 tonnes was reported to have been lost on account of shortage of coal.

2.34. The Committee regret to note that inadequate supply of coal for cement industry has resulted in considerable loss in cement production. During the period July-September, 1973, the loss in production was as much as 2½ lakh tonnes of cement on this account. It is apparent that this sorry state of affairs has developed due to lack of coordination among the Ministries of Industrial Development, Steel and Mines and Railways. The Committee would urge that urgent and effective measures should be taken to ensure adequate and timely supply of coal to the cement industry so that the production of cement does not suffer on this account.

2.35. The Committee note that a High Level Committee has been constituted since last year under the Chairmanship of Deputy Minister of Steel and Mines to look into the problems of efficient coal transport by railways and other modes of transport and to ensure adequate supplies of coal to different users. The Committee are sure that this high-level Committee would go into the problem in all its ramifications, in depth and make suggestions to improve the position.

The Committee would like to be apprised of the recommendations made by this high-level committee, the action taken by the Government and the results achieved as a consequence.

2.36. The Committee note that there is a Standing Linkage Committee, consisting of representatives of the Ministries of Industrial Development, Steel and Mines and Railways and Planning Commission etc. to review periodically the performance and the coal requirements of all cement factories in the country. The Committee note that the coal quotas fixed for each factory fall short of the demands of the factories. The Committee, therefore, suggest that a realistic assessment of the requirements of coal by each cement factory may b made at the earliest so that there is no room for complaint from the factories that the quota fixed and coal supplied were not adequate to ensure maximum utilisation of capacity.

2,37. The Committee also note that a Monitoring Cell has been set up in Calcutta to keep a close watch on the supplies of coal to cement factories. The Committee note further that during September-November, 1973, as admitted by the Ministry themselves, there was a 'considerable shortfall' in the supply of coal against the quotas fixed. The Committee find that the actual despatches of coal have been below the allocations fixed even in the months of December, 1973 and January, 1974. The Committee feel that the constitution of the Monitoring Cell at Calcutta is a step in the right direction. They, however, regret to observe that in spite of its functioning the position regarding the supply of coal has not shown any appreciable improvement. The Committee would, therefore, urge that a review should be made of the functioning of this Cell so that the difficulties that were experienced by the Cell in ensuring full supply of coal to cement factories, could be assessed and remedial steps taken. The Committee would like to be apprised of the results of the review and the effective measures taken in improving the supply position of coal to the factories.

(c) *Shortage of Power*

2.38. Yet another reason for shortfall in production has been attributed to the power cuts.

2.39. The Ministry of Industrial Development have stated that regarding power where a State has to impose a power cut for unavoidable reasons, cement industry is asked to share the cut though not to the same extent as non-continuous process industries. Even then individual cases are also taken up with the State authorities. Where a State Electricity Board agrees to provide full power to the

cement factories without enforcing any cut, while other industries are subject to power cuts, the production of cement made available as a result of the additional power which would, otherwise, have been cut ordinarily, is usually allotted as additional quota to the State concerned. This was implemented in the case of Mysore State. Where the State Electricity Board of one State agrees to make power available to the cement factories in an adjoining neighbouring State, the additional cement production arising out of such power is also allotted as an additional quota to the State whose Electricity Board had agreed to make the power available. Such an arrangement had been worked out between the Maharashtra State Electricity Board and the cement factories in the Andhra Pradesh and the Kerala State Electricity Board and the cement factories in the State of Tamil Nadu.

2.40. The Ministry have also stated that power cuts were also imposed in the States of Gujarat, Rajasthan, Haryana, U.P. and Mysore. Minister of Industrial Development wrote to the Chief Minister of the States to exempt the cement industry from the power cuts imposed by them. Some of the States gave concessions to cement factories.

2.41. The Ministry have also stated that the monthly loss of production was ranging between 2 and 3 lakh tonnes.

2.42. During evidence, the representative of the Cement Manufacturers' Association, referring to power cuts affecting production of cement, stated:

> "About power, there is a possibility of self-generation. Instead of depending on the generation of electricity by Hydel Power Station or Thermal Power Station, if the factories are permitted to generate their power for their own use, it will supplement power and there will be no shortage of power."

2.43. The Committee note that the power cuts imposed by various State Electricity Boards during 1973 have also contributed to the shortfall in production of cement and the monthly loss of production ranged between 2 and 3 lakh tonnes of cement. The Committee also note that the Minister of Industrial Development took up the matter of supply of power to the cement plants with the Chief Ministers of the concerned States and as a result, some of the States allowed certain concessions to the cement factories at the time of power cuts.

2.44. The Committee are perturbed to note that power cuts have adversely affected cement industry which is a 'continuous process

industry'. The Committee feel that normally the State Electricity Boards should meet in full the demand of power of core sector industries like the cement industry.

2.45. The Committee need hardly emphasise the urgent need for augmenting power generation so that no industry suffers for inadequate availability of power, much less industries like cement and therefore, urge that the question of increasing the generation of power should be accorded the highest priority so as to ensure full supply of power to cement factories. If that is not possible, cement plants may be given full facilities to have their own captive power plants so that production of cement does not suffer on this account.

(X) *Non-availability of wagons for movement of cement*

2.46. Another factor that led to shortfall in production of cement is the non-availability of wagons to move the cement from the factories.

2.47. The Ministry of of Industrial Development have stated that a production of 5 lakh tonnes was lost during 1972 due to non-availability of wagons from the Railways. The problem of movement of cement will be dealt with in detail under the Chapter on Distribution and Marketing of Cement.

B. Expansion of Production capacity and Fifth Plan Targets

Targets of Capacity and Production for Fifth Plan

2.48. The Ministry of Industrial Development have stated that the demand for cement in the last year of the Fifth Plan period, *i.e.* 1978-79 has been estimated at 28 million tonnes. This has been calculated at 8 per cent per annum growth in demand and providing for 0.5 million tonnes for exports. On the basis of 85 per cent capacity utilisation, the corresponding installed capacity at the end of the year 1978-79 should be about 33 million tonnes.

2.49. The Fourth Plan target capacity for cement, both in public sector and pricate sector, was fixed at 21 million tonnes. The target of production was 18 million tonnes. As against the target of 21 million tonnes, the representative of the Ministry stated: "We have on the ground a capacity of 19.76 million tonnes and by the middle of 1974, that is to say, two or three months after the formal ending of the Fourth Plan, the capacity will become 21 million tonnes."

Hence the additional capacity of the industry that will have to be created during the Fifth Plan period to meet the demand of 28.00 million tonnes will be of the order of about 12 million tonnes.

2.50. It has been stated that the Task Force on Cement Industry has tentatively fixed the targets for capacity and production for the Fifth Plan. The optimum utilisation of capacity in the case of cement industry has been assumed at 85 per cent and due allowance given for the part that new plants during the first year of production do not generally give more than 50 per cent of the rated capacity due to initial teething troubles. It is expected that the following production will be achieved during each year of the Fifth Plan period:

Year	Capacity	Production
	(Million tonnes)	
1974-75	24·20	20·50
1975-76	26·10	22·20
1976-77	28·20	24·00
1977-78	30·50	25·90
1978-79	33·00	2[illegible]·00

2.51. The Ministry have also stated that on the basis of Licences/ Letters of Intent already issued, the anticipated capacity and availability of cement during the Fifth Plan period would be as under:

Year	Capacity	Availability
	(Million Tonnes)	
1974-75	21·722	17·352
1975-76	21·922	18·265
1976·77	23·216	18·602
1977-78	26·914	19·803
1978-79	32·482	23·821

2.52. The following statement shows the schemes which have been approved and are likely to be implemented during the Fifth Plan period:—

	Scheme	Capacity (Lakh Tonnes)	Probable date of Completion
	1	2	3
1974-75	Nimbahera	2·52 New	Sept., 1974
	*Cherrapunji	2·00 S.E.	April, 1974
	Durapur	3·00 New	Jully, 1974
		3·00	Do.
	Tilda	3·00 New	Sept., 1974
		3·00	Dec., 1974
	Talukapatti	2.10 S.E.	July, 1974
	Cement Nagar	1·00 S.E.	July, 1974
		19·62	
1975-76	*Bckajan	2·00 New	July, 1975
		2·00	
1976-77	*Paonta	2·00 New	Dec., 1976
	Udaipur	3·00 S.E.	Sept., 1976
	Rohtas	2·22 S.E.	Jan., 1977
	Ashoka	2·36 S.E.	April., 1977
	*Mandhar	1·80 S.E.	Jan., 1977
	Dalimiapuram	0·66 S.E.	April., 1976
	Bagalkot	0·90 S.E.	October,76
		12·94	
1977-78	*Samloti	2·00 New	Sept., 1977
	*Basholi	20·00 New	Dec., 1977
	"Dalla	3·68 S.E.	Jan., 1978
	Bhupendra	3·00 S.E.	June, 1977
	*Neeamuch	4·00 New	July, 1977
	*Akaltara	6·00 New	Sept., 1977
	*Jaffrabad	2·00 New	Do.
	*Tandur	4·00 New	Jan., 1978
	*Yorrag untla	4·00 New	Dec., 1977

	1	2	3
	*Alangulam	3·00 S.E.	December, 1977
	Wadi .	3·30 S.E.	October, 1977
		36·98	
1978-79	Narsingarh	4·00 New	April, 1978
	Hoshangabad .	4·00 New	Do.
	Chanaka .	3·30 New	Do.
	Asansol	2·60 New	Do. (Split location)
	*Adilabad . . .	4·00 New	May, 1978
	"Khrew . .	1·04	Sept., 1978
	Bapas .	8·00 New	Sept., 1978
	*Mirzapur . . .	4·32 New	Do.
	*Pithoragarh .	4·32 New	Jan., 1979
	Pali .	6·60 New	Do.
	*Purulia .	2·00 New	Do.
	Nagargali .	4·00 New	Do.
	Maihar	7·50 New	Do.
		55·68	

*Public Sector Schemes
SE—Substantial Expansion.

2.53. When asked whether the installation of capacity and production were based on firm indications or they were only *ad hoc* assessments, the representative of the Ministry stated that they were not firm indications. They were done on ad hoc basis after review. To a question whether the annual targets would be published in the 5th Five Year Plan, the representative of the Planning Commission stated:

> "We have not come to a final decision on this. With regard to some key commodities, there is a feeling that we should indicate the annual production targets. We are still discussing as to what commodities would be included under this. Cement may be one of them, but I am not quite sure about it."

2.54. Referring to the target of production fixed by the Planning Commission at 25 million tonnes, the representative of the Ministry stated:

"Since nobody can guarantee the availability of coal, power, transport, we cannot assure the utilisation capacity of more than 85 per cent. On that basis if the capacity is 33 million tonnes, the actual production would be 28 million tonnes. These complaints will still be there. That is my argument. That is why I am insisting on 33 million tonnes. If we get environmental conditions like coal, steady supply of power, 33 million tonnes capacity will not produce 28 million tonnes, but will produce 30 million tonnes."

2.55. The Committee enquired whether in the light of the past experience of Government regarding delay in the implementation of Leters of intent|Licences, it would not be prodent to approve a much larger capacity for cement production to ensure the production of the requisite quantity of cement by 1978-79. The representative of the Ministry of Industrial Development stated:

"I fully agree with you that even a bigger capacity should be licensed in the private sector....We would have no hesitation in permitting new entrepreneurs to put up capacities....After the Tariff Commission has given its report and investment in cement is considered once again as a remunerative investment, there would be other people who would think of coming forward and putting up capacities."

Steps taken to ensure the targeted capacity

2.56. Explaining the steps taken by the Ministry to ensure that the shortfalls do not occur again, the representative of the Ministry stated:

"As the Secretary has pointed out lessons which we have learnt are—instead of waiting and watching that this capacity may come in the first year or the second year, we see to it that all the capacity that is required to come up by the end of the Plan is licensed even before the commencement of the Fifth Plan period."

"The second lesson which we learnt was to make the public sector strong as far as possible in this area. As Secretary has pointed out, so far the major portion was accounted for by the private sector and we were merely watching them and depending on them. Now we have taken a deliberate decision to go in a big way so far as the public

sector is concerned so as to create an additional capacity of 13 million tonnes. Another thing which I think favourable for us is that even before the commencement of the Fifth Plan, all the project reports except one have been prepared. There are six projects which have to be taken up in the Central public sector and all the detailed project reports have been prepared and in some cases final investment decisions have been taken. In other cases they are likely to be taken in a month's time. Right from April, 1974 we are in position to go ahead. In fact preparatory action has already been started. Our emphasis is on the public sector to see that without any slippages without any set-backs the programme is implemented strictly according to the schedule.

We have gone a step ahead. We are placing advance orders for all these plants and equipments even before the commencement of the Plan period, so that within a period of three or four months those deliveries start coming."

2.57. When asked what would be the time taken before a factory went into production since the time of issue of the licences, the Chairman, Cement Corporation of India stated:

"It normally takes under the present circumstances about five years. It takes about five years from the time licence is issued to the party. It can slightly change by about six months more or less depending on things like availability of certain parts like heavy castings etc. It may take another six months or one year some time."

The representative of the Ministry, however, clarifying the position, stated as follows:—

"I do not think, we would accept that figure as the normal time. We have made certain studies and we find that the lead time depends on the supply of heavy castings etc. by the electric furnace owners and the foundary owners to the cement manufacturers. This is the real critical item. So far as this is concerned, we have taken a decision in principle that this should not be a bottleneck item and we should permit importation of this particular item and allow those to be imported and handed over to the manufacturers so that they do not face any difficulty in starting the production in time.

The others would be a few critical items, where again indigenous availability is there, but perhaps the time element may vitiate the progress. There also we have recently allowed some importation and we would allow importation to ensure that the progress is not held up. Normally, in cement industry, Government do not keep any foreign exchange component, but in the 5th Plan, we are trying to keep a foreign exchange element of 7 per cent which for cement factory is very high. It discussed this with the machine manufacturers and the people who are putting up the cement plants and they all agreed that 7 per cent would be on the liberal side and they should have no difficulty in getting the plants and equipment made with that sort of foreign exchange."

2.58. The representative of the Ministry added:

"So far as land, water, power and Railways are concerned, we satisfy ourselves that these are properly tied up before finalising the letters of intent. In all cases where the letters of intent have been finalised, these have been specifically examined and the licences have been issued only after the Licensing Committee was fully satisfied that these aspects have been looked into.

Next comes the question of financial assistance and there is a question coming up later on, as to whether there is going to be an apex organisation, whether each individual financial institution will make its own study or whether there will be one common study. So far as the financial institutions are concerned, they go basically by the health of a particular project—whether the project is a healthy project—and then the investment would be secured. Now, cement projects are by and large considered to be healthy projects even now, and after the Tariff Commission has examined and given its report, there is no opportunity to believe that the financing institutions will not consider the cement projects as a good investment. As a matter of fact, I have discussed this with all the people who are licence holders, and not one of them has complained about the financial corporations not cooperating."

2.59. Regarding the administrative steps taken to ensure that the additional capacity is actually installed, the Ministry have stated that a special Implementation Cell is being established in

the Ministry to watch and monitor the progress of the various projects and to remove the difficulties in the way of execution as they arise. Progress reports of the various projects are also received and scrutinised. Periodical meetings are held with the entrepreneurs to know the progress achieved to understand the difficulties if any in the way of expeditious completion of the projects and to explore the means of over-coming them in consultation with the authorities concerned. It is also proposed to establish monitoring cells at the project level, and the headquarters level and also in the Ministry for close liaison with the monitoring and evaluation organisation of the Planning Commission.

2.60. It has been stated in reply to Unstarred Question No. 1039 on the 27th February, 1974 that Government propose to export three lakh tonnes of cement by the end of December, 1974 and another five lakh tonnes during 1975 to Iran as a part of bilateral trade negotiations between India and Iran.

2.61. The Committee note that on the basis of licences|letter of intent already issued by Government, the capacity that is expected to be installed at the end of the Fifth Plan period, is 32.482 million tonnes, but the actual availability would be only 23.21 million tonnes. Thus on the assumption that even if the entire capacity licenced comes up, there would still be a shortfall of more than 4 million tonnes in the production target of 28 million tonnes. The Committee do not find any reason for optimism on the part of Government that with the existing capacity licenced, the target production of 28 million tonnes could be achieved at the end of the Fifth Plan period. They would therefore like to be apprised how the Government propose to achieve the target of 28 million tonnes with the capacity already licensed.

2.62. The Committee have already pointed out that even the target of 28 million tonnes is on the conservative side. The Committee also note that Government propose to export three lakh tonnes of cement by the end of December, 1974 and another five lakh tonnes during 1975 to Iran as a part of bilateral trade negotiations between India and Iran. In view of this export commitment and the need for higher exports of cement for meeting the higher crude import bill, it has become imperative that the capacity to be installed should be sufficient not only to meet the growing internal demand but also to fulfil the export commitments. The Committee therefore recommend that additional capacity should be licensed by Government without fur-

ther loss of time so that a safe margin is provided to ensure that there is no shortfall to meet the additional demand for cement.

2.63. The Committee find that there would be only marginal increase in capacity and production in the first two years of the Fifth Plan and somewhat higher increase in the third year. In the last two years of the Fifth Plan and more particularly in the last year of this Plan, the increase in capacity and production would be pronounced. Even if the existing licenced capacity materialises, there will be shortfall in every year of Fifth Plan in relation to targeted capacity as well as production. It is imperative to ensure that not only the target dates of completion of projects are sufficiently advanced but also the targets of capacity and production are achieved, so that the gap between demand and availability of cement narrows down. The Committee would, therefore, urge Government to take necessary steps towards this end.

2.64. The Committee would like Government to fix the annual targets of production of cement during each year of the Fifth Plan period and to publish the same in the Fifth Plan Document itself to facilitate a close watch being kept on the performance of this key sector industry.

2.65. The Committee also note that a special implementation cell is being established in the Ministry to watch and monitor the progress of various projects and to remove the difficulties in the way of execution as they arise. The Ministry also propose to set up monitoring cells at the project level and at headquarters level. The Committee feel that these steps are in the right direction and hope that these cells will operate with maximum efficiency to eliminate all bottlenecks in the way of realisation of capacity and production targets. The Committee recommend that the problems solved and the results achieved by these cells should find a special mention in the Annual Reports of the Ministry.

C. Licensing Policy

2.66. The cement industry was subject to the licencing provisions of the Industries (Development and Regulation) Act. 1951. However, the industry was exempted from the licencing provisions with effect from the 13th May, 1966 till 19th February, 1970 when licencing was reintroduced for the industry.

2.67. The Ministry have stated that a capacity of 30.40 lakh tonnes, as indicated below, came into production during the delicencing period:—

Date of issue of licence	Party	Location	New/SE	Capacity installed lakh tonnes	Year of Production
17-4-56	Assam Cements Ltd.	Cherrapunji	New	0·84	1966
10-8-55	A.C.C. Ltd.	Porbandar	New	2·00	,,
—	Dalmia Cement (p) Ltd.	Dalmiapuram	SE	1·06	,,
16-6-61	Birla Cement	Chittorgarh	New	2·00	1967
4-12-62	I.D.C. Orissa	Bargarh	New	3·96	,,
23-9-63	Kalyanpur	Banjari	SE	2·00	,,
6-7-65	Digvijay Cements	Sikka	SE	2·00	,,
17-6-63	Chettinad ,,	Karur	New	2·00 (1st stage)	1968
9-3-65	A.C.C. Ltd.	Wadi	New	2·00 (1st stage)	1968
—	Mysore Cements	Amma-sandra	SE	1·74	1968
9-3-65	A.C.C. Ltd.	Wadi (2nd stage)	New	2·00	1969
23-9-63	Panyam Cements	Cement-nagar	SE	2·00	1969
9-12-60	A.C.C. Ltd.	Kymore	SE	2·00	1969
—	Orissa Cements	Rajgangpur	SE	0·30	
Letter of Intent					
1-8-65	Kesoram Cment	Peddapalli	New	4·50	1969
		Total :		30·40	

2.68. Out of this capacity, a capacity of 25.90 lakh tonnes was licensed prior to delicensing of the industry *i.e.*, before 13th May, 1966. A capacity of 4.50 lakh tonnes was established by Kesoram Industries for which they were granted a letter of Intent on 27th August, 1965. The letter of intent for 4.0 lakh tonnes was originally granted for Palamau district in Bihar but the party established a capacity of 4.50 lakh tonnes at Peddapalli in Karimnagar district of Andhra Pradesh during the delicensed period.

2.69. Subsequent to the re-introduction of licensing with effect from the 19th February, 1970, carry on business licenses|licenses were issued for a total capacity of 26.92 lakh tonnes. Out of this, effective steps had been taken for a capacity of 23.82 lakh tonnes during the delicensed period. This, it can be stated that during the delicensed period, effective steps had been taken in respect of a capacity of the order of 28.32 lakh tonnes.

Letters of intent have been issued after reintroduction of licensing, for a total capacity of 55.19 lakh tonnes in the private sector and 56.86 lakh tonnes in the public sector till September, 1973. As the gestation period in this industry is generally four to five years, the Ministry have stated that it is not yet feasible to indicate precisely the capacity which will materialise out of Letters of intent granted after reintroduction of licensing.

2.70. Giving the reasons for reintroduction of licensing for cement industry, the Ministry have stated that early in 1970 Government examined the changes necessary in its policies relating to the industrial development, in the light of the recommendations of the Administrative Reforms Commission, the Industrial Licensing Policy Inquiry Committee and of the Planning Commission and decided to make certain changes in (a) Industrial Licensing Policy; (b) the policy in regard to assistance from public financial institutions; and (c) the policies relating to the growth of the public sector. With the exemption limit of licensing being raised from Rs. 25 lakhs to Rs. 1 crores, and in view of the other policy objectives sought to be achieved, Government decided that the then existing exemption of a number of industries from licensing requirements should be withdrawn. Re-licensing was accordingly introduced for the cement industry with effect from 19th February, 1970.

2.71. The representatives of the Cement Manufacturers' Association stated during evidence that during the last two and half years, no new cement plants had been established as Government held the view that licences should not be granted to large industrial houses. In fact Government wanted to give licences to the new entrepreneurs. Some new entrepreneurs did come in the field but after facing the difficulties of which they were not aware previously and after realising that a cement factory required an investment of Rs. 10 crores, they gave up the idea of entering the business. Recently there had been some change in Government's licensing policy.

2.72. Under the licensing policy announced in 1970, the Ministry of Industrial Development have stated that, cement industry, being in the Heavy Investment Sector, was open to larger houses. However,

the Cabinet Committee on Economic Coordination had decided that larger houses need not be allowed to put up additional capacity in Cement Industry since it was a well established industry to which new entrepreneurs should be attracted. Consequently, some schemes put up by larger houses were rejected.

2.73. Giving further details about the decisions of the Cabinet Committee to reject the applications from the larger houses, the representative of the Ministry stated that there were six cases involving a capacity of 21.06 lakh tonnes which were rejected as a result of the decision of the Cabinet Committee. He added:

> "These were the applications which were sponsored by the Ministry of Industrial Development and recommended by them. But at the time the papers went from the Ministry, the Licensing Committee had cleared these cases and recommended them. But when it went to the Cabinet Committee, they took the decision that henceforth, larger houses shall not be allowed to come up into this sector. Our first recommendation was in respect of six parties where the Licensing Committee had recommended and the Ministry had also recommended. It was in January 1972 that a decision was taken by the Cabinet Committee."

2.74. The details of the applications received from the larger houses which were rejected as a result of the decision of the Cabinet Committee were as under:—

	Name of the party	Location	Capacity Lakh tonnes
1	M/s. Ballay Jute Co. Ltd., New Delhi (NU)	Sojat Road (Rajasthan)	6·60
2	M/s. Orissa Cement Ltd. New Delhi (SE)	Rajgangpur (Orissa)	5·99
3	M/s. Rohtas Ind. Ltd., New Delhi (SE)	Daimianagar (Bihar)	1·34
4	M/s. Ashoka Cement Ltd., New Delhi (SE)	Dalmianagar (Bihar)	3·08
5	M/s. Oudh Sugar Mills Ltd., Bombay (NU)	Maihar (M.P.)	3·25
6	M/s. Bagalkot Udyog Ltd., Bombay (SE)	Bagalkot (Mysore)	0·90
		TOTAL :	21·06

2.75. The details of applications from the larger houses which were rejected by the Cabinet Committee on Economic Coordination and thereafter by the Licensing Committee are as under:—

S. No.	Name of the party	Location	Capacity applied in lakh tonnes	Rejected by
1	Balley Jute Co. Ltd.	Sojat Road	6·60	CCEC
2	Rohtas Industries Ltd.	Dalmianagar	1·24	,,
3	Ashoka Cements Ltd.	Dalmianagar	2·36	,,
4	Orissa Cement Ltd.	Rajgangpur	5·99	,,
5	Bagalkot Udyog Ltd.	Bagalkot	0·90	,,
6	Oudh Sugar Mills Ltd.	Maihar	3·25	,,
7	Ganges Mfg. Co.	Hoshangabad	3·00	LC
8	Mysore Cement Ltd.	Hoshangabad	4·00	,,
9	J.K. Rayon, Kanpur.	Dehradun	3·30	,,
10	J.K. Rayon, Kanpur	Mirzapur	3·30	,,
11	Delhi Cloth & Genl. Mills. Co. Ltd.	Mirzapur	3·00	,,
12	Ashoka Cements Ltd.	Bhawnathpur	4·91	,,
13	Sone Valley Portland Cement Co. Lt	Japla	2·54	,,
14	Rohtas Industries Ltd.	Dalminagar	1·00	,,
15	Rohtas Industries Ltd.	Dalminagar	2·22	,,
16	Ashoka Cements Ltd.	Dalminagar	3·09	,,
17	Walch and Tandur Cement Co. Ltd.	Tandur	3·60	,,
18	Shri Digvijay Cement Co. Ltd.	Sikka	3·00	,,
19	A.C.C. Ltd.	Porbandar	0·10	,,
20	Oudh Sugar Mills Ltd.	Maihar	3·25	,,
21	Century Cement	Maihar	7·50	,,
22	Century Cement	Tilda	6·00	,,
		TOTAL	74·15	

2.76. However, the Industrial Policy announced in February, 1973 included Cement Industry as one of the 19 categories of industries which are open to larger industrial houses. Under this Policy the larger Houses would be considered as eligible to participate in and contribute to the establishment of new capacity in cement industry. In order to bring about a rapid and phased expansion of capacity, especially in the earlier years, and having regard to the constraints likely to be encountered by new entrants, particularly because of high investment cost, long gestation period of about 4-5 years and low return on investment, approval from the Cabinet was obtained for review of all the cases whether for expansion or new schemes which were rejected earlier and also to consider pending and new applications from larger houses, without the constraints earlier imposed by the Cabinet. Accordingly, a review of the applications from the larger houses which were earlier rejected had been undertaken. The Ministry have also stated that it was expected that as a result of this review, an additional capacity of 17.47 lakh tonnes by way of expansion and 9.55 lakh tonnes by way of new units would be created. In addition to this applications for a capacity of about 4.00 million tonnes from larger houses were pending with the Government for clearance from MRTP angle and necessary steps were being taken to expedite a decision on these applications in the light of the decision for consideration of applications from larger houses.

2.77. A statement showing the time-lag between the date of receipt of each application and date of approval of the schemes on the basis of review of applications from larger houses is given in Appendix VIII.

2.78. The Committee note that during the period between January, 1972 and the 3rd May, 1973, applications of the larger houses for new units, or for expansion, were not approved as a result of the decision of the Cabinet Committee for Economic Coordination. The Committee also note that Government, realising the need for a pragmatic and realistic policy, have since decided to review the applications of the larger houses and as a result of the review, some of the applications which were earlier rejected, have been approved and letters of intent have since been issued. While the Committee agree that every encouragement may be given to new entrepreneurs, they feel that the nature of industry, capital investment involved, the expected return etc. should be all carefully gone into before the licences are issued.

2.79. The Committee note that some applications from larger houses for a capacity of 4.00 million tonnes are pending clearance

from M.R.T.P. angle. The Committee recommend that in the interest of increased cement production, these applications should be processed expeditiously and decisions taken within a specified period..

2.80. The Committee note that the Cement Corporation of India, a Public Sector organisation has also entered the field of cement industry. The Committee feel that this Public Sector organisation should be given all encouragement to enable it to play an important role in cement production.

2.81. Considering the long gestation period of the cement industry, the Committee urge that Government should take advance action for creation of additional capacities for the 6th Plan period so that in the early years of that period, capacities develop and production beings. The Committee also suggest that any reappraisal of licensing policy regarding cement industry should be done at the time of mid-term appraisal of the Fifth Plan, that is, well in advance of the commencement of the 6th Plan so that needless delays in licensing new units or expansion are obviated.

D. Role of Cement Corporation of India in Production

(i) *Principal Objectives*:

2.82. The Cement Corporation of India Limited was incorporated on 18th January, 1965 with the following principal objectives:

1. Survey, prospecting and proving of cement grade limestone deposits in the country.

2. Installation of sufficient capacity for the manufacture of Cement through public sector to help achieve cement production targets.

3. All ancillary and supporting activities connected with the growth of cement industry and the development of expertise. The Corporation was also given the following direction in Government's letter dated 4-5-1965:

   (a) The target of cement manufacturing capacity to be set up by the Corporation should be 1.5 million tonnes by 1968-69 and an additional 3.5 million tonnes by 1970-71 thus totalling a capacity of 5 million tonnes by the end of Fourth Plan period.

   (b) The Corporation should take steps to set up within the ceilings referred to in (a) above two very large cement plants, each of approx. one million tonnes per annum capacity. As soon as possible suitable locations for the

plants shall be investigated *inter alia* in the Jagdalpur Bastar area and in Kothagudem area.

(c) The Corporation shall undertake (within the ceiling referred to in (a) above) the establishment of about six plants of smaller capacity, in lieu of schemes of private parties who are unable to implement their licences under the Industries Act. The locations to be selected on economic considerations.

(d) The Corporation shall also extend such technical assistance to State Governments proposing to establish new cement plants in the Fourth Five Year Plan, as the Central Government may direct.

(e) The Corporation shall build up its strength of technical personnel quickly, if necessary by employing foreign experts for a limited period.

(ii) *Production Targets and Investment*

2.83. It will be seen that one of the primary objectives behind the Cement Corporation of India was installation of sufficient capacity for the manufacture of cement through public sector to help achieve cement production targets.

2.84. As stated earlier, the target of manufacturing capacity to be set up by the Corporation by the end of Fourth Plan period was 5 million tonnes. To achieve this target, the Ministry of Industrial Development have stated in a note, that the Corporation had ovserved in March, 1965 itself that it should have at least 12 manufacturing plants of 0.2 to 0.4 million tonnes capacity each and two plants of one million tonnes each. Since this task was huge and was to be achieved within a short period, it was decided to invoke the assistance of the Associated Cement Company, the Geological Survey of India and the Indian Bureau of Mines also for proving of limestone deposits in addition to setting up a Limestone Investigation Division within the organisation. Just when the Company was organising to achieve the targets laid down for it under the Government's directives, Government of India decided to decontrol cement with effect from 1-1-1966 and gave certain incentives including a slight price rise to encourage the private sector to increase its investment in the cement industry. With the chnge in the Government's policy and with the incentives given to private sector to invest in the Cement Industry the Planning Commission suggested reduction in the capital outlay of the Fourth Five Year Plan. In September, 1969, the Government intimated the

Corporation that the Planning Commission had earmarked an investment of Rs. 25 crores for 4th Plan period and had subsequently reduced it to Rs. 23 crores.

2.85. As a result of change in the policy the original layout for the Corporation for setting up 5 million tonnes capacity by 1970-71 was brought down to 1.6 million tonnes and subsequently to 1.2 million tonnes, while the actual achievement of the Corporation stood at 0.4 million tonnes in two of its plants namely Kurkunta in Mysore State and Mandhar in Madhya Pradesh.

In July, 1967 it was further decided by Government that the need to put up cement factories in the deficit areas was of urgent importance and that as the private sector was not expected to give its full cooperation, the public sector has necessarily to fill the gap and take all necessary initiative to set up such plants. In pursuance of this decision the setting up of the cement plants at Bokajan in Assam and Paonta in Himachal Pradesh was later on taken up by the Company.

Till February, 1970, the Cement Industry remained under the de-licensed category and any one could set up a cement manufacturing plant without obtaining an industrial licence. Since February, 1970, however, the industry has again been brought under the licensing provisions of the Industries (Development and Regulation) Act.

In December, 1971 the Planning Commission, in the light of the shortages of cement manufacturing in the country and the likely demand during the Fifth Five Year Plan, desired that the restrictions laid down on the Cement Corporation to invest only in the deficit areas might be removed. This recommendation of the Planning Commission was also communicated to the Company and they were requested to forward their proposal for investment in new plants. The Company, therefore, began submitting Detailed Project Reports with effect from April, 1972. In May, 1972, the Government also estimated that by the end of Fourth Five Year Plan ending in March, 1974 the gap between the demand and the production of cement in the country would be about 3 to 4 million tonnes. A note was therefore put up to the Cabinet in June, 1972 that the Company be allowed to (i) set up cement manufacturing plants in areas other than deficit areas also and (ii) provide technical and managerial assistance in State Government ventures for cement manufacture and also take equity participation, if necessary; the Cabinet also gave its formal approval for this proposal.

2.86. It has also been stated by the Ministry of Industrial Development that the Cement Corporation of India had investigated 14

sites during 1965—68. If the restriction on Cement Corporation was not imposed to go only for deficit areas, several sites could have been taken out of the 14 including the proposals now under consideration for Fifth Five Year Plan programme.

2.87. The investment of the Government in the Corporation was as follows:

1964-65	Rs. 5 lakhs
1965-66	Rs. 42·16 lakhs
1966-67	Rs. 132·00 lakhs
1967-68	Rs. 206·00 lakhs
1968-69	Rs. 213·00 lakhs

2.88. Explaining the reasons which weighed with the Planning Commission for reduction in the capital outlay the Cement Corporation of India for the Fourth Plan period, the Ministry of Industrial Development have stated that after inception of the Corporation in 1965, certain fiscal incentives had been extended to the Cement Industry along with certain other industires. A liberal price increase was given from 1-1-1966 and it was also exempted from licensing from 13th May, 1966. These had favourable impact on the industry and the private sector drew up a programme of 10 million tonnes of which 5 million tonnes was expected to be from Associated Cement Company. This coupled with the financial constraints made it necessary to scale down the original target of 5 million tonnes to 1.6 million tonnes.

2.89. When asked to explain how the scaling down of the capacity of the Cement Corporation of India was in keeping with the primary objective of the Corporation, namely, installing sufficient capacity for the manufacture of cement through the public sector to help achieve cement production target, the representative of the Ministry stated as follows:—

> "Here the word 'target used was in relation to a plan target and the idea was that the plan target should be achieved in the private sector as well as in the public sector Perhaps, today, after so many years, you can say that the view was incorrect. But at that time people who took the view could not have anticipated the various problems that would crop up and they thought that the Plan target would be achieved even with the public sector coming in marginally. Now. we can say that this view was

not correctly taken. But, it was felt at that time, a view was taken at that time, that the declared targets would be achieved mainly through the private sector."

2.90. The Committee are not happy that after setting up the Cement Corporation of India to play an effective role in the production of cement, Government should have sought to curtail its activities placing greater reliance on the private sector.. The Committee are not convinced that the consideration of Special constraints should have led to a drastic scaling down of the capacity target of the Corporation from 5 million tonnes to 1.2 million tonnes during the Fourth Plan period. They regret to note that even this modest target of 1.2 million tonnes, has not been achieved and that the achievement of the Corporation stands at 0.4 million tonnes only.

2.91. The Committee realise that the Cement Corporation of India has a special role to play in the deficit areas, but they are unhappy that a restriction to go only for deficit areas, should have been imposed with the result that the Corporation was inhibited from setting up its plants at sites where they had already carried out their investigation during the Fourth Plan period. The Committee recommend that full encouragement should at least now be given to the Cement Corporation to set up cement plants during the Fifth Plan period.

(iii) *Progress in setting up new plants*

2.92. The Corporation is presently implementing two other projects in far flung under-developed areas; one each in Bokajan in Assam and Paonta in Himachal Pradesh each of two lakh tonnes capacity. A third project on hand relates to the expansion of existing Mandhar capacity by 1.8 lakh tonnes a year

2.93. Bokajan was approved in May, 1971 However, the Government of India authorised the Corporation to place orders for plants and machinery as well as acquisition of land in 1970. The sanction for the revised estimates in respect of Mandhar expansion and Paonta was received in March/May, 1973. These plants are expected to go into production by the end of 1975-76, adding to the existing capacity by 5.8 lakh tonnes.

2.94. The progress made in setting up the two plants at Bokajan (Assam) and Poanta (H.P.) upto October, 1973 was as follows:—

BOKAJAN.—The Civil Works in the machinery foundation is nearing completion.

The Cement Plan and Machinery 160 per cent has reached she and about 10 per cent is in transit and likely to reach shortly.

In respect of 18 Kms. long aerial ropeways for limestone transport the foundations for trussels and trackrope have been completed. The design of the structures has been completed by the supplier M/s. Jessop and Co., Drawings for manufacturing the ropeway have been finalised.

The erection of the Cement Plant and Machinery is going to be started by the middle of December. The limestone quarry operations in respect of development and mining operations have been started.

PAONTA.—The order for main plant and machinery has been placed. The specifications for crushing plant and alignment work of ropeway for limestone transport are being finalised.

(iv) *Cement Corporation of India's Role in Fifth Plan Period*

2.95. In addition to the three continuing schemes which are already under various degrees of implementation, the Corporation will be undertaking six new projects as part of the Fifth Plan programme. The capital outlay of the Corporation proposed for the Fifth Plan works out to Rs. 157 crores, which also includes provision for a fully equipped limestone prospecting division, two to three new schemes that would ultimately materialise in early Sixth Plan period, requirement of funds towards working capital etc., for the new projects in the initial years.

2.96. The details of the six plants proposed are as under:

S. No.	Plant Location	Capacity (lakh tonnes)	Likely date of completion
1	Neemuch (M.P.)	4·0	June, 1977
2	Akalta ra (M.P.) . .	6·0	August, 1977
3	Yerragu ntal (A.P.) . .	4·0	November, 1977
4	Tandur (A.P.)	4·0	December, 1977
5	Adilabad (A.P.) . . .	4·0	April, 1978
6	Kurkunta expn. (Karnataka) . . .	4·0	July, 1977

The first five schemes have already been approved by the Public Investment Board and the sixth scheme was under consideration.

2.97. The Ministry has stated that the production at the end of the Fifth Plan period, based on the assumption that the capacity utilisation will be 40 per cent of rated capacity during the first 12 months and 85 per cent thereafter, would be as under:—

	Production
Mandhar	1·9 lakh tonnes
Kurkunta	1·7 „ „
Bokajan	1·7 „ „
Mandhar Expansion	1·7 „ „
Neemuch	3·5 „ „
Kurkunta Expansion	3·5 „ „
Akaltara	5·1 „ „
Yerraguntala	3·5 „ „
Tandur	3·5 „ „
Adilabad	1·7 „ „
	27·8 lakh tonnes

2.98. The Committee note that Cement Corporation of India has a target of production of about 2.78 million tonnes of cement during the Fifth Plan period, and that it would then become an important cement producing oragnisation in the country. The Committee feel that even so its production would constitute only about 10 per cent of the total targetted production at the end of the Fifth Plan period, viz., 28 million tonnes. The Committee recommend that since about 50 per cent of cement is used by Government, Semi-Government and public undertakings, it is but appropriate that a larger role should be given to the Cement Corporation of India in cement production during the Sixth Plan period at least.

2.99. In view of the long gestation period for the installation of cement plants, the Committee suggest that the Cement Corporation of India should undertake the preparation of detailed proposals for the Sixth Plan period well in advance and seek the approval of Government therefore with a view to initiate advance action in this behalf.

E. Measures for augmenting Production

(i) *Utilisation of Industrial Wastes*

2.100. Apart from the raw materials like limestone, there are industrial wastes like the blast furnace slag, fly ash of thermal

power stations and by-product gypsum, which can be effectively and usefully used as supplementary raw materials in the manufacture of cement in our country. Surveys indicate that these industrial wastes are available in abundance in our country and the Indian research has sufficiently advanced in using them in the manufacture of cement.

2.101. The Cement Research Institute of India has carried out extensive studies on the potentialities and problems relating to the utilisation of industrial wastes such as fly ash, blash furnace slag, slunge from paper and sugar industries etc. The D.G.T.D. have also made a study of the availability of fly ash and slag for the manufacture of cement.

2.102. Utilisation of industrial wastes has certain definite advantages such as:—

(i) beneficial conversion of wastes into wealth;

(ii) savings in expenditure on disposal;

(iii) increasing availability of much needed construction materials; and

(iv) reduction in air/water pollution.

(a) *Blast Furnace Slag*

2.103. The only industrial waste that has been successfully utilised so far for the manufacture of cement is the blast furnace slag. According to the Cement Research Institute the present availability of the blast furnace slag is approximately 5.0 million tonnes annually.

2.104. The present availability of slag and its utilisation, according to the information furnished by the Ministry, is as under:—

Name of the Steel Plant	Quantity available Million tonnes	Utilisation
1. Bhilai	0·7	Jamul works of A.C.C. with annual capacity of 1·08 million tonnes utilised 0·5 million tonnes of slag. The Mandhar Unit of CCI with a capacity of 2 lakh tonnes per annum will use ·2 million tonnes thereby increasing its capacity to 0·4 million tonnes.
2. Durgapur	0·4	Entirely committed to Durgapur Works.

Name of the Steel Plant	Quantity available Million tonnes	Utilisation
3. Rourkela	0·6 (Granulation plant under installation)	CCI will use ·3 million tonnes for their plant at Akaltara and balance will be used at Rajganpur or Bargarh.
4. TISCO	0·3	The entire quantity is used by ACC for their Chaibasa Works with capacity of ·782 million tonnes per annum.
5. Bokaro	1·0 (After grunulation —granulation plant yet to be established.	Proposed to be utilised by UP State Cement Corporation and others.)
6. Bhadravati	0·1	50% used by Bhadravati Steel Co. and the balance by Balgalkot Udyog Ltd.

2.105. The following are the factories producing slag cement:—

	Name of the Factory	Location	Production (in tonnes) 1972	1973 (upto Sept.)
1.	M/s. A.C.C. Limited	Chaibassa	431,745	370,161
2.	A.C.C. Limited	Jamul	763,400	472,646
3.	Iron & Steel Limited	Bhadravati	95,110	66,839
4.	Shree Digvijay	Sewree	52,328	47,777
5.	Jaipur Udyog	Sewaimadhopur	10,188	..
6.	Rohtas	Dalmianagar	42,183	62,692
7.	Ashoka	-do-	60,013	62,692
8.	Bagalkot	Balgalkot	80,695	55,795
9.	Orissa Cement	Rajgangpur	9,216	10,983
10.	I.D.C. Orissa	Bargarh	..	2,268
11.	Sone Valley	Japla	..	131,786
		TOTAL	1545,148	

2.106. According to the Ministry, only granulated slag can be used for the manufacture of cement and the present availability of granulated slag is about 1.15 million tonnes. The percentage utilisation of blast furnace slag is of the order of 70 per cent for manufacture of blast furnace slag cement.

2.107. As regards the granulation plants, the Ministry have stated that at Bhilai there is already a slag granulation plant which has been in operation since December, 1964. It has a production capacity of 7 lakh tonnes of granulated slag per annum. The question of increasing this capacity to about 9 lakh tonnes per annum by providing certain balancing facilities and expanding the capacity of plant further is under consideration of the Ministry of Steel and Mines.

The Steel Authority of India Limited has recently approved a proposal for installation of a slag granulation plant at Rourkela. The Plan is likely to be commissioned by December, 1975. The availability of granulated slag for sale by the end of the first year is expected to be around 3.35 lakh tonnes which will ultimately go up to 6 lakh tonnes.

A contract for the supply of molten slag from Durgapur Steel Plant was signed in September, 1969 with Birla Jute Manufacturing Company. This firm is to put up its own slag granulation plant to process the hot slag for further use in the production of cement. The cement plant is expected to go into production in 1974.

TISCO slag is supplied to A.C.C. Ltd., who granulate it at a plant set up by them on site for their own use.

TISCO have a granulated unit of a capacity of 1 lakh tonnes per month. This is expected to come into production next year.

2.108. It will be seen from the above that in so far as Public Sector Steel Plants are concerned, slag granulation plants have been/will be set up by these except in the case of Durgapur Steel Plant where the molten slag has already been committed to a private party which is putting up a slag granulation plant for the manufacture of slag cement.

2.109. Some years ago, H.S.L. had come to the conclusion that, for a variety of considerations it would be better for them not to set up slag granulation plants themselves but to sell molten slag to interested parties at a reasonable price. It was in pursuance of this decision that a contract was signed with Birla Jute Manufacturing Company; for the sale of molten slag from Durgapur Steel Plant. Similarly, a letter of intent had been issued for the sale of molten

slag from the Rourkela Steel Plant to M/s. Orissa Cement Limited, Rajganjpur on long term basis. This party, however, did not get a licence for the purpose of setting up a slag granulation plant. The matter was therefore, reconsidered by the Ministry of Steel and Mines, who have now decided to set up a slag granulation plant at Rourkela.

2.110. Regarding the cost of production of slag cement, the Ministry have stated that it was not readily available with them and that it is presently under study by the Tariff Commission. They have, however, stated that it is generally considered to be cheaper than that of portland cement. The Ministry have also stated that the Tariff Commission were examining the necessity of using supplementary raw materials like slag and pozzolana materials adequately and to suggest measures as would lead to fuller utilisation of such materials.

2.111. The Ministry have stated that the present schemes for the use of slag cement are as under:—

S. No.	Name of the Unit	Capacity tonne per annum	Date of letter of intent licence
1	Cement Corporation of India, Mandhar	1,80,000	19-1-1971
2	Durgapur Cement, Durgapur.	6,00,000	4-10-1971
3	Ashoka Cement, Asansol	2,60,000	6-8-1973
4	Rohtas Industries Dalmianagar	2,22,000	19-7-1973
5	Ashoka Cement Chandrapura	2,36,000	1 -73

2.112. The Committee note that according to the Cement Research Institute, the present availability of blast furnace slag in the country is about 5 million tonnes annually. They regret to note that very small quantity is at present being utilised for manufacture of slag cement Since the technique of utilisation of blast furnace slag for the manufacture of cement is available in the country and since the cost of production of slag cement is comparatively cheaper, the Committee would urge the Government to make a comprehensive assessment of the availability of blast furnace slag from the various steel plants in the country and take effective measures in consultation and close coordination with the steel plants authorities for full utilisation of the available slag for stepping up cement production at the earliest. The Committee would also like to stress that in setting up the plants for the manufacture of slag cement, adequate

provision should be made for utilisation of increased quantities of slag consequent on expansion and higher production by the steel plants.

The Committee would further suggest that while setting up new steel plants and expansion of existing ones in future, an integrated plan should be prepared providing for a granulation plant for slag and its utilisation for the manufacture of cement simultaneously with the commissioning of the steel plants.

(b) *Fly-ash Cement*

2.113. Yet another industrial waste that can be utilised for production of cement is the fly ash. According to Cement Research Institute, the Indian fly-ash consists of fine particles of ash produced as a result of combustion of pulverized coal and collected in the stack of thermal power plants by mechanical or electrical precipitators or by a combination of the two.

2.114. Fly ash is an established pozzolana and is being utilised as an additive to cement by several countries. Some of the portland puzzolane cements presently being marketed in the USA contain fly ash. France is leading all other countries in use of fly ash in cement manufacture, as it utilises more than 50 per cent of its fly ash in this manner and one-third of the entire cement produced contains fly ash. Furthermore, it is producing and marketing three different types of cements containing fly ash.

2.115. Indian researches had established the suitability of several fly ash samples available from different thermal stations in the country for use as pozzolans in manufacturing portland pozzolana cement in early and mid-sixties and the Indian standard on the latter had already been brought out in 1966.

2.116. The Ministry of Industrial Development have stated that the availability of fly-ash is 4 million tonnes from 30 thermal plants in different parts of the country. A quantity of 4.09 lakh tonnes per annum could be used immediately for manufacture of cement although the availability is much greater than what could be now. Fly ash could be used upto 20 per cent in the production of cement.

2.117. The Cement Research Institute has prepared two project reports relating to manufacture of portland fly-ash cement using fly-ash obtained from the Delhi-Badarpur Faridabad complex of thermal power stations. They feel that this will be technically and economically a feasible proposition. As an experimental measure the Kurukunta and Mandhar plants of the Cement Corporation of India will

also be manufacturing fly-ash pozzolana cement in a very small quantity of 2000 tonnes per month, to ascertain the market reaction to the cemenf initially.

2.118. The Cement Research Institute has also completed a feasibility report for a cement manufacturer to utilise the fly ash from Nellore thermal power plant in Andhra Pradesh and has actively on hand the question of utilizing fly ash from the Panki Thermal Power Plant in Uttar Pradesh for another cement manufacturer. Testing fly ash and fly ash cements made by the Cement Corporation of India using Ramagundam fly ash is in progress in C.R.I. Availability of fly-ash is expected to be of the order of 8 million tonnes at the end of the Fifth Five Year Plan.

2.119. C.R.I. has already completed studies on uniformity and consistency of a member of fly-ash samples from thermal power plants in different parts of the country—some of these studies being in cooperation with the largest cement producer in the country and the Electricity Board authorities. The technical know-how relating to the utilisation of fly-ash for the manufacture of cement in this country has already been made available by C.R.I.

2.120. Apart from the suitability of fly ash, the other important technical aspects meriting consideration in the technology of manufacture of fly ash cement are the chemical composition of clinker, the amount of fly ash to be admixed with cement and the method of intergrinding and blending fly ash and portland cement.

2.121. Since pozzolana cement has its own place among hydraulic cements, the present states of utilization of the Indian fly ash in the manufacture of portland cement has been studied recently. It has been brought out that for a fuller utilisation of fly ash for cement manufacture, the following problems require attention:

(i) To evolve suitable arrangement for trapping of finest grades of fly ash from the stock in the existing thermal power plants.

(ii) To prepare guidelines for selection of proper fly ash collection and handling equipment for the thermal power stations to be set up in future.

(iii) Increasing clinker making capacity to avoid under utilization of existing grinding mills and to secure split location plants wherever feasible.

(iv) To solve problems of quality control at low expenditure.

But with the first comprehensive project report C.R.I. has already prepared and the further work C.R.I. has done, the way has now been cleared for going ahead with utilisation of fly ash in cement manufacture.

2.122. The Committee note that the availability of fly ash is at present 4 million tonnes from 30 thermal plants in different parts of the country. This is expected to be of the order of 8 million tonnes at the end of the Fifth Five Year Plan. The Committee regret to note that although fly ash is an established pozzolana and is being utilised as an additive to cement by several countries, it has not so far been used in our country for the manufacture of cement.

2.123. The Committee note that the Cement Research Institute has now done some research regarding the quality and use of fly ash in the production of pozzolana cement in our country and a stage has been reached for using the technology in large scale manufacture of fly ash cement. The Committee feel that research in this field should have been intensified. They urge that concerted efforts should be made to resolve the remaining technical problems so that large scale manufacture of fly ash cement can be undertaken at the earliest.

2.124. The Committee hope that the results of the experiment in the manufacture of fly ash cement in Kurukunta and Mandhar plants of Cement Corporation would be fully evaluated and studied with a view to using the fly ash to the maximum extent. Since fly ash cement is being manufactured for the first time, it is necessary that in the utilisation of this cement, a lead should be given by the Central Public Works Department and State Public Works Departments so as to make it popular among the public.

(c) *By Product Gypsum*

2.125. The availability of mineral gypsum in India is of the order of 1.0 to 1.2 million tonnes per annum. As regards by-product gypsum, the data was not available as most of the fertilizer factories producing by-product gypsum were understood to be utilising the same for their own use.

Most of the cement plants are manufacturing cement from the mineral gypsum in the country.

Industries like fertilizer and salt produce gypsum as by-product which can be used for the manufacture of cement.

2.126. As regards by-product gypsum from Sindri, the Sindri Fertilizers would themselves require gypsum for their own use in the manufacture of ammonium sulphate. As regards Khetri, there appears to be a fair possibility for the use of their by-product gypsum by the nearby cement factories in the Northern region. But at present there is no scheme to set up a cement plant in the Northern region based on Khetri's by-product gypsum.

2.127. The Committee would like the Government to make a survey on the availability of by-product gypsum, its present utilisation and the possibilities of using the same in cement manufacture.

2.128. The Committee attach great importance to the fuller utilisation of industrial wastes, particularly in the manufacture of cement which has also become a critical item of shortage. The Committee hope that, with the help of the Cement Research Institute, initial inhibitions of the manufacturers of cement in using industrial wastes would be overcome and the wastes would be turned into wealth. The Committee would urge Government and Cement Research Institute to take concerted measures in conjunction with the industry to put industrial wastes to productive use in the manufacture of cement.

(ii) *Incentives to the Industry*

2.129. The cement industry is capital intensive and the present profitability rate is stated to be low. It has been represented to the Committee by the Cement Manufacturers' Association that the investment climate is not good, and that if the additional capacity envisaged in the Fifth Plan is to be realised, the investment should be made attractive. It has been pointed out to the Committee that the capital required for a cement plant of a capacity of 2 lakh tonnes, would be in the range of 10—12 crores of rupees. The return at the retention price of Rs. 100/- would be just sufficient to cover the interest and depreciation charges. The other expenses as management, labour, raw material, power and various other things would not be covered.

(a) *Retention price of cement*

2.130. The Ministry of Industrial Development have stated that the price payable to the cement producers in the country has been studied by the Tariff Commission from time to time. The cement industry was last studied by the Tariff Commission in 1961 when

they recommended 10 ex-works prices payable to the different producers then in production. They did not find it feasible to recommend a uniform price for the industry as a whole in view of the wide disparity in the cost of production. Government were, however, of the considered view that the then existing system of differential prices based on individual costs was not conducive to efficiency and greater production and that there should be a uniform price for the industry so that greater pressure was exercised on units having higher cost to effect economies and there was a measure of reward for those units which were able to achieve those economies. Government, however, at the same time had to recommend that in the case of those few units having appreciable higher cost on account of special reasons an extra price had to be allowed for a period of time as would enable them to continue in production until by reaching economic levels they were also able to operate within the uniform price.

2.131. In their Resolution dated 31st October, 1961 while accepting the recommendations of the Tariff Commission, the Government prescribed a uniform price of Rs. 69.50 per tonne and gave a special additional price of Rs. 3 per tonne to certain units and an additional price of Rs. 5.50 per tonne to certain other units except for the solitary case of one unit which was granted a special additional price of Rs. 25.50 per tonne. The three prices of Rs. 69.50, Rs. 72.50 and Rs. 75.00 per tonne thus came into existence on the recommendations of the Tariff Commission. The Government also decided that these prices should be subject to further adjustments whenever called for variation on account of Governmental action including escalation for fuel and power. The industry was granted further increases due to increase in cost of production as a result of Governmental action in consultation with the Chief Cost Accounts granted a further increase of Rs. 13 per tonne with effect from 1st June, 1963, 1st July, 1964 and 1st June, 1965. The industry was granted a further increase of Rs. 13 per tonne with effect from 1st January, 1966. The three retention prices thus came to Rs. 90.50, Rs. 93.50 and Rs. 96.00 per tonne. The industry was pressing for a further upward revision of their ex-works price due to increase in cost of production. The increase in cost of production for the period from 1st January, 1966 to 31st December, 1968 was arrived at as Rs. 7 per tonne in consultation with the Chief Cost Accounts Officer. A uniform ceiling of Rs. 100 per tonne inclusive of this increase was thus prescribed with effect from 16th April, 1969, as the weighted average of the three prices amounted to about Rs. 93 per tonne. The industry agitated for a further revision of their ex-works price due to the increase in cost of production as a result of Governmental action.

2.132. Since the last enquiry, there have been significant changes in the circumstances of the industry. Its capacity has doubled, new and medium plants have been set up and the indigenous manufacture of cement machinery has already begun thereby reducing the dependence on imported equipments. Further the growth of the industry from the point of view of regional supply and demand has not been satisfactory leading to transport difficulties and increases in freight charges. In view of these considerations the Government came to the conclusion that comprehensive review of the industry was called for. The basic objective of the review was to "ensure the development of the cement industry in a measure and in a manner that would enable the requirements (including exports) to be met adequately at a minimum cost to the economy. Therefore, in undertaking the comprehensive review, the Tariff Commission was requested by the Government in April, 1972 to bear in mind *inter alia* the following considerations:—

"(a) The price structure is such as would encourage the growth of the industry and, at the same time, as would exercise greater pressure towards efficiencies and economies in the cost of production;

(b) Whether, given the regional imbalance between supply and demand, suitable incentives for the setting up of additional capacity in deficit or near deficit areas, or a suitable structure of prices, regional or otherwise may be necessary."

2.133. In their interim report in March, 1973 the Tariff Commission, on the basis of their studies, recommended that an increase of Rs. 10/- per tonne might be allowed as interim relief by the Government thereby raising the ex-works price of naked cement to Rs. 110/- per tonne. This interim relief was subject to suitable revision in the light of the final report of the Commission. The Government accepted this recommendation with effect from 15th September, 1973.

2.134. The Committee note that the Tariff Commission is already engaged in examining and recommending suitable retention price to the cement manufacturers. The Committee would urge the Tariff Commission to expedite their report. The Committee hope that after the submission of the final report by the Commission, Government would process the recommendations and take expeditious decisions so that the investment climate in the cement industry improves. The Committee would like to be apprised of the final recommendations of the Tariff Commission and the decisions taken by Government thereon.

(b) *Finance for Cement Industry*

2.135. Yet another incentive that can be provided to the cement industry lies in helping the industry to raise the capital needed.

2.136. The Cement Research Institute in a memorandum to the Committee has stated that it is well-known that cement is a capital intensive industry; it requires a large amount of fixed capital in relation to turnover or production. Considering the relatively low return on investment in the cement industry at present, capital is not easily attracted. The growth and development of the industry will naturally depend on the availability of the required finances on workable terms.

A leading cement manufacturing company has suggested that Government should consider granting of capital subsidy to neutralise the high capital cost of construction and granting of concessional interest bearing term loans from financial institutions towards the capital cost (as reduced by the subsidy).

2.137. The following statement shows the gross profits as percentage of total capital employed in cement industry:—

*1965-66	11·0
1966-67	14·1
1967-68	11·8
1968-69	7·6
1969-70	8.7
1970-71	10·2

*Source : Reserve Bank of India Bulletin September, 1972, page 1437.

2.138. The Ministry have stated that cement industry is one industry which, in the past, has traditionally met a significant part of its requirements of funds from internal resources. Taking a weighted average for the five years period from 1966-67 to 1970-71, it is observed that about 63 per cent of the total investment in cement industry was provided by the industry itself out of its internal resources. The Ministry have also informed the Committee that the borrowings from I.F.C., S.F.C. and other institutional agencies (including the Nationalised Banks) constituted a fairly small proportion of the total funds available to the cement industry betweent the years 1966-67 and 1970-71.

2.139. Regarding the question of raising capital required for investment in the cement industry, the Ministry have stated that the funds have to be provided partly by the entrepreneurs themselves and partly by financial institutions. One cannot, of course, anticipate as to what proportion of the total amount of resources required—estimated at Rs. 600 crores approximately for creating capacity for 12 million tonnes of cement production—would be provided by the industry.

2.140. Cement being one of the highest priority industries in the coming years, required to sustain the momentum of development for construction purposes, there is no doubt that the requisite amount of resources would be made available provided that the schemes which are proposed to the financial institutions are viable and provided also that the financing scheme(s) put up by private industry are such as would be acceptable to the financial institutions.

2.141. The financial resources required by the cement industry would be of the nature of term financing or long term loans. While the nationalised banks have in the past taken a share in term financing of industries, the major financial institutions dealing with term loans are the long term financial institutions like the IDBI, the IFC and the ICICI. The UTI and the LIC have also, in the past, contributed to support the equity issues of good viable corporations in the private sector. The short point is that term finance is primarily the business of term lending institutions, and nationalised banks which are intended to cater mainly for the cash credit requirements of industry, are expected to play only a minor role in private term finance of industries.

2.142. For the major projects in the private sector proposed to be developed during the Fifth Plan, the IDBI has now been taking interest in forming consortia of all the financial institutions including the nationalised banks, with a view to allocating financial assistance to industry in selected directions. Discussions have also been initiated to ensure that the maximum amount of term finance available with nationalised banks is made available for such term financing, consistent with various other needs of credit and monetary policies.

2.143. Hence, while there is no overt scheme intended to provide credit to new entrepreneurs wishing to set up cement plants the financial institutions have expressed their readiness to meet the challenge of the financial requirements of private sector undertakings by joining in any consortia constituted by the IDBI for providing the finance required by these crucial industries. In short, while

there is no specific scheme for under-writing the financial resources required by the cement industry during the Fifth Plan period, it is expected that the needs of the cement industry would be met during the Fifth Plan provided that industry also makes an effort to provide resources for the development of the industry. The Government are also in touch with the IDBI and the other financial institutions for providing the requisite financial support to the cement industry for its continued growth.

2.144. A cement manufacturing company stated in a memorandum to the Committee that the procedural delays in respect of grants of loan and documentation, in the case of Central and State Financial Institutions can probably be reduced by making arrangements for a Central organisation jointly sponsored by all these Institutions for appraising the projects and for completing legal formalities and documentation work on a joint basis as the financial assistance required is rendered by all the Institutions together.

2.145. The Committee note that the financial needs of the cement industry are expected to be met during the Fifth Plan provided the industry also makes an effort to provide resources from within the industry.

2.146. The Committee note that the IDBI is already showing interest in the formation of consortia of all financial institutions. The Committee hope that once the requirements laid down by the financial institutions are satisfied, there would be no delay in finalising the loan terms and in providing finance in the interest of achieving planned targets. The Committee would also like that the terms and cinditions under which finances would be available to the Cement Industry are well publicised so that new entrepreneurs might also be attracted to set up Cement plants.

(iii) *Conversion of Wet Process into Dry Process in the existing plants*

2.147. One of the short term measures for increasing the production of cement lies in converting the wet process into dry process kilns.

Advantages:

2.148. It has been stated by the Ministry that the adoption of dry process, as distinct from the wet process, in the production of cement, can reduce coal consumption by about 27 per cent. In addition, the conversion of an existing wet kiln to dry process would result in an increase in the production capacity by about 30 per cent.

Cost of Conversion

2.149. The cost of such conversion from wet to dry is estimated at Rs. 250 per tonne of annual capacity as against the present indication of Rs. 450 in respect of establishment of a new cement factory.

Production by Dry Process vis-a-vis *Wet Process*

2.150. Dry process presently accounts for only 4 million tonnes per annum of capacity out of the total of 19.75 million tonnes per annum. Out of the 51 factories now under production hardly 13 factories have rotary dry (including semi-dry).

2.151. Explaining the position regarding conversion from wet into dry process, the Chairman of the Cement Corporation of India stated during evidence that for producing 100 tonnes of cement, 30 tonnes of coal was required for the wet process and only 20 tonnes was required for the dry process. The witness added that in the past the technology in the dry process was not well developed and the quality of cement produced by dry process was not comparable to that produced by the wet process. But, at present, most of the owners were going in for dry process plants.

2.152. In this Connection, the representative of the Ministry of Industrial Development stated:—

> "Each case will have to be dealt with on merits, because if coal field was very close, let us say 20 to 30 Kilometres away from the factory, then it may be more economic to have the wet process. But on the other hand if you have to transport coal over 500 to 600 miles, it is certainly less advantageous to have wet process and if the entrepreneur finds that it will be more economic for him to put up a dry process plant, he will do so. So far as the additional capacity of 13 million tonnes is concerned, I think, this is our view, that it would be, by and large, for the dry process."

2.153. The Committee consider that, in view of distinct advantages of having dry rotaries in cement manufacture both in terms of production and coal consumption, Government should encourage, wherever it is feasible to do so, the cement factories to switch over to dry process. For this purpose, the Government may consider the setting up of a technical cell either under the Ministry of Industrial Development or the Cement Research Institute which is also mainly financed by Government which can keep in touch with the factories

and render technical advice and help to the factories for converting the wet into dry process.

2.154. The Committee hope that the two factors, namely, increase in production for the same quantum of raw materials and the less intake of coal would encourage the cement factories to go in for dry process by raising the necessary capital from their internal resources. The Committee would, however, like Government to examine, within the overall availability of finances from the public financial institutions, the question of extending special financial facilities by these institutions to the cement factories.

(iv) *Vertical Shaft Kilns*

2.155. During evidence, the representative of the Cement Manufacturers' Association stated that smaller plants, which were called vertical shaft kilns, could be set up in areas where small quantities of limestone were available. He added that cost of production in such vertical shaft kilns would be more than in bigger units.

2.156. The representative of the Cement Manufacturers' Association added that so far there was no vertical shaft kiln in India and the licences were refused earlier. It was only recently that one licence had been granted at Dalmiapuram. The vertical shaft kiln at Dalmiapuram had been designed with foreign collaboration and the plant was expected to go into operation in about 2½ years as against the time lag of 3-4 years necessary for the bigger plants. It was also stated that the cost of maintenance and operation of the vertical shaft kiln was lower than that for the sophisticated plants.

2.157. When the Committee enquired what was the policy of Government regarding grant of licences for setting up Vertical Shaft Kilns in areas where limestone was available in small quantity and how many applications for putting up Vertical Shaft Kilns had been rejected by the Ministry earlier, the representative of the Ministry of Industrial Development stated:—

> "An application will not specify that they want to put up Vertical Shaft Kilns and there is therefore no question of an application being rejected for Vertical Shaft Kilns..... .....they would only ask for a cement plant; they will not say whether they are going to put up vertical shaft kilns or rotary or anything like that."

2.158. In this connection, the Chairman, Cement Corporation of India stated:—

> "The vertical shaft kiln requires a smaller quantity of equipment as compared to the conventional type of rotary kiln. The rotary kiln has a manufacturing capacity of 2,000 tonnes per day whereas the vertical shaft kiln has a capacity of only 300 tonnes per day maximum. It may be anything from 30 to 300 tonnes per day. At present there are vertical shaft kilns in Australia, Japan and Germany. Actually, the cement industry started about hundred years ago with vertical shaft kilns but subsequently the vertical shaft kilns were replaced by the rotary kilns. Now some people are going back to vertical shaft kilns because it would suit small entrepreneurs with 20 to 30 lakhs capital."

2.159. The Task Force on Cement Industry for Fifth Plan has stated in its report that in certain States particularly J & K, Himachal Pradesh, parts of Assam etc., where the limestone deposits, though extensive, could be exploited only in smaller cement producing units either because of the relatively smaller requirements of cement in these areas or transport difficulties. In such areas and also in places like North Bihar, Pondicharry and Northern Orissa, shaft kiln plants of capacities of 200 tonnes/day might be considered, provided either anthracite, coke breeze, or even coal under certain circumstances, or solid fuels with less than 10 per cent volatiles are either locally available or could be transported without difficulty.

2.160. The Cement Corporation of India has already prepared the feasibility report for the setting up of a plant with shaft kiln in Manipur for a capacity of 50 tonnes per day taking into account the consumption in Manipur and its vicinity and the delivery cost of cement in that area. The economic viability of the proposal is being examined by the Government with reference to its delivered cost from the existing sources of supply.

2.161. It has now been established elsewhere that shaft kiln plants are capable of producing cement of quality uniformity very much similar to that produced from the conventional rotary kilns, because a number of improvements have been effected in the earlier shaft kilns. The process of manufacture would be essentially the dry process, for which fuel consumption is of the order of 1000 K. Cal. per kg. of clinker, i.e. nearly 2/3 of the wet process. Moreover, power consumption is of the order of 90 KWH per tonne of clinker as coal is not required to be pulverized as in the case of rotary kilns. For

a given location, the raw material cost being the same as for the rotary kiln, the production cost is not expected to be much different In any case, the economics of every location would need to be individually examined.

2.162. Apart from the shaft kiln plants proper, a number of shaft kilns have been installed in Europe to make special cements for purposes of blending with cement from rotary kilns. In India also some of the factories with rotary kilns have shown such an interest. Two small shaft kiln plants of 30 tonnes/day capacity have been recently installed, one each at Jorhat and Dalmiapuram. The plant authorities, viz. Regional Research Laboratory, Jorhat, and Madras State Industrial Development Corporation, Dalmiapuram, have offered to undertake designing, fabricatio nand installation of shaft kiln plants upto capacities of 200 tonnes/day for other parties and M/s. Indian Sugar & General Engineering Corporation have likewise offered to undertake designing, fabrication and installation of shaft kiln that the value of plant and equipment for a 200 tonnes/day shaft kiln plant would be approximately Rs. 10 million with very little or practically no imports involved.

2.163. The Committee note that vertical shaft kilns would eminently suit certain areas which are deficit in cement production Being of smaller capacity than the standard plants, the Committee feel that with proper encouragement, new entrepreneurs could be attracted to put up cement plants in areas suitable for shaft kilns. The Committee, therefore, urge that considering the advantages of having vertical shaft kilns in some areas of our country, Government should take suitable measures to attract new entrepreneurs to set up such plants in these areas.

CHAPTER III

DISTRIBUTION AND MARKETING OF CEMENT

A. Cement Control Order

(i) *Background*

The Ministry of Industrial Development have stated that the Cement Industry has been under control, formal or informal almost since 1942. State trading in cement was introduced from 1st July 1956 and was in force upto 31st December 1965, with the State Trading Corporation of India, a Public Sector Undertaking, being given the necessary powers to acquire the entire cement production in the country. Thus, the uniform F.O.R., destination price for the consumers all over the country built with multiple ex-works retention price for the Producers came into being together with freight pooling arrangements.

3.2. For the period 1956—65, the Government of India had issued a Cement Control Order to vest the S.T.C. with the powers to acquire every ton of cement produced in the country. The price at which such acquisition was to be made was fixed in the Cement Control Order. The F.O.R. price at which STC should sell cement to consumers was also fixed under the same order. The difference between the F.O.R. destination price and the price paid to the producer by the STC was used by STC for meeting their administrative expenses, giving a rebate to DGS&D for Rate Contract purposes and defraying expenditure on freight to the consumption centres. The STC did not set up its own organisation for arranging movement of cement after the cement had been acquired or for selling the cement directly to the consumers in the market. On the other hand, the STC appointed the producers or their nominees as STC's Selling Agents under mutual agreements on such terms and conditions as stipulated in the agreements. This arrangement had its own draw backs in as much as all actions taken by the producer were on behalf of the STC and any difficulties in movement, non-arrival of the consignments at the destinations, damage of cement in transit, short weight detected at destination, retrenchments made by the Pay and Accounts Office on account of various defects in the Railway receipts, Sales tax disputes, all became the liabilities of the STC. As a consequence,

the Cement Agency Account operated by the STC has not yet been closed and the STC is still continuing with considerable litigation in various Courts of Law and negotiations with the producers to settle the disputes.

3.3. Towards the end of 1965, as the supply position registered improvement as a result of establishment of additional capacity, Government decided to de-control cement industry. A price increase was also given to the industry to enable it to continue the efforts to augment capacity of the industry. Concurrent with the decision to de-control with effect from 1-1-1966, Government asked the cement industry to continue the system of freight pooling and uniform F.O.R. destination price so that the then existing pattern distribution was not disturbed. The Industry agreed to the suggestion of the Government and formed an Organisation called Cement Allocation Coordinating Organisation to take over the functions that were being performed by the STC before 1-1-1966. Therefore, except that Government control was removed, all other aspects of distribution and control were exercised informally by the Industry's organisation. This organisation continued till the end of 1967.

3.4. With effect from 1st January 1968, Government had to take back the control from CACO because serious defects were noticed in the working of that organisation. Government promulgated Cement Control Order, 1967 with effect from 1-1-1968. Under the provisions of that order, the uniform F.O.R. destination price and multiple ex-works price were notified. Government did not, however, revert back to the system of distribution as in the STC days i.e., during the period 1956—65. Government was aware of the defects in the working of the STC system and moreover in the beginning of 1968, the supply position of cement in the country was not critical. It was, therefore, felt by Government that the Control Order should be so devised as to entrust the procedures directly with sale of cement subject to such directions as may be given by Government, provided the difference between the F.O.R. destination price and the producers' dues are remitted to Cement Regulation Account to enable Government to meet the expenditure on freight, DGS&D rebate, export subsidy and administrative expenses. This Order was issued under the Industries (Development & Regulation) Act, 1951. During the years 1968, 1969 and 1970 and part of 1971 this system worked satisfactorily in so far as distribution was concerned. As there were surpluses in certain areas of the country, the existence of the freight pool enabled the Cement Control Organisation to move cement from surplus to deficit areas and make the cement available to the consumer at the same price. For the past about 2 years, when the demand for cement has picked up and the proportion of supplies to Government Departments has also registered a steep increase from 30 per

cent to 50 per cent, there have been some distortions in distribution of cement.

(ii) *Nature and Implementation of Cement Control Order*

3.5. A copy of the Cement Control Order, 1967 as amended upto 12-6-1973 is given in Appendix IX.

3.6. The Ministry have stated that as the Cement Control Order was issued under the Industries (Development and Regulation) Act, 1951 and the penalty envisaged in the Act itself was not adequate and was time consuming, the control exercised by the Government has not been as effective as it was intended to be. The Ministry have also stated that by and large the industry was cooperating with Government and the machinery was working satisfactorily except for the ineffectiveness of the Order against a minority of producers.

3.7. As regards the lacuna in the present system of distribution of cement and the steps taken to remove it, the Ministry have stated that in the past, the authorisations were issued in excess of the available supplies of cement in the country. As a result, the cement producers were unable to make supplies to all authorisations and they had also the discretion to choose between one consumer and the other. The authorisations are now being issued to match the available supplies of cement in the country. The indenting authorities have been told that they could expect supplies against authorisations issued. A monitoring cell has been created in the Office of the Cement Controller and a watch is being kept on the supply of cement against the authorisations issued.

3.8. The Ministry have stated that the provisions of the Cement Control Order are largely intended to be regulatory and essentially for freight equalisation purposes. These provisions were found to be adequate so far when the demand and supply was more or less balanced. The provisions were, however, found to be inadequate in the context of shortages. As a result of discussions with the Ministry of Law, it was observed that while contravention of the provisions of the Control Order would be punishable, the contravention of instructions issued under the Order to the producers would not be punishable.

3.9. Explaining the reasons for ineffectiveness of the Order, the Ministry have stated that the Cement Control Order has authorised only the Cement Controller to exercise the powers. Any action taken

by or under the direction issued by other subordinate officers is not valid in law because these officers are not Central Government employees and, therefore, powers under the Cement Control Order, cannot be delegated to them. Secondly, for taking legal action against any producer for violating any provisions of the Cement Control Order, a complaint in the Court of Law has to be lodged by a public servant. The fact that the officers are employees of the Cement Corporation of India compels the Cement Controller to lodge a complaint himself each and every time which is administratively inconvenient.

3.10. Regarding the steps taken to remove the above snares, the Ministry have stated that the question of issue of the Cement Control Order under the Essential Commodities Act providing *inter alia* stringent penalties for violation of directions given by the Cement Controller to the producer under that Order is under consideration. Revised order is under examination in consultation with the Ministry of Law.

3.11. The possibility of constituting the Cement Control Organisation as a Government Department so that officers of the Control Organisation were public servants and could lodge a complaint is also being examined. The lacuna according to the Government came to the notice of Government only recently when shortages developed and the producers violated the Order.

Supplies against Authorisations

3.12. The Ministry of Industrial Development have stated that recently several complaints have been brought to the notice of Cement Controller as well as the Minister for Industrial Development about the non-supply of cement. Examination of these complaints revealed that the cement producers have been unable to make supplies to all authorisation holders because authorisations issued were in excess of available supplies, mainly due to estimates of anticipated supply having gone wrong because of the power cuts. As a result, the producers had the discretion to choose between one consumer and the other and the Cement Controller took note of the position and during the period April, June, 1973 authorisations were being issued to match the available supply and all indenting authorities have been told that they could expect supplies, whether against current or old authorisations only upto the level authorised during the current quarter.

3.13. The Committee note that the Cement Control Order, is in force since 1st January, 1968 to regulate the distribution of cement. The Committee also note that the existing order has been found to

be inadequate in the context of shortages and could not be enforced against some producers for contravention of the instructions issued under this order, leading to distortions in the distribution of cement.

3.14. The Committee note that the existing order suffers from the following lacunae: (i) the contravention of instructions issued under the order to the producers are not punishable, (ii) any action taken by or under the direction issued by subordinate officers of the Cement Controller, is not valid in law because these officers are not Central Government employees, (iii) only the Cement Controller can lodge a complaint in a Court of Law, being the only public servant of the Cement Control Organisation, which is administratively inconvenient.

3.15. The Committee are surprised that these lacunae which are too obvious, should have escaped the notice of Government all these years. They feel that the efficacy of an order of this nature lies in its effective enforcement. The Committee note that the question of issue of cement Control Order under the Essential Commodities Act providing inter alia stringent penalties for violation of directions given by the Cement Controller to the producers is under consideration, along with the question of constituting the Cement Control Organisation as a Government Department so that officers of the Control Organisation could lodge a complaint in the courts.

3.16. The Committee are deeply concerned to note that in spite of the lacunae in the Order, coming to notice of Government, no sense of urgency in rectifying the shortcomings in the Order, has been shown by the Government and considerable time has been taken already without suitably modifying the order in the interest of effective enforcement. The Committee recommend that decision on these matters should be expedited and effective measures taken to plug the existing loop-holes while enforcing the revised Cement Control Order without further delay. Government should also ensure that the orders issued by them do not suffer from any legal disability and are effectively implemented.

3.17. While revising the Order, the Committee would like Government to keep in view the following:—

(i) the order should be such that it facilitates prompt deterrent action being taken against all those who contravene it, and

(ii) the order should give adequate powers to the field organisations to proceed effectively in these matters.

3.18. The Committee recommend that the revised Cement Control Order should be laid on the Table of both the Houses at the earliest.

3.19. The Committee would further like to stress that a close watch should be kept on the enforcement of revised order and periodical reviews should be carried out to assess the effectiveness of the directions given under the order and to remove loopholes, if any, without delay.

3.20. The Committee regret to note that in the past, authorisations for cement were issued by Cement Controller in excess of the available supplies with the result that cement producers exercised their discretion to choose the consumer for supply of cement which caused avoidable hardships and inconvenience to the authorisation holders. The Committee learn that corrective measures have been taken in this regard since April, 1973 and that authorisations are now being issued to match the available supply. The Committee would like Government to keep a close watch in this regard and to ensure that in future all authorisations issued on cement producers are honoured and supplies are made in time.

(iii) *Freight Pooling System*

3.21. The Ministry of Industrial Development, in a note on "Freight Pooling System", have stated that under the Cement Control Order, a Cement Regulation Account has also been set up which is operated as a Public Account by the Cement Controller. This has no connection with the Consolidated Fund of India. This is worked on a 'no-profit-no-loss' basis. All the producers who incur an expenditure more than the All India avearge freight provided for in the F.O.R. destination price are reimbursed the excess expenditure incurred by them from the Cement Regulation Account, while those producers who incur an actual freight expenditure less than this provision, are required to pay the difference into the Cement Regulation Account. The Cement Regulation Account is thus worked as a sort of consumer service and no producer is permitted to gain or lose on the movement of cement within the country as he is reimbursed the actual freight expenditure incurred by him. Moreover the surplus cement from the surplus areas is smoothly transferred to the deficit areas.

3.22. Cement being a mine based industry. the production centres are located near the sources of raw material *viz.*, Limestone, while the consumption is near the big cities and the project areas. The cost of transport is, therefore, an important element in the case of bulk commodity like cement. The freight pooling inbrief has enabled the availability of cement at a uniform F.O R. price throughout the

country and has helped in keeping down the overall cost of the Development Projects.

3.22. The Ministry have further stated that the freight pooling system has by and large proved to be in favour of the consumer and its continuance will be advantageous to him for the following reasons:

1. With the present pattern of location of the industry and consumption, cement has to be moved from the surplus zones to the deficit zones in large quantities and such smooth movement would suffer without the freight pool and co-ordinating organisation.

2. The cost of transport is an important factor in the transport of cement and its being worked on a no-loss-no-profit basis is a distinct advantage to the consumer.

3. As the Government is the largest consumer, the cost of various development projects will be seriously affected if the actual cost of transport was added to the cement price.

4. In the absence of a freight pool, the producers will be interested in selling their production mostly near the factories giving rise to scarcity pockets in the deficit areas.

5. The producers in the deficit areas will make additional profit in as much as at any particular place the price will tend to stabilise at levels at which the farthest producer can supply cement. Producers in the surplus areas will tend to charge a higher price on the alleged ground of having to supply to distant areas. In either case, ther is no prospect of any reduction in price for the consumer even situated near the factories on the abolition of freight pool.

6. In the absence of freight pool, the total over-all average freight burden on the Consumer will be higher than what it is today because (i) the freight will no longer be worked on no-loss-no-profit basis and producers will make additional profits on freight account also and (ii) the freight expenditure will be greater due to irrational movements in the absence of a co-ordinated freight pooling effort. In view of the steadily increasing freight rates which are being revised upward year after year, it is essential that the burden on the consumer is kept to the minimum possible.

7. The rail transport has at present certain bottlenecks at transhipment points as well as in certain sections, particularly Ghats, in important arterial rail-roads. These problems will continue to exist for some more years. In the

absence of a freight pool and co-ordinating body to rationalise movements and avoid criss-cross movement and also to provide for movement from alternative sources of supply in the event of restrictions or inadequate wagon supply due to heavy food grain movements or major break down, strike or lay-off at some factories, instances of shortage will be emphasised unduly and the prices will fluctuate widely to the detriment of the consumer.

8. The multi-unit producers like the A.C.C. will be in a position to operate its own freight pool; the small and single-unit producers not having the facility of such pooling, will not be in a position to do so. This will entail considerable hardship to them.

3.23. The Ministry feel that the continuance of the freight pooling system will appear to benefit the consumers and the small producers.

3.24. From the memoranda received from various cement plants it is seen that all of them favour the continuance of the freight pooling system except one plant according to whom this system is a major hurdle due to which there is less production of cement and no expansion of cement industry to the desired level. It has called for its abolittion on the ground that it was beneficial only to 10 per cent of the consumers and 90 per cent had to pay artificially inflated price. According to that plant, abolition of the freight pooling system would lead to establishment of new factories in scracity areas, quick turn over of wagons and elimination of irrational movement of cement.

3.25. The Committee feel that considering the existing location of the cement plants in the country, the freight pooling system through which cement is sold at a uniform f.o.r. destination price, has certain advantages. The Committee consider that freight constiutes an important component in the determination of the price of cement, particularly when cement has to be moved from one part to another distant part of the country. They, therefore, feel that any disturbance of the freight pooling system in the present climate of scarcities may result in steep increase of prices in deficit areas.

3.26. While the Committee recognise that freight pooling system serves certain social purposes inasmuch as it ensures the availability of cement at a uniform f.o.r. diestination price throughout the country, they would, however, like Government to undertake a

detailed study to see whether the freight pooling system has, in any way, inhibited the establishment of new cement factories in scarcity areas in the Northern and Eastern regions and the extent to which it has resulted in irrational movement of cement and strain on rail transport. Based on such a study, Government should take effective measures to ensourage the setting up of cement factories in scarcity areas in the interest of rationalisation of movement.

B. Supply of Cement

(i) *Gap between Demand and Despatches*

3.27. The following table indicates the position in regard to licensed capacity, production, despatches and demand for the years 1968—1978:—

(Figures in million tonnes)

Year	Licensed Capacity	Production	Despatches	Demand
1968	14·3	11·9	11·9	12·0
1969	16·97	13·6	13·6	13·0
1970	16·97	13·9	13·8	14·0
1971	19·35	14·9	14·8	15·5
1972	19·71	15·07*	15·05*	16·8
1973	19·71	15·0*	15·0*	18·8
1974	21·20	18·0**	18·0**	20·3
1975		would depend on actual installation of capacity		21·9
1976				23·7
1977				25·6
1978 end 33·00 (being planned)				

*estimated

**anticipated

3.28. The above figures show that during the years 1968, 1969 and 1970, the position regarding demand and dispatches of cement was more or less satisfactory. In 1971, the gap between demand and supply began to increase and thereafter, the gap has been widening. The Ministry have also stated that the gap was likely to increase further in the coming years. It is also to be noted that even during the Fifth Plan period, since most of the additional

capacity planned is likely to materialise towards the end of the Plan period, the gap between demand and supply is likely to be wider, more accentuated by the export commitments and also by the growing internal demand.

Demand from Government Departments

3.29. The figures of supplies of cement to Government Departments since 1968 are given below:—

(figures in million tonnes)

Year	Actual Supplies
1968	3·76
1969	4·79
1970	4·43
1971	4·82
1972	5·24

It is seen from the above that the demand from Government Departments has been steeply rising over the years.

3.30. The Ministry have informed the Committee that the industry has been giving 1/3rd of its production to Government. During 1973, the demand from the Government Departments has further gone up and is now in the range of about 60 per cent of the production. It will amount to about 9 million tonnes. If it is compared to the 5.24 million tonnes of 1972, an idea of the steep rise in demand can be had.

Allocation of Cement

3.31. The percentage of consumption of cement under free-sale category was 61 in 1970, 59 in 1971 and 57 in 1972. The total demand for the year, 1973-74, as already discussed, has been estimated at 19 million tonnes.

3.32. From 1973-74, 60 per cent of the production will be required to meet the demand of the Government Departments (including plan demands) and 10 per cent for the organised sector like industries, semi-Government agencies etc. Only 30 per cent of the production will be available for sale to the public.

3.33. The quantity of cement produced and the quantity of cement supplied to (a) Government Departments including Public

Undertakings (b) organised sector like industries, semi-Government bodies, (c) public, during each of the last five years together with the percentage of supplies to each of the above categories, year-wise is given below:—

Year	Quantity produced (In million tonnes)
1968	11·9
1969	13·6
1970	13·9
1971	14·9
1972	15·7

Year	Quantity supplied (in '000 Tonnes)				Percentage of		
	Rate Contract (Govt. Deptts including Public Under-takings & Semi-Govt. Bodies)	Other than Rate Contract (Organised Industries etc.)	Freesale (Public)	Total	Col. 2 to Col. 5	Col. 3 to Col. 5	Col. 4 to Col. 5
1	2	3	4	5	6	7	8
1968	3687	1079	6835	11601	31·8	9·3	58·9
1969	4794	854	7708	13356	35·9	6·4	57·7
1970	4434	821	8369	13624	32·5	6·0	61·5
1971	4822	1109	8611	14542	33·2	7·6	59·2
1972	5243	1392	9852	15487	33·9	8·9	57·2

NOTE: Figures in col. (3) include small quantity of cement supplied to Public Sector Undertakings and semi Government Bodies on ordinary public rate.

3.34. On the question of effecting improvements in the distribution system and maintaining equitable distribution between the Government users and public, the representative of the Cement

Manufacturers' Association stated that the remedy could be that Government kept its requirements to the bare minimum without which they could not carry on and shared the shortage in production. He added:—

> "We find certain schemes which can be kept in abeyance or which can be postponed but are also carried on because it is Government's job and Government can get cement at the cost of the public.
>
> The other remedy is buyer's cooperation. If the buyers cooperate among themselves, then certainly there would not be black market."

3.35. Regarding the allocation of quotas to the State Governments, the Ministry have stated that in view of the expected shortfall in production of cement during 1973 it has become necessary to introduce strict measures to distribute the restricted availability of cement on a rational and equitable basis. The matter has been examined carefully and it has been decided that the overall availability should be made known to all the State Governments and the Central Government Departments, and they should be told that in view of the lower availability as compared to the previous year, they could not expect any improvement in the level of supplies. After earmarking a quantity of 2 million tonnes to be allocated to the Central Government Departments such as Defence, Railways, CPWD, Iron and Steel Industry, Atomic Energy, Border Roads, Food Corporation and a few Irrigation Projects directly administered by CWPC etc., the balance of 13 million tonnes has been distributed among all the State Governments, Union Territories initially on the basis of 110 per cent of the average level of supplies received by each during the past five years from 1968-72. A statement showing state-wise quota fixed in 1973-74 (July-June) is appended (Appendix X). After doing this, a small quantity of about 8 lakh tonnes was available. This has been allocated to those States who have major irrigation and power projects. Hitherto, CWPC was sponsoring the requirements of these major irrigation and power projects even though these were administered by the State Governments. But since Government are now placing a bulk quota at the disposal of State Government for sub-allocation to their projects with reference to relative priorities, it has been decided that the requirements of such projects should be looked after by the State Governments. State authorities have been informed of this position and the quotas that will be enforced from 1st July, 1973 have been communicated to each Government. The State Governments have been asked to co-ordinate the requirements

of all the Departments under their charge, of organised industries and bulk consumers, as well as the public and let the Cement Controller know the exact quantities upto which authorisation should be issued on the cement factories to meet such requirements. This procedure has been devised with a view to giving State Governments/Union Territories an effective role for determining the requirements of cement in various sectors/works operating in their jurisdiction as they are the best judge of relevant priorities to be accorded to consumers of cement. They have also been told that considering the far-reaching importance of expeditious execution of irrigation and power projects, their requirements should be met in full by according them a very high priority.

3.36. The Ministry have further stated that the State Governments were engaged in examination of their requirements and were expected to communicate to the Cement Controller in the course of June, 1973, the requirements of the different sectors. Once this break-up is communicated, in so far as Government Departments and the organised sectors are concerned, no difficulty is anticipated in making supplies available. Authorisations will be issued by the Cement Controller directly on the cement factories. In the light of the experience about the rise in Government demand, it is expected that this sector may consume about 60 per cent of the overall supply and the organised sectors like industries, semi-Government bodies, institutions etc., will account for another 10 per cent. The balance will be available for sale to the public. Under the Cement Control Order, 1967, the State Governments have been empowered to notify retail prices after taking into account the uniform F.O.R. destination price and the other handling and other charges to be incurred in unloading the consignments from wagon and transporting to the godown, and making it available to the consumer. Powers have also been delegated to the State Governments under the Essential Commodities Act to issue such orders as may be considered necessary by them to further regulate the distribution of cement at the retail level to the public. All the State Governments have been addressed at the Minister's level to introduce control measures. It is understood that the Governments of Assam, Manipur, West Bengal, Bihar, Uttar Pradesh, Delhi, Haryana, Punjab, Chandigarh, Gujarat, Maharashtra, Mysore, Kerala, Tamil Nadu and Pondicherry have already promulgated the necessary Control Orders.

3.37. The Ministry have also stated that no review has been made of the requirements of cement for the public separately. But the overall requirement of cement has been estimated.

Regarding the scrutiny made of the demands from the Central and State Government Departments, the representative of the Ministry stated:—

> "So far as Central Government departments are concerned, we organise meetings with each department and we tell them that they should give their requirements relating to each of the project and if their requirements are on the high side, we even reduce them, we make *ad-hoc* reductions. We know the requirements for each project so far as Central projects are concerned, we take this precaution. So far as State Governments are concerned, we tell them that if their actual consumption in any particular quarter is less, than what they had demanded, it will reduce the quota in the next quarter and that we shall make adjustments in the next quarter. At the end of every quarter, we conduct a review as to how much they have used and we presume that the figures which they give about consumption are correct. That is the basis on which we proceed".

Regulation of Distribution

3.38. The Ministry of Industrial Development have stated that prior to 1st July, 1973, authorisations had been issued in anticipation of higher production in the subsequent quarters but when production had actually declined on account of power cut etc., outstanding orders created a lot of difficulties. Further, before the introduction of rationalised distribution arrangements from 1-7-1973 fixing lump sum quotas for each State, the State Governments were inflating their demands, and in the absence of any machinery to verify their demands, authorisations had to be issued in excess. In those periods, cement supply position was also not as acute as it was now and as soon as the shortage was actually felt and when it was expected to continue for sometime, the Government of India lost no time in tightening up the distribution arrangements from 1-7-1973.

3.39. The Ministry of Industrial Development have informed the Committee that from 1st July, 1973, cement distribution would be regulated as follows:—

(a) Each State Government will communicate to the Cement Controller the quantities that should be made available during the quarter to each Department/Works under

its charge; this is expected to account for about 50 to 60 per cent of the bulk quota placed at their disposal. The Cement Controller will issue authorisations on such cement factories as are nominated by him to serve the State for supply of the recommended quantity direct to to the indenting authority on Rate Contract terms;

(b) The State Government will also recommend the allocation to be made for each industrial unit, institution etc. in the State and the Cement Controller will accordingly issue authorisation on the cement factories nominated by him. The contract for supply will be directly between the consumer and the factory;

(c) Against the balance earmarked for public distribution, the Cement Controller will issue authorisation on the factories directing them to supply the specified quantities to the respective States through their own dealers. The State authorities may licence their dealers and direct them to sell cement to such parties as are authorised by the State Government. Appropriate measures will have to be taken by the State Government to check malpractices such as under-weight, adulteration, sale by unauthorised parties and charging black-market prices.

(d) The total authorisations issued by the Cement Controller will be equal to the quota allocated to each State and therefore supplies against the authorisations have to be made in full by the cement producers.

3.40. The Committee have also been informed that the Monitoring Cell came into operation from 1st October, 1973. No complaints have been received after that date about non-supply of cement against authorisations. The Regional Cement Officers have been advised to keep a continuous watch on the progress of authorisations and render assistance to the authorisation holders in getting their supply of cement during the validity period of the authorisations.

3.41. When asked to state whether it was possible to reduce the Government quota for cement with a view to creating an atmosphere of confidence among the public, the representative of the Ministry stated thus:

"Within the quota which is given to the State Governments, they can make marginal changes, if they want to. It is upto them. For example, in Maharashtra, even out of the Government's quota, they are giving a certain percentage to the public".

3.42. The Committee has also been informed that cement has been declared as one of the essential commodities for purposes of Essential Commodities Act, 1955, under which necessary powers to issue orders regulating distribution of cement have been delegated to the State Governments. Sixteen State Governments and three Union Territories have since issued orders under the Essential Commodities Act regulating distribution and sale of cement within their territories.

3.43. Asked to state why the requirement of cement for public consumption has not been assessed separately, the representative of the Ministry stated:

> "We are going to employ an agency. This was a task which was not done earlier. We followed different methodology for cement. I appreciate that we should have an agency like the Institute of Management to make some sort of study to assess the demand".

3.44. During evidence the representative of the Ministry stated that people certainly would be more satisfied if they could get cement at controlled price but without any restriction. He added that that was a situation they were aiming at but as things stood now, it was not possible. Various priorities had to be given. There had been occasions in the past, the representative of the Ministry stated when people used to get cement without control but at the fixed price.

3.45. When asked why the Government should not decontrol cement but keep a strict watch to ensure that the prices did not rise beyond a certain limit, the representative of the Ministry replied:—

> "I fully agree with you and that is my personal view that the distribution part of it, the way we are trying to enforce it is an evil. Whether it is a necessary evil or an unnecessary evil is the question. We found that the production this year is not going to be more than 15 million tonnes as against 19 million tonnes demand, we felt that this year, particularly being the last year of the Fourth Plan, it has got to be a necessary evil. But if in the next year, as a result of power, coal and movement positions improving, and the production is commensurate with the

capacity, we will not think in terms of controlling the cement a day longer than it becomes necessary."

He further stated:

"We are not enamoured of control. We should like to get rid of it as soon as the circumstances permit".

3.46. The representative of the Ministry agreed during evidence that there were leakages from the Government departments and that it should not have happened. He added that the Irrigation Department, Public Works Department and other such Departments were being told that they should keep strict control over the cement given to the contractors of the various projects.

3.47. From the various memoranda received from several State Governments and Union Territories, it is observed that the quota fixed for them is short of their assessed requirements and that supplies effected to them also fill short of the quotas fixed.

3.48. The Committee note that there has been a continuing gap between the demand and supply of cement in the country and that this gap has been widening since 1971. During the year 1973, against a demand of about 19 million tonnes, the supply was about 15 million tonnes i.e., a gap of about 4 million tonnes, in the demand and supply of cement.

3.49. The Committee realise that so long as there is a marked gap between the demand and availability of cement in the country, it may not be practical to give up entirely controls over the distribution of cement. The Committee note that a number of State Governments have imposed control on distribution of cement through Essential Commodities Act. It is regrettable that in spite of the distribution of cement being regulated under the Essential Commodities Act, the existing distribution system leaves much to be desired and there is a wide-spread black-market in cement in various parts of the country. The Committee would, therefore, urge Government to plug the existing loop-holes in the distribution system and to keep a stricter watch to ensure that cement is issued to the real consumers and is used for the purpose of which the permit was issued. To obviate mal-practices, exemplary punishment should be awarded to delinquent dealers and officials concerned.

3.50. The Committee feel that while the bulk consumers are generally able to obtain their requirements of cement, it is the small consumer who suffers the most, due to shortage of cement and

has to obtain his requirements from the market any how. The Committee would like Government to take effective measures to see that the requirements of cement of small consumers for repairs etc., are met. The Committee would like to be informed in detail of the field arrangements which Government have made or propose to make to achieve this objective.

3.51. The Committee are concerned to note that leakages of cement take place from Government quotas. The Committee would like Government to exercise stricter watch on the consumption of cement in Government departments and to ensure that loopholes leading to leakages are effectively plugged.

The Committee need hardly stress that deterrent action should be taken against officials who are found to indulge in such malpractices.

3.52. The Committee note that due to the short-fall in production of cement during 1973, Government have introduced strict measures to distribute the limited supplies of cement on a rational and equitable basis to the State Governments and the quotas of cement for State Governments for 1973-74 (July—June) have been initially fixed on the basis of 110 per cent of the average level of supplies, received by each State during the past five years from 1968—78. The State Governments have been asked to co-ordinate the requirements of all the Departments, organised industries and bulk consumers as well as public.

3.53. The Committee consider that the existing arrangements for fixing State quotas are not satisfactory and should be replaced by a more methodical and systematic assessment of the requirements of the States, taking into account the latest requirements of public sector projects, organised and non-organised sectors of the industry and other public utilities, the housing needs of the public, both in rural and urban areas, etc..... The Committee would urge the Government to review the State quotas of cement accordingly at an early date.

3.54. The Committee note that till 1972, the quantity of cement supplied to Government departments, including public undertakings and organised sector of industries etc., was roughly 40 to 42 per cent of the total cement production in the country. The remaining 60 per cent was available for free sale to the public. The Committee have been informed that since 1973, the requirements of cement for Government departments, both Central and State Governments, have considerably increased and about 60 per cent of the overall supply is ear-marked for them. In addition, 10 per cent is meant for organised sector like industries, semi-Government bodies,

etc. The balance 30 per cent of production only is available for sale to the public. Thus there has been a drastic cut in the free sale of cement to the public. While the Committee realise that Government projects should have a high priority in the allocation of cement, they nevertheless feel that reasonable cement requirements of public should also be met. The Committee feel that the short-fall in production of cement, coupled with the drastic cut in the free sale quota, is one of the main contributory factors in creating scarcity conditions and emergence of black-marketing in cement. The Committee consider that Government should undertake a comprehensive review of the requirements of cement for Government departments with a view to see to what extent construction activities, involving considerable consumption of cement, can be postponed or staggered without having any adverse effect on production activity and Plan programmes. The Committee feel that Government should curtail the consumption of cement to the extent possible and exercise utmost economy in the use of cement in Government constructions. It would also be desirable if consumption of cement for beautification schemes is discouraged by Governments till the scarcity of cement persists. The Committee have no doubt that these measures would result in larger availability of cement to the public and would create a climate of confidence in them.

C. Movement of Cement

3.55. Orderly and efficient movement of cement from the factories to the distribution points is a *sine qua non* to any systematic distribution system. Apart from this, as the Committee have observed elsewhere in the Report, the non-availability of wagons in time has led to loss in production.

(i) *Supply of Wagons*:

3.56. In a memorandum to the Committee, the Cement Research Institute have stated that the industry often suffers from inadequate transport facilities, particularly the railway wagons, for both inward and outward movements. The past experience has shown that even under the greatest pressure, movement by road and sea has helped to lift only about 2 to 22 per cent of the annual cement despatches, the balance 78 to 80 per cent being dependent entirely on the Railways. Road movements beyond certain limits become quite uneconomical. Movement by sea has its own limitations. If the quota of wagons is fulfilled to the extent of 85 to 90 per cent as against the present provision of about 70 per cent, there is no doubt that the industry's performance will greatly improve.

3.57. The Institute have stated further that, by and large, the transport bottlenecks develop at the transhipment points due to inadequacy of wagons. The wagon requirements of the industry are not met satisfactorily and consequently scarcity pockets develop now and then, despite heavy stocks available at the plants. Booking restrictions are also experienced by the industry. While the industry has been steadily growing under the successive national plans, the transportation facilities have failed to keep pace and there has been no commensurate growth in the availabiliity of railway wagons to the industry.

3.58. A leading cement manufacturing Company have also stated in a memorandum to the Committee that the Railways do not have adequate wagons to move traffic with the result that the users dependent upon Railways for transport of their goods have suffered heavily especially the cement industry. Cement is a low value, high bulk commodity and has to depend largely on Railways for transporting over long distances. Of late, the Railways have forced the use of open wagons for the movement of cement which is possible only during the dry season. Even these are not forthcoming in adequate numbers.

3.59. It has been further stated that the importance of rail transport for movement of cement could be visualised from the fact that an industrial licence for setting up a cement factory is granted only after the Railways have agreed to provide adequate rail transport of raw materials to the factories and cement from the factories to the consumers. Unless the Railways embark on a crash programme of obtaining adequate wagons to meet increaing demands for wagons, the Railways would not be able to overcome inadequacy of wagons in the immediate future.

3.60. The Committee have been informed by the Ministry that the target for 1972-73 cement production was 16.8 million tonnes or 14 lakh tonnes per month on average. Out of this production, the target for rail movement was fixed at 13.3 million tonnes per annum which would be 80 per cent of the total dispatches. It worked out to 11 lakh tonnes per annum. The balance of 3 lakhs tonnes was apportioned to road and sea movements.

3.61. During the year 1972-73 the actual dispatches of cement came down to 15.5 million tonnes and the Railways carried 10.2 million tonnes which was only 66 per cent of the total dispatches. The Ministry have also stated that in the normal course it was expected to move 3.5 million tonnes by modes other than rail (i.e.) by

road and sea, whereas the actual performance was 5.3 million tonnes. The shortfall in the rail dispatches due to non-availability of covered wagons was well-looked after by road on account of liberalization of road freight.

3.62. From the information furnished by the Ministry, the position regarding supply of wagons to the various cement factories during the years 1970, 1971 and 1972 has been as follows:—

Year	Wagon Quota	Wagon indented	Wagon received	Wagon loaded	Number of wagons short supplied
1970	799291	653830	548868	515496	138334
1971	900858	759550	574765	542474	217076
1972	929451	727414	549527	531166	196248
1973 (January to May)	339382	216373	189355	184135	32238

The Mininstry have also stated that a quantity of 4.7 million tonnes was moved by rail during the first half of 1973-74 constituting 66 per cent of total dispatches of 6.97 million tonnes.

Reasons for shortage of wagons

3.63. During evidence, the representative of the Ministry stated that one of the reasons why covered wagons were not available to such industries as cement industry was that a high priority had to be given whenever there was a large scale movement of foodgrains. The covered wagons were diverted to food movement and to that extent covered wagons were not available for the purpose of cement movement. Secondly, the representative of the Ministry added, that there was an overall shortage of the covered wagons, and that they were in touch with the Railways to provide fresh wagons.

3.64. One leading cement manufacturing Company has stated in a memorandum to the Committee that prior to October, 1968 that whenever the Railways were unable to provide covered wagons, cement was despatched in open wagons in fair weather at Railways' risk. Since then, the Railways have revised their policy and decided that open wagons should be loaded entirely at the owner's risk and this has resulted in the Company paying compensation to stockists and other parties against damage in transit.

3.65. When this matter was brought to the attention of the representative of the Ministry during evidence, he stated that the Railways would not like certainly to take the risk when there was danger of wastage, pilferage or quality deterioration.

Steps taken to improve the wagon supply

3.66. The Ministry have informed that the Railway Board have established a Control Room to keep close watch over wagon supply position to cement factories and an officer of the Cement Control Organisation has been nominated to keep liaison with the Railway Control Room twice a week to sort out any difficult situation faced by the cement factories.

3.67. For the year 1973-74, a close coordination with Railway has been planned and a Committee consisting of a senior officer of the Railway Board, Chief Cement Officer was constituted. The Committee have split up Railway-wise and factory-wise daily wagons quota so that supplementary modes of transport could be developed adequately whenever wagons were in short supply.

3.68. The Committee have also been informed that the monthly performance was being watched by a Committee of Secretaries, including Member (Transportation) of Railway Board, and corrective measures taken where necessary.

Loss of production due to inadequacy of wagons

3.69. It has already been mentioned in Chapter II that a production of 5 lakh tonnes were lost during 1972 due to non-availability of wagons from the Railways.

3.70. The Committee are deeply concerned to note that there is a wide gap between the demand and availability of wagons to the cement industry which has resulted in substantial loss in production of cement.

3.71. The Committee note that Government have taken the following measures in this regards:

(i) a Control Room has been constituted in the Railway Board to keep a close watch on wagon supply position to cement factories;

(ii) daily wagon quotas Railway-wise and factory-wise have been fixed;

(iii) a Committee of Secretaries keeps a watch on monthly performance.

The Committee hope that with the steps now taken by Government there will be greater availability of wagons to the cement industry and their day-to-day demands for wagons would be largely met. The Committee would like to be apprised of the improvements in the supply of wagons to the cement industry as a result of these measures.

3.72. The Committee also consider that specific provision for cement traffic should be made in the Railway plans, after assessing in advance the detailed requirements of the cement industry both for the movement of raw materials as well as finished goods so as to obviate transport bottlenecks in cement production. As the sources of supply of raw materials to each cement factory are well established and the distribution of the finished product is also well regulated, the Committee see no reason why it should not be possible for the Railways to regulate the supply of wagons according to the actual requirements through suitable linkages.

The Committee would like Government to learn from their past experience and make these detailed assessments for cement industry for the 5th Plan in consultation with the cement industry. The Committee have no doubt that while making this assessment, the production targets fixed for each cement factory during the 5th Plan and the increased requirements for the movement of raw materials and the finished product would be taken into account. It is also necessary that effective measures are taken to improve transhipment facilities so as to ensure that the movement of wagons is smooth and there are no bottlenecks.

3.73. The Committee would like Government to keep a continuous watch on the position of supply of wagons to the cement industry to ensure that the production of cement at no time suffers due to non-availability of requirements of wagons by the factories.

(ii) *Bulk Supply of Cement*

3.74. In a note, the Ministry of Industrial Development have stated that bulk supply of cement was becoming more and more

pular. In some of the advanced countries more than 70 per cent of the total quantity of cement produced is supplied in bulk whilst in India there are only two bulk distribution centres—one in Delhi and the other recently established in Bombay. To what extent distribution by bulk has grown in other countries can be gauged from the following table:

Country	Year	Cement delivered in bulk as a percentage of total cement produced
U.S.A.	1955	50
	1972	90
Japan	1963	39
	1972	70
Sweden . .	1972	80
U.K. .	1972	70
Germany. . .	1972	80
Denmark.	1972	75

3.75. This rapid change-over in overseas countries has been achieved partly because the transport of cement from cement plants to the users involves small distances and partly because of the existence of ready-mixed concrete plants; further precast or prefabricated concrete products form a part of the organised construction industry in those countries. In contrast, India is a vast country involving long distance between the producers and consumers. Moreover, the construction industry is also dispersed. It is, therefore, obvious that the advantages of bulk supplies can be reaped only where there is concentrated demand.

3.76. The Ministry have also stated that at present most of the cement produced in India is packed in jute bags. With the rise in production of cement from the present 15 million tonnes to 28 million tonnes at the end of the Fifth Five Year Plan, the requirement of jute for the manufacture of jute bags for packing of cement would rise from approximately 2,50,000 tonnes to 3,00,000 tonnes. From the point of view of foreign exchange earning potentiality of jute, shortage of its supplies and the high cost of packing (it is about

25 per cent of the ex-factory price of cement), the need for bulk supply becomes all the more greater.

3.77. The Ministry have stated further that the development of methods and techniques of bulk supply of cement would lead to the following advantages:—

(i) Reduced transportation.

(ii) Almost no loss of quantity of cement due to seepage and no possibility of deterioration of the quality cement due to ingress of moisture.

(iii) Quick supply.

(iv) Controlled and regulated supply.

(v) Almost negligible dust nuisance compared to the present packaging system.

3.78. In reply to a question, as to whether bulk supply of cement for the construction programmes undertaken by the Government or semi-Government organisations was proposed to be introduced, the Ministry stated that the main impediment for the implementation of bulk transportation has been the non-availability of either self-unloading wagons or truck mounted carriers. Two truck mounted carriers (each of 9 tonnes capacity) have, however, been developed and manufactured by an indigenous agency quite recently and Cement Research Institute was in close touch with the developments in this connection.

3.79. The Committee note that at present most of the cement produced in the country is packed in jute bags. With the expected rise in production of cement from the present 15 million tonnes to about 28 million tonnes at the end of the Fifth Five Year Plan, the requirements of jute for the manufacture of bags for packing of cement, would rise from 2,50,000 tonnes (approximately) to 3,00,000 tonnes (approximately). The Committee further note that the cost of packing is about 25 per cent of the ex-factory price of cement. Thus the problem of packing has assumed great importance in view of the high cost and the tight position of jute bags and the increasing needs of cement industry.

3.80. The Committee note that in several advanced countries, bulk supply of cement is resorted to, on a very large scale which has many advantages. The Committee, therefore, consider that keeping in view the foreign exchange earning potentiality of jute and the high cost of packing cement in jute bags, it is impreative that effective measures are taken by Government and the cement industry to ensure that as much quantity of cement as possible, is supplied to the large consumers in bulk.

3.81. The Committee note that the main impediment in resorting to bulk transportation has been the non-availability of self-unloading wagons or truck mounted carriers. They note that two truck mounted carriers have been recently developed and manufactored in the country. The Committee would like Government to evaluate the performance of the bulk carriers and to effect improvement in the light of experience gained with a view to economising on packing minimising wastage in transportation and preventing deterioration in quality etc.

(iii) *Supply of Cement in Block Rakes*

3.82. It has been represented to the Committee by the cement industry that the factories were required to load cement in block rakes for a single destination and that such a restriction imposed a very severe strain on their distribution system.

3.83. The Ministry have stated that loading and movement in block rakes had a considerable advantage for the Railways, as it quickened the turn-round of wagons and consequently improved the availability of wagons. Accordingly, the Railways had been encouraging movement in rakes, of the commodities which moved in sizeable quantity. The details regarding actual movement by rakes, in respect of each Zonal Railway was as below:—

Railway	Broad Gauge				Metre Gauge			
	1972-73 (Sept. to March) No. of wagons moved in block rakes	% of wagons in block rakes to total loading	1973-74 (April to Sept.) No. of wagons moved in block rakes	% of wagons in block rakes to total loading	1972-73 (Sept. to March) No. of wagons moved in block rakes	% of wagons in block rakes to total loading	1973-74 (April to Sept.) No. of wagons moved in block rakes	% of wagons in block rakes to total loading
Central	16559½	43·2	12804	39·9				
Eastern	11708	38·5	4878½	25·7		..		..
Northern	1071	10·3	..	0·0	..	0·0	..	0·0
Southern	2761	17·1	1490½	11·7	9659	23·5	4747	12·9
S.C.	11590½	33·5	46932	16·2	320	27·1	30	0·2
SE	16789½	40·3	11222½	45·3	..	..	..	..
Western	7270½	30·5	3505	19·1	5271	10·2	727	1·9

3.84. Explaining the position further, the representative of the Ministry of Industrial Development stated during evidence:

> "So far as movement of cement in bulk rake is concerned, the Railways certainly like the idea of moving them in bulk rakes. The whole trouble is that cement movement may not take place in bulk for the simple reason that the quantity that will go to the different destinations at a particular point of time may not be justified. Then there will be delays in the movement of and then there will be problem of storage. All sorts of difficulties will arise."

> "Actually it will be difficult for the cement factory to send bulk rake loads to different destination. The Railways will agree but the difficulty is with the cement plant itself and the plant will also be required to handle the despatch of material to various destinations but who will collect at the destination points. So, I think, Sir, we should not encourage this sort of sending the material to other destinations in the name of bulk rake movement."

3.85. While the Committee agree that loading and movement in block rakes is advantageous for the Railways in the interest of quicker turn-round of wagons and consequential improvement in their availability, they however feel that the problem of each industry should be fully considered before insisting on loading in block rakes. It has to be examined whether movement in block rakes is conducive to the efficient distribution of the commodity. The Committee would, therefore, like that the matter should be reviewed in detail in full consultation with the cement industry. The Committee feel that there should be advance planning for an integrated and well co-ordinated movement of cement. It is also necessary to ensure that this arrangement leads to efficient distribution of cement and the interest of the consumer does not suffer.

(iv) *Creation of Cement Dumps*

3.86. One way of smoothing the difficulties of transportation of cement is the creation of cement dumps. The cement can be moved, even in block-rakes, in the lean period of construction activity and can be kept in the cement dumps.

3.87. The Ministry have stated that cement dump could be located at following places:—

1. At a Railway transhipment point which is liable to frequent congestion;

2. At points to which close circuit movement by rail from factory can be organised;

3. At railway junction where generation of empties is easy;

4. At certain railway stations wherefrom road movement is possible to consumption centres.

3.88. It has been stated by the Ministry that dumps have been set up at the following places:—

Rourkela	2. Asarva
Nami	4. Kolaghat
Sambalpur	6. Miraj
Sholapur	8. Bangalore City
Pathankot & Kalka	10. Virudhunagar
Hosur	12. Changanachery
Barauni	14. Varanasi
Patna	16. Dehri-on-Sone
Kotkapura	18. Quilon
Shakuroasti	20. Bhatinda
Hissar	22. Agra
Kanpur	24. Allahabad

The Ministry have also stated that the dumps set up in 1971 and 1972 were functioning satisfactorily.

3.89. Regarding the steps taken to create more cement dumps, the Ministry have stated that at a meeting held in the Planning Commission in December, 1972 at which representatives of the Cement Industry were also present, the Railways had asked the industry to select suitable places for the creation of dumps. The Railways also offered to provide at the cost of the Industry, siding facilities, if required at such places. The storage facilities are not, however, provoided by the Railways as after completion of a transit, a consignment belongs to the consignee and it is for the consignees to make their own arrangements.

3.90. Almost every quarter, meetings are held between the Cement Controller and the Cement Industry to discuss problems concerning development of industry and transport of cement etc. It is open to the cement industry to propose opening of further dumps at such a forum and necessary measures can be taken, if considered necessary.

3.91. During evidence, the representative of the Ministry told the Committee that he did not think any cement plant would have any difficulty in establishing dumps but they would have to pay for that.

3.92. The Committee note that 24 cement dumps have been set up at various places in the country. The Committee consider this as a step in the right direction as cement can be moved to these dumps in block rakes during lean periods of construction activity and slack season of Rail transport.

3.93. The Committee would, however, like Government to make an assessment of the working of the cement dumps to see whether the creation of dumps has resulted in avoidance of wastage|pilferage, adulteration and economy in the cost involved. Based on such assessment, Government should give all encouragement for the creation of more dumps in the country, if such an arrangement is found to be economical. The Committee would, however, like to emphasize that sufficient stocks of cement should be kept in difficult and inaccessible areas to meet their demands.

(v) *Movement of Cement by Road*

3.94. The representative of the Cement Manufacturers' Association stated during evidence:—

> "Road is to supplement rail where rail is lacking. The controller feels that the freight bill should not go up because he has to supply cement at the same price throughout the country. He gives us road freight and puts a limit if it is over 100 kms. Upto 500 kms. he permits 125 per cent of the rail freight. The industry's plea is that it should be liberalised, no matter it costs you more or not. That some times does not go freely with the Cement Controller which in my opinion was a wrong policy *e.g.* in 1971 we were having lot of cement at factories but no wagons to move and we had to cut down production. At that time if road movement had been permitted for this extra cement which was said to have been produced, people would have got it. And it does not cost much if you take the average in view. On the whole it may look big but on an average it is not so."

3.95. Explaining the position, the Ministry have stated that there are no restrictions on the movement of cement by road from the cement factories. However, since there is uniform f.o.r. destination price for cement, expenses on the movement of cement from the factory to the consumption centre has to be sanctioned by the Cement Controller. In cases where the movement takes place by rail, the actual railway freight between the factory and the consumption centre is reimbursed by the Cement Controller out of Cement Regulation Account. In cases where cement moves by road, for

destinations upto 100 kms. from the factory, a cement producer is allowed reimbursement of corresponding railway freight between the factory rail-head and the nearest rail-head to the consumption centre, where distance from the factory to the consumption centre by raid exceeds 100 Kms, reimbursement is permitted upto 125 per cent of corresponding railway freight between the factory's rail-head and the nearest rail-head to the consumption centre or actual expenses whichever is less. Where factory's loading platform and the factory's serving rail-head is separated by some distance, the distance between the 2 points is also allowed to be added to the rail distance mentioned above for purposes of reckoning admissible raid reimbursement charges. In view of the comparatively higher expenditure on road transport, the cement producers have been asked to avail of this facility only when they are unable to get railway wagons. This procedure has been in force from 15th June, 1972.

3.96. The Ministry have also stated that it was expected during 1972-73 to move 3.5 million tonnes of cement by modes other than rail *i.e.* by road and sea, whereas the actual performance was 5.3 million tonnes. The shortfall in the rail despatches, the Ministry have stated, due to non-availability of covered wagons was well-looked after by road on account of liberalization of road freight.

3.97. The Committee note that considerable quantity of cement is at present moved by road due inter alia **to non-availability of railway wagons. They further note that the expenditure on road movement is reimbursed subject to certain conditions. The Committee cannot overemphasise the need for a well co-ordinated plan of movement of cement with a view to ensure that cement stocks do not pile up at the factories, thereby affecting production and dislocating the distribution system. Since marketing zones of these cement factories are pre-determined, the Committee see no reason why it should not be possible to have a most rational plan for movement of cement by rail or road in the interest of meeting speedily the requirements of consumers. The Committee suggest that Government may consider the advisability of having a standing arrangement as existing for movement of POL where the industry as well as the Ministries of Railways and Industrial Development and all others concerned would be represented to approve every month the programme of movement. The Committee need hardly point out that this would ensure not only that the bulk of the cement is moved by rail which is obviously more economical but would also ensure that the heavy investments which have been made in this national enterprise to meet the plan requirements are**

put to fuller use. The Committee, however, should not be understood to be in any way against movement by road but what they have in mind is that there should be a rational plan of movement in the best public interest as expenditure incurred on freight is to be met from the freight pool.

3.98. The Committee also like Government to review the position regarding reimbursement of expenditure on road movement of cement with a view to see what further liberalisation in reimbursement of expenses on road transport, is necessary in the interest of smooth and quicker movement of cement to the consuming centres and removal of transport bottlenecks in maximising production of cement in the factories.

(vi) *Marketing Zones*

3.99. The Marketing Zones (or the area of operation) of each factory is being reorganised in such a manner that the average tonne k.m. lead is brought down from the existing level of 600 to 450 Kms. with the reduced level of supplies, it would no longer be necessary for any producer to move cement to long distances. The number of factories serving a State would also be reduced to the minimum possible so that the State authorities could exercise better coordination with these factories; and wherever the factory was located in the same State, the production has been earmarked for the State within the quota allotted to it.

3.100. The Ministry have stated that for the purposes of reorganisation of the marketing zone of each factory, a meeting of All India Cement Producers was held at Nainital on 18th and 19th May, 1973. It was decided at that meeting that all the Regional Cement Officers should first have discussions with the individual cement producers and submit their reports to the Cement Controller. All the regional meetings have since then taken place and an All India Cement Producers Meeting is proposed to be fixed for this purpose shortly. Proposals, in the light of discussions held by Regional Cement Officers with the producers, are being finalised and will be discussed in the proposed meeting.

3.101. When asked whether the Ministry had made any scientific study to reorganise the marketing zones to reduce further the average tonne kilometres lead from 450 kilometres, the Ministry have stated that no such study has been made so far and that consideration of this matter was dependent on the outcome of the discussions to be held with the cement producers at the next meeting which was proposed to be held in December 1973.

3.102. The Ministry have also stated that there was not much scope for further reduction in the lead k.ms. as the areas in North and East were very much deficit in production and cement had to move to these regions from long distances to meet the demand.

3.103. Explaining the manner in which marketing zones are earmarked for each factory, the representative of the Ministry of Industrial Development stated:—

> "The marketing zones for the cement factories have been fixed on the traditional pattern of sales of the factories, having regard to the proximity of the consumption centre to the factory, availability of transport facilities and the need to supply cement to deficit areas."

3.104. In a Memorandum to the Committee, one cement manufacturing Company stated that of late some State Governments have been violating the marketing zones fixed by the Cement Controller on the plea that since a factory was situated within a particular State, the State Government and not the Central Government, was the appropriate body to control distribution.

3.105. When this matter was brought to the notice of the representative of the Ministry of Industrial Development, he stated during evidence:—

> "There have been one or two instances two/three months ago and we had to take it up at the level of our Minister *vis-a-vis* the Chief Minister. We could sort it out."

3.106. The representative of the Ministry also stated that the marketing zones need constant review, particularly when production was not enough. If some extra production was there somewhere, how best it could be utilised would have to be discussed and alteration made.

3.107. The Committee note that Government are considering to reorganise the marketing zone of each cement factory in such a manner that the average tonne kilometre lead is brought down from the existing level of 600 kilometre to 450 kilometre and that a meeting of All India Cement Producers was held for this purpose in May, 1973. Another meeting of the Cement producers was to be held in December, 1973 to finalise this matter but it has not yet taken place. The Committee deplore the delay in finalising the re-organisation of marketing zones of each factory. They are unable to appreciate why these zones were not re-organised and rationalised earlier as re-organisation would obviously result in reduction in

the lead kilometre, better turn-round of wagons, less transportation costs and quicker movement of cement to the consuming centres. The Committee recommend that effective measures should be taken by Government immediately to finalise the re-organisation and rationalisation of the marketing zones of each factory. It should, however, be ensured that the supply of cement to deficit areas is not adversely affected as a result of this re-organisation.

3.108. The Committee further recommend that advance linkage of the production of cement factories during the Fifth Plan period with their marketing zones, should be made, with a view to reduce the lead distance to the extent possible so as to economise not only on transport costs but also to relieve transport capacity for movement of other essential goods. The Committee would also like that the position is reviewed at periodical intervals in order to ensure that all cross movements are avoided.

CHAPTER IV

RAW MATERIALS AND LOCATION OF PLANTS

A. Availability

The main raw material used in the manufacture of cement is limestone or chalk, which supply the basic component of cement *viz.*, calcium, while the acidic components are provided by silica and alumina which are partly present in the limestone itself and are further made up by the addition of clay and laterite.

4.2. In India there are no chalk deposits and with the exception of three or four units using sea-sand/shells (chalk), the industry is primarily dependent on limestone.

Limestone

4.3. The Ministry have stated that the deposits of limestone suitable for manufacture of cement are not evenly distributed in the country, although new deposits of good limestone are still in the process of being located gradually.

4.4. According to the information furnished to the Tariff Commission by the Indian Bureau of Mines, Nagpur, the total cement grade limestone in the country is around 41,000 million tonnes. The annual requirement of limestone by 1978-79 for the cement industry would be around 40 million tonnes. As such the availability of main raw material, according to the Ministry, is considered more than adequate and is not going to pose a problem.

4.5. A statement showing reserves of limestone in million tonnes estimated and proved, Statewise, compiled by the Cement Corporation of India on the basis of information available with them is given in Appendix XI.

Gypsum

4.6. Apart from limestone, around 1.10 million tonnes of Gypsum will be required annually by the cement industry by 1978-79 and the known deposits in Rajasthan, Tamil Nadu and Gujarat are sufficient to meet the requirement. If necessary, the by-product marine gypsum can also be utilised in the cement manufacture.

Supplementary raw materials

4.7. The Industrial wastes like blast furnace slag, fly ash and by-product gypsum etc., can also be used as raw materials in the manufacture of cement. The need for such utilisation has already been discussed elsewhere in the Report.

B. Survey and Investigation of raw material

4.8. The Ministry have stated that the existing arrangements for survey, investigation and exploratory drilling of limestone sufficiently in advance and the method of financing these activities were not adequate. In order to assesss the reserves, the Ministry have pointed out, it was essential that a systematic and coordinated programme of survey, investigation and exploratory drilling was drawn up and implemented by the agencies concerned. Coordination between Geological Survey of India, the recently established Minerals Exploration Corporation, Cement Corporation of India and the Departments of Mines and Geology in the State Governments would be necessary.

4.9. When asked whether sufficient coordination existed between the various agencies concerned, the Ministry have stated that under the existing arrangements, there is effective liaison between Geological Survey of India and other concerned agencies such as Mineral Exploration Corporation, Cement Corporation of India, various Directorates of Geology and Mines, Indian Bureau of Mines, National Metallurgical Laboratory etc., through Mineral Advisory Board, Central Programming Board and State Programming Boards. The existing arrangements are generally satisfactory and adequte. In order to avoid duplication of work, the Ministry added, programmes were discussed and finalised in the annual meetings of the Central Geological Programming Board. In case any modifications are needed in the light of experience in relation to specific problems for bringing about better coordination, there should be no difficulty in effecting such changes. However, precise practical steps can be formulated only in relation to specific difficulties.

4.10. Regarding the functions of the various agencies, the Ministry have stated that the Indian Bureau of Mines is not carrying out survey and proving work, which is being done by Geological Survey of India/Mineral Exploration Corporation. The primary job of the Geological Survey of India is to search, locate and carry out preliminary regional investigations with limited drilling as and when necessary, for overall assessment of the potentiality, reserve and grade of the deposits. In the light of the G.S.I's findings if the

deposit merits exploitation, the exploiting agency and the Mineral Exploration Corporation may coordinate a programme of detailed exploration for obtaining adequate required data for preparation of detailed feasibility report for the exploitation of the deposit. The Cement Corporation of India is also concerned with the establishment of cement grade limestone deposits in the country not only for its own use but also for other interested entrepreneurs.

Role of Cement Corporation of India:

4.11. One of the objectives of the Cement Corporation of India was to undertake survey, prospecting and proving of cement grade limestone in the country. The Corporation was expected to prospect for limestone not only for its own units but also for putting the knowledge thus gained to commercial use by placing it at the disposal of the private sector.

4.12. For this purpose, the Corporation set up a Limestone Investigation Division (LID). This Division was carrying out the work. The Corporation had proved a quantity of 98 million tonnes of limestone deposits in the different parts of the country. The sites investigated by them were:—

1. Mandhar
2. Kurkunta
3. Katni
4. Jagdalpur
5. Neemuch
6. Gohati
7. Paonta
8. Alampur
9. Yerraguntla
10. Tandur
11. Chittorgarh
12. Dehra Dun
13. Mehapalpur
14. Adilabad
15. Bokajan
16. Nimbabera.

4.13. The Limestone Investigation Division was, however, closed down in 1969. The circumstances leading to the closure of this Division were stated to be:

(i) Originally the Cement Corporation of India was asked to create a capacity of 5 million tonnes in the Fourth Plan

period. However, due to the reduction in the plan provision for the Cement Corporation to Rs. 25 crores in 1966, the Corporation decided that the Limestone Investigation Division may limit the prospecting work to 3 sites at a time.

(ii) By 1968, the Cement Corporation of India had already proved a total reserve of 1017 million tonnes of cement grade limestone in the various parts of the country which was far in excess of its requirements during the Fourth plan period. Hence it was decided to reduce the strength of the limestone Division of the Corporation to a skeleton unit only.

(iii) The expenditure incurred by the Corporation on investigation of sites not exploited by it was considered to be infructuous and tended to affect its financial results. As the request of the Corporation to treat such expenditure as an out right grant or as developmental expenditure could not also be agreed to by Government and the expenditure has required to be written off over a period of time, it was decided to reduce the strength of the division to a skeleton one.

4.14. The Ministry have also stated that at present there is no organised agency who could undertake specifically the work of survey, prospecting and proving of limestone deposits for the Cement Corporation of India and the cement industry as a whole. Hence, in the interest of the industry and particularly to exploit cement grade limestone in the Northern and Eastern regions, where there were not many known limestone deposits, the Ministry have stated it is considered necessary to revive the Limestone Investigation Division in the Cement Corporation of India.

4.15. When asked to state whether any extensive survey or exploration to locate cement grade limestone deposits at the centres of consumers' demand for cement has been made, the Ministry stated that the information was not readily available with them.

4.16. When asked to state whether limestone deposits already proved would be sufficient for the entire Fifth Plan period, the Ministry replied in the affirmative.

4.17. Regarding the steps taken to explore limestone deposits in the deficit areas of Northern and Eastern Zones of the country in order to have more cement factories in those regions, the Ministry

have stated that the Geological Survey of India has included the following exploration programme for the limestone deposits for 1973-74 field season in the Northern and Eastern Zones of the country to facilitate the decision on installation of the cement factory in these regions, if necessary:—

1. Detailed investigation of dolomite and limestone resources in Kameng district, Arunachal Pradesh.

2. Regional assessment of limestone deposits in Shella Kashmara area, Khasi Hills district, Meghalaya.

3. Investigation for cement grade limestone in Jhalda area, Purulia district, West Bengal.

4. Investigation for cement grade limestone in Chenab Valley, Jammu, Jammu and Kashmir.

5. Detailed investigation for cement grade limestone in Shali formation, Simla district, Himachal Pradesh.

6. Dolomite and limestone resources in Cale-Zone of Pithorgarh—Chameli-Tezam-Deoban, U.P.

4.18. Similarly, priorities can be given for other areas, if necessary. As field programme of Geological Survey of India is decided on year to year basis, further investigation for limestone in the Northern and Eastern Zones would be chalked out according to the priorities. The Limestone Investigation Division of the Cement Corporation of India is also being revived for this purpose.

4.19. In regard to the long-term planning for exploration of limestone deposits for the Sixth and subsequent Plans, the Ministry have stated that as the field programme of the Geological Survey of India is decided on year to year basis, no long-term Planning has been done for the 6th Plan or subsequent period. These investigations will form the basis for the Sixth Five Year Plan programme.

4.20. The representative of the Cement Research Institute stated during evidence:—

"The Fifth Five Year Plan may be viewed as a short-term plan.

In establishing the cement factory one has to take into account a long number of years over which the raw materials will be available. It is in this context that a detailed survey was suggested by me. It is not that a new organisation should be set up only to do this survey but this

surveying and propecting and identifying and classifying should get special importance during the coming years in order that we have enough data for long-term projections."

4.21. The Committee note that the proved reserves of limestone are more than adequate to cater to the requirements of the cement industry for the present. As limestone is an important raw material for the steel and cement industries and their requirements are bound to increase considerably in the future, it is imperative that the reserves of limestone in the country are assessed at an early date. It is essential that a coordinated programme of survey, investigation and exploratory drilling for limestone deposits is drawn up and implemented early. The Committee, therefore recommend that a comprehensive plan should be formulated to undertake these surveys, systematically to meet the short-term and long-term needs of the various industries in the country and completed within a time bound programme.

4.22. The Committee note that the Geological Survey of India has prepared a number of exploration programmes for limestone deposits in Northern and Eastern zones which are deficit areas so far as cement is concerned. The Committee would like to stress the urgent need for proper and fuller investigation of cement grade limestone in deficit areas so that cement plants could be set up in these areas near the consuming centres. They would therefore recommend that the requisite investigations in these areas should be undertaken by the Geological Survey of India on a priority basis and completed according to a time bound programme.

4.23. The Committee further note that one of the important functions of the Cement Corporation of India was to survey, prospect and prove cement grade limestone in the country. The Corporation set up a Limestone Investigation Division for this purpose but it was closed down in 1969 as it had already proved a total reserve of 1017 million tonnes of cement grade limestone in the various parts of the country which were far in excess of its own requirements during the Fourth Plan period and as the request of the Corporation to treat the expenditure on such investigations, as outright grant or as developmental expenditure was not agreed to by Government. The Committee feel that Government should have ensured that a suitable way was devised to see that the useful work of the Limestone Investigation Division was continued in the larger interests of development of the industry on a long range basis Not only a valuable period of five years has been lost which could have been utilised for conducting further surveys and proving more

reserves but the expertise and organisation built up for this purpose, may have been dissipated during this period and would have to be rebuilt. Now that the Limestone Investigation Division is being revived, the Committee trust that it will be provided with necessary resources to enable it to effectively perform its functions of limestone investigation throughout the country, particularly, in deficit areas.

4.24. The Committee note that the work relating to survey, prospecting and proving of limestone deposits for the cement industry as a whole is at present done by the Geological Survey of India, Indian Bureau of Mines, the Minerals Exploration Corporation, the Cement Corporation of India and the Department of Mines and Geology in the State Governments. Coordination between these organisations is stated to have been effected through the meetings of Mineral Advisory Board and the Central and State Geological Programming Boards. It is thus evident that there is no single organised agency which could specifically undertake this work. The Committee regret to note that the existing arrangements in this regard are not satisfactory. They would like Government to have a well coordinated programme to assesss and locate the available limestone deposits in the country expeditiously in a planned manner, more particularly in the deficit areas, in the Northern and Eastern States, to facilitate the location of cement plants there.

4.25. The Committee would like that information regarding the proved deposits of cement grade limestone in different parts of the country should be compiled and published widely with due expedition so as to encourage the new entrepreneurs to set up cement plants.

C. Location of Plants

(i) *Location of Plants in Deficit Areas*

4.26. The Ministry have informed the Committee that the States which are deficient in the production of cement are Haryana, U.P., Jammu and Kashmir, Assam, Kerala and Meghalaya.

4.27. There are no cement factories in the following States/Union Territories:—

1. Chandigarh
2. Delhi

3. Himachal Pradesh
4. Punjab
5. West Bengal
6. Manipur
7. Nagaland
8. Arunachal Pradesh
9. Tripura
10. Goa, Daman & Diu
11. Andaman and Nicobar Islands
12. Laccadive Islands

4.28. The States which are surplus in cement are:

1. Rajasthan
2. Bihar
3. Orissa
4. Andhra Pradesh
5. Madhya Pradesh
6. Gujarat
7. Tamil Nadu
8. Mysore

4.29. The State-wise production/consumption of cement during 1972 is given below:—

(In 1000 tonnes)

Region/State	Production 1972	Consumption 1972	Deficient (—)/Surplus (+)
1	2	3	4
NORTH			
1. Chandigarh . .		62	—62
2. Delhi	..	646	—646
3. Haryana . .	473	553	—80
4. Himachal Pradesh .	..	55	—55
5. Punjab .	..	673	—673
6. Rajasthan	1586	501	+1085

(in 1000 tonnes)

Region/State	Production 1972	Consumption 1972	Deficient (—)/Surplus (+)
1	2	3	4
7. Uttar Pradesh	664	1805	—1141
8. Jammu & Kashmir	—@	108	—108
TOTAL NORTH	2723	4403	—1680
EAST			
9. Assam	48	288	—240
10. Bihar	1655	972	+683
11. Orissa	788	356	+432
12. West Bengal	—	1008	—1008
13 Manipur	—	19	—19
14. Nagaland	—	21	—21
15. Arunachal Pradesh	—	8	—8
16. Tripura	—	17	—17
TOTAL EAST	2491	2689	—198
WEST			
17. Gujarat	1685	1405	+280
18. Maharashtra	474	1974	—1500
19. Madhya Pradesh	2303	744	+1559
20. Goa, Daman and Diu	63	63	—63
21. Dadra and Nagar Haveli	—	1	—1
TOTAL WEST	4462	4187	+275
SOUTH			
22. Andhra Pradesh	1609	1210	+399
23. Tamil Nadu	2809	1377	+1432

1	2	3	4
24. Mysore	1588	870	+718
25. Kerala	32	623	—591
26. Pondicherry	—	22	—22
27. Andaman and Nicobar	—	19	—19
28. Laccadives	—	—	—
TOTAL SOUTH	630	4121	+1917
GRAND TOTAL	15714	15400	+314

(i) 87000 tonnes consumed in Nepal, Sikkim and Bhutan are not accounted for in this Table.

(ii) Cement availability from Wuyon factory (9,590 tonnes) is not taken into account.

(iii) Meghalaya included in Assam.

(iv) Wuyons factory production not taken into account.

4.30. It will be seen from the above that the Northern and Eastern regions of the country are deficit in production of cement.

4.31. The Ministry have stated that cement being a mine based industry, factories have to be located in the States where adequate cement grade limestone deposits are available. As the limestone deposits are not evenly distributed in all the States, some States are deficit in cement production while others are surplus.

4.32. The details of the schemes which have been approved for setting up cement capacity in the Northern and Eastern regions in the country are given below:

(i) *Northern Zone* (in lakh tonnes)

Sl. No.	Party	Location	Capacity	Probable date of completion
1.	J.K. Synthetics Ltd. Kanpur	Nimbara (Raj)	2·52	September, 1974
2.	Cement Corporation	Paonta (HP)	2·00	December, 1976
3.	Hindustan Sugar Mills	Udaipur (Raj)	3·00	September, 1976
4.	H.P. Mineral and Ind. Corpn.	Samloti (H.P.)	2·00	September, 1977
5.	J&K Minerals, Srinagar	Basholi (J&K)	2·00	December, 1977
6.	U.P. State Cement Corpn.	Dalla (U.P.)	3·68	January, 1978
7.	A.C.C. Ltd.	Bhupendra (Haryana)	3·00	June, 1977

(In Lakh tonnes)

Sl. No.	Party	Location	Capacity	Probable date of completion
8.	U.P. State Cement Corporation	Mirzapur (U.P.)	4·32	September, 1978
9.	—Do.—	Pithorgarh (U.P.)	4·32	January, 1979
10.	Delhi Cloth & General Mills	Banas (Rajasthan)	8·00	September, 1978
11.	A.C.C. Ltd.	Pali (Raj.)	6·60	January, 1979
12.	J & K Minerals	Khrew (J&K)	1·04	September, 1978
13.	Jaipur Udyog Ltd.	Beawar (Raj.)	6·00	—
14.	J & K Synthetics	Ludhiana (Punjab)	1·26	(Split-location plant) (Capacity not to count)
15.	B.N. Bhaskar	Bundi (Raj.)	2·00	
	Total Capacity :		50·48	

(*ii*) *Eastern Zone*

1.	Assam Cement Ltd.	Cherrapunji (Meghalaya)	2·00	April, 1974
2.	Durgapur Cement Works	Durgapur (WB)	6·00	April—July 74
3.	Cement Corporation of India	Bokajan (Assam)	2·00	July, 1975.
4.	Ashoka Cements	Chandrapura (Bihar)	2·36	April, 1977 (Split-location)
5.	—Do.—	Asansol (WB)	2·60	April, 1978
6.	West Bengal Ind. Dev. Corporation	Purulia (WB)	2·00	January, 1979
7.	Sone Valley Portland Co. Ltd.	Japla (Bihar)	3·30	—
8.	R.P. Sinha Cement Ltd.	Shahabad (Bihar)	2·00	—
9.	Palamau Cement, Calcutta	Bhawnethpur (Bihar)	2·50	—
	TOTAL		26·98	

4.33. It will be seen from the above that the number of schemes approved State-wise in the Northern Zone and Eastern Zone would be as follows:—

Northern Zone	
Rajasthan	6 schemes
U.P.	3 schemes
Himachal Pradesh	2 schemes
Jammu and Kashmir	2 schemes
Haryana	1 scheme
Punjab	1 scheme
Eastern Zone	
Meghalaya	1 scheme
West Bengal	3 schemes
Assam	1 scheme
Bihar	5 schemes

4.34. It is also seen that most of the projects are expected to be completed only during 1977-79.

4.35. The Ministry have also stated that incentives for increasing production in the deficit areas are amongst the terms of reference to the Tariff Commission.

4.36. The Task Force for Cement Industry for the Fifth Plan have stated in their Report that with a view to locating future cement plants in the deficit areas where cement is in short supply, it is necessary that cement manufacturers come forward to utilise low-grade limestones. While this might push up cost of production, it would have the important advantage of reducing its freight.

4.37. Furthermore, if in due course, there was a free market, such factories would have benefit of low cement freight against higher raw materials cost, and would not be put to any disadvantage by locating the factory based on beneficiation of lower quality limestone.

4.38. During evidence, the representative of the Cement Manufacturers Association stated that the additional cost of beneficiation of the low grade limestone would be Rs. 7 to Rs. 10 per tonne.

4.39. The Committee note that Northern and Eastern Zones are deficit in Cement production. They also note that 15 schemes for Northern Zone and 10 schemes in Eastern Zone for putting up cement plants have already been approved. The Committee would like Government to monitor the progress of these projects so that these projects come up according to the scheduled programme and the target dates for their commissioning and going into production are strictly adhered to.

4.40. The Committee need hardly emphasise the advantages flowing from having cement plants near all major consuming centres. The Committee are also aware that cement industry is mine based and location of cement plants has to depend largely on the availability of the basic raw material—limestone. The Committee have already urged that the mineral surveys to locate cement grade limestone and low grade limestone should be undertaken in the dificit areas on priority basis. The Committee note that low grade limestone can be used for production of cement by adopting proper beneficiation process. The Committee have no doubt after examining the economics of the projects, Government would extend necessary facilities and assistance to encourage utilisation of low grade limestone available in deficit areas, for the manufacture of cement, so as to reduce long haulages and transport costs on cement.

4.41. The Committee note that the question of giving incentives for increasing cement production in the deficit areas, is one of the terms of reference to the Tariff Commission. While urging the Tariff Commission to expedite its Report the Committee would like Government to process their recommendations expeditiously in the interest of encouraging the setting up of cement plants, particularly in deficit areas.

(ii) *Split Location of Plants*

4.43. The limestone deposits available in our country are not at the centres of consumer demand for cement, thus making the location of cement plants on the basis of availability of the limestone imperative rather than on the basis of the availability of the consumers. However, an optimum solution will have to be found between the availability of the raw materials and the transportation problems. One such solution would be to have split location of plants.

4.44. Under split location of plants, clinker can be made nearer the raw material availability area and the cement is made nearer

the consumer centre. Explaining the advantages of split location, the representative of the Cement Research Institute stated during evidence:

"Since the raw materials are located in such a place, we have to move either the raw material or the finished product. Supposing, the cement factory is located at the consumer centre. Then, larger quantity of raw materials would have to be moved. It is not only the coal, but one and a half time of quantity of the clinker will be the limestone. Instead of moving 28 million tonnes, we may have to move 42 million tonnes of limestone. Therefore, we have no choice. We have either to move the raw material or we have to move the finished product to the user, unless the user is located nearer the raw material availability area. But, unfortunately, the users—most of whom are in industrial cities and urban areas—are not located nearer to the raw material availability areas. There is no choice at all. Either, we decide to move the raw material or decide to to move the cement. So, the suggestions that I have made is that we will have to find out a via media whereby we move an intermediate product like the clinker after having made it clinker, so that, the 42 million tonnes of limestone, 9 million tonnes of coal all these would have been converted into about 26 to 27 tonnes of clinker, which would be almost the quantity of cement that will be used and then transport this clinker to the user areas, and convert it into cement there."

4.45. The representative of the Cement Research Institute further added:—

"Clinked can be stored longer than cement without getting spoiled. There are many other problems like that that will come up. We can move clinker during the lean period in the transport field also. At the moment what is happening is that, when there is demand for transport arrangements by the cement industry, simultaneously demands are also made on the transport industry, by other industries.

"Therefore, moving clinker would at once mean that you can spread out the transport load over the year. Clinker can be moved all through the year."

4.46. The Ministry of Industrial Development have also stated that split location plants were also being contemplated near the consumption centres. The schemes on split location already approved and those under consideration are as under:—

Name of the Party	Location	Annual Capacity (lakh tonnes)	Remarks
1. Ptunyam Cements & Minerals Ltd	Tornagallu (Karnataka)	1·00	Approved
2. Ashoka Cements Ltd.	Chandrapur (Bihar)	2·36	Do.
3. Ashoka Cements Ltd.	Asansol (West Bengal)	2·60	Do.
4. U.P. State Cement Corporation	Varanasi	8·00	Under consideration
5. J.K. Jute Mills	Kanpur	1·00	Do.
6. J.K. Synthetics	Ludhiana	1·26	Approved

4.47. The Committee are happy to note that Government have already approved four schemes for split location of cement plants and two more are under consideration. The Committee have no doubt that Government would give due encouragement for split location of cement plants, particularly near the consuming centres in the deficit areas.

CHAPTER V

CEMENT PLANT & MACHINERY

A. Indigenous Capacity for Manufacture of Plant & Machinery

(i) *Capacity*

5.1. According to the Report of Task Force for Cement Industry for the Fifth Plan, the cement machinery industry has a capacity of 17 standard plants per annum (i.e.) the following:—

Name of the Party	Annual * capacity in terms of standard plants of 600 tonnes day of 1000 tonnes day	Total No. of plants which could be delivered during the Fifth Plan
1. ACC/AVB	7	35
2. K,C.P.	2	10
3. Utkal Machinery	1	5
4. Walchandnagar Industries	1	5
5. Indian Sugar & Gen. Engg. Corpn.	2	10
6. Mc. Neill & Bird	2	10
7. Larsen & Toubro	2	10
	17	85

*Capacity will not vary appreciably even if the plants ordered are 1000—2000 tonnes/day.

5.2. The Report of the Task Force adds that the above capacity taken in terms of 600 tonnes per day plants would be adequate for the Fifth Plan programme but could develop a comfortable surplus if these were diverted to production of bigger, *viz.*, 1000-2000 tonnes per day plants, for which facilities were available and in fact some plants of these sizes had already been ordered. A review in about 2-3 years time appeared necessary to consider whether any additional capacity in this field would be needed.

(ii) *Cement Technology and Foreign Collaboration in the manufacture of Cement Making Machinery:*

5.3. The Ministry have stated that all the indigenous manufacturers are tied up with well known foreign manufacturers of West Germany, Denmark, U.S.A., Japan, France and Czechoslovakia. Therefore, the collaboration arrangements covered the latests design in cement making machinery particularly in the suspension preheater dry process system of making cement.

5.4. The Ministry have further stated that even though all the cement machinery manufacturers manufactured cement plants with the help of imported know-how under collaboration agreement, full assimilation of the know-how has not been made by them in respect of (i) process parmeter, (ii) design and drawing, (iii) fabrication technology and (iv) erection and commissioning for major equipment of a complete cement plant. Only one manufacturer viz. M|s, A.C.C. Ltd. have assimilated the know-how for plants upto 2400 tonnes per day capacity except for certain specialised equipment and might be in a position to supply plants of their own design even after the expiry of collaboration agrement, barring some selective areas where extension of further collaboration may be needed by them.

5.5. The Ministry have stated that the cement machinery manufacturers who have not yet assimilated complete know-how might need extensiaon of their collaboration agreement forfurther period.

5.6. It has been the opinion of the cement machinery manufacturers, according to the Ministry, that a minimum of 10 plants are required to be manufactured and commissioned by each of the cement machinery manufacturers to enable them to assimilate adequate know-how to bridge the present technological gap. In the past, due to slackening of demand of cement plant, some cement machinery manufacturers have not received any order and som ehave received orders for only a few plants, as a result, the full know-how has not been absorbed and assimilated by the cement machinery manufacturers. The Ministry have stated that this is evident that a considerable technological gap would have to be bridged to make the cement machinery industry as a whole self-sufficient in the matter of know-how.

5.7. When asked to state the position regarding the orders received by the manufacturers, the Ministry have stated that out of the eight units, engaged in the manufacturing of cement machinery, orders for complete plants were received during last three years by M|s. A.C.C., AV.B. and M|s. Larsen & Toubro. The Ministry added that M|s. K.C.P. Ltd. Madras and M|s. Walchandnagar Industries had

earlier supplied complete cement plants The remaining units have not yet manufactured any complete cement plats.

5.8. According to the guidelines for foreign investment and collaboration, cement machinery is included in List II (i.e.) list of industries where no foreign collaboration (financial or technical) is considered necessary.

5.9. When asked to explain the Government's policy in regard to the renewal of collaboration agreements with foreign manufacturers, the Ministry have stated that in the early stage of the development of the cement machinery industry, which was essentially linked with the cement industry the pattern of manufacture centred round relatively small capacity plant of 600 tpd. The present world trend is towards higher capacity plants in consideration of Scale of Economy'. Accordingly in India, we are also now planning our future cement plants on higher capacity, keeping, however in view, the various controlling factors like roads, bridges and transport facilities required for transporting heavy machinery parts. Task force No. V has recommended a target of production of cement plants by 1978-79 at 10/12 plants. The future cement plants would be primarily of 'dry process'. A maximum per cent of the components (assemblies & sub-assemblies) are specifically of critical nature and call for sophisticated design technology. Although our indigenous machinery manufacturers may be deemed to have absorbed know-how for the lower capacity cement machinery but for higher capacity they are yet to assimilate know-how for the items of critical nature. As the collaboration are essentially of composite nature covering a large number of items, it is beneficial to continue the collaboration in not only the unabsorbed items but for all the items covered in the collaborations.

5.10. Cement Machinery Industry figures in list II of the guidelines on foreign collaboration, according to which no foreign collaboration (financial or technical) is considered necessary in this field. Proposals for extension of existing collaboration agreements have, therefore, in the light of the position stated in para above, to be processed on merits.

5.11. An inter-ministerial meeting was held recently to explore the possibilites of Standardisation of Cement Plants as it has been noticed that inspite of development of adequate fabrication capabilities within the country there is still an overwhelming dependence on foreign collaborators for design and project engineering. Apart from the draft on foreign exchange, such a development was not permitting the optimum utilization of existing installed capacity. I.S.I. have

already formed a Committee to consider the proposal. The Committee was proceeding more or less with a fundamental premise that it was not possible to have one standard design for a cement plant of a particular capacity and that project engg. work had to be necessarily different in each case and there were no possibilities of standardisation in those spheres. That Committee had, therefore, taken up the work of identifying some of the common components with a view to standardising them. In an Inter-Departmental meeting held recently, it was felt that while the exercise mounted by I.S.I. was bound to be extremely fruitful, it was necessary to take certain other steps to reduce the dependence on foreign collaborators. It was agreed by all that under the circumstances it was not possible to cut off the dependence on foreign collaborators at least for another 3 years.

5.12. During evidence, the representative of the Ministry of Industrial Development further stated that the D.G.T.D. was of the view that in some cases, the collaboration agreement would have to be renewed further so that the newer ideas could be assimilated by the manufacturers. The witness explained that "where we are advised by the D.G.T.D. that for a further period of 2|3 years, a particlar collaboration should be extended, we will extend that; it will be for a short period."

5.13. In a memorandum, it has been brought to the notice of the Committee that although the cement industry is 60 years old now, it does not seem to have contributed to any technological breakthrough. The tendency has been gnerally to copy the technological development achieved in other countries. In many areas these are not uptodate. The manufacture of cement making machinery was started in our country only in the last decade. The tendency on the part of cement making machinery suppliers was to offer the proces and machinery available with them without they themselves examining whether what was offered by them was the optimum from the point of view of operation and cost of production. There is urgent necessity to develop the technological know-how in the fields of mechanical engineering, chemical engineering and mining.

5.14. It has further been pointed out in the Memorandum that in the absence of certain equipment like weigh feeders, oxygen analysers, carbon monoxide analysers, which are not manufactured indigenously, the sophisticated dry process plant cannot give optimum performance. It has been added that the Electro Static Precipitator supplied by a company in the recent past to four or five factories are not functioning. This is an equipment with a capital of Rs. 30 lakhs. When the attention of the Ministry was drawn to the above, they

stated that the indigenous manufacturing capacity for electrostatic precipitators is as under:—

Name of the Factory	Annual capacity	Foreign collaborator
1. Voltas Ltd.	4 units	M/s. Research Cottroll Inc. USA.
2. S.F. India Ltd.	10 units	S F Sweden
3. B.H.E.L.	In the process of supplying 27 units mainly for thermal power stations.	

5.15. Out of about 110 installations in India, only 14 are provided with precipitators.

5.16. Some of the difficulties stated to be experienced by plant personnel are:—

1. CO analysers installed are difficult to maintain due to lack of imported spare parts.

2. There is no strict control over coal feed.

3. Gas temperature is too high and water spray system does not work satisfactorily.

5.17. Additional capacity has been recommended in the case of M|s. Voltas Ltd., from 4 Nos. to 14 Nos., M|s. A.V.B. 30 Nos., M/s. Bharat Heavy Plates and Vessels 6 Nos. letters of intent have been issued to these firms.

5.18. The requirement of the cement industry, according to the Ministry is now being fully met from indigenous manufacturers of this item and there is not much difference between the imported price and indigenous price.

5.19. The Committee note that there are seven cement machinery manufacturers in the country, having a capacity of 17 standard cement plants of 600|1000 tonnes.day, per annum which would be adequate for meeting the requirements of cement plants for the Fifth Five Year Plan period. They further note that all these manufacturers are tied up with well-known foreign manufacturers of West Germany, Denmark, U.S.A., Japan, France and Czechoslovakia. The Committee note that these manufacturers have not so far fully assimilated the know-how and still depend on foreign collaboration in some critical areas and need extension of their collabora-

tion agreements for further period. The Committee are concerned to note that although the cement industry in the country is quite old, the cement machinery manufacturers have still to depend on foreign knowhow in some critical areas. It is well known that apart from the outgo of foreign exchange in foreign collaborations, the lack of complete know-how hinders the optimum utilisation of existing installed capacity in the country.

5.20. The Committee have no doubt that if it is found that extension of collaboration agreement is absolutely essential in public interest then it should be for the minimum period and that full use should be made of this opportunity to ensure that latest know-how for these critical items is made available. The Committee would also urge that the research institutions should be asked to intensify their work in these critical areas so as to achieve self-reliance at the earliest.

The Committee would also like Government to examine the feasibility of promoting the idea of the consortium amongst the cement machinery manufacturers in the interest of setting up of the new units within the country and of promoting exports to other developing countries.

B. Import of Critical Items

5.21. It has been brought to the notice of the Committee by various cement plants that one of the major bottlenecks in the manufacture of cement machinery in India is the non-availability of heavy steel castings and high horse-power motors in good time indigenously. Protracted deliveries quoted by indigenous manufacturers are deterrent to timely completion of cement plants.

5.22. During evidence, the representative of the Ministry stated that the lead time for putting up a plant depended on the supply of heavy castings etc., by the electric furnace owners and the foundary owners to the cement manufacturers. He added:

> "This is the real critical item. So far as this is concerned, we have taken a decision in principle that this should not be a bottleneck item and we should permit importation of this particular item and allow these to be imported and handed over to the manufacturers so that they do not face any difficulty in starting the production in time.
>
> The others would be a few critical items, where again indigenous availability is there, but perhaps the time element may vitiate the progress. There also we have recently allow-

ed some importation and we would allow importation to ensure that the progress is not held up. Normally, in cement industry. Government do not keep any foreign exchange component, but in the Fifth Plan, we are trying to keep a foreign exchange element of 7 per cent which for cement factory is very high. I discussed this with the machine manufacturers and the people who are putting up the cement plants and they all agreed that 7 per cent would be on the liberal side and they should have no difficulty in getting the plants and equipment made with that sort of foreign exchange."

5.23. It has been represented by various cement factories in their memoranda to the Committee that heavy castings that are manufactured at Heavy Engineering Corporation, Ranchi have a delivery time of more than three years and the price increase between the time of licencing and the time of installation is so formidable that very few entrepreneurs venture to set up cement units. It has also been stated that the cement machinery manufacturers could not adhere to the delivery schedule because they have to depend upon Heavy Electricals, Bhopal for heavy electric motors and accessories and on Heavy Engineering Corporation, Ranchi for heavy castings. It has been suggested by them that these two public undertakings should keep their delivery schedule.

5.24. On question of delay in the delivery of heavy castings which are manufactured by H.E.C., Ranchi, the representative of the Ministry stated:

"I feel it should be reduced. Their point is that they have to supply heavy castings for virtually every type of industry and they are finding it difficult."

"I personally discussed this with the General Manager and the Chairman."

"By and large it used to be 36 months but over the last six months they have improved; it is now 30 months."

"I agree that 30 months is also a long period."

5.25. Regarding the delivery time for supply of heavy duty motors for the cement industry, the representative of the Ministry stated that it was now 24 months.

5.26. As regards the steps taken to reduce the delivery time of components of cement machinery by the public sector units, the re-

presentative of the Ministry stated that they had been holding meetings and personally taking it up with the administrative Ministry.

5.27. The Committee note that there are long delays by the Heavy Engineering Corporation and the Heavy Electrical Ltd., in the delivery of heavy castings and heavy duty motors, required by the cement machinery manufacturers. The delay in the supply of these items has resulted in consequential delays in the commissioning of cement plants. The Committee would like Government to take concerted measures to see that delivery schedules, quoted by the HEC and HEL for supply of heavy castings and heavy duty motors, are reasonable and that they are adhered to, so that there are no delays in the creation of new capacity for cement production in the country during the Fifth Plan.

5.28. The Committee further suggest that the progress in the commissioning of cement plants should be closely monitored by Government and through coordinated efforts, it should be ensured that there are no bottlenecks in their timely commissioning.

5.29. The Committee also note that Government recently allowed import of certain critical items for cement industry which are indigenously available but hampered progress because of delays in their delivery. They further note that Government are trying to make a provision of foreign exchange element of 7 per cent for cement industry during the Fifth Plan so that the industry may not suffer for want of indigenous availability of certain items. The Committee would like Government to identify the critical items required to be imported, after making a realistic assessment of the indigenous availability of the various parts required for cement plants, and make necessary foreign exchange available for the import of those items so that the progress of installation of the cement plants is not adversely affected on that account.

C. Standardisation of Cement Plants

5.30. The Report of the Task Force for Cement Industry for Fifth Plan has pointed out that in regard to minimum scale of plants in developing countries, it appears necessary to make a distinction between the countries where cement industry has already been established and developed and those with little or no cement production. For the latter group of countries, it is considered that the annual capacity of one lakh tonnes based on the rotary kiln process would be minimum economic size while four lakh tonnes or more is considered as the minimum for the country where the cement industry is well established and relatively advanced. India falls in this cate-

gory as cement industry has been established on a firm footing with the present installed capacity of 19.78 million tonnes. The influence of scale of operation on total investment cost and production cost indicated below is very significant. This is why advanced countries like U.S.A., U.S.S.R., France, are going for larger capacity of more than thousand tonnes per day rotary kilns.

5.31. Fixed investment related to scale of plant in selected countries is given below:—

Cement Capacity in tons/year	Germany	U.S.S.R.	U. S.A.	India
	as % of cost for 200,000 tons plant	as % of cost for 200,000 tons plant	as % of cost of 200,000 tons plant	as % of cost for 200.000 tons plant
100,000	121		120	125
200,000	100	100	100	100
400,000	79	64	83	85
500,000	—	58	80	—
1 million	—	46	56	—

(Source ECAFE Seminar on Building Materials 1967).

It will be seen that there is a saving of about Rs. 15 per tonne of capacity for setting up 4.00 lac tonnes plant over 2.0 lac tonnes installed capacity. Similarly the cost of production for different scales of operation for Germany, U.S.A. and India as given below is appreciably lower for larger sized single-kiln plants:

Germany Capacity tonnes/day	Cost/ton in U.S. $	U.S.A. Capacity tons/day	Cost/ton in U.S. $	India Capaicty tons/day	Cost/tons in U. S. $
300	15·65	260	18·39	300	13·2
600	14·23	510	15·41	600	11·4
1200	12·76	1000	12·18	1200	8·2

(Source ECAFE Seminar on Building Materials 1967).

Thus two benefits of economics of scale are achieved-one for the fixed block investment and the other in the cost of production.

5.32. The above figures indicate that the benefits from economics of scale are more pronounced in cost of production than in investment.

5.33. The Task Force Report further states the Indian Cement Industry is a mixture of small and large factories ranging in unit capacities from 6 toones to 1000 tonnes per day. The influence of scale of operation on total investment cost and production cost is very significant for Indian Cement Industry particularly for new units to be established. The economic unit capacity for cement plant was standardised at 600 tonnes per day a few years ago. In U.S.A., capacity of 800 tonnes per day was considered economical a few years ago, set up by one technological line and for higher capacities—two production lines were prevailing. Similarly in USSR, two production lines—started beyond 700 tonnes per day. The present trend in these countries is unit capacities of 1500 tonnes per day in one line. There are exceptional cases of single kiln capacities or approximately 4,200 tonnes per day in USA, 4,000 tonnes per day in Iran (under construction), 3,600 tones per day in U.S.S.R., and 2,700 tonnes per day in Japan.

5.34. In view of above savings in both investment as well as production cost and takig into consideration the increases in labour wages, and in railway freight as well as price of coal and electricity the Task Force Report states that it appears necessry for the Indian machinery manufacturers to be geared up to supply 1200 tonnes per day single unit plant.

5.35. The size of cement plants in India had been standardized at 600 tonnes/day some years ago because at that time there was great shortage of castings and electrical equipment. Now that there are many plants offering bigger size electric motors and also Heavy Engineering Corporation are fully equipped for larger castings, it would be worthwhile to consider introducing bigger size plants of 1000 to 1200 tonnes/day capacity.

5.36. Throughout the world technology has made great strides and kilns of between 2000 and 3000 tonnes/day are quite common. These kilns also enable sophisticated instrumentation to be used by which very uniform quality of clinker can be produced at more economical rates. Hence, in India also it is essential according to the Task Force to introduce bigger size plant and equipment.

5.37. The Task Force adds that the main difficulty would be transport of bigger size of shells of kilns and mills. Whereas Railways have the inherent limitation in their bridges and the spacing between two parallel railway lines, normally these bigger sections elsewhere are transported by road. That could be possible in India also and such road transport can be arranged provided proper planning is made in advance.

5.38. The Ministry have stated that a Committee has been appointed under the chairmanship of Director-General, Indian Standards Institution to report on the question of standardisation in the manufacture of cement machinery. The Ministry have also stated that this Committee has been asked to report on the degree and extent of standardisation of various components, also to give details as to how this could be done in case of cement plants of a capacity of 1200 tonnes per day. The Committee was set up on 27th March, 1973. The Chairman of the Committee has been requested to submit report at the earliest possible.

5.39. On the question of standardisation of cement machinery, the representative of the Ministry stated during evidence:

> "I have been thinking of standardisation for the last seven to eight months. I have had two or three meetings when a view was expressed that even for the standardisation of the sizes 600 and 1,200, some can be standardised and some cannot because it would be linked with the quota of raw material. I have appointed a Committee with the Director-General, ISI as Chairman and with experts, both in the field of machine making and cement making. We have decided to go in for the standardisation of the two sizes 600 and 1200 tons, but how much of this equipment can be 100 per cent standardised and how much cannot be 100 per cent standardised is something the Committee is looking into."

> "They have done quite a lot of work but it will still take a little more time."

5.40. When asked to state what should be the capacity of cement plants in the context of maximising production and achieving economics of scale, the representative of the Ministry stated:

> "Keeping in view the transport bottlenecks, we have come to the conclusion that a plant of 1200 tonnes is the optimum size. We are standardising on two sizes (1200 and 600). In some cases, people may not have the finance to put up a plant which will be of the size of 400 tonnes because of the height at which it is situated and the difficulty regarding transportation. After we get the report of the Standardisation Committee, perhaps we will be able to judge it much better. Of course, everything could be manufactured."

5.41. The Committee note that the unit capacity in Indian cement industry at present ranges from 60 tonnes to 1000 tonnes per day. The existing trend in other countries is for unit capacity of 1500 tonnes per day and more in one line. In some countries, it is as large as 3000-4000 tonnes. It is well known that there are obvious advantages of economy of scales in larger capacities, not only in terms of capital costs but in production costs as well. It is, therefore, necessary to go in for bigger size cement plants in the country. The Committee would, therefore, like Government to examine the feasibility of introducing bigger size plants in the country to be in tune with world trends.

5.42. They note that the work of standardisation of cement machinery has been entrusted to a Committee which was set up for this purpose in March, 1973. While the Committee regret the delay in taking up the question of standardisation of cement machinery by Government so late, they would urge Government to ensure the expeditious submission of the report on standardisation by the Committee and early decision on its implementation in the interest of economic and efficient production.

5.43. The Committee note that the existing cement manufacturing capacity in the country could develop a comfortable surplus if the cement machinery manufacturers are diverted to the production of bigger size plants of 100-2000 tonnes per day for which facilities are stated to be available. The Committee hope that by bringing about standardisation of cement plants and production of larger size plants in the country, the cement machinery manufacturers would not only meet the requirements of plants by the cement industry in the country but would also be able to export cement plants to foreign countries and earn much-needed foreign exchange.

CHAPTER VI

RESEARCH AND OTHER MATTERS

A. Research on Cement Machinery and Cement

6.1. Research and Development form an indispensable part of planning for industrial progress. The Committee have referred to in the earlier Chapter, the considerable technological gap which will have to be bridged to make the cement machinery industry as a whole of self-sufficient in the matter of know-how. The Ministry have further stated that the gap is primarily in the know-how about the testing of raw materials and evaluation of their results enabling equipment sizing and subsequent mechanical design of the major equipments. While the current trend of demand is for cement plants upto 1000|1200 tonnes per day capacity, the necessity for scaling up the capacity upto 2000 tonnes per day capacity to bring down the cost will be keenly felt by the time Fifth Plan period ends. The Ministry are of the view that as such immediate efforts of in plant R & D sections should be directed towards absorption and assimilation of process parameter and design know-how for plants upto 1000 tonnes per day capacity, and the long term objective of R & D efforts should be develop the design for larger sized plants of 2000 tonnes per day capacity.

6.2. The Ministry have further stated the sustained growth of an industry in the face of fierce competition can only be maintained with vigorous R & D efforts. Being fully aware of this, the cement manufacturers have embarked upon organised R & D to the extent possible in their own works. Some of the larger and serious minded manufacturers like A.C.C., Dalmia, Shri Digvijay, India Cement, the K.C.P. and Rohtas Industries have set up special R & D units of their own and have done pioneering work in development of various types of cement. And of all the units, the one set up by M|s. A.C.C. Ltd. at Thana is the biggest of its kind and one of the most up-to-date in the country and is in a position to provide training facility.

6.3. The Ministry have further stated that apart from the R & D organisation of the cement manufacturers themselves, the other most important one, is C.S.I.R. sponsored Cement Research Institute at Delhi, which undertakes intensive research in specialised fields

and also offer training facilities. Further facilities for research on cement and concrete also exist in some other organisations, like C.R.R.I., Delhi and C.B.R.I., Roorkee.

6.4. On the question of adequacy of existing research facilities in the cement industry the Ministry have stated that with the Commencement of functioning of Cement Research Institute, a centralised and strong R & D base is now available to the cement industry, According to a sample survey conducted by the Industrial Credit and Investment Corporation of India covering about 100 companies, it was found that the annual expenditure on R & D by the companies during 1969-70 was of the order of 0.2 per cent of turn-over, though there is now a greater awareness in the industrial community to activate, develop and utilise indigenous researches. This is less than half the Gross National Expenditure on R & D in India of 0.48. This is very small compared to annual expenditure on R & D in many other countries—such as U.S.S.R., U.S.A., U.K. and Japan.

6.5. At present the Cement Industry in India is contributing only 10 np. per tonne of cement sold for Maintenance and Operation of Research Account in Cement Industry which means only about 0.05 per cent of selling price of cement or nearly 0.09 per cent of the retention price and the G.S.I.R. gives a matching grant on the basis of the actual expenditure. Active steps to organise a centralised R & D for cement industry and related industries were initiated only towards the end of 1966. Identification of the needs of the industry, planning and organisation of the Institute, buliding up of a suitable infrastructure and attending straight away to immediate of R & D problems were all simultaneously pursued. G.I.R. has already completed several R & D projects of importance. With the Institute having acquired a large number of most modern and sophisticated equipment and necessary manpower, a strong R & D hase for the cement industry in the country is now firmly set.

6.6. A review of the facilities developed so far and presently available in the laboratories indicates that the laboratories are now capable of effectively dealing with most of the aspects of raw materials, processes, plant and machinery and other technical aspects involved in the industry as well as design and construction technologies which form the utilisation aspects.

6.7. Effective utilisation of this large capital case and strong and modern infrastructure for the full advantage of progress of the cement industry, Cement Machinery Industry, Asbestos Cement Industry and related industries and activities, would naturally demand a relatively heavy outlay on the recurring expenditure

hereafter; this will be necessary in order to meet the many challenging problems of R & D the cement industry has posed as well as to keep pace with the growing rate of development.

6.8. Endeavours are now being made to strenghen the resources of the C.R.I. The Tariff Commission has also visited C.R.I., and is expected that increased R & D support to this Central Research Institute will receive due attention in the pricing structure.

6.9. In a memorandum, a leading cement manufacturing company has stated that since the country is lacking in adequate research facilities, the Government should consider granting of additional tax reliefs to enable companies to spend on research substantially. It has been suggested that an assessee incurring any revenue expenditure on research be allowed a reduction of a sum equal to one and one third times of the amount of such expenditure as is allowed under Section 35B of the Income-tax Act, in respect of Export Market Development Allowance.

6.10. When this suggestion was brought to the notice of the Ministry, they stated that under Section 35 of the Income-tax Act, certain tax concessions are allowed in respect of expenditure on scientific research. These tax concessions are:—

(a) revenue expenditure incurred by a tax-payer on scientific research related to his business is allowed as deduction in computing his taxable profits;

(b) the whole of the capital expenditure incurred on scientific research related to the eax payer's business is allowed as deduction in the year in which it is incurred;

(c) the capital expenditure incurred on scientific research related to the tax payer's business during the period of 3 years immediately preceding the commencement of business is allowed as deduction in computing the taxable profits of the year in which the business is commenced; and

(d) donations to approved scientific research associations, universities, colleges or other institutions to be used for scientific research are allowed as a deduction in computing the taxable income.

6.11. Under the Direct Taxes (Amendment)Bill, 1973, which is presently before a Select Committee of Lok Sabha, the area of tax

concessions for scientific research is being extended, in the following directions:

(a) Revenue expenditure incurred by a taxpayer on payment of salaries to research personnel and on material inputs during the period of 3 years immediately preceding the commencement of the business will be allowed as a deduction in computing the taxable profits of the year in which the business is commenced. The deduction will be available only in respect of expenditure incurred after 31-3-1973 on scientific research related to the taxpayer's business and will be limited to the amount certified by the prescribed authority to have been actually spent on the qualifying items.

(b) The taxpayer will be entitled to a weighted deduction equal to 1 1|3 times the actual expenditure inccured by him on sponsored research in approved laboratories after 31-3-73. In order to qualify for the weighted deduction, the scientific research must be related to the business of the taxpayer and should have been undertaken in an approved laboratory under a programme approved by the prescribed authority having regard to the social, economic and industrial needs of India, The weighted deduction will also be admissible in respect of expenditure incurred on sponsored research during the three years immediately preceding the commencement of the business and, will be allowed in the year in which the business is commenced.

6.12. The Task Force on Cement Industry for Fifth Plan have underlined the following R & D needs of the Indian Cement industry:—

(1) *Quarrying.* In view of widely varying occurrences of limetone deposites, the correct and optimum methods of quarring are important parameters for economic production. The machanisation of quarries is another vital aspect requiring careful consideration.

(2) *Material Handling.* Material handling accounts for as much as 50 to 60 per cent of the manufacturing cost and hence it is essential to make a close study in this field such as increased use of gravity in materials handling, evaluation of sensitivity of materials to the system of handling, minimization of wastage ad ensuring the safety of the system etc.

(3) *Utilisation of Low grade raw materials.* Unlike many developed countries the cement industry in India has to face the problems of having to utilise relatively low grades of limestone since the best quality are used up by the other chemical industries and steel industry. To cope with the increasing demad for limestone by the advancing cement industry, either new sources of cement grade limestone at conveient locations have to be explored or the industry will have to devise ways and means for utilising the available low grades limestone through the various methods of upgrading specific to each raw material.

(4) *Utilisation of industrial wastes.* Exploitation of industrial wastes whose disposal otherwise presents a serious problem, is of national importance and is likely to lead to conservation of raw materials. Some of these are: slag from blast furnaces, fly ash from Thermal power stations, by products of aluminium, fertilizer and by product gypsm from some chemical industries.

(5) *Fuel Efficiency.* As fuel accounts for a large proportion of the total production cost, achievement of greater fuel economy by adopting more efficient methods of heat utilisation is absolutely necessary. Change-over from wet to semi-dry and to dry processes, improvements, in design of kilns, development of kilns with filtered surry have improved the fuel economy considerably.

(6) *Refractories.* The life of kiln linings in various cement factories in India is not as good as reported by certain other industries. Consequently there are more frequent stoppages of kiln and hampering of the production schedule, apart from the sources spent on unnecessary maintenance and repairs. In view of that, the problem of improving the life of refractory linings in cement kilns needs close and urgent attention.

(7) *Utilisation of kiln dust.* The methods of recovering kiln dust which vary from 1.5 to 15 per cent depending on the raw materials, kiln design and its operation and its use in the kilns present various problems and involve costly arrangements such as installation of electrostatic precipitators and introduction of dust insufflation system. An elaborate research is necessary to study the characteristics of constituents of the dust and its method of handling and feeding into the kiln.

6.12. Keeping in view the R & D needs of the cement industry, the various research and development facilities would need to gear themselves to the above specific problems in the larger interest of the cement industry.

6.13. In a memorandum submitted to the Committee, one leading cement company has identified the following areas where modern technology could be adopted:

Development of Limestone Quarry and Transport

The productivity in limestone quarries in the areas of drilling, blasting, etc., could be improved. The use of rippers with dozers for removal of overburden could be adopted. The limestone could be beneficiated by using wobblers, rotary drum washers, etc. or using the "sink and float" method.

Crushing of Limestone

Since crushing of limestone is cheaper than grinding, closed circuit crushing with primary crusher, secondary crusher and vibrating screens could be adopted to ensure supply of uniform size crushed stone (say, 20 or 15 mm and below) to the raw mills.

Preparation and Homogenisation of Raw Materials

The use of modern machines like the Aerofalk Mills, Tandem Grinding Plants, Loesche Roller Mills, Rod Grinding Mills, Rubber Bined Mills, etc., will help to increase hourly output, reduce power requirements and maintenance, and consequent reduction in cost per tonne. Homogenising by stackers and reclaimers are now universally adopted instead of E.O.T., cranes. Use of these in new plants in India should be considered.

Kilns

Dry process kilns with suspension preheaters is being adopted extensively. Latest improvement in this arrangement is the use of auxiliary furnace between the rotary kiln and the preheater, as is adopted by cement plants in Japan.

Fluidised bed technology, being experimented in Japan, and U.S.A. should be carefully watched as it would help to increase kiln outputs.

The Walther-Berathern Shaft Clinker Cooler being developed in U.S.A. is a very compact cooler with few moving parts and good overall thermal recovery. Further, in this cooler no excess cooling air is required to be rented.

The output and efficiencies of 'Wet Process Kilns' can be improved by installing stainless steel chains, introducing cyclones, bigger capacity induced draught fans and dust insufflation.

It would also be advantageous to convert some of the inefficient wet process kilns to 'Single or Two-stage dry process kilns'.

Cement Grinding

Closed-circuit cement grinding has been universally accepted for increasing mill outputs and reducing power consumption.

F. L. Smidths have adopted new open-circuit grinding system using mini-pebs. This method could be incorporated in some of our existing cement mills of open circuit type.

Automation

Use of weigh-belt feeders for mills, instrumentation and data-logging for better control of mills and kilns using electronic devices would help to achieve higher efficiency in operation, reduction in manufacturing costs and ensure high quality of cement."

6.14. The Committee regret to note that the annual expenditure on R. & D by the cement companies during 1969-70 was of the order of 0.2 per cent of turn-over and that this is less than half the Gross National Expenditure on R & D in India of 0.49 per cent. The Committee further note that this is very small compared to annual expenditure on R & D in many other countries, such as USSR, USA, UK and Japan.

6.15. The Committee need hardly emphasize the need for a strong R & D base for cement industry to meet the many challenging problems faced by the industry and to keep pace with the latest developments and, therefore, recommended that greater attention should be paid in strengthening the existing R & D facilities in the cement units.

6.16. The Committee note that with the setting up of the Cement Research Institute, a beginning has been made for a strong centralised R&D base. The Committee trust that this Institute would endeavour to meet the needs of research in various aspects of cement technology and both Government and the Cement industry would do their best in strengthening the Institute both in terms of providing finance and equipment.

6.17. The Committee would like to stress that in view of the limited resources available for research in our country care should be taken to identify the areas of research which need immediate attention and thereafter proper priorities should be drawn up. It is also essential that research is undertaken under time-bound programmes, with the cost of research estimated before hand. The Committee would urge that these programmes should be periodically reviewed to assess the results of the research work done and whether the result were commensurate with the time, energy and resources utilised.

6.18. The Committee hope that since the areas of research so far as cement industry is concerned can easily be identified the Cement Research Institute would undertake research in those areas to bring about the necessary technological solutions.

B. Research on Packing Material

6.19. The Ministry have stated that at present, most of the cement produced in India is packed in jute bags. With the rise in production of cement from the present 15 million tonnes to 28 million tonnes at the end of the Fifth Five Year Plan, the requirement of jute bags for packing of cement will rise from approximately 2,50,000 tonnes to 3,00,000 tonnes. From the point of view of the foreign exchange potentiality of jute, shortages of supplies and the high cost of packing—it is about 25 per cent of the ex-factory price of cement—it has become necessary to look for alternative packing material.

6.20.When asked to state the steps taken by Government in view of the above, to reduce the demand for jute bags for packing cement, the Ministry have stated that the Cement Research Institute was conducting experiments to find some alternative packing material.

6.21 The Cement Research Institute, in their memorandum to the Committee, have stated that quite often attention has been

drawn to the loss of cement from the bags due to seepage, and possible admission of moisture from the atmosphere leading to deterioration in the quality of cement in certain cases and even rejection and consequent losses which add to the national loss of this basic and much needed construction material. Cement Research Institute, has, therefore, been giving a detailed attention to this subject.

6.22. A combination of several factors such as the high temperature at which cement is packed, the fineness of low cement as a powder, the importance of re-use of bags and the low ratio of the cost of contents to the container in the case of cement, make the problem a difficult one to solve. The problem is being systematically tackled and just now Cement Research Institute experimental bags are under investigation by each of the cement manufacturers in the country in their plants in order to determine a clear strategy for improvements.

6.23. The Committee note the requirement of jute bags for packing cement would be almost 3,00,000 tonnes at the end of Fifth Plan period. They also note that cost of packing accounts for 25 per cent of the ex-factory price of cement. The Committee need hardly stress that the research on alternative cheaper packing material has assumed greater urgency, more so, because of the need for higher exports of jute products to earn foreign exchange. The Committee would urge that vigorous efforts should be made by the Cement Research Institute to develop cheap packing material, for supplies of cement to small consumers.

C. Quality Control

6.24. Regarding the quality control of cement, the Ministry have stated that I.S.I. specification exists for cement produced in India and the producers have to conform to these specifications in terms of the Cement Quality Control Order, 1962 promulgated under the Essential Commodities Act, 1955. A copy of the Cement Quality Control Order, 1962, as amended upto 17th February, 1969 is given in Appendix XII.

6.25. Explaining the position further, the Ministry have stated that standards for the manufacture of different varieties of cement like Portland cement, Rapid Hardening cement, Low Heat cement, Blast Furnace Slag cement, Portland Pozzolana cement etc., have been laid down in consultation with the Indian Standard Institute. According to Cement (Qaulity) Control Order, 1962 promulgated under Section 3 of the Essential Commodities Act, 1955, no person shall himself or by any person on his behalf manufacture or store

for sale, sell or distribute any cement which is not of the prescribed standard. The Essential Commodties Act provides for imposition of penalties also for contravention of orders issued under Section 3 of the Act and necessary powers have also been delegated to the State Governments under the Essential Commodities Act. The provisions of the existing Quality Control Order have proved by and large adequate.

6.26. The Ministry have also informed that there have not been any large scale complaint from the consumers regarding unsatisfactory quality of cement. Some of the stray cases of complaints, when investigated were found to be without basis. Specific complaints, as and when, made are investigated and suitable action taken according to law. In the circumstances no special steps are called for.

6.27. The representative of the Cement Manufacturers' Association stated during evidence:

> "When it is a question of quality control it is at different stages, for example, quality control at the works for which the producer can take care then on the way and thirdly at the consumer site. So far as quality control at works is concerned it is very simple. We have got our own laboratories where we test coal we feed, the limestone we feed, etc. Now, we have also got automatic instrumentations so as to easily check the quality. Previously we depended on the observation of the burner but now there is better instrumentation. So quality control at works is very easy but beyond that adulteration takes place. In other countries there is a chain of organisations for which a cess is paid by the consumer so that he gets correct quality and the correct weight. The cess is paid by the consumer to such an organisation and such an organisation has got the backlog of the Government".

6.28. In a memorandum to the Committee, a leading cement manufacturing company has stated that all cements manufactured in the country conform to the Indian Standards Specifications. All cement plants have each a laboratory attached to them for exercising quality control round the clock, at various stages of manufacture, right from quarrying of limestone to the packing of cement. It has been further stated that samples are drawn and sent to the National Test House, for tests as per DGS & D Rate Contract.

6.29. Stressing the need for quality control forming an integral part of R. & D., it has been stated in a memorandum to the Com-

mittee, that quality control is almost an indispensable step in any plant operation. It has to be looked at from three angles *viz.* production of quality, maintenance of quality and finally improvement of quality. They have stated further that today the industry is in a position to market the Indian cement abroad on the basis of their quality, although there is stiff competition in the international market. They have added that adequate steps must be taken to ensure that the quality is controlled at all points. The Cement Research Institute of India can play a key role in such an endeavour, as similar R. & D. Organisations in certain other parts of the world are doing.

6.30. The use of properly calibrated equipment conforming to the specified standards and the adoption of standard methods of testing are essential prerequisites for reproducibility of results which is the essence of quality control.

6.31. During evidence the representative of the Cement Research Institute of India stated that the quality of cement needed to be protected throughout, if the cement had to give good results. He added that there were control laboratories in the cement units and they controlled it. But once the cement leaves the premises of the manufacturer, one does not know what is happening to it, till the user gets it. It is for this reason, I suggested that there must be a strong quality control organisation. In this quality control, several other problems, arise like non-calibration of the equipment of testing or the method of testing. Very highly technical issues will be involved. For this reason, a scheme should be evolved, where a national scheme for quality control is possible through a central R. & D. Organisation, which is the Cement Research Institute .

6.32. The Committee note that each cement unit has a laboratory attached to it to ensure quality control at various stages of manufacture of cement. At the same time, there are complaints by the consumers regarding adulteration of cement. It is therefore necessary to ensure that the cement supplied to the consumer is of the requisite quality. The Committee would urge Government to take suitable measures for quality check of the cement supplied to the consumers and encourage the setting up of testing laboratories at various important consuming centres of the country so that test samples can be checked quickly.

6.33. The Committee would stress the need to give deterrent punishment to persons responsible for adulteration.

CHAPTER VII

CONCLUSION

The per capita consumption of cement in the country, in 1970, was 25 kilograms which was not only, much lower than the developed and developing countries like Iraq, Iran, UAR, Turkey etc., but even lower than the neighbouring countries like Malaysia, Thailand, Pakistan and Ceylon. The per capita consumption of cement would show an increase of 14 kilograms from the existing level of 25 kgs. at the end of the Fifth Plan period but by then the gap in the per capita consumption in relation to these countries will widen further. Since per capita consumption of cement is one of the indices indicating the level of development of a country, it is evident that gigantic development efforts will have to be made by the country to reach the level of consumption of cement not only of the developed countries but even of the Developing countries.

7.2. One of the main reasons for the low per capita cement consumption is the scarcity in the availability of this commodity. Effective measures should be taken by Government to increase the production of cement in a big way. It is also important that the pricing and distribution mechanisms are so evolved that cement becomes easily available in the remotest areas of the country at reasonable prices.

7.3. The assessment of the demand for cement has been underestimated since the Second Plan, leaving a sizeable unsatisfied demand of cement in the country. This is also evident from the fact that the availability of cement has always been far short of the demand during the entire planning period of 20 years, barring 2 occasions, once in 1958-59 and another in 1967. The projection of demand has not been fully related to all the requirements in the country, notably, unorganised industrial sector, housing in rural areas, etc. as evident from the fact that little or no cement is available in these areas.

7.4. As regards the assessment of demand for the Fifth Plan, whereas the Ministry of Industrial Development feel that the demand would be 28 million tonnes at the end of the Fifth Plan period on the basis of the report of the Task Force, the Planning Commission has placed the demand only at 25 million tonnes. There has not

been any scientific evaluation regarding the growth rate of demand in the absence of any information with the Government as to what would be the demand every year during the Fifth Plan period in various sectors like the Government Departments, Public Sector Undertakings, organised industries and so on.

7.5. Looking at the growing economic prosperity in rural areas and the need for rural housing, every encouragement will have to be given to the people of rural areas to construct their own houses so that the surplus money in the hands of the agriculturists may be usefully employed in housing.

7.6. A more scientific study should be immediately undertaken to reassess the likely demand for cement in each sector during every year of the Fifth Plan period. In the reassessment not only the potential demand that would develop as a result of easy availability of cement, but the prospects of exports of cement, particularly to the oil producing countries, should be taken into consideration. Planning for an important commodity like cement should be for sufficiency and not for scarcity as has been the case hithertofore.

7.7. The percentage utilisation of capacity for production of cement has gone down from 88.1 per cent in 1966-67 to 76 per cent in 1973-74. The lower utilisation of capacity has been attributed to (i) power cuts; (ii) difficulty about supply of coal in sufficient quantities; and (iii) non-availability of wagons for movement of finished products. The underutilisation has resulted in a loss of about 10 million tonnes in cement production during the last five years. Concerted efforts should be made by Government to remove the bottlenecks in cement production to achieve the maximum utilisation of capacity in the cement industry. The feasibility of giving production incentives for cement production over and above the maximum production attained may also be examined by Government.

7.8. Inadequate supply of coal for cement industry has resulted in considerable loss in cement production. It is apparent that this sorry state of affairs has developed due to lack of coordination among the Ministries of Industrial Development, Steel and Mines and Railways. Urgent and effective measures should be taken to ensure adequate and timely supply of coal to the cement industry so that the production of cement does not suffer on this account.

7.9. A realistic assessment of the requirements of coal by each cement factory will have to be made at the earliest so that there is no room for complaint from the factories that the quota fixed and

coal supplied were not adequate to ensure maximum utilisation of capacity.

7.10. There was a 'considerable shortfall' in the supply of coal against the quotas fixed during the last few months. The constitution of the Monitoring Cell at Calcutta is a step in the right direction but in spite of its functioning, the position regarding the supply of coal has not shown any appreciable improvement. A review should, therefore, be made of the functioning of this Cell.

7.11. The power cuts imposed by various State Electricity Boards during 1973 have also contributed to the shortfall in production of cement. Normally, the State Electricity Boards should meet in full the demand of power of core sector industries like the cement industry.

There is an urgent need for augmenting power generation so that no industry suffers for inadequate availability of power, much less cement. If that is not possible, cement plants may be given full facilities to have their own captive power plants so that production of cement does not suffer on this account.

7.12. On the basis of licences|letters of intent already issued by Government, the capacity that is expected to be installed at the end of the Fifth Plan period is 32.482 million tonnes, but the actual availability would be only 23.21 million tonnes. Thus even if the entire capacity, licenced comes up, there would still be a shortfall of more than 4 million tonnes in the production target of 28 million tonnes. There is not any reason for optimism on the part of Government that with the existing capacity licenced, the target production of 28 million tonnes could be achieved at the end of the Fifth Plan period.

Additional capacity should be licensed by Government without further loss of time so that a safe margin is provided to ensure that there is no shortfall to meet the additional demand for cement. It is imperative to ensure that not only the target dates of completion of projects are sufficiently advanced but also the targets of capacity and production are achieved.

7.13. A special implementation cell is being established in the Ministry to watch and monitor the progress of various projects and to remove the difficulties in the way of execution as they arise. The

Ministry also propose to set up monitoring cells at the project level and at headquarters level. These steps are in the right direction and the cells should operate with maximum efficiency.

7.14. While every encouragement may be given to new enterpreneurs, the nature of industry, capital investment involved, the expected return etc. should be all carefully gone into before the licences are issued.

7.15. The Cement Corporation of India, a Public Sector Organisation has also entered the field of cement industry. This Public Sector organsation should be given all encouragement to enable it to play an important role in cement production.

7.16. Considering the long gestation period of the cement industry, Government should take advance action for creation of additional capacities for the Sixth Plan period so that in the early years of that period, capacities develop and production begins. Any reappraisal of licensing policy regarding cement industry should be done at the time of mid-term appraisal of the Fifth Plan.

7.17. After setting up the Cement Corporation of India to play an effective role in the production of cement, Government should not have sought to curtail its activities placing greater reliance on the private sector. The mere consideration of financial constraints should not have led to a drastic scaling down of the capacity target of the Corporation from 5 million tonnes to 1.2 million tonnes during the Fourth Plan period. Even this modest target of 1.2 million tonnes has not been achieved and the achievement of the Corporation stands at 0.4 million tonnes only.

While the Cement Corporation of India has a special role to play in the deficit areas, a restriction to go only for deficit areas should not have been imposed with the result that the Corporation was inhibited from setting up its plants at sites where they had already carried out their investigation during the Fourth Plan period. Full encouragement should at least now be given to the Cement Corporation to set up cement plants during the Fifth Plan period.

7.18. The Cement Corporation of India has a target of production of about 2.78 million tonnes of cement during the Fifth Plan period which would constitute only about 10 per cent of the total targeted production at the end of the Fifth Plan period, viz., 28 million tonnes. Since about 50 per cent of cement is used by Government, semi-Government and public undertakings, it is but appropriate that a larger role should be given to the Cement Corporation of India in cement production during the Sixth Plan period at least.

7.19. Since the technique of utilisation of blast furnace slag for the manufacture of cement is available in the country and since the cost of production of slag cement is comparatively cheaper, Government should make a comprehensive assessment of the availability of blast furnace slag from the various steel plants in the country and take effective measures in consultation and close coordination with the steel plants authorities, for full utilisation of the available slag for stepping up cement production at the earliest.

7.20. Although fly ash is an established pozzolana and is being utilised as an additive to cement by several countries, it has not so far been used in our country for the manufacture of cement.

The Cement Research Institute has now done some research regarding the quality and use of fly ash in the production of pozzolana cement in our country and a stage has been reached for using the technology in large scale manufacture of fly ash cement. The research in this field should have been intensified and concerned efforts should be made to resolve the remaining technical problems so that large scale manufacture of fly ash cement can be undertaken at the earliest.

7.21. It is important that Government and Cement Research Institute should take concerted measures in conjunction with the indusry to put industrial wastes to productive use in the manufacture of cement.

7.22. The Cement Control Order is in force since 1st January, 1968 to regulate the distribution of cement. The Order suffers from certain lacunae leading to distortions in the distribution of cement. These lacunae are so obvious that they should not have escaped the notice of Government all these years. The question of issue of Cement Control Order under the Essential Commodities Act providing inter alia stringent penalties for violation of directions given by the Cement Controller to the producers is under consideration of Government alongwith the question of constituting the Cement Control Organisation as a Government Department so that officers of the Central Organisation could lodge a complaint in the courts. Decision on these matters should be expedited and effective measures taken to plug the existing loop-holes. A close watch should be kept on the enforcement of revised order and periodical reviews should be carried out to assess the effectiveness of the directions given under the order and to remove loop-holes, if any, without delay.

7.23. Considering the existing location of the cement plants in the country, the freight pooling system through which cement is sold

at uniform f.o.r. destination price, has certain advantages. Freight constitutes an important component in the determination of the price of cement, particularly when cement has to be moved from one part to another distant part of the country and therefore any disturbance of the freight pooling system in the present climate of scarcities may result in steep increase of prices in deficit areas.

7.24. While freight pooling system serves certain social purposes inasmuch as it ensures the availability of cement at a uniform f.o.r. destination price throughout the country, Government should undertake a detailed study to see whether the freight pooling system has, in any way, inhibited the establishment of new cement factories in scarcity areas in the Northern and Eastern regions and the extent to which it has resulted in irrational movement of cement and strain on rail transport.

7.25. The existing arrangements for fixing State quotas are not satisfactory and should be replaced by a more methodical and systematic assessment of the requirements of the States, taking into account the latest requirements of public sector projects, organised and non-organised sectors of the industry and other public utilities, the housing needs of the public, both in rural and urban areas, etc., Government should review the State quotas of cement accordingly at an early date.

7.26. Till 1972, the quantity of cement supplied to Government departments, including public undertakings and organised sector of industries etc., was roughly 40 to 42 per cent of the total cement production in the country. The remaining 60 per cent was available for free sale to the public. Since 1973, the requirements of cement for Government departments, both Central and State Governments, have considerably increased and about 60 per cent of the overall supply is earmarked for them. In addition, 10 per cent is meant for organised sector like industries, semi-government bodies, etc. The balance 30 per cent of production only is available for sale to the public. Thus there has been a drastic cut in the free sale of cement to the public. While Government projects should have a high priority in the allocation of cement, reasonable cement requirements of public should also be met at the same time. Government should undertake a comprehensive review of the requirements of cement for Government departments with a view to see what extent construction activities, involving considerable consumption of cement, can be postponed or staggered without having any adverse effect on

production activity and Plan programmes. Government should curtail the consumption of cement to the extent possible and exercise utmost economy in the use of cement in Government construction.

7.27. There is a wide gap between the demand and availability of wagons to the cement industry which has resulted in substantial loss in production of cement. Specific provision for cement traffic should be made in the Railway Plans, after assessing in advance the detailed requirements of the cement industry both for the movement of raw materials as well as finished goods so as to obviate transport bottlenecks in cement production. As the sources of supply of raw materials to each cement factory are well established and the distribution of the finished product is also well regulated, there is no reason why it should not be possible for the Railways to regulate the supply of wagons according to the actual requirements through suitable linkages. It is also necessary that effective measures are taken to improve transhipment facilities so as to ensure that the movement of wagons is smooth and there are no bottlenecks. Government should keep a continuous watch on the position of supply of wagons to the cement industry to ensure that the production of cement at no time suffers due to non-availability of requirements of wagons by the factories.

7.28. In several advanced countries, bulk supply of cement is resorted to, on a very large scale which has many advantages. Keeping in view the foreign exchange earning potentiality of jute and the high cost of packing cement in jute bags, it is imperative that effective measures are taken by Government and the cement industry to ensure that as much quantity of cement as possible, is supplied to the large consumers in bulk.

7.29. Government are considering to reorganise the marketing zone of each cement factory in such a manner that the average tonne kilometre lead is brought down from the existing level of 600 kilometres to 450 kilometres. There should have been no delay in finalising the reorganisation as it would obviously result in reduction in the lead kilometre, better turn-round of wagons, less transportation costs and quicker movement of cement to the consuming centres.

7.30. The proved reserves of limestone are more than adequate to cater to the requirements of the cement industry for the present. As limestone is an important raw material for the steel and cement industries and their requirements are bound to increase considerably in the future, it is imperative that the reserves of limestone in

the country are assessed at an early date. It is essential that a co-ordinated programme of survey, investigation and explanatory drilling for limestone deposits is drawn up and implemented early. There is an urgent need for proper and fuller investigation of cement grade limestone in deficit areas so that cement plants could be set up in these areas near the consuming centres and the requisite investigations in these areas should be undertaken by the Geological Survey of India on a priority basis and completed according to a time bound programme.

7.31. Government should have ensured that a suitable way was devised to see that the useful work of the limestone Investigation Division of Cement Corporation of India was continued in the larger interests of development of the industry on a long range basis. Not only a valuable period of five years has been lost which could have been utilised for conducting further surveys and proving more reserves but the expertise and organisation built up for this purpose, may have been dissipated during this period and would have to be rebuilt. Now that the Limestone Investigation Division is being revived, it should be provided with necessary resources to enable it to effectively perform its functions of limestone investigation through the country, particularly in deficit areas.

7.32. There is no single organised agency which could specifically undertake the work of survey, prospecting and proving of limestone deposits. Government should have a well coordinated programme to assess and locate the available limestone deposits in the country expeditiously in a planned manner, more particularly in the deficit areas, in the Northern and Eastern States, to facilitate the location of cement plants there.

7.33. Low grade limestone can be used for production of cement by adopting proper beneficiation process. After examining the economics of the projects, Government should extend necessary facilities and assistance to encourage utilisation of low grade limestone available in deficit areas, for the manufacture of cement, so as to reduce long haulages and transport costs on cement.

7.34. Government have already approved four schemes for split location of cement plants and two more are under consideration. Government should give due encouragement for split location of cement plants, particularly near the consuming centres in the deficit areas.

7.35. Although the cement industry in the country is quite old, the cement machinery manufacturers have still to depend on foreign

know-how in some critical areas. It is well known that apart from the outgo of foreign exchange in foreign collaborations, the lack of complete know-how hinders the optimum utilisation of existing installed capacity in the country. If it is found that extension of collaboration agreements absolutely essential in public interest then it should be for the minimum period and full use should be made of this opportunity to ensure that latest know-how for these critical items is made available. Government should examine the feasibility of promoting the idea of the consortium amongst the cement machinery manufacturers in the interest of setting up of the new units within the country and of promoting exports to other developing countries.

7.36. There are long delays by the Heavy Engineering Corporation and the Heavy Electricals Ltd., in the delivery of heavy castings and heavy duty motors, required by the cement machinery manufacturers. The delay in the supply of these items has resulted in consequential delays in the commissioning of cement plants. Government should take concerted measures to see that delivery schedules, quoted by the Heavy Engineering Corporation and the Heavy Electricals Ltd. for supply of heavy castings and heavy duty motors, are reasonable and that they are adhered to so that there are no delays in the creation of new capacity for cement production in the country during the Fifth Plan. Government should identify the critical items required to be imported, after making a realistic assessment of the indigenous availability of the various parts required for cement plants and make necessary foreign exchange available for the import of those items so that the progress of installation of the cement plants is not adversely affected on that account.

7.37.. The unit capacity in Indian cement industry at present ranges from 60 tonnes to 1000 tonnes per day. The existing trend in other countries is for unit capacity of 1500 tonnes per day and more in one line. In some countries, it is as large as 3000—4000 tonnes. It is, therefore, necessary to go in for bigger size cement plants in the country.

7.38. The work of standardisation of cement machinery has been entrusted to a Committee which was set up for this purpose in March, 1973. Government should ensure the expeditious submission of the report on standardisation by the Committee and early decision on its implementation in the interest of economic and efficient production.

7.39. The annual expenditure on R & D by the cement companies during 1969-70 was of the order of 0.20 per cent of turn-over and

this is less than half the Gross National Expenditure on Research and Development in India of 0.48 per cent. This is very small compared to annual expenditure on Research and Development in many other countries, such as USSR, USA, U.K. and Japan.

With the setting up of the Cement Research Institute, a beginning has been made for a strong centralised R & D base. This Institute should endeavour to meet the needs of research in various aspects of cement technology and both Government and the Cement Industry would do their best in strengthening the Institute both in terms of providing finance and equipment.

In view of the limited resources available for research in our country, care should be taken to identify the areas of research which need immediate attention and thereafter proper priorities should be drawn up. It is also essential that research is undertaken under time-bound programmes, with the cost of research estimated beforehand. These programmes should be periodically reviewed to assess the results of the research work done and whether the results were commensurate with the time, energy and resources utilised.

7.40. Each cement unit has a laboratory attached to it to ensure quality control at various stages of manufacture of cement. At the same time, there are complaints by the consumers regarding adulteration of cement. It is, therefore, necessary to ensure that the cement supplied to the consumer is of the requisite quality. Government should take suitable measures for quality check of the cement supplied to the consumers and encourage the setting up of testing laboratories at various important consuming centres of the country so that test samples can be checked quickly. Deterrent punishment should be given to persons responsible for adulteration.

R. K. SINHA,

Chairman,
Estimates Committee.

NEW DELHI;
April 22, 1974.
Vaisakha 2, 1896 (*Saka*).

APPENDIX I

(*Vide* para 1.7)

Statement showing factories in production as on 1st June, 1973.

Sl. No.	Name of the Firm	Location	Annual capacity as per licence (in lakh tonnes)	Total for States.
1	2	3	4	5
	ANDHRA PRADESH			
1	Andhra Cement Co. Ltd., Gandhi Nagar P.O., Vijayawada-3	Vijayawada	2·40	
2	K.C.P. Cements, Macherla, Guntur District	Macherla	2·54	
3	Associated Cement Cos. Ltd., Cement House, 121, Maharishi Karve Rd. Bombay-1.	Kistra	2·59	
4	Do	Mancherial	3·35	
5	Panyam Cements & Mineral Industries Ltd., Cement Nagar P.O. Via Bugganipalli R.S., Kurnool District.	Cement Nagar	3·88	
6	Kesoram Cements	Peddapalli	4·50	
	BIHAR			19·26
7	Associated Cement Cos. Ltd., 121, Mahariahi Karve Road, Bombay.	Chaibasa	7·87	
8	Do.	Sindri	3·05	
9	Do.	Khalari	1·02	
10	Rohtas Industries Ltd. Dalmianagar	Dalmianagar	3·35	
11	Ashoka Cement Ltd., Dalmianagar.	Dalmianagar	2·84	
12	Kalyanpur Lime & Cement Works Ltd., 2&3 Clive Row, Calcutta-1.	Banjari	3·46	
13	Sone Valley Portland Cement Co. Ltd., 11, Clive Row, Calcutta.	Japla	2·54	24·08
	GUJARAT			
14	Shree Digvijay Cement Co. Ltd., Shri Niwas House, Waudby Road, Fort, Bombay.	Sikka, Sewree, Ahmedabad	8·40	

1	2	3	4	5
15	Associated Cement Cos. Ltd., 121, Maharishi Karve Road, Bombay.	Dwarka	3·40	
16	Do.	Porbandar	0·35 (White Cement)	
17	Do.	Porbandar	2·00 (Portland)	
18	Do.	Sevalia	2·03	
19	Saurashtra Cement & Chemical Ind. Ltd., Ranavav-2.	Ranavav	8·63	24·81
	HARYANA			
20	Associated Cement Cos. Ltd. 121, Maharishi Karve Road, Bombay.	Surajpur (Bhupendra)	3·06	
21	Dalmia Dadri, Cement Ltd., 10, Daryaganj, Delhi	Dalmia Darri	2·39	5·45
	JAMMU & KASHMIR			
22	J & K Minerals Ltd. Srinagar.	Wuyun	0·20	0·20
	KERALA			
23	Travancore Cements Ltd. Nattakom P.O. Kottayam District.	Kottayam	·051	0·51
	MADHYA PRADESH			
24	Associated Cement Cos. Ltd., 121, Maharishi Karve Road, Bombay	Kymore	8·07	
25	Do.	Banmore	0·61	
26	Do.	Jamul	10·80 (slag)	
27	Birla Jute Mfg. Co. Ltd., 15, India Exchange Place, Calcutta	Satna	5·81	
*28	Cement Corporation of India Ltd., 5-A, Bahadur Shah Zafar Marg, New Delhi—1.	Mandhar	2·00	27·29
	MEGHALAYA			
*29	Assam Cements Ltd., 26, Cantonment, G. S. Road, Shillong.	Cherrapunji	0·84	0·84
	MYSORE			
*30	Mysore Iron & Steel Ltd., Bhadravati (S. Rly)	Bhadravati	1·00	
31	Bagalkot Udyog Ltd., Stadium House, Veer Nariman Road, Bombay-1.	Bagalkot	3·60	
32	Associated Cement Cos. Ltd. 121, Maharishi Karve Road, Bombay.	Shahiabad	5·74	
33	Do.	Wadi	4·00	

1	2	3	4	5
34	Mysore Cements Ltd., 1, Vidhana Veedhi, Bangalore-1	Ammasandra	4·00	
*35	Cement Corporation of India Ltd., 5-A, Bahadur Shah Zafar Marg, New Delhi.	Kurkunta	2·00	20·34
	MAHARASHTRA			
36	Associated Cement Cos. Ltd., 121, Maharishi Karve Road, Bombay .	Chanda	4·00	4·00
	ORISSA			
37	Orissa Cement Ltd., 4, Scindia House, New Delhi-1.	Rajganjpur	4·01	
*38	The Industrial Dev. Corpn. of Orissa Ltd., Bhubaneshwar-1.	Cement Nagar (Bargarh)	3·96	7·97
	RAJASTHAN			
39	Associated Cement Cos. Ltd., 121, Maharishi Karve Road, Bombay.	Lakheri	3·66	
40	Jaipur Udyog Ltd., Ramakrishna Lok, Sawai madhopur	Sawaimadhopur	10·00	
41	Birla Cement Works Chittorgarh .	Chittorgarh .	4·00	
42	Hindustan Sugar Mills Ltd., 51, Mahatma Gandhi Road, Bombay.	Udaipur	2·00	19·66
	TAMIL NADU			
43	Chettinad Cement Corpn. Ltd., "Catholi Centre", 6, Armenian St., Madras-1.	Karur	4·00	
44	Dalmia Cement (B) Ltd., 4, Scindia House, New Delhi—1.	Dalmiapuram	5·25	
45	India Cements Ltd., Dhun Bldg., 175/1, Mount Road, Madras.	Sankarnagar (Talaiyuthu)	9·13	
46	Do.	Sankaridrug .	6·00	
47	Associated Cement Cos. Ltd., 121, Maharishi Karve Road, Bombay.	Madukkarai	3·84	
48	Madras Cements Ltd. Rajapalaiyam	Tulukapatti .	1·90	
*49	Tamil Nadu Ind. Dev. Corpn. Ltd., 3rd Floor, L.L.A. Buildings, 150-A. Mount Road, Madras-2.	Alangulam	4·00	34·12

1	2	3	4	5
	UTTAR PRADESH			
*50	Uttar Pradesh State Cement Corpn. Ltd., P.O. Churk, District Mirzapur.	Churk	4·75	
51	Do.	Dalla	4·32	9·07
		GRAND TOTAL : .		197·60

*Public Sector Factories.

APPENDIX II

(*Vide* para 1.9)

Statement showing the per capita consumption of cement in various countries during, 1970

Country	Per capita consumption in Kg.
1	2
1. Turkey	172
2. Israel	492
3. Iraq	126
4. Iran	89
5. Pakistan	30
6. Ceylon (Sri Lanka)	28
7. Thailand	73
8. Malasiya	68
9. UAR	86
10. Ethopia	7
11. Kenya	25
12. Uganda	23
13. Tansania	23
14. Guinea	50
15. U.S.A.	325
16. Brazil	98
17. Peru	84
18. Austria	615
19. Denmark	472
20. France	551
21. West Germany	598
22. Italy	606
23. Sweden	497

1	2
24. Switzerland	753
25. U. K.	307
26. Yugoslavia	287
27. Czechoslovakia	515
28. East Germany	432
29. Poland	379
30. Rumania	342

APPENDIX III

(*Vide* Para 2.7)

Statement showing the Licensed capacity (separately in Public and Private Sectors in existence at the end of 3rd and 4th Plans (including Plan Holiday Period)

S. No.	Name of the factory	IIIrd Plan		IVth Plan	
		Private Sector	Public Sector	Private Sector	Public Sector
		(Figures in lakh tonnes)			
1.	Assam Cement, Cherrapunji	..	..	..	0·84
2.	Andhra Cement, Vijyawada	2·01		2·40	
3.	K.C.P., Macherala	2·54		2·54	
4.	A.C.C., Kistna	2·59		2·59	
5.	A.C.C., Mancherial	3·35		3·35	
6.	Panyam Cement, Cementnagar	1·64		3·88	
7.	Kesoram Cement, Peddapalli	..		4·50	
8.	A.C.C., Chaibasa	4·88		7·82	
9.	A.C.C., Sindri	3·05		3·05	
10.	A.C.C., Khalari	1·02		1·02	
11.	Rohtas Industries, Dalmianagar	3·35		3·35	
12.	Ashóka Cement, Dalmianagar	2·84		2·84	
13.	Kalyanpur, Banjari	1·46		3.46	
14.	Sonevalley, Japla	2·54		2·54	
15.	Digvijays, Sikka, Sewree, & Ahmedabad	6·40		8·40	
16.	A.C.C., Dwarka	3·40		3·40	
17.	A.C.C., Porbander (White)	0·20		0·35	
18.	A.C.C., Porbander (Portland)	..		2·00	
19.	A.C.C., Sevalia	2·03		2·03	
20.	Saurashtra, Ranavav	5·33		8·63	
21.	J & K Minerals, Wuyun	..	0·20		0.20
22.	Travancore, Kottayam	0·51		0·51	

S. No.	Name of the factory	IIIrd Plan		IV Plan	
		Private Sector	Public Sector	Private Sector	Public Sector
23.	A.C.C., Kymore	6·07		8·07	
24.	A.C.C, Banmore	0·61		0·61	
25.	A.C.C., Jamul	2·90		10·80	
26.	Birla Jute, Satna	5·81		5·81	
27.	Cement Corpn., Mandhar	..			3·04
28.	Chettinad, Karur	..		4·00	
29.	Dalmia Cement (B) Ltd.Dalmiapuram.	4·19		5·25	
30.	India Cement, Sankarnagar	4·63		9·13	
31.	Do. Sankaridrug	4·00		6·00	
32.	A.C.C., Madukkarai	2·84		3·84	
33.	Madras Cement, Talukapatti	1·90		1·90	
34.	Tamil Nadu Ind. Dev. Corpn. Ltd., Alangulam		..		4·00
35.	Mysore Iron, Bhadravati		1·00		1·00
36.	Bagalkot Cement, Bagalkot	2·03		3·60	
37.	A.C.C., Shahabad	5·74		5·74	
38.	MyJore Cement, Ammasandra	2·26		4·00	
39.	A.C.C., Wadi	..		4·00	
40.	Cement Corpn., Kurkunta			..	2·00
41.	Orissa Cement, Rajgangpur	3·71		4·01	
42.	I.D.C. of Orrisa, Bargarh		..		3·96
43.	A.C.C, Bhupendra	4·06		3·06	
44.	Dalmia Dadri, Dalmia Dadri	2·39		2·39	
45.	A.C.C., Lakheri	3·66		3·66	
46.	Jaipur Udyog, Swaimad topur	8·19		10·00	
47.	Hindustan Sugar, Udaipur	..		2·00	
48.	U.P. Govt., Churk		4·75		4·75
49.	U.P. Govt., Dalla		..		4·32
50.	A.C.C., Chanda			4·00	
51.	Birla, Chittorgar			4·00	
	TOTAL	114·33	5·95	174·53	23·07

APPENDIX IV

(*vide* Para 2.8)

Statement showing the Licences issued during the IV Plan period

The Cement Industry remained exempted from Licensing Provision from 13-5-1966 to 19-2-1970. The capacity licensed after 19-2-1970 is indicated below:—

Sl. No.	Party	Location	Capacity lakh tonnes	NEW/ SE	Date of Licence	Remarks
	I. PUBLIC SECTOR					
1	Cement Corpn.	Bokajan	2·0	New	19-12-70	Under implementation.
2	Do.	Kurkunta	2·0	New	*16-1-71*	*Completed*
3	Do.	Mandhar	2·0	New	*27-1-71*	Do.
4	Tamil Nadu Ind. Dev. Corpn. Ltd.	Alangulam	4.0	New	*20-4-71*	Do.
5	U.P. Govt. Cement Factory, Dalla	Dalla	4.32	New	*4-6-71*	Do.
6	Do.	Dalla	3·68	SE	18-11-71	Under Implementation.
7	Tamil Nadu Ind. Dev. Corporn. Ltd.	Alangulam	3·00	SE	18-11-71	Do
8	Assam Cements Ltd. Cherrapunji	Cherrapunji	2.00	SE	13-7-72	Do.
	II PRIVATE SECTOR					
1	Mysore Cements Ltd.	Ammasandra	1·74	SE	26-2-71	Completed.
2	Hindustan Sugar Mills Ltd.	Udaipur	2·00	New	27-2-71	Do.
3	Orissa Cement Ltd.	Rajgangpur	0·30	SE	16-3-71	Do.

Sl. No.	Party	Location	Capacity lakh tonnes	NEW/ SE	Date of Licence	Remarks
4	Dalmia Cement (P) Ltd.	Dalminapuram	1·06	SE	16-3-71	Completed
5	Panyam Cements & Mineral Ind. Ltd.	Cemet Nagar	2.24	SE	16-3-71	Do.
6	India Cements Ltd.	Sankaridurg	2·00	SE	26-3-71	Do.
7	J. K. Synthetics Ltd.	Nimbahera	2·52	New	26-3-71	Under Implementation
8	A.C.C. Ltd.	Chanda	4·00	New	26-3-71	Completed
9	Do.	Jamul	5·0	SE	31-3-71	Do.
10	Bagalkot Cement Co. Ltd.	Bagalkot	1·57	S.E.	15-4-71	Complete
11	India Cements Ltd.	Sankarnagar	4·50	S.E.	25-1-71	Do.
12	Saurashtra Cement & Chem. Ind. Ltd.	Ranavav	3·30	S.E.	1-5-71	Do.
13	Birla Cement Works	Chittograrh	2·00	SE.	1-5-71	Do.
14	Andhra Cement Co. Ltd.	Vijayawada (AP)	0·39	S.E.	1-5-71	Do.
15	Century Cement	Tilda (M.P.)	6·00	New	1-5-71	Under implementation
16	Kesoram Cement	Peddapalli (A.P.)	4.50	New	17-5-71	Completed
17	A.C.C. Ltd.	Chaibassa	3·50	S.E.	1-6-71	Do.
18	Jaipur Udyog Ltd.	Sawaimadhopur	1·81	S.E.	28-7-71	Do.
19	Durgapur Cement Works	Durgapur	6·00	New	4-10-71	Under Implementation
20	Jaipur Udyog Ltd.	Beawar	6·00	New	5-10-71	Do.

21	Madras Cements Ltd.	Talukkapatti	2·10	S.E.	7-11-71	Do.
22	Sone Valley Portland Cement Co. Ltd.	Japla	3·30	S.E.	24-11-72	Do.

NOTE : This includes the factories already in existence and they were granted Carrying on Business Licences for having set up capacity during the delicensing period i.e. from 13-5-1965 to 19-2-1970.

APPENDIX V

(*Wide* Para 2.9)

Statement showing the Capacity actually installed during the 4th Plan period (including Plan Holiday Period) year-wise upto 1972-73 (separately in Public and Private Sectors).

Sl. No.	Party	Location	NEW/ S.E.	Capacity installed		Year
				Private Sector	Public Sector	
				(in lakh tonnes)		
1	A.C.C. Ltd. . .	Porbander	New	2·0	..	1966
2	Assam Cements Ltd.	Cherrapunji	New	..	0·84	,,
3	A.C.C.Ltd. .	Jamul	S.E.	2·90	..	,,
	Do.	Jamul	S.E.	2·90	..	,,
4	Dalmia Cement (P) Ltd.	Dalmiapurm	S.E.	1·06	..	,,
5	Birla Cement	Chittorgarh	New	2·0	..	1967
6	G.D.C. Orissa	Bargarh	New	—	3·96	,,
7	Kalyanpur	Banjari	S.E.	2·0	..	,,
8	Digvijay Cement	Sikka	S.E.	2·0	..	,,
9	Chettinad	Karur	New	2·0 (1st stage)	..	1968
10	A.C.C. Ltd. .	Wadi	New	2·0 (1st stage)	..	,,
11	Mysore Cements	Ammasandra	S.E.	1·74	..	,,
12	Orissa Cement	Rajganjpur	S.E.	0·30	..	,,
13	A.C.C. Ltd. .	Wadi	New	2·00 (2nd stage)		1969

14	Panyam Cements	Cementnagar	S.E.	2·0	..	„
15	Kesoram Cement	Peddapalli	New	4·50	..	„
16	A.C.C. Ltd. .	Kymore	S.E.	2·0	..	„
17	Cement Corpn.	Mandhar	New	..	2·0	1970
18	A.C.C. Ltd. .	Chanda	New	4·0	..	„
19	Do.	Chaibasa	S.E.	3·50	..	„
20	Andhra Cement	Vijyawada	S.E.	0·39	..	„
21	Hindustan Sugar	Udaipur	New	2·0	..	„
22	Jaipur Udyog	Swaimadhopur	S.E.	1·81	..	„
23	U.P. Govt. .	Dalla	New	..	4·32	„
24	Tamil Nadu Grd. Dev. Corpn. Ltd.	Alangulam	New	.. (1st stage)	2·0	„
25	A.C.C. Ltd. .	Jamul	S.E.	5·0	..	„
26	Chettinad Cement	Uarur	New	2·0 (2nd stage)	..	1971
27	India Cement	Sankridrug	S.E.	2·0	..	„
28	Do.	Samkarnagar	S.E.	2·0	..	„
29	Birla Cement	Chittorgarh	S.E.	2·0	..	„
30	Saurashta	Ranavav	S.E.	3·30	..	„
31	Tamil Nadu G.D.C.	Alangulam	New	..	2·0	„
32	Cement Corpn.	Uurkunta	New	..	2·0	1972
33	Bangalkot Cement	Bagalkot	S.E.	1·57	..	„
		TOTAL		60·97	17·17	

APPENDIX VI

(*Vide* Para 2.11)

Statement showing the cement plants which are in production at present with production and capacity actually utilising during the last three years.

Sl. No.	Name of the party	Location	Capacity (Lakh tonnes)	Production and Capacity Utilisation					
				1970	%	1971	%	1972	%
	Andhra Pradesh								
1	Andhra Cement Co. Ltd.	Vijayawada	2·40	1·90	79	2·06	86	1·70	71
2	K.C.P. Cements	Macherla	2·54	2·04	80	2·31	91	2·29	90
3	A.C.C. Ltd.	Kistna	2·59	2·23	86	2·09	81	2·09	81
4	A.C.C. Ltd.	Mancharial	3·35	2·82	84	2·97	89	2·59	77
5	Panyam Cements	Cement Nagar	3·88	3·13	80	3·75	97	3·77	97
6	Kesoram Cements	Peddapalli	4·50	2·47	55	2·95	66	3·64	81
	Bihar								
7	A.C.C. Ltd.	Chaibaso	·82	4·47	57	4·14	58	4·75	61
8	Do.	Sindri	3·05	2·99	98	2.60	85	2·21	73
9	Do.	Khalari	1·02	1·30	117	0·87	86	1·05	104
10	Rohtas Industries Ltd.	Dalmianagar	3·35	3·15	97	3·26	97	2·85	85
11	Ashoka Cement Ltd.	Dalmianagar	2.84	1·64	58	1·90	67	2·13	57
12	Kalyanpur	Banjari	3·46	2·72	80	2·49	72	2·52	73

13	Sone Valley . .	Japla	2·54	1·44	57	0·33	13	1·03	41
	Gujarat								
14	Shree Digvijaya	Sikka, Sewree, Ahmedabad	8·40	5·78	69	7·93	94	7·52	90
15	A.C.C. Ltd.	Dwarka	3·40	2·94	87	2·83	83	2·98	88
16	Do.	Porbandar	2·00	1·53	76	1·68	84	1·72	86
17	Do. (White Cement)	Porbandar	0·35 (revised in 1973)	0·24	120	0·23	115	0·25	125
18	Do.	Sewalia	2·03	1·34	90	2·16	106	1·96	97
19	Saurashtra Cements . . .	Ranavav	8·63 (3.30 S.E. came in 1971)	4·00	71	4·16	48	4·58	53
	Haryana								
20	A.C.C. Ltd.	Bhupendra	3·06	3·06	100	2·99	97	2·97	97
21	Dalmia Dadri	Dalmia Dadri	2·39	2·14	90	1·97	82	1·76	73
	Jammu & Kashmir								
22	J. & K. Minerals Ltd. . . .	Wuyun	0·20	0·11	55	0·11	55	0·11	55
23	Travancore Cements . . .	Kottayam	0·51	0·42	82	0·40	78	0·31	62
	Karnatak								
24	Mysore Iron & Steel . . .	Bhadravati	1·00	0·80	80	0·91	91	0·96	96
25	Bagalkot Udyog Ltd. . .	Bagalkot	3·60 (1.57 S.E. came in 1972)	2·18	107	2·02	99	2·64	73
26	A.C.C. Ltd.	Shahabad	5·74	4·87	85	5·17	90	4·90	85

Sl. No.	Name of the Party	Location	Capacity lakh-tonnes	Production and capacity utilisation					
				1970	%	1971	%	1972	%
27	A.C.C. Ltd.	Wadi	4·00	2·86	71	3·10	78	3·23	81
28	Mysore Cements Ltd.	Ammasandra	4·00	3·87	97	4·15	104	3·74	94
29	Cement Corporation	Kurkunta	2·0	..	..	..	..	0·41	21
	Maharashtra								
30	A.C.C. Ltd.	Chanda	4·00	1·01	25	2·55	64	2·83	71
	Meghalaya								
31	Assam Cements Ltd.	Cherrapunji	0·84	0·55	65	0·74	89	0·48	37
	Madhya Pradesh								
32	ACC. Ltd.	Kymore	8·07	5·30	66	5·90	73	6·64	82
33	Do.	Banmore	0·61	0·68	111	0·63	104	0·65	106
34	Do.	Jamul	10·80	7·49	75	7·41	69	7·63	71
35	Birla Jute Mfg. Co.	Satna	5·81	5·93	102	5·53	95	6·46	111
36	Cement Corporation	Mandhar	2·00	0·52	26	1·83	91	1·64	82
	Orissa								
37	Orissa Cement Ltd.	Rajgang pur	4·01	3·84	96	3·98	99	4·56	114
38	I.D.G. of Orissa Ltd.	Bargarh	3·99	2·43	61	2·64	67	3·32	84
	Rajasthan								
39	N.C.C. Ltd.	Lakheri	3·96	2·99	82	2·56	70	2·92	80

40	Jaipur Udyog Ltd. . . .	Sawaimadhopur	10·00	7·80	78	7·10	71	6·88	69
41	Birla Cement Works . . .	Chittorgarh	4·00	2·35	59	2·52	63	3·83	96
42	Hindustan Sugar Mills . . .	Udaipur	2·00	0·78	38	1·62	81	2·22	111
	Tamil Nadu								
43	Chettinad Cement Corpn.	Karur	4·00	2·00	50	2·41	60	1·86	46
44	Dalmia Cement (B) Ltd. . .	Dalmiapuram	5·25	5·00	94	5·12	98	4·96	94
45	India Cement Ltd. . . .	Sankarnagar	9·13 (2.0 came in 1971)	6·60	92	8·26	90	7·62	83
46	Do.	Sankaridrug	6·00 (2.0 came in 1971)	4·25	107	4·51	75	6·06	101
47	A.C.C. Ltd.	Madukkarai	3·84	3·64	95	3·21	83	2·87	75
48	Madras Cements Ltd. . . .	Tulkapatti	1·90	2·01	106	1·72	90	1·48	78
49	Tamil Nadu I.D.C. Ltd. . .	Alangulam	4·00	0·32	8	2·75	69	3·25	81
	Uttar Pradesh								
50	UP State Cement Corpn. . .	Churk	4·75	3·54	75	3·42	72	4·51	95
51	Do.	Dalla	4·32	..	..	0·84	20	2·13	49

APPENDIX VII

(*Vide* para 2.23)

Statement showing coal position in cement industry

(Figures in tonnes)

Sl. No.	Name of the factory	Monthly quota of coal as fixed by Linkage Committee	Monthly coal demanded by Factories.
	SOURTHERN ZONE :		
1	Shahabad	14000	19667
2	Wadi	8000	8000
3	Kurkunta	6500	6500
4	Macherila	5500	5500
5	Ramagundam	7000	9000
6	Vijayawada	6000	9500
7	Kistna	6000	6000
8	Panyam	9000	12500
9	Macherala	5000	8000
10	Sankaridug	15000	15000
11	Karur	10000	10000
12	Madukkarai	8500	12084
13	Dalmiapuram	13000	14584
14	Alangulam	9000	12000
15	Tuhukapatti	4200	6500
16	Talaiyuthu	20000	20000
17	Kottayam	1300	1250
18	Ammasandra	8750	12000
19	Bagalkot	9000	9000
20	Bhadravati	1200	1250
	TOTAL	166950	198385

(Figures in tonnes)

Sl. No.	Name of the factory	Monthly quota fixed by the Linkage Committee		Monthly coal demanded by factories
1	2	3		4
	WESTERN ZONE :			
21	Bamor	1800		1667
22	Satna	16500		22000
		3000	(PH)	
23	Kymore	25000		30000
24	Mandhar	6600		6583
25	Jamul	12000		12167
26	Chanda	6250		8667
27	Sevalia	6000		10000
		3400	(PH)	
28	Sikka	20000		25000
29	Dwarka	8000		10000
30	Ranavav	10000		15000
31	Porbander	4200		5000
	TOTAL	122750		146084
	NORTHERN ZONE :			
32	Bhupendra	9000		12750
		3750	(PH)	
33	Dalmia Dadri	1000	(PH)	5833
		5490		
34	Swaimadhopur	22500		34500
		12000	(PH)	
35	Lakheri	12000		14833
36	Chittorgarh	8000		9584
37	Udaipur	4500		5167
38	Churk	9000		12000
39	Dalla	7500		10000
	TOTAL	94650		104667

1	2	3	4
	EASTERN ZONE		
40	Ashoka	5000	7500
41	Rohtas	7000	11582
42	Japla	6500	15500
		6000 (PH)	
43	Banjari	6600	11000
44	Khalari	2700	5667
45	Sindri	6000	5000
46	Chaibasa	7400	7750
47	Rajganjpur	10000	10000
48	Bargarh	10000	13500
49	Cherrapunji	2000	2083
	TOTAL	69200	89582
	GRAND TOTAL	453550	538668

APPENDIX VIII

(*Vide* para 2.77)

Statement showing the time lag between the date of receipt of each application and date of approval of the schemes on the basis of Review of applications from larger Houses.

Sl. No.	Party	Location	Capacity (lakh tonnes)	Date of receipt of application	Date of issue of letter of Intent
1	Rohtas Ind., Ltd., New Delhi.	Dalmianagar (Bihar)	2·22	27-6-72	19-7-73
2	DalmiaCement(B)Ltd., New Delhi.	Dalmiapuram (Tamilnadu)	0·66	13-9-71	20-7-73
3	Ashoka Cement Ltd., New Delhi.	Chandrapura (Bihar)	2·36	13-8-71	21-7-73
4	Do.	Asansol (W.B.)	2·60	28-6-72	6-8-73
5	The Delhi Cloth & Gen. Mills, Co. Ltd., New Delhi.	Teh : Banas Dt. Sirohi (Rajasthan)	8·00	26-8-71	16-8-73
6	Century Cement Bombay, Maihar (M.P.)	Maihar (M.P.)	7·00	11-9-71	17-8-73
7	A.C.C., Bombay	Near Sendra Rly. Station' Teh : Jaitaran, Dt. Pali (Raj.)	6·60	2-7-71	17-8-73
8	Do.	Bhupendra. Teh : Kalka, Dt. Ambala (Haryana)	3·00	27-8-71	17-8-73
9	Do.	Wadi, Teh : Chitapur, Dt. Gulbarge (Mysore)	3·30	27-8-71	17-8-73
10	J. K. Synthetics Ltd. Kanpur	Ludhiana (Punjab)	1·26 (Splitlocation)	10-11-71 (Capacity not to count)	17-8-73
11	The Ganges Mfg. Co., Ltd. Calcutta	Vill : Kiratpur Teh : Itarsi, Dt. Hoshangabad Madhya Pradesh	4·00	29-4-70	17-8-73
12	Mysore Cements	Narasinghgarh	4·00	24-8-71	1-11-73
		TOTAL	44·24		

NOTE: These applications were reviewed as a result of decision taken at the meeting of the Cabinet on 3rd May, 1973 and were approved by the L.C. at its meeting held on 11-6-1973. Letters of intents were issued as indicated above.

APPENDIX IV

(*Vide* para 3.5)

CEMENT CONTROL ORDER, 1967

(As amended upto 12-6-1973)

(*Published in Part II Section 3 Sub-section (ii) of the Gazette of India Extraordinary dated the 26th December, 1967*)

ORDER

S.O. 4590|IDRA|18G|67.—WHEREAS it appears to the Central Government that for the purpose of securing the equitable distribution and availability at fair prices of cement, the supply and distribution of, and trade and commerce in, cement should be regulated;

NOW, THEREFORE, in exercise of the powers conferred by section 18G and Section 25 of the Industries (Development and Regulation) Act, 1951 (65 of 1951), and all other powers enabling it in that behalf, the Central Government hereby makes the following Order, namely:—

1. **Short title, extent and commencement**

(1) This Order may be called the Cement Control Order, 1967.

(2) It extends to the whole of India.

(3) It shall come into force on the 1st day of January, 1968.

2. **Definitions**

In this Order, unless the context otherwise requires:—

(a) "cement" means any variety of cement manufactured in India, and includes portland pozzolana cement, blast furnace slag cement, rapid hardening cement and low heat cement, but does not include **oil well cement, water proof* (*Hydrophobic*) cement and white and coloured cement (other than grey portland cement);

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*Cement Control (Amedment) Order, 1968, dated the 12th January, 1968.

(b) "Controller" means the Cement Corporation of India Limited **or the Managing Director thereof or an officer of the Central Government, appointed as such by the Central Government by notification in the official gazette;

(c) "producer" means any person who manufactures cement.

3. **Power to prohibit removal**

No producer shall remove or permit the removal of any cement, whether sold or unsold, from the precincts of his factory or from any other part of his premises to any place outside the precincts of such factory or premises except with the previous permission in writing of the Central Government.

4. **Power to direct sale or transport**

The Central Government may, by order, require any producer to sell cement to such person or class of persons or to transport cement to such destinations by such modes of transport, and on such terms and conditions, as may be specified in the Order.

5. **Power to direct disposal of stock**

The Central Government may, with a view to securing proper distribution of cement, issue such Orders, general or special, as may be necessary, to any producer as to the disposal of his stock.

6. **Maintenance and production of accounts, etc.**

(1) Every producer shall keep such books, accounts and records, relating to the production, sale and transport of cement as the Central Government may require.

(2) Every producer and every person employed by him in connection with the production, sale and transport of cement shall, on being required so to do by the Central Government and within such period as may be allowed in this behalf—

(a) produce such books, accounts, records or other documents, and

(b) furnish such returns and other information relating to the business,

as may be specified by the Central Government.

**Cement Control (Sixth Amendment) Order, 1968, dated the 23rd September, 1968.

7. Retention prices

The ex-factory prices admissible to the producer for the different varieties of cement shall be as specified in the Schedule.

8. Price at which producer may sell

No producer shall, himself or by any person on his behalf, sell—

(a) rapid hardening cement and low heat cement at a price exceeding Rs. 164.00 *per metric tonne,

(b) any other variety of cement at a price exceeding Rs. 141.00 *per metric tonne,

free on rail destination railway station plus the excise duty paid thereon:

Provided that in the case of packed cement, there shall be added to the price referred to in this clause such charges as may be fixed by the Central Government in respect of packing or the containers and the Central Government may fix different charges for different kinds of packing of containers, as the case may be:

Provided further that the Central Government may allow rebate, discount or commission in the price of cement sold to the Government through the Directorate General of Supplies and Disposals or intended for export out of India.

Explanation.—For the purposes of this Order, the expression "free on rail destination railway station" means the price (including the cost of transport by the cheapest mode except where any other mode of transport has been specified by the Central Government under clause 4) at the destination point.

****9. Payments to Cement Regulation Account**

Every producer shall, in respest of each transaction by way of sale of cement effected by him, pay within one month of the close of the month in which sales take place, to the Controller, an amount equivalent to the amount, if any, by which free on rail destination price of such cement realised by him exceeds the aggregate of the following amounts, namely:—

(i) the ex-factory price of such cement calculated in accordance with the rates specified in the Schedule;

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*Cement Control (Amendment) Order, 1973, dated 13th April, 1973, (effective from 18th April, 1973).

**Cement Control (Fourth Amendment) Order, 1968, dated 27th May, 1968.

(ii) a selling agency commission calculated at the rate Rs. 1.25 per tonne;

(iii) the excise duty paid thereon; and

(iv) in the case of packed cement, the charges fixed by the Central Government in respect of the packing or the containers under the first proviso to clause 8;

Provided that the expenditure incurred by the producer on freight by the cheapest mode of transport or where any other mode of transport has been specified by the Central Government under clause 4, by such mode of transport in respect of such transactions shall be reimbursed to the producer by the Controller from and out of the Cement Regulation Account referred to in Clause 11.

Provided further that nothing contained in this clause shall apply to the Cement moved out of the factories prior to the 1st day of January, 1968 but sold after that date.

10. **Wholesale and retail prices**

(1) The maximum price at which cement may be sold by a dealer (whether wholesale or reail) shall be such as may be fixed by the State Government and no dealer (whether wholesale or retail) shall sell cement exceeding such maximum price.

(2) In fixing the maximum price under sub-clause (1), the State Government shall have due regard to:—

(i) the price fixed under clause 8;

(ii) handling (including charges in respect of packing or containers) and transporting charges;

(iii) godown charges;

(iv) stockist's margin of profit*;

(v) local taxes, if any;

(vi) additional road transport charges, where allowed.

11. **Cement Regulation Account**

(1) The Controller shall maintain an account to be known as the Cement Regulation Account to which shall be credited the amounts paid by the producer under clause 9 and such other sums of money as the Central Government may, after the appropriation made by Parliament by law in this behalf, grant from time to time*.

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*Cement Control (Amendment) Order, 1968 dated the 12th January, 1968.

(2) The amount credited under sub-clause (1) shall be spent only for the following purposes, namely:—

(i) paying or equalising the expenditure incurred by the producer on freight in accordance with the provisions of this order;

(ii) equalising concession, if any, granted in the matter of price for supplies to Government or for purposes of export under the second proviso to clause 8;

(iii) expenses incurred by the Controller in discharging the functions under this Order subject to such limits, if any, as may be laid down by the Central Government in this behalf.

(3) The Controller shall cause accounts to be kept of all moneys received and expended by him from out of the Cement Regulation Account and he shall prepare and submit such report and returns relating to the said Account as may be required by the Central Government from time to time.

(4) The balance, if any, remaining unspent in the Cement Regulation Account shall be disbursed in accordance with such directions as may be given by the Central Government in this behalf.

12. **Power to very prices and to alter the Schedule**

The Central Government may, having regard to any change in any of the factors relevant for the determination of price of cement, such as an increase or decrease in the cost of production or distribution, by notification in the Official Gazette, vary the price fixed in this Order or alter the Schedule to this Order as appear to it to be necessary.

13. **Deltgation**

All powers exercisable by the Central Government under this Order except under clause 8, 11(2) and 12 shall also be exercisable by the Controller.

14.**Procedure regarding claims by producers**

Every producer shall make an application regarding his claim for any reimbursement towards equalising freight or equalising concession in the matte of export price to the Controller who may, in setting the claim, require the producer to furnish all details relating thereto, including the cost of freight incurred, excise duty, ff any, paid, etc.

THE SCHEDULE

(*See* clause 7)

Name of Producer	*Price per metric toone* Ex-Factory Price.
1. M/s. Travancore Cements Limited, Kottayam	Rs. 120.25
1-A. Assam Cements, Cheerapunji	Rs. 123.50
2. All other producers	Rs. 100.00

In the case of rapid hardening cement and low heat cement an additional price of Rs. 12 per metric tonne may be added to the price specified above.

In the case of cement delivered ex-Sewri Works and ex-Ahmedabad Works of Shree Digvijay Cement Company Limited, an additional price of Rs. 62.20 and Rs. 28.70 per metric tonne, respectively, may be allowed. In the case of clinker moved by sea from Sikka to Bombay, payment of wharfage charges paid at Sikka may also be allowed.

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*Cement Control (Amendment) Order, 1969, dated the 14th April, 1969 effective from 16th April, 1969.

APPENDIX X

(*Vide* para 3.35)

Statement showing quota of Cement fixed for State Government Departments (Excluding for Central Government Department)

(In '000 tonnes)

Zone/States	Quota fixed
1	2
WESTERN ZONE	
Gujarat	1265
Goa, Daman and Diu Dadra Nagar Haveli	66
Madhya Pradesh	491
Maharashtra	169
TOTAL	3518
SOUTHERN ZONE	
Tamil Nadu	1271
Andhra Pradesh	927
Mysore	759
Kerala	562
Pondicherry	21
Andamans Nicobar Islands	8
TOTAL	3448
NORTHERN ZONE	
Delhi	397
Haryana	388
Punjab	505
Jammu & Kashmir	64
Himachal Pradesh	44

1	2
Chandigarh	61
Rajasthan	446
Uttar Pradesh	1661
TOTAL	3566
EASTERN ZONE	
Assam	179@
Bihar	779
Orissa	256
West Bengal	860
Manipur	11
Nagaland	12
NEFA	1
Tripura	13+12
Mizoram	6
TOTAL	2129
Nepal	43
Sikkim	10
Bhutan	8+7
TOTAL	68
GRAND TOTAL INCLUDING NEPAL SIKKIM AND BHUTAN	12829

@ Assam 150
Maghalya 29

APPENDIX XI

(*Vide* para 4.5)

Statement showing the Limestone. Deposits suitable for locating Cement Plants

District		Deposit	Reserves of Lime store in Millon tonnes. Estimated Proved.
1		2	3
Assam .	Cachar Hills Mikir Hills	Kopili Kharkar (close to Garmandi) Longli Parvat	38
Manipur .		Ukrul-Hangdung	4 ....
NEFA . .	Lohit	Tidding deposit near Tezu	50 ....
Bihar . .	Palamau	Bkawanathpur Balumath	200 50 sufficient
	Shahabad	Doma-Jjaradahg	Sufficient 3
	Monghcar	Jhajha simultala	13 ..
Orissa . .	Koraput	Kotametta-Nandivada	Substantial
	„	Umpavalli	..
Jammu & Kashmir	Udhampur	Salal adjacent to salal hydl Project	10
Himachal Pradesh	Bilaspur	Bilaspur 13 Km North of the dowh	100
	Dharamsala Kangra	Dharamkot Hill Dunduria on the road to Dalhousi	15 Substantial to be investigated
Haryana . .	Mahendragarh	Narnaul	17 ..
Rajasthan	Bundi	Satur (Bundi)	Extensive-
	Ranswara	Khamera-Bhongra	50 ..
	Chittorgarh	Chamti-ka-Khera	.. 16
	Jaipur	Koteputli	Enormous ..
	Jhunjhunu	Maonda	100 ..
	Sirohi	Kivarli	.. ..
	Nagaur	Gotan	..
	Pali	Bilara-Atabara	396 ..
	Ajmer	Kesharpura Sheopura	254

	1	2	3	4
Uttar Pradesh	Dheradun	Mandarsu (Baruwala)	..	26
	Garhwal	Nilkanth	30	..
	Nainital	JaurasiBharadhan Talla-Betalghat Limestonebelt	Interstanitial	
Gujarat . .	Amreli	Jafarabad	100	..
	Junagarh	Veraval	25	..
	Banaskantha[Sabarkantha	Khed Brehma	71	..
	Banaskantha	Gangawada	25	..
	Surat	Tadkeshwar	18	..
	Panchamahal	Dahod	18	..
Goa, Daman & Diu Island		Diu-Malala	93	..
Maharashtra	Yeotmal	Chanoka		43
Madhya Pradesh	Bastar	Jagdalpur	..	110
	Bilaspur	Akaltara	Substantial	..
	Raipur	Kilda	50	..
	Raigarh	Banipathar	20	..
	Satna	Maihar	50	..
	Rewa	Deorajnagar	Substantial	
	Hoshangabad	Taku Sujnipur-Narsingpur	10	..
	Domoh		130	..
	Mandsaur	Bisalwas-Suwakhera (Neemuch)	..	130
Andhra Pradesh	Adilabad	Adilabad	..	36
	Hyderabad (Karmkote Hill)	Tandur	..	139
	Mehboobangar (Pallur)		..	46
	Krishna	Jaggayyapeta	275	..
	Cuddapah	Nidzuvi	..	153
Mysore . .	Bijapur	Talkot	Extensive by Pitch	
	Chitradurga	Hosdurga (Mattod)	Substantial all to be investigated	
	North Kanara	Nagaragali	to be investigated	
Tamil Nadu .	Ramnad	Rameswaram	7	..
Kerala/Laccadive Islands	Laccadive Minicoy Coral Limestone and sand.		Substantial	..

APPENDIX XII

(*Vide* Para 6.24)

CEMENT (QUALITY CONTROL) ORDER, 1962

(as amended upto 17-4-1969)

[*Published in Part II Section 3 Sub-section (ii) of the Gazette of India Extraordinary, dated the 1st December, 1962*]

ORDER

S.O. 3595/ECA 2/62.—In exercise of the powers conferred by section 3 of the Essential Commodities Act, 1955 (10 of 1955), the Central Government hereby makes the following Order, namely:—

1. **Short title and extent.**—(1) This Order may be called the Cement (Quality Control) Order, 1962.

(2) It extends to the whole of India.

2. **Definitions.**—In this Order, unless the context otherwise requires:—

(a) "Cement" means any variety of portland cement manufactured in India and includes blast furnace slag cement, rapid hardening cement, low heat cement, portland-pozzolana cement or any other variety of cement which the Central Government may, by notification in the Official Gazette, specify for the purposes of this Order;

(b) "prescribed standard" means the Indian Standard—

(i) No. IS:269-1967 relating to portland cement, rapid hardening cement and low heat cement.

(ii) No. IS:455-1967 relating to blast furnace slag cement; and

(iii) No. IS:1489-1967 relating to portland-Pozzolana cement."

Explanation.—Cement shall not be deemed to be of prescribed standard if it is not of the nature, substance or quality, which is purports or it represents to be.

3. **Prohibition of manufacture, sale etc. of cement which is not of the prescribed standard.**—No person shall himself or by any person on his behalf, manufacture or store for sale, sell or distribute any cement which is not of the prescribed standard.

APPENDIX XIII

Statement showing Summary of Recommendations/Conclusions

Sl. No.	Reference to Para No. in the Report	Summary of recommendations/ conclusions
1	2	3
1	1.10	The Committee regret to note that the *per capita* consumption of cement in the country, in 1970, was 25 kilograms which was not only, much lower than the developed and developing countries like Iraq, Iran, UAR, Turkey etc., but even lower than the neighbouring countries like Malaysia, Thailand, Pakistan, and Ceylon. The Committee note that the *per capita* consumption of cement would show an increase of 14 kilograms from the existing level of 25 kgs. at the end of the Fifth Plan period but by then the gap in the *per capita* consumption in relation to these countries will widen further. Since *per capita* consumption of cement is one of the indices indicating the level of development of a country, it is evident that gigantic development efforts will have to be made by the country to reach the level of consumption of cement not only of the developed countries but even of the developing countries.
2	1.11	The Committee feel that one of the main reasons for the low *per capita* cement consumption is the scarcity in the availability of this commodity. The Committee have no doubt that with the easy availability of cement, its consumption will increase considerably. They, therefore, urge that effective measures should be taken by Government to increase the production of cement in a big way. It is also

1	2	3
		important that the pricing and distribution mechanisms are so evolved that cement becomes easily available in the remotest areas of the country at reasonable prices. The Committee have dealt with these matters in detail in subsequent Chapters.
3	1.27	The Committee note that the demand for cement which was assessed at 4.8 million tonnes at the end of the First Plan was increased to 8.8 million tonnes at the end of the Second Plan, to 13 million tonnes at the end of the Third Plan and to 19 million tonnes at the end of the Fourth Plan *i.e.*, an increase of 83 per cent, 44 per cent, 47 per cent respectively. It is evident that the percentage increase in demand during the Second Plan period, was reduced by 39 in the Third Plan and was further reduced by 36 in the 4th Plan period. The Committee consider that the assessment of the demand for cement has been underestimated since the Second Plan, leaving a sizeable unsatisfied demand of cement in the country. This is also evident from the fact that according to the admission of the Ministry, the availability of cement has always been far short of the demand during the entire planning period of 20 years, barring 2 occasions, once in 1958-1959 and another in 1967. The Committee feel keeping in view the extent of scarcity of cement throughout the country and the prevailing high market rates, the demand asessed by the Task Force at 19 million tonnes during the 4th Plan period was on the lower side. The Committee consider that the projection of demand has not been fully related to all the requirements in the country, notably, unorganised industrial sector, housing in rural areas, etc. as evidenced from the fact that little or no cement is available in these areas.
	1.28	As regards the assessment of demand for the Fifth Plan, the Committee note that whereas the Ministry of Industrial Development feel that the

1	2	3
		demand would be 28 million tonnes at the end of the Fifth Plan period on the basis of the report of the Task Force, the Planning Commission has placed the demand only at 25 million tonnes. The Committee are not convinced that there has been any scientific evaluation regarding the growth rate of demand in the absence of any information with the Government as to what would be the demand every year during the Fifth Plan period in various sectors like the Government Departments, Public Sector Undertakings, organised industries and so on. The Committee feel that consideration of mere sectoral outlays cannot lead to a proper evaluation of the demand.
5	1.29	The Committee feel, in particular, that with growing economic prosperity in rural areas, the demand for cement would be increasingly felt there. The Committee regret that no methodology has been evolved so far to make a realistic assessment of the demand in rural areas. The Committee feel that, looking at the needs for rural housing, every encouragement will have to be given to the people of rural areas to construct their own houses so that the surplus money in the hands of the agriculturists may be usefully employed in providing shelters for themselves.
	1.30	The Committee, therefore, urge that a more scientific study may be immediately undertaken to reassess the likely demand for cement in each sector during every year of the Fifth Plan period as in the opinion of the Committee even the figure of 28 million tonnes suggested by the Ministry is on the lower side. The Committee would suggest that in the reassessment not only the potential demand that would develop as a result of easy availability of cement, but the prospects of exports of Cement, particularly to the oil producing countries, should be taken into consideration. The Committee would further like to emphasise that planning for an important

1	2	3
		commodity like Cement should be sufficiency and not for scarcity as has been the case hithertofore.
6	2.16	The Committee note that the highest utilisation of installed capacity for production of cement, achieved in cement industry, was 88.1 per cent in 1966-67. They regret to note that the percentage utilisation has gone down from 88.17 per cent in 1966-67 to 76 per cent in 1973-74. The lower utilisation of capacity has been attributed to (i) power cuts, (ii) difficulty about supply of coal in sufficient quantities and (iii) non-availability of wagons for movement of finished products. Compared to the maximum utilisation of installed capacity, achieved in 1966, the under-utilisation has resulted in a loss of about 10 million tonnes in cement production during the last five years. In view of the urgent need of stepping up the production of cement in the country for internal consumption as well as export, the Committee recommend that concerted efforts should be made by Government to remove the bottlenecks in cement production so as to achieve at the earliest the maximum utilisation of capacity in the cement industry. This could make available about 2 million tonnes of additional cement from the existing plants.
7	2.17	The Committee further suggest that the feasibility of giving production incentives for cement production over and above the maximum production attained may also be examined by Government in the interest of bridging at the earliest the wide gap between requirements and production.
8	2.34	The Committee regret to note that inadequate supply of coal for cement industry has resulted in considerable loss in cement production. During the period July—September, 1973, the loss in production was as much as 2½ lakh tonnes

1	2	3
		of cement on this account. It is apparent that this sorry state of affairs has developed due to lack of coordination among the Ministries of Industrial Development, Steel and Mines and Railways. The Committee would urge that urgent and effective measures should be taken to ensure adequate and timely supply of coal to the cement industry so that the production of cement does not suffer on this account.
9	2.35	The Committee note that a High Level Committee has been constituted since last year under the Chairmanship of Deputy Minister of Steel and Mines to look into the problems of efficient coal transport by railways and other modes of transport and to ensure adequate supplies of coal to different users. The Committee are sure that this high-level Committee would go into the problem in all its ramifications, in depth and make suggestions to improve the position. The Committee would like to be apprised of the recommendations made by this high-level committee, the action taken by the Government and the results achieved as a consequence.
10	2.36	The Committee note that there is a Standing Linkage Committee, consisting of representatives of the Ministries of Industrial Development, Steel and Mines and Railways and Planning Commission etc. to review periodically the performance and the coal requirements of all cement factories in the country. The Committee note that the coal quotas fixed for each factory fall short of the demands of the factories. The Committee, therefore, suggest that a realistic assessment of the requirements of coal by each cement factory may be made at the earliest so that there is no room for complaint from the factories that

1	2	3
		the quota fixed and coal supplied were not adequate to ensure maximum utilisation of capacity.
11	2.37	The Committee also note that a Monitoring Cell has been set up in Calcutta to keep a close watch on the supplies of coal to cement factories. The Committee note further that during September—November, 1973, as admitted by the Ministry themselves, there was a 'considerable shortfall' in the supply of coal against the quotas fixed. The Committee find that the actual despatches of coal have been below the allocations fixed even in the months of December, 1973 and January, 1974. The Committee feel that the constitution of the Monitoring Cell at Calcutta is a step in the right direction. They, however, regret to observe that in spite of its functioning the position regarding the supply of coal has not shown any appreciable improvement. The Committee would, therefore, urge that a review should be made of the functioning of this Cell so that the difficulties that were experienced by the Cell in ensuring full supply of coal to cement factories, could be assessed and remedial steps taken. The Committee would like to be apprised of the results of the review and the effective measures taken in improving the supply position of coal to the factories.
12	2.43	The Committee note that the power cuts imposed by various State Electricity Boards during 1973 have also contributed to the shortfall in production of cement and the monthly loss of production ranged between 2 and 3 lakh tonnes of cement. The Committee also note that the Minister of Industrial Development took up the matter of supply of power to the cement plants with the Chief Ministers of the concerned States and as a result, some of the States allowed certain concessions to the cement factories at the time of power cuts.

1	2	3
	2.44	The Committee are perturbed to note that power cuts have adversely affected cement industry which is a 'continuous process industry'. The Committee feel that normally the State Electricity Boards should meet in full the demand of power of core sector industries like the cement industry.
13	2.45	The Committee need hardly emphasise the urgent need for augmenting power generation so that no industry suffers for inadequate availability of power, much less industries like cement and therefore, urge that the question of increasing the generation of power should be accorded the highest priority so as to ensure full supply of power to cement factories. If that is not possible cement plants may be given full facilities to have their own captive power plants so that production of cement does not suffer on this account.
14	2.61	The Committee note that on the basis of licences/letters of intent already issued by Government, the capacity that is expected to be installed at the end of the Fifth Plan period, is 32.482 million tonnes, but the actual availability would be only 23.21 million tonnes. Thus on the assumption that even if the entire capacity licenced comes up, there would still be a shortfall of more than 4 million tonnes in the production target of 28 million tonnes. The Committee do not find any reason for optimism on the part of Government that with the existing capacity licensed, the target production of 28 million tonnes could be achieved at the end of the Fifth Plan period. They would therefore like to be apprised how the Government propose to achieve the target of 28 million tonnes with the capacity already licensed.

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15	2.62	The Committee have already pointed out that even the target of 28 million tonnes is on the conservative side. The Committee also note that Government propose to export three lakh tonnes of cement by the end of December, 1974 and another five lakh tonnes during 1975 to Iran as a part of bilateral trade negotiations between India and Iran. In view of this export commitment and the need for higher exports of cement for meeting the higher crude import bill, it has become imperative that the capacity to be installed should be sufficient not only to meet the growing internal demand but also to fulfil the expert commitments. The Committee therefore recommend that additional capacity should be licensed by Government without further loss of time so that a safe margin is provided to ensure that there is no shortfall to meet the additional demand for cement.
16	2.63	The Committee find that there would be only marginal increase in capacity and production in the first two years of the Fifth Plan and somewhat higher increase in the third year. In the last two years of the Fifth Plan and more particularly in the last year of this Plan, the increase in capacity and production would be pronounced. Even if the existing licenced capacity materialises, there will be shortfall in every year of Fifth Plan in relation to targetted capacity as well as production. It is imperative to ensure that not only the target dates of completion of projects are sufficiently advanced but also the targets of capacity and production are achieved so that the gap between demand and availability of cement narrows down. The Committee would, therefore, urge Government to take necessary steps towards this end.
17	2.64	The Committee would like Government to fix the annual targets of production of cement during each year of the Fifth Plan period and

1	2	3
		to publish the same in the Fifth Plan Document itself to facilitate a close watch being kept on the performance of this key sector industry.
18	2.65	The Committee also note that a special implementation cell is being established in the Ministry to watch and monitor the progress of various projects and to remove the difficulties in the way of execution as they arise. The Ministry also propose to set up monitoring cells at the project level and, at headquarters level. The Committee feel that these steps are in the right direction and hope that these cells will operate with maximum efficiency to eliminate all bottlenecks in the way of realisation of capacity and production targets. The Committee recommend that the problems solved and the results achieved by these cells should find a special mention in the Annual Reports of the Ministry.
19	2.78	The Committee note that during the period between January, 1972 and the 3rd May, 1973, applications of the larger houses for new units, or for expansion, were not approved as a result of the decision of the Cabinet Committee for Economic Coordination. The Committee also note that Government, realising the need for a pragmatic and realistic policy, have since decided to review the applications of the larger houses and as a result of the review, some of the applications which were earlier rejected, have been approved and letters of intent have since been issued. While the Committee agree that every encouragement may be given to new entrepreneurs, they feel that the nature of industry, capital investment involved, the expected return etc., should be all carefully gone into before the licences are issued.
20	2.79	The Committee note that some applications from larger houses for a capacity of 4.00 million tonnes are pending clearance from M.R.T.P.

1	2	3
		angle. The Committee recommend that in the interest of increased cement production, these applications should be processed expeditiously and decisions taken within a specified period.
21	2.80	The Committee note that the Cement Corporation of India, a Public Sector organisation has also entered the field of cement industry. The Committee feel that this Public Sector organisation should be given all encouragement to enable it to play an important role in cement production.
22	2.81	Considering the long gestation period of the cement industry, the Committee urge that Government should take advance action for creation of additional capacities for the 6th Plan period so that in the early years of that period, capacities develop and production begins. The Committee also suggest that any reappraisal of licensing policy regarding cement industry should be done at the time of mid-term appraisal of the Fifth Plan, that is, well in advance of the commencement of the 6th Plan so that needless delays in licensing new units or expansion are obviated.
23	2.90	The Committee are not happy that after setting up the Cement Corporation of India to play an effective role in the production of cement, Government should have sought to curtail its activities placing greater reliance on the private sector. The Committee are not convinced that the consideration of financial constraints should have led to a drastic scaling down of the capacity target of the Corporation from 5 million tonnes to 1.2 million tonnes during the Fourth Plan period. They regret to note that even this modest target of 1.2 million tonnes, has not been achieved and that the achievement of the Corporation stands at 0.4 million tonnes only.

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24	2.91	The Committee realise that the Cement Corporation of India has a special role to play in the deficit areas, but they are unhappy that a restriction to go only for deficit areas, should have been imposed with the result that the Corporation was inhibited from setting up its plants at sites where they had already carried out their investigation during the Fourth Plan period. The Committee recommend that full encouragement should at least now be given to the Cement Corporation to set up cement plants during the Fifth Plan period.
25	2.98	The Committee note that Cement Corporation of India has a target of production of about 2.78 million tonnes of cement during the Fifth Plan period, and that it would then become an important cement producing organisation in the country. The Committee feel that even so its production would constitute only about 10 per cent of the total targetted production at the end of the Fifth Plan period, *viz.*, 28 million tonnes. The Committee recommend that since about 50 per cent of cement is used by Government, semi-Government and public undertakings, it is but appropriate that a larger role should be given to the Cement Corporation of India in cement production during the Sixth Plan period at least.
26	2.99	In view of the long gestation period for the installation of cement plants, the Committee suggest that the Cement Corporation of India should undertake the preparation of detailed proposals for the Sixth Plan period well in advance and seek the approval of Government therefor with a view to initiate advance action in this behalf.
27	2.112	The Committee note that according to the Cement Research Institute, the present availability of blast furnace slag in the country is about 5 million tonnes annually. They regret to note

1	2	3
		that very small quantity is at present being utilised for manufacture of slag cement. Since the technique of utilisation of blast furnace slag for the manufacture of cement is available in the country and since the cost of production of slag cement is comparatively cheaper, the Committee would urge the Government to make a comprehensive assessment of the availability of blast furnace slag from the various steel plants in the country and take effective measures in consultation and close coordination with the steel plants authorities, for full utilisation of the available slag for stepping up cement production at the earliest. The Committee would also like to stress that in setting up the plants for the manufacture of slag cement, adequate provision should be made for utilisation of increased quantities of slag consequent on expansion and higher production by the steel plants. The Committee would further suggest that while setting up new steel plants and expansion of existing ones in future, an integrated plan should be prepared providing for a granulation plant for slag and its utilisation for the manufacture of cement simultaneously with the commissioning of steel plants.
28	2.122	The Committee note that the availability of fly ash is at present 4 million tonnes from 30 thermal plants in different parts of the country. This is expected to be of the order of 8 million tonnes at the end of the Fifth Five Year Plan. The Committee regret to note that although fly ash is an established pozzolana and is being utilised as an addictive to cement by several countries, it has not so far been used in our country for the manufacture of cement.
29	2.123	The Committee note that the Cement Research Institute has now done some research regarding the quality and use of fly ash in the production

1	2	3
		of pozzolana cement in our country and a stage has been reached for using the technology in large scale manufacture of fly ash cement. The Committee feel that research in this field should have been intensified. They urge that concerted efforts should be made to resolve the remaining technical problems so that large scale manufacture of fly ash cement can be undertaken at the earliest.
30	2.124	The Committee hope that the results of the experiment in the manufacture of fly ash cement in Kurukunta and Mandhar plants of Cement Corporation would be fully evaluated and studied with a view to using the fly ash to the maximum extent. Since fly ash cement is being manufactured for the first time, it is necessary that in the utilisation of this cement, a lead should be given by the Central Public Works Department and State Public Works Departments so as to make it popular among the public.
31	2.127	The Committee would like the Government to make a survey on the availability of by-product gypsum, its present utilisation and the possibilities of using the same in cement manufacture.
32	2.128	The Committee attach great importance to the fuller utilisation of industrial wastes, particularly in the manufacture of cement which has also become a critical item of shortage. The Committee hope that, with the help of the Cement Research Institute, initial inhibitions of the manufacturers of cement in using industrial wastes would be overcome and the wastes would be turned into wealth. The Committee would urge Government and Cement Research Institute to take concerted measures in conjunction with the industry to put industrial wastes to productive use in the manufacture of cement.
33	2.134	The Committee note that the Tariff Commission is already engaged in examining and recommending suitable retention price to the cement

1	2	3
		manufacturers. The Committee would urge the Tariff Commission to expedite their report. The Committee hope that after the submission of the final report by the Commission, Government would process the recommendations and take expeditious decisions so that the investment climate in the cement industry improves. The Committee would like to be apprised of the final recommendations of the Tariff Commission and the decisions taken by Government thereon.
34	2.145	The Committee note that the financial needs of the cement industry are expected to be met during the Fifth Plan provided the industry also makes an effort to provide resources from within the industry.
35	2.146	The Committee note that the IDBI is already showing interest in the formation of consortia of all financial institutions. The Committee hope that once the requirements laid down by the financial institutions are satisfied, there would be no delay in finanlising the loan terms and in providing finance in the interest of achieving planned targets. The Committee would also like that the terms and conditions under which finances would be available to the Cement industry are well publicised so that new entrepreneurs might also be attracted to set up Cement plants.
36	2.153	The Committee consider that, in view of distinct advantages of having dry rotaries in cement manufacture both in terms of production and coal consumption, Government should encourage, wherever it is feasible to do so, the cement factories to switch over to dry process. For this purpose, the Government may consider the setting up of a technical cell either under the Ministry of Industrial Development or the Cement Research Institute which is also mainly financed by Government which can keep in

1	2	3
		touch with the factories and render technical advice and help to the factories for converting the wet into dry process.
37	2.154	The Committee hope that the two factors, namely, increase in production for the same quantum of raw materials and the less in take of coal would encourage the cement factories to go in for dry process by raising the necessary capital from their internal resources. The Committee would, however, like Government to examine, within the overall availability of finances from the public financial institutions, the question of extending special financial facilities by these institutions to the cement factories.
38	2.163	The Committee not that vertical shaft kilns would eminently suit certain areas which are deficit in cement production. Being of smaller capacity than the standard plants, the Committee feel that with proper encouragement, new entrepreneurs could be attracted to put up cement plants in areas suitable for shaft kilns. The Committee, therefore, urge that considering the advantages of having vertical shaft kilns in some areas of our country, Government should take suitable measures to attract new entrepreneurs to set up such plants in these areas.
39	3.13	The Committee note that the Cement Control Order, is in force since 1st January, 1968 to regulate the distribution of cement. The Committee also note that the existing order has been found to be inadequate in the context of shortages and could not be enforced against some producers for contravention of the instructions issued under this order, leading to distortions in the distribution of cement.

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	3.14	The Committee note that the existing orders suffers from the following lacunae: (i) the contravention of instructions issued under the order to the producers are not punishable (ii) any action taken by or under the direction issued by subordinate officers of the Cement Controller, is not valid in law because these officers are not Central Government employees, (iii) only the Cement Controller can lodge a complaint in a Court of Law, being the only public servant of the Cement Control Organisation, which is administratively inconvenient.
	3.15	The Committee are surprised that these lacuna which are too obvious, should have escaped the notice of Government all these years. They feel that the efficacy of an order of this nature lies in its effective enforcement. The Committee note that the question of issue of Cement Control Order under the Essential Commodities Act providing *inter alia* stringent penalties for violation of directions given by the Cement Controller to the producers is under consideration, along with the question of constituting the Cement control Organisation as a Government Department so that officers of the Control Organisation could lodge a complaint in the courts.
	3.16	The Committee are deeply concerned to note that in spite of the lacunae in the Order, coming to notice of Government, no sense of urgency in rectifying the shortcomings in the Order, has been shown by the Government and considerable time has been taken already without suitably modifying the order in the interest of effective enforcement. The Committee recommend that decision on these matters should be expedited and effective measures taken to plug the existing loop-holes while enforcing the revised Cement Control Order without further delay. Government

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		should also ensure that the orders issued by them do not suffer from any legal disability and are effectively implemented.
40	3.17	While revising the Order , the Committee would like Government to keep in view the following:— (i) the order should be such that it facilitates prompt deterrent action being taken against all those who contravene it, and (ii) the order should give adequate powers to the filed organisations to proceed effectively in these matters.
41	3.18	The Committee recommend that the revised Cement Control Order should be laid on the Table of both the Houses at the earliest.
42	3.19	The Committee would further like a stress that a close watch should be kept on the enforcement of revised order and periodical reviews should be carried out to assess the effectiveness of the directions given under the order and to remove loopholes, if any, without delay.
43	3.20	The Committee regret to note that in the past, authorisations for cement were issued by Cement Controller in excess of the available supplies with the result that cement producers exercised their discretion to choose the consumer for supply of cement which caused avoidable hardships and inconvenience to the authorisation holders. The Committee learn that corrective measures have ben taken in this regard since April, 1973 and that authorisations are now being issued to match the available supply. The Committee would like Government to keep a close watch in this regard and to ensure that in future all authorisations issued on

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		cement producers are honoured and supplies are made in time.
44	3.25	The Committee feel that considering the existing location of the cement plants in the country, the freight pooling system through which cement is sold at a uniform *f.o.r.* destination price, has certain advantages. The Committee consider that freight constitutes an important component in the determination of the price of cement, particularly when cement has to be moved from one part to another distant part of the country. They, therefore, feel that any disturbance of the freight pooling system in the present climate of scarcities may result in steep increase of prices in deficite areas.
45	3.26	While the Committee recognise that freight pooling system serves certain social purpose inas much as it ensures the availability of cement at a uniform *f.o.r.* destination price throughout the country, they would, however, like Government to undertake a detailed study to see whether the freight pooling system has, in any way, inhibited the establishment of new cement factories in scarcity areas in the Northern and Eastern regions and the extent to which it has resulted in irrational movement of cement and strain on rail transport. Based on such a study, Government should take effective measures to ensourage the setting up of cement factories in scarcity areas in the interest of rationalisation of movement.
46	3.48	The Committee note that there has been a continuing gap betwen the demand and supply of cement in the country and that this gap has been widening since 1971. During the year 1973, against a demand of about 19 million tonnes, the supply was about 15 million tonnes i.e. a gap of about 4 million tonnes, in the demand and supply of cement.

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	3.49	The Committee realise that so long as there is a marked gap between the demand and availability of cement in the country, it may not be practical to give up entirely controls over the distribution of cement. The Committee note that a number of State Governments have imposed control on distribution of cement through Essential Commodities Act. It is regrettable that in spite of the distribution of cement being regulated under the Essential Commodities Act, the existing distribution system leaves much to be desired and there is a widespread black-market in cement in various parts of the country. The Committee would, therefore, urge Government to plug the existing loop-holes in the distribution system and to keep a stricter watch to ensure that cement is issued to the real consumers and is used for the purpose for which the permit was issued. To obviate malpractices, exemplary punishment should be awarded to delinquent dealers and official concerned.
47	3.50	The Committee feel that while the bulk consumers are generally able to obtain their requirements of cement, it is the small consumer who suffers the most, due to shortage of cement and has to abtain his requirements from the market any how. The Committee would like Government to take effective measures to see that the requirements of cement of small consumers for repairs etc. are met. The Committee would like to be informed in detail of the field arrangements which Government have made or propose to make to achieve this objective.
48	3.51	The Committee are concerned to note that leakages of cement take place from Government quotas. The Committee would like Government to exercise stricter watch on the consumption of cement in Government depart-

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		ments and to ensure that loopholes leading to leakages are effectively plugged. The Committee need hardly stress that deterrent action should be taken against officials who are found to indulge in such malpractices.
49	3.52	The Committee note that due to the shortfall in production of cement during 1973, Govment have introduced strict measures to distribute the limited supplies of cement on a rational and equitable basis to the State Governments and the quotas of cement for State Governments for 1973-74 (July-June) have been initially fixed on the basis of 110 per cent of the average level of supplies received by each State during the past five years from 1968-72. The State Governments have been asked to coordinate the requirements of all the Departments, organised industries and bulk consumers as well as public.
	3.53	The Committee consider that the existing arrangements for fixing State quotas are not satisfactory and should be replaced by a more methodical and systematic assessment of the requirements of the States, taking into account the latest requirements of public sector projects, organised and non-organised sectors of the industry and other public utilities, the housing needs of the public, both in rural and urban areas, etc. The Committee would urge the Government to review the State quotas of cement accordingly at an early date.
	3.54	The Committee note that till 1972, the quantity of cement supplied to Government departments, including public undertakings and organised sector of industries etc., was roughly 40 to 42 per cent of the total cement production in the country. The remaining 60 per cent was

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		available for free sale to the public. The Committee have been informed that since 1973, the requirements of cement for Government departments, both Central and State Governments, have considerably increased and about 60 per cent of the overall supply is ear-marked for them. In addition, 10 per cent is meant for organised sector like industries, semi-government bodies, etc. The balance 30 per cent of production only is available for sale to the public. Thus there has been a drastic cut in the free sale of cement to the public. While the Committee realise that Government projects should have a high priority in the allocation of cement, they nevertheless feel that reasonable cement requirements of public should also be met. The Committee feel that the short-fall in production of cement, coupled with the drastic cut in the free sale quota, is one of the main contributory factors in creating scarcity conditions and emergence of black-marketing in cement. The Committee consider that Government should undertake a comprehensive review of the requirements of cement for Government departments with a view to see to what extent construction activities, involving considerable consumption of cement, can be postponed or staggered without having any adverse effect on production activity and plan programmes. The Committee feel that Government should curtail the consumption of cement to the extent possible and exercise utmost economy in the use of cement in Government constructions. It would also be desirable if consumption of cement for beautification schemes is discouraged by Government till the scarcity of cement persists. The Committee have no doubt that these measures would result in larger availability of cement to the public and would create a climate of confidence in them.

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50	3.70	The Committee are deeply concerned to note that there is a wide gap between the demand and availability of wagons to the cement industry which has resulted in substantial loss in production of cement.
	3.71	The Committee note that Government have taken the following measures in this regard: (i) a Control Room has been constituted in the Railway Board to keep a close watch on wagon supply position to cement factories; (ii) daily wagon quotas Railway-wise and factory-wise have been fixed; (iii) a Committee of Secretaries keeps a watch on monthly performance. The Committee hope that with the steps now taken by Government there will be greater availability of wagons to the cement industry and their day-to-day demands for wagons would be largely met. The Committee would like to be apprised of the improvements in the supply of wagons to the cement industry as a result of these measures.
51	3.72	The Committee also consider that specific provision for cement traffic should be made in the Railway plans, after assessing in advance the detailed requirements of the cement industry both for the movement of raw materials as well as finished goods so as to obviate transport bottlenecks in cement production. As the sources of supply of raw materials to each cement factory are well established and the distribution of the finished product is also well regulated, the Committee see no reason why it should not be possible for the Railways to regulate the supply of

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		wagons according to the actual requirements through suitable linkages.
		The Committee would like Government to learn from their past experience and make these detailed assessments for cement industry for the 5th Plan in consultation with the cement industry. The Committee have no doubt that while making this assessment, the production targets fixed for each cement factory during the 5th Plan and the increased requirements for the movement of raw materials and the finished product would be taken into account. It is also necessary that effective measures are taken to improve transhipment facilities so as to ensure that the movement of wagons is smooth and there are no battlenecks.
52	3.73	The Committee would like Government to keep a continuous watch on the position of supply of wagons to the cement industry to ensure that the production of cement at so time suffers due to non-availability of requirements of wagons by the factories.
53	3.79	The Committee note that at present most of the cement produced in the country is packed in jute bags. With the expected rise in production of cement from the present 15 million tonnes to about 28 million tonnes at the end of the Fifth Five Year Plan, the requirements of jute for the manufacture of jute bags for packing of cement, would rise from 2,50,000 tonnes (approximately) to 3,00,000 tonnes (approximately). The Committee further note that the cost of packing is about 25 per cent of the ex-factory price of cement. Thus the problem of packing has assumed great importance in view of the high cost and the tight position of jute bags and the increasing needs of cement industry.

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54	3.80	The Committee note that in several advanced countries, bulk supply of cement is resorted to, on a very large scale which has many advantages. The Committee, therefore, consider that keeping in view the foreign exchange earning potentiality of jute and the high cost of packing cement in jute bags, it is imperative that effective measures are taken by Government and the cement industry to ensure that as much quantity of cement as possible, is supplied to the large consumers in bulk.
	3.81	The Committee note that the main impediment in resorting to bulk transportation has been the non-availability of self-unloading wagons or truck mounted carriers. They note that two truck mounted carriers have been recently developed and manufactured in the country. The Committee would like Government to evaluate the performance of the bulk carriers and to effect improvement in the light of experience gained with a view to economising on packing minimising wastage in transportation and preventing deterioration in quality etc.
55	3.85	While the Committee agree that loading and movement in block rakes is advantageous for the Railways in the interest of quicker turnround of wagons and consequential improvement in their availability, they however feel that the problem of each industry should be fully considered before insisting on loading in block rakes. It has to be examined whether movement in block rakes is conducive to the efficient distribution of the commodity. The Committee would, therefore, like that the matter should be reviewed in detail in full consultation with the cement indus-

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		try. The Committee feel that there should be advance planning for an integrated and well co-ordinated movement of cement. It is also necessary to ensure that this arrangement leads to efficient distribution of cement and the interest of the consumer does not suffer.
56	3.92	The Committee note that 24 cement dumps have been set up at various places in the country. The Committee consider this as a step in the right direction as cement can be moved to these dumps in block rakes during lean periods of construction activity and slack season of Rail transport.
	3.93	The Committee would, however, like Government to make an assessment of the working of the cement dumps to see whether the creation of dumps has resulted in avoidance of wastage, pilferage, adulteration and economy in the cost involved. Based on such assessment, Government should give all encouragement for the creation of more dumps in the country, if such an arrangement is found to be economical. The Committee would, however, like to emphasize that sufficient stocks of cement should be kept in difficult and in accessible areas to meet their demands.
57	3.97	The Committee note that considerable quantity of cement is at present moved by road due *inter alia* to non-availability of railway wagons. They further note that the expenditure on road movement is reimbursed subject to certain conditions. The Committee cannot overemphasise the need for a well co-ordinated plan of movement of cement with a view to ensure that cement stocks do not pile up at the factories thereby affecting production and dislocating the distribution system. Since marketing zones of these cement factories are pre-determined, the

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		Committee see no reason why it should not be possible to have a most rational plan for movement of cement by rail or road in the interest of meeting speedily the requirements of consumers. The Committee suggest that Government may consider the advisability of having a standing arrangement as existing for movement of POL where the industry as well as the Ministries of Railways and Industrial Development and all others concerned would be represented to approve every month the programme of movement. The Committee need hardly point out that this would ensure not only that the bulk of the cement is moved by rail which is obviously more economical but would also ensure that the heavy investments which have been made in this national enterprise to meet the plan requirements are put to fuller use. The Committee, however, should not be understood to be in any way against movement by road but what they have in mind is that there should be a rational plan of movement in the best public interest as expenditure incurred on freight is to be met from the freight pool.
58	3.98	The Committee also like Government to review the position regarding reimbursement of expenditure on road movement of cement with a view to see what further liberalisation in reimbursement of expenses on road transport, is necessary in the interest of smooth and quicker movement of cement to the consuming centres and removal of transport botlenecks in maximising production of cement in the factories.
59	3.107	The Committee note that Government are considering to reorganise the marketing zone of each cement factory in such a manner that the average tonne kilometre lead is brought down from the existing level of 600 kilometre to 450 kilometre and that a meeting of All India Cement

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		Producers was held for this purpose in May, 1973. Another meeting of the Cement producers was to be held in December, 1973 to finalise this matter but it has not yet taken place. The Committee deplore the delay in finalising the re-organisation of marketing zones of each factory. They are unable to appreciate why these zones were not re-organised and rationalised—earlier as re-organisation would obviously result in reduction in the lead kilometre, better turn-round of wagons, less transportation costs and quicker movement of cement to the consuming centres. The Committee recommend that effective measures should be taken by Government immediately to finalise the re-organization and rationalisation of the marketing zones of each factory. It should, however, be ensured that the supply of cement to deficit areas is not adversely affected as a result of this-re-organisation.
60	3.108	The Committee further recommend that advance linkage of the production of cement factories during the Fifth Plan period with their marketing zones, should be made, with a view to reduce the lead distance to the extent possible so as to economise not only on transport costs but also to relieve transport capacity for movement of other essential goods. The Committee would also like that the position is reviewed at periodical intervals in order to ensure that all cross movements are avoided.
61	4.21	The Committee note that the proved reserves of limestone are more than adequate to cater to the requirements of the cement industry for the present. As limestone is an important raw material for the steel and cement industries and their requirements are bound to increase considerably in the future, it is imperative that the reserves of limestone in the country

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		are assessed at an early date. It is essential that a coordiated programme of survey, investigation and exploratory drilling for limestone deposits is drawn up and implemented early. The Committee, therefore recommend that a comprehensive plan should be formulated to undertake these surveys, systematically to meet the short term and long term needs of the various industries in the country and completed within a time bound programme.
62	4.22	The Committee note that the Geological Survey of India has prepared a number of exploration programmes for limestone deposits in Northern and Eastern zones which are deficit areas so far as cement is concerned. The Committee would like to stress the urgent need for proper and fuller investigation of cement grade limestone in deficit areas so that cement plants could be set up in these areas near the consuming centres. They would therefore recommend that the requisite investigation by the Geological Survey of India on a priority basis and completed according to a time bound programme.
63	4.23	The Committee further note that one of the important functions of the Cement Corporation of India was to survey, prospect and prove cement grade limestone in the country. The Corporation set up a Limestone Investigation Division for this purpose but it was closed down in 1969 as it had already proved a total reserve of 1017 million tonnes of cement grade limestone in the various parts of the country which were far in excess of its own requirements during the Fourth Plan period and as the request of the Corporation to treat the expenditure on such investigations, as outright grant or as developmental expenditure was not agreed to by Government. The Committee feel that Government

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		should have ensured that a suitable way was devised to see that the useful work of the Limestone Investigation Division was continued in the larger interests of development of the industry on a long range basis. Not only a valuable period of five years has been lost which could have been utilised for conducting further surveys and proving more reserves but the expertise and organisation built up for this purpose, may have been dissipated during this period and would have to be rebuilt. Now that the Limestone Investigation Division is being revived, the Committee trust that it will be provided with necessary resources to enable it to effectively perform its functions of limestone investigation throughout the country, particularly, in deficit areas.
64	4.24	The Committee note that the work relating to survey, prospecting and proving of limestone deposits for the cement industry as a whole is at present done by the Geological Survey of India, Indian Bureau of Mines, the Minerals Exploration Corporation, the Cement Corporation of India and the Department of Mines and Geology in the State Governments. Coordination between these organisations is stated to have been effected through the meetings of Mineral Advisory Board and the Central and State Geological Programming Boards. It is thus evident that there is no single organised agency which could specifically undertake this work. The Committee regret to note that the existing arrangements in this regard are not satisfactory. They would like Government to have a well coordinated programme to assess and locate the available limestone deposits in the country expeditiously in a planned manner, more particularly in the deficit areas, in the Northern and Eastern States, to facilitate the location of cement plants there.

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65	4.25	The Committee would like that information regarding the proved deposits of cement grade limestone in different parts of the country should be compiled and published widely with due expedition, so as to encourage the new entrepreneurs to set up cement plants.
66	4.39	The Committee note that Northern and Eastern Zones are deficit in Cement production. They also note that 15 schemes for Northern Zone and 10 schemes in Eastern Zone for putting up cement plants have already been approved. The Committee would like Government to monitor the progress of these projects so that these projects come up according to the scheduled programme and the target dates for their commissioning and going into production are strictly adhered to.
67	4.40	The Committee need hardly emphasise the advantages flowing from having cement plants near all major consuming centres. The Committee are also aware that cement industry is mine based and location of cement plants has to depend largely on the availability of the basic raw material—limestone. The Committee have already urged that the mineral surveys to locate cement grade limestone and low grade limestone should be undertaken in the deficit areas on a priority basis. The Committee note that low grade limestone can be used for production of cement by adopting proper beneficiation process. The Committee have no doubt after examining the economics of the projects, Government would extend necessary facilities and assistance to encourage utilisation of low grade limestone available in deficit areas, for the manufacture of cement, so as to reduce long haulages and transport costs on cement.

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68	4.41	The Committee note that the question of giving incentives for increasing cement production in the deficit areas, is one of the terms of reference to the Tariff Commission. While urging the Tariff Commission to expedite its Report the Committee would like Government to process their recommendations expeditiously in the interest of encouraging the setting up of cement plants, particularly in deficit areas.
69	4.47	The Committee are happy to note that Government have already approved four schemes for split location of cement plants and two more are under consideration. The Committee have no doubt that Government would give due encouragement for split location of cement plants, particularly near the consuming centres in the deficit areas.
70	5.19	The Committee note that there are seven cement machinery manufacturers in the country, having a capacity of 17 standard cement plants of 600|1000 tonnes|day, per annum which would be adequate for meeting the requirements of cement plants for the Fifth Five Year Plan period. They further note that all these manufacturers are tied up with well-known foreign manufacturers of West Germany, Denmark, U.S.A., Japan, France and Czechoslovakia. The Committee note that these manufacturers have not so far fully assimilated the know-how and still depend on foreign collaboration in some critical areas and need extension of their collaboration agreements for further period. The Committee are concerned to note that although the cement industry in the country is quite old, the cement machinery manufacturers have still to depend on foreign know-how in some critical areas. It is well known that apart from the outgo of foreign exchange in foreign collaborations, the lack of complete know-how hinders the

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		optimum utilisation of existing installed capacity in the country.
71	5.20	The Committee have no doubt that if it is found that extension of collaboration agreement is absolutely essential in public interest then it should be for the minimum period and that full use should be made of this opportunity to ensure that latest know-how for these critical items is made available. The Committee would also urge that the research institutions sroould be asked to intensify their work in these critical areas so as to achieve self-reliance at the earliest. The Committee would also like Government to examine the feasibility of promoting the idea of the consortium amongst the cement machinery manufacturers in the interest of setting up of the new units within the country and of promoting exports to other developing countries.
72	5.27	The Committee note that there are long delays by the Heavy Enginering Corporation and the Heavy Electrical Ltd., in the delivery of heavy castings and heavy duty motors, required by the cement machinery manufactures. The delay in the supply of these items has resulted in consequential delays in the commissioning of cement plants. The Committee would like Government to take concerted measures to see that delivery schedules, quoted by the HEC and HEL for supply of heavy castings and heavy duty motors, are reasonable and that they are adhared to, so that there are no delays in the creation of new capacity for cement production in the country during the Fifth Plan.
73	5.28	The Committee further suggest that the progress in the commissioning of cement plants should be closely monitored by Government and through coordinated efforts, it should be ensured that there are no bottlenecks in their timely commissioning.

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74	5.29	The Committee also note that Government recently allowed import of certain critical items for cement industry which are indigenously available but hampered progress because of delays in their delivery. They further note that Government are trying to make a provision of foreign exchange element of 7 per cent for cement industry during the Fifth Plan so that the industry may not suffer for want of indigenous availability of certain items. The Committe would like Government to identify the critical items required to be imported, after making a realistic assessment of the indigenous availability of the various parts required for cement plants, and make necessary foreign exchange available for the import of those items so that the progress of installation of the cement plants is not adversely affected on that account.
75	5.41	The Committee note that the unit capacity in Indian cement industry at present ranges from 60 tones to 1000 tonnes per day. The existing trend in other countries is for unit capacity of 1500 tonnes per day and more in one line. In some countries, it is as large as 3000—4000 tonnes. It is well known that there are obvious advantages of economy of scales in larger capacities, not only in terms of capital costs but in production costs as well. It is, therefore, necessary to go in for bigger size cement plants in the country. The Committee would, therefore, like Government to examine the feasibility of introducing bigger size plants in the country to be in tune with world trends.
76	5.42	The note that the work of standardisation of cement machinery has been entrusted to a Committee which was set up for this purpose in March, 1973. While the Committee regret the delay in taking up the question of standardisation of cement machinery by Government so late, they would urge Government to ensure the

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		expeditions submission of the report on standardisation by the Committee and early decision on its implementation in the interest of economic and efficient production.
77	5.43	The Committee note that the existing cement manufacturing capacity in the country could develop a comfortable surplus if the cement machinery manufacturers are diverted to the production of bigger size plants of 1000—2000 tonnes per day for which facilities are stated to be available. The Committee hope that by bringing about standardisation of cement plants and production of larger size plants in the country the cement machinery manufacturers would not only meet the requirements of plants by the cement industry in the country but would also be able to export cement plants to foreign countries and earn much-needed foreign exchange.
78	6.14	The Committee regret to note that the annual expenditure on R & D by the cement companies during 1969-70 was of the order of 0.2 per cent of turn-over and that this is less than half the Gross National Expenditure on R & D in India of 0.48 per cent. The Committee further note that this is very small compared to annual expenditure on R & D in many other countries, such as USSR, USA, UK and Japan.
	6.15	The Committee need hardly emphasize the need for a strong R & D base for cement industry to meet the many challenging problems faced by the industry and to keep pace with the latest developments and, therefore, recommend that greater attention should be paid in strengthening the existing R & D facilities in the cement units.
79	6.16	The Committee note that with the setting up of the Cement Research Institute, a beginning has been made for a strong centralised R & D

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		base. The Committee trust that this Institute would endeavour to meet the needs of research in various aspects of cement technology and both Government and the Cement industry would do their best in strengthning the Institute both in terms of providing finance and equipment.
80	6.17	The Committee would like to stress that in view of the limited resources available for research in our country care should be taken to identify the areas of research which need immediate attention and thereafter proper priorties should be drawn up. It is also essential that research is undertaken under time-bound progrommes, with the cost of research estimated before hand. The Committee would urge that these programmes should be periodically reviewed to essess the results of the research work done and whether the results were commensurate with the time, energy and resources utilised.
81	6.18	The Committee hope that since the areas of research so far as cement industry is concerned can easily be identified the Cement Research Institute would undertake research in those areas to bring about the necessary technological solutions.
82	6.23	The Committee note the requirement of jute bags for packing cement would be almost 3,00,000 tonnes at the end of Fifth Plan period. They also note that cost of packing accounts for 25 per cent of the ex-factory price of cement. The Committe need hardly stress that the research on alternative cheaper packing material has assumed greater urgency, more so, because of the need for higher exports of jute products to earn foreign exchange. The Committee would urge that vigorous efforts should be made

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		by the Cement Research Institute to develop cheap packing material, for supplies of cement to small consumers.
83	6.32	The Committee note that each cement unit has a laboratory attached to it to ensure quality control at various stages of manufacture of cement. At the same time, there are complaints by the consumers regarding adulteration of cement. It is threfore necesary to ensure that the cement supplied to the consumer is of the requisite quality. The Committee would urge Government to take suitable measures for quality check of the cement supplied to the consumers and encourage the setting up of testing laboratories at various important consuming centres of the country so that test samples can be checked quickly.
84	6.33	The Committee would stress the need to give deterrent punishment to persons responsible for adulteration.

APPENDIX XIV

(*Vide* para 7 of Introduction)

Analysis of Recommendations/Conclusions contained in the Report

CLASSIFICATION OF RECOMMENDATIONS

A. Recommendations effecting economy: Nil

B. Recommendations for improving organisation and working:

Sr. Nos. 1-2, 5—22, 24—27, 29—33, 35—69 and 71—84.

C. Miscellaneous Recommendations:

Sr. Nos. 3, 4, 23, 28, 34 and 70.

MGIPND—LS II—425 LS—8-6-74—1100.

PUBLISHED UNDER RULE 382 OF THE RULES OF PROCEDURE AND CONDUCT OF BUSINESS IN LOK SABHA (FIFTH EDITION) AND PRINTED BY THE MANAGER, GOVERNMENT OF INDIA PRESS, MINTO ROAD, NEW DELHI.