

#### 4.2.4.7 Restaurants

##### 1.0 Subject Matter

(Present a brief historical background on the growth of restaurants – 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 Restaurants- District level

Total no. of Restaurants in the State. (Refer Annexure: Table-1)

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

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

###### Water Supply & Demand for Restaurants in the State

Time trend of total water demand and actual current water supplied to the Restaurants along with growth of restaurants 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 Restaurants in the State

**Comparative trend of Total Freshwater Withdrawal vs Actual Water Consumption by Restaurants 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				
<b>GRAND TOTAL</b>	xxx	xxx	xxx	xxx

##### 3.0 Issues and Challenges

Illustrative issues and challenges may include

- Water demand and supply issues in the Restaurants 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 Restaurants in the state on water access, consumption and wastewater discharge.
- Any specific fresh and waste water regulation/ guidelines for Restaurants 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
<i>E.g. Department of Food</i>	<i>E.g. CGWA/ Water resource department/ Urban or Rural body</i>	<i>e.g. State pollution Control Board</i>

###### Areas of Peoples/Private Participation if any

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

Restaurants	Any OE <sup>34</sup> or critical block within the watershed	Water Conservation / Waste Water Treatment initiatives if any	Partnership			Sustainability of initiative
			Community Participation	PPP	Others	

Restaurants	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	<b>Water Quantity</b>			
	% of Restaurants with water flow meters			
	% of water sources of Restaurants geotagged			
	% of Restaurants undertaken internal water audit in the last year			
	% of Restaurants undertaken external water audit in the last year			
Water Conservation	% of Restaurants Undertaken Third party Water Audit in the last Year			
	% of Restaurants with water harvesting structures?			
Water Use Efficiency (Annexure- Table 7)	% reduction of total water demand compared to the previous year.			
	Specific Water Consumption in <b>Water consumption per guest (L/guest)</b> (refer Annexure Table-7(a),(b) & (c))			
	Have specific water consumption norms/benchmarks established	Yes/No		
	% of Restaurants with specific water consumption within the norms/bench marks/standards			

<sup>34</sup>Overexploited block of groundwater

<b>Waste Water</b> (Annexure-Table 8)	% reduction in wastewater generation as compared to previous year			
<b>Water Quality</b> (Annexure-Table 9)	% of Restaurants with online water quality monitoring systems installed.			
	% of Restaurants having compliance with the wastewater quality discharge norms.			
	% of Restaurants discharging wastewater into open area/ earthen nallah /open drain/ municipal sewer?			
	% of Restaurants notified for violating effluent discharge norms for discharge in natural resources (surface/ground)?			
<b>Economics</b>	Whether economic incentives are in place to encourage water efficiency & conservation?	Yes/No		
	Whether economic disincentive mechanisms like penalties etc. are in place 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 Restaurants in the State**

District-wise	No. of Restaurants
District 1	
District 2	
District 3	
<b>Total</b>	

**2 Growth Trend of Restaurants over a period and Water Demand and Supply position**

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

Demand-Supply Gap						
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### 3 Water Budgeting

#### 3(a) Demand, Supply (Withdrawals) & Consumptive Use:

Restaurants: (MCM) Present Water Year: 1 <sup>st</sup> June to 31 <sup>st</sup> 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									
<b>GRAND TOTAL</b>									

\*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

Restaurants: (MCM)										
Source	Sub Source	Unit 1	Unit 2	Unit 3	Unit 4					TOTAL
Rain Water	Directly Harvested Rain Water									
<b>Total</b>										
Surface Water	Springs, Nallahs									
	Major Projects									
	Medium Projects									
	Minor Projects									
	Ponds, Tanks									
	Wetlands									
	Sea Water /Desalinated Water									
	Inter Basin Transfer									
<b>Total</b>										
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									
<b>Total</b>										
<b>Treated Waste Water</b>										
<b>GRAND TOTAL</b>										

\*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				
<b>TOTAL (MCM)</b>				

**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				
<b>TOTAL (MCM)</b>				

**3(e) Summary State Water Budget for Restaurants**

Restaurants(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	
<b>All districts</b>	xxx	xxx	xxx	xxx

**4 Proportion of Water withdrawal and consumption by Restaurants against total establishments in the State**

Total Water Withdrawal by all the Restaurants (%) <i>(Refer 4(a) below)</i>	Total water withdrawal by all the establishments in state	Total Water Consumption by all the Restaurants (%) <i>(Refer 4(b) below)</i>	Total water Consumption by all the establishments in state

**4(a) Total Water Withdrawal/Abstraction by Restaurants** in the State as percentage of total water withdrawal by all establishments in the State

$$\text{Total water withdrawal by Restaurants (\%)} = \frac{(\text{Total water withdrawal by Restaurants in the State}) \times 100}{(\text{Total water withdrawal by all the establishments in the state})}$$

**4(b) Total Actual Water Consumption by Restaurants** in the State as percentage of total water consumption by all establishments in the State

$$\text{Total water consumption by Restaurants (\%)} = \frac{(\text{Total actual water consumption by Restaurants in State}) \times 100}{(\text{Total water consumption by all the establishments in the state})}$$

**4(c) Total Freshwater Withdrawal and Total Actual Water Consumption by all Restaurants 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 Restaurants(MCM)												
Total Actual Water Consumption by all Restaurants(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 Restaurants (%) <i>(Refer 5(a) below)</i>						
Total Actual Water Consumption by all Restaurants (%) <i>(Refer 5(b) below)</i>						

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

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

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

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

**6 Water Economics & Financing:**

**6(a) Water Tariff (Rs./m<sup>3</sup>)**

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 Restaurants on water treatment and management (Lakhs)						
Total O&M Expenditure by Restaurants on water treatment and management (Lakhs)						
Total						
O&M Expense (%)						

**6(d) Expenditure by Restaurants at district level for the Current Year- CY**

Restaurants	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 Restaurants it can be represented as the total volume of water used/consumed (in litres) per guest.

**Specific Water Consumption (SWC) of Restaurants:**

$$\text{Specific Water Consumption (litres/guest)} = \frac{\text{Volume of water consumed by the Restaurants, (litres)}}{(\text{Total no. of guests})}$$

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

	Average Daily Vol. of Water Consumed (litres)	Total no. of guests	SWC (litres per guest)
District 1			
District 2			
District 3			

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

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

**7(c) Specific Water Consumption (SWC)**

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

**Trend of average Specific Water Consumption (SWC) of Restaurants at district level.**

Percentage of Restaurants 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 Restaurants in the state (m <sup>3</sup> /annum)				
% Total quantum of wastewater discharged after recycling				

**9Water Quality**

		Bench Mark(as applicable)	District 1	District 2	District 3
Water Quality	% of Restaurants 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 Restaurants 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/guest		
Waste Water generation	litres/guest		
Waste Water discharged	litres/guest		