

# PRICING OF URBAN WATER SUPPLY SCHEMES

WATER SUPPLY & SANITATION COLLABORATIVE COUNCIL  
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## PRICING OF URBAN WATER SUPPLY SCHEMES

### I Introduction :-

With the rapid urbanisation in the Country in the recent years, the demand for water supply and other services has increased many-fold. The augmentation of the facilities in this regard, however, could not keep upto the required pace. The launching of Water Supply Development Decade Programme 1981-90 is a landmark event. It has given new impetus and helped to promote a wider appreciation of the growth needs of water supply sectors. The major hurdle is the inadequate flow of capital funds for the sector. The percentage share of investment of urban water supply of the Country was 1.77% during the Fourth Five Year Plan, and decreased to 1.40% in Fifth Plan and again marginally increased to 1.81% and 1.65% in Sixth and Seventh Plans respectively. The corresponding figures of Maharashtra are -

a) Fifth FYP	4.36%
b) Sixth FYP	6.06%
c) Seventh FYP	9.37%

### II. Present Policy of Financing Water Supply Schemes :-

Eventhough provisions are made for water supply schemes in the Govt. budget, it is necessary to take into account the various other sources [including plan and non-plan] for financing the water supply systems. An understanding of the present financing of the project is very essential to arrive at the policy of pricing of the systems.

As per the Maharashtra Municipal Act, 1965 the responsibility of adequate supply of water is vested with the Municipal authorities. Since the local bodies are not in a position to undertake the high

expensive schemes of water supply, Govt. of Maharashtra is subsidising the cost of the schemes by way of grant in aid. The other sources of financing the schemes are loans from [i] Life Insurance Corporation [LIC], [ii] Housing and Urban Development Corporation [HUDCO], [iii] Open Market Borrowings [OMB] by Maharashtra Water Supply and Sewerage Board and Municipal Corporations.

The present financing pattern of urban water supply systems is shown in Table No.I.

TABLE I

Class of Council/ Corporation	Grant-In-Aid by State Govt.	Loan from LIC & other sources	Popular Contribu- tion
Muni. Corporations. & A Class Municipal Towns [population more than 75000]	23.33%	66.67%	10%
B Class Municipal Towns [ population more than 30000 to 75000 ]	40.00%	50.00%	10%
C Class Municipal Towns [ population 15000 to 30000 ]	50.00%	50.00%	NIL
C Class Municipal Towns [ population less than 15000 ]	100.00%	NIL	NIL
[ % relates to the cost of schemes ]			

No GIA is given by Government to Bombay Municipal Corporation.

To restrict the demands from all municipal councils and to create a sense of belonging and their participation, an element of 10% popular contribution has been maintained in the financial pattern for all councils except 'C' Class Councils [Adequate installments are allowed by Govt. to pay the popular contribution].

### III. Loans for Water Supply Schemes :-

As the grant-in-aid is limited, LIC has shouldered the major responsibility of financing the water supply systems. However, it is important to note that LIC does not finance the full requirement of the loan component. The financing is on the sliding scale which is indicated in Table No. II.

TABLE II

Estimated cost of the scheme		Loan from LIC.
Upto Rs.	10 million	66.67%
Next Rs.	10 million	50.00%
Next Rs.	30 million	40.00%
Beyond Rs.	50 million	25.00%

From the pattern of financing of the schemes of LIC, it could be seen that LIC prefers to finance schemes of moderate costs by extending a greater share of the cost of the schemes. Thus if the scheme is estimated to cost Rs. 50 million, LIC will finance the scheme as follows:-

1) For the first 10 million	-	Rs. 6.67 million
2) For the next 10 million	-	Rs. 5.00 million
3) For the balance 30 million	-	Rs.12.00 million
TOTAL		-
		Rs.23.67 million

Thus the % of loan component from LIC for a scheme costing Rs. 50 million works out to 47.35%. The Table No.III indicates the availability of LIC loans for the schemes with estimated cost from Rs.50.00 million to Rs.800.00 million. [The estimated cost of augmentation of water supply scheme of Solapur Municipal Corporation is about Rs.750.00 million]



TABLE III

Estimated cost of the scheme	Eligibility of LIC loan amount	% with reference to estimated cost
Rs. 50.00 million	Rs. 23.7 million	47.35%
Rs.100.00 million	Rs. 36.2 million	36.20%
Rs.200.00 million	Rs. 61.2 million	30.60%
Rs.300.00 million	Rs. 86.2 million	28.73%
Rs.400.00 million	Rs.111.2 million	27.80%
Rs.500.00 million	Rs.136.2 million	27.24%
Rs.600.00 million	Rs.161.2 million	26.86%
Rs.700.00 million	Rs.186.2 million	26.60%
Rs.800.00 million	Rs.211.2 million	26.40%

Thus it will be seen that the LIC loan has a limited role to play and LIC is not taking up the complete responsibility of financing the entire loan portion. For schemes costing Rs.300 million, the loan component shared is only 28.70% and the balance loan component i.e.  $66.67 - 28.70 = 37.97\%$  has to be met out from the open market borrowings.

LIC, as a special case, is rendering the finance from non-plan loan, where the financing is limited to 50% cost of the scheme. However, for such schemes plan loan is not eligible.

For schemes costing more than Rs.100.00 million, prior technical approval of Govt. of India is essential. For schemes estimated to cost more than Rs.50 million, LIC does not finance cost over runs. The price escalation component, if included in the scheme, is taken into account while granting the loan. LIC examines each scheme proposal & the loan is granted for specific schemewise in installments depending upon the progress of work, and taking into

account the matching provisions made by Government for Grant-In-Aid component.

LIC loans are not released directly to Municipal Councils but the loan is released to the respective State Boards, for spending on the execution of the specific schemes.

LIC does not finance the water supply and sewage disposal schemes if the same are to be executed by the municipal councils/corporations. LIC insists on execution of schemes by State Boards.

#### IV. Loans from Open Market Borrowings :-

To meet the deficit of the loan component, Maharashtra Water Supply and Sewerage Board is permitted by Govt. to raise the loans from open market borrowings in the form of bonds. This loan is guaranteed by Government and this loan also forms a part of the annual plan of Government of Maharashtra. The loan is raised with the permission of the Reserve Bank of India. The distribution of loan to the individual scheme depending upon the availability of LIC loan is decided by MWSSB.

#### V. Loans from Housing and Urban Development Corporation [HUDCO], New Delhi.

HUDCO has started financing to the water supply schemes. Each scheme to be financed is examined critically by HUDCO from both technical point of view and also from financial repayment point of view. This loan is outside the plan of the State Govt.

As per the present policy of HUDCO, the financing is limited to 70% of the cost of the scheme with the ceiling limits of Rs. 50 million for towns with population of half million, and Rs. 100

million for towns with population from half million to one million and Rs.200 million for population of towns from one to one and half million.

For special projects for which HUDCO is obtaining assistance from external Govt. [e.g. Japan], such limit on amount of financing the loan is not applicable. But the other terms, like rate of interest, repayment period, etc. remain the same for all loans financed by HUDCO.

**VI. Loans from World Bank :-**

World Bank renders assistance to Government of India for financing the water supply and sanitation schemes. However, such scheme is to be posed to the World Bank through the Govt. of India, and adequate plan provision in the State plan for Grant-In-Aid and also for the loan has to be assured. Even though this is a soft loan, the advantage mainly goes to Govt. of India, and for the municipal councils, it is treated as a Govt. loan purely on the lines of LIC particularly for rate of interest and repayment schedule.

**VII. Loans from State Government :-**

As stated above, the loan from World Bank to water supply and sanitation schemes is treated as loan from Government which is accounted for on the same terms and conditions as those of LIC prevailing during that year.

**VIII. Non-Plan Loan from Government of Maharashtra :-**

To assist the 'C' Class municipal councils in repayment of LIC loan, for the first five years, loan is given to the 'C' Class municipal council by State for the exact amount of installment of interest and capital as per the repayment schedule of L.I.C. For

'C' Class municipal councils with population of less than 15,000 [as per the 1971 census] the complete responsibility of repayment of LIC loan is taken by Government. [Presently, these schemes are financed with 100% Grant-In-Aid from Government of Maharashtra]

For 'C' Class municipal councils with population of more than 15,000 for the first five years from the drawal of LIC loan, the State Government sanctions the amount for the repayment of LIC loan with interest in full.

After completion of five years the municipal council has to pay each year only 50% of the LIC dues and 50% will be released by the State Government as Government loans for repayment to LIC.

The loan rendered by Government will be recovered from the municipal councils with effect from 20th year of drawal of LIC loan and the repayment will be completed in subsequent twenty years. [Ref Government (UD&PH) GR No. LON-1076/287/UD-22-5 dated 19th Sept., 1978]

As the L.I.C. loan is raised by MWSSB on behalf of municipal schemes, the respective amount of repayment thereof is released by Govt. to the MWSSB and the repayment to LIC is made by MWSSB.

**IX. Guarantee of Loans from Government. :-**

The financial institutions insist that loans to be given to the State Boards have to be guaranteed by the respective State Govt.

In Maharashtra State, Government charges 1% guarantee fee to be paid each year on the outstanding balance of the loans.

**X. Rate of Interest and Method of Repayment :-**

The various types of loans with their conditions of financing,

rate of interest & moratorium period is summarised in the table No.IV below.

TABLE IV

Name of Financing Institute	Limit of finance in relation to cost of the scheme	Moratorium period	Rate of interest including govt. Guarantee fee of 1% & service charges if any.	Total Repayment period.	Remarks
1.	2.	3.	4.	5.	6.
L.I.C.	66.67% to 26.4% as per Table II & III	Three years	13%	25 years including moratorium [i.e. 22 yrs in equal annual installments]	Interest to be paid six monthly on the outstanding balance loan.
L.I.C. [Non-plan]	50%	Three years	15% for the first two years and 16% for the remaining	25 years including moratorium period [i.e. 22 yrs in equal annual installments]	Interest to be paid quarterly on outstanding balance.
HUDCO	70% cost of the scheme or maximum Rs. 50 million for population upto half million and maximum upto 100 million for population upto 1 million and upto Rs.200 million for population upto 2 million.	Three years as construction period	14%	15 years including moratorium period of 3 yrs for construction [i.e. in 12 years in equal annual installments.]	Interest to be paid quarterly

1.	2.	3.	4.	5.	6.
Open Market Borrowing	No specific limit. Mainly treated as a gap loan	Three years	14%	20 years including 3 years moratorium	Interest on the total amount of loan to be paid six monthly and full capital to be repaid at end of the loan period [i.e. 20 yrs]
World Bank	40 to 50% of the cost.	Other terms same as LIC, since the repayment is to be made by Muni. Council to Govt. and not to World Bank.			
Govt. Loan	Available to only 'C' class municipal councils limited to LIC repayment amount including interest. For first five years to full cost and for remaining 20 years, 50% of the repayment instalments of LIC including interest. The repayment of Govt. loan starts from 20th year of drawal of LIC loan and will be completed in subsequent twenty years.				

#### XI. Impact on Cost of Water :-

The expenditure on the running of water works is classified in two heads.

##### a) Direct Charges

These include the energy charges to be paid to Electricity Board [MSEB] for running of pumps etc., the establishment charges of the staff employed on the scheme, the maintenance and repairs charges on the various components of the schemes, the charges for the various chemicals used such as Alum, Chlorine etc. On an average, the energy charges work out to about 50 to 75% of the direct charges.

##### b) Indirect Charges

The indirect charges mainly consist of repayment of various loans and interests, the depreciation for the scheme, the rate of return on the total investment etc.

It is a fact that the depreciation account is not maintained by the various municipal councils and corporations, and they again approach Government for assistance under the name of improvement/ augmentation of the schemes etc. Further the rate of return of 4 to 6% on the investment which the World Bank recommends is hardly earned and separately reserved by the municipal councils.

It is specifically to point out that the indirect charges make the schemes inviable and therefore a serious consideration has to be given as to how this burden can be reduced to make the water supply schemes viable and self-supporting.

#### XII. Case Studies :-

To know the impact of direct and indirect charges on the pricing of water supply systems, the examples of few water supply schemes have been analysed in detail. These are schemes administratively approved by Government of Maharashtra and the responsibility of maintenance of the schemes including repayment of loan has been accepted by the respective municipal councils. These schemes have been executed by Maharashtra Water Supply and Sewerage Board.

#### [A] Dhule Water Supply Scheme :-

Dhule is 'A' class municipal town. The water supply scheme is estimated to cost Rs. 440 million and the scheme is in the advance stage of construction. Water supply is expected to be commissioned in April, 1993.

#### [B] Water Demand :-

The domestic water supply demand for the year 1993 has been worked out to 36.00 MLD and the same is expected to reach to 81.00 MLD in 2016 while the industrial demand expected is 2.00 MLD in 1993, and 20 MLD in 2016.

The town has an existing water supply scheme which yield 23 MLD. The statement showing the expected prospective population and the total expected demand for water supply is shown in Statement No.I.

[C] Source

The new scheme envisages of the source of water as Tapi river which is at a distance of 40.90 km [referred as 40 km in all references] from the town. The water is pumped by 2500 HP [working horse powers] raw water and 2000 HP [working horse powers] pure water pumps through mild steel rising mains of 1000 mm dia.

[D] Financial Pattern of the Scheme :-

Total estimated cost	Rs.440.00 million.
[a] 10% share to be borne by the municipal council from its own income [Popular Contribution]	Rs. 44.00 million
[b] Grant-In-Aid from Govt. at 23.33%	Rs.102.65 million
[c] Loan from LIC Non-plan.	Rs.192.00 million
[d] Loan from O.M.B.	Rs.101.35 million

Because of inadequate flow in the Tapi River, a proposal to build a weir at Sulwade [i.e. near the drawal point] is under the consideration of Government. The estimated cost is about Rs. 40 million, but Dhule Municipal Council has not accepted the financial responsibility of the project of construction of weir and hence this cost has not been considered in the present study.

[E] Operational Charges [Direct charges] :-

The operational charges which include the energy charges, establishment charges, charges for raw water to be paid to the



Irrigation Deptt., charges for chemicals etc. have been worked out for each year right from the year 1993 to 2016 vide Statement No.II.

It will be seen from the statement that the total direct charges work out to Rs.15.52 million in the year 1993 and Rs.68.79 million in the year 2016.

The production rate of water considering the only direct charges works out to Rs.2.83 per 1000 liters in the year 1993 and Rs.2.41 per 1000 liters in the year 2014. This is because as the demand increase the overhead charges tend to reduce.

The energy charges are about 70% to 82.5% of the total direct charges.

[F] Indirect Charges :-

The indirect charges [as worked out in Statement III consist of mainly -

a) Interest on LIC loan -

The interest on LIC plan loan, is to be paid on 1st June and 1st December every year. This interest is to be paid on the outstanding loan amount. Since non-plan loan has been given by LIC to this scheme, the interest is to be paid quarterly. The interest in the year 1993 to be paid to LIC is Rs.33.70 million.

b) Interest charges on OMB Loan -

The interest on OMB loan is to be paid every six monthly from the date of drawal of loan [Normally in March and September]. Since the loan [capital] is repaid after 19 years, the interest charges remain constant i.e. [Rs.17.79 million/year] throughout 19 years.

c) Repayment of principal of LIC Loan -

The LIC loan is to be repaid in 22 years equal installments after the moratorium period of 3 years. The repayment starts from the year 1993 and will continue upto the year 2014. The amount to be paid to LIC each year for 1993 to 2014 is constant i.e. Rs.10.94 million.

d) Repayment of OMB Loan -

The repayment of OMB loan is to be made at the end of 19 years from the date of drawal of the loan. This is done by creating a sinking fund at the interest rate of 14% for a period of 19 years. For this purpose, an amount of Rs.1.98 million is to be deposited in the sinking fund account every year for the period of 19 years which earns 14% interest on amount deposited in the bank.

[G] Effect of Indirect Charges on Production Rate. :-

The Statement No. III indicates the details of production of water as per the demand each year from 1993, and the details of payments to be made each year of interest on LIC, installment of repayment of LIC loan, interest on OMB, and the sinking fund investment to be made for repayment of OMB loan.

THE PRODUCTION RATE OF WATER CONSIDERING ONLY THE INDIRECT CHARGES WORKS OUT TO RS.11.73 PER 1000 LITERS IN THE YEAR 1993 WHICH DIMINISHES TO RS.0.64 IN THE YEAR 2012 WHEN THE REPAYMENT OF OMB LOAN WOULD BE OVER AND FURTHER THE LOAN LIABILITY OF L.I.C LOAN WOULD BE OVER BY THE YEAR 2014 AND THE IMPACT OF LOAN ON THE PRODUCTION RATE ENDS AFTER THE REPAYMENT OF LIC LOAN.

The statement also shows the impact of LIC loan and OMB loan on the production rate.

[H] Present Price Levels in Major Towns :-

The table below shows the present pricing of water supply schemes in important towns.

TABLE V

Sr. No.	Name of Town	Rate per 1000 lits. for Domestic use [in Rs.]	Rate per 1000 lits. for non-Domestic use [in Rs.]	REMARKS
1.	2.	3.	4.	5.
1.	Bombay	0.60 to 1.00	6.00 to 10.00	
2.	Pune	1.30	6.00	
3.	MWSSB Water Works ) Aurangabad ) Akola ) Chandrapur ) Amravati ) Yeotmal ) Satara )	2.10	10.20	MWSSB charges uniform rates for towns [pooled rate concept]
4.	MWSS Board Water Works CIDCO Area. [NSPT Water Works]	4.00	4.00	* * MWSSB maintains separate account for NSPT Water works. There is no non-domestic supply directly by MWSSB.
5.	Thane MC	0.90	6.50	
6.	Nasik MC	1.00	4.00	
7.	Solapur MC	0.60 to 0.85	1.80	
8.	Aurangabad M.C.	1.15	4.00	
9.	Nagpur MC	2.00	12.00	

The above figures have been specifically indicated so as to have a proper comparison of the pricing arrived for the new scheme Viz. Dhule Water Supply Scheme.

[II] Analysis of Indirect charges :-

Statement No. III specifies the details of the loan impact on the cost of production. It will be seen from the statement that the rate per 1000 liters due to OMB loan and interest is only 3.60 per 1000 liters and as the water consumption starts increasing, it reduces to Rs.1.66 per 1000 liters in the year 1998 and by the year 2012, the impact is zero since the complete OMB loan is repaid.

For LIC loan, the installment for repayment of principal is a fixed one i.e. Rs.10.94 million, but, the interest to be paid in the year 1993, is Rs.33.7 million which diminishes to Rs.26 million in the year 1998 and by the year 2015 it reduces to zero, since complete repayment of LIC loan would be over.

The water rates due to impact of LIC loans only works out to Rs.8.13 per 1000 liters in the year 1993, reduces to Rs.3.11 per 1000 liters in the year 1998 and to Rs.0.64 in the year 2012.

The Statement No. IV indicates the production rate of water year wise considering the direct and indirect charges. It will be seen from this statement that the total production rate in the year 1993 works out Rs.14.56 per 1000 liters, which reduces to Rs.7.33 per 1000 liters in 1998 and then reduces to Rs.4.00 per 1000 liters in the year 2011, Table No. VI below abstracts the production rate at different stages of operation of the scheme.

TABLE VI

Rate in Rs. per 1000 lits.

YEAR	Production rate due to indirect charges	Production rate due to direct charges	Final Production rate
1993	11.73	2.83	14.56
1998	4.78	2.56	7.33
2003	3.09	2.50	5.59
2008	2.08	2.46	4.54
2013	0.56	2.43	2.99
2016	0.00	2.41	2.41

[J] Present Taxation Level and Proposal of Taxation for water supply

The present rate of taxation of Dhule Municipal Council is approximately Rs.0.50 per 1000 liters for domestic use and Rs.4 per 1000 liters for non-domestic use. It is impracticable to increase the water rate to Rs.14.56 per 1000 liters in the year 1993. Moreover, if this level of taxation is maintained for 15 years or so, there will be too much of surplus which is useful only for academic discussions since the Dhule municipal council will not levy the water charges of Rs.14.56 per 1000 liters. The main difficulty is to generate resources in the first 7-8 years to enable to make the repayment of loans and payment of interest in time.

Various trials have been taken on computer for the domestic rate of Rs.3.00 and to Rs.4, Rs.5 or Rs.6, per 1000 liters. The non domestic rate has been assumed as four times the industrial rate.

[Statement V to Statement No. VIII]

It will be seen from the statements that the scheme starts

yielding surplus revenue by the year 2007 for the domestic water rate of Rs.3 per 1000 liters and in the year 2001 with the rate of Rs.4 per 1000 liters and in the year 1999 with the rate of Rs.5 per 1000 liters and so on as indicated in Table No. VII.

TABLE VII

Water Rate to be charged per 1000 ltrs.		Year-wise deficit or losses in million of Rupees.							
		1993	1994	1995	1996	1997	1998	1999	2000
Dome- stic Rs.	Non- Dome- stic. Rs.								
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
3.00	12.00	56.90	54.99	53.07	51.41	38.86	35.07	33.30	31.32
4.00	16.00	49.22	46.77	44.34	42.13	24.67	17.71	15.31	12.22
5.00	20.00	41.54	38.56	35.58	32.85	10.48	0.35	-	-
6.00	24.00	33.85	30.34	26.84	23.58	-	-	-	-

The losses with such high rates are so heavy that the municipality will never be able to come out of its debt position which ultimately results in non payment of installments and interest of the various loans.

**XIII. Restructuring of the financial arrangements. :-**

With the above analysis, one has to come to the positive conclusion that the level of taxation proposed to make the scheme self-supporting right from the year of commissioning is practically impossible. However, the scheme can become viable if some assistance is rendered for the first 10 to 15 years or so. Therefore, the thinking has to be diverted as to, in what form this assistance can be rendered.

XIV. Alternatives of rendering assistance to Municipal Councils for the first 15 years.

(a) No subsidy for direct charges. :-

Before discussing this issue further, one should have a firm view that for direct charges there should not be any subsidy from Government including that for energy charges. Further there is an indirect subsidy of Dearness Allowance of grants to the staff employed by the Municipal Councils against the sanctioned posts. This has not been accounted for since it has a very marginal bearing on the cost of production.

(b) Grant-In-Aid for capital works :-

The present policy of Grant-In-Aid to be given by the State Govt. has been detailed out in Table No. I [Page 2]. It is interesting to note that the grant-in-aid has only a relation to the class of municipality. It does not take into account the financial position of the Municipal Councils or the cost of the scheme. For example, for Pimpri Chinchwad Municipal Corporation, which is known as the richest Corporation, the Grant-In-Aid is limited to 23.33% and the same percentage is applicable to Dhule Municipal Councils also the financial position of which is not so sound. It is experienced that outcome of pointing out such discrepancies results in reducing the Grant-In-Aid for financially sound municipal bodies such as Pimpri Chinchwad, but, it does not result in increasing the Grant-In-Aid portion to other deserving municipal councils.

(c) Source of Water Supply Scheme -

Because of the increase in the industrial activity, agricultural activity, no rivers and nallas in Maharashtra can be called as a dependable and perennial source of water. Every where the release of water has to be assured from the storage of Irrigation Dams.

In view of this, Irrigation Department is insisting for tapping the source directly from the dam. This has resulted in increasing the distance of pipe lines upto the town.

The Table No.VIII indicates the distance of sources from the towns in kilo-meters and pipe lines have to be laid from the source upto the towns for carrying the water. Recent shortage of water [i.e. Summer 1992] for towns of Nasik, Kopergaon, Yewala, have proved the necessity of laying direct pipelines from Dam. This is mainly required to avoid wastages of water in canal and also to control authorised and unauthorised lifting of water on way during releases of water particularly when done only for drinking purposes.

TABLE VIII

Sr. No.	Name of Town	Class of Municipal Council	Length of pipe line from source to town.	Approximate Cost in million
1.	2.	3.	4.	5.
1.	Solapur	Corporation	103 km	745.4
2.	Barshi-Kurduwadi	'B & C'	67 km	236.7
3.	Jalna	' A '	60 km	182.4
4.	Amravati	Corporation	55 km	780.0
5.	Aurangabad	Corporation	50 km	272.7
6.	Bhayandar	' B '	50 km	140.0
7.	Dhule	' A '	40 km	440.0
8.	Vasai-Virar [New Scheme]	'B & C'	40 km	1500.0
9.	Akola	' A '	34 km	310.0
10.	Sangola	'C-1'	33 km	45.8



(d) Co-relation of Grant in aid with reference to distance from the source

As per the present financing pattern of the water supply schemes pointed out earlier, the Grant-In-Aid to be given by the Government is related only to the class of municipal council. It has no relation to the cost of the scheme which increases considerably due to long lengths of the pipelines to be laid from the source of water.

For instance, for Pune water supply scheme, the source of water is Khadakwasala Canal which flows through the city only, the pipeline to be laid from the source is only few meters. The Grant-In-Aid for the water supply scheme based on the source in the town is 23.33% only, while the Grant-In-Aid for Solapur Municipal Corporation which has to bring water through a pipe line from a distance over 100 km [Ujani Dam] is also limited to 23.33% .

(e) Increase in the Grant-In-Aid Components with reference to the distance from the source.

To know the exact impact of distance from the source of water to the main distribution point in the town, the cost of Dhule water supply scheme was worked out for various distances. At present the actual distance is 40.9 km. [say 40 km]. The cost of the scheme has been worked out for the distance of 30 km, 20 km and 10 km. The reduction in cost is mainly due to the reduction in cost of the pipe line. The diameters of the pipe lines remain the same. There is an impact of reduction of frictional losses in the pipeline, but since this is marginal, has not been taken into account while working out the cost. The cost of other structures like intake works, Filtration plants, elevated service reservoirs etc., have no bearing on the distance of source. The Table No. IX below gives the various costs with reference to the source. The

proportional Grant-In-Aid and the loan component as admissible has also been indicated.

TABLE IX  
DHULE WATER SUPPLY SCHEME

[All figures rupees in million]

Sr. No.	Distance from source	Estimated cost	G.I.A.	L.I.C. non-plan loan	O.M.B. Loan	P.C.	REMARKS
1.	2.	3.	4.	5.	6.	7.	8.
1.	40.00 km	440.00	102.67	192.00	101.33	44.00	
2.	30.00 km	389.55	90.90	192.00	67.70	38.96	
3.	20.00 km	342.85	80.00	171.42	57.14	34.29	
4.	10.00 km	296.14	69.10	148.07	49.36	29.61	

If it is proposed to share the excess cost by Government, the amount to be shared by Govt. and % with reference to the cost of the scheme is detailed in Table No. X.

TABLE X

[All figures rupees in million]

Sr. No.	Distance from source	Total cost	Reduction in cost with ref. to sanctioned scheme	G.I.A. at 23.33% of estimated cost	Total amount to be shared by Govt.	% with ref. to the estimated cost of 40km scheme	REMARKS
1.	2.	3.	4.	5.	6.	7.	8.
1.	40 km	440.00	NIL	102.67	102.67	23.33%	
2.	30 km	389.55	50.45	90.90	141.34	32.12%	
3.	20 km	342.85	97.15	80.00	177.15	40.26%	
4.	10 km	296.14	143.86	69.10	212.96	48.40%	

XV Water Rates in relation to the distance from source. :\_

The Statement No.IX to XII indicate the various water rates due to direct and indirect charges with the pipeline length of 40km, 30 km, 20 km and 10 km.

XVI Analysis of the Rates :-

[a] Direct Charges :-

As stated above, since the horse powers of pumps are not much affected, the direct charges practically remain the same or in short the impact of expenditure on direct charges in relation to the length of the pipeline is negligible. The indirect charges indicate that production rate remain near about Rs. 2.83 in the year 1993 and Rs. 2.56 in the year 1998.

[b] Indirect Charges :-

The indirect charges for Dhule water supply scheme assuming the source at a distance of 30 km, 20 km, 10 km have been detailed out in Statement No. IX, X and XI.

The comparison of production rate due to indirect charges with the various alterations have been indicated in Table No. XI.

TABLE XI

Sr. No.	Distance from source	Production rate/1000 lts.due to Indirect charges.			
		Year 1993	Year 1998	Year 2003	Year 2008
1.	2.	3.	4.	5.	6.
1.	40 km	11.73	4.78	3.09	2.08
2.	30 km	10.54	4.22	2.67	1.75
3.	20 km	9.29	3.72	2.35	1.53
4.	10 km	8.02	3.21	2.03	1.32

It will be seen from the above Statement that the production rate due to indirect charges even considering only 10 km length works out Rs.8.02 per 1000 liters in the year 1993.

It is interesting to note that reduction in production rate due to indirect charges is about 40% in first five years for all the distances.

Considering the direct and indirect charges, the total production rate works out as follows :-

TABLE XI a

Sr. No.	Distance from source	Final Production rate			
		Year 1993	Year 1998	Year 2003	Year 2008
[ Rate in Rs. per 1000 liters ]					
1.	2.	3.	4.	5.	6.
1.	40 km	14.56	7.33	5.59	4.54
2.	30 km	13.36	6.78	5.18	4.21
3.	20 km	12.12	6.27	4.85	3.99
4.	10 km	10.85	5.77	4.53	3.79

Thus it will be seen that the production rate is still quite high and can not be treated as affordable even by rendering increased Grant-In-Aid as worked in table X. This may not be true to all other schemes.

#### XVII Subsidy for Repayment of Loans and Interests

From the above various alternatives, it results in the conclusion that LIC and OMB loans, particularly, their rate of interest are more responsible for making the schemes inviable. It is no use

requesting the lending institutes to ask for reduction in the interest rates and other terms and conditions of repayment since such requests are not much entertained.

Therefore, the only alternative is to render assistance to the Municipal Councils in making the repayment of loans and interests so as to make the scheme viable.

XVIII Assistance rendered by Government for 'C' Class Municipal Councils.

a) Govt. is quite aware the financial position of 'C' class municipal councils and therefore the GIA pattern has been modified to 100% for 'C' class municipal councils with population less than 15,000 and 50% for the 'C' class municipal towns with population more than 15,000.

b) Repayment of Interest & Loan by Government to LIC.

For 'C' class municipal councils, as per the Govt. of Maharashtra Urban Development & Public Health Dept. Resolution No.LON-1076/287/U-22 dated 19.9.1988, Govt. has taken the responsibility of repayment of LIC loan installments of principal amount and interest. For the first five years the full repayment of installments of LIC loan and the interest due, is reimbursed by Government to 'C' class municipal councils through Board. The Board in turn makes the repayment to LIC. For the next 20 years, 50% of the amount due to be paid to LIC for interest and repayment of capital is reimbursed to municipal councils through Board and the MWSSB makes the repayment on behalf of the municipal council to LIC.

However, this amount is not a complete subsidy, but it is treated as a loan. This repayment of loan will be started from 20 years

and the same is to be made on the lines of LIC. As the capacity of water works is fully utilized by that time, it is possible for the 'C' class municipal councils to make the repayment of loans to Government. Such repayment has been already started for schemes started prior to 1972 and number of municipal councils are paying their installments also.

**XIX Recommendations for Assistance :-**

It is not desirable to render the assistance in full on the pattern of 'C' class municipal councils for all other Municipal Councils/Corporations. This would increase the burden of Govt. to a very great extent. For Dhule water supply scheme which is estimated to cost Rs.440 million, if the assistance is rendered on the lines of 'C' class municipal councils, the total loan to be given by Govt. for repayment of LIC and OMB works out to Rs.339.3 million as compared to the cost of the scheme of Rs.440 million.  
[Statement No. XV]

- a) Loan for payment of interest for the first five years and then 50% for the next five years.

The statement No. XIII gives the details of the proposals for loan to be granted to municipal council by Government for the first five years and then restricting the same to 50% for the next five years. The production rate including direct and indirect charges with this formula has been detailed in the Table No. XII.

TABLE XII

Rs. in million

YEAR	Indirect Charges		Loan from Govt. for repayment of inst. 100% for 1st 5 yrs & 50% for next 5 yrs.	Balance indirect charges	Direct charges	Production rate in Rs. per 1000 lits.
	Interest [ Rs. in million ]	Principal [ Rs. in million ]				
1.	2.a	2.b	3.	4.	5.	6.
1993	51.49	12.93	51.49	12.93	15.52	Rs. 5.18
1994	49.96	12.93	49.96	12.93	16.74	Rs. 4.93
1995	48.43	12.93	48.43	12.93	17.96	Rs. 4.71
1996	46.90	12.93	46.90	12.93	19.43	Rs. 4.56
1997	45.36	12.93	45.36	12.93	23.15	Rs. 4.14
1998	43.83	12.93	22.92	34.84	30.40	Rs. 5.49
1999	42.30	12.93	21.15	34.08	32.02	Rs. 5.28
2000	40.77	12.93	20.38	33.31	33.54	Rs. 5.09
2001	39.24	12.93	19.62	32.54	36.94	Rs. 4.74
2002	37.70	12.93	18.85	31.78	38.36	Rs. 4.59

Comparison of the production rate with this loan assistance with the production rate as worked out with the present [1992] pattern of financing the scheme is detailed out in Table No. XIII.

TABLE XIII

YEAR	Production rate per 1000 liters as per present pattern of [in Rs.]	Production per 1000 liters with Govt. loan for interest repayment [100% for first 5 years & 50% for next 5 years] [in Rs.]	Remarks
1993	14.56	5.18	100% interest subsidy by Govt. loan
1994	13.22	4.93	---do---
1995	12.10	4.71	---do---
1996	11.18	4.56	---do---
1997	9.34	4.14	---do---
1998	7.33	5.49	50% interest subsidy by Govt. loan
1999	6.98	5.28	---do---
2000	6.64	5.09	---do---
2001	6.08	4.74	---do---
2002	5.82	4.59	---do---

b) Proposed terms and Repayment of Government Loan :-

The proposed terms of repayment of loan are as follows :-

- The loan is proposed to be repaid in 10 equal installments with a moratorium period of 10 years. i.e. the repayment of loan taken in the year 1993 will start in the year 2003 and will end in the year 2013. The drawal of the last installment of loan will be in the year 2002 and will start in the year 2012 and will end in the year 2022.



2. Interest :-

To make the scheme self supporting, it is proposed that the loan should be interest free for the first 10 years. The rate of interest to be charged for the next 10 years has been proposed as 14% (prevailing LIC interest rate) and the installment of loan and interest will be paid on annuity basis (i.e. annual equated instalments).

XX. Proposed Water Rate for Taxation. :-

It is proposed to charge at the rate of Rs.4.00 per 1000 liters for domestic supply and Rs.16 per 1000 liters for non-domestic supply.

Even, with this rate, which is considered as quite high, the scheme runs into deficit when the repayment of Govt. loan starts. This is indicated in the Table No. XIV below.

TABLE XIV

Rate proposed Rs.4.00 per 1000 liters for domestic and Rs.16 per 1000 liters for non domestic.

[All figures Rupees in million]

YEAR	Total expenditure after Govt. subsidy for interest.	Total Revenue	Surplus	Deficit	REMARKS
1.	2.	3.	4.	5.	6.
1993	28.45	30.72	2.28	-	100% interest subsidy by loan.
1994	29.67	32.86	3.19	-	
1995	30.88	34.99	4.10	-	
1996	32.35	37.12	4.76	-	
1997	36.07	56.77	20.67	-	

[All figures rupees in million]

YEAR	Total subsidized expenditure with Govt. Loan.	Total Revenue	Surplus	Deficit	REMARKS
1.	2.	3.	4.	5.	6.
1998	65.24	69.44	4.21	-	50% interest subsidy by Govt. loan.
1999	66.09	71.93	5.84	-	
2000	66.74	74.41	7.67	-	
2001	69.49	91.50	22.01	-	
2002	70.14	93.98	23.84	-	
2003	96.66	96.47	-	0.19	Repayment of Govt. loan started.
2004	104.49	98.95	-	5.14	
2005	111.29	101.44	-	9.85	
2006	120.35	118.52	-	1.82	
2007	127.08	121.01	-	6.08	
2008	130.38	123.49	-	6.89	
2009	133.47	125.98	-	7.49	
2010	136.43	128.46	-	7.97	
2011	143.46	160.15	16.69		
2012	126.42	162.63	36.21		

The deficit is Rs.0.19 million in the year 2003, when the repayment of Government loan with interest starts and the deficit is continued upto the year 2010 and then again surplus starts because of the increase in consumption of domestic and non-domestic supply.

**XXI. Proposals to meet the deficit in the year 2003 :**

Even with the assistance by way of soft loan from Govt., the scheme runs into deficit for a period of 8 years from the year

2003 when the repayment of Government loan with interest at 14% starts.

This difficulty can be overcome, if a good financial planning is observed by municipal council to invest the surplus amount. If the surplus amount is invested even at the rate of 13% per year, the total accumulated surplus works out as shown in the Table No.XV.

TABLE XV

Rs. in million

YEAR	Deficit	Surplus	Value of surplus amount invested at 13% compound interest.	REMARKS
1	2	3	4	5
1993	-	2.28		
1994	-	3.19	2.57	
1995	-	4.10	6.51	
1996	-	4.76	11.99	
1997	-	20.69	18.93	
1998	-	4.21	44.77	
1999	-	5.84	50.59	
2000	-	7.67	57.17	
2001	-	23.84	86.61	
2002	-	23.84	121.71	
2003	0.19*	-	137.32	* Deficit is compensated from surplus amount.
2004	5.14*	-	149.36	
2005	9.85*	-	157.65	

1	2	3	4	5
2006	1.82*	-	176.08	
2007	6.08*	-	192.10	
2008	6.89*	-	209.29	
2009	7.49*	-	228.04	
2010	7.97*	-	248.68	
2011	-	16.69	299.86	
2012	-	36.21	379.77	

Thus it could be seen that if the surplus amount gained in the first five years is well utilised, it is quite easy for the municipal councils to repay the Government loan with interest and at the same time create a substantial amount of surplus from this water works and can undertake the further improved schemes.

**XXII Comparison of pooled rates of Maharashtra Water Supply & Sewerage Board.**

MWSSB is running 53 water works out side the MWSS Project area. Most of these water works were owned by Government and the same were transferred to MWSSB in the year 1979 after the formation of the Board and after the transfer of the staff, MWSSB's expenditure on these water works is about Rs. 400 million. The total production of water is 404 ML per day and the production rate works out to Rs.2.71/per 1000 lit. on an average basis.

The production rate appears to be quite less in comparison to the rates considered in this case. The main reason is that since the assets of the water works were transferred to the Board free of cost and the previous Government schemes were constructed from the complete funding from Govt. Thus in short there was no loan

liability on most of these water works. Thus the rate worked out on the pooled rate basis represents the direct charges only with very minor component of indirect charges. These rates will shoot up after the commencement of repayment of loans of Amravati, Aurangabad, Ahmadnagar schemes which will be done after commissioning of the those schemes.

For NSPT [Nhava Sheva Port Trust] water works which supplies water to CIDCO area and Jawahar Nehru Port Trust authorities, the production rate for this water works for the year 1992-93 works out to Rs.4.25 and the water rate charged to CIDCO and other consumers from this water works is Rs.4.00. This water works is constructed with 66.67% loan raised through O.M.B.

Thus, in short the basis of pooled rate should not be taken into account while fixing the water rates of other municipal councils or even while proposing the subsidy for water supply schemes.

XXIII Source development:- Sharing of cost with Irrigation Department:

It would be seen from the analysis of Dhule Water Supply Scheme that the water supply schemes are very costly and economically inviable but at the same time the schemes cannot be avoided.

Many times if storages are created by construction of dams the schemes become completely inviable. Therefore creating storages at the cost of Government, or offering a very highly subsidised loan needs a special consideration.

Irrigation department is also insisting on sharing of cost of the dams if the raw water is drawn from the dam. Government should be requested to reconsider this issue,

XXIV Recoveries of loans and water supply bills from the local bodies

After the formation of the Board the responsibility of maintenance of water supply schemes owned by Government and the loan servicing liability have been transferred to MWSSB. The financial institutions are giving loans to MWSSB & MWSSB has to recover the loan from various municipal councils. Many of the municipal councils are not in a position to make the repayment of loans and some municipal councils do not pay even though their financial position is quite satisfactory. The total outstanding dues to MWSSB as on 31.3.1992 from various municipal councils are indicated in Table No.XXI.

Table No.XVI

Table of dues to MWSSB from various Municipal Corporations/Councils as on 31.3.1992

Particulars	Rs. in million
Sale of water	592.6
Loan installments	210.1
P.C.	70.7
Misc.	149.8
Total ...	1023.2

If the interest payment responsibility is taken by Government then at least for the first five years the likely defaulting amount to the financial institutions will be substantially reduced.

**XXV Popular contribution of 10% by Municipal Corporations and Councils.**

As per the present pattern of financing, popular contribution (10% of the cost of the scheme) is to be paid by the Municipal Councils in three equal installments. The experience is that the first installment is paid by the Municipal Councils and the remaining installments are kept outstanding. It is worthwhile to consider converting part of the P.C. into loan so that other investments made by Government will be fully utilised.

**XXVI Price escalation**

The minimum construction period is about 4 to 5 years for major schemes. The financial constraints delay it further. There is substantial price increase in the cost of the scheme. As per the rules of Government in force, the contractors are eligible for payment of price escalation for materials and labour etc. as per the formula approved by Government. But however, price escalation is not taken into account while giving administrative approval to the schemes. Therefore the works are held up for revised administrative approvals which delays further construction work.

Another very important aspect is that for the schemes costing more than Rs.50 million, the cost over runs are not financed by LIC. Therefore in the original administrative approval if the cost of the scheme includes price escalation, LIC finances the schemes. But if the scheme is revised taking into consideration the price escalation in due course of time, Government loses the facility of loan assistance from LIC for the revised cost due to price escalation.

XXVII. Conclusion:

From the case study we may draw the following conclusions which are fairly applicable to all the schemes.

(a) Unless assistance is given to the local bodies for the first five to 10 years for repayment of interest, of LIC, OMB, HUDCO etc., the local bodies would not be in a position to run the schemes on a sound financial footings.

(b) It should be made compulsory to the municipal councils to charge the water rates worked out with revised assistance formula (i.e. loans for repayment of interests).

(c) The principle of sharing of capital cost of the irrigation dam projects, when used for water supply should not be accepted.

(d) Price escalation should be accounted for, while framing the water supply schemes and the administrative approval should include the price escalation component.

(e) To reduce the direct charges the operation of the schemes may be vested on contract to reputed contracting firms.

(f) A strict financial and technical audit of each water supply scheme should be carried out by employing outside consultants who are competent to carry out these works. After acceptance of the report and recommendations of the consultants by Government, it should be mandatory to Municipal Councils to implement the same.

(g) In view of high price of cost of production, even with the grant-in-aid, privatisation of the complete sector as such does



not seem to be feasible at this stage. However, privatisation can be introduced in the operation of the systems, billing, collection of water charges etc.

(h) The pooled water rate of MWSSB should not be related to the fixing of water rates of other municipal councils.

(i) Part of the popular contribution may be allowed to be converted into loan component.

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**STATEMENT I**  
**DRULE WATER SUPPLY SCHEME**  
**STATEMENT SHOWING THE PROSPECTIVE POPULATION AND WATER DEMAND**  
**FOR THE YEAR 1993 ONWARDS**

Year	Population	Requirement of water in	Industrial Demand	Total demand in	Water supply from existing scheme	Total water Supply From this scheme	REMARKS
	souls	mld	mld	mld	mld	mld	
1993	300,368	36.04	2.00	38.04	23.00	15.04	
1994	312,526	37.50	2.00	39.50	23.00	16.50	
1995	324,684	38.96	2.00	40.96	23.00	17.96	
1996	336,842	40.42	2.00	42.42	23.00	19.42	
1997	349,000	41.88	5.00	46.88	23.00	23.88	
1998	361,158	50.56	5.00	55.56	23.00	32.56	
1999	373,316	52.26	5.00	57.26	23.00	34.26	
2000	385,474	53.97	5.00	58.97	23.00	35.97	
2001	397,632	55.67	7.50	63.17	23.00	40.17	
2002	409,790	57.37	7.50	64.87	23.00	41.87	
2003	421,948	59.07	7.50	66.57	23.00	43.57	
2004	434,106	60.77	7.50	68.27	23.00	45.27	
2005	446,264	62.48	7.50	69.98	23.00	46.98	
2006	458,422	64.18	10.00	74.18	23.00	51.18	
2007	470,580	65.88	10.00	75.88	23.00	52.88	
2008	482,738	67.58	10.00	77.58	23.00	54.58	
2009	494,896	69.29	10.00	79.29	23.00	56.29	
2010	507,054	70.99	10.00	80.99	23.00	57.99	
2011	519,212	72.69	15.00	87.69	23.00	64.69	
2012	531,370	74.39	15.00	89.39	23.00	66.39	
2013	543,528	76.09	15.00	91.09	23.00	68.09	
2014	555,686	77.80	20.00	97.80	23.00	74.80	
2015	567,844	79.50	20.00	99.50	23.00	76.50	
2016	580,002	81.20	20.00	101.20	23.00	78.20	

Rs.in million

Estimated cost :-	440.00	Length of Rising Main :- 40.9 Km.
G.I.A. 23.33 %	102.65	(Nominal reference as 40 km. )
L.I.C. ) ) 66. %	192.00	
O.M.B. )	101.35	
P.C. 10 %	44.00	

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440.00

**STATEMENT II**  
**DHOLE WATER SUPPLY SCHEME**  
**STATEMENT SHOWING DIRECT CHARGES TO BE INCURRED BY**  
**DHOLE MUNICIPAL COUNCIL FOR THE YEAR 1993 TO 2016**

PRICE BASE LEVEL :-1992

Rs. in million

Year	Water supply to be made from New Scheme			Direct charges								Production rate in Rs. per 1000 ltrs. considering only direct charges	
	Domestic	Indus.	Total	Annual Bantt. Charges	Percentage with total direct charges	Annual M & R Charges	Percentage with total direct charges	Annual Energy Charges	Percentage with total direct charges	Annual Chem & Sundry Charges	Percentage with total direct charges		Total Direct Charges
	mld	mld	mld	Rs.		Rs.		Rs.		Rs.		Rs.	
1993	13.04	2.00	15.04	0.75	4.83%	2.00	12.88%	10.93	70.39%	1.85	11.90%	15.52	2.83
1994	14.50	2.00	16.50	0.75	4.48%	2.00	11.95%	11.98	71.59%	2.01	11.99%	16.74	2.78
1995	15.96	2.00	17.96	0.75	4.18%	2.00	11.14%	13.04	72.62%	2.17	12.07%	17.96	2.74
1996	17.42	2.00	19.42	1.00	5.15%	2.00	10.29%	14.10	72.58%	2.33	11.98%	19.43	2.74
1997	18.88	5.00	23.88	1.00	4.32%	2.00	8.64%	17.33	74.88%	2.81	12.16%	23.15	2.66
1998	27.56	5.00	32.56	1.00	3.29%	2.00	6.58%	23.63	77.74%	3.77	12.39%	30.39	2.56
1999	29.26	5.00	34.26	1.20	3.75%	2.00	6.25%	24.86	77.66%	3.95	12.34%	32.02	2.56
2000	30.97	5.00	35.97	1.20	3.59%	2.00	5.98%	26.10	78.05%	4.14	12.38%	33.44	2.55
2001	32.67	7.50	40.17	1.20	3.25%	2.00	5.41%	29.14	78.89%	4.60	12.45%	36.94	2.52
2002	34.37	7.50	41.87	1.20	3.13%	2.00	5.21%	30.38	79.19%	4.78	12.47%	38.36	2.51
2003	36.07	7.50	43.57	1.20	3.02%	2.00	5.03%	31.61	79.46%	4.97	12.50%	39.78	2.50
2004	37.77	7.50	45.27	1.20	2.91%	2.00	4.85%	32.85	79.72%	5.16	12.52%	41.20	2.49
2005	39.48	7.50	46.98	1.20	2.82%	2.00	4.69%	34.08	79.96%	5.34	12.54%	42.63	2.49
2006	41.18	10.00	51.18	1.20	2.60%	2.00	4.34%	37.13	80.48%	5.80	12.58%	46.13	2.47
2007	42.88	10.00	52.88	1.20	2.52%	2.00	4.21%	38.36	80.67%	5.99	12.60%	47.55	2.46
2008	44.58	10.00	54.58	1.30	2.65%	2.00	4.08%	39.60	80.69%	6.18	12.59%	49.07	2.46
2009	46.29	10.00	56.29	1.30	2.57%	2.00	3.96%	40.83	80.86%	6.36	12.60%	50.49	2.46
2010	47.99	10.00	57.99	1.30	2.50%	2.00	3.85%	42.07	81.03%	6.55	12.62%	51.92	2.45
2011	49.69	15.00	64.69	1.30	2.26%	2.00	3.48%	46.93	81.60%	7.28	12.67%	57.51	2.44
2012	51.39	15.00	66.39	1.30	2.21%	2.00	3.39%	48.16	81.72%	7.47	12.68%	58.93	2.43
2013	53.09	15.00	68.09	1.30	2.15%	2.00	3.31%	49.39	81.85%	7.66	12.69%	60.35	2.43
2014	54.80	20.00	74.80	1.30	1.97%	2.00	3.03%	54.25	82.27%	8.39	12.72%	65.94	2.42
2015	56.50	20.00	76.50	1.30	1.93%	2.00	2.97%	55.49	82.37%	8.58	12.73%	67.36	2.41
2016	58.20	20.00	78.20	1.30	1.89%	2.00	2.91%	56.72	82.46%	8.76	12.74%	68.78	2.41

Estimated cost :- 440.00

Length of Rising Main :- 40.9 Km.

G.I.A. 23.33% 102.67  
L.I.C. ) 66.67% 192.00  
O.M.B. ) 101.33  
P.C. 10.00% 44.00

(Nominal reference as 40 km. )

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440.00

**STATEMENT IIa**  
**DHULE WATER SUPPLY SCHEME**  
**STATEMENT SHOWING ELECTRICAL ENERGY CHARGES**

Year	Population	Requirement of water @ 120 lpcd @ 140 lpcd After 5 years	Industrial Demand	Water supply from existing scheme	Total water supply From new scheme	Hours of Pumping	Power required in unit per year	Power Required for lighting	Total power Required	Total Power Cost in
		mld	mld	mld	mld		units	units	units	Rs. in million
1993	300,368	36.04	2.00	23	15.04	6.02	7,272,467	12,000	7,284,467	10.93
1994	312,526	37.50	2.00	23	16.50	6.60	7,977,740	12,000	7,989,740	11.98
1995	324,684	38.96	2.00	23	17.96	7.18	8,683,013	12,000	8,695,013	13.04
1996	336,842	40.42	2.00	23	19.42	7.77	9,388,286	12,000	9,400,286	14.10
1997	349,000	41.88	5.00	23	23.88	9.55	11,543,783	12,000	11,555,783	17.33
1998	361,158	50.56	5.00	23	32.56	13.02	15,740,789	12,000	15,752,789	23.63
1999	373,316	52.26	5.00	23	34.26	13.71	16,563,608	12,000	16,575,608	24.86
2000	385,474	53.97	5.00	23	35.97	14.39	17,386,426	12,000	17,398,426	26.10
2001	397,632	55.67	7.50	23	40.17	16.07	19,417,765	12,000	19,429,765	29.14
2002	409,790	57.37	7.50	23	41.87	16.75	20,240,583	12,000	20,252,583	30.38
2003	421,948	59.07	7.50	23	43.57	17.43	21,063,401	12,000	21,075,401	31.61
2004	434,106	60.77	7.50	23	45.27	18.11	21,886,220	12,000	21,898,220	32.85
2005	446,264	62.48	7.50	23	46.98	18.79	22,709,038	12,000	22,721,038	34.08
2006	458,422	64.18	10.00	23	51.18	20.47	24,740,377	12,000	24,752,377	37.13
2007	470,580	65.88	10.00	23	52.88	13.22	25,563,195	12,000	25,575,195	38.36
2008	482,738	67.58	10.00	23	54.58	13.65	26,386,014	12,000	26,398,014	39.60
2009	494,896	69.29	10.00	23	56.29	14.07	27,208,832	12,000	27,220,832	40.83
2010	507,054	70.99	10.00	23	57.99	14.50	28,031,650	12,000	28,043,650	42.07
2011	519,212	72.69	15.00	23	64.69	16.17	31,271,509	12,000	31,283,509	46.93
2012	531,370	74.39	15.00	23	66.39	16.60	32,094,327	12,000	32,106,327	48.16
2013	543,528	76.09	15.00	23	68.09	17.02	32,917,146	12,000	32,929,146	49.39
2014	555,686	77.80	20.00	23	74.80	18.70	36,157,004	12,000	36,169,004	54.25
2015	567,844	79.50	20.00	23	76.50	19.12	36,979,823	12,000	36,991,823	55.49
2016	580,002	81.20	20.00	23	78.20	19.55	37,802,641	12,000	37,814,641	56.72

**STATEMENT No.IIb**  
**DHOLE WATER SUPPLY SCHEME**

**STATEMENT SHOWING CHEMICAL & SUNDRY CHARGES**

Year	Water supply in mld	Alum Required @25 kg./ ML		TCl <sub>2</sub> Powder @ 5 PPM @ 25 % Available chlorine		Sundry charges	Raw water charges @ Rs.1.5 per 10000 lts	Total charges
		Alum in Ton/year	Alum charge Rs.in million	in kg.	Amount @ Rs.4.00 per kg. Rs.million			
A	B	C	D	E	F	G	H	I
		(B*9.125)(C*280)		(B*5*365)/0	(B*4)/10*6		(B*1.5*0.365)/10	(D+F+G+H)
1993	15.04	137.28	0.38	109822.37	0.44	0.20	0.82	1.85
1994	16.50	150.59	0.42	120472.78	0.48	0.20	0.90	2.01
1995	17.96	163.90	0.46	131123.18	0.52	0.20	0.98	2.17
1996	19.42	177.22	0.50	141773.59	0.57	0.20	1.06	2.33
1997	23.88	217.91	0.61	174324.00	0.70	0.20	1.31	2.81
1998	32.56	297.13	0.83	237703.48	0.95	0.20	1.78	3.77
1999	34.26	312.66	0.88	250128.95	1.00	0.20	1.88	3.95
2000	35.97	328.19	0.92	262554.43	1.05	0.20	1.97	4.14
2001	40.17	366.54	1.03	293229.90	1.17	0.20	2.20	4.60
2002	41.87	382.07	1.07	305655.38	1.22	0.20	2.29	4.78
2003	43.57	397.60	1.11	318080.86	1.27	0.20	2.39	4.97
2004	45.27	413.13	1.16	330506.33	1.32	0.20	2.48	5.16
2005	46.98	428.66	1.20	342931.81	1.37	0.20	2.57	5.34
2006	51.18	467.01	1.31	373607.28	1.49	0.20	2.80	5.80
2007	52.88	482.54	1.35	386032.76	1.54	0.20	2.90	5.99
2008	54.58	498.07	1.39	398458.24	1.59	0.20	2.99	6.18
2009	56.29	513.60	1.44	410883.71	1.64	0.20	3.08	6.36
2010	57.99	529.14	1.48	423309.19	1.69	0.20	3.17	6.55
2011	64.69	590.29	1.65	472234.66	1.89	0.20	3.54	7.28
2012	66.39	605.83	1.70	484660.14	1.94	0.20	3.63	7.47
2013	68.09	621.36	1.74	497085.62	1.99	0.20	3.73	7.66
2014	74.80	682.51	1.91	546011.09	2.18	0.20	4.10	8.39
2015	76.50	698.05	1.95	558436.57	2.23	0.20	4.19	8.58
2016	78.20	713.58	2.00	570862.04	2.28	0.20	4.28	8.76

**STATEMENT III**  
**DHOLE WATER SUPPLY SCHEME**  
**STATEMENT SHOWING INDIRECT CHARGES TO BE INCURRED BY**  
**DHOLE MUNICIPAL COUNCIL FOR THE YEAR 1993 TO 2016**

PRICE BASE LEVEL :-1992

Rs.in million

Year	Water supply to be made from New Scheme			Indirect charges									Water rate due to Indire charges in Rs. per 1000 lts.		
	Domes- tic	Indus- trial	Total	Repayment of LIC Loan			Repayment of OMB Loan			Total Indirect Charges			O.M.B. LOAN	L.I.C. LOAN	TOTAL LOAN
	mld	mld	mld	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
A	B	C	D	E	F	F1	G	H	H1	I	J	K	L	M	N
				E+F			G+H			E+G	F+H	I+J	F1*1000/D*365		
													H1*1000/D*365	L+M	
1993	13.04	2.00	15.04	33.70	10.94	44.65	17.79	1.98	19.77	51.49	12.92	64.42	3.60	8.13	11.73
1994	14.50	2.00	16.50	32.17	10.94	43.11	17.79	1.98	19.77	49.96	12.92	62.88	3.28	7.16	10.44
1995	15.96	2.00	17.96	30.64	10.94	41.58	17.79	1.98	19.77	48.43	12.92	61.35	3.02	6.34	9.36
1996	17.42	2.00	19.42	29.11	10.94	40.05	17.79	1.98	19.77	46.90	12.92	59.82	2.79	5.65	8.44
1997	18.88	5.00	23.88	27.58	10.94	38.52	17.79	1.98	19.77	45.36	12.92	58.29	2.27	4.42	6.69
1998	27.56	5.00	32.56	26.04	10.94	36.99	17.79	1.98	19.77	43.83	12.92	56.76	1.66	3.11	4.78
1999	29.26	5.00	34.26	24.51	10.94	35.45	17.79	1.98	19.77	42.30	12.92	55.22	1.58	2.83	4.42
2000	30.97	5.00	35.97	22.98	10.94	33.92	17.79	1.98	19.77	40.77	12.92	53.69	1.51	2.58	4.09
2001	32.67	7.50	40.17	21.45	10.94	32.39	17.79	1.98	19.77	39.24	12.92	52.16	1.35	2.21	3.56
2002	34.37	7.50	41.87	19.92	10.94	30.86	17.79	1.98	19.77	37.70	12.92	50.63	1.29	2.02	3.31
2003	36.07	7.50	43.57	18.38	10.94	29.33	17.79	1.98	19.77	36.17	12.92	49.10	1.24	1.84	3.09
2004	37.77	7.50	45.27	16.85	10.94	27.79	17.79	1.98	19.77	34.64	12.92	47.56	1.20	1.68	2.88
2005	39.48	7.50	46.98	15.32	10.94	26.26	17.79	1.98	19.77	33.11	12.92	46.03	1.15	1.53	2.68
2006	41.18	10.00	51.18	13.79	10.94	24.73	17.79	1.98	19.77	31.58	12.92	44.50	1.06	1.32	2.38
2007	42.88	10.00	52.88	12.26	10.94	23.20	17.79	1.98	19.77	30.04	12.92	42.97	1.02	1.20	2.23
2008	44.58	10.00	54.58	10.72	10.94	21.67	17.79	1.98	19.77	28.51	12.92	41.44	0.99	1.09	2.08
2009	46.29	10.00	56.29	9.19	10.94	20.13	17.79	1.98	19.77	26.98	12.92	39.90	0.96	0.98	1.94
2010	47.99	10.00	57.99	7.66	10.94	18.60	17.79	1.98	19.77	25.45	12.92	38.37	0.93	0.88	1.81
2011	49.69	15.00	64.69	6.13	10.94	17.07	17.79	1.98	19.77	23.92	12.92	36.84	0.84	0.72	1.56
2012	51.39	15.00	66.39	4.60	10.94	15.54	0.00	0.00	0.00	4.60	10.94	15.54	0.00	0.64	0.64
2013	53.09	15.00	68.09	3.06	10.94	14.01	0.00	0.00	0.00	3.06	10.94	14.01	0.00	0.56	0.56
2014	54.80	20.00	74.80	1.53	10.94	12.47	0.00	0.00	0.00	1.53	10.94	12.47	0.00	0.46	0.46
2015	56.50	20.00	76.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	58.20	20.00	78.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Rs.in million	
Estimated cost :-	440.00	Length of Rising Main :- 40.9 Km.
G.I.A. 23.33%	102.67	(Nominal reference as 40 km. )
L.I.C. 166.67%	192.00	
O.M.B. )	101.33	
P.C. 10.00%	44.00	
	-----	
	440.00	



## STATEMENT No. IIIa

## DHULE WATER SUPPLY SCHEME

## Statement showing liabilities due to LIC loan Rs. in million

Year	LIC Loan out-standing	Yearly interest on LIC loan	Payment of Principal Amt.in inst. 22 NO.	Balance Amt. of LIC Loan	Total Liabilities of LIC Loan
1990	64.00	8.96			
1991	136.96	19.17			
1992	211.17	29.56			
1993	240.74	33.70	10.94	229.80	44.65
1994	229.80	32.17	10.94	218.85	43.11
1995	218.85	30.64	10.94	207.91	41.58
1996	207.91	29.11	10.94	196.97	40.05
1997	196.97	27.58	10.94	186.03	38.52
1998	186.03	26.04	10.94	175.08	36.99
1999	175.08	24.51	10.94	164.14	35.45
2000	164.14	22.98	10.94	153.20	33.92
2001	153.20	21.45	10.94	142.25	32.39
2002	142.25	19.92	10.94	131.31	30.86
2003	131.31	18.38	10.94	120.37	29.33
2004	120.37	16.85	10.94	109.43	27.79
2005	109.43	15.32	10.94	98.48	26.26
2006	98.48	13.79	10.94	87.54	24.73
2007	87.54	12.26	10.94	76.60	23.20
2008	76.60	10.72	10.94	65.66	21.67
2009	65.66	9.19	10.94	54.71	20.13
2010	54.71	7.66	10.94	43.77	18.60
2011	43.77	6.13	10.94	32.83	17.07
2012	32.83	4.60	10.94	21.89	15.54
2013	21.89	3.06	10.94	10.94	14.01
2014	10.94	1.53	10.94	(0.00)	12.47

TOTAL INTEREST FOR THREE YEARS IS CAPITALISED

## STATEMENT No. IIb.

## DHOLE WATER SUPPLY SCHEME

## STATEMENT SHOWING LIABILITIES DUE TO OMB LOAN

Rs. in million

Year	OMB Loan out- standing	Yearly interest on OMB loan at 14 Percent	Payment of Principal Amt. in inst. No.	Balance Amt. of OMB Loan	Total Liabilities of OMB Loan
1990	33.78	4.73			
1991	72.28	10.12			
1992	111.45	15.60			
1993	127.06	17.79	1.98		19.77
1994	127.06	17.79	1.98		19.77
1995	127.06	17.79	1.98		19.77
1996	127.06	17.79	1.98		19.77
1997	127.06	17.79	1.98		19.77
1998	127.06	17.79	1.98		19.77
1999	127.06	17.79	1.98		19.77
2000	127.06	17.79	1.98		19.77
2001	127.06	17.79	1.98		19.77
2002	127.06	17.79	1.98		19.77
2003	127.06	17.79	1.98		19.77
2004	127.06	17.79	1.98		19.77
2005	127.06	17.79	1.98		19.77
2006	127.06	17.79	1.98		19.77
2007	127.06	17.79	1.98		19.77
2008	127.06	17.79	1.98		19.77
2009	127.06	17.79	1.98		19.77
2010	127.06	17.79	1.98		19.77
2011	127.06	17.79	1.98		19.77

**STATEMENT IV**  
**DRUG WATER SUPPLY SCHEME**  
**STATEMENT SHOWING TOTAL PRODUCTION RATE**

YEAR	Water Supply Demand in		Production Rate due to direct charges	Production Rate due to indirect charges	Total Production Rate in	Remarks
	Domestic	Indust				
	mld	mld	mld	Rs. per 1000 liters	Rs. per 1000 liters	Rs. per 1000 liters
1	2	3	4	5	6	7
1993	13.04	2.00	15.04	2.83	11.73	14.56
1994	14.50	2.00	16.50	2.78	10.44	13.22
1995	15.96	2.00	17.96	2.74	9.36	12.10
1996	17.42	2.00	19.42	2.74	8.44	11.18
1997	18.88	5.00	23.88	2.66	6.69	9.34
1998	27.56	5.00	32.56	2.56	4.78	7.33
1999	29.26	5.00	34.26	2.56	4.42	6.98
2000	30.97	5.00	35.97	2.55	4.09	6.64
2001	32.67	7.50	40.17	2.52	3.56	6.08
2002	34.37	7.50	41.87	2.51	3.31	5.82
2003	36.07	7.50	43.57	2.50	3.09	5.59
2004	37.77	7.50	45.27	2.49	2.88	5.37
2005	39.48	7.50	46.98	2.49	2.68	5.17
2006	41.18	10.00	51.18	2.47	2.38	4.85
2007	42.88	10.00	52.88	2.46	2.23	4.69
2008	44.58	10.00	54.58	2.46	2.08	4.54
2009	46.29	10.00	56.29	2.46	1.94	4.40
2010	47.99	10.00	57.99	2.45	1.81	4.27
2011	49.69	15.00	64.69	2.44	1.56	4.00
2012	51.39	15.00	66.39	2.43	0.64	3.07
2013	53.09	15.00	68.09	2.43	0.56	2.99
2014	54.80	20.00	74.80	2.42	0.46	2.87
2015	56.50	20.00	76.50	2.41	0.00	2.41
2016	58.20	20.00	78.20	2.41	0.00	2.41

Rs. in million

Estimated cost :- 440.00

Length of Rising Main :- 40.9 Km.

G.I.A.	23.33 %	102.67
L.I.C. )	67 %	192.00
O.M.B. )		101.33
P.C.	10 %	440.00

(Nominal reference as 40 km. )

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836.00  
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**STATEMENT V.**  
**WATER RATES AND REVENUE DEFICIT/SURPLUS**  
**FOR DHULE MUNICIPAL COUNCIL**

ASSUME i) DOMESTIC RATE Rs 3.00 PER 1000 lits

ii) NON-DOMESTIC RATE Rs 12 per 1000 lits Rs.in million

Year	Water supply to be made from New Scheme	Expenditure			Revenue			Deficit	Surplus	Remarks	
		Direct Charges	Indirect Charges	Total Charges	Domestic supply	Non-dom- estic supply	Total supply				
	Domestic in mld	Indus. in mld	Total in mld	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1993	13.04	2.00	15.04	15.52	64.42	79.94	14.28	8.76	23.04	-56.90	0.00
1994	14.50	2.00	16.50	16.74	62.88	79.63	15.88	8.76	24.64	-54.98	0.00
1995	15.96	2.00	17.96	17.96	61.35	79.31	17.48	8.76	26.24	-53.07	0.00
1996	17.42	2.00	19.42	19.43	59.82	79.25	19.08	8.76	27.84	-51.41	0.00
1997	18.88	5.00	23.88	23.15	58.29	81.44	20.67	21.90	42.57	-38.86	0.00
1998	27.56	5.00	32.56	30.39	56.76	87.15	30.18	21.90	52.08	-35.07	0.00
1999	29.26	5.00	34.26	32.02	55.22	87.24	32.04	21.90	53.94	-33.30	0.00
2000	30.97	5.00	35.97	33.44	53.69	87.13	33.91	21.90	55.81	-31.32	0.00
2001	32.67	7.50	40.17	36.94	52.16	89.10	35.77	32.85	68.62	-20.48	0.00
2002	34.37	7.50	41.87	38.36	50.63	88.99	37.64	32.85	70.49	-18.51	0.00
2003	36.07	7.50	43.57	39.78	49.10	88.88	39.50	32.85	72.35	-16.53	0.00
2004	37.77	7.50	45.27	41.20	47.56	88.77	41.36	32.85	74.21	-14.56	0.00
2005	39.48	7.50	46.98	42.63	46.03	88.66	43.23	32.85	76.08	-12.58	0.00
2006	41.18	10.00	51.18	46.13	44.50	90.63	45.09	43.80	88.89	-1.74	0.00
2007	42.88	10.00	52.88	47.55	42.97	90.52	46.95	43.80	90.75	0.00	0.23
2008	44.58	10.00	54.58	49.07	41.44	90.51	48.82	43.80	92.62	0.00	2.11
2009	46.29	10.00	56.29	50.49	39.90	90.40	50.68	43.80	94.48	0.00	4.08
2010	47.99	10.00	57.99	51.92	38.37	90.29	52.55	43.80	96.35	0.00	6.06
2011	49.69	15.00	64.69	57.51	36.84	94.35	54.41	65.70	120.11	0.00	25.76
2012	51.39	15.00	66.39	58.93	15.54	74.47	56.27	65.70	121.97	0.00	47.51
2013	53.09	15.00	68.09	60.35	14.01	74.36	58.14	65.70	123.84	0.00	49.48
2014	54.80	20.00	74.80	65.94	12.47	78.42	60.00	87.60	147.60	0.00	69.18
2015	56.50	20.00	76.50	67.36	0.00	67.36	61.87	87.60	149.47	0.00	82.10
2016	58.20	20.00	78.20	68.78	0.00	68.78	63.73	87.60	151.33	0.00	82.54

Estimated cost :-	Rs. in million	440.00	Length of Rising Main :- 40.9 Km.
G.I.A. 23.33%		102.67	(Nominal reference as 40 km. )
L.I.C. ) 66.67%		192.00	
O.M.B. )		101.33	
P.C. 10.00%		44.00	
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		440.00	

**STATEMENT VI**  
**WATER RATES AND REVENUE DEFICIT/SURPLUS**  
**FOR DHULE MUNICIPAL COUNCIL**

ASSUME i) DOMESTIC RATE Rs 4.00 PER 1000 lits

ii) NON-DOMESTIC RATE Rs 16 per 1000 lits      Rs.in million

Year	Water supply to be made from New Scheme	Expenditure			Revenue			Deficit	Surplus	Remarks	
		Direct Charges	Indirect Charges	Total Charges	Domestic supply	Non-dom- estic supply	Total supply				
	Domestic in mld	Indus. in mld	Total in mld	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1993	13.04	2.00	15.04	15.52	64.42	79.94	19.04	11.68	30.72	-49.22	0.00
1994	14.50	2.00	16.50	16.74	62.88	79.63	21.17	11.68	32.85	-46.77	0.00
1995	15.96	2.00	17.96	17.96	61.35	79.31	23.30	11.68	34.98	-44.33	0.00
1996	17.42	2.00	19.42	19.43	59.82	79.25	25.43	11.68	37.11	-42.13	0.00
1997	18.88	5.00	23.88	23.15	58.29	81.44	27.56	29.20	56.76	-24.67	0.00
1998	27.56	5.00	32.56	30.39	56.76	87.15	40.24	29.20	69.44	-17.71	0.00
1999	29.26	5.00	34.26	32.02	55.22	87.24	42.73	29.20	71.93	-15.31	0.00
2000	30.97	5.00	35.97	33.44	53.69	87.13	45.21	29.20	74.41	-12.72	0.00
2001	32.67	7.50	40.17	36.94	52.16	89.10	47.70	43.80	91.50	0.00	2.39
2002	34.37	7.50	41.87	38.36	50.63	88.99	50.18	43.80	93.98	0.00	4.99
2003	36.07	7.50	43.57	39.78	49.10	88.88	52.67	43.80	96.47	0.00	7.59
2004	37.77	7.50	45.27	41.20	47.56	88.77	55.15	43.80	98.95	0.00	10.18
2005	39.48	7.50	46.98	42.63	46.03	88.66	57.64	43.80	101.44	0.00	12.78
2006	41.18	10.00	51.18	46.13	44.50	90.63	60.12	58.40	118.52	0.00	27.89
2007	42.88	10.00	52.88	47.55	42.97	90.52	62.61	58.40	121.01	0.00	30.48
2008	44.58	10.00	54.58	49.07	41.44	90.51	65.09	58.40	123.49	0.00	32.98
2009	46.29	10.00	56.29	50.49	39.90	90.40	67.58	58.40	125.98	0.00	35.58
2010	47.99	10.00	57.99	51.92	38.37	90.29	70.06	58.40	128.46	0.00	38.17
2011	49.69	15.00	64.69	57.51	36.84	94.35	72.55	87.60	160.15	0.00	65.80
2012	51.39	15.00	66.39	58.93	15.54	74.47	75.03	87.60	162.63	0.00	88.16
2013	53.09	15.00	68.09	60.35	14.01	74.36	77.52	87.60	165.12	0.00	90.76
2014	54.80	20.00	74.80	65.94	12.47	78.42	80.00	116.80	196.80	0.00	118.38
2015	56.50	20.00	76.50	67.36	0.00	67.36	82.49	116.80	199.29	0.00	131.92
2016	58.20	20.00	78.20	68.78	0.00	68.78	84.97	116.80	201.77	0.00	132.99

Estimated cost :-	Rs. in million
	440.00
G.I.A. 23.33%	102.67
L.I.C. ) 66.67%	192.00
O.M.B. )	101.33
P.C. 10.00%	44.00

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440.00

Length of Rising Main :- 40.9 Km.

(Nominal referance as 40 km. )

**STATEMENT VII**  
**WATER RATES AND REVENUE DEFICIT/SURPLUS**  
**FOR DHULE MUNICIPAL COUNCIL**

ASSUME i) DOMESTIC RATE Rs 5.00 PER 1000 lits

ii) NON-DOMESTIC RATE Rs 20 per 1000 lits Rs.in million

Year	Water supply to be made from New Scheme	Expenditure			Revenue			Deficit	Surplus	Remarks	
		Direct Charges	Indirect Charges	Total Charges	Domestic supply	Non-dom- estic supply	Total supply				
	Domestic in mld	Indus. in mld	Total in mld	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1993	13.04	2.00	15.04	15.52	64.42	79.94	23.81	14.60	38.41	-41.53	0.00
1994	14.50	2.00	16.50	16.74	62.88	79.63	26.47	14.60	41.07	-38.56	0.00
1995	15.96	2.00	17.96	17.96	61.35	79.31	29.13	14.60	43.73	-35.58	0.00
1996	17.42	2.00	19.42	19.43	59.82	79.25	31.79	14.60	46.39	-32.85	0.00
1997	18.88	5.00	23.88	23.15	58.29	81.44	34.46	36.50	70.96	-10.48	0.00
1998	27.56	5.00	32.56	30.39	56.76	87.15	50.30	36.50	86.80	-0.35	0.00
1999	29.26	5.00	34.26	32.02	55.22	87.24	53.41	36.50	89.91	0.00	2.67
2000	30.97	5.00	35.97	33.44	53.69	87.13	56.51	36.50	93.01	0.00	5.89
2001	32.67	7.50	40.17	36.94	52.16	89.10	59.62	54.75	114.37	0.00	25.27
2002	34.37	7.50	41.87	38.36	50.63	88.99	62.73	54.75	117.48	0.00	28.48
2003	36.07	7.50	43.57	39.78	49.10	88.88	65.83	54.75	120.58	0.00	31.70
2004	37.77	7.50	45.27	41.20	47.56	88.77	68.94	54.75	123.69	0.00	34.92
2005	39.48	7.50	46.98	42.63	46.03	88.66	72.05	54.75	126.80	0.00	38.14
2006	41.18	10.00	51.18	46.13	44.50	90.63	75.15	73.00	148.15	0.00	57.52
2007	42.88	10.00	52.88	47.55	42.97	90.52	78.26	73.00	151.26	0.00	60.74
2008	44.58	10.00	54.58	49.07	41.44	90.51	81.36	73.00	154.36	0.00	63.85
2009	46.29	10.00	56.29	50.49	39.90	90.40	84.47	73.00	157.47	0.00	67.07
2010	47.99	10.00	57.99	51.92	38.37	90.29	87.58	73.00	160.58	0.00	70.29
2011	49.69	15.00	64.69	57.51	36.84	94.35	90.68	109.50	200.18	0.00	105.83
2012	51.39	15.00	66.39	58.93	15.54	74.47	93.79	109.50	203.29	0.00	128.82
2013	53.09	15.00	68.09	60.35	14.01	74.36	96.90	109.50	206.40	0.00	132.04
2014	54.80	20.00	74.80	65.94	12.47	78.42	100.00	146.00	246.00	0.00	167.58
2015	56.50	20.00	76.50	67.36	0.00	67.36	103.11	146.00	249.11	0.00	181.74
2016	58.20	20.00	78.20	68.78	0.00	68.78	106.22	146.00	252.22	0.00	183.43

Estimated cost :-	Rs. in million	Length of Rising Main :- 40.9 Km.
	440.00	
G.I.A. 23.33%	102.67	(Nominal reference as 40 km. )
L.I.C. ) 66.67%	192.00	
O.M.B. )	101.33	
P.C. 10.00%	44.00	
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	440.00	

**STATEMENT VIII**  
**WATER RATES AND REVENUE DEFICIT/SURPLUS**  
**FOR DHULE MUNICIPAL COUNCIL**

ASSUME i) DOMESTIC RATE Rs 6.00 PER 1000 lits

ii) NON-DOMESTIC RATE Rs 24 per 1000 lits      Rs.in million

Year	Water supply to be made from New Scheme	Expenditure			Revenue			Deficit	Surplus	Remarks	
		Direct Charges	Indirect Charges	Total Charges	Domestic supply	Non-dom- estic supply	Total supply				
	Domestic in mld	Indus. in mld	Total in mld	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1993	13.04	2.00	15.04	15.52	64.42	79.94	28.57	17.52	46.09	-33.85	0.00
1994	14.50	2.00	16.50	16.74	62.88	79.63	31.76	17.52	49.28	-30.34	0.00
1995	15.96	2.00	17.96	17.96	61.35	79.31	34.96	17.52	52.48	-26.83	0.00
1996	17.42	2.00	19.42	19.43	59.82	79.25	38.15	17.52	55.67	-23.58	0.00
1997	18.88	5.00	23.88	23.15	58.29	81.44	41.35	43.80	85.15	0.00	3.71
1998	27.56	5.00	32.56	30.39	56.76	87.15	60.36	43.80	104.16	0.00	17.01
1999	29.26	5.00	34.26	32.02	55.22	87.24	64.09	43.80	107.89	0.00	20.65
2000	30.97	5.00	35.97	33.44	53.69	87.13	67.82	43.80	111.62	0.00	24.49
2001	32.67	7.50	40.17	36.94	52.16	89.10	71.54	65.70	137.24	0.00	48.14
2002	34.37	7.50	41.87	38.36	50.63	88.99	75.27	65.70	140.97	0.00	51.98
2003	36.07	7.50	43.57	39.78	49.10	88.88	79.00	65.70	144.70	0.00	55.82
2004	37.77	7.50	45.27	41.20	47.56	88.77	82.73	65.70	148.43	0.00	59.66
2005	39.48	7.50	46.98	42.63	46.03	88.66	86.45	65.70	152.15	0.00	63.50
2006	41.18	10.00	51.18	46.13	44.50	90.63	90.18	87.60	177.78	0.00	87.15
2007	42.88	10.00	52.88	47.55	42.97	90.52	93.91	87.60	181.51	0.00	90.99
2008	44.58	10.00	54.58	49.07	41.44	90.51	97.64	87.60	185.24	0.00	94.73
2009	46.29	10.00	56.29	50.49	39.90	90.40	101.37	87.60	188.97	0.00	98.57
2010	47.99	10.00	57.99	51.92	38.37	90.29	105.09	87.60	192.69	0.00	102.41
2011	49.69	15.00	64.69	57.51	36.84	94.35	108.82	131.40	240.22	0.00	145.87
2012	51.39	15.00	66.39	58.93	15.54	74.47	112.55	131.40	243.95	0.00	169.48
2013	53.09	15.00	68.09	60.35	14.01	74.36	116.28	131.40	247.68	0.00	173.32
2014	54.80	20.00	74.80	65.94	12.47	78.42	120.00	175.20	295.20	0.00	216.79
2015	56.50	20.00	76.50	67.36	0.00	67.36	123.73	175.20	298.93	0.00	231.57
2016	58.20	20.00	78.20	68.78	0.00	68.78	127.46	175.20	302.66	0.00	233.87

Estimated cost :-	Rs. in million	
	440.00	Length of Rising Main :- 40.9 Km.
G.I.A. 23.33%	102.67	(Nominal reference as 40 km. )
L.I.C. ) 66.67%	192.00	
O.M.B. )	101.33	
P.C. 10.00%	44.00	
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	440.00	

**STATEMENT No. IX**  
**DRULE WATER SUPPLY SCHEME**  
**WATER RATE CALCULATION**

Rs. in million  
Distance from source 40 km.

Year	Water supply from new water works	Indirect Charges			Direct Charges		Annual Energy Charges	Chemical & sundry Charges & water	Total Direct Charges	Total Yearly Running Charges	Water rate in Rs. per 1000 lts		
		Repayment of LIC with Interest	Repayment of OMB with Interest	Total Indirect Charges	Annual Estt. Charges	Annual M & R Charges					Due to Direct Charges	Due to Indirect Charges	Total
	in MLD	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			
1993	15.04	44.65	19.77	64.42	0.75	2.00	10.93	1.85	15.52	79.94	2.83	11.73	14.56
1994	16.50	43.11	19.77	62.88	0.75	2.00	11.98	2.01	16.74	79.63	2.78	10.44	13.22
1995	17.96	41.58	19.77	61.35	0.75	2.00	13.04	2.17	17.96	79.31	2.74	9.36	12.10
1996	19.42	40.05	19.77	59.82	1.00	2.00	14.10	2.33	19.43	79.25	2.74	8.44	11.18
1997	23.88	38.52	19.77	58.29	1.00	2.00	17.33	2.81	23.15	81.44	2.66	6.69	9.34
1998	32.56	36.99	19.77	56.76	1.00	2.00	23.63	3.77	30.39	87.15	2.56	4.78	7.33
1999	34.26	35.45	19.77	55.22	1.20	2.00	24.86	3.95	32.02	87.24	2.56	4.42	6.98
2000	35.97	33.92	19.77	53.69	1.20	2.00	26.10	4.14	33.44	87.13	2.55	4.09	6.64
2001	40.17	32.39	19.77	52.16	1.20	2.00	29.14	4.60	36.94	89.10	2.52	3.56	6.08
2002	41.87	30.86	19.77	50.63	1.20	2.00	30.38	4.78	38.36	88.99	2.51	3.31	5.82
2003	43.57	29.33	19.77	49.10	1.20	2.00	31.61	4.97	39.78	88.88	2.50	3.09	5.59
2004	45.27	27.79	19.77	47.56	1.20	2.00	32.85	5.16	41.20	88.77	2.49	2.88	5.37
2005	46.98	26.26	19.77	46.03	1.20	2.00	34.08	5.34	42.63	88.66	2.49	2.68	5.17
2006	51.18	24.73	19.77	44.50	1.20	2.00	37.13	5.80	46.13	90.63	2.47	2.38	4.85
2007	52.88	23.20	19.77	42.97	1.20	2.00	38.36	5.99	47.55	90.52	2.46	2.23	4.69
2008	54.58	21.67	19.77	41.44	1.30	2.00	39.60	6.18	49.07	90.51	2.46	2.08	4.54
2009	56.29	20.13	19.77	39.90	1.30	2.00	40.83	6.36	50.49	90.40	2.46	1.94	4.40
2010	57.99	18.60	19.77	38.37	1.30	2.00	42.07	6.55	51.92	90.29	2.45	1.81	4.27
2011	64.69	17.07	19.77	36.84	1.30	2.00	46.93	7.28	57.51	94.35	2.44	1.56	4.00
2012	66.39	15.54	0.00	15.54	1.30	2.00	48.16	7.47	58.93	74.47	2.43	0.64	3.07
2013	68.09	14.01	0.00	14.01	1.30	2.00	49.39	7.66	60.35	74.36	2.43	0.56	2.99
2014	74.80	12.47	0.00	12.47	1.30	2.00	54.25	8.39	65.94	78.42	2.42	0.46	2.87
2015	76.50	0.00	0.00	0.00	1.30	2.00	55.49	8.58	67.36	67.36	2.41	0.00	2.41
2016	78.20	0.00	0.00	0.00	1.30	2.00	56.72	8.76	68.78	68.78	2.41	0.00	2.41

Parameters	Percent Rs. in million		Loan Refund Period	Rate of Interest	LIC Loan	Percent	Rs. in million
Total Cost in lakhs		440.00					
P.C.	10.00	44.00			First 10 million	66.67 %	6.67
GIA	23.33	102.67	LIC	22	Next 10 million	50.00 %	5.00
LIC Loan		192.00	After 2 years	14	Next 30 million	40.00 %	12.00
OMB Loan		101.33	OMB	19	For Remaining	25.00 %	97.50
		440.00			Total		121.17
					Actual Loan From LIC		192.00
					Non- Plan Loan up to 50 %		



**STATEMENT No. X**  
**DHOLE WATER SUPPLY SCHEME**  
**WATER RATE CALCULATION**

Rs. in million  
Distance from source 30 km.

Year	Water supply from new water works	Indirect Charges			Direct Charges			Total Charges		Total Yearly Running Charges	Water rate in Rs. per 1000 lts		
		Repayment of LIC with Interest	Repayment of OMB with Interest	Total Indirect Charges	Annual Est. Charges	Annual M & R Charges	Annual Energy Charges	Chemical & sundry & water Charges	Due to Direct Charges		Due to Indirect Charges	Total	
	mln	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			
1993	15.04	44.65	13.21	57.85	0.75	2.00	10.93	1.85	15.52	73.38	2.83	10.54	13.36
1994	16.50	43.11	13.21	56.32	0.75	2.00	11.98	2.01	16.74	73.06	2.78	9.35	12.13
1995	17.96	41.58	13.21	54.79	0.75	2.00	13.04	2.17	17.96	72.75	2.74	8.36	11.10
1996	19.42	40.05	13.21	53.26	1.00	2.00	14.10	2.33	19.43	72.69	2.74	7.51	10.25
1997	23.88	38.52	13.21	51.73	1.00	2.00	17.33	2.81	23.15	74.88	2.66	5.93	8.59
1998	32.56	36.99	13.21	50.19	1.00	2.00	23.63	3.77	30.39	80.59	2.56	4.22	6.78
1999	34.26	35.45	13.21	48.66	1.20	2.00	24.86	3.95	32.02	80.68	2.56	3.89	6.45
2000	35.97	33.92	13.21	47.13	1.20	2.00	26.10	4.14	33.44	80.57	2.55	3.59	6.14
2001	40.17	32.39	13.21	45.60	1.20	2.00	29.14	4.60	36.94	82.54	2.52	3.11	5.63
2002	41.87	30.86	13.21	44.07	1.20	2.00	30.38	4.78	38.36	82.43	2.51	2.88	5.39
2003	43.57	29.33	13.21	42.53	1.20	2.00	31.61	4.97	39.78	82.32	2.50	2.67	5.18
2004	45.27	27.79	13.21	41.00	1.20	2.00	32.85	5.16	41.20	82.21	2.49	2.48	4.97
2005	46.98	26.26	13.21	39.47	1.20	2.00	34.08	5.34	42.63	82.10	2.49	2.30	4.79
2006	51.18	24.73	13.21	37.94	1.20	2.00	37.13	5.80	46.13	84.07	2.47	2.03	4.50
2007	52.88	23.20	13.21	36.41	1.20	2.00	38.36	5.99	47.55	83.96	2.46	1.89	4.35
2008	54.58	21.67	13.21	34.88	1.30	2.00	39.60	6.18	49.07	83.95	2.46	1.75	4.21
2009	56.29	20.13	13.21	33.34	1.30	2.00	40.83	6.36	50.49	83.84	2.46	1.62	4.08
2010	57.99	18.60	13.21	31.81	1.30	2.00	42.07	6.55	51.92	83.73	2.45	1.50	3.96
2011	64.69	17.07	13.21	30.28	1.30	2.00	46.93	7.28	57.51	87.79	2.44	1.28	3.72
2012	66.39	15.54	0.00	15.54	1.30	2.00	48.16	7.47	58.93	74.47	2.43	0.64	3.07
2013	68.09	13.12	0.00	13.12	1.30	2.00	49.39	7.66	60.35	73.47	2.43	0.53	2.96
2014	74.80	11.59	0.00	11.59	1.30	2.00	54.25	8.39	65.94	77.53	2.42	0.42	2.84
2015	76.50	0.00	0.00	0.00	1.30	2.00	55.49	8.58	67.36	67.36	2.41	0.00	2.41
2016	78.20	0.00	0.00	0.00	1.30	2.00	56.72	8.76	68.78	68.78	2.41	0.00	2.41

		Rs. in million			
Cost without R.M.		249.44		Raw water rising main	20.62 Km.
R/W Rising main		70.97		18 % BTP	Rs. 81.01 million
P/W Rising main		69.14		With Escalation	Rs. 95.18 million
Total cost		389.55		Assume length	15.00 Km.
	Percent			Cost for 15.00 km. R/W	Rs. 70.97 million
P.C.	10.00	38.96			
GIA	23.33	90.90			
LIC Loan		192.00		Pure water rising main	20.28 Km.
OMB Loan		67.70		18 % BTP	Rs. 77.62 million
		389.55		With Escalation	Rs. 91.20 million
				Assume length	15.00 Km.
				Cost for 15.00 km R/W	Rs. 69.14 million

**STATEMENT No. Xa**  
**DHULE WATER SUPPLY SCHEME**  
**Statement showing liabilities due to LIC loan Rising Main Length 30 km.**

Year	LIC Loan out-standing	Yearly interest on LIC loan	Payment of Principal Amt. in inst. 22 NO.	Balance Amt. of LIC Loan	Total Liabilities of LIC Loan
	Rs. millio	Rs. million	Rs. million	Rs. million	Rs. million
1990	64.00	8.96			
1991	136.96	19.17			
1992	211.17	29.56			
1993	240.74	33.70	10.94	229.80	44.65
1994	229.80	32.17	10.94	218.85	43.11
1995	218.85	30.64	10.94	207.91	41.58
1996	207.91	29.11	10.94	196.97	40.05
1997	196.97	27.58	10.94	186.03	38.52
1998	186.03	26.04	10.94	175.08	36.99
1999	175.08	24.51	10.94	164.14	35.45
2000	164.14	22.98	10.94	153.20	33.92
2001	153.20	21.45	10.94	142.25	32.39
2002	142.25	19.92	10.94	131.31	30.86
2003	131.31	18.38	10.94	120.37	29.33
2004	120.37	16.85	10.94	109.43	27.79
2005	109.43	15.32	10.94	98.48	26.26
2006	98.48	13.79	10.94	87.54	24.73
2007	87.54	12.26	10.94	76.60	23.20
2008	76.60	10.72	10.94	65.66	21.67
2009	65.66	9.19	10.94	54.71	20.13
2010	54.71	7.66	10.94	43.77	18.60
2011	43.77	6.13	10.94	32.83	17.07
2012	32.83	4.60	10.94	21.89	15.54
2013	15.54	2.18	10.94	4.60	13.12
2014	4.60	0.64	10.94	0.00	11.59

TOTAL INTEREST FOR THREE YEARS IS CAPITALISED

**STATEMENT No. 7b**  
**DHULE WATER SUPPLY SCHEME**  
**STATEMENT SHOWING LIABILITIES DUE TO OMB LOAN**      Rising Main Length      30 km.

Year	OMB Loan out- standing	Yearly interest on OMB loan at 14 Percent	Payment of Principal Amt.in inst. No.	Balance Amt. of OMB Loan	Total Liabilities of OMB Loan
	Rs.in million	Rs.in million	Rs.in million		Rs.in million
1990	22.57	3.16			
1991	48.29	6.76			
1992	74.46	10.42			
1993	84.89	11.88	1.32		13.21
1994	84.89	11.88	1.32		13.21
1995	84.89	11.88	1.32		13.21
1996	84.89	11.88	1.32		13.21
1997	84.89	11.88	1.32		13.21
1998	84.89	11.88	1.32		13.21
1999	84.89	11.88	1.32		13.21
2000	84.89	11.88	1.32		13.21
2001	84.89	11.88	1.32		13.21
2002	84.89	11.88	1.32		13.21
2003	84.89	11.88	1.32		13.21
2004	84.89	11.88	1.32		13.21
2005	84.89	11.88	1.32		13.21
2006	84.89	11.88	1.32		13.21
2007	84.89	11.88	1.32		13.21
2008	84.89	11.88	1.32		13.21
2009	84.89	11.88	1.32		13.21
2010	84.89	11.88	1.32		13.21
2011	84.89	11.88	1.32		13.21

**STATEMENT No. XI.**  
**DHOLE WATER SUPPLY SCHEME**  
**WATER RATE CALCULATION**

Rs. in million  
Distance from source 20 km.

Year	Water supply from new water works	Indirect Charges			Direct Charges			Total		Total Yearly Running Charges	Water rate in Rs. per 1000 lts		
		Repayment of LIC with Interest	Repayment of OMB with Interest	Total Indirect Charges	Annual Estt. Charges	Annual M & R Charges	Annual Energy Charges	Chemical & sundry & water Charges	Total Direct Charges		Due to Direct Charges	Due to Indirect Charges	Total
	mld	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			
1993	15.04	39.86	11.15	51.01	0.75	2.00	10.93	1.85	15.52	66.53	2.83	9.29	12.12
1994	16.50	38.49	11.15	49.64	0.75	2.00	11.98	2.01	16.74	66.38	2.78	8.24	11.02
1995	17.96	37.13	11.15	48.27	0.75	2.00	13.04	2.17	17.96	66.23	2.74	7.36	10.10
1996	19.42	35.76	11.15	46.91	1.00	2.00	14.10	2.33	19.43	66.33	2.74	6.62	9.36
1997	23.88	34.39	11.15	45.54	1.00	2.00	17.33	2.81	23.15	68.69	2.66	5.22	7.88
1998	32.56	33.02	11.15	44.17	1.00	2.00	23.63	3.77	30.39	74.57	2.56	3.72	6.27
1999	34.26	31.65	11.15	42.80	1.20	2.00	24.86	3.95	32.02	74.82	2.56	3.42	5.98
2000	35.97	30.29	11.15	41.44	1.20	2.00	26.10	4.14	33.44	74.87	2.55	3.16	5.70
2001	40.17	28.92	11.15	40.07	1.20	2.00	29.14	4.60	36.94	77.01	2.52	2.73	5.25
2002	41.87	27.55	11.15	38.70	1.20	2.00	30.38	4.78	38.36	77.06	2.51	2.53	5.04
2003	43.57	26.18	11.15	37.33	1.20	2.00	31.61	4.97	39.78	77.12	2.50	2.35	4.85
2004	45.27	24.82	11.15	35.96	1.20	2.00	32.85	5.16	41.20	77.17	2.49	2.18	4.67
2005	46.98	23.45	11.15	34.60	1.20	2.00	34.08	5.34	42.63	77.22	2.49	2.02	4.50
2006	51.18	22.08	11.15	33.23	1.20	2.00	37.13	5.80	46.13	79.36	2.47	1.78	4.25
2007	52.88	20.71	11.15	31.86	1.20	2.00	38.36	5.99	47.55	79.41	2.46	1.65	4.11
2008	54.58	19.34	11.15	30.49	1.30	2.00	39.60	6.18	49.07	79.57	2.46	1.53	3.99
2009	56.29	17.98	11.15	29.12	1.30	2.00	40.83	6.36	50.49	79.62	2.46	1.42	3.88
2010	57.99	16.61	11.15	27.76	1.30	2.00	42.07	6.55	51.92	79.67	2.45	1.31	3.76
2011	64.69	15.24	11.15	26.39	1.30	2.00	46.93	7.28	57.51	83.90	2.44	1.12	3.55
2012	66.39	13.87	0.00	13.87	1.30	2.00	48.16	7.47	58.93	72.80	2.43	0.57	3.00
2013	68.09	11.71	0.00	11.71	1.30	2.00	49.39	7.66	60.35	72.06	2.43	0.47	2.90
2014	74.80	10.34	0.00	10.34	1.30	2.00	54.25	8.39	65.94	76.29	2.42	0.38	2.79
2015	76.50	0.00	0.00	0.00	1.30	2.00	55.49	8.58	67.36	67.36	2.41	0.00	2.41
2016	78.20	0.00	0.00	0.00	1.30	2.00	56.72	8.76	68.78	68.78	2.41	0.00	2.41

		Rs. in million					
Cost without R.M.		249.44		Raw water rising main	20.62 Km.		
R/W Rising main		47.32		18 % ETP		Rs.	81.01 million
P/W Rising main		46.09		With Escalation		Rs.	95.18 million
						Rs.	97.56 million
Total cost		342.85		Assume length	10.00 Km.		
P.C.	Percent	34.28		Cost for 10.00 km. R/W		Rs.	47.32 million
GIA	10.00	80.00					
LIC Loan	23.33	171.42		Pure water rising main	20.28 Km.		
OMB Loan		57.14				Rs.	77.62 million
		342.85		18 % ETP		Rs.	91.20 million
				With Escalation		Rs.	93.48 million
				Assume length	10.00 Km.		
				Cost for 10.00 km R/W		Rs.	46.09 million

## STATEMENT No.XI.a

## DHOLE WATER SUPPLY SCHEME

Statement showing liabilities due to LIC loan Rising Main Length 20 km.

Year	LIC Loan out- standing	Yearly interest on LIC loan 14	Payment of Principal Amt.in inst. 22 NO.	Balance Amt. of LIC Loan	Total Liabilities of LIC Loan
	Rs.millio	Rs.million	Rs.million	Rs.million	Rs.million
1990	57.14	8.00			
1991	122.28	17.12			
1992	188.54	26.40			
1993	214.94	30.09	9.77	205.17	39.86
1994	205.17	28.72	9.77	195.40	38.49
1995	195.40	27.36	9.77	185.63	37.13
1996	185.63	25.99	9.77	175.86	35.76
1997	175.86	24.62	9.77	166.09	34.39
1998	166.09	23.25	9.77	156.32	33.02
1999	156.32	21.88	9.77	146.55	31.65
2000	146.55	20.52	9.77	136.78	30.29
2001	136.78	19.15	9.77	127.01	28.92
2002	127.01	17.78	9.77	117.24	27.55
2003	117.24	16.41	9.77	107.47	26.18
2004	107.47	15.05	9.77	97.70	24.82
2005	97.70	13.68	9.77	87.93	23.45
2006	87.93	12.31	9.77	78.16	22.08
2007	78.16	10.94	9.77	68.39	20.71
2008	68.39	9.57	9.77	58.62	19.34
2009	58.62	8.21	9.77	48.85	17.98
2010	48.85	6.84	9.77	39.08	16.61
2011	39.08	5.47	9.77	29.31	15.24
2012	29.31	4.10	9.77	19.54	13.87
2013	13.87	1.94	9.77	4.10	11.71
2014	4.10	0.57	9.77	0.00	10.34

## STATEMENT No.XI.b

## DOUBLE WATER SUPPLY SCHEME

## STATEMENT SHOWING LIABILITIES DUE TO OMB LOAN

Rising Main Length

20

Year	OMB Loan out- standing	Yearly interest on OMB loan at 14 Percent	Payment of Principal Amt.in inst. No.	Balance Amt. of OMB Loan	Total Liabilities of OMB Loan
	Rs.in million	Rs.in million	Rs.in million		Rs.in million
1990	19.05	2.67			
1991	40.76	5.71			
1992	62.85	8.80			
1993	71.65	10.03	1.12		11.15
1994	71.65	10.03	1.12		11.15
1995	71.65	10.03	1.12		11.15
1996	71.65	10.03	1.12		11.15
1997	71.65	10.03	1.12		11.15
1998	71.65	10.03	1.12		11.15
1999	71.65	10.03	1.12		11.15
2000	71.65	10.03	1.12		11.15
2001	71.65	10.03	1.12		11.15
2002	71.65	10.03	1.12		11.15
2003	71.65	10.03	1.12		11.15
2004	71.65	10.03	1.12		11.15
2005	71.65	10.03	1.12		11.15
2006	71.65	10.03	1.12		11.15
2007	71.65	10.03	1.12		11.15
2008	71.65	10.03	1.12		11.15
2009	71.65	10.03	1.12		11.15
2010	71.65	10.03	1.12		11.15
2011	71.65	10.03	1.12		11.15

**STATEMENT No. XII.**  
**DHOLE WATER SUPPLY SCHEME**  
**WATER RATE CALCULATION**

Rs. in million  
Distance from source 10 km.

Year	Water supply from new water works	Indirect Charges			Direct Charges			Total		Total Yearly Running Charges	Water rate in Rs. per 1000 lts		
		Repayment of LIC with Interest	Repayment of OMB with Interest	Total Indirect Charges	Annual Estt. Charges	Annual M & R Charges	Annual Energy Charges	Chemical & sundry Charges & water Charges	Total Direct Charges		Due to Direct Charges	Due to Indirect Charges	Total
	mln	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.			
1993	15.04	34.43	9.63	44.06	0.75	2.00	10.93	1.85	15.52	59.58	2.83	8.02	10.85
1994	16.50	33.25	9.63	42.88	0.75	2.00	11.98	2.01	16.74	59.62	2.78	7.12	9.90
1995	17.96	32.07	9.63	41.70	0.75	2.00	13.04	2.17	17.96	59.66	2.74	6.36	9.10
1996	19.42	30.89	9.63	40.52	1.00	2.00	14.10	2.33	19.43	59.94	2.74	5.72	8.46
1997	23.88	29.71	9.63	39.33	1.00	2.00	17.33	2.81	23.15	62.48	2.66	4.51	7.17
1998	32.56	28.52	9.63	38.15	1.00	2.00	23.63	3.77	30.39	68.55	2.56	3.21	5.77
1999	34.26	27.34	9.63	36.97	1.20	2.00	24.86	3.95	32.02	68.99	2.56	2.96	5.52
2000	35.97	26.16	9.63	35.79	1.20	2.00	26.10	4.14	33.44	69.23	2.55	2.73	5.27
2001	40.17	24.98	9.63	34.61	1.20	2.00	29.14	4.60	36.94	71.55	2.52	2.36	4.88
2002	41.87	23.80	9.63	33.43	1.20	2.00	30.38	4.78	38.36	71.79	2.51	2.19	4.70
2003	43.57	22.62	9.63	32.25	1.20	2.00	31.61	4.97	39.78	72.03	2.50	2.03	4.53
2004	45.27	21.44	9.63	31.06	1.20	2.00	32.85	5.16	41.20	72.27	2.49	1.88	4.37
2005	46.98	20.25	9.63	29.88	1.20	2.00	34.08	5.34	42.63	72.51	2.49	1.74	4.23
2006	51.18	19.07	9.63	28.70	1.20	2.00	37.13	5.80	46.13	74.83	2.47	1.54	4.01
2007	52.88	17.89	9.63	27.52	1.20	2.00	38.36	5.99	47.55	75.07	2.46	1.43	3.89
2008	54.58	16.71	9.63	26.34	1.30	2.00	39.60	6.18	49.07	75.41	2.46	1.32	3.79
2009	56.29	15.53	9.63	25.16	1.30	2.00	40.83	6.36	50.49	75.65	2.46	1.22	3.68
2010	57.99	14.35	9.63	23.98	1.30	2.00	42.07	6.55	51.92	75.89	2.45	1.13	3.59
2011	64.69	13.16	9.63	22.79	1.30	2.00	46.93	7.28	57.51	80.30	2.44	0.97	3.40
2012	66.39	11.98	0.00	11.98	1.30	2.00	48.16	7.47	58.93	70.91	2.43	0.49	2.93
2013	68.09	10.12	0.00	10.12	1.30	2.00	49.39	7.66	60.35	70.47	2.43	0.41	2.84
2014	74.80	8.94	0.00	8.94	1.30	2.00	54.25	8.39	65.94	74.88	2.42	0.33	2.74
2015	76.50	0.00	0.00	0.00	1.30	2.00	55.49	8.58	67.36	67.36	2.41	0.00	2.41
2016	78.20	0.00	0.00	0.00	1.30	2.00	56.72	8.76	68.78	68.78	2.41	0.00	2.41

		Rs. in million					
Cost without R.H.		249.44		Raw water rising main		20.62 Km.	
R/W Rising main		23.66		18 % BTP	Rs.	81.01 million	
P/W Rising main		23.05		With Escalation	Rs.	95.18 million	
					Rs.	97.56 million	
Total cost		296.14		Assume length		5.00 Km.	
	Percent			Cost for 5.00 km. R/W	Rs.	23.66 million	
P.C.	10.00	29.61					
GIA	23.33	69.10					
LIC Loan		148.07		Pure water rising main		20.28 Km.	
OMB Loan		49.36		18 % BTP	Rs.	77.62 million	
		296.14		With Escalation	Rs.	91.20 million	
					Rs.	93.48 million	
				Assume length		5.00 Km.	
				Cost for 5.00 km R/W	Rs.	23.05 million	

## STATEMENT No. XII a

## DROLE WATER SUPPLY SCHEME

Statement showing liabilities due to LIC loan Rising Main Length 10 km.

Year	LIC Loan Yearly out- standing LIC loan 14	Yearly interest on LIC loan 14	Payment of Principal Amt. in inst. 22 NO.	Balance Amt. of LIC Loan	Total Liabilities of LIC Loan
	Rs. millio	Rs. million	Rs. million	Rs. million	Rs. million
1990	49.36	6.91			
1991	105.62	14.79			
1992	162.86	22.80			
1993	185.66	25.99	8.44	177.22	34.43
1994	177.22	24.81	8.44	168.78	33.25
1995	168.78	23.63	8.44	160.34	32.07
1996	160.34	22.45	8.44	151.90	30.89
1997	151.90	21.27	8.44	143.46	29.71
1998	143.46	20.08	8.44	135.02	28.52
1999	135.02	18.90	8.44	126.59	27.34
2000	126.59	17.72	8.44	118.15	26.16
2001	118.15	16.54	8.44	109.71	24.98
2002	109.71	15.36	8.44	101.27	23.80
2003	101.27	14.18	8.44	92.83	22.62
2004	92.83	13.00	8.44	84.39	21.44
2005	84.39	11.81	8.44	75.95	20.25
2006	75.95	10.63	8.44	67.51	19.07
2007	67.51	9.45	8.44	59.07	17.89
2008	59.07	8.27	8.44	50.63	16.71
2009	50.63	7.09	8.44	42.20	15.53
2010	42.20	5.91	8.44	33.76	14.35
2011	33.76	4.73	8.44	25.32	13.16
2012	25.32	3.54	8.44	16.88	11.98
2013	11.98	1.68	8.44	3.54	10.12
2014	3.54	0.50	8.44	0.00	8.94

TOTAL INTEREST FOR THREE YEARS IS CAPITALISED



## STATEMENT No.XII.b

## DRUGE WATER SUPPLY SCHEME

## STATEMENT SHOWING LIABILITIES DUE TO OMB LOAN

Rising Main Length

10

Year	OMB Loan out- standing	Yearly interest on OMB loan at 14 Percent	Payment of Principal Amt.in inst. No.	Balance Amt. of OMB Loan	Total Liabilities of OMB Loan
	Rs.in million	Rs.in million	Rs.in million		Rs.in million
1990	16.45	2.30			
1991	35.21	4.93			
1992	54.29	7.60			
1993	61.89	8.66	0.97		9.63
1994	61.89	8.66	0.97		9.63
1995	61.89	8.66	0.97		9.63
1996	61.89	8.66	0.97		9.63
1997	61.89	8.66	0.97		9.63
1998	61.89	8.66	0.97		9.63
1999	61.89	8.66	0.97		9.63
2000	61.89	8.66	0.97		9.63
2001	61.89	8.66	0.97		9.63
2002	61.89	8.66	0.97		9.63
2003	61.89	8.66	0.97		9.63
2004	61.89	8.66	0.97		9.63
2005	61.89	8.66	0.97		9.63
2006	61.89	8.66	0.97		9.63
2007	61.89	8.66	0.97		9.63
2008	61.89	8.66	0.97		9.63
2009	61.89	8.66	0.97		9.63
2010	61.89	8.66	0.97		9.63
2011	61.89	8.66	0.97		9.63

TOTAL INTEREST FOR THREE YEARS  
IS CAPITALISED

## STATEMENT XIII.

## DHULE WATER SUPPLY SCHEME

## STATEMENT SHOWING INDIRECT CHARGES TO BE INCURRED

DHULE MUNICIPAL COUNCIL FOR THE YEAR 1993 TO 2016 AND INTEREST

SUBSIDISED AT 100 % FOR FIRST 5 YEARS &amp; 50 % FOR NEXT 5

PRICE BASE LEVEL :-1992

Year	Water supply to be made from New Scheme			Indirect charges									Loan from Govt. for Repayment of interest 5 yrs full next 5 yrs 50 %
				Repayment of LIC Loan			Repayment of OMB Loan			Total Indirect Charges			
	Domestic	Indus.	Total	Interest	Principle Amount	Total	Interest	Principle Amount	Total	Interest	Principle Amount	Total	
	mld	mld	mld	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
A	B	C	D	E	F	G	H	I	J	K	L	M	N
						E+F			H+I	E+H	F+I	G+J	K*100% L*50%
1993	13.04	2.00	15.04	33.70	10.94	44.65	17.79	1.98	19.77	51.49	12.92	64.42	51.49
1994	14.50	2.00	16.50	32.17	10.94	43.11	17.79	1.98	19.77	49.96	12.92	62.88	49.96
1995	15.96	2.00	17.96	30.64	10.94	41.58	17.79	1.98	19.77	48.43	12.92	61.35	48.43
1996	17.42	2.00	19.42	29.11	10.94	40.05	17.79	1.98	19.77	46.90	12.92	59.82	46.90
1997	18.88	5.00	23.88	27.58	10.94	38.52	17.79	1.98	19.77	45.36	12.92	58.29	45.36
1998	27.56	5.00	32.56	26.04	10.94	36.99	17.79	1.98	19.77	43.83	12.92	56.76	21.92
1999	29.26	5.00	34.26	24.51	10.94	35.45	17.79	1.98	19.77	42.30	12.92	55.22	21.15
2000	30.97	5.00	35.97	22.98	10.94	33.92	17.79	1.98	19.77	40.77	12.92	53.69	20.38
2001	32.67	7.50	40.17	21.45	10.94	32.39	17.79	1.98	19.77	39.24	12.92	52.16	19.62
2002	34.37	7.50	41.87	19.92	10.94	30.86	17.79	1.98	19.77	37.70	12.92	50.63	18.85
2003	36.07	7.50	43.57	18.38	10.94	29.33	17.79	1.98	19.77	36.17	12.92	49.10	
2004	37.77	7.50	45.27	16.85	10.94	27.79	17.79	1.98	19.77	34.64	12.92	47.56	
2005	39.48	7.50	46.98	15.32	10.94	26.26	17.79	1.98	19.77	33.11	12.92	46.03	
2006	41.18	10.00	51.18	13.79	10.94	24.73	17.79	1.98	19.77	31.58	12.92	44.50	
2007	42.88	10.00	52.88	12.26	10.94	23.20	17.79	1.98	19.77	30.04	12.92	42.97	
2008	44.58	10.00	54.58	10.72	10.94	21.67	17.79	1.98	19.77	28.51	12.92	41.44	
2009	46.29	10.00	56.29	9.19	10.94	20.13	17.79	1.98	19.77	26.98	12.92	39.90	
2010	47.99	10.00	57.99	7.66	10.94	18.60	17.79	1.98	19.77	25.45	12.92	38.37	
2011	49.69	15.00	64.69	6.13	10.94	17.07	17.79	1.98	19.77	23.92	12.92	36.84	
2012	51.39	15.00	66.39	4.60	10.94	15.54	0.00	0.00	0.00	4.60	10.94	15.54	
2013	53.09	15.00	68.09	3.06	10.94	14.01	0.00	0.00	0.00	3.06	10.94	14.01	
2014	54.80	20.00	74.80	1.53	10.94	12.47	0.00	0.00	0.00	1.53	10.94	12.47	
2015	56.50	20.00	76.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2016	58.20	20.00	78.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

NOTE :- (1) GOVT. LOAN FOR FULL REIMBURSEMENT OF INTEREST FOR FIRST 5 YEARS AND 50 % FOR THE NEXT FIVE YEARS

(2) GOVT. LOAN TO BE REPAYED IN 20 YEARS WITH MORATORIUM PERIOD OF 10 YEARS AND REPAYMENT IN 20 EQUAL ANNUAL INSTALLMENTS ON ANNUITY BASIS WITH 14 % INTEREST.

344.06

BY  
 T TO BE  
 BARS

Rs. in million

Balance  
 indirect  
 charges

Repay-  
 ment of  
 Govt.  
 Loan  
 After 10  
 years in  
 20 instal.

Total  
 Liabili-  
 ties  
 Due to  
 Indirect  
 Charges

Water rate considering repayment  
 of Govt. loan after 10 years in  
 Rs. per 1000 lits due to

In-direct  
 Charges

direct  
 Charges

Total  
 charges

Rs.	Rs.	Rs.			
O	P	Q	R	S	T
M-N		Q+P	Q*1000/D*365		R+S
12.92		12.92	2.35	2.83	5.18
12.92		12.92	2.15	2.78	4.93
12.92		12.92	1.97	2.74	4.71
12.92		12.92	1.82	2.74	4.56
12.92		12.92	1.48	2.66	4.14
34.84		34.84	2.93	2.56	5.49
34.07		34.07	2.72	2.56	5.28
33.31		33.31	2.54	2.55	5.08
32.54		32.54	2.22	2.52	4.74
31.78		31.78	2.08	2.51	4.59
49.10	7.78	56.87	3.58	2.50	6.08
47.56	15.32	62.88	3.81	2.49	6.30
46.03	22.63	68.66	4.00	2.49	6.49
44.50	29.71	74.21	3.97	2.47	6.44
42.97	36.56	79.53	4.12	2.46	6.58
41.44	39.87	81.31	4.08	2.46	6.54
39.90	43.07	82.97	4.04	2.46	6.50
38.37	46.14	84.52	3.99	2.45	6.45
36.84	49.11	85.95	3.64	2.44	6.08
15.54	51.95	67.49	2.79	2.43	5.22
14.01	51.95	65.96	2.65	2.43	5.08
12.47	51.95	64.43	2.36	2.42	4.78
0.00	51.95	51.95	1.86	2.41	4.27
0.00	51.95	51.95	1.82	2.41	4.23

## STATEMENT XIV

## WATER RATES AND REVENUE DEFICIT/SURPLUS

FOR DRULH MUNICIPAL COUNCIL CONSIDERING INTEREST SUBSIDY AS GOVT LOAN FOR 10 YEARS AS CONSIDERED IN STATEMENT

ASSUME :-

i) DOMESTIC RATE Rs. 4.00 PER 1000 lits

ii) NON-DOMESTIC RATE Rs 16.00 per 1000 lits

Year	Water supply to be made from New Scheme			Expenditure			Revenue			Deficit Surplus		
	Domestic mld	Indus. mld	Total mld	Direct Charges	Indirect Charges	Total	Domestic supply Rs.	Non-domestic supply Rs.	Total Rs.	Rs.	Rs.	Rs.
				Rs.	Rs.	Rs.						
1993	13.04	2.00	15.04	15.52	12.92	28.45	19.04	11.68	30.72	0.00	2.28	
1994	14.50	2.00	16.50	16.74	12.92	29.67	21.17	11.68	32.85	0.00	3.19	
1995	15.96	2.00	17.96	17.96	12.92	30.88	23.30	11.68	34.98	0.00	4.10	
1996	17.42	2.00	19.42	19.43	12.92	32.35	25.43	11.68	37.11	0.00	4.76	
1997	18.88	5.00	23.88	23.15	12.92	36.07	27.56	29.20	56.76	0.00	20.69	
1998	27.56	5.00	32.56	30.30	34.84	65.24	40.24	29.20	69.44	0.00	4.21	
1999	29.26	5.00	34.26	32.02	34.07	66.09	42.73	29.20	71.93	0.00	5.84	
2000	30.97	5.00	35.97	33.46	33.31	66.74	45.21	29.20	74.41	0.00	7.67	
2001	32.67	7.50	40.17	36.94	32.54	69.49	47.70	43.80	91.50	0.00	22.01	
2002	34.37	7.50	41.87	38.36	31.78	70.14	50.18	43.80	93.98	0.00	23.84	
2003	36.07	7.50	43.57	39.78	36.87	76.66	52.67	43.80	96.47	-0.19	0.00	
2004	37.77	7.50	45.27	41.20	62.88	104.09	55.15	43.80	98.95	-5.14	0.00	
2005	39.48	7.50	46.98	42.63	68.66	111.29	57.64	43.80	101.44	-9.85	0.00	
2006	41.18	10.00	51.18	46.13	74.21	120.35	60.12	58.40	118.52	-1.82	0.00	
2007	42.88	10.00	52.88	47.55	79.53	127.08	62.61	58.40	121.01	-6.08	0.00	
2008	44.58	10.00	54.58	49.07	81.31	130.38	65.09	58.40	123.49	-6.89	0.00	
2009	46.29	10.00	56.29	50.49	82.97	133.46	67.58	58.40	125.98	-7.49	0.00	
2010	47.99	10.00	57.99	51.92	84.52	136.43	70.06	58.40	128.46	-7.97	0.00	
2011	49.69	15.00	64.69	53.35	85.95	143.46	72.55	87.60	160.15	0.00	16.69	
2012	51.39	15.00	66.39	54.78	67.49	126.42	75.03	87.60	162.63	0.00	36.21	
2013	53.09	15.00	68.09	56.21	65.96	126.31	77.52	87.60	165.12	0.00	38.81	
2014	54.80	20.00	74.80	57.64	64.43	130.37	80.00	116.80	196.80	0.00	66.43	
2015	56.50	20.00	76.50	59.07	51.95	119.32	82.49	116.80	199.29	0.00	79.97	
2016	58.20	20.00	78.20	60.50	51.95	120.74	84.97	116.80	201.77	0.00	81.04	

Rs. in million

Estimated cost :-

440.00

Length of Rising Main :- 40.9 Km.

G.I.A. 23.33 %

102.67

(Nominal reference as 40 km.)

L.I.C.

192.00

O.M.B.

101.33

P.C.

10.00 %

44.00

440.00

Rs. in million

Surplus Amount invested @ 13 %  Rs.	Remarks
2.57	GOVT. LOAN 100 %
6.51	FOR PAYMENT OF INTEREST
11.99	
18.93	
44.77	GOVT. LOAN 50 %
50.59	FOR PAYMENT OF INTEREST
57.17	
86.61	
121.71	
137.32	REPAYMENT OF GOVT.
149.36	STARTS
157.65	
176.08	
192.10	
209.29	
228.04	
248.67	
299.86	
379.77	
472.99	
609.54	
624.84	
780.35	

## DHOLE WATER SUPPLY SCHEME

STATEMENT SHOWING INDIRECT CHARGES TO BE INCURRED BY DHOLE MUNCIPALITY  
 WHEN GOVT. LOAN IS AVAILED FOR REPAYMENT OF LIC LOAN & INTEREST 100 % FOR FIRST 5 YRS. & 50 % THEREAFTER

PRICE BASE LEVEL :-1992

Year	Water supply to be made from New Schem			Indirect charges									Interest +Install From Govt as subs for LIC loan for 5 years (100 %) & 50 % as govt. loa Thereafter
				Repayment of LIC Loan			Repayment of OMB Loan			Total Indirect Charges			
	Domestic	Indus- trial	Total	Interst	Principle Amount	Total	Interst	Principal Amount	Total	Interst	Princ- ipal Amount	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1990													8.96
1991													17.92
1992													26.88
1993	13.04	2.00	15.04	26.88	8.73	35.61	17.79	1.98	19.77	44.67	10.71	55.38	35.61
1994	14.50	2.00	16.50	25.66	8.73	34.39	17.79	1.98	19.77	43.45	10.71	54.16	34.39
1995	15.96	2.00	17.96	24.44	8.73	33.16	17.79	1.98	19.77	42.22	10.71	52.93	16.58
1996	17.42	2.00	19.42	23.21	8.73	31.94	17.79	1.98	19.77	41.00	10.71	51.71	15.97
1997	18.88	5.00	23.88	21.99	8.73	30.72	17.79	1.98	19.77	39.78	10.71	50.49	15.36
1998	27.56	5.00	32.56	20.77	8.73	29.50	17.79	1.98	19.77	38.56	10.71	49.27	14.75
1999	29.26	5.00	34.26	19.55	8.73	28.28	17.79	1.98	19.77	37.34	10.71	48.05	14.14
2000	30.97	5.00	35.97	18.33	8.73	27.05	17.79	1.98	19.77	36.12	10.71	46.82	13.53
2001	32.67	7.50	40.17	17.11	8.73	25.83	17.79	1.98	19.77	34.89	10.71	45.60	12.92
2002	34.37	7.50	41.87	15.88	8.73	24.61	17.79	1.98	19.77	33.67	10.71	44.38	12.31
2003	36.07	7.50	43.57	14.66	8.73	23.39	17.79	1.98	19.77	32.45	10.71	43.16	11.69
2004	37.77	7.50	45.27	13.44	8.73	22.17	17.79	1.98	19.77	31.23	10.71	41.94	11.08
2005	39.48	7.50	46.98	12.22	8.73	20.95	17.79	1.98	19.77	30.01	10.71	40.72	10.47
2006	41.18	10.00	51.18	11.00	8.73	19.73	17.79	1.98	19.77	28.78	10.71	39.49	9.86
2007	42.88	10.00	52.88	9.77	8.73	18.50	17.79	1.98	19.77	27.56	10.71	38.27	9.25
2008	44.58	10.00	54.58	8.55	8.73	17.28	17.79	1.98	19.77	26.34	10.71	37.05	8.64
2009	46.29	10.00	56.29	7.33	8.73	16.06	17.79	1.98	19.77	25.12	10.71	35.83	8.03
2010	47.99	10.00	57.99	6.11	8.73	14.84	17.79	1.98	19.77	23.90	10.71	34.61	7.42
2011	49.69	15.00	64.69	4.89	8.73	13.61	17.79	1.98	19.77	22.68	10.71	33.38	6.81
2012	51.39	15.00	66.39	3.67	8.73	12.39	0.00	0.00	0.00	3.67	8.73	12.39	6.20
2013	53.09	15.00	68.09	2.44	8.73	11.17	0.00	0.00	0.00	2.44	8.73	11.17	5.59
2014	54.80	20.00	74.80	1.22	8.73	9.95	0.00	0.00	0.00	1.22	8.73	9.95	4.97
2015	56.50	20.00	76.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	58.20	20.00	78.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Rs. in million

339.32

Estimated cost :-		448.00
G.I.A.	23.33 %	102.67
L.I.C.]		192.00
O.M.B.]	66.67 %	181.33
P.C.	10.00 %	44.00

Length of Riving Main :- 40.9 Km.

(Assumed reference as 40 km. )

PAL COUNCIL

AFTER

Rs. in million

ent dy	Balance Indirect Charges	Repayment of Govt. loan after 20 yrs. in 20 intall- ments	Total Liabili- ties Due to Indirect Charges	Water rate due to Indirect charges Considering subsidy & Repayment of Govt. Loan after 20 years
	Rs.	Rs.	Rs.	Rs. per 1000 lits
	15	16	17	18
	19.77		19.77	3.60
	19.77		19.77	3.28
	36.35		36.35	5.54
	35.74		35.74	5.04
	35.13		35.13	4.03
	34.52		34.52	2.90
	33.91		33.91	2.71
	33.30		33.30	2.54
	32.69		32.69	2.23
	32.08		32.08	2.10
	31.46		31.46	1.98
	30.85		30.85	1.87
	30.24		30.24	1.76
	29.63		29.63	1.59
	29.02		29.02	1.50
	28.41		28.41	1.43
	27.80		27.80	1.35
	27.19		27.19	1.28
	26.58		26.58	1.13
	6.20		6.20	0.26
	5.59		5.59	0.22
	4.97		4.97	0.18
	0.00	64.47	64.47	2.31
	0.00	62.09	62.09	2.18
	0.00	59.72	59.72	2.09

STATEMENT No. XV.a  
DHOLE WATER SUPPLY SCHEME

STATEMENT SHOWING LIABILITIES DUE TO LIC LOAN (AS PER 'C' CLASS MUNICIPAL COUNCIL)

Year	LIC Loan out- standing	Yearly interest on LIC loan 14	Payment of Principal Amt.in inst. 22 NO.	Balance Amt. of LIC Loan	Total Liabilities of LIC Loan
	Rs.million	Rs.million	Rs.million	Rs.million	Rs.million
1990	64.00	8.96			8.96
1991	126.00	17.92			17.92
1992	192.00	26.88			26.88
1993	192.00	26.88	8.73	183.27	35.61
1994	183.27	25.66	8.73	174.55	34.39
1995	174.55	24.44	8.73	165.82	33.16
1996	165.82	23.21	8.73	157.09	31.94
1997	157.09	21.99	8.73	148.36	30.72
1998	148.36	20.77	8.73	139.64	29.50
1999	139.64	19.55	8.73	130.91	28.28
2000	130.91	18.33	8.73	122.18	27.05
2001	122.18	17.11	8.73	113.45	25.83
2002	113.45	15.88	8.73	104.73	24.61
2003	104.73	14.66	8.73	96.00	23.39
2004	96.00	13.44	8.73	87.27	22.17
2005	87.27	12.22	8.73	78.55	20.95
2006	78.55	11.00	8.73	69.82	19.72
2007	69.82	9.77	8.73	61.09	18.50
2008	61.09	8.55	8.73	52.36	17.28
2009	52.36	7.33	8.73	43.64	16.06
2010	43.64	6.11	8.73	34.91	14.84
2011	34.91	4.89	8.73	26.18	13.61
2012	26.18	3.67	8.73	17.45	12.39
2013	17.45	2.44	8.73	8.73	11.17
2014	8.73	1.22	8.73	0.00	9.95



Water Supply Schemes of Municipal  
Council  
Revised Pattern of financial  
assistance.

GOVERNMENT OF MAHARASHTRA  
URBAN DEVELOPMENT, PUBLIC HEALTH AND HOUSING DEPARTMENT  
CIRCULAR NO.MWS-1765/19103/M  
MANTRALAYA, BOMBAY-32(BR), 8th June, 1968.

CIRCULAR

Government has decided to give financial assistance to 'C' class Municipal Councils to enable them to repay the loans that may be given by the Life Insurance Corporation for their water supply schemes, with greater facility and has further liberalised the mode of contribution of their 10% share by 'A' & 'B' class Municipal Council. On account of these changes the pattern of financial assistance to the Municipal Councils for their water supply schemes will be indicated below.

	Municipal Council	Government Grant-in-aid	Life Insurance Loan
i) A Class Municipal Council	10%	23 1/3%	66 2/3%
ii) B Class Municipal Council	10%	40%	50%
iii) C class Municipal Council	10%	50%	40%

2. If the financial position of a C class Municipal Council is so unsatisfactory that it is unable to make its 10% cash contribution the same may be waived and such municipal councils may be given 50% of the cost as Government grant-in-aid and 50% as L.I.C. loan.

3. In respect of C class Municipal Council Government has also decided that the full amount of the instalment and interest to be paid annually by them towards repayment of the Life Insurance Corporation loan may be given to the Municipal Councils by Government as loan each year for the first five years from the commencement of the scheme or till the scheme is completed whichever is earlier thereafter the 50% of the annual instalment of the L.I.C. loan with interest may be given as loans to the Municipal Councils, each year till the last instalment of the Life Insurance Corporation loan is repaid. The Government Loans will be granted under the same terms and conditions as governing the L.I.C. loans. The loans given by Government will be recovered from the Municipal Council with effect from the twentieth year of the drawal of the L.I.C. loan by them and will be completed in subsequent twenty years.

Government has also decided to allow 'A' & 'B' class municipal councils to pay their share of 10% of the cost in three equal annual instalments the third and the last instalment being paid before handing over the scheme to the Municipal Council.

5. The Municipal Council desirous of taking up this water supply scheme under this new pattern of financial assistance should approach Government through the Executive Engineer and Deputy Chief Auditors of Local Fund Account concerned. The Executive Engineer should send this proposal in the enclosed proforma, accompanied by detailed plans and estimate to the Superintending Engineer concerned who in turn should consolidate this and send this to Government so as to reach this Department by the end of July every year. Any proposal received after July will not be included in the programme for the year and will have to be postponed till the subsequent year.

6. This circular, issued with the concurrence of Finance Department, vide its unofficial reference No.7154/D-778/IX, dated 4th May 1968.

By order and in the name of Governor of Maharashtra.

Sd/-  
V,R,Chitale  
Under Secretary.

The modified procedure in respect of loans raised or to be raised by the Board from the L.I.C. for Urban Water Supply and Sewerage Schemes and servicing of these loans.

Amendment to para 6(c) of the G.R., U.D.P.H..D.No.WSB-1076/310-S UD-22, dated the 7th March, 1977.

GOVERNMENT OF MAHARASHTRA  
Urban Development and Public Health Department  
Resolution No.LON-1076/287-UD-22, -S  
Mantralaya, Bombay-400 032, dated the 19th September, 1978.

READ:

- 1) Government Circular, Urban Development and Public Health Department No.MWS-1765/19103-M, dated the 8th June 1968.
- 2) Government Resolution No.MWS-1076/292/UD-22, dated the 11th February 1977.
- 3) Government Resolution, Urban Development and Public Health Department No.WSB-1076/310-S/UD-22, dated the 7th March 1977 NS 1)TH August 1977.

RESOLUTION: After formation of the Maharashtra Water Supply and Sewerage Board from 1st January 1977, the State Government has prescribed under Government Resolution, Urban Development and Public Health Department No,WSB-1076/310-S-UD-22, dated the 7th March 1977, the modified procedure in respect of loans raised or to be raised by the Board from the L.I.C. of India for Urban Water Supply and Sewerage Schemes and servicing of these loans with effect from 1st April, 1977.

2. In the case of 'C' class Municipal Councils having population less than 15,000, the State Government has taken over the L.I.C. loan liabilities with effect from 10th October 1976 vide Government Resolution No.MWS-1076/292/UD-22, dated the 11th February, 1977. In case of 'C' class Municipal Councils having population more than 15,000, the existing financial pattern and procedure for repayment of L.I.C. loans as prescribed in para (3) of the Government Circular, Urban Development and Public Health and Housing Department NO.MWS-1765/19103-M, dated the 8th June 1968 continues to be applicable.

3. In view of the above, it is necessary to amend the procedure, prescribed in para 6(c) of the Government Resolution, NoWSB-1076/310-S-UD-22, dated the 7th March 1977, for servicing of the L.I.C. loans raised by 'C' class Municipal Councils having population less than 15,000 and more than 15,000, as per 1971 census, for regulation of the repayment of L.I.C. loans, raised or to be raised for their Water Supply and Sewerage Schemes.

4. Government is, therefore, pleased to direct that in partial modification of the orders issued in para 6(c) of the Government Resolution, Urban

Development and Public Health Department No.WSB-1076/310-S-UD-22, dated the 7th March 1977, the procedure to be followed in respect of repayment of L.I.C. loans raised or to be raised by 'C' class Municipal Councils having population less than 15,000 and more than 15,000, as per 1971 census, for their Water Supply and Sewerage Schemes, shall be as follows.

a) After formation of the Maharashtra WaterSupply and Sewerage Board, according to the rescheduling of L.I.C. dues, the repayment of loans once in the year and payments of interest are to be made twice i.e. half yearly in June and December in the year.

b) The Maharashtra Water Supply and Sewerage Board will send the intimations to 'A', 'B' & 'C' class Municipal Councils, having population more than 15,000( to which L.I.C. has advanced loans prior to 6/68 and which are paying directly to the Board) and the State Government for Government WaterSupply Schemes & 'C' class Municipal Councils having population less than 15,00 every year in the month of March of the preceeding year for the payments due in the succeeding year.

c) The 'A' & 'B' class Municipal Councils mentioned in (b) above will send the cheques/demand drafts in the name of Maharashtra WaterSupply and Sewerage Board Fifteen days in advance for making consolidated payments to the L.I.C. falling due in June/December of the year.

d) In case of loans advanced to Government WaterSupply Schemes & 'C' class Municipal Councils having population less than 15,000, the State Government will sanction and release the required funds to the Board not earlier than four weeks in advance of the due date of payment to the L.I.C. every year.

e) In case of 'C' class Municipal Councils having population more than 15,000 (loans advanced after 6/68) in which case 5 years from the drawal of the L.I.C. loan (date of advance) have been completed, the concerned Municipal Council will pay 50% of the L.I.C. dues in the year to the Maharashtra Water Supply and Sewerage Board on receipt of intimation from the Board and the remaining 50% of the same L.I.C. dues in the year will be sanctioned and released by the StateGovernment to the Board as Government loan. The payment to the extent of 50% of such dues of L.I.C. loan made to the Board by the State Government will be treated as StateGovernment loan to theBoard instead of to the Municipal Councils concerned, governed under Government Resolution, Urban Dev elopment and Public Health and Husing Department No.MWS-1765/19103-M, dated the 8th June 1968, The Maharashtra Water Supply and Sewerage Board will work out the exact amounts to be paid by the State Government and concerned Municipal Council, every year and intimate the same to both in time.

f) In case of 'C' class Municipal Councils having population more than 15,000(loans advanced after 6/68), in which case 5 years from the drawal of the L,I,C, loan(date.of advance) have not been completed, the State Government will sanction and release, the amount required for repayment of L.I.C. loan with interest in full to the Board every year till 5 years are completed. After completion of 5 years, the procedure prescribed in para (e) above will be followed.

g) After receiving the dues from the concerned Municipal Councils and the State Government as mentioned above, the Maharashtra Water Supply and Sewerage Board, will make the consolidated payments to the L.I.C. of India on due dates in June/December of the year.

h) Other procedure regarding servicing of the L.I.C. loans through Maharashtra Water Supply and Sewerage Board would be continued as prescribed in Government Resolution, Urban Development and Public Health Department No.WSB-1076/310-S-UD-22, dated the 7th March 1977 and 10th August 1977.

5. The above modified procedure about servicing of L.I.C. loans in respect of Urban WaterSupply and Sewerage Scheme will come into force with immediate effect.

6. This Government Resolution, Issues with the concurrence of Finance Department under its un-official reference No.3649/676/78/EXP.6, dated the 12th May 1978.

By order and in the name of Governor of Maharashtra.

Sd/-  
( S.D.Pradhan )  
Deputy Secretary to Government.

Copy to:

The Chairman, Maharashtra WaterSupply and Sewerage Board, Bombay,  
The Member Secretary, Maharashtra WaterSupply and Sewerage Board  
Bombay(with 25 spare copies),  
The Director of Municipal Administration, Bombay,  
All Commissioners, in the State,  
The Executive Director(Investment), Life Insurance Corporation of India,  
Bombay  
All Municipal Corporations and Councils in the State (except  
Bombay Municipal Corporation),  
The Accountant General, Maharashtra-I, Bombay,  
The Accountant General, Maharashtra-II, Nagpur,  
The Pay and Accounts Officer, Bombay,  
The Chief Auditor, Local Fund Accounts, Bombay(10 spares copies)

-: 4 :-

The Deputy Chief Auditor, Local Fund Accounts,  
Bombay/Pune/Nagpur/Aurangabad (10 spare copies)  
The Planning Department,  
The Finance Department,  
The Superintending Engineers, in charge, Environmental Engineering Circles,  
under Urban Development and Public Health Department,  
The Executive Engineer of Environmental Engineering Divisions, under Urban  
Development and Public Health Department,

All Desks under UD Wing

No. of 1977.

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