

District Environmental Management Plan

District: Pali

State: Rajasthan (India)

For the year: 2021-2036-2051



Submitted by: **Ansh Deep IAS**
District Collector Pali

Prepared By:
Dr. Suresh Kumar Singh
Ph.D., PGD (Fin Mgt), M.E. (Env.Engg), B.E. (Civil)
Professor
Civil Engineering Department
Faculty of Engineering & Architecture
Jai Narian Vyas University Jodhpur (Raj)

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List of Officers and Staff supported the task

1. Shri Chandrabhan Singh Bhati, Additional District Collector, Pali
2. Shri Sayed Rajjak Ali, General Manager, District Industries Center, pali
3. Shri R.K.Bora, Regional Officer, RSPCB, Pali
4. Shri P.K.Gupta, Regional Manager, RIICO Limited, Pali
5. Shri Brijesh Rai, Commissioner, Nagar Parishad , Pali & All Executive Officer,
Nagar Palika, District Pali
6. Shri Lajpal Singh, Executive Officer, Nagar Palika, Bali
7. Shri Yogesh Acharya, Executive Officer, Nagar Palika, Sumerpur
8. Shri Om Dadhich, Executive Officer, Nagar Palika, Takhatgarh
9. Shri Deen Mohammad, Executive Officer, Nagar Palika, Rani
10. Shri Vikram Singh Bishnoi, Executive Officer, Nagar Palika, Sojat
11. Shri Sunil Bishnoi, Executive Officer, Nagar Palika, Khudala-Falna
12. Shri Bhanwar Sen, Executive Officer, Nagar Palika, Jaitaran
13. Shri Jitendra, Executive Officer, Nagar Palika, Sadri

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I am grateful to Dr. S.K. Singh, Professor, Civil Engineering, Faculty of Engineering & Architecture (M.B.M. Engineering College), Jai Narain Vyas University Jodhpur for accepting this task and preparing in this present form on the basis of limited available data/ information.

I am sure that the District Environment Management Plan shall go a long way in helping in sustainable development of the district, and shall be the guiding force for any new development in the district.

Ansh Deep IAS
District Collector Pali

Preface

Development in each sector is the need for the economic and social development of the country and all developmental activities contribute pollution in one way or in other way. Hence a Environmental Management Plan is always required to address the environmental issues associated with the developmental activities. Broadly developmental activities can be divided in:

- Industrial Sector
- Agricultural sector
- Infrastructure sector (Residential, Institutional, commercial, transportation etc.)

It means:

District environmental management plan (DEMP) is not a compilation of existing data for various related attributes but truly speaking it is a “Basic Guiding Document for any level (i.e. national level/ state level/ district level/ city level/ village level) for the future social and economic development” and associated environmental issues.

Hence a unique composite plan is needed at District level to cover all issues related to micro level environment management. As this plan deals with environmental conservation planning, pollution mitigation, management of wastes, conservation of natural resources including wetlands and ground water and necessary measures for ecological balance with the “Principles of Sustainable Development”. This plan is also required to restore the ecological balance of all the cities/ districts through smart planning for waste minimization, control of different types of pollution and intense drive for tree plantation.

Hon’ble NGT has given direction to prepare DEMP for each district and CPCB has also issued some guidelines for preparation of DEMP.

Planning always indicates the probable future activity. Hence DEMP must contain present status of various environmental attributes and probable future environmental issues required to be addressed for future planned developmental activities. DEMP of Pali District is prepared on the basis of availability of local resources and future scope of development in the district.

The DEMP is prepared for the year 2036 & 2051 considering 2021 as base year. As developmental activities in any area depends upon the requirement at any time, hence this DEMP is to be updated accordingly after every 5 years.

Contents:

S.N	Particulars	Page No.
1.	Acknowledgement	3
2.	Preface	4
3.	Contents	5
4.	Chapter-1: Present Scenario of Environmental Attributes	7
	1.1 Introduction 1.2 Objectives of DEMP 1.3 NGT Directions 1.4 Issues to be addressed in DEMP 1.5 Base line Data for EMP	
5	Chapter-2 : Solid Waste Management Plan	42
	2.1 Analysis of present available data & Analysis 2.2 Future Assessment of Solid waste 2.2.1 Municipal Solid Waste 2.2.2 Biomedical Waste 2.2.3 Plastic Waste 2.2.4 E- Waste 2.3 Role & Responsibilities of authorities & Action Plan	
6	Chapter-3 : Waste Water Management Plan	49
	3.1 Analysis of present available data & Analysis 3.2 Future Assessment of Domestic waste water generation 3.3 Future Assessment of industrial waste water generation 3.4 Role & Responsibilities of authorities & Action Plan	
7	Chapter-4 : Air & Noise Quality Management Plan	54
	4.1 Analysis of present available data & Analysis 4.2 Role & Responsibilities of authorities & Action Plan	
8	Chapter-5 : Mining Activities Management Plan	57

	5.1 Analysis of present available data & Analysis 5.2 Role & Responsibilities of authorities & Action Plan	
9	Chapter-6 : Concluding Remarks	61
10.	Annexure: Act & Rules	

Chapter-1

Present Scenario

of

Environmental

Attributes

1.1 Introduction:

Pali district lies in southwest part of Rajasthan State between 24°45' & 26°29' north latitudes & 72°47' & 74°18' east latitudes. The total area of the district is about 12387 Sq. Km., which is about 3.62 percent of the total area of Rajasthan State.

The Aravalli Range forms the eastern boundary of the district. A zone of foothills lies to the west, through which run the many tributaries of the Luni River. The western portion of the district includes the alluvial plain of the Luni. It is bounded by eight districts, Nagaur to the north, Ajmer to the northeast, Rajsamand to the east, Udaipur to the southeast, Sirohi to the southwest, Jalore and Barmer to the west, and Jodhpur to the northwest.

Pali has been famous for its textile industries. Cotton and Synthetic clothes and yarn was exported to other states of India. Besides this, many more industries are situated at different areas of Pali district i.e. leather based industries, agriculture instruments, Chemical Industries, cement industry, minerals based units like stone crushers etc. Among these granite industries have also flourished recently due to easy availability of raw material and geographical location.

The area under irrigation is 2824.02 km², which is about 22.79 percent of the total geographical area of the district. Wells are the main sources of irrigation in the district, which constitute the source for 75% of the total irrigated area, followed by ponds tanks (20%), and tube wells (5%). The biggest river in the district is the Luni and its major tributaries in the district are the Jawai, Mithari, Sukari, Bandi & Guhiya. All rivers are seasonal and water flows only in monsoon. Pali district has 9 ULB and 1030 villages. The population density is about 165 persons/ Km². Vegetation is xerophytic and sparse in the western part of the district but in the east and on the slopes of the Aravalli ranges, there is mesophytic vegetation in the form of woodland, open forest and grasslands. The area produces bajra, maize, guar, sesame and pulses in the kharif season. In the rabi season wheat, barley and mustard are the dominant crops, specially in the irrigated area.

The developmental activities being haphazard and un-controlled are leading too verse, congestion, incompatible land use and poor living conditions. The problems of environmental pollution are becoming complex and are creating high risk environment.

Presently, the environmental degradation aspects are not usually considered while preparing master plans or regional plans and the process is skewed towards developmental needs. For all developmental activities, a crucial input is land and available resources and

depending on the activity a specific land use is decided. The environmentally related land use such as trade and industry, housing construction, mining etc. is likely to have some impact on the environment. These land use need proper planning and integration as some of the activities have inter dependencies such as industry with transport, waste water generation, air pollution, housing etc.

Conservation of Bio-diversity and wetlands are an integral part of environment planning. The rational effort the biological diversity planning is basically to under pins ecosystem functioning and the provision of ecosystem services essential for human well-being. It provides food security, human health, the provision of clean air and water; it contributes to local livelihoods, and economic development, and is essential for the achievement of the Millennium Development Goals, including poverty reduction.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet the irony needs hence sustainability defines the models necessary to ensure the survival of the human race and planet Earth. This includes ways to slow or reverse pollution, conserve natural resources and protect our environment.

Causes of pollution can be listed as:

- Unplanned Industrial/ Commercial/ Residential Growth
- Use of Outdated Technologies
- Inefficient Waste treatment & Disposal
- Poor implementation of control policies
- Lack of Policies to Control Pollution
- Lack of will power to implement control polices

Pollution Control Objective: Minimize the concentration of pollutants to be released in environment within the assimilation capacity of nature. Various actions/ steps to achieve objective are:

- Planning of Industrial / commercial /Institutional/ residential areas as per the local condition.
- Limiting the activities which are enhancing the problem.
- Limiting the types/ number of industries.
- Installation of control devices of appropriate technology
- Process modification

- Floor Management
- Effective implementation of rules & regulations

Pollution Control Philosophy:

- Reduction
- Recovery
- Reuse
- Recycling
- Proper O & M of facility

1.2 Objectives of DEMP:

Followings are the objectives of District Environmental Management Plan:

- To ensure conservation of environment and natural resources at district level.
- Restore ecological balance.
- To achieve the Sustainable Development Goals and district level targets within the prescribed timeline.
- To ensure sustainability at district level following the principles of resource efficiency.
- To ensure decentralized micro level planning, execution and monitoring regarding environment conservation.
- To incorporate all facets of environmental conservation in micro level planning.
- To harness active participation of all stakeholders in planned environment conservation actions.
- Assess, Mitigate and monitor adverse impacts of various pollution sources at district level.
- Capacity building of stakeholder, department, agencies, organizations and individuals at district level to understand and implement micro level environmental conservation actions.
- To harness inter-departmental coordination for implementation of action plans.
- To develop local knowledge centers and expertise for developing environmental conservation strategies at district level.
- To develop and implement micro monitoring system at district level.

1.3 N.G.T. Directions:

- a. Hon'ble NGT in last one year has issued several directions in various matters which have been based on status brought out by the CPCB on their website and status reports filed before the Tribunal
- b. The directions issued by the Tribunal which are to be executed on pan-India basis
- c. Hon'ble National Green Tribunal (NGT) has ordered Pan-India Directions on various issues relating to environment management and these are to be executed by the Central and State Governments and concerned institutions. Further, the Directions are required to be executed at District Level covering all cities, towns' and villages. The role and responsibilities of enforcement are with District Collectors/Magistrates, Pollution Control Boards, Municipal Bodies, Public Health Engineering Departments and others.

The present state level execution and monitoring mechanism on various State and Central Government's Schemes are monitored by Chief Ministers/Chief Secretaries with DMs/DCs.

- d. Various Directions of NGT to be covered in District Environment Management Plan (DEMP)

1.4 Issues to be addressed in DEMP (As applicable for District):

(a) Waste Management

- a. Municipal Solid Waste (MSW) including remediation of legacy waste dump sites.
- b. Plastic waste management
- c. Bio-medical waste management
- d. Construction and demolition waste
- e. Hazardous Waste Management
- f. E-waste Management

(b) **Restoration of 351 polluted river stretches and also those which are not presently included in the polluted stretches.**

- (c) Maintaining ambient **air quality in non-attainment cities** and in other non-identified towns where levels of PM₁₀ and PM_{2.5} are exceeding.

(d) **Industries to comply with Water (Prevention and Control of Pollution) Act,**

1974 ensuring proper functioning of common effluent treatment plants (CETPs).Environment Compensation (EC) on “Polluter Pays” Principle is required to be imposed to utilize for restoration of environment.

- (e) Ensure cities, towns and villages provide proper **sewage management Facilities** in a time-bound manner or else will be liable to pay EC in case of default and further required to ensure **utilization of treated Sewage for non- potable purpose**.
- (f) Regulation of **sand-mining** to check illegal sand-mining and recover compensation. Proper restoration of exhausted mining sites as per ENV Plan.
- (g) For conservation and protection of water sources, undertake Rejuvenation of **water bodies, conserving ground water** and promote **rainwater harvesting**.

1.5 Baseline Data for EMP

5.1. Baseline Data for Solid Waste Management plan

Population Information: Table-A

S.N	Year	District Population	Rural Population	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
1	1971	970002	861571	35656	11628	4212	8821	10890	14072	8020	5472	9660
2	1981	1274504	1039739	105682	24292	9192	14162	19136	19979	12580	11274	18468
3	1991	1486432	1163085	169428	30168	10992	15446	20840	25891	14899	14532	21151
4	2001	1820251	1449003	187641	38877	12392	18201	23105	31482	15809	19328	24413
5	2011	2037573	1602026	230075	43023	13880	19880	24839	37093	16729	22638	27390
6	2021	2304466	1787136	278680	50872	16297	22645	28327	42849	18907	26930	31823
7	2036	2704806	2064799	351588	62646	19923	26793	33559	51483	22174	33368	38473
8	2051	3105145	2342466	424495	74419	23548	30940	38791	60117	25441	39806	45122

Proposed Industrial Development: Table-B-1 (Pali ULB 1)

S.N.	Attributes	Unit	In2021	In 2036	In 2051	Remarks
1	Industrial area	No.	1560	2500	6000	
2	Cottage Industries	No.	1325	2400	4000	
3	Small Agro Industries	No.	2328	5000	12000	DIC information

Proposed Industrial Development: Table-B-2 (Sojat ULB 2)

S.N.	Attributes	Unit	In2021	In 2036	In 2051	Remarks
1	Industrial area	Nos.	1	2	3	For year 2036 and 2051 has been proposed looking to the Resources available in the area
2	Cottage Industries	Nos.	2	50	100	For year 2036 and 2051 has been proposed looking to the Resources available in the area
3	Small Agro Industries	Nos.	2	25	50	For year 2036 and 2051 has been proposed looking to the Resources available in the area

Proposed Industrial Development: Table-B-4 (Bali ULB 4)

S.N.	Attributes	Unit	In2021	In 2036	In 2051	Remarks
1	Industrial area	Nos.	1	2	3	For year 2036 and 2051 has been proposed looking to the Resources available in the area
2	Cottage Industries	Nos.	Nil	50	100	For year 2036 and 2051 has been proposed looking to the Resources available in the area
3	Small Agro Industries	Nos.	Nil	20	50	For year 2036 and 2051 has been proposed looking to the Resources available in the area

Proposed Industrial Development: Table-B-5 (Falna ULB5)

S.N.	Attributes	Unit	In2021	In 2036	In 2051	Remarks
1	Industrial area	Nos.	1	2	3	For year 2036 and 2051 has been proposed looking to the Resources available in the area
2	Cottage Industries	Nos.	Nil	50	100	For year 2036 and 2051 has been proposed looking to the Resources available in the area
3	Small Agro Industries	Nos.	Nil	20	50	For year 2036 and 2051 has been proposed looking to the Resources available in the area

Table- 1: Report on inventory of total Municipal solid waste Generation

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatarh	(ULB8) Jaitaran	(ULB9) Sadari	Urban Area	Rural Area*	District Pali
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823	517330	1787136	2304466
SW1a	Total solid waste Generation	MT/Day	100	3.0	7.5	6.0	5.5	17.62	7.0	8	5.0	159.62	142.97	302.59
SW1b	Qty. of Dry Waste segregated	MT/Day	51	2.0	3	3.2	2.7	5.86	4.5	3	2.5	77.76	142.97	220.73
SW1c	Qty. of Wet Waste segregated	MT/Day	44	1.0	4	1.8	1.8	5.76	2.5	5	1.5	67.36	NA	67.36
SW1d	Qty. of C&D Waste segregated	MT/Day	5	0.5	NA	0.5	0.6	1.01	0.5	1	0.5	9.61	NA	9.61
SW1e	Qty. of Street Sweeping	MT/Day	NA	0.3	1.5	0.3	0.2	NA	NA	2	0.3	4.6	NA	4.6
SW1f	Qty. of Drain Silt	MT/Day	NA	0.9	3	0.2	0.2	NA	NA	2	0.2	6.5	NA	6.5
SW1g	Qty. of Domestic Hazardous Waste(DHW) collected	MT/Day	NA	0.9	0	0	0	NA	NA	0	0	0.9	NA	0.9
SW1h	Qty. of Other Waste (Horticulture, sanitary waste, etc.)	MT/Day	NA	0.2	0	0	0	NA	NA	0	0	0.2	NA	0.2
SW1i	No of Old dump sites	Nos or None	1	1	1	1	2	1	1	0	1	9	NA	9
SW1j	Qty stored in dumpsites	MTor Not estimated	Around 1 Lakh MT	50	NA	2000	2650	NA	NA	0	2509	7209	NA	7209
SW1k	No of Sanitary landfills	Nos or None	1 (At SWM Plant)	0	0	0	0	0	0	0	0	0	NA	0
SW1l	No of wards	Nos	65	30	15	20	20	35	25	25	25	260	NA	NA

*Remarks: In rural area no data was available. Data for total solid waste generation for rural areas was estimated by random sampling of some house in some villages. The collected sample indicates that in rural areas wet waste quantity is almost negligible as it was consumed either in making compost or used as food for animals.

Table- 2: Compliance by Bulk Waste Generators

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari	Urban Area	Rural Area	District Pali
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823	517330	1787136	2304466
SW2a	No of BW Generators	Nos.	1 (Sabji Mandi)	0	0	0	0	0	0	0	0	1	0	1
SW2b	No of on-site facilities for Wet Waste	Nos.	0 (waste of BWG sent to Centralized SWM Plan)	0	0	0	0	0	0	0	0	0	0	0

Table- 3: Compliance in segregated waste Collection SW Collection

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari	Urban Area	Rural Area	District Pali
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823	517330	1787136	2304466
SW3a	Total generation	MT/Day	100	3.0	7.5	6.0	5.5	17.62	7.0	8	5.0	159.62	142.97	302.59
SW3b	Wet Waste	MT/Day	44	1.0	4	1.8	1.8	5.76	2.5	5	1.5	67.36	NA	67.36
SW3c	Dry Waste	MT/Day	51	2.0	3	3.2	2.7	5.86	4.5	3	2.5	77.76	142.97	220.73
SW3d	C&D Waste	MT/Day	5	0.5	Collection not started	0.5	0.6	1.01	0.5	1	0.5	9.61	NA	9.61

Table- 4: Waste Management Operations

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari	Urban Area	Rural Area	District Pali
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823	517330	1787136	2304466
SW4a	Door to Door Collection	percentage	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA	
SW4b	Mechanical Road Sweeping	percentage	Partial%	100%	0%	0%	0%	0%	0%	100%	0%		NA	
SW4c	Manual Sweeping	percentage	Partial%	80%	100%	100%	100%	100%	100%	100 %	100%	98%	NA	
SW4d	Segregated Waste Transport	percentage	95%	50%	20%	50%	60%	100%	100%	0	50%	50%	NA	
SW4e	Digesters (Bio-methanation)	Initiated /Not Initiated	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NA	
SW4f	Composting operation	percentage	60%	0	0	30%	25%	5%	5%	0	30%	30%	NA	
SW4g	MRF Operation		Operational	No	Operational	Operational	Operational	Operational	Operational	Operational	Used	---	NA	
SW4h	Use of Sanitary Landfill	percentage	10%	0	0	0	0	0	0	100	NIL	----	NA	
SW4i	Reclamation of old dumpsites	Initiated /Not Initiated	Initiated	initiated	Not initiated	Initiated	Initiated	Initiated	Initiated	Not Initiated	initiated	----	NA	
SW4j	Linkage with Waste to Energy Boilers / Cement Plants	Initiated /Not Initiated	Initiated	initiated	Initiated	Initiated	Initiated	Initiated	Initiated	Initiated	initiated	----	NA	
SW4k	Linkage with Recyclers	Initiated /Not Initiated	Initiated	Not initiated	Initiated	Initiated	Initiated	Initiated	Initiated	Not Initiated	initiated	---	NA	
SW4l	Authorization of waste pickers	Initiated /Not Initiated	Initiated	initiated	Initiated	Initiated	Initiated	Initiated	Initiated	Not Initiated	initiated	-----	NA	
SW4m	Linkage with TSDF / CBMWTF	Initiated /Not Initiated	Initiated	Not initiated	Not Initiated	Not Initiated	Not Initiated			Not Initiated	Not initiated	-----	NA	
SW4n	Involvement of NGOs	Initiated	Initiated	Not	Not	Initiated	Initiated	Initiated	Initiated	Initiated	initiated	----	NA	

		/Not Initiated		initiated	Initiated									
SW4o	Linkage with Producers / Brand Owners	Initiated /Not Initiated	Not Initiated	initiated	Not Initiated	Initiated	Initiated	Not Initiated	Not Initiated	Not Initiated	initiated	-----	NA	
SW4p	Authorisation of Waste Pickers	Yes/No	Yes	No	No	Yes	Yes	Yes	Yes	No	No	---	NA	
SW4q	Issuance of ID Cards	Initiated /Not Initiated	initiated	initiated	Initiated	Initiated	Initiated	Initiated	Initiated	Not Initiated	initiated			

Table- 5: Waste Management Operations

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
SW5a	Waste Collection Trolleys	Nos.	480(Hand push)	3	No	10	45	115 (Hand Push)	40 (Hand)	50	30
SW5b	Mini Collection Trucks	Nos.	48	0	5 Tempo	6	6	16	12	7 auto tiper	5
SW5c	Segregated Transport	percentage	(95%)	50%	No	50%	50%	50%	50%	0	no
SW5d	Bulk Waste Trucks	Nos.	2	0	0	0	0	1	0	0	no
SW5e	Waste Transfer points	Nos.	1	No	Not Available	No	NA	1	0	0	Not available
SW5f	Bio-methanation units	Nos. & Capacity	0	0	0	0	0	0	0	0	no
SW5h	Composting units	Nos.& capacity	1	0	0	0	0	1 & 100 Kg/day	1 & 100Kg/day	1	no
SW5i	Material Recovery Facilities	Nos. & capacity	1 & 250 TPD Capacity	0	Yes	Used	01(100) KG	1 & 40 TPD	1 (joint with Sumerpur)	0	Used
SW5k	Waste to Energy (if applicable)	Nos.	0	0	0	0	0	0	0	0	no
SW5l	Waste to RDF	Nos.	1	0	0	0	0	0	0	0	no
SW5m	Sanitary Land fills	Nos.	1	0	0	0	0	0	0	0	Not

											available
SW5n	Capacity of sanitary landfills	MT/Day		NA	NA	NA	NA	NA	NA	NA	no
SW5o	Waste Deposit Centers (DHW)	Nos. & capacity	1 & 250 TPD	0	No	1	01	1	1	0	no
SW5p	Other facilities	Nos.	1	0	0	0	0	0	0	0	Not available

Table- 6:Notification and Implementation of By-Laws

S.N.	Attributes	Unit / status	(ULB1) Pali	(ULB2)S ojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6)Sum erpur	(ULB7)Tak hatgarh	(ULB8)Jai taran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
SW2a	Notification of By-laws	Nos.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Done
SW2b	Implementation of by-laws	Nos.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Done

Table- 7: Adequacy of Financial Status of ULB for MSW Management

S.N.	Attributes	Unit / status	(ULB1) Pali	(ULB2)S ojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6)Sum erpur	(ULB7)Tak hatgarh	(ULB8)Jai taran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
SW7a	CAPEX Required	[INR] / [Not required]	5-7 Cr	5.00 lacs	50 Lacs	5.00 lacs	6.50	2 Cr	50 Lacs	Not required	5.00 lacs
SW7b	OPEX	[INR per Year] / [% of requirement]	10 Cr	50%	1 Cr	50%	60%	4 Cr	1 Cr	-	50%
SW7c	Adequacy of OPEX	[Yes] / [No]	No	Yes	No	Yes	YES	No	No	No	Yes

Biomedical Waste Information:

Table- 8: Inventory of Biomedical Waste Generation

S.N.	Attributes	Unit	RSPCB	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]		278680	50872	16297	22645	28327	42849	18907	26930	31823
BMW1a	Total no. of Bedded Hospitals	Nos	194	NA	3	NA	3	01	NA	NA	3	7
BMW1b	Total no. of non-bedded HCF	Nos	83	NA	No	NA	No	NA	NA	NA	0	No
BMW1c	Total no. Clinics	Nos	36	NA	3	NA	3	04	NA	NA	2	1
BMW1d	No of Veterinary Hospitals	Nos	2	NA	1	NA	1	01	NA	NA	1	No
BMW1e	Pathlabs	Nos	39	NA	4	NA	2	01	NA	NA	0	1
BMW1f	Dental Clinics	Nos	15	NA	2	NA	2	02	NA	NA	1	1
BMW1g	Blood Banks	Nos	Nil	NA	1	NA	No	NA	NA	NA	0	No
BMW1h	Animal Houses	Nos	Nil	NA	NO	NA	1	NA	NA	NA	0	No
BMW1i	Bio-research Labs	Nos	Nil	NA	No	NA	No	NA	NA	NA	0	No
BMW1j	Others	Nos	Nil	NA	No	NA	No	NA	NA	NA	0	No

Table- 9: Inventory of Biomedical Waste Generation

S.N.	Attributes	Unit / Status	RSPCB	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5)) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]		278680	50872	16297	22645	28327	42849	18907	26930	31823
BMW2a	Bedded HCFs	[Nos Authorized]	182	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMW2b	Non-bedded HCFs	[Nos Authorized]	76	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table- 10: Biomedical Waste Treatment and Disposal Facilities (CBMWTFs)

S.N.	Attributes	Unit / Status	RSPCB	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]		278680	50872	16297	22645	28327	42849	18907	26930	31823
BMW3a	No of CBMWTFs	[Nos] / None	None	None	None	None	None	None	None	None	None	None
BMW3b	Linkage with CBMWTFs	[Yes] / [no linkage]	Yes	No	No	No	No	No	No	No	No	No
BMW3c	Capacity of CBMWTFs	[Adequate] / [Not adequate]	Not adequate	NA	NA	NA	NA	NA	NA	NA	NA	NANA
BMW3d	Requirements of CBMWTFs	[Require] / [not required]	Required	Required	Required	Required	Required	Required	Required	Required	Required	Required
BMW3e	Captive Disposal Facilities of HCFs	[Nos] / [None]	None	None	None	None	None	None	None	None	None	None

Table- 11: Compliance by CBMWTFs

S.N.	Attributes	Unit / Status	RSPCB	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]		278680	50872	16297	22645	28327	42849	18907	26930	31823
BMW4a	Compliance to standards	[Meeting] / [Not meeting] / [NA]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BMW4b	Barcode tracking by HCFs / CBMWTFs	[100%] / [Partly %] / [None]	None	NA	None	NA	None	None	NA	NA	NONE	None
BMW4c	Daily BMW lifting by CBMWTFs	[Kg / day]	163.7 Kg/day	NA	Nil	NA	Nil	Nil	NA	NA	0	NIL

Table- 12: Status of Compliance by Healthcare Facilities

S.N.	Attributes	Unit / Status	RSPCB	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]		278680	50872	16297	22645	28327	42849	18907	26930	31823
BMW5a	Pre-segregation	[100%] / [partly %] / [None]	50%	NA	None	NA	None	None	NA	NA	None	None
BMW5b	Linkage with CBMWTFs	[100%] / [partly %] / [None]	80%	NA	None	NA	None	None	NA	NA	None	None

Noise Pollution Information:

Table- 13: Availability monitoring equipment

S.N.	Attributes	Unit	RSPCB	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]		278680	50872	16297	22645	28327	42849	18907	26930	31823
NP1a	No. of noise measuring devices with district administration (Police)	Nos	-	NA	No	NA	None	None	None	NA	0	NIL
NP1b	No. of noise measuring devices with SPCBs	Nos	3	NA	NO	NA	None	None	None	NA	0	NIL

Table- 14: Capability to conduct noise level monitoring by State agency / District authorities

S.N.	Attributes	Unit	RSPCB	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]		278680	50872	16297	22645	28327	42849	18907	26930	31823
NP2a	capability to conduct noise level monitoring by State agency / District authorities	Yes/ No.	2	NA	Not available	NA	Not available	Not available	Not Available	NA	Yes	NIL
NP2b	No of complaints received on noise pollution in last 1 year	Nos.	2	NA	No	NA	0	0	None	NA	0	NIL

Table- 15: Compliance to ambient noise standards

S.N.	Attributes	Unit / Status	RSPCB	(ULB1)) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]		278680	50872	16297	22645	28327	42849	18907	26930	31823
NP3a	Implementation of Ambient noise standards in residential and silent zones	[Regular Activity] / [Occasional] / [Never]	Occasional	NA	Never	NA	Occasional	Occasional	Occasional	NA	Never	NIL
NP3b	Noise monitoring study in district	[carried out] / [not carried out]	Carried out by RPCB	NA	not carried out	NA	not carried out	Not carried Out	Not carried Out	NA	Never	NIL
NP3c	Sign boards in towns and cities in silent zones	[Installed] / [Partial] / [Not Installed]	Not Installed	NA	Partial	NA	Partial	Partial	Partial	NA	Not Installed	NIL

Plastic Waste Management Information:

Table- 16: Inventory of plastic waste generation

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
PW1a	Estimated Quantity of plastic waste generated	[MT/day] / [Not Estimated]	4	0.05	0.2 Tone	0.318	0.52	0.7	0.3	0.20	Not Estimated

Table- 17: Implementation of Collection

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
PW2a	Door to Door collection	[100%] / [partial %] / [not initiated]	Yes (100%)	100%	100%	100%	100%	Yes (100%)	Yes (100%)	100	100%
PW2b	Segregated Waste collection	[100%] / [partial %]	Partial (95% Wards)	50%	20%	50%	60%	Partial (95% Wards)	Partial (93% Wards)	0	50%
PW2c	Plastic waste collection at Material Recovery Facility	[MRF used] / [not installed]	MRF Used at Khetawas Plant, Naya Gaon	NO	Yes	MRF used	MRF used	Manual MRF Plant aatBharunda SWM site	Manual MRF Plant aatBharunda SWM site	not installed	Yes
PW2d	Authorization of PW pickers	[Nos] / [not initiated]	Not Authorized, Random Pickers	No	Yes	8	12	Not Authorized, Random Pickers	Not Authorized, Random Pickers	not initiated	no
PW2e	PW collection Centers	[Nos] / [not established]	SWM Plant. Khetawas	0	No	1	1	1 (Bharunda Near MRF Plant)	Bharunda Near MRF Plant	not established	0

Table- 18: Establishment of linkage with Stakeholders

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
PW3a	Established linkage with PROs of Producers	[Nos] / [not established]	Not Established	Nil	No	Nil	Not Established	Not Established	Not Established	not established	Not
PW3b	Established linkage with NGOs	[Nos] / [not established]	Not Established	1	No	1	1	Not Established	Not Established	not established	Not

Table- 19: Availability of facilities for Recycling or utilization of PW

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
PW4a	No. of PW recyclers	[Nos]	2	0	No	0	0	0	0	0	0
PW4b	No Manufacturers	[Nos]	0	0	No	0	0	0	0	0	0
PW4c	No of pyrolysis oil plants	[Nos]	0	0	No	0	0	0	0	0	0
PW4d	Plastic pyrolysis	[Quantity in MT sent per Month]	0	0	No	0	0	0	0	0	0
PW4e	Use in road making	[Quantity MT used per Month]	Not Yet	0	No	0	0	0	0	0	0
PW4f	Co-processing in Cement Kiln	[Quantity in MT sent per Month]	100 Kg Appx	0.1	Yes	0.025	0.32	0.07	0.02	0	32

Table- 20: Implementation of PW Management Rules, 2016

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
W5a	Sealing of units producing < 50-micron plastic	[All sealed] / [Partial] / [no action]	All sealed	Partial	All sealed	Partial	Partial	Partial	Partial	no action	Partial
PW5b	Prohibiting sale of carry bags < 50 micron	[Prohibited] / [Partial] / [no action]	Prohibited	Partial	Prohibited	Partial	Partial	Partial	Partial	no action	Partial
PW5c	Ban on Carry bags and other single use plastics as notified by State Government	[Implemented] / [Partial] / [no action] / [No Ban]	Partial	Partial	Implemented	Partial	Partial	Partial	Partial	Implemented	Partial

Table- 21: Implementation of Extended Producers Responsibility (EPR) through Producers/Brand-owners

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
PW6a	No of Producers associated with ULBs	[Nos] / [None]	0	None	None	None	None	None	None	None	None
PW6b	Financial support by Producers / Brand owners to ULBs	[Nos] / [None]	None	None	None	None	None	None	None	None	None
PW6c	Amount of PRO Support	[Rs...]	0	nil	No	Nil	None	NIL	NIL	0	0
PW6d	Infrastructure support by Producers / Brand owners to ULBs	[Nos of Producers] / [None]	None	None	None	None	None	None	None	None	None
PW6e	No of collection centers established by Producers / Brand owners to ULBs	[Nos] / [None]	None	None	None	None	None	None	None	None	None

Water Resources Management Information:

Table- 22: Inventory of water resources in District

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
WQ1a	Rivers	Nos.	1	2	1	1	1	1(Jawai River)	1	0	2
WQ1b	Length of Coastline	meter	0	2	No	0.5	0.6	0	0	0	0.5
WQ1c	Nalas/Drains meeting Rivers	Nos.	1	0	No	1	3	1	1	3	2
WQ1d	Lakes / Ponds	Nos.	2	1	No	2	1	1	1	0	0
WQ1e	Total Quantity of sewage and industrial discharge in District	MLD	55 MLD	Nil	0.5	Nil	NIL	8 MLD	4 MLD	2 MLD	NIL

Table- 23: Control of Groundwater Water Quality

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
WQ2a	Estimated number of bore-wells (DM/LR Section pali)	[Nos]	DM/LR Section pali	NO	Nil	Nil	Nil			0	NIL
WQ2b	No of permissions given for extraction of groundwater	[Nos]	DM/LR Section pali	NO	Nil	Nil	Nil			0	NIL
WQ2c	Number of groundwater polluted areas	[Nos]		NO	Nil	Nil	Nil			0	NIL
WQ2d	Groundwater Availability	[adequate] / [not adequate]	Adequate	No	Nil	adequate	adequate			0	Adequate
											NIL

Table- 24: Availability of Water Quality Data

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
WQ3a	Creation of monitoring cell	[Yes] / [No]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
WQ3b	Access to Surface water and groundwater quality data at DM office	[Available] or [Not available]	Available	Nil		Nil	Nil			Not available	NIL

Table- 25: Control of River side Activities

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
WQ4a	River Side open defecation	[Fully Controlled] / [Partly controlled] / [no Measures taken]	Fully Controlled	Nil		Nil	Partly Controlled	Fully Controlled		no Measures taken	NIL
WQ4b	Dumping of SW on river banks	[Fully Controlled] / [Partly controlled] / [no Measures taken]	Fully Controlled	Nil		Nil	Partly Controlled	Fully Controlled		no Measures taken	NIL
WQ4c	Control measures for idol immersion	[Measures taken] / [Measures taken post immersion] / [No Measures taken]	Measures Taken	Nil		Nil	Nil				NIL

Table- 26: Control of Water Pollution in Rivers

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
WQ5a	Percentage of untreated sewage	[%] (automatic SM1g/SM1a)	73%	0		100% (sewage treatment plant not available)	100% (sewage treatment plant not available)			0	NIL
WQ5b	Monitoring of Action Plans for Rejuvenation of Rivers	[Monitored] / [Not monitored] / [not applicable]	Not monitored	Nil		Not monitored	Not monitored			not applicable	NIL
WQ5c	No of directions given to industries for Discharge of Untreated industrial wastewater in last 12 months	[Nos]	44	Nil		Nil (no red category industry existed)	Nil (no red category industry existed)			0	NIL

Table- 27: Awareness Activities

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
WQ6a	District level campaigns on protection of water quality	[Nos in previous year]	0	Nil		Nil	10			0	NIL
WQ6b	Creation of District Oil Spill Crisis Management Group	[Created] / [Not Created]	Not Created	Nil		Nil	Not Created			Not Created	NIL
WQ6c	Preparation District Oil Spill Disaster Contingency Plan	[Prepared] / [Not Prepared]	Nil	Nil		Nil	Not Prepared			Not Prepared	NIL

Table- 28: Protection of Flood plains

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
WQ7a	Encroachment of flood plains is regulated.	[Yes] / [No]	Yes	NO		Nil	YES			No	No
WQ7b	Area affected	Hectare	Only logging problems			Nil	0.2			0	Nil
WQ7c	Population affected	Nos				Nil	1800			0	Nil

Table- 29: Rainwater Harvesting

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
WQ8a	Action plan for Rain water harvesting	[Implemented] / [Not implemented]	Implemented	Impleme nted		implemented	impleme nted	implemented	implemented	Not implemented	Not impleme nted

Air Quality Management Information

Table-30

No.	Action Areas	Details of Data Requirement	Unit/ Status	RPCB
AQ1	Availability of Air Quality Monitoring Network in District			
AQ1a		Manual Air Quality monitoring stations of SPCBs /CPCB	[Nos] / [None]	None (Regional laboratory is going to start with in 2 to 3 months)
AQ1c		Automatic monitoring stations Operated by SPCBs / CPCB	[Nos] / [None]	None (Sent for approval)
AQ2	Inventory of Air Pollution Sources			Maintained
AQ2a		Identification of prominent air polluting sources	[Large Industry] / [Small Industry] / [Unpaved Roads] / [Burning of Waste Stubble] / [Brick Kiln] / [Industrial Estate] / [Others] (Multiple selection)	Large - 10, Small - 825, Brick Kiln - 14
AQ2b		No of Non-Attainment Cities	[Nos] / [None]	Nil
AQ2c		Action Plans for non-attainment cities	[Prepared] / [Not yet prepared]	N.A.
AQ3	Availability of Air Quality Monitoring Data at DMs Office			
AQ3a		Access to air quality data from SPCBs & CPCB through Dashboard	[Available] / [Not yet Available]	None (Sent for approval)
AQ4	Control of Industrial Air Pollution			
AQ4a		No of Industries meeting Standards	[Nos]	(Regional laboratory is going to start with in 2 to 3 months)
AQ4b		No of Industries not meeting discharge Standards	[Nos]	Not Available

No.	Action Areas	Details of Data Requirement	Unit/ Status	RPCB
AQ5	Control of Non-industrial Air Pollution sources			Regular inspection is being carried out and Air monitoring is likely to start
AQ5a		Control open burning of Stubble – during winter	[Nos of fire incidents]	Municipal council is being directed for not burring the solid waste; being complied
AQ5b		Control Open burning of Waste – Nos of actions Taken	[Nos]	Not Available
AQ5c		Control of forest fires	[SOP available] / [No SoP]	Nil
AQ5d		Vehicle pollution check centers	[% ULBs covered]	
AQ5e		Dust Suppression Vehicles	[% ULBs covered]	
AQ6	Development of Air Pollution complaint redressal system			
AQ6a		Mobile App / Online based air pollution complaint redressing system of SPCBs.	[Available] / [Not available]	Available and also through Sampark portal

Sewage Management Information

Table- 31: Inventory of Sewage Management

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
SM1a	Total Quantity of Sewage generated in District from Class II cities and above	[MLD]	20	Nil		Nil	Nil			2	Nil
SM1b	No of Class-II towns and above	[Nos]	0	Nil		Nil	Nil			0	Nil
SM1c	No of Class-I towns and above	[Nos]	0	Nil		Nil	Nil			0	Nil
SM1d	No of Towns needing STPs	[Nos]	0	1	1	1	1	0	1	1	Nil
SM1e	No of Towns STPs installed	[Nos]	1	0	0	0	0	1	0	0	Nil
SM1f	Quantity of treated sewage flowing into Rivers (directly or indirectly)	[MLD]	2	Nil		Nil	Nil			2	Nil
SM1g	Quantity of untreated or partially treated sewage (directly or indirectly)	[MLD]	14	Nil		Nil	Nil			0	Nil
SM1h	Quantity of sewage flowing into lakes	[MLD]	0	Nil		Nil	Nil			0	Nil
SM1i	No of industrial townships	[Nos]	3	Nil		Nil	Nil			0	Nil

Table- 32: Adequacy of Available Infrastructure for Sewage Treatment

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
SM2a	% sewage treated in STPs	percentage	26.66%	0	0	0	0	0 % Oxidation Pond	0	90	Nil
SM2b	Total available Treatment Capacity	[MLD]	22.5	0	0	0	0	10	0	2	Nil
SM2c	Additional treatment capacity required	[MLD]	Not required	0	0	0	0	Not Required	0	0	Nil

Table- 33: Adequacy of Sewerage Network

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
SM3a	No of ULBs having partial underground sewerage network	[Nos] - 2	1	0	0	0	0	1	0	0	Nil
SM3b	No of towns not having sewerage network	[Nos] - 7	0	1	1	1	1	0	1	0	Nil
SM3c	% population covered under sewerage network	[percentage]	2.4%	0	0	0	0		0	0	Nil

E-Waste Management Information

Table- 34: Status of facilitating authorized collection of E-Waste

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
EW1a	Does the citizen are able to deposit or provide E-Waste through Toll-free Numbers in the District	[Yes] / [No]	No	No	No	No	No	No	No	Yes	No
EW1c	Collection centers established by ULB in District	[Nos] / [None]	None	None	None	None	None	None	None	None	None
EW1d	Collection centers established by Producers or their PROs in the District	[Nos] / [None]	1-Vivo	None	None	None	None	None	None	None	None
EW1e	Does the district has linkage with authorized E-Waste recyclers / Dismantler	[Yes] / [No]	No	No	No	No	No	No	No	0	No
EW1f	No authorized E-Waste recyclers / Dismantler	[Nos] / [None]	No	None	None	None	None	None	None	0	None

Table- 35: Status of Collection of E-Waste

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
EW2a	Authorizing E-Waste collectors	[Authorized] / [None]	None	None	None	None	None	None	None	None	None
EW2b	Involvement of NGOs	[Yes] / [No] / [Nos]	No	NO	No	No	No	No	No	NO	No
EW2c	Does Producers have approached NGOs/ Informal Sector for setting up Collection Centres.	[Yes] / [No] / [Nos]	No	No	No	No	No	No	No	No	No
EW2d	Does ULBs have linkage with authorized Recyclers / Dismantlers	[Yes] / [No]	No	No	No	No	No	No	No	No	No

Table- 36: Control E-Waste related pollution

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
EW4a	Does informal trading, dismantling, and recycling of e-waste exists in District	[Yes] / [No]	No	NO	No	No	No	No	No	No	No
EW4b	Does the administration closed illegal E-Waste recycling in the District	[Yes] / [No] / [Nos]	No	NO	No	No	No	No	No	No	No
EW4c	No of actions taken to close illegal trading or processing of E-Waste	[Nos]	None	NO	No	No	No	No	No	No	No

Table- 37: Creation of Awareness on E-Waste handling and disposal

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
EW5a	Does PROs / Producers conducted any District level Awareness Campaigns	[Yes] / [No] / [Nos]	No	No	No	No	No	No	No	No	No
EW5b	Does District Administration conducted any District level Awareness Campaigns	[Yes] / [No] / [Nos]	No	No	No	No	No	No	No	No	No

Construction & Demolition Management Information

Table- 38: Inventory of C&D waste generation

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
CD1a	Estimated Quantity	[Kg/Day] / [Not estimated]	Not Estimated	200 kg/day	0.5	200 kg/day	300 KG/DAY	260 kg/day	190 kg/day	1 tonne	150

Table- 39: Implement scheme for permitting bulk waste generators

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
CD2a	Issuance of Permissions by ULBs	[Initiated] / [Not initiated]	Initiated	Nil		Not initiated	Not initiated			Not initiated	Not initiated

Table- 40: Establishment of C&D Waste Deposition centers

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
CD3a	Establishment of Deposition Points	[Yes] / [No]	Yes	No	No	Yes	Yes	No	No	No	No
CD3b	C&D Deposition point identified	[Yes] / [No]	NO	Yes	YES	Yes	Yes	YES	YES	No	No

Table- 41: Implementation of By-Laws for CD Waste Management

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
CD4a	Implementation of By-laws	[notified] / [not notified]	Notified	NOTified	Notified	notified	Notified	Notified	Notified	not notified	Notified
CD4b	Collection of Deposition / disposal Charges	[Initiated] / [Not initiated]	Initiated	Initiated	not initiated	Initiated	Initiated	Initiated	Initiated	not initiated	Initiated

Table- 42: Establishment of C&D Waste recycling plant or linkage with such facility

S.N.	Attributes	Unit	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatgarh	(ULB8) Jaitaran	(ULB9) Sadari
	Population	[No 2021 Forecasted]	278680	50872	16297	22645	28327	42849	18907	26930	31823
CD5a	Establishment CD Waste Recycling Plant	[Established] / [Sent to shared Facility] / [No facility exists]	No	No	NO	No	NO	NO	NO	No facility exists	No facility
CD5b	Capacity of CD Waste Recycling Plant	[MT/Day] / [Not available]	Not Available	Not available	Not Available	Not available	Not Available	Not Available	Not Available	Not available	Not available

Table- 43: Any other relevant information:

S.N.	Attributes/ Type of Information	Unit	ULB-1 (Pali)	ULB-4 (Bali)	ULB-5 (Falna)	Rural area
1	Information regarding Dairies	No	2 (Saras & Payas)	4	6	
2	Information regarding requirement of irrigation	No	-			
3	Information regarding crop pattern	No	-			
4	Information regarding water scarce areas	No	-			

Chapter-2

Solid Waste Management Plan

2.1 Analysis of Present Available Data & Interpretation:

Present information / data available to the various agencies are not sufficient for the exact planning of the solid waste processing and disposal in almost all ULB's. Information of solid waste generation in rural area is not available at all. In present day scenario efficient solid waste management is not only required in urban centres but also required in rural areas, roads sides (i.e NH, SHW, MDR & Rural Roads) and along railway tracks. In case of PALI District presently total generation of solid waste is about 302.59 MT/ day and out of which urban areas contribution is about 159.62 MT/ day. If it is presumed that in urban areas door to door solid waste collection scheme has been implemented. The data indicates that nearly 47 % solid waste (generation from rural areas) is not collected properly. The main observations are:

1. Data / information analysis indicates that ULB's are not having proper data on C&D waste, street sweeping waste drain silt waste and horticulture waste etc. In fact door to door collection system is implemented in all ULB's but not a single sanitary **land fill** is developed in the district.
2. Huge quantities are stored in dump sites or exact data is not available.
3. Various Waste management attributes have been initiated or not initiated
4. Some ULB's has given authorization to waste pickers. As our country is moving towards to achieve the status of developed country and we all are working hard for the same. **In a developed society authorization to waste pickers is a step against the social justice.**
5. Waste transfer station are either not sufficient or not available.
6. As far as financial condition of ULB's are concern, it is well known fact that all most all ULB's are not capable to meet CAPEX OR OPEX or Both. Hence a reasonable government financial aid t is required to meet the expenditure on waste management.
7. Presently proper data/ information is not available on Biomedical Waste. Even ULB's are not having proper information for total number of private clinics operating in their jurisdiction. As State & Central governments are now focusing on various schemes to provide better health services. Hence in future quantity of biomedical waste is going to increase. **Presently in Pali district no**

CBMWTF is available. It is reported that only about 163.7 kg/ day biomedical waste is lifting by the CBMWTF operator of other district. RSPCB Pali has reported that about 50 % biomedical waste is segregated and about for 80 % has linkage with CBMWTF. It indicates prevailing “rules for biomedical waste collection and disposal” are not strictly implemented by the authorities.

8. Plastic waste which is a major constituent of solid waste in present day life style. Most of the ULB^s has quantified it but in almost all the ULB^s the recycling facilities / alternate reuse facility is not available. Plastic waste management rules have been implemented partially in all the ULB^s.
9. Per capita total contribution of domestic solid waste in urban area is about 309 gm/ day in which about 130 gm / day is wet waste and about 150 gm / day is dry waste. Remaining waste belongs to C&D waste or any other waste.
10. Per capita total contribution of domestic solid waste in rural area is about 80 gm/ day and which is dry waste. The wet waste is almost negligible in rural area.
11. Per capita total contribution of plastic waste is about 12.16 gm/ day in urban area (as per data submitted), whereas it is about 309 gm/ day in
12. Bulk waste generator is only one which is Sabji Mandi in ULB Pali.
13. In all the ULB^s door to door collection system is working with 100 % efficiency (as per data submitted by ULB^s). But at the time of visit at various places in city/ urban centres at many places domestic solid waste was found on road sides. Hence proper monitoring is needed.
14. Complete segregation of waste is not done in any ULB.
15. Reclamation process of old dumping site has been initiated in most of the ULB^s.
16. Linkage with waste to energy process (use in boilers/ cement plants etc) has been initiated in most of the ULB^s.
17. All most in all ULB^s, administration is involving NGOs in solid waste management process.
18. Bye laws has been notified and implemented.
19. As per data available the resources for efficient collection and transportation is not sufficient.

20. No data is available for industrial solid waste generation and means of disposal.

2.2 Future Assessment of Solid waste:

2.2.1. Municipal Solid Waste: On the basis of present data/ information available the future solid waste generation are given in in table 2.1

Table: 2.1: Future Assessment of Municipal Solid waste generation

S.N.	Type of Waste	Urban Area		Rural Area		Total in Pali District	
		2036	2051	2036	2051	2036	2051
1	Dry Waste (ton/ day)	96.0	114.4	165.2	187.4	261.2	301.8
2	Wet Waste (ton/ day)	83.2	99.2	NA	NA	83.2	99.2
3	C&D Waste (ton/ day)	18.6	22.1	NA	NA	18.6	22.1
	Total (ton/ day)	197.8	235.7	165.2	187.4	363.0	423.1

Remarks: Future assessment is based on the per capita present contribution in urban and in rural area. It is well known fact that increase in earning leads to generation of more solid waste and as we are moving towards the developing economy our per capita income will also increase.

2.2.2. Biomedical Waste: Government of India has released “New Health Care Policy” in March 2017 to provide better health facilities and services to the whole population of India. According to WHO norms presently country is not meeting the availability of hospital beds for per 1000 population. As per New health care policy total number of beds required in Pali district is given in table 2.2. The total biomedical waste generation based on the total hospital bed requirement is given in table 2.3.

Table: 2.2: Requirement of hospital bed

S.N.	Items	Urban Area		Rural Area		Total in Pali District	
		2036	2051	2036	2051	2036	2051
1	ICU Beds	352	420	1136	1288	1488	1708
	Other Hospital Beds	928	1105	2994	3397	3922	4502
	Total	1280	1525	4130	4685	5410	6210

Remarks: Total requirements of hospital beds are on the basis New health care policy, 2017 and ICU beds requirements (0.55 beds/ 1000 population) is based on the findings of research papers.

Table: 2.3: Future Assessment of Biomedical waste generation

S.N.	Type of Waste	Total in Pali District	
		2036	2051
1	Biomedical waste (ton/ day)	8.39	9.63
Remarks: Future assessment of biomedical waste generation is made on the basis of generation of biomedical waste per bed (as per published research data/ information)			

2.2.3. Plastic Waste: Collection, segregation and disposal of plastic waste is a serious concern for all of us. In fact government and local authorities has banned some type of plastic even though plastic waste is going to increase in future also because of use of plastic parts various house hold items, industrial items and vehicles etc. On the basis of present data/ information available the future plastic waste generation is given in in table. 2.4.

Table: 2.4: Future Assessment of Plastic waste generation

S.N.	Type of Waste	Urban Area		Rural Area		Total in Pali District	
		2036	2051	2036	2051	2036	2051
1	Plastic Waste (ton/ day)	16.13	19.22	9.91	11.24	26.04	30.46
Remarks: Future assessment is based on the per capita present contribution in urban and in rural area. It is well known fact that increase in earning leads to generation of more plastic waste.							

2.2.4. E-Waste: Presently collection and disposal of E-Waste is not the focused area for all of us. In India only about 10 % E-Waste was collected in year 2018-19 and it was about 3.5 % in year 2017-18. Use of electrical vehicles, installation of solar panels , Computers, laptops and mobile phones etc will increase in future and that will leads to generate huge quantity of E-Waste and that has to be handled properly. Presently no data is available on E- Waste with the district authority. On the basis of published data future plastic waste generation is given in in table 2.5.

Table: 2.5: Future Assessment of E- waste generation

S.N.	Type of Waste	Total in Pali District	
		2956	4566
1	E- Waste (ton/ year)	2956	4566
Remarks: Future assessment is based on the per capita present contribution (0.812 kg/ capita/ yr) with an increase of average 2% per year.			

2.3 Role , &Responsibilities of Authorities and Action required

S. N.	Action Points	Responsible Authorities	Strategy and approach & Time frame
1.	Collection, Segregation & Treatment of solid waste (MSW, Plastic waste, Biomedical waste & E-Waste / Hazardous waste etc.)	ULBs / Village Panchayat/ all HCF (as applicable)	Solid waste to be managed in accordance with the prevailing laws. Land is to be identified and acquired within 2 yrs to meet the 2051 requirement. Facilities is to be developed within 2 yrs to meet present requirement.
2.	Strengthening the capacities of the ULBs/ Village Panchayat	ULBs/ Village Panchayat	All staff to be trained to impart adequate knowledge for proper implementation of sustainable SWM within 2 years. Logistic infrastructure to be make available from the Financial allocation made by the Govt in this regard within 2 yrs.
3.	Notification and Implementation of By-Laws	District Collector	ULBs/ Rural development department will frame bye-laws for the management of waste accordingly within one year.
4.	Awareness	ULBs/ NGOs/ Sarpanch/ Head of educational Institute etc.	Public awareness to be created by various suitable means.
5	Establishment of linkage with Stakeholders	ULBs/ Village Panchayat	List of PROs of producers/NGO to be collected and steps to be taken for initiating linkage as per SWMR-2016 andPWMR-2018, within one year.
6	Implementation of Extended Producers	District Collector	District administration will identify Producers/Brand-owners

	Responsibility(EPR) through Producers/ Brand-owners		and will act in accordance with Govt policies/notifications in this regard within one year.
7	Preparation of 'Inventory of Biomedical Waste Generation'	RSPCB and CMHO of district Pali	Data on bio-medical waste generation, treatment& disposal which are to be updated quarterly
8	Capacity building/training of HCFs	RSPCB and CMHO of district Pali	For proper management of the waste in the health care facilities the technical requirements of waste handling are needed to be understood and practiced by each category of the staff in accordance with the BMWM Rules, 2016 within one year.
9	Authorization of HCFs	RSPCB and CMHO of district Pali	Every HCFs and Clinical Establishment will get authorization from RSPCB within one year.
10	Biomedical Waste Treatment and Disposal Facilities (CBMWTFs)	District Collector/ RSPCB	Matter relating to setting up a Common Biomedical Waste Treatment and Disposal Facilities (CBMWTFs) in the district will be taken up with District administration/Health Dept. /RSPCB within one year.
11	Preparation of 'Inventory of Hazardous Waste and industrial Generators''	RIICO/ DIC/ RSPCB	All hazardous and industrial waste generated and its disposal data is to be uploaded quarterly within one year.
12	TSDF for Industrial and hazardous waste	RSPCB/ RIICO/ Industries association etc	Matter relating to setting up a TSDF in the district will be taken up with District administration/ RIICO/ RSPCB within one year.
13	Monitoring and Review	District Collector	District collector will time to time monitor/review the performance of the irrespective ULB/ Panchayats on solid waste management and may constitute district level expert committee for advice.

Chapter-3

Water Quality Management Plan

3.1 Analysis of Present Available Data & Interpretation:

Bandi is the heavily polluted river of the district. Pali has 2 STP^s. One 7.5 MLD and other 15 MLD. Presently 2 MLD treated sewage is discharged in the river Bandi and 14 MLD partially treated/ untreated sewage is going to river Bandi. Similarly huge amount of partially treated/ untreated industrial waste water is also discharged into river Bandi. This situation has completely destroyed the utility of Nehrda Dam. Industrial sludge along with domestic sludge has been deposited in the various reach of Bandi River. The discharge of untreated/ partially treated industrial waste water and domestic sewage into Bandi River, also degraded the quality of underground water along the river reach at various places. Jaitaran has one STP of 2 MLD capacity and the treated sewage is also discharged into the river. Sumerpur has 10 MLD capacity STP which based on oxidation pond technology (not appropriate technology for reuse of treated waste water). All ULB^s are situated either on the bank of any river or nala which joins the rivers. About 70 MLD waste water (industrial and domestic) either treated/ partially treated/ untreated is directly or indirectly discharged in the river. It is urgent requirement to lay sewer lines and STP of adequate capacity in all ULB^s.

Underground water quality data is not available with the department. Even concern department is not having the data of bore wells. As Pali district is part of western Rajasthan and is water scare area. Hence all natural water resources (surface and underground) has to be protected. But the concern departments are not serious on this matter. Various cases are pending with Hon'able NGT.

At various places river banks are used for dumping of solid waste. ULB^s are making efforts to solve the problem.

Rivers are seasonal and are flowing only in rainy season. Hence protection of rivers from pollution is urgent need.

3.2 Future Assessment of Domestic Waste water generation:

Year	(ULB1) Pali	(ULB2) Sojat	(ULB3) Rani	(ULB4) Bali	(ULB5) Falna	(ULB6) Sumerpur	(ULB7) Takhatarh	(ULB8) Jaitaran	(ULB9) Sadari
2021	18.0 MLD	5.1 MLD	1.6 MLD	2.3 MLD	2.8 MLD	4.3 MLD	1.9 MLD	2.7 MLD	3.2 MLD
2036	35 MLD	6.2 MLD	2.0 MLD	2.7 MLD	3.4 MLD	5.2 MLD	2.2 MLD	3.3 MLD	3.9 MLD
2051	42.5 MLD	7.5 MLD	2.5 MLD	3.1 MLD	3.9 MLD	6.0 MLD	2.6 MLD	4.0 MLD	4.5 MLD

It is important here that the capacity requirement of STP^{'s} in various ULB^{'s} for 2021 and 2036 is only varying by 15% to 20 % , hence SBR technology can be used in these town to meet present requirement and same STP^{'s} will meet the requirement of 2036. As in SBR technology based STP^{'s} can handle about 20% variation in flow very efficiently without compromising the treated quality of waste water only by changing the cycle duration and oxygen requirement.

3.3 Future Assessment of Industrial Waste water generation:

It is very difficult to assess the industrial waste water generation without knowing the industrial development in the region. Industrial development is not only required for the economic growth of the area but also required to meet the social responsibilities in one way or other. Agriculture is the main income source of rural population and which is not sufficient to meet the present need. Hence in the district following step is required for economic growth:

- a. **Identification of type of industries to be established in the district:** In the Pali district still sufficient scope is available to establish below giving industries with the condition of zero liquid discharge:
 - (i) Textile industries
 - (ii) Spinning & weaving industries based on solar power.
 - (iii) Argo industries
 - (iv) Tiles industries
 - (v) Petro- based allied industries (as raw material will be available after start of Petroleum refinery at Pachpadra (Balotra)
- b. **Establishment of Micro Industrial areas:** Looking to the various environmental issues, reducing load on urban centre, reducing travel distances, overall development of district and providing employment opportunities to rural population at door step etc. It is the need of present and future to identified the areas where **Micro-Industrial (industrial unit about 50-100)** areas can developed with all facilities.

3.3 Role, & Responsibilities of Authorities and Action required:

S.N.	Action Points	Responsible Authorities	Strategy and approach & Time frame
1	Inventory of Surface water resources in District	Water Resources Department.	Inventory of water resources in District covering Rivers and other natural water bodies, Nalas/Drains meeting Rivers Lakes/Ponds, etc. which is to be completed within one year.
2	Collection of Water Quality Data	PHED	A monitoring cell with represent activities from PHED, WR, UWS etc will be constituted. The cell will updated action will be taken accordingly.
3	Inventory of Ground Water extraction and Quality mapping	Ground water department	Ground water quality mapping is to be done within one year. No of tube wells/ bore wells/ open wells and their use, data of district is to be collected within one year.
4	Control of River side Activities	Dist. Admin / ULBs	Riverside activities like River Side open defecation, Dumping of SW on riverbanks, Idolimmersionetc.to be controlled and if there is any dumping site is to be removed within one year.
5	Awareness Activities	ULB ^{'s} / Village Panchayat	District level campaigns on protection of water quality and Control of Water Pollution in Rivers.
6	Protection of Flood plains	Dist.Admin/ water resources department	Encroachment of flood plains to be regulated.
7	Rainwater Harvesting	ULB ^{'s} / Village Panchayat	Rainwater harvesting is to be implemented in accordance with the Govt policy.
8	Repair and treatment of water bodies/Talab	Dist.Admin/ ULB ^{'s} / Village Panchayat/ water resources department	All natural water bodies is to be rejuvenate / restored in a time frame manner.
9	Inventory of Sewage Management	ULB ^{'s} / Village Panchayat	All ULB ^{'s} / Village Panchayat must do the mapping of sewage generation and disposal system within one year
10	Adequacy of Available Infrastructure for Sewage Treatment	ULB ^{'s} / Village Panchayat	All ULB ^{'s} / Village Panchayat must find out the treatment facility required and available within one year and make a plan for better wastes water management.

11	Inventory of Industrial waste water Management	RSPCB/ RIICO/ District admin.	Mapping of generation of industrial waste in the district, disposal mode, reuse option etc is to be done within one year.
12	Monitoring and Review	District Collector	District collector will time to time monitor/review the performance of their respective ULB/ Panchayats/ RSPCB/ RIICO / PHED/ WRD/ GWD on the respective issues related to concern department and may constitute district level expert committee for advice.

Chapter-4

Air & Noise Quality Management Plan

4.1 Analysis of Present Available Data & Interpretation:

Air and noise pollution is the most neglected areas in pollution control because its effects are chronic and there is no danger of immediate life threatening. Hence neither public nor concern authorities are taking seriously. Delhi air pollution problem is the result of not considering air pollution / noise pollution as a major concern.

In the district only RSPCB has noise and air pollution measuring device. At least every ULB^{ss} must have noise and air pollution (for some basic pollutants) measuring device or at least one online measuring device with public display board (installed at most polluted area) is to be installed.

Pali District is situated in the western part of Rajasthan where generally atmosphere is unstable, with high wind velocity and till date no inversion condition of atmosphere is noticed (as per available records). Hence in rural area air pollution and noise pollution is not of much concern but is to be monitored. In urban areas air/ noise pollution is because of traffic, domestic activities and some industrial activities. Ground level air pollution in urban areas is because of transportation activities, and non- availability of space for dispersion due to less road width and more height of buildings. Hence building bye laws to be updated in relation to air pollution. Minimum height of chimney, maximum discharge and type of pollutants and control devices in industries are to be govern by strict norms. It is required because once air pollutant is discharged on atmosphere it is beyond the control. Control is effectively possible either at source or receptor.

4.2 Role, & Responsibilities of Authorities and Action required:

S.N.	Action Points	Responsible Authorities	Strategy and approach & Time frame
1	Inventory of air polluting industries in District	RSPCB/ RIICO	Inventory of all air polluting industries is to be mapped along with type of pollutant releasing, discharge, concentration and details of control device within one year.
2	Identification of hot spot	RSPCB/District Admin	Hot spot in relation to air and noise pollution is to be identified within one year and plan is to be made to keep AQI as per norms.
3	Awareness Activities	RSPCB/ RIICO/ District Admin/ educational institute	District level campaigns on effect of air pollution and noise pollution continuously.
4	Installation of online measuring device Management	RSPCB/ District admin/ULB's	Online measuring system with public display board is to be installed within one year at least at one place in every ULB.
5	Traffic Movement plan	District admin/ULB's	City Traffic movement plan is to be prepared considering air pollution with public acceptability within one year. Bye -pass is to be constructed for movement of heavy vehicles.
6	Noise pollution Monitoring	RSPCB/District Admin	Mapping of City / town noise level is to be prepared within one year and silence zone norms is to be implemented strictly. High pressure horns to be banned in vehicles .
7	Monitoring and Review	District Collector	District collector will time to time monitor/review the performance of the irrespective ULB/ Panchayats/ RSPCB/ RIICO / PHED/ WRD/ GWD on the respective issues related to concern department and may constitute district level expert committee for advice.

Chapter-5

Mining Activity Management plan

5.1 Analysis of Present Available Data & Interpretation:

Presently all mining activities are controlled by mining department Government of Rajasthan. Every mine has to take prior environmental clearance (as required by existing acts/ laws) before start of mine. In fact all mines submit their mine environmental management plan to RSPCB/ Mining department, but most of the mines are not exactly following the said plan. Hence strict supervision is needed in this matter. Presently no data has been made available with concern departments. Similarly Pali district has number of seasonal rivers with availability of good quality of sand hence illegal mining of sand may be possible, but no data was shared by the concern departments. To prevent illegal mining is not only the solution but how much legal sand mining in each river for a specific reach is to be assessed to maintain the river ecology.

5.2 Role, & Responsibilities of Authorities and Action required:

S. N.	Action Points	Responsible Authorities	Strategy and approach & Time frame
1	Inventory of sand Mining areas/ rivers in District	RSPCB/WRD/ District Admin	Inventory of all rivers is to be mapped along with availability of sand within one year.
2	Identification of hot spot	RSPCB/District Admin	Hot spot in relation to excessive mining of sand within one year and plan to restore river ecology.
3	Inventory of all Mines in District	RSPCB/Mining Department/ District Admin	Inventory of all Mines is to be mapped along with availability / type of material / Non-confirming MEP etc., within one year. It will help in planning the industrial areas in the district to use the mineral resources of district.
4	Monitoring and Review	District Collector	District collector will time to time monitor/review the performance of the irrespective ULB/ Panchayats/ RSPCB/ RIICO / PHED/ WRD/ GWD on the respective issues related to concern department and may constitute district level expert committee for advice.

Chapter-6

Concluding Remarks

**Clean air and clean water are my right
No one has right to pollute these natural gifts.**

Dr. S.K. Singh

District environmental management plan (DEMP) is not a compilation of existing data for various related attributes but truly speaking it is a “Basic Guiding Document for any level (i.e. national level/ state level/ district level/ city level/ village level) for the future social and economic development” and associated environmental issues.

Hence a unique composite plan is needed at District level to cover all issues related to micro level environment management. As this plan deals with environmental conservation planning, pollution mitigation, management of wastes, conservation of natural resources including wetlands and ground water and necessary measures for ecological balance with the “Principles of Sustainable Development”.

An effort is made to assess the future pollutants generation for year 2036 and year 2051, with limited data/ information. Presently insufficient data is available for exact assessment even then by using various models/ techniques/ research data available assessment has been made.

To manage the district developmental activities in relation to our environment for today and for future we have to plan future infrastructure requirement today itself.

Hence for Pali district following steps is to be taken:

1. Allotment of land for “Integrated Solid Waste Management Site”: This project is to be analysed on technical feasibility, economic viability and social acceptability and for Pali district, efficient scientific separate management of Plastic waste, biomedical waste, municipal waste, E-waste & hazardous etc will not be economical viable for any operator. Hence district is to be divided into some parts and some “Integrated Solid Waste Management Site” is to be established looking to the future requirement.
2. Demarcation of Industrial areas: RIICO/ Industry department must identify the areas where mini/ micro industrial areas can be developed which can use local resources.
3. Mapping of all natural surface water resources and plan for restoration.
4. Mapping of all underground bore wells/ tube wells with the quality of water
5. Preparation of city traffic plan
6. Allotment / demarcation of STP Land
7. Preparation of river ecology restoration plan in relation to sand mining
8. Mapping of mineral resources of district.

Availability of true data/ information are the basic of future modelling hence all concern department must have proper data bank and this plan may be updated after every five years to maintain the sustainable environment of district.

Dr. S. K. Singh
Professor
Civil Engineering Department
Faculty of Engineering & Architecture
Jai Narian Vyas University Jodhpur (Raj)

Ansh Deep^{IAS}
District Collector Pali