

4.2.4.5 Private Offices

1.0 Subject Matter

(Present a brief historical background on the growth of offices – a bird’s eye view picture and analysis of the sector using the information/ tables) provided in the annexure.

GIS based map depicting location of all the Private Offices- District level

Type and total no. of Private Offices in the State. (Refer Annexure: Table-1)

Time trend of the number (growth) of Offices in the state and Water Demand & Supply position. (Refer Annexure: Table-2)

2.0 Details of Water Availability, Supply, Demand, Withdrawal & Consumption for the Offices

Water Supply & Demand for Offices in the State

Time trend of total water demand and actual current water supplied to the Offices along with growth of offices in the state. Provide trend analysis (10-15 years) with breakup. (Refer Annexure: Table – 2, 3a, 3b)

Total Freshwater Withdrawal and Actual Water Consumption by Offices in the State

Comparative trend of Total Freshwater Withdrawal vs Actual Water Consumption by Offices in the State: State Water Budgeting: Refer Annexure- Table 3(e)

SECTOR (District-wise)	Previous Year / Average Annual Demand (MCM)	Previous Year/ Average Annual Supply & Consumptive Use (MCM)		Demand for the present Water Year (MCM)
		Supply	Consumptive Use	
District 1				
District 2				
GRAND TOTAL	xxx	xxx	xxx	xxx

3.0 Issues and Challenges

Illustrative issues and challenges may include

- Water demand and supply issues in the Private offices in the state, provide details
- Issues & challenges relevant to the water supply & consumption
- Issues related to monitoring and reporting of data

(Supporting data & analysis for above points may also be furnished)

4.0 Problem Tree / Root cause Analysis: Cause, Effect and Interventions

5.0 Governance / Management:

Statute / Law / Policy/ Regulations if any

- State level laws, policy and governance for the Offices in the state on water access, consumption and wastewater discharge.
- Any specific fresh and waste water regulation/ guidelines for Offices in state, provide details.

Institutions governing / managing / monitoring the resources and Institutional structure.

- Institutions governing / managing / monitoring the water consumption and supply.

Governing body for sector	Water allocation & Monitoring authority	Waste water discharge monitoring
E.g. Government of India	E.g. CGWA/ Water resource department/ Urban or Rural body	e.g. State pollution Control Board

Areas of Peoples/Private Participation if any

- Water Projects set up by Private offices for the benefit of neighborhood/ local community/ Environment.

Private Offices	Any OE ³³ or critical block within the watershed	Water Conservation / Waste Water Treatment initiatives if any	Partnership			Sustainability of initiative
			Community Participation	PPP	Others	

Private Offices	Any OE or critical block within the watershed	Water Reuse/ Recycle initiatives under PPP	PPP Yes/No	Sustainability of initiative

Schemes, Economics & Financing-

Existing schemes and programs along with financial allocations, expenditure etc.

- Water Tariff and procurement cost (Refer Annexure: Table 6(a) & 6(b))
- Expenditure on Water management (Refer Annexure: Table 6(c) & 6(d))

6.0 Measurement, Monitoring and Data Constraints/ Management

- **Water & Wastewater Measurement:**
- **Monitoring** at State Government: Institution/ Agency/ Official responsible for Sustainable Water Management comprehensively for this Sector.
- **Data Management:** Should specify - Frequency of measurement, Frequency of Reporting to centralized agency, Water Quality Parameters monitored, how data is being used to improve Water Use Efficiency and ensure water quality parameters within the prescribed norms etc.
- **Constraints** with respect to the measurement & monitoring

7.0 Performance Indicators:

a. Benchmarks on water use (Refer Annexure: Table-13)

b. Status of various Performance Indicators– for comparison across Districts/ Plants/ Units/ Products etc.

Performance Indicators

Category	Indicator	Bench Mark (as applicable)	District- 1	District- 2
Water Quantity Measurement	Water Quantity			
	% of Private offices with installed water flow meters			
	% of Private offices undertaken internal water audit in the last year			
	% of Private offices undertaken external water audit in the last year			
	% of Private offices undertaken Third party Water Audit in the last Year			
Water Conservation	% of Private offices with water harvesting structures?			
	% reduction of total water demand compared to the previous year.			

Performance Indicators

Category	Indicator	Benchmark (as applicable)	District 1	District 2
Water Use Efficiency (Annexure-7)	Water consumed per employee/ day			
	Specific Water Consumption (SWC); (litres/capita/day of water consumed) (refer Annexure-7(a),(b) & (c))			
	Have specific water consumption norms/bench marks established?	Yes/No		
Waste Water (Annexure-8)	% reduction in wastewater generation as compared to previous year?			

³³Overexploited block of groundwater

Water Quality (Annexure-9)	% of Private offices with online water quality monitoring systems installed.			
Economics	Whether economic incentives are in place by state to encourage water efficiency & conservation?	Yes/No		
	Whether economic disincentive mechanisms like penalties etc. are in place by state to discourage water wastage & inefficient use?	Yes/No		
	Whether water use charges & tariff are revised regularly and are reflective of rational pricing mechanisms?	Yes/No		

8.0 Reforms undertaken/ being undertaken/ proposed if any**9.0 Road map of activities / tasks proposed for**

- Better governance
- Better source / supply management
- Better demand management / improved Water Use Efficiency
- Water Quality
- Water Economics and Financing
- Sustainable Water budgeting with timelines and agencies responsible for each task/activity.

ANNEXURE**1 Total number of Private offices in the State**

District-wise	No. of Private Offices	No. of employees
District 1		
District 2		
District 3		
Total		

2 Growth Trend of Private offices over a period and Water Demand and Supply position

Private Offices	Years					
	1990	1995	2000	2005	2010	2017
No. of Private Offices						
Total						
Water Demand and Supply						
Total Water Demand (MCM)						
Total Water Supply (MCM)	<i>GW</i>					
	<i>SW</i>					
	<i>Total</i>					
Demand-Supply Gap						

3 Water Budgeting**3(a) Demand, Supply (Withdrawals) & Consumptive Use:**

Private Offices: (MCM) Present Water Year: 1 st June to 31 st May next year									
INSTITUTIONS (within the Basin/ Sub-basin A)	Previous Year/ Average Annual Demand	Demand for Present Water Year	Previous Year/ Average Annual Supply				Previous Year/ Average Annual Waste Water Generated	Previous Year/ Average Annual Consumptive Use	Remarks
			Rain Water	Surface Water	Ground Water*	TOTAL SUPPLY			

Unit 1									
Unit 2									
GRAND TOTAL									

*GW Draft can be calculated from the number of GW abstraction structures & corresponding draft for each Industrial Use/ Process.

3(b) Source Wise: Previous Year/ Average Annual Water Supply

Private Offices: (MCM)										
Source	Sub Source	Unit 1	Unit 2	Unit 3	Unit 4					TOTAL
Rain Water	Directly Harvested Rain Water									
Total										
Surface Water	Springs, Nallahs									
	Major Projects									
	Medium Projects									
	Minor Projects									
	Ponds, Tanks									
	Wetlands									
	Sea Water /Desalinated Water									
Inter Basin Transfer										
Total										
Ground Water* (Dynamic / Static)	Dug wells (Total No. x Draft)									
	Dug cum Bore well (Total No. x Draft)									
	Bore/Tube wells (Total No. x Draft)									
	Others etc									
Total										
Treated Waste Water										
GRAND TOTAL										

*GW Draft can be calculated from the number of GW abstraction structures & corresponding draft for each Industrial Use/ Process.

3(c) Previous Year/ Average Annual Demand, Supply (Source wise) and Consumption for Basin/ Sub-basin A:

Source of Water	Demand of all Units in Basin/ Sub-basin A	Supply/ Withdrawal for all Units	Consumptive Use of all Units	Gap/Remarks
Rain Water (Directly Harvested)				
Springs, Nallahs				
Major Projects				
Medium Projects				
Minor Projects				
Ponds, Tanks				

Wetlands				
Desalinated Water/ Sea water				
Inter-Basin Transfer				
Ground Water (Dynamic)				
Treated Waste Water				
TOTAL (MCM)				

3(d) Previous Year/ Average Annual Demand, Supply (Source wise) and Consumption for Whole State:

Source of Water	Demand of all Units in the State	Supply/ Withdrawal for all Units	Consumptive Use of all Units	Gap/Remarks
Rain Water (Directly Harvested)				
Springs, Nallahs				
Major Projects				
Medium Projects				
Minor Projects				
Ponds, Tanks				
Wetlands				
Desalinated Water/ Sea water				
Inter-Basin Transfer				
Ground Water (Dynamic)				
Treated Waste Water				
TOTAL (MCM)				

3(e) Summary State Water Budget for Private Offices

Private Offices(District- wise)	Previous Year / Average Annual Demand (MCM)	Previous Year/ Average Annual Supply & Consumptive Use (MCM)		Demand for the present Water Year (MCM)
		Supply	Consumptive Use	
All districts	xxx	xxx	xxx	xxx

4 Proportion of Water withdrawal and consumption by Private Offices against total industries in the State

Total Water Withdrawal by all the Private offices (%) (Refer 4(a) below)	Total water withdrawal by all the Industries in state	Total Water Consumption by all the Private offices (%) (Refer 4(b) below)	Total water Consumption by all the Industries in state

4(a) Total Water Withdrawal/Abstraction by Private Offices in the State as percentage of total water withdrawal by all industries in the State

$$\text{Total water withdrawal by Private offices (\%)} = \frac{(\text{Total water withdrawal by Private Offices in the State}) \times 100}{(\text{Total water withdrawal by all the industries in the state})}$$

4(b) Total Actual Water Consumption by Private Offices in the State as percentage of total water consumption by all industries in the State

$$\text{Total water consumption by Private offices (\%)} = \frac{(\text{Total actual water consumption by Private Offices in State}) \times 100}{(\text{Total water consumption by all the industries in the state})}$$

4(c) Total Freshwater Withdrawal and Total Actual Water Consumption by all Private Offices in the State

	CY -11	CY -10	CY -9	CY -8	CY -7	CY -6	CY -5	CY -4	CY -3	CY -2	CY -1	CY / 2017
Total Fresh Water Withdrawal by all Private Offices(MCM)												
Total Actual Water Consumption by all Private Offices(MCM)												

5 Total Water Withdrawal (Abstraction) and Actual Water Consumption as percentage of total renewable freshwater resources

	CY-5	CY-4	CY-3	CY-2	CY-1	CY/ 2017
Total Fresh Water Withdrawal by all Private Offices (%) (Refer 5(a) below)						
Total Actual Water Consumption by all Private Offices (%) (Refer 5(b) below)						

5(a) Total Water Withdrawal/Abstraction by Private offices in the State as percentage of Total available freshwater resources of the State

$$\text{Total water withdrawal by Private offices (\%)} = \frac{(\text{Total water withdrawal by all Private Offices in the State}) \times 100}{(\text{Total available freshwater resources of the state})}$$

5(b) Total Actual Water Consumption by all Private Offices in the state as percentage of Total available freshwater resources of the State

$$\text{Total water consumption by Private offices (\%)} = \frac{(\text{Total actual water consumption by all Private Offices in State}) \times 100}{(\text{Total available freshwater resources of the state})}$$

6 Water Economics & Financing:

6(a) Water Tariff (Rs./m³)

Source	CY-5	CY-4	CY-3	CY-2	CY-1	CY/ 2017
GW						
Urban body						
Treated Waste Water for reuse						
Others						

6(b) Procurement Cost of Water (in Rs)

Year wise cost of procurement of Water				
CY-5	CY-4	CY-3	CY-2	CY-1

6(c) Expenditure on Water including Treatment and Management-Time trend at State level

	CY-5	CY-4	CY-3	CY-2	CY-1	CY/ 2017
Total Capex by Private Offices on water treatment and management (Lakhs)						
Total O&M Expenditure by Private offices on water treatment and management (Lakhs)						
Total						
O&M Expense (%)						

6(d) Expenditure by Private Offices at district level for the Current Year- CY

Private Offices	Capital Expenditure (Lakhs)	O&M Expenditure (Lakhs)	Total	O&M Expense (%)
District 1				
District 2				
District 3				
District 4				
District 5				
Total				

7 Water Use Efficiency:

Water use efficiency in terms of Specific Water Consumption (SWC) viz. amount of water used/consumed per unit person. In case of Private Offices it can be represented as the total volume of water used/consumed (in litres) per official.

Specific Water Consumption (SWC) of Private offices:

Volume of water consumed by the Private Offices, (litres)

Specific Water Consumption (litres/capita/day) = -----
(Total no. of officials)

7(a) Specific Water Consumption (SWC) for Current Year

	Average Daily Vol. of Water Consumed (litres)	Total no. of Officials	SWC (litres per capita per day)
District 1			
District 2			
District 3			

7(b) Average SWC of Private offices for the State – time trend (also represent through Graph)

	CY-5	CY-4	CY-3	CY-2	CY-1	CY/ 2017
Average SWC of Private Offices in State						

7(c) Specific Water Consumption (SWC)

SWC of Private Offices in the **State**; Decadal trends or 15 years trend to be provided.

Trend of average Specific Water Consumption (SWC) of Private Offices at district level.

Percentage of Private Offices having specific water consumption within the norms/bench marks/standards (as applicable)

8Waste Water

	Bench Mark (as applicable)	District 1	District 2	District 3
Total Waste Water Generated from Private Offices in the state (m ³ /annum)				
% Total quantum of wastewater discharged after recycling				

9Water Quality

		Bench Mark(as applicable)	District 1	District 2	District 3
Water Quality	% of Private Offices with online water quality monitoring systems installed.				

Water Quality Time trend- Graphs: Compliance to Waste water discharge Quality norms (E.g. BOD / PH /COD / TSS etc.)

10Bench Marks/ Norms/ Standards and deviation from the norms/bench marks/standards currently for Private Offices in state.**10(a) Benchmark for Water Consumption, Waste Water Generation etc. – District-wise**

Parameters	Unit	Indian Bench Mark	International Bench Mark
Specific Water Consumption	litres/capita/day		
Waste Water generation	litres/capita/day		
Waste Water discharged	litres/capita/day		

10(b) Existing benchmarks/norms in certain sectors for reference

(As per CPHEEO Norms for Office Buildings)

	SWC
Specific Water Consumption for Office building	45 litres/capita/day