Barmer District Environmental Action Plan

Index

ABOUT THE DISTRICT

Barmer is located in the western part of the state forming a part of the Thar Desert. The district borders Jaisalmer district in the north, Jalore district in the south, Pali district and Jodhpur district in the east and Pakistan in the west. The total area of the district is 28,387 square kilometers (10,960 sq mi). After Jaisalmer and Bikaner district, it is the third largest district of Rajasthan. It is also the fifth largest district in the country. The district is located between 24^0 58' to 26^0 32' N Latitudes and 70^0 05' to 72^0 52' E Longitudes.

The longest river in the district is the Luni. It is 480 km in length and drain into the Gulf of Kutch passing through Jalore. The variation in temperature in various seasons is quite high owing to arid Thar Desert and sandy soil. In summers the temperature soars to 46° C to 51° C. In winters it drops to 0° C (41° F). Primarily Barmer district is a desert where average rainfall in a year is 277 mm. However, extreme rainfall of 549 mm rain between 16 and 25 August 2006 left many dead and huge losses due to flood in a nearby town Kawas and whole town submerged. As many as twenty new lakes formed, with six covering an area of over 10 km^2.

Poorly planned and rapid urbanization has increased Barmer's vulnerability to flash flooding. The local ecology and soil type is not equipped to deal with sudden or excessive water accumulation, which causes short- and long-term damage. Other areas suffer the gradual effects of 'invisible disasters', which also threaten the lives and livelihoods of the locals.

TOPOGRAPHY

Most part of the district comes under the Great Indian Desert. In the eastern part of the district and to the west of Barmer city, exposures of hill ranges are seen is trending east–west direction. The district is actually a vast sandy tract. The only major drainage course in the area is Luni River, which flows from Balotra and Sindhari Charnan block towards Jalore district. Salt lakes are found in the northeast and northwest parts of the district. The general topographic elevation in the district is between 125 m to 250 m above mean sea level. Elevation ranges from a minimum of 0.00 m above mean sea level in Chohtan block in the southwest part of the district to maximum of 931.8 m above mean sea level In Siwana block in eastern part of the district which is part of Aravalli range.

GEOGRAPHICAL AND PHYSICAL FEATURES

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CLIMATE

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	36.6 (97.9)	39.4 (102.9)	43.3 (109.9)	48.3 (118.9)	49.9 (121.8)	48.7 (119.7)	45.5 (113.9)	43.7 (110.7)	45.9 (114.6)	43.1 (109.6)	39.4 (102.9)	35.2 (95.4)	49.9 (121.8)
Average high °C (°F)	30.5 (86.9)	34.5 (94.1)	39.8 (103.6)	44.0 (111.2)	45.9 (114.6)	44.9 (112.8)	41.6 (106.9)	38.8 (101.8)	40.3 (104.5)	40.2 (104.4)	36.1 (97.0)	31.6 (88.9)	46.4 (115.5)
Average low °C (°F)	6.0 (42.8)	8.2 (46.8)	13.3 (55.9)	18.6 (65.5)	22.9 (73.2)	23.9 (75.0)	23.7 (74.7)	23.4 (74.1)	22.6 (72.7)	17.6 (63.7)	11.4 (52.5)	7.3 (45.1)	5.3 (41.5)
Record low °C (°F)	−1.7 (28.9)	3.8 (38.8)	4.5 (40.1)	12.2 (54.0)	16.7 (62.1)	16.2 (61.2)	19.4 (66.9)	20.0 (68.0)	16.7 (62.1)	13.9 (57.0)	6.7 (44.1)	2.3 (36.1)	−1.7 (28.9)
Average rainfall mm (inches)	1.3 (0.05)	2.4 (0.09)	1.8 (0.07)	2.8 (0.11)	9.8 (0.39)	25.8 (1.02)	90.1 (3.55)	103.0 (4.06)	33.2 (1.31)	3.8 (0.15)	1.2 (0.05)	0.5 (0.02)	275.8 (10.86)
Average rainy days	0.2	0.3	0.2	0.4	0.8	1.4	4.3	4.3	1.9	0.4	0.2	0.2	14.7
Average relative humidity (%) (at 17:30 IST)	30	25	21	19	22	33	48	54	43	28	30	32	32
Source: India Meteorological Department													

GEOLOGY AND MINERALS

GEOLOGY:-

Barmer occupies a significant position on the mineral map of the state. A possesses a wide range of non-metallic industrial and fuel minerals, with the Rare earth elements. The Malani Igneous Suite of rocks is most extensive and is oldest in the area. They consist of volcanic rocks, Rhyolite, Granite and associated intrusive like basic dykes, tuffs and olivine basalt. Beside test volcanic, other rocks as a sand stone are exposed in the area belonging to Barmer, Lathi, Fatehgarh and Mandai formations. Akli and Kapurdi formations constituted by

Bentonite, white clay and Fuller's earth and these are in the plains and mostly covered under blown sand. Occurrences of china clay/ball clay are also known in the district. Silica sand is also well known in the Kotra area of Barmer district.

Rare earth elements are strategic mineral and an important role in future technology. A scope of geological work for REE minerals to identified in Siwana ring complex, Kamthai, Sodha ki Dhani and other igneous exposures in the Barmer district. Hydro Carbon accumulation (Natural gas, Oil and lignite) well known in the country. Granite of the district is also very known for its unique merry gold, pinkish and Reddish, Brownish, Royal cram etc. having demand in the flooring and well paneling as decorative stone in the different part of the country.

Siliceous earth is also well known in the country due to its rare occurrences and heavy demand in the industry pharmaceuticals and chemicals. It has great role in the purification of beverages, food, water and other liquids. Selenite occurrences located in Thob area. Gypsum occurrences are available in Bhimarlai, Bajawas, Sinli Jagir, Kawas, Jhakharda, Kosariya area in different locations.

The general stereographic succession worked out by Geological survey of India is as under:

Formation	**Age**	**Lithology**
	Recent to sub recent	Sand and Bajri, Alluvium, kankar, gypsum and selenite deposit.
Kapurdi formation	Lower to middle Eocene	Fuller's earth.
Barmer,Mandai formation and Akli formation	Lower Eocene to Upper Paleocene.	Clays and ferruginous sandstone grey and black Shales with or without lignite intercalations, Bentonite, Siliceous earth.
Sarnu- Dandali Alkaline Suite	Creataceous to Palaeocene	Alkali pyroxinite, syenite, phonolite, Carbonatites, Olivine basalt, trachy andesite etc.
Fatehgarh formation	Middle Paleocene to upper cretaceous.	Ferrugineous Sandstone.
Lathi formation	Triassic – Jurassic	Sandstone
Malani Igneoues rock	Late Precambrian	Rhyolite, Granites and associated intrusive.

MALANI IGNEOUS SUITE:-

A large area in the South-East, North-Western and East and South-Eastern part of the district is occupied by Malani igneous suite consisting of granites and rhyolite, but near village Jasai and around is occupied by Pyroxinite olivine. The granite is medium to coarse grained texture and comprised by predominantly feldspar, quartz, tourmaline crystals with minor amount of Biotite. The blockable granite occurrence found in Suwala and Mungeria, tehsil-Sheo, Dhorimana tehsil-`Gudamalani, Dhok, Chohtan, Viratara tehsil-Chohtan, around Mokalsar, Gudanal, Phulan, Deora, Rakhi tehsil-Siwana.

LATHI FORMATION:-

The Lathi formation belonging to Jurassic age, occurs in the northern part of Barmer district as scattered out crops near Harwecha, Antra, Agoria, Kotra,Balasar and Suwala. The lathi formation consists of dark red to yellow and white sand stones, shales and clays. The sand stones are moderately cemented and are medium grained and contain interbedded large lenses of poorly cemented silt and shale

BARMER OR FATEHGARH FORMATION:-

The Fatehgarh formations (Cretaceous) earlier designated as Barmer sand stone (Siddiqui and Bahl -1965) overlie Lathi sand stone and comprise conglomerates, ferruginous sand stone and phosphatic sand stone. The exposures of sand stone at Bothia, Bhadkha, Bisala, Sonri, Wazir Ki Dhai, Bariyada, Dharvi also belongs to this formations.

SARNU- DANDALI ALKLINE SUITE:-

Thee area comprises by alkaline igneous Suite of rocks such as alkaline, Olivine basalt, Hawaiite, Trachyte, Trachyandesite, Syenite and Carbonatite etc. of Sarnu-Dandali alkaline suite of cretaceous to Paleocene age. The geological studies have been carried out by different agencies in Siwana Ring Complex and Kamthai area showing presence of Rare Earth Elements (REE) in Carbonatites, Alkaline, Rhyolite, Tuffs, alkaline and Acidic rocks. The studies show that Carbonatites, Alkaline and Peralkline intrusive complex are suitable for REE as a host rock.

AKLI FORMATION:-

Akli formation is the most extensively developed formation in Barmer basin, exposed around Akli-Thumbli, Giral, Sheo, Gunga, Harwecha and Dharvi etc. These predominantly consist of sand stones, shales with pebbles and cobbles of deep brown ferruginous, chert. The sand stone are composed of sub-rounded to rounded grains of quartz in a calcareous matrix which are poorly sorted and texturally very fine to medium grained. The sandstone of the area comprises Zircon and tourmaline as heavy mineral. Other economic mineral are siliceous earth and china clay, ball clay also associated with Akli formation. The Akli formation, chiefly betonies clay found in the Barmer district. The deposits are located in a NNW-SWW trending belt, about 8Km wide and extending for a distance of 86Km from Khodal in north to Mahabar in the south.

KAPURDI FORMATION:-

In Barmer area, the sediments of the Kapurdi formation occur as isolated out crops in a narrow zone east of Sheo-Bhadkha, Kapurdi and Uttarlai. Fuller's earth is characterized by marine, shallow water benthonic fauna and it has been correlated lower to middle Eocene in age, it is commonly underlain by grey and dark grey clay with or without lignite.

Mineral wealth of the District:

Various minerals are found in Barmer district, details of their occurrences are given below:

MINOR MINERALS:-

1. BENTONITE:-

Bentonite belongs to Akli formation of lower palaeocene age. Bentonite is originated from alteration of volcanic ash. It is bedded sedimentary deposits. The bentonite bed is nearly horizontal, or low to moderately dipping.

1) The sodium based Bentonite mineralization is observed in Akli-Thumbli area 5km in length and 500m to 2.25km in width. Bentonite is generally concealed by alluvium. Thickness of Bentonite mineral varies from 2.0m to 15.0m at places.
2) Bentonite mineralization is observed n/v Phusad area 6.0km in length and 500mt to 1.50 km in width.

3) Calcium based bentonite occurs near villages Rawat ka Gaon area has about 2.0 sq km length 2.5km and 0.7 to 1.50km in width.
4) Harwech- Sheo-Hathi Singh Ki Dhani –Bentonite occurring below 3.0m soil cover.
5) Akli-Thumbli – Giral area- Bentonite is seen underlying conglomerate band.
6) Sonri area - A 0.6 m thick bentonite bed, unconformably overlying the Barmer sandstone (Cretaceous age), is exposed and worked.
7) Bisala area - A 5-7 m thick bentonite bed, overlain by near-horizontal conglomerate bed.
8) Bhadres area - A 3 to 5 m thick bentonite bed, overlain by near-horizontal conglomerate bed.
9) Mahawar arera – Details not available
10) Devka- Rajral - A 1.50 to 3.5 m thick Bentonite bed, overlain by alluvium 0.5 to 1.50 thickness.

2. GYPSUM:-

Gypsum are characterized by marine, evaporates mineral and it has been correlated gypsum occurs in horizontal disposition. Gypsum belongs to recent to sub recent age. Gypsum deposit formed by the regression of sea and bars are formed as it is rich in salts (evaporates) the layer of gypsum in this area is 0.20 to 1.20 m.

1) Near Jhakharda: - Exposures of gypsum intermittently exposed up to 3.5km in length and 3.0km in width. Gypsum bed varies from 0.80m to 1.20m in thickness.
2) Near Uttarlai:-Occurrences of gypsum are scattered over 6km in length and 2.5km in width. Gypsum bed varies from 0.30m to 1.20m in thickness.
3) Near Kawas: - Occurrences of gypsum are scattered over 4.5km in length and 1.5km to 2.5kmin width. Gypsum bed varies from 0.40m to 1.20m in thickness at places.
4) Kosariya-Chittar Ka Par area:-Gypsum and selenite (almost exhausted) are occurring up to 3.0Km in length and 2.0Km to 2.5km in width. A gypsum bed has thickness up to 0.60m and overlain by a thin selenite bed (0.05m to 0.40m) at places.
5) Bheemarlai area: - Occurrences of gypsum are exposed and varies from 200m to 500m in length and 2.0Km to 2.5km in width which are scattered over in 23 sq km area. A gypsum bed has 0.60m thickness. The gypsum is sedimentary evaporate bedded formation. It is white to grayish in color, medium to coarse grained in texture and crystalline in nature. It is of pop and cement grade in nature. Chemical analysis of

Chhittar Ka Par- Kosariya area showing $CaSO_4.2H_2O$ varies 56.48% to 72.98%. The analysis results of Jhakharda area indicates that $Ca\ SO_4\ .2H_2O$ contents varying from 50 % to 80%. A mining lease exists in Jhakharda area in 336.37 hectare area. Another lease area is existing in Kosriya-Chhitar ka par area in 4.50 hectare area. Rest of the area has no lease area. Total 65 permit applications of gypsum have been received n/v- Uttarlai, Kawas, Kosria, Chhittar Ka Par, Jhakharda, Bhimarlai. All area has been inspection by Field committee.

3. FULLER'S EARTH:-

The fuller's earth is sedimentary bedded deposit. It is yellowish in color, fine grained in texture. It is occurring in the form of lumps. Fuller's earth is a variety of Montmorillonitic, yellowish-white in color having the unique property of decolorizing oil, fat and greases.

1) Bhadkha – Rohilli: -Fuller's earth mineral bearing area extends 2.0 to 3.0km in length and 0.50 km to 0.75 km in width. Thickness of the fuller's earth bed varies from 3.0m to 8.0m.
2) Kapurdi Belt: - The area extends up to 1.75 km in length and 0.25km in width. Thickness of the fuller's earth varies from 4.0m to 8.0m below alluvium cover.

4. CHINA CLAY:-

The China/ball clay belongs to Akli formation of lower of Palaeocene of tertiary age. The clays mineral is originated from alteration of feldspar. It is bedded/pocket sedimentary deposits.

1) Near Nimbla- Agoria: - Occurrences of ball/ china clay mineralization were located and scattered over an area about 10.0 km in length and from 0.5km to 1.50km in width below 1.0m to 4.0m thick alluvium /soil cover. Depth persistence of clay in the area from 5 to 10m in thickness.
2) Near Bothiya – Chhapri: - Occurrences of ball/ china clay mineralization were scattered over an area about 10.0 km in length and 2.5km to 4.0km in width below 0.50m to 3.5m thick alluvium /soil cover. Thickness of clays varies from 3.0m to 6.0m at places. The clay occurs in six beds, interstratified with sandstone, varying in thickness from 0.75 m to 3 m.

3) Near Gunga: - Occurrences of ball/ china clay mineralization were located and scattered over an area about 0.7 kmX0.5 km area below 1.50m to 3.0m thick alluvium /soil cover. Depth persistence of clay in the area from 2.0m to 4.0m in thickness. The China Clay is sedimentary bedded deposit. The Clay is off white in color, fine grained in texture.
4) Nimbla- Agoriya area- It is highly plastic and vitrifies at 1300°C. The clay bed found near Nimbla vitrifies at 1400°C.
5) Bothia-Chhapri area: The Ball clay/ china clay is horizontal to sub horizontal disposed. The water of plasticity (25.1%) and vitrification temperature (1,450°C) make the clay suitable for pottery earthenware, paper and rubber industries.
6) Gunga : The clay vitrifies at 1,320°C.

5. SILICA SAND:-

The silica sand belongs to Barmer formation of Cretaceous age. It is of sedimentary and bedded deposit. It is disposed horizontal to sub horizontal. Silica sand occurs in the form of fragile in nature and not cemented by clay matrix. Silica sand bearing area extends up to 7km in length and 0.50km to 3.50km in width. Thickness of silica sand varies from 5.0m to 10m in excavated pits and nala section.

The silica sand is sedimentary bedded deposit. It is off-white in color, medium grained in texture. Chemical analysis of the silica sand shows SiO_2 value 96.5% to 98% and Fe_2O_3 shows 0.20% to 2.0%. It is suitable for glass industries. A total 04 mining leases exist in 18.0 hectare area. A total 23 LOI were granted for silica sand. Many leases were cancelled as per the Gazette notification on dated 12-01-2015.

6. GRANITE:-

The Granite belongs to Malani suite of igneous rock of Precambrian age with intrusion of basic dykes and rhyolite. Geologically the area comprises of granite rocks of Malani Igneous suites of Pre Cambrian age. The granites are occurring in the form of hills, hillocks and flat exposures as sheet rocks.

1) Mungeria area - Granite of Mungeria area are scattered in 5.0 length and 0.70km to 2.50 in width.

2) Bachhdau-Mangta area - Granite of Bachhdao- Mangta area are scattered in 8.50 length and 0.2km to 1.50 in width.
3) Chohtan-Dhok area - Granite hill ranging up to 3.5km in length and 2.0km in width. Viratra area has 4.0km length and 1.50km width.
4) Suwala –Nand: - Granite of Suwala area are scattered in 5.0 length and 0.70km to 2.0 in width. Granite of Nand area are scattered in 7.50 length and 0.2km to 1.75 in width.
5) Dandali area – Granite (syenite) of Dandali area are scattered in 3.5 length and 2.5 in width.
6) Deora, Rakhi, Phulan - Granite of Rakhi- Phulan area of are scattered over 10.0 km in length and 0.5km to 2.25km in width.
7) Indrana, Siner area - Granite of Indrana, Siner area are scattered in 3.0 length and 0.70km to 2.0 in width.
8) Dhorimanna area - Granite of Dhorimanna area are scattered in 2.50 length and 0.5km to 1.75 in width.
9) Mokalsar, Ramniya, Dheera, Gudanal, Piploon area - Hill and hillocks of granites are scattered over 26km in length and 3.0km to 9.0km in width at Chhappan Ka Pahar area in Siwana tehsil area covering villages Mokalsar, Ramniya, Dheera, Mangi, Hemawas, Gura, Goliya etc.

The granite is intrusive plutonic igneous rocks. The granite is whitish, creamish, brownish, greenish and multi coloured from place to place, medium to coarse grained, massive and blockable in nature. Granite gangsaw size blocks and khandas are being extracting from granites. The granite comprises by predominantly feldspar, quartz, tourmaline minerals with minor amount of biotite.

7. SANDSTONE:-

Sandstone of the area is located at Lalson Ki Dhani(Balai) area of Sheo tehsil of Barmer district. The Sand Stone belongs to Fatehgarh formation of Cretaceous age. Sandstone is exposed in the form of hillocks. It is of sedimentary and bedded deposit. It is disposed horizontal to sub horizontal. Sandstone occurs in the form of compact and massive in nature and non splitable in nature. Sand Stone bearing area extends up to 1.2km in length and 0.20km to 0.50km in width. Sandstone hillocks are rising up to 15m from ground level. Thickness of sand stone varies from 5.0m to 15m in excavated pits.

ECONOMY

Rajasthan's economy is primarily agricultural and pastoral. Wheat and barley are cultivated over large areas, as are pulses, sugarcane, and oilseeds. Cotton and tobacco are the state's cash crops. Rajasthan is among the largest producers of edible oils in India and the second largest producer of oilseeds. Rajasthan is also the biggest wool-producing state in India and the main opium producer and consumer. There are mainly two crop seasons. The water for irrigation comes from wells and tanks. The Indira Gandhi Canal irrigates northwestern Rajasthan.

The main industries are mineral based, agriculture based, and textiles. Rajasthan is the second largest producer of polyester fibre in India. The Pali and Bhilwara District produces more cloth than Bhiwandi, Maharashtra and the Bhilwara is the largest city in suitings production and export and Pali is largest city in cotton and polyester production and export. Several prominent chemical and engineering companies are located in the city of Kota, in southern Rajasthan. Rajasthan is pre-eminent in quarrying and mining in India. The Taj Mahal was built from the white marble which was mined from a town called Makrana. The state is the second largest source of cement in India. It has rich salt deposits at Sambhar, copper mines at Khetri, Jhunjhunu and zinc mines at Dariba, Zawar mines at Zawarmala for zinc, Rampura Aghucha (opencast) near Bhilwara.

BARMER - AN ECONOMIC PERSPECTIVE

Development is reflected in structure of the economy. Kuznets had found that in the development process, the contribution of agriculture would decline and the contribution of manufacturing would increase in the first stage. In the latter stage, the service sector would become important. In the recent times, Barmer has observed a structural change as depicted by district income estimates at current prices.

Total income generated in 1999-2000 was Rs.165071 lakh which increased to Rs. 259338 in 2004-05; a 1.57 time increase or 9.52 percent increase. In the recent times, the contribution of agriculture and allied sectors declined from 38.4 percent to 32.3 percent from 1999-00 to 2004-05. There is an increase in contribution of mining and manufacturing sector from 20.5 percent to 24.0 percent during this period. The contribution of service sector/ tertiary sector improved from 41.2 percent to 43.8 percent.

Despite this structural transformation, one finds that contribution of agriculture sector has declined by 7.7 percentage points, while contribution of livestock sector has increased by 1.47 percentage points. Within mining and manufacturing sector, mining and registered manufacturing have gained in contribution while unregistered manufacturing has declined though still remaining an important contributor (6.53% share). Construction sector has improved contribution and in 2004-05 contributed 10.1 percent district's income. The major activity in service sector is trade, hotel and restaurants (14.4%) and is followed by other services (7.175) and real estate activities (7.92%). However, the latter two activities have lost ground during this period. Transport, banking, railways, other transport, communication and public administration have gained in their shares in district income.

AVAILABILITY OF MINERALS

Detail of Various minerals, no. of mining leases area and production thereof are given below:

Minerals	No. Of Mining Leases	Area (In Hectare)	Production (In Mt)
Lignite	4	11358.14	5784240.68
Salenite	3	480.35	1059.66
Silicious Earth	22	166.03	11487.63
Bajri	30	66.5	541086.6
Bentonite	36	82.5	283545.16
China Clay	2	9.9	0
Fullers Earth	12	29.58	14236.59
Granite	63	157.61	116862.72
Gypsum	2	340.68	241435.62
Masonary Stone	331	337.5	3808150.07
Sand Stone	1	2	5.32
Silica Sand	10	45	8333.5
Gravel/Murrum	2	2	1358.62
Total	**518**	**13077.79**	**10811802.17**

MAIN INDUSTRIAL AREAS

- Industrial Area, Barmer
- Industrial Area, Balotra
- HPCL Refinery and Hydro-carbon complex pachapadra
- MPT, Nagana
- Raj-west power plant, Bhadresh
- Tharmal Power Plant, Thumbhali

1. INTRODUCTION

In the process of development, the issues confronting today are achieving desired development for economic or social reasons on one hand and safeguarding the environment and maintaining good quality of life on the other. The developmental activities being haphazard and un-controlled are lead into over use, congestion and incompatible land use and poor living conditions. The problems of environmental pollution are becoming complex and are creating high risk environment.

- Conventionally, the environmental pollution problems are solved by introducing environmental management techniques such as control of pollution at source, providing of sewage treatment facilities etc.
- The environmental aspects are to be induced into each of the developmental activities at the planning stage itself and are to be well co-ordinate and balanced.
- For all developmental activities, a crucial input is land 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 uses need proper planning and integration as some of the activities have inter dependences such as industry with transport, housing etc.

Besides, climate change is now affecting every country on every continent. It is disrupting national economies and affecting lives, costing people, communities and countries today and even more tomorrow. Weather patterns are changing, sea level surprising, and weather vents are becoming more extreme and green-house gas emissions

are now at their highest levels in history. Without action, the world's average surface temperature is likely to surpass 3 degrees centigrade this century.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs 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.

The principle of 7Rs is essential strategy for achieving the sustainability. It reduces the load and over exploitation on the natural resources and is a key for resource efficiency.

OBJECTIVES:-

The Objectives of District Environment and Management Plan (DEMP) are given below:

1. To ensure conservation of environment and natural resources at district level.
2. Restore ecological balance.
3. To harness active participation of all stakeholders in planned environment conservation actions.
4. Assess, Mitigate and monitor adverse impacts of various pollution sources at district level.
5. Capacity building of stakeholder, department, agencies, organizations and individuals at district level to understand and implement micro level environmental conservation actions.
6. To harness inter-departmental co-ordination for implementation of action plans.
7. To develop local knowledge centers and expertise for developing environmental conservation strategies at district level.
8. To develop and implement micro monitoring system at district level.

NGT DIRECTIONS:-

a. Hon'ble NGT in last one year has issued several directions in various matters and 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.

b. The role and responsibilities of enforcement are with District Collector / Magistrate, Pollution Control Board, Municipal Bodies, Public Health Engineering Departments and others.

c. The present state level execution and monitoring mechanism on various State and Central Government's Schemes are monitored by Chief Minister/ Chief Secretary with District Collector/Magistrate.

ISSUES REQUIRING ACTIONS:-

As per the directions of the Hon'ble NGT, District Collector / Magistrate through District Level Committee are required to act on the following issues:

a. WASTE MANAGEMENT

i. Municipal Solid Waste (MSW) including remediation of legacy waste dumpsites.

ii. Plastic waste management

iii. Bio-medical waste management

iv. Construction and demolition waste (C and D)

v. Hazardous Waste Management

vi. E-waste Management

b. INDUSTRIES TO COMPLY WITH WATER (PREVENTION AND CONTROL OF POLLUTION) **ACT**, **1974**

To ensure 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.

c. Ensure cities, towns and villages provide proper sewage management facilities in a time-bound manner or else will be liable to pay Environmental Compensation in case of default and further required to ensure utilization of treated sewage for non-potable purpose.

d. Regulation of sand mining to check illegal sand mining and recover compensation. Proper restoration of exhausted mining sites as per Environmental Plan for conservation and protection of water sources.

3.2. ACTIONS TO BE TAKEN:

The Tribunal has issued detailed directions on each issue for enforcement which are to be executed in accordance with the Acts/Rules. However, for ensuring visible impactful changes and taking immediate actions on certain issues, following actions are suggested below:

3.2.1 SOLID WASTE MANAGEMENT

i. Strengthen waste collection, storage and transportation system. Set up surveillance squads/Task Forces at Ward/Circle level. Attend vulnerable sites/locations and clean them.

ii. Prohibiting burning of garbage.

3.2.2 PLASTIC WASTE - Prohibitions on use of plastic carry bags.

3.2.3 BIO-MEDICAL WASTE

i. Hospitals, Clinics and Nursing Homes whenever generate or provide Bio-medical waste which should be disposed as CBMWTF.

ii. Cities, towns and villages may tie-up individually or collectively to transport bio- medical waste to the common treatment plants.

3.2.4 CONSTRUCTION AND DEMOLITION WASTE

i. Public notices may be issued that construction and demolition waste should only be disposed at pre-identified/notified sites.

ii. Setting up construction and demolition waste processing facilities by Municipal Authorities.

3.2.5 RESTORATION OF POLLUTED RIVER STRETCHES

i. A river whether seasonal or perennial, should not be misused for disposal of sewage, garbage or any other waste into it.

ii. Identify the specifically drains discharging sewage / industrial effluents into the river and intercept them and divert to the sewage treatment plant.

iii. Public awareness and awareness at the level of schools and colleges may be taken up.

3.2.6 MAINTAINING AIR QUALITY IN CITIES, TOWNS AND VILLAGES

i. RPCB may under take monitoring of ambient air quality in a phased manner covering all cities and towns for wider coverage.

ii. Surveillance squads/ task forces may be set up at Ward and Circle level to prohibit burning of garbage and other waste BY Municipal authorities.

iii. Open parks, dilapidated roads and other sources of dust pollution should be identified and actions be taken to prevent the suspension of dust from such sources by repairing the roads etc. by concerned department.

3.2.7 INDUSTRIAL POLLUTION CONTROL

i. Rajasthan State Pollution Control Board should ensure that all industries comply with the Water Act, 1974, the Air Act, 1981 and Environment (Protection) Act, 1986.

ii. Industries discharging waste water and not having effluent treatment plant are closed down as per Water Act, 1974andAirAct, 1981 till compliance is achieved.

3.2.8 SEWAGE TREATMENT AND UTILIZATION

i. Every city, town should have time-bound plan to set up sewage management facility.

ii. Intermediate remedial methods may be employed till sewage drains are intercepted and diverted to STP.

iii. Treated sewage may be utilized for sprinkling on dust emitting sources for gardening and other non-potable purposes.

3.2.9 REGULATION OF SAND MINING

i. Special Police Forces along with Mining Department personnel may be deployed for patrolling sand mining areas, sand mining/stone quarrying to check illegal mining/quarrying.

ii. Mining's rehabilitation and restoration plans should be ensured to be complied by Mining department.

3.2.10 REJUVENATION OF WATER BODIES/RAIN WATER HARVESTING AND GROUND WATER CONSERVATION

Ponds/water bodies may be identified at each city, town and village level and cleaned and not allowing sewage and solid waste disposal in such ponds by the Municipal

authorities and Panchayat level. State Ground Water Board to ensure ground water quality testing particularly shallow hand pumps, and deep bore wells to check fitness for consumption.

3.2.11 HAZARDOUS AND OTHER WASTE MANAGEMENT

i. Illegal transportation of hazardous may be monitored.

ii. Unauthorized dumping of hazardous must be checked.

3.2.12 E-WASTE

i. Setting up of collection centers fore-waste.

ii. Setting up of dismantling and recycling plants either at State level or District level.

3.3. **IMMEDIATE ACTIONS:**

On urgent basis, to bring visible impact full changes in public, following actions may be considered;

i. Work expeditiously to focus cleanliness with enforcement of waste management rules including thrust on Air and Water Quality Management.

ii. In city and towns identify garbage littered areas/localities and clean them and publicize them.

iii. Set up construction and demolition waste processing centers.

iv. Clear encroachment from, riverbanks/lake/pond and beautify them.

v. Vigilance and stop burning of waste and cover dusty areas/activities.

vi. Immediately sensitize schools, colleges and other voluntary organizations for creating awareness. Education department to be involved.

4. SEGMENTS OF DISTRICT ENVIRONMENT MANAGEMENT PLAN (DEMP)

4.1. POLLUTION CONTROL AND RESOURCE MANAGEMENT PLAN:

"The proposed Model Action Plan for 7 thematic areas"

4.1.1 WASTE MANAGEMENTPLAN

4.1.1.1 SOLID WASTE MANAGEMENT PLAN (for each ULB)

Solid Wastes (Management and Handling) Rules, 2016 (SWM Rules) are applicable to every municipal authority responsible for collection, segregation, storage, transportation, processing and disposal of municipal solid waste.

BASELINE DATA FOR SOLID WASTE MANAGEMENT

No.	Action Areas	Details of Data Requirement	Units of Measurable Outcome	Please enter Measurable Outcome for District	ULB1	ULB2
	Name of Urban Local Body (ULB)		[name of ULB]	Barmer	Barmer	Balotra
	No of ULBs in the District		[Nos]	2	1	1
	Population		[Nos as per 2011 census]	170721	96225	74496
SW1	**Report on inventory of total solid waste Generation**					
SW1a		Total solid waste Generation	[in MT/Day] or [Not estimated]	77.60	47.8	29.80
SW1b		Qty. of Dry Waste segregated	[in MT/Day] or [Collection Not initiated]	39.17	24.27	14.90
SW1c		Qty. of Wet Waste segregated	[in MT/Day] or [Collection Not initiated]	36.46	22.46	14.00
SW1d		Qty. of C and D Waste segregated	[in MT/Day] or [Collection Not initiated]	2.35	1.45	0.9

SW1e		Qty. of Street Sweeping	[in MT/Day] or [Not estimated]	Not estimated	Not estimated	Not estimated
SW1f		Qty. of Drain Silt	[in MT/Day] or [Not estimated]	Not estimated	Not estimated	Not estimated
SW1g		Qty. of Domestic Hazardous Waste (DHW) collected	[in MT/Day] or [No Facility]	Nil	Nil	Nil
SW1h		Qty. of Other Waste (Horticulture, sanitary waste, etc.)	[in MT/Day] or [Qty not estimated]	Qty Not estimated	Qty Not estimated	Qty Not estimated
SW1i		No of Old dump sites	[Nos] or [None]	2	1	1
SW1j		Qty stored in dumpsites	[MT] or [Not estimated]	Not estimated	Not estimated	40868.37 cum (Legacy waste)
SW1k		No of Sanitary landfills	[Nos] or [None]	2	1	1
SW1l		No of wards	[nos]	100	55	45
SW2	**Compliance by Bulk Waste Generators**					
SW2a		No of BW Generators	[numbers] or [inventory not done]	inventory not done	inventory not done	inventory not done
SW2b		No of on-site facilities for Wet Waste	[numbers] or [No data]	1	No Data	1 (work order issue and machine establish work in progress)
SW3	**Compliance in segregated waste Collection SW Collection**					
SW3a		Total generation	[Automatic] from SW1a	77.60	47.8	29.80
SW3b		Wet Waste	[in MT/Day] or [Collection Not initiated]	41.70	29.80	11.90

SW3c		Dry Waste	[in MT/Day] or [Collection Not initiated]	33.99	19.09	14.90
SW3d		C and D Waste	[in MT/Day] or [Collection Not initiated]	2.35	1.45	0.9
SW4	**Waste Management Operations**					
SW4a		Door to Door Collection	[100%] / [partial %] / [not initiated]	100 %	100 %	100 %
SW4b		Mechanical Road Sweeping	[100%] / [partial%] / [not initiated]	10 %	10 %	10%
SW4c		Manual Sweeping	[100%] / [partial%]	90 %	90 %	90 %
SW4d		Segregated Waste Transport	[100%] / [partial %] / [not initiated]	100 %	100 %	100 %
SW4e		Digesters (Bio-methanation)	[% of WW] / [not initiated]	not initiated	not initiated	not initiated
SW4f		Composting operation	[% of WW] / [not initiated]	not initiated	not initiated	not initiated
SW4g		MRF Operation	[MRF used] / [not installed]	MRF Used	MRF Used	MRF Used
SW4h		Use of Sanitary Landfill	[% of SW collected] / [no SLF]	100 %	100 %	100 %
SW4i		Reclamation of old dumpsites	[initiated] / [not initiated]	not initiated	not initiated	not initiated
SW4j		Linkage with Waste to Energy Boilers / Cement Plants	[initiated] / [not initiated]	initiated towards Shree cement Pali	initiated towards Shree cement Pali	initiated towards Shree cement Pali
SW4k		Linkage with Recyclers	[initiated] / [not initiated]	not initiated	not initiated	not initiated
SW4l		Authorization of waste	[initiated] / [not	not initiated	not	not

		pickers	initiated]		initiated	initiated
SW4m		Linkage with TSDF / CBMWTF	[initiated] / [not initiated]	not initiated	not initiated	not initiated
SW4n		Involvement of NGOs	[initiated] / [not initiated]	not initiated	not initiated	not initiated
SW4o		Linkage with Producers / Brand Owners	[initiated] / [not initiated]	not initiated	not initiated	not initiated
SW4p		Authorization of Waste Pickers		not initiated	not initiated	not initiated
SW4q		Issuance of ID Cards	[initiated] / [not initiated]	not initiated	not initiated	not initiated
SW5	**Adequacy of Infrastructure**					
SW5a		Waste Collection Trolleys	[Nos. Required] / [Nos. Available]	900/550	500/300	400/250
SW5b		Mini Collection Trucks	[Nos. Required] / [Nos. Available]	60/41	35/25	25/ 16 Door to Door taxi on contract basis
SW5c		Segregated Transport	[yes] / [no] / [% area covered]	100 %	100 %	100 %
SW5d		Bulk Waste Trucks	[Nos. Required] / [Nos. Available]	-	-	-
SW5e		Waste Transfer points	[Nos. Required] / [Nos. Available] /[Not available]	2/2	1/1	1/1
SW5f		Bio-methanation units	[Nos. Required] / [Nos. Available]	2/0	1/0	1/0
SW5h		Composting units	[Nos. Required] / [Nos. Available]	2/0	1/0	1/0

SW5i		Material Recovery Facilities	[used or installed] / [not available]	MRF Used	MRF Used	MRF Used
SW5k		Waste to Energy (if applicable)	[Required] / [Nos. Available]	2/0	1/0	1/0
SW5l		Waste to RDF	[Required] / [Nos. Available]	2/0	1/0	1/0
SW5m		Sanitary Land fills	[Nos] / [Nos. Available]	2/2	1/1	1/1
SW5n		Capacity of sanitary landfills	[MT] / / [Nos. Available]	1238400	768000	470400
SW5o		Waste Deposit Centers (DHW)	[Nos] / [Nos. Available]	2/0	1/0	1/0
SW5p		Other facilities	[give or select from list]			
SW6	**Notification and Implementation of By-Laws**					
SW6a		Notification of By-laws	[done] / [in progress] / [not initiated]	Done	done	done
SW6b		Implementation of by-laws	[done] / [in progress] / [not initiated]	In progress	In progress	In progress
SW7	**Adequacy of Financial Status of ULB**					
SW7a		CAPEX Required	[INR] / [Not required]	4 cr.	2 cr.	2 cr.
SW7b		OPEX	[INR per Year] / [% of requirement]	120 Lakh	60 Lakh	60 Lakh
SW7c		Adequacy of OPEX	[Yes] / [No]	No	no	no

Note: Action to be taken by respective Municipal authorities on all earmarked activities (bold).

ACTION PLAN FOR SOLID WASTE MANAGEMENT

S. No.	Action Points	Timelines	Department/ Agencies
1.	Door to Door collection of municipal solid waste as per SWM Rules- 2016 Segregation at source of solid waste Regular pest control system	Regular activity	Municipal authorities
2.	Collection, Segregation, Transport and Disposal of Solid Waste in city	Regular activity	Municipal authorities /Development Authorities/Industries.
3.	Segregation at source of solid waste.	Regular activity	Municipal authorities /Development Authorities /Waste Generator.
4.	Plantation of area specific types of plants to mitigate pollution Regular cleaning of drains and disposal of sludge In house disposal of Municipal Solid Waste in industrial areas as per SWM Rules-2016.	Regular activity	Department of Industries.
5.	Development of new MSW facility Establishment of Bio-compost RDF and waste to energy plant.	Immediate	ULBs
6.	Preventing solid waste entering into water bodies–installation of bar mesh in Nallahs and Drains.	Immediate	ULBs
7.	GPS enabled vehicles for waste transportation and user friendly mobile app.	Immediate	ULBs
8.	Redressal of complaints	Regular activity	ULBs
9.	Actions against defaulters of Solid Waste Management Rules- 2016	Immediate	ULBs
10.	Information, Education and Communicat6ion (IEC) activities for source segregation.	Regular activity	ULBs

PLASTIC WASTE MANAGEMENT (FOR EACH ULB)

Plastic products become an integral part of our daily life. That's why Plastic became menace worldwide as plastic polymer is produced at a massive scale worldwide. On an average, production of plastic crosses 150 Million tones globally per year. It has wide application in packaging, films, wrapping materials, shopping and garbage bags, fluid containers, clothing, toys, household and industrial products and building materials.

BASELINE DATA FOR PLASTIC WASTE MANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District	ULB1	ULB2
	Name of ULB		[name of ULB]	**Barmer**	Barmer	Balotra
	Population		[Nos as per 2011 census]	**170721**	96225	74496
PW1	**Inventory of plastic waste generation**					
PW1a		Estimated Quantity of plastic waste generated in District	[MT/day] / [Not Estimated]	**1.19**	0.74	0.45
PW2	**Implementation of Collection**					
PW2a		Door to Door collection	[100%] / [partial %] / [not initiated]	**100 %**	100 %	100 %
PW2b		Segregated Waste collection	[100%] / [partial %]	**100 %**	100 %	100 %
PW2c		Plastic waste collection at Material Recovery Facility	[MRF used] / [not installed]	**MRF Used**	MRF used	MRF used
PW2d		Authorization of PW pickers	[Nos] / [not initiated]	**not initiated**	not initiated	not initiated

PW2e		PW collection Centers	[Nos] / [not established]	**2**	1	1
PW3	**Establishment of linkage with Stakeholders**					
PW3a		Established linkage with PROs of Producers	[Nos] / [not established]	**not established**	not established	not established
PW3b		Established linkage with NGOs	[Nos] / [not established]	**not established**	not established	not established
PW4	**Availability of facilities for Recycling or utilization of PW**					
PW4a		No. of PW recyclers	[Nos]	**0**	0	0
PW4b		No Manufacturers	[Nos]	**0**	0	0
PW4c		No of pyrolysis oil plants	[Nos]	**0**	0	0
PW4d		Plastic pyrolysis	[Quantity in MT sent per Month]	**0**	0	0
PW4e		Use in road making	[Quantity MT used per Month]	**0**	0	0
PW4f		Co-processing in Cement Kiln	[Quantity in MT sent per Month]	**4310 Kg**	3150 kg	1160 kg
W5	**Implementation of PW Management Rules, 2016**					
W5a		Sealing of units producing < 50-micron plastic	[All sealed] / [Partial] / [no action]	**not established**	not established	not established
PW5b		Prohibiting sale of carry bags < 50 micron	[Prohibited] / [Partial] / [no action]	**not established**	not established	not established
PW5c		Ban on Carry bags and other single use plastics as	[Implemented] / [Partial] / [no action] / [No Ban]			

		notified by State Government				
PW6	**Implementation of Extended Producers Responsibility (EPR) through Producers / Brand-owners**					
PW6a		No of Producers associated with ULBs	[Nos] / [None]	**None**	None	None
PW6b		Financial support by Producers / Brand owners to ULBs	[Nos] / [None]	**None**	None	None
PW6c		Amount of PRO Support	[Rs…]	**None**	None	None
PW6d		Infrastructure support by Producers / Brand owners to ULBs	[Nos of Producers] / [None]	**None**	None	None
PW6e		No of collection centers established by Producers / Brand owners to ULBs	[Nos] / [None]	**None**	None	None

Note: Action to be taken by respective Municipal authorities on all earmarked activities (bold).

ACTION POINTS FOR PLASTIC WASTE MANAGEMENT

S. No.	Action Points	Timelines	Department/ Agencies
1.	Door to Door plastic waste collection.	Regular activity	ULBs
2.	Setting up of decentralized waste processing facilities by bulk waste generators.	Immediate	ULBs/ Mandi Parishad/ Bus Stand/ Hotels/ Institutions etc.
3.	Plastic waste segregation at Source.	Regular activity	ULBs/Waste generators
4.	Management by Waste Generator (Use of Plastic Carry Bags, Plastic Sheets, extended product life cycle, Cover Made of Plastic Sheets and Multi Layered Packaging).	Immediate	ULBs/ Panchayati Raj
5.	Utilization of Non-recyclable plastic waste (Road Construction, Waste to Fuel, Waste to energy, alternative uses identification etc).	As per requirement	ULBs/PWD
6.	Engaging Civil Societies working with Waste Picker.	Immediate	ULBs
7.	Ban on Carry bags and other single use plastics as notified by State Government.	Immediate	ULBs
8.	Ensuring no open burning and littering.	Immediate	ULBs/ Panchayati Raj
9.	Submission of Annual Report to CPCB.	Annually	RPCB
10.	Preventing plastic waste entering into water bodies – installation of bar mesh in Nallahs and Drains.	Immediate	ULBs
11.	Information, Education and Communication (IEC) for plastic waste management.	Regular Activity	ULBs/ NGOs /Education Department

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

Safe and cost-effective management of construction and demolition wastes is a significant environmental challenge for modern society. Due to rapid urbanization is changing the nature of construction and demolition wastes management from a low priority, localized issue to a pervasive social and environmental problem with risks to public health and environment. Inadequately managed waste disposal has the potential to affect the health and environment. Construction and demolition waste" means waste comprising of building materials, debris and rubble resulting from construction, re-modeling, repair and demolition of any civil structure".

BASELINE DATA FOR CONSTRUCTION AND DEMOLITION WASTE

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District	ULB1	ULB2
	Name of ULB		[name of ULB]	Barmer	Barmer	Balotra
	Population		[Nos as per 2011 census]	170721	96225	74496
CD1	**Inventory of C and D waste generation**					
CD1a		Estimated Quantity	[Kg/Day] / [Not estimated]	2350	1450	900
CD2	**Implement scheme for permitting bulk waste generators**					
CD2a		Issuance of Permissions by ULBs	[Initiated] / [Not initiated]	initiated	initiated	initiated
CD3	**Establishment of C and D Waste Deposition centers**					
CD3a		Establishment of Deposition Points	[Yes] / [No]	No	no	no
CD3b		C and D Deposition point identified	[Yes] / [No]	Yes	yes	yes
CD4	**Implementation of By-Laws for CD Waste Management**					
CD4a		Implementation of By-laws	[notified] / [not notified]	Notified	notified	notified
CD4b		Collection of	[Initiated] /	initiated	Initiated	Initiated

		Deposition / disposal Charges	[Not initiated]			
CD5	**Establishment of C and D Waste recycling plant or linkage with such facility**					
CD5a		Establishment CD Waste Recycling Plant	[Established] / [Sent to shared Facility] / [No facility exists]	No facility exists	No facility exists	No facility exists
CD5b		Capacity of CD Waste Recycling Plant	[MT/Day] / [Not available]	Not Available	Not Available	Not Available

ACTION PLAN FOR CONSTRUCTION AND DEMOLITION WASTE (C AND D)

S. No.	Action Points	Timelines	Department/ Agencies
1	Approval of Waste Management Plan submitted by Waste Generators before Construction starts.	Immediate	ULBs
2	Proper collection, transportation, processing and disposal of C and D Waste	Immediate	ULBs/ Waste Generator
3	Provisions for using materials made by C and D Waste in Construction Activity like paving blocks, lower layers of road pavements, colony and rural roads etc.	Immediate	Urban Development and Housing and Town Planning Department.
4	Information, Education and Communication (IEC) for C and D waste management.	Regular Activity	ULBs /Development Authority/NGOs/ Education department
5	Fix rates to be paid by Waste Generators for Collection, Storage and Transportation of Waste.	Immediate	ULBs

BIOMEDICAL WASTE MANAGEMENT

Biomedical waste is defined as "any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining there to or in the production or testing of biological". The biomedical waste management and handling has been assuming increasing significance for the past few years. The responsibility of medical administrators as regards proper handling and disposal of this category of waste has now become a statutory requirement with the promulgation of Government of India.

BASELINE DATA FOR BIO-MEDICAL WASTE MANAGEMENT

No.	**Action Areas**	**Details of Data Requirement**	**Measurable Outcome**	**Please enter Measurable Outcome for District**
	Name of ULB		[name of ULB]	[Barmer / Balotra]
	Population		[Nos as per 2011 census]	2603751
BMW1	**Inventory of Biomedical Waste Generation**			
BMW1a		Total no. of Bedded Hospitals	[Nos] / [No inventory]	130+56 = 186 (Govt. +Pvt.)
BMW1b		Total no. of non-bedded HCF	[Nos] / [No inventory]	10+57 = 67 (Govt. +Pvt.)
BMW1c		Total no. Clinics	[Nos] / [No inventory]	0
BMW1d		No of Veterinary Hospitals	[Nos] / [No inventory]	104
BMW1e		Patho labs	[Nos] / [No inventory]	57
BMW1f		Dental Clinics	[Nos] / [No inventory]	4
BMW1g		Blood Banks	[Nos] / [No inventory]	2
BMW1h		Animal Houses	[Nos] / [No inventory]	0
BMW1i		Bio-research Labs	[Nos] / [No inventory]	0

BMW1j		Others	[Nos] / [No inventory]	0
BMW2	**Authorization of HCFs by SPCBs / PCCs**			
BMW2a		Bedded HCFs	[Nos Authorized]	186
BMW2b		Non-bedded HCFs	[Nos Authorized]	67
BMW3	**Biomedical Waste Treatment and Disposal Facilities (CBMWTFs)**			
BMW3a		No of CBMWTFs	[Nos] / None	0
BMW3b		Linkage with CBMWTFs	[Yes] / [no linkage]	0
BMW3c		Capacity of CBMWTFs	[Adequate] / [Not adequate]	0
BMW3d		Requirements of CBMWTFs	[Require] / [not required]	Required in whole district.
BMW3e		Captive Disposal Facilities of HCFs	[Nos] / [None]	186
BMW4	**Compliance by CBMWTFs**			
BMW4a		Compliance to standards	[Meeting] / [Not meeting] / [NA]	None
BMW4b		Barcode tracking by HCFs / CBMWTFs	[100%] / [Partly %] / [None]	None
BMW4c		Daily BMW lifting by CBMWTFs	[Kg / day]	None
BMW5	**Status of Compliance by Healthcare Facilities**			
BMW5a		Pre-segregation	[100%] / [partly %] / [None]	100%
BMW5b		Linkage with CBMWTFs	[100%] / [partly %] / [None]	None

As per data received from CMHO Office Barmer

ACTION PLAN FOR BIO-MEDICAL WASTE

S. No.	Action Points	Strategy and approach	Stake holders responsible
1.	Segregation of Bio Medical Waste (BMW) at source of generation in specified Color Coded bags as per Biomedical Waste Management Rule, 2016	Biomedical waste to be managed in accordance with the Bio Medical waste Management Rules 2016.	All HCF Concerned
2.	GPS enabled vehicles for Biomedical wastes transportation	No CTF Provider agency available in Barmer	
3.	Implementation of Rules in HCFs and Occupiers.	BMW 2016 is followed by HCF.	All HCF
4.	Collection of Solid Waste other than BMW from HCFs	Collected by concerned Nagar Parishad and Palika.	Nagar Parishad and Palika.
5.	Authorization to HCFs and Occupiers; Submission of Annual report to CPCB.	Point is Concerned with PCB- Balotra.	PCB- Balotra
6.	Mass awareness campaigns and extensive training programs.	Training to HCF in charge and Pvt. HCF provided every year.	District Administration and Medical Department.
7.	BMW from HCFs Transported, Treated and disposed of in accordance with Rules. Establish Bar coding and Global Positioning system for handling of BMW.	No CTF Provider Agency is Available in Barmer.	No CTF Provider Agency is Available in Barmer.

	Training to all workers. Assist Occupier in Training. Supply Non Chlorinated coloured Plastic Bags to Occupiers.		
8.	Ensure BMW handling as per Rule. Safe, Ventilated and Secured In house Storage of BMW. No mixing of BMW with MSW. Bar code system for Bio-medical waste collection Bags.	Segregation of BMW is done through color coded bins and disposed in Deep burial PIT at HCF.	At HCF Medical Officer and at BMW Plant the in charge of Plant.
9.	Information, Education and Communication (IEC) for Bio-medical waste management.	Displayed at each BMW generation point for segregation of BMW.	Medical officer in charge of HCF

HAZARDOUS WASTE MANAGEMENT

The improper handling, collection, treatment and disposal of hazardous waste material may cause substantial harm to human health or environment. Hazardous wastes can take the form of solids, liquids, sludge's or contained gases and they are generated primarily by chemical production, manufacturing, and other industrial activities.

They may cause damage during inadequate storage, transportation, treatment or disposal operations. Improper hazardous-waste storage or disposal frequently contaminates surface and groundwater supplies. People living in homes built near old and abandoned waste disposal sites may be in a particularly vulnerable position. Hazardous wastes are classified on the basis of their biological, chemical, and physical properties. These properties generate materials that are toxic, reactive, ignitable, corrosive, infectious or radio-active.

BASELINE DATA FOR HAZARDOUS WASTEMANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District
HW1	**Inventory of Hazardous Waste**			
HW1a		No of HW Generating Industry	[Nos.]	Total 188 industries generating Hazardous waste.
HW1b		Quantity of HW	[MT/Annum]	315775.90 Metric Ton
HW1c		Quantity of Incinierable HW	[MT/Annum]	2604 Metric Ton
HW1d		Quantity of land-fillable HW	[MT/Annum]	289498.76 Metric Ton
HW1e		Quantity of Recyclable / utilizable HW	[MT/Annum]	21143.14 Metric Ton
HW2	**Contaminated Sites and illegal industrial hazardous waste dumpsites**			
HW2a		No of HW dumpsites	[Nos] / [None]	Nil
HW2c		Probable Contaminated Sites	[Nos] (provide list)	1
HW3	**Authorization by SPCBs/PCCs**			
HW3a		No of industries authorized	[Nos]	
HW3b		Display Board of HW Generation in front of Gate	[Nos]	
HW4	**Availability of Common Hazardous Waste TSDF**			
HW4a		Common TSDF	[Exists] / [No] / [Sent to other district within state]	1
HW4b		Industries linkage with TSDF	[Nos.]	188
HW5	**Linkage of ULBs in District with Common TSDF**			
HW5a		ULBs linked to Common TSDFs for Domestic Hazardous Waste	[Yes] / [No]	No

As per data received from Regional office RSPCB, Balotra

E-WASTE MANAGEMENT

Waste of electrical and electronic equipment is becoming major threat to the whole world. Rapid growth of technology, up- gradation of technical innovations and a high rate up-gradation by exchanging old electronic items have led to one of the fastest growing waste in the world. Its toxic emissions mixed with virgin soil and air and causing harmful effects to the entire biota either directly or indirectly. Direct impacts include release of acids, toxic compounds including heavy metals, carcinogenic chemicals and indirect effects such as bio-magnifications of heavy metals. Many private firms are involved in collecting, dismantling, separation and exporting e-wastes for recyclers.

BASELINE DATA FOR E- WASTE MANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District
EW1	**Status of facilitating authorized collection of E-Waste**			
EW1a		Does the citizen are able to deposit or provide E-Waste through Toll-free Numbers in the District	[Yes] / [No]	yes
EW1c		Collection centers established by ULB in District	[Nos] / [None]	none
EW1d		Collection centers established by Producers or their PROs in the District	[Nos] / [None]	none
EW1e		Does the district has linkage with authorized E-Waste recyclers / Dismantler	[Yes] / [No]	No
EW1f		No authorized E-Waste recyclers / Dismantler	[Nos] / [None]	None
EW2	**Status of Collection of E-Waste**			
EW2a		Authorizing E-Waste collectors	[Authorized] / [None]	None
EW2b		Involvement of NGOs	[Yes] / [No] /	No

			[Nos]	
EW2c		Does Producers have approached NGOs/ Informal Sector for setting up Collection Centers?	[Yes] / [No] / [Nos]	No
EW2d		Does ULBs have linkage with authorized Recyclers / Dismantlers?	[Yes] / [No]	No
EW3	**Control E-Waste related pollution**			
EW3a		Does informal trading, dismantling, and recycling of e-waste exists in District	[Yes] / [No]	No
EW3b		Does the administration closed illegal E-Waste recycling in the District	[Yes] / [No] / [Nos]	No
EW3c		No of actions taken to close illegal trading or processing of E-Waste	[Nos]	0
EW4	**Creation of Awareness on E-Waste handling and disposal**			
EW4a		Does PROs / Producers conducted any District level Awareness Campaigns	[Yes] / [No] / [Nos]	No
EW4b		Does District Administration conducted any District level Awareness Campaigns	[Yes] / [No] / [Nos]	No

As per data received from Regional office ULB

ACTION PLAN FOR E-WASTE MANAGEMENT

S. No.	Action Points	Timelines	Department/ Agencies
1	Collection, Segregation and Channelization of e-waste pertaining to orphan products to recyclers/dismantlers	Immediate	ULBs
2	Segregation of E-waste at source from MSW	Regular Activity	ULBs/Waste Generator
3	Ensure no illegal e-waste processing No dumping of e-waste, HW and other wastes on banks of river No illegal transportation of e-waste.	Immediate	District Administration /ULBs/RPCB/RTO
4	Information, Education and Communication (IEC) for E-waste Management.	Regular Activity	ULBs/Development Authority/ NGOs /Education department
5	Authorization to Manufacturers, Dismantlers, Recyclers, Refurbishes.	Immediate	RPCB
6	Earmarking or allocation of industrial space or shed, abandoned mills/factories for e-waste dismantling/recycling units in industrial clusters	Immediate	Department of Industries.

4.1.2 WATER QUALITY MANAGEMENT PLAN

Systematic management of water resources is necessary to ensure the required balance between development pressures and the safe guarding of the natural and built environment for future generations. The purpose of Water Quality Management Plan is to reduce discharge of pollutants into urban runoff from development projects by reducing or eliminating sources of pollutants, and managing site runoff volumes and flow rates through best Management Practices.

BASELINE DATA FOR WATER QUALITY MANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District
WQ1	**Inventory of water resources in District**			
WQ1a		Rivers	[Nos] and [Length in Km]	Luni = 200km, Sukari = 16km
WQ1b		Length of Coastline	[in Km]	Nil
WQ1c		Nalas/Drains meeting Rivers	[Nos]	
WQ1d		Lakes / Ponds	[Nos] and [Area in Hectares]	432 ponds
WQ1e		Total Quantity of sewage and industrial discharge in District	[Automatic] (SW1a+IW1b)	77.60
WQ2	**Control of Groundwater Water Quality**			
WQ2a		Estimated number of bore-wells	Piezometers (pz) and Open well (OW/DW)	Pz = 98 and OW/DW = 102
WQ2b		No of permissions given for extraction of groundwater	District level committee decide all stage of ground water development	0 (Zero)
WQ2c		Number of groundwater polluted areas	Water samples collected through PHED and Public T/W and D/W and HP	Not reported in sample collected by GWD
WQ2d		Groundwater Availability	Stage of ground water development, here are below mentioned category :- 1. Safe (0-70 %) 2. Semi-critical (70-90 %) 3. Critical (90-100%)	As per Assessment as on 31.03.2017 Block wise Position is as under 1. Block-Baytu -over-Exploited 2. Block -Balotra-Over-Exploited 3. Block-Barmer - safe 4. Block -Chohatan - safe 5. Block -Dhanau - Critical 6. Block-Dhorimanna-Over-Exploited 7. Block-Gadararoad-Over-Exploited

			4. over exploited (>100)	8. Block- Gida- Over-Exploited 9. Block – Gudamalani - Over-Exploited 10. Block -Kalyanpur – Critical 11. Block -Patodi – Over Exploited 12. Block -Ramasar - Critical 13. Block- Samadari – Over Exploited 14. Block – Sedawa – Critical 15. Block – Shiv – Over Exploited 16. Block – Sindhari – Critical 17. Block – Siwana – Over Exploited
WQ3	**Availability of Water Quality Data**			
WQ3a		Creation of monitoring cell	Yes	piezometers
WQ3b		Access to Surface water and groundwater quality data at DM office	[Available] and [Not available]	not available
WQ4	**Control of River side Activities**			
WQ4a	Control of River side Activities	River Side open defecation	[Fully Controlled] / [Partly controlled] /[no Measures taken]	No Measures taken
WQ4b		Dumping of SW on river banks	[Fully Controlled] / [Partly controlled] /[no Measures taken]	Partly controlled
WQ4c		Control measures for idol immersion	[Measures taken] / [Measures taken post immersion] / [No Measures taken]	Measures taken post immersion
WQ5	**Control of Water Pollution in Rivers**			
WQ5a		Percentage of untreated sewage	[%] (automatic SM1g/SM1a)	

WQ5b		Monitoring of Action Plans for Rejuvenation of Rivers	[Monitored] / [Not monitored] [not applicable]	
WQ5c		No of directions given to industries for Discharge of Untreated industrial wastewater in last 12 months	[Nos]	
WQ6	**Awareness Activities**			
WQ6a		District level campaigns on protection of water quality	[Nos in previous year]	
WQ7	**Oil Spill Disaster Contingency Plan**			
WQ7a		Creation of District Oil Spill Crisis Management Group	[Created] / [Not Created]	
WQ7b		Preparation District Oil Spill Disaster Contingency Plan	[Prepared] / [Not Prepared]	
WQ8	**Protection of Flood plains**			
WQ8a		Encroachment of flood plains is regulated.	[Yes] / [No]	
WQ9	**Rainwater Harvesting**			
WQ9a		Action plan for Rain water harvesting	[Implemented] / [Not implemented]	

4.1.3 DOMESTIC SEWAGE MANAGEMEN TPLAN

Domestic sewage is generated by domestic activities including toilet, bathroom, clothes washing and kitchen cleaning activities. This sewage water contains high levels of micro-organisms, chemicals (nutrients) and other contaminants capable of causing human illness and adversely impacting on the local environment.

BASELINE DATA FOR DOMESTIC SEWAGE MANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District	ULB1-Barmer	ULB2-Balotra
SM1	**Inventory of Sewage Management**			**Barmer**		
SM1a		Total Quantity of Sewage generated in District from Class II cities and above	[MLD]	8	3	5
SM1b		No of Class-II towns and above	[Nos]	2	1	1
SM1c		No of Class-I towns and above	[Nos]	0	0	0
SM1d		No of Towns needing STPs	[Nos]	2	1	1
SM1e		No of Towns STPs installed	[Nos]	2	1	1
SM1f		Quantity of treated sewage flowing into Rivers (directly or indirectly)	[MLD]	nil	nil	nil
SM1g		Quantity of untreated or partially treated sewage (directly or indirectly)	[Automatic]	nil	nil	nil
SM1h		Quantity of sewage flowing into lakes	[MLD]	nil	nil	nil
SM1i		No of industrial townships	[Nos]	2	1	1
SW2	**Adequacy of Available Infrastructure for Sewage Treatment**					
SM2a		% sewage treated in STPs	[Automatic]	200	100	100
SM2b		Total available	[MLD]	19.0	10	9.0

		Treatment Capacity				
SM2c		Additional treatment capacity required	[MLD]	4.5		4.5
SM3	**Adequacy of Sewerage Network**					
SM3a		No of ULBs having partial underground sewerage network	[Nos]	2	1	1
SM3b		No of towns not having sewerage network	[Nos]	0	0	0
SM3c		% population covered under sewerage network	[Automatic]	75	35	40

As per data received from All Five ULB office Barmer/Balotra

ACTION POINT FOR SEWAGE MANAGEMENT

a. SHORT TERM ACTION POINT

S. No.	Action Point	Timeline	Implementing Department / Agency
1	Estimation of total sewage generation from City/Towns where sewage treatment facility does not exist and preparation of DPR for treatment of sewage.		ULBs
2	Measurement of flow and load of all the drains contributing pollution load in Rivers.		ULBs
3	Installation of Bar-meshes in the drains and regular cleaning and disposal of Solid Waste from them.		ULBs
4	Completion and commissioning of under construction STPs.		ULBs/Working Agencies
5	Obtaining Consent to Operate/Establish and Hazardous Authorization from RPCB.		ULBs/ Operating Govt. Agencies
6	Sewage Management in the areas where sewerage network does not exist.		ULBs

b. LONG TERM ACTION POINT

Sl.No.	Action Point	Timeline	Implementing Department/Agency
1	Laying of Sewerage Network and Connection of households to the sewer line in order to utilize the installed capacity of existing STPs.		ULBs
2	Establishment of Sewage Treatment Plants of adequate capacity		ULBs
3	Infrastructure Development in Irrigation/Horticulture/ Sprinkling/Industrial use etc. and ensuring use of treated water.		ULBs
4	Ensuring Open Defecation Free in all the villages situated along the river		Gram Panchayat, Panchayati Raj, Rural Development Departments, Rastriya Swachta Mission- Gramin.

INDUSTRIAL WASTE WATER MANAGEMENTPLAN

Industrial waste water is one of the important and major pollution sources of Water. A huge amount of industrial waste water was discharged into rivers and lake. This resulted in serious pollution problems in the water environment and causes negative effects to the eco-system and human's life. There are many types of industrial waste water based on different industries and contaminants. Each sector produces its own particular combination of pollutants.

BASELINE DATA FOR INDUSTRIAL WASTEWATER MANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District
IWW1	**Inventory of industrial wastewater Generation in District**			
IWW1a		No of Industries discharging wastewater	[Nos]	All effluent generating unites e.g. power plant, Dairies, textile processing have been issued consent on the basis of zero liquid discharge.
IWW1b		Total Quantity of industrial wastewater generated	[MLD]	Not applicable
IWW1c		Quantity of treated IWW discharged into Nalas / Rivers	[MLD]	Nil
IWW1d		Quantity of un-treated or partially treated IWW discharged into lakes	[MLD]	Nil
IWW1e		Prominent Type of Industries	[Agro based] / [Chemical-Dye etc.] / [Metallurgical] / [Pharma] / [Pesticide] / [Power Plants] / [Mining] / [Auto mobile] : Multiple selection based on size of operation and number	[Textile processing], [Power Plant], [Mining]/ [Oil and Gas Exploration]/ [Dairy]/ [Stone Cutting and processing unites]
IWW1f		Common Effluent Treatment Facilities	[Nos] / [No CETPs]	3 CETPs located at balotra, bithuja and jasol Dist. Barmer
IWW2	**Status of compliance by Industries in treating wastewater**			
IWW2a		No of Industries meeting Standards	[Nos]	790
IWW2b		No of Industries not meeting discharge	[Automatic]	Nil

		Standards		
IWW2c		No of complaints received or number of recurring complaints against industrial pollution in last 3 months	[Nos]	6
IWW3	**Status of Action taken for not meeting discharge standards**			
IWW3a		No industries closed for exceeding standards in last 3 months	[Nos]	Nil
IWW3b		No of industries where Environmental Compensation was imposed By SPCBs	[Nos]	115

As per data received from Regional office RSPCB, Balotra

ACTION POINT FOR INDUSTRIAL WASTE MANAGEMENT

Sl. No.	Action Point	Timeline	Implementing Department / Agency
1	Monitoring of water polluting industries and ensuring closure of industries which are operating without consent or non-compliant.	Quarterly	RPCB
2	Closure the illegal water polluting industries.	Regular activity	District Administration, Police, RPCB, ULBs, Power Corporation, Department of Industries etc.

AIR QUALITY MANAGEMENT PLAN

Air quality affects our health, the livability of our cities and towns, and our environment. Air pollution, particularly from human activity, can cause health problems that affect the heart and lungs, and can cause cancer. Even short-term exposure to air pollution can cause health problems. Children, the elderly and people with existing heart and lung conditions are especially affected by air pollution.

Air quality management refers to all the activities to regulatory authority undertake to help protect human health and the environment from the harmful effects of air pollution.

BASELINE DATA FOR AIR QUALITY MANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District
AQ1	**Availability of Air Quality Monitoring Network in District**			
AQ1a		Manual Air Quality monitoring stations of SPCBs /CPCB	[Nos] / [None]	None
AQ1b		Automatic monitoring stations Operated by SPCBs / CPCB	[Nos] / [None]	None
AQ2	**Inventory of Air Pollution Sources**			
AQ2a		Identification of prominent air polluting sources	[Large Industry] / [Small Industry] / [Unpaved Roads] / [Burning of Waste Stubble] / [Brick Kiln] / [Industrial Estate] / [Others] (Multiple selection)	[Unpaved Road]/[Textile processing industries]/[Gypsum units]/[Stone crusher]/[Mineral Processing industries]
AQ2b		No of Non-Attainment Cities	[Nos / [None]	None
AQ2c		Action Plans for non-attainment cities	[Prepared] / [Not yet prepared]	Not Applicable

AQ3	**Availability of Air Quality Monitoring Data at DMs Office**			
AQ3a		Access to air quality data from SPCBs and CPCB through Dashboard	[Available] / [Not yet Available]	Nil
AQ4	**Control of Industrial Air Pollution**			
AQ4a		No of Industries meeting Standards	[Nos]	1112
AQ4b		No of Industries not meeting discharge Standards	[Nos]	Nil
AQ5	**Control of Non-industrial Air Pollution sources**			
AQ5a		Control open burning of Stubble –during winter	[Nos of fire incidents]	Nil
AQ5b		Control Open burning of Waste – Nos of actions Taken	[Nos]	Nil
AQ5c		Control of forest fires	[SOP available] / [No SoP]	SOP not available
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]	Not available

As per data received from Regional office RSPCB, Balotra

ACTION PLAN FOR AIR QUALITY MANAGEMENT PLAN

i. VEHICULAR EMISSION CONTROL

a. SHORT TERM ACTION PLAN: REDUCE CONGESTION

S. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
1.	Launch extensive drive against polluting vehicles for ensuring strict compliance.	As regular activity	R.T.O/Traffic Police
2.	Launch public awareness campaign for air pollution control, vehicle maintenance, minimizing use of personal vehicles, lane discipline, etc.	As regular activity	R.T.O/ Traffic Police
3.	Prevent parking of vehicles in the non-designated areas	As regular activity	Traffic Police/ULBs
4.	Prepare and implement plan for widening of road sand improvement of infrastructure for de-congestion of road.		PWD
5.	Steps for promoting battery operated vehicles including establishment of charging stations.		Transport Department/ULBs and Development Authorities
6.	Synchronize traffic movements/Introduce intelligent traffic systems for lane-driving.		Traffic Police
7.	Installation of remote sensor based PUC system		Traffic Police

b. LONG TERM ACTION PLAN: REDUCE CONGESTION

S. No	Action Points	Time frame for implementation	Action Required to be Taken by Responsible Departments
1.	Plying of electric buses, e-rickshaws for public transport including establishment of sufficient charging stations.		Transport Department
2.	Arrangement of Multi-level Parking Facilities		ULBs/Development Authorities
3.	Development/Strengthening of Bike zone/Cycle zone at metro/railways/bus stations from where travelers hire bi-cycle to reach the destination.		ULBs/Development Authorities

ii. OTHER STEPS TO CONTROL AIR POLLUTION

a. SHORT TERM ACTION PLAN

S. No.	Action Points	Time frame for implementation	Action Required to be Taken by Responsible Departments
1	Engage with concerned authorities on continual basis for maximizing coverage of LPG/PNG for domestic and commercial cooking with target of 100% coverage *(Under Pradhan Mantri Ujjwala+ Yojana in urban areas)*		District Supply Officer
2	Street vendors are to be controlled strictly in respect of removing their wastes and debris before leaving the site of operation.		ULBs
3	Complete ban on littering of streets with municipal solid wastes (MSW). Segregation and source collection at source of MSW to be implemented.		ULBs

b. LONG TERM ACTION PLAN

S. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
1	Installation of CEMS by polluting units/institutions etc. under "Polluters Pay Principles".	Already installed by all 17 categories unit.	RPCB
2	Tree Plantation for mitigation of air pollution based open location of pollution sources and Wind rose data		Forest department

iii. CONTROL OF AIR POLLUTION FROM CONSTRUCTIONS AND DEMOLITION ACTIVITIES

S. No.	Action Points	Time frame for implementation	Action Required to be Taken by Responsible Departments
1.	Enforcement of Construction and Demolition Rules 2016. Fine should be imposed on defaulting units.		ULBs/ Development Authorities
2.	Control measures for fugitive emissions from material handling, conveying and screening operations through water sprinkling, curtains, barriers and dust suppression units;		ULBs/Development Authorities
3.	Ensure carriage of construction material in closed/covered vessels.		Development authorities / Regional Transport Department
4.	Builders should leave 33% area for green belt in residential colonies.		Development Authorities / housing companies
5.	All construction areas must be covered to avoid dispersion of particulate matter.		ULBs / Development Authorities

iv. CONTROL OF EMISSIONS FROM BIOMASS / CROP RESIDUE / GARBAGE/MUNICIPAL SOLID WASTE BURNING/FOREST FIRES

S. No.	Action Points	Time frame for implementation	Action Required to be Taken by Responsible Departments
1	Launch extensive drive against open burning of bio-mass, crop residue, garbage, leaves, etc.		ULBs
2	Regular check and control of burning of municipal solid wastes and use of fire extinguisher for control of fire in municipal solid waste and biomass.		ULBs
3	Proper collection of horticulture waste (bio-mass) and its disposal following composting-cum-gardening approach as material for plantations.		ULBs
4	Ensure ban on burning of agriculture waste and crop residues and its implementation.		Agriculture Department
5	Door to Door collection of segregated waste by agency and then its disposal directly in plant without dumping it on land.		ULBs
6	Establishment of composting pits in Parks/ residential societies etc. for management of biodegradable waste.		ULBs
7	No plot should be left open more than 02 years and planting of trees must be mandatory on vacant plots.		ULBs

v. ACTION POINTS FOR CONTROL OF INDUSTRIAL EMISSIONS

a. SHORT TERM ACTION PLAN

S. No.	Action Points	Time frame for implementation	Action Required to be Taken by Responsible Departments
1	Identification of brick kilns and their regular monitoring including use of designated fuel, and closure of unauthorized units.		Local Administration/ RPCB
2	Bank guarantee should be taken for the compliance of conditions imposed in CTO/CTE for control of Environmental Pollution from industries. The bank guarantee shall be forfeited in case of any violation. Verification of these conditions to be carried out by RPCB.	Already in place	RPCB

LONG TERM ACTION PLAN

S. No.	Action Points	Timeframe for implementation	Action Required to be Taken by Responsible Departments
1	Installation of appropriate air pollution control devices in factory units/industries.	Already installed in 17 categories units and GPI. Regular verification of performance of pollution control devices being carried out.	RPCB

4.1.6. MINING ACTIVITY MANAGEMENT PLAN

Sources	Causes	Efforts
Active or Abandoned surface and underground mines, processing plants	**Causes** • Particulate matter is released and cause air pollution • Physical disturbance to the landscape, decline of wildlife and plant species. • Largely affect the surface and ground water near the mining activity	• Closing illegal and unregulated mines • Form better legislation and regulation • Closing and reclaiming sites of shutdown mines • Investing in R and D of Green Mining Technology • Preparing of Vision plan under DMFT

BASELINE DATA FOR MINING ACTIVITY MANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District	
MI1a	**Inventory of Mining in District**				
MI1a		Type of Mining Activity	[Sand Mining] / [lignite Coal] / Bentonite/ Fullers Earth /Masonary Stone/granite/Sand stone/China Clay/Silica Sand/ Selenite/Gypsum/Murrum/Siliceous Erath	Lignite	4
				Selenite	3
				Siliceous Earth	22
				Bajri	30
				Bentonite	36
				China Clay	2
				Fullers Earth	12
				Granite	63
				Gypsum	2
				Masonry Stone	331
				Sand Stone	1
				Silica Sand	10
				Gravel/Murrum	2
			Multiple selection in order of magnitude of operations		

MI1b		No of Mining leases given in the District	Major Minor	29 489
MI1c		Area covered under mining	[Sq Km]	130.7779 Sq. KM
MI1d		Area of District	[Sq Km]	28387 Sq Km
MI1e		Sand Mining	[Yes] / [No]	Yes
MI1f		Area of sand Mining	[River bed] / [Estuary] / [Non -river deposit]	River bed (In compliance of Hon'ble Supreme Court Order Mining operation is closed)
MI2	**Compliance to Environmental Conditions**			
MI2a		No of Mining areas meeting Environmental Clearance Conditions	[Nos]	511
MI2b		No of Mining areas meeting Consent Conditions of SPCBs / PCCs	[Nos]	518 (No. Of lease holder, presell consent to operate)
MI3a	**Mining related environmental Complaints**	Mining related environmental Complaints	[Nos]	Nil
MI3b		No of pollution related complaints against Mining Operations in last 1 year	[Nos]	Nil
MI4	**Action against non-complying mining activity**			
MI4a		No of Mining operations suspended for violations to environmental norms	[Nos]	Nil
MI4b		No od directions issued by SPCBs	[Nos]	Nil

ACTION POINTS FOR LAND DEGRADATION – MINING

S. No.	Action Points	Timeline	Concerned Department
1.	Adoption of sustainable and systematic mining practices	Regular Activities	Mining Dept.
2.	Enforcing strict control measures against air pollution.	Immediate	RPCB
3.	Enforcing strict control measures against water pollution	Regular Activities	RPCB
4.	Enforcing strict control measures against noise pollution	Regular Activities	RPCB
5.	Establishment of greenbelt in and around mining lease areas and planting of rows of trees along road sides to hold the spread of dust over larger areas.	Regular Activities	Mine Consent /Forest Dept.
6.	Adoption of appropriate soil and moisture conservation measures in the mining lease area to hold run-off and increase in filtration.		Concerned Mines / Mining Dept.
7.	Stabilization and consolidation of inactive dumps through engineering and vegetative measures.		Concerned Mines / Mining Dept.
8.	Strict implementation of reclamation and rehabilitation measures both within and outside the mining lease areas.		Concerned Mines / Mining Dept.

4.1.7. NOISE POLLUTION MANAGEMENT PLAN

Sources	Causes	Efforts
• **Industrialization** • **Poor Urban Planning** • **Transportation** • **Construction Activity** • **Household Chores**	• Hearing Problems Health Issue • Sleeping Disorder • Cardiovascular Issue • Effect on Wildlife and Environment	• Turn off appliances at home and office. • Go green by planning trees. • Use noise absorbent in noisy machineries Proper Lubrication and better maintenance. • Regular check noise level.

BASELINE DATA FOR NOISE POLLUTION MANAGEMENT

No.	Action Areas	Details of Data Requirement	Measurable Outcome	Please enter Measurable Outcome for District
NP1	**Availability Monitoring equipment**			
NP1a		No. of noise measuring devices with district administration	[Nos] / [None]	
NP1b		No. of noise measuring devices with SPCBs	[Nos] / [None]	
NP2	**Capability to conduct noise level monitoring by State agency / District authorities**			
NP2a		capability to conduct noise level monitoring by State agency / District authorities	[Available] / [Not available]	
NP3	**Management of Noise related complaints**			
NP3a		No of complaints received on noise pollution in last 1 year	[Nos]	
NP3b		No of complaints redressed	[Nos]	

NP4	**Compliance to ambient noise standards**			
NP4a		Implementation of Ambient noise standards in residential and silent zones	[Regular Activity] / [Occasional] / [Never]	
NP4b		Noise monitoring study in district	[carried out] / [not carried out]	
NP4c		Sign boards in towns and cities in silent zones	[Installed] / [Partial] / [Not Installed]	

As per data received from Regional Office RSPCB, Barmer

ACTION POINTS FOR NOISE POLLUTION

Sl. No.	Action Points	Timeline	Concerned Department
1	Impose restrictions in traffic hours	Regular Activities	RTO /Traffic Police
2	To restrict the vehicular honking	Regular Activities	RTO /Traffic Police
3	Establish suitable buffer zones around residential areas in order to insulate from noise emanating areas such as commercial, industrial, road etc.	Immediate	Development Authority
4	Impose restriction on any sound creating activities in the silent zone	Regular Activities	District Administration / District Police
5	Enforce the Noise Pollution (Regulation and Control) Rules. 2000	Immediate	District Administration / District Police
6	A loudspeaker or a public address system shall not be used except after obtaining written permission from the authority.	Regular Activities	District Administration / District Police

7	A loudspeaker/any other musical instrument or a public address system shall not be used at night (between10.00p.m.to6.00a.m.).	Regular Activities	District Administration/ District Police
8	No person shall use, operate or permit the use or operation of a loud speaker in any public places or within distance of 200 meters from any public places or in any place of public entertainment.	Regular Activities	District Administration/ District Police

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