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STATE ENVIRONMENT PLAN

Himachal Pradesh

Department of Environment, Science Technology & Climate Change
Government of Himachal Pradesh

State Environment Plan - Himachal Pradesh

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Disclaimer:

The figures, status updates, budget allocations, timeline projections, and other pertinent information provided are based on data supplied by the respective lead and implementing departments. Any modifications or updates to this information are subject to suggestions and recommendations from the aforementioned lead and implementing departments.

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CHAPTER-1: INTRODUCTION & BACKGROUND

1.1 ABOUT HIMACHAL PRADESH:

Himachal Pradesh is a state of India situated in the Western Himalayas, and is characterized by an extreme landscape featuring several peaks and extensive river systems. Himachal Pradesh is the northernmost state of India and shares borders with the union territories of Jammu and Kashmir and Ladakh to the north, the states of Punjab to the west, Haryana to the southwest, Uttarakhand to the southeast and, a very narrow border with Uttar Pradesh to the south. The state also shares an international border to the east with the Tibet Autonomous Region in China. Himachal Pradesh is also known as Dev Bhoomi or Dev Bhumi, meaning 'Land of Gods' and Veer Bhoomi which means 'Land of the Brave'.

The predominantly mountainous region comprising the present-day Himachal Pradesh has been inhabited since pre-historic times, having witnessed multiple waves of human migrations from other areas. Through its history, the region was mostly ruled by local kingdoms. Prior to India's independence from the British, Himachal comprised the hilly regions of the Punjab Province of British India. After independence, many of the hilly territories were organized as the Chief Commissioner's province of Himachal Pradesh, which later became a Union Territory. In 1966, hilly areas of the neighbouring Punjab state were merged into Himachal and it was ultimately granted full statehood in 1971.

Himachal Pradesh is spread across valleys with many perennial rivers are flowing through them. Agriculture, horticulture, hydropower, and tourism are important constituents of the state's economy. The hilly state is almost universally electrified, with 99.5% of households having electricity as of 2016. The state was declared India's second open-defecation-free state in 2016. Himachal Pradesh is divided into 12 districts.

Map of Himachal Pradesh

1.1.1 CLIMATE:

Agro climatic zones in H.P.

Agro-climatically, state is divided into four Zones viz. Sub-Mountain and Low Hills Subtropical Zone (Zone-I), Mid Hills Sub-humid Zone (Zone-II), High Hills Temperate Wet Zone (Zone-III), and High Hills Temperate Dry Zone (Zone-IV).

ZONE 1 (SHIVALIK HILL ZONE):

It occupies about 30% of the geographical area and about 33% of the cultivated area of the state.

- The altitude of this zone varies from 350-1500m.
- This zone receives 165 mm of rainfall .
- Soils of this zone are mostly sandy loam in texture with loamy patches.
- Main crops : Rice , Wheat , Maize , Jowar, Mango , Litchi , Guava etc.
- Covers the district of Una , Bilaspur, Hamirpur , Kangra , Solan , Chamba.

ZONE 2 (MID HILL ZONE):

- It occupies about 32% of the total geographical area and about 53 % of the cultivated area of the state.
- This zone extends from an altitude of 800 -1600 m. above sea level, having mid - temperate climate.
- This zone receives 2000mm of rainfall.
- The soil varies from sandy loam to loam in texture.
- Main crops : Citrus fruits , Tomatoes and vegetables like snowball , cauliflower , root crops.
- Covers the Palampur in kangra, Rampur in Shimla, Mandi, Solan, Kullu and Chamba.

ZONE 3 (HIGH HILL ZONE):

- It occupies about 25 % of the total geographical area and about 11% of the cultivated area of the state.
- It lies from 1801- 2200 m above sea level with humid temperate climate and alpine pastures.
- It receives 400 mm of rainfall.
- The soils are here mostly clayey loam to loam in texture with very acidic reaction.
- Main Crops: Wheat, barley, lesser millets, pseudo - cereals (buckwheat and amaranthus) and maize etc.
- It covers North- western Himalayan region of the state.

ZONE 4 (COLD DRY ZONE) :

- It occupies nearly 6% of the geographical area and 3%of the total cultivated area of the state.
- It is the highest agro- climatic zone of the state located at a height of 2700 m above sea level.
- It receives 1030mm of rainfall.
- The soil composition is very loose and is prone to heavy glaciers and avalanches.
- Main Crops :Quality seed Potato, vegetables and fruits like apples, grapes, almonds, walnuts, apricot.
- It covers Kinnaur , Lahaul Spiti , Pangi in Chamba district.
- Kangra covers the maximum area under foodgrains (wheat, maize, paddy ,barley) in the state followed by Mandi and Hamirpur.
- Mandi covers the maximum area under Pulses followed by Shimla and Sirmaur.
- Kangra covers maximum area under oilseeds followed by Chamba and Una.
- Groundnut, Soyabeen, Sunflower in Kharif and Rapeseed, Mustard, and Toria are important oilseed crops in the Rabi season.
- Urd, Bean, Moong, Rajmash in Kharif season and Gram in Rabi are the important pulse crop of the state.

- IADP (Intensive agricultural development program) was launched in Mandi (1962) and Kangra (1967) in collaboration with west German.
- SAMETI (State Agricultural Management And Extension Training Institute) is situated at Craignano Mashobra (15 km from Shimla).
- ATMA (Agriculture technology management agency) is a registered society at the District level.
- Kangra district in H.P gets the highest rainfall.
- Spiti district in H.P receives lowest rainfall.
- Potato occupies an important place in the economy of H.P. It was introduced as a crash crop on a large scale after the Second World War.
- High yielding varities which are cultivated at present are Kufri Chandermukhi, Kufri jeevan, Kufri jyoti, Kufri alankar.
- H.P is an important producer of Ginger. It is raised as crash crop in parts of Kullu, Shimla, Sirmaur and Kullu.
- Solan has been declared the Mushroom district of H.P.
- Kinnaur got a big name in the production of Sugarbeet seed. Kuth plant was introduced in Lahual valley in 1925 from Kashmir. Kuth plant is used as a medicine and in perfumery.
- The Government introduced in 1999-2000, a new scheme titled "National Agricultural Insurance Scheme" (NAIS) or "Rashtriya Krishi Bima Yojana" (RKBY). The scheme is to act as an insurance policy and provide financial support to farmers in the event of any failure of their notified crops.

1.1.2 DEMOGRAPHY

HIMACHAL PRADESH – AT A GLANCE

Geographical Location (SFR, 1999)	$30^0$22' to $33^0$13' North Latitude and $75^0$36' to $79^0$02' East Longitudes
Geographical Area	55,673 km^2 (1.7% of country's Geographical area)
Rivers of Himachal Pradesh	Yamuna, Satluj, Beas, Ravi, Chenab
Highest mountain peak	Shilla Peak in District Kinnaur Elevation 7025 meters
Elevation	350 m to 7025 m (Shilla Peak in Zanskar range in Kinnaur)
Population (2011 Census) MALES: Females:	68.64 lakhs 34.82 lakhs 33.83 lakhs
Sex Ratio (females per thousand males)	972
Population Density	123 per km^2
Decadal Population Growth (2001 to 2011)	(+) 12.94%
Literacy Rate	82.80 %
Administrative Divisions	12 Districts (Bilaspur Chamba Hamirpur, Kullu, Lahaul & Spiti, , Kangra, Kinnaur, Mandi, Sirmour, Solan, Shimla, ,Una) 79 Tehsils,37 Sub-Tehsils
State Capital	Shimla
Towns/ ULBs	61
Villages	20,690
Urban Population	6.88 lakh
Rural Population	61.7 lakh
Forest Area of State's Geographic Area Forest Cover in H.P.	37,948 Km^2 68.16 % 15443 Km^2

Bio- Diversity Plant Species Animal Species	 3295 (7.32% of the Country) 5721 (7.41% of the Country)
Total Live stock	44.12 lakh
Grazing Land & Permanent Pastures	14.9 lakh Hectares
Milk Production (2020-21)	1576 tonnes
Total Cropped Area (2019-20)	8.91 lakh hectares
Culturable Waste land	11.84 lakh hectares
Net Area Sown	5.30 lakh hectares
Total Food Grain Production (2020-21)	15.14 Million Ton
Area Under Fruits Apple Production (2021-22) Other Temperate Fruits	2,34,779 Hectares 6,11,901 tonnes 1,42,076 tonnes
Per capita income of Himachal Pradesh (2011-12) .	Rs 201854 This shows an increase of 9.7 % over 2020-21 (Rs 18521)
Roads Motorable four Lane (2021-22) Motorable Double Lane (2021-22) Motorable Single Lane Intermediate lane Jeepable	 262 Kms 1584 Kms 36,368 Kms 1032 Kms 1085 Kms
Total Health Institutions (Allopathic, Ayurvedic, Homeopathic) (March- 2022)	4155
Hydro Electric Potential (as on Sep. 2023) Total Harnessed Potential Balance Potential	24253.1 MW 11154.48 MW 13098.62 MW
Electricity Generated in the State (2021-22) Electricity Purchased from outside (2021-22) Electricity Consumed (2021-22)	2203.606 MU 12310.690 MU 10198.086 MU

During the year 2007 while the restructuring of the department of Environment, Science & Technology was undertaken by the State Government the preparation of State Environment Master Plan was mandated and same was prepared and adopted in the state in year 2012-13.

The objective of preparation of master plan was to create an environmental sustainability plan that establishes strategic directions, actions and targets that will improve the environmental qualities of the population, built and safety of natural environment. The environment master plan is available at link: http://www.dest.hp.gov.in/?q=environment-master-plan. This initiative was complete state owned and was successfully implemented in the state.

In the background, it is important to link with the intent to prepare the State Environment Plan, is in fact primarily envisaged under directives of Hon'ble National Green Tribunal dated: 08.02.2022 in the matter OA No. 360/2018 titled as Shree Nath Sharma Vs. Union of India stating the "issue of desirability of District Environment Plans in terms of Article 243 G, 243 W, 243 ZD, read with 11th and 12th Schedules to the Constitution of India, to be operated by the District Planning Committee under article 243ZD and based thereon State Environment Plans and also National Environment Plan to help protection of environment, public health and environmental rule of law in the country."

1.2 About Hon'ble National Green Tribunal Orders

Hon'ble National Green Tribunal (NGT) issued order on dated: 08.02.2022 in the matter OA No. 360/2018 titled as Shree Nath Sharma Vs. Union of India stating the "issue of desirability of District Environment Plans in terms of Article 243 G, 243 W, 243 ZD, read with 11th and 12th Schedules to the Constitution of India, to be operated by the District Planning Committee under Article 243ZD.

It further ordered that based thereon State Environment Plans and also National Environment Plan be prepared to help protection of environment, public health and environmental rule of law in the country."

As per orders following specific thematic areas were identified and indicated by Hon'ble NGT for the preparation of District Environment Plans:

- Compliance to Solid Waste Rules including Legacy waste.
- Compliance to Bio-medical Waste Rules.
- Compliance to Construction & demolition Waste.
- Compliance to Hazardous Waste Rules.
- Compliance to E-waste Rules.
- 351 Polluter Stretches in the country.
- 122 Non-attainment cities.
- 100 industrial clusters.
- Status of STPs and re-use of treated water.
- Status of CETPs/ ETPs including performance.
- Ground water extraction/ contamination and re-charge.
- Air pollution including noise pollution.
- Illegal sand mining.
- Rejuvenation of water bodies.

Vide these orders Hon'ble NGT directed the Department of Environment of all the States and Union Territories to collect District Environment Plans of their State and finalize the 'State Environment Plan' covering the specific thematic areas mentioned above including information such as; Current status, Desirable level of compliance in terms of statutes, Gap between current status and desired levels, Proposal of attending the gap with time lines, and, Names and designation of designated officer for ensuring compliance to provisions under respective statute.

In order to prepare the District Environment Plans, the following themes and Objectives have been adopted in accordance with the orders:

1.3 Objectives for District Environment Plans

- To ensure conservation of environment and natural resources at district level.
- Restore ecological balance.
- To achieve Sustainable Development Goals and District Level Targets within 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 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 stakeholders, departments, agencies, organizations and individuals at district level to understand and implement micro level environmental conservation.
- To harness inter departmental coordination for implementation of action plans.

- To develop local knowledge centres and expertise for developing environmental conservation strategies at district level.
- To develop and implement micro monitoring system at district level.

It has been clearly stipulated and specified under above mentioned orders that the Environment Plans prepared by different agencies needs to be revised periodically and updated every year and executed in respect of all concerned thematic areas. Apart from the thematic areas already specified viz; Solid Waste Management, Plastic Waste Management, C&D Waste Management, Biomedical Waste Management, hazardous Waste Management, E-Waste Management, Air Quality Management, Water Quality Management, Industrial Wastewater Management, Mining Activity Management Plan, Noise Pollution Management Plan, Plantation Management Plan and any other thematic area relating to the goals of environmentally sustainable development can also be added.

On the basis of above background, the state of Himachal Pradesh adopted following objectives while formulating in the State Environment Plan:

- To ensure conservation of environment and natural resources at State level and restoring the ecological balance of the State.
- To achieve Sustainable Development Goals and State Level Targets.
- To incorporate all facets of environmental conservation at State level planning.
- To harness active participation of all concerned stakeholder departments in planned environment conservation actions.
- Capacity building of stakeholders, departments, agencies, organizations and individuals at state level to understand and implement state level environmental conservation.
- Identifying the gaps in the implementation of environmental components in the District Environment Plans and recommending filling these gaps.

The following thematic areas have been prioritized and identified for preparation of State Environment Plan:

a) Solid Waste
b) Bio Medical Waste
c) Construction &Demolition Waste
d) TSDF-Hazardous waste
e) E-waste
f) Polluted river stretches in HP
g) Non Attainment cities in HP
h) Industrial Clusters
i) STP Recycling of Treated Water
j) Common Effluent Treatment Plants in HP
k) Ground water Extraction and Recharge
l) Air Pollution - SPM, SOx, NOx and Noise Pollution
m) Minerals & Mining (Lime stone, sand, stone)
n) Water Bodies- (Lakes, Ponds etc.)
o) Extended Producer Responsibility

1.4 AGENCIES RESPONSIBLE FOR IMPLEMENTATION OF ACTIVITIES

Himachal Pradesh has included concerned stakeholder departments as per the specific thematic areas and departmental plans have been accordingly be made at State level by the stakeholder departments. Following is the list of concerned stakeholder departments, lead departments along with their specific thematic areas:

Sr. No.	Thematic Area	Lead Department	Supporting Departments
1.	Solid Waste Management	UDD	• Urban Development Department

			• Rural Development Department • ULBs • TCP • Pollution Control Board
	Plastic Waste Management	DEST&CC	• Urban Development Department • Rural Development Department • ULBs • TCP • Pollution Control Board
	Extended Producer Responsibility	HPPCB	• HPPCB • UDD
2.	Biomedical Waste Management	Health	• Health and FW Department • ULBs • BBNDA • Pollution Control Board
3.	Construction & Demolition waste Management	UDD	• TCP • PWD • ULBs • Urban Development Department • Rural Development Department • Pollution Control Board • Forest Department
4.	Hazardous Waste Management	Industry	• Pollution Control Board • ULBs • Urban Development Department • Rural Development Department
5.	E-Waste	Industry	• Pollution Control Board • ULBs • Urban Development Department • Rural Development Department
6.	Polluter river Stretches in H.P.	JSV	• Pollution Control Board • BBNDA • CGWB
7.	Non-attainment cities in H.P.	HPPCB	• Pollution Control Board • BBNDA
8.	Industrial clusters	Industry	• Industry Department • Pollution Control Board • BBNDA
9.	STPs and re-use of treated water	JSV	• Jal Shakti Department • Pollution Control Board • BBNDA
10.	CETPs/ ETPs	Industry	• Pollution Control Board • BBNDA • Industry Department
11.	Ground water extraction/ contamination and recharge	CGWB	• CGWB • Jal Shakti Department • Pollution Control Board
12.	Air pollution- SPM, SOx, NOx and noise pollution	HPPCB	• Pollution Control Board • Industry Department
13.	Minerals & Mining (Lime	Industry	• Pollution Control Board

	stone, sand, stone)	(Mining Wing)	• Industry Department (Mining Wing) • Forest Deptt. • SEAC/SEIAA • PWD
14.	Water bodies (Lakes, Pond, etc.)	RDD	• Forest Department • Jal Shakti Department

1.5 MECHANISM

In order to ensure the effective implementation of directions of Hon'ble Court the GoHP formed sectoral level task forces at district and state level. These committees are required to oversee preparation, execution of the orders in time bound manner.

The following stakeholder committees have been constituted at State and District level for preparation of State and District Environment Plans. Following is the constitution of committees:

1.5.1 STATE LEVEL COMMITTEE

#	Composition of the Committee	Designation
1.	Director, DEST&CC	Chairman
2.	Member Secretary, HPPCB	Member
3.	PCCF (HoFF), HP State Forest Department	Member
4.	Director, UDD	Member
5.	All Commissioners, Municipal Corporations, H.P.	Member
6.	Engineer-in-Chief, Jal Shakti Vibhag	Member
7.	Engineer-in-Chief, PWD	Member
8.	Director, Health & Family Welfare Department, H.P	Member
9.	Member Secretary, HP State Biodiversity Board	Member
10.	Regional Director, North Himalayan Region, CGWB, Dharamshala, H.P.	Member
11.	HP State Geologist, Mining Wing, Deptt. of Industry	Member

1.5.2 DISTRICT LEVEL COMMITTEE

#	Composition	Designation
1.	Deputy Commissioner	Chairman
2.	Additional Deputy Commissioner	Member
3.	Superintendent of Police	Member
4.	Chief Conservator of Forest	Member
5.	Additional District Magistrate (Protocol)	Member
6.	Additional District Magistrate (Law & Order)	Member
7.	Chief Medical Officer	Member
8.	Chief Engineer, HPPWD (Zone)	Member
9.	Chief Engineer, I&PH (Zone)	Member
10.	Project Officer, DRDA	Member
11.	Commissioner, MC	Member
12.	District Town & Country Planner	Member
13.	District Panchayat Officer	Member
14.	District Ayurveda Officer	Member
15.	Dy. Director, Department of Animal Husbandry	Member
16.	Dy. Director, Agriculture Deptt.	Member
17.	Dy. Director, Horticulture Deptt.	Member
18.	Regional Transport Officer	Member

19.	General Manager, DIC	Member
20.	District Mining Officer	Member
21.	District Regional Officer, HPPCB	Member

The detailed analysis of the information w.r.t. Current status, Desirable level of compliance in terms of statutes, Gap between current status and desired levels, action plan to attending the gap with time lines, and, with lead department and line department for ensuring compliance to provisions under respective statute are given in subsequent chapters.

CHAPTER-2: STATUS OF ACTIVITIES, OBLIGATIONS UNDER DIFFERENT 'THEMATIC AREAS'

Ensuring compliance with environmental standards has always been the state government's top priority. The respective agencies are actively involved and successfully performing their duties in all theme areas.

However, the current level of compliance and status under various roles and responsibilities within the defined thematic focus areas by different departments, agencies in state of Himachal Pradesh is as follows:

1. SOLID WASTE MANAGEMENT

Solid waste means solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, street sweeping and other non-residential waste. One of the common methodologies of disposing solid waste used to be landfills where sanitary, municipal, construction and demolition, or industrial waste is disposed. Waste can be categorized based on material, such as plastic, paper, glass, metal, and organic waste etc.

1.2 APPLICABILITY OF SOLID WASTE MANAGEMENT RULES, 2016

- Every urban local body, outgrowths in urban agglomerations,
- Census towns as declared by the Registrar General and Census Commissioner of India,
- Notified areas
- Notified industrial townships
- Areas under the control of Indian Railways, airports, airbases, Ports and harbours, defence establishments, special economic zones,
- State and Central government organisations
- Places of pilgrims, religious and historical importance as may be notified by respective State government from time to time
- Every domestic, institutional, commercial and any other non-residential solid waste generator situated in the areas

1.3 REGULATIONS IN HIMACHAL PRADESH

- *The Government has notified the Solid Waste Management Rules, 2016 on April 8, 2016.*
- *In compliance of Rule 23 of Solid waste Management Rules, 2016, GoHP has notified the "State level Advisory Body" on 28-1-2017.*

1.3.1 SWM Rules direct responsibilities pertains to the following Departments

(I) Urban Development.
(II) Rural Development.

1.3.2 Administrative Set up of ULBs

Sr. No.	ULB Type	No.
1.	Municipal Corporation	5
2.	Municipal Council	29
3.	Nagar Panchayat	26
	Total ULBs	60

1.4 Impacts on Environment due to solid waste

1.4.1 Surface/ Groundwater quality

- The large number of municipal solid waste (MSW) generated in the state ends in landfills and the many hazardous materials which they contain pose a serious threat to both surrounding environment and human populations due to leachates, foul smell and emissions.
- Once waste is deposited at the landfill, pollution can arise from the percolation of leachate to the porous ground surface, if the landfill site is not prepared scientifically.
- Littering along water bodies and water supply schemes can also pose a threat to water bodies.

Soil Quality

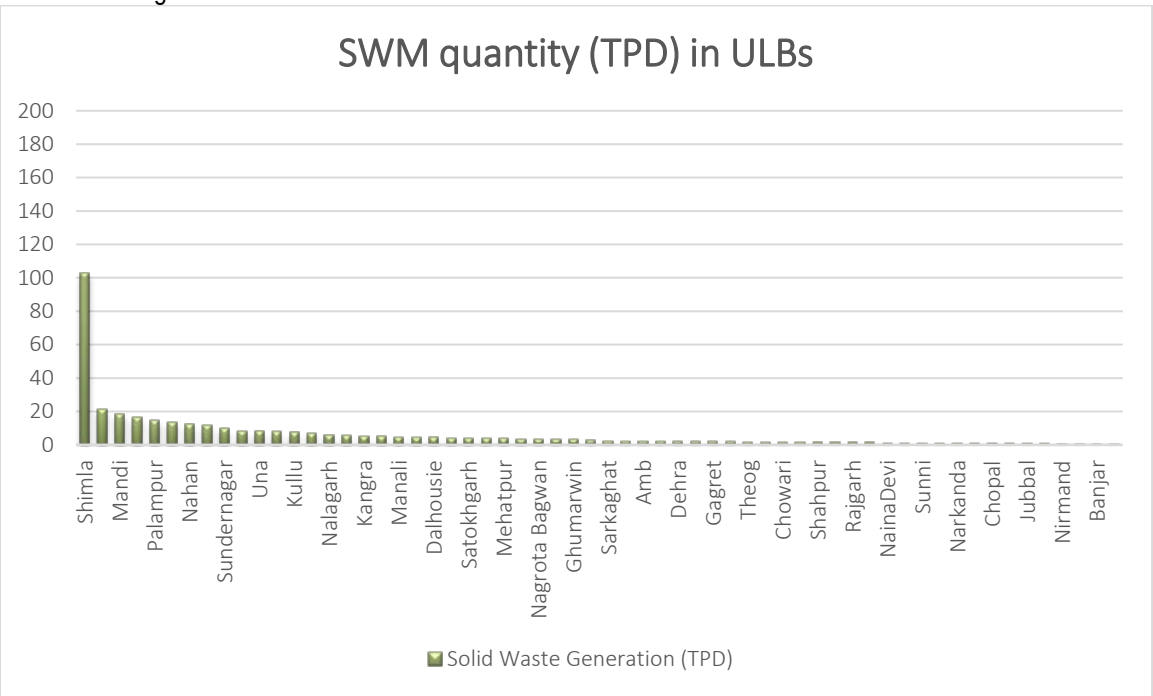
- The cause of deterioration of soil quality is mainly due to unscientific disposal of solid waste materials that can also contaminate groundwater.
- Toxic materials and chemicals may seep into the soil and pollute the groundwater as well

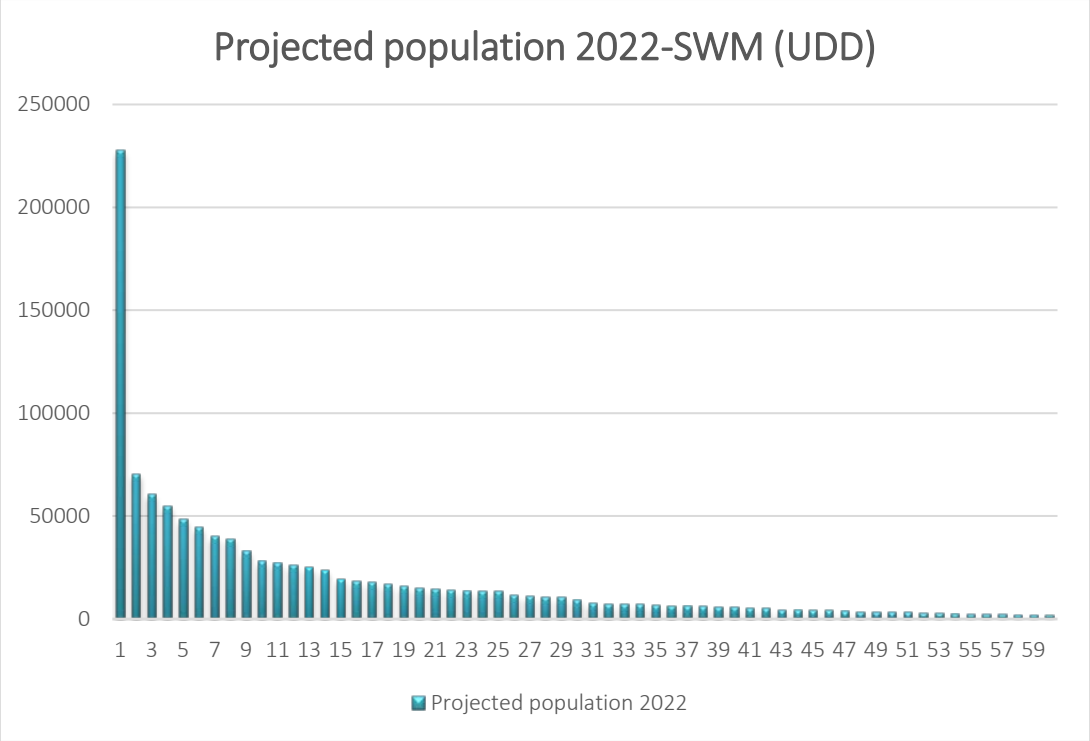
Air Quality

- Open burning of solid waste; agriculture residue causes air pollution and respiratory problems. Researchers estimate that more than 40% of the world's litter is burned in the open air, which can release toxic emissions.

1.5 Current status related to Solid Waste Management: UDD and RDD

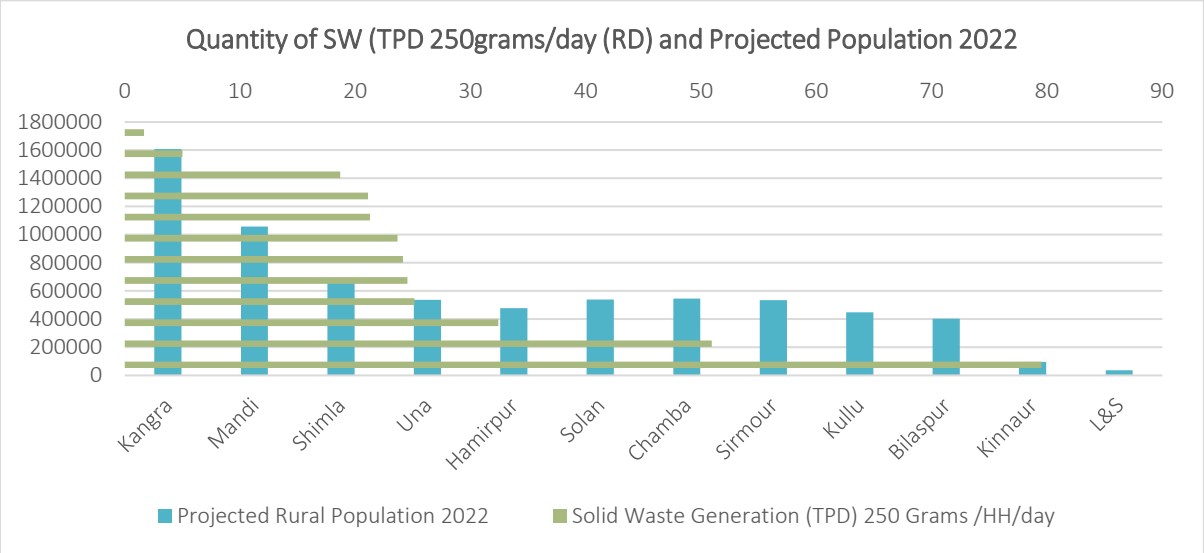
In Himachal Pradesh, the solid waste generation under different the Urban Local Bodies (ULBs) has been elaborated in graphs as below. ULBs with high solid waste generation include prominent urban centers like Shimla, Dharamshala, Mandi, Solan, and Palampur. Moderate generators include industrial areas like Baddi, as well as Nahan, Paonta Sahib, and Sundernagar. ULBs with lower waste generation comprise smaller towns such as Nalagarh, Bilaspur, Kangra, and Parwanoo. Very low generators include Bhota, Banjar, Kotkhai, and several others. This categorization emphasizes the need for tailored waste management strategies to address the diverse waste generation levels across ULBs in the state.





The data presented outlines the current status of solid waste management (swm) in various urban local bodies (ulbs) in himachal pradesh, featuring population figures from 2011, projected populations for 2022, and corresponding solid waste generation measured in tons per day (tpd). Key observations include the higher waste generation in larger towns like shimla, dharamshala, mandi, and solan, aligning with their increased populations.

Smaller ulbs, such as jawali, chirgaon, and nerwa, exhibit lower waste generation despite modest populations. The figures emphasize the importance of tailored waste management strategies considering local demographics and urbanization trends for effective infrastructure development.



The provided data also outlines the current state of Solid Waste Management (SWM) in rural areas across various districts in Himachal Pradesh. It includes demographic information from the 2011 census, projected rural populations for 2022, and corresponding household figures. Additionally, the data highlights the daily solid waste generation measured in Tons per day (TPD), calculated based on an average of 250 grams per household per day.

Among the districts, district Kangra stands out as the most populous and a major contributor to solid waste, generating 79.5 TPD. Mandi follows closely with a substantial waste generation of 50.93 TPD. Shimla, Una, and Hamirpur also make noteworthy contributions to the overall waste output. This information underscores the importance of understanding waste generation patterns in rural regions, emphasizing household-based metrics to gain insights into per capita waste generation.

The cumulative TPD for all districts is 327.96, indicating the collective impact of rural areas on the overall waste management scenario. This data is crucial for devising targeted strategies tailored to the unique characteristics of each district, considering their varying population sizes and consumption patterns. It underscores the need for district-specific waste management initiatives to promote effective and sustainable practices in rural SWM.

The cumulative solid waste generation for all districts amounts to 327.96 TPD, emphasizing the need for district-specific waste management strategies to address the varying levels of waste production across the state. Kangra district stands out as the highest contributor with 79.50 tons per day (TPD), followed by Mandi (50.93 TPD) and Shimla (32.40 TPD). Chamba, Hamirpur, Kullu, and Solan fall in the intermediate range, while Kinnaur, Lahaul & Spiti, Sirmour, and Una generate comparatively lower amounts of solid waste.

The state government is taking various steps to achieve the fixed targets through various methods. a very systematic approach is adopted for segregation, collection and disposal of the MSW. State Government has issued proper Notification on Door-To-Door Garbage Collection & Disposal Bye - Laws 2018, ''door to door garbage collection" for collection of solid waste from the door step of households, shops, commercial establishments, offices, institutional or any other non /residential premises and includes collection of such waste from entry gate and have designated location on the ground floor in a housing society, multi storied building or apartments, large residential, commercial or institutional complex or premises.

As per procedure under Solid Waste Management bye-laws the Municipal Council / Nagar Panchayat are establishing integrated Solid Waste Management (SWM) systems. ULBs are aiming to reduce the quantity of waste being generated, while maximizing resources recovery and efficiency in the State.

Sr. No.	Municipalities/ Corporations/ Committee/ NP ULB	Door to door garbage collection practiced by households and other waste generators Level of Compliance
1.	2 Municipal Council Nurpur & Baddi	60%-80%
2.	6 Municipal Council	99%-90%
3.	21 Municipal Council	100%
4.	4 Municipal Corporation	100%
5.	1 Nagar Panchayat Karsog	0% (there is a need to focus more on addressing gaps or on the existing strengths in solid waste management)
6.	1 Nagar Panchayat Chopal	39%
7.	3 Nagar Panchayat	60%-90%
8.	6 Nagar Panchayat	99%-90%
9.	16 Nagar Panchayat	100%

In Himachal Pradesh a special attention has been accorded on segregation of waste at source in all ULBs, the current level of compliance to statutory provisions is as under:

Sr. No.	Action pointsfor municipalities/ Corporations ULB Name	Segregation at Source practiced by households and other waste generators. Level of Compliance
1.	5 Municipal Council	<50%
2.	10 Municipal Council	60%-90%
3.	10 Municipal Council	90%-99%
4.	5 Municipal Council	100%
5.	4 Municipal Corporation	60%-90%
6.	3 Nagar Panchayat	0% (there is a need to focus more on addressing gaps or on the existing strengths in solid waste management)
7.	1 Nagar Panchayat Kandaghat	10%
8.	12 Nagar Panchayat	60%-89%
9.	6 Nagar Panchayat	90%-99%
10.	4 Nagar Panchayat	100%

1.5.1 Sweeping & de-silting of drain

Manual Sweeping

The manual sweeping activities in various urban local bodies (ULBs) within Himachal Pradesh: 24 Municipal Councils have adopted and implemented successfully and normally meet the objectives, achieved 100% coverage of roads and ensuring the availability of appropriate personal protective equipment (PPE). In ULB areas it is practiced effectively without reported deficiencies in workforce or sweeping tools, indicating a well-executed strategy.

Mechanical Sweeping

As far as the provisions w.r.t. mechanical sweeping is concerned it is yet a big task as so far it has been implemented only in 3 corporations only. Due to expense and over burden on financial side the mechanical sweeping is still to be adopted in other ULBs. the de-silting of drains is also done manually by the municipal workers.

1.5.2 Waste Collection System

Again, this represent a mix level of compliance as elaborated in the following table:

#	ULBs	Availability and adequacy or need up gradation
1.	1 Municipal Council Bilaspur	All waste collection vehicles have separate compartments.
2.	1 Municipal Council Ghumarwin	Separate drums and bags placed in the vehicle.
3.	2 Municipal Council Chamba& Dalhausie	Collected waste is being transported in segregated form in separate compartmentalized vehicles by all ULBs.
4.	1 Municipal Council Naina Devi	Manual Collection from Door to Door are being done in a separate Blue and Green Bags and there is a separate compartment in a collection vehicle.
5.	2 Municipal Council Kullu & Manali	Provided separate carry bags for collection of segregated waste.
6.	22 Municipal council	Available and adequate in the ULB.
7.	5 Municipal Corporation	Available and adequate in the ULB.
8.	1 Nagar Panchayat Talai	Separate drums and bags placed in the vehicle.

9.	1 Nagar Panchayat Chowari	Collected waste is being transported in segregated form in separate compartmentalized vehicles by all ULBs.
10.	3 Nagar Panchayat Bhunter,Banjar,Nirmand	Provided separate carry bags for collection of segregated waste.
11.	1 Nagar Panchayat Karsog	Not Available
12.	20 Nagar Panchayat	Available and adequate in the ULB.

Similarly Mini Collection Trucks with separate compartments have been deployed in ULBs in the following manner:

Sr. No.	ULBs	Availability of Mini Trucks
1.	1 Municipal Council Bilaspur	Not required.
2.	1 Municipal Council Naina Devi	Tippers
3.	1 Municipal Council Ghumarwin	Not required. Existing two no. trucks, Three Wheelers & One No. Tractor, GPS enabled and having separate compartments for wet and dry waste.
4.	2 Municipal Council Nahan& Paunta	Inadequate
5.	1Municipal Council Hamirpur	Adequate
6.	1 Municipal Council Sarkaghat	Inadequate
7.	22 Municipal Council	Adequate
8.	5 Municipal Corporation	Adequate
9.	1Nagar Panchayat Talai	Not required. One no. truck GPS enabled and has compartments for wet and dry waste.
10.	6 Nagar Panchayat	Inadequate
11.	19 Nagar Panchayat	Adequate

The provisions have been made to set up Waste Deposition Centres in all ULBs but there substantial work yet to be done.

1.5.2 Waste Transportation, Treatment and Disposal

In each ULB there are proper guidelines prescribed for transportation of MSW but since the process is dynamic in nature and involves day to day effort, the deployment of vehicles, of new technique viz compactors, double chambered, bulk facility vehicles in the ULBs. The waste transfer points are designated, with separate arrangements for wet waste management and non bio degradable waste management.

Sr. No.	ULBs	Wet waste management facility (i.e all central Bio Methanation/ composting of wet waste) Facility exist / functional / needs up gradation
1.	1 Municipal Council Bilaspur	Due to local dispute in existing waste processing site, Composting pits at existing site are not in use; however the waste is being disposed to piggery farm at Bhadsin village near Ghumarwin. Need new site.
2.	1 Municipal Council Ghumarwin	Wet waste is sent to the piggery farm at Bhadsin village.
3.	2 Municipal Council Kullu & Manali	There is need of up- gradation of composting facility as existing facilities are not properly maintained & are inadequate.
4.	2 Municipal Council Rampur & Sarkaghat	No facility Exists
5.	23 Municipal Council	Facility exists and functional
6.	1 Municipal Corporation Mandi	Facility Exists requires upgradation
7.	3 Municipal corporations	Facility exists and functional
8.	1 Municipal Corporation Shimla	Mixed waste treatment facility exists and functional
9.	1 Nagar Panchayt Bhota	Temporary Facility exists and functional
10.	3 Nagar Panchayat Bhunter, Banjar & Nirmand	There is need of up- gradation of composting facility as existing facilities are not properly maintained & are inadequate.
11.	1 Nagar Panchayat Talai	Honeycomb pits provided for composting of wet waste.
12.	6 Nagar panchayat	No facility Exists
13.	15 Nagar Panchayat	Facility exists and functional

There has been attention on Disposal of inert and non-recyclable wastes in Himachal Pradesh and specific guidelines have been issued for strict compliance by all ULBs.

Earlier due to lack in procedural compliances, awareness the illegal dumping of waste in land fill sites had been a challenge, but now with modern technology, proper guidelines even the legacy waste dump sites are targeted for clearance and restoration, remediation. The work is on track and effectively monitored and is being evaluated from time to time.

NGOs are involved in cleanliness campaigns, awareness camps to sensitize local communities w.r.t. SWM, the effort has contributed a lot.

The State has asked to focus on identification of rag/ waste pickers. The process of registering them, Authorization of Waste Pickers has been adopted. Through this process apart from IEC they are subjected to proper half yearly health review and other personal protection measures.

The state government has issued directions to prepare byelaws at ULB level to comply with SWM Rules 2016. The level of compliance to this effect has been appreciated.

Similarly, the imposition of User Charges regarding door-to-door garbage collection is also practiced in the state in order to meet at least some of expenses being made over SWM in the State in ULBs.

1.6 Current status related to Plastic Waste management ((ULBs)

The Sustainable Plastic Waste Management Plan was launched by the Government of Himachal Pradesh in 2009 to systematically and aggressively deal with the environmental threat emanating from non-biodegradable waste. The ban on the use of plastic in Himachal Pradesh has proven to be effective and successful in developing a systematic system of disposing off plastic and using it in construction of roads thus making state of Himachal Pradesh free from plastic. The plan has made a big impact in building awareness and securing people's cooperation and has encouraged people to take on the responsibility of cleaning their state and creating a plastic-free world.

While indiscriminate use of plastics and plastic littering is harmful for the environment as a whole, its impact can be even more devastating for the fragile ecosystem of the Himalayas. The Government of Himachal Pradesh enacted the Himachal Pradesh Non-Biodegradable Garbage (Control) Act, 1995, to deal with the menace of plastic and other non-biodegradable waste. This Act embodied a move towards scientific disposal of non-biodegradable waste and also imposed a ban on colored plastic carry bags produced from recycled plastic. However, the Act only addressed these issues partially, and the use of plastic and plastic littering continued to be a challenge. Environmental problems thus persisted, including pollution of water bodies, lowering of soil quality, choking of drains and rivers and adverse impact on the health of the people. Aiming for a systematic approach to the issue, the Government of Himachal Pradesh introduced the Sustainable Plastic Waste Management Plan in 2009.

The Plan focused on controlling the use of plastic and developing a systematic disposal mechanism. In order to achieve the objectives of its Clean Himachal and Healthy Himachal drive, the Government also prohibited the use of plastic cups and plates in 2011; conducted Information, Education and Communication (IEC) activities to generate awareness about the harmful impact of plastic waste, and encouraged citizens to stop using plastic products. The initiative aimed to establish environment-friendly plastic waste disposal solutions. In the process it seeks to ban the use of plastic bags and plastic products, and reduce plastic littering across the state. Further, in order to ensure sustainability and continued community participation, the initiative seeks to spread environmental awareness among the local population.

Overall in order to streamline the plastic waste management, the following steps have been further taken by the state of Himachal Pradesh with the primary focus on segregation, collection and safe disposal:

i). The Department of Environment, Science Technology and Climate Change has notified plastic waste management strategy vide Notification No. STE-F (4)-1/ 2017 dated 08-03-2019 defining the roles and responsibilities of all stakeholders.

ii). The Urban Development Department vide No. UD-H (F)-(1)-1/ 2016 (PWM Rules) dated 17-04-2018 has notified collection centres where plastic waste will be made available to the PWD for road construction.

iii). Department of Environment, Science Technology and Climate Change has already tied up with CRRI to provide technical support to the Government to construct roads by using various kinds of plastics wastes. PWD also identified 7 kms road stretch in Shimla to do a pilot project with DEST and CRRI. Following the model techniques, the PWD has already carpeted more than 283 kms of road stretches by using plastics wastes.

iv). The State Pollution Control Board has issued an Office Order in year 2018 that the Cement Industries which are using pet coke and coal as a feed stock will meet at least 0.1% of their annual fuel consumption from the combustible material from MSW or Refuse Derived Fuel (RDF) made from MSW and biomass-based fuel.

v). The Urban Development Department has also adopted policy on Scrap dealers and Rag-pickers as has been envisaged under Solid Waste Management Rules, 2016. The UD Department intends to set up 10 wastes to energy plants on cluster basis in Baddi, Mandi, Dharamshala, Kangra and Manali towns where plastics waste can be used. The Urban Local Bodies are already using MSW mixed plastics waste to prepare RDF.

1.6.1 Urban Local Bodies

The following table provides estimated quantity of plastic waste per day estimated and generated in various Urban Local Bodies (ULBs) in Himachal Pradesh. Municipal Corporation Shimla ranks the highest with 40.99 tons of plastic waste per day, indicating a significant plastic waste burden in the capital city. Other major contributors include Municipal Corp. Dharamshala (8.45 tons), Municipal Corp. Mandi (7.29 tons), Municipal Corp. Solan (6.58 tons), and Municipal Corp. Palampur (5.79 tons). These figures highlight the varying levels of plastic waste generation across different ULBs, influenced by factors such as population density, urbanization, floating tourists- population and waste management practices.

Estimated Quantity of Plastic Waste/ Dry Waste Generated per day in ULBs.

S. No.	ULB	Estimated Quantity of Plastic Waste/ Dry Waste Generated per day	S. No.	ULB	Estimated Quantity of Plastic Waste/ Dry Waste Generated per day
1.	M Corp. Shimla	40.99	31.	MC Sarkaghat	0.90
2.	MC Bilaspur	2.21	32.	MC Sundernagar	3.94
3.	MC Ghumarwin	1.28	33.	NP Chopal	0.30
4.	MC Naina Devi	0.43	34.	Np Jubbal	0.26
5.	NP Talai	0.50	35.	NP Kotkhai	0.19
6.	MC Chamba	3.34	36.	NP Narkanda	0.39
7.	NP Chowari	0.61	37.	MC Rampur	1.61
8.	MC Dalhousie	1.74	38.	MC Rohroo	1.11
9.	NP Bhota	0.23	39.	NP Sunni	0.42
10.	MC Hamirpur	2.84	40.	MC Theog	0.70
11.	NP Nadaun	0.75	41.	MC Nahan	4.81
12.	MC Sujanpur	1.28	42.	MC Paonta Sahib	4.67
13.	Np Baijnath	3.10	43.	NP Rajgarh	0.50
14.	MC Dehra	0.78	44.	NP Arki	0.49

15.	Municipal Corp. Dharamshala	8.45	45.	MC Baddi	5.34
16.	MC Jawalamukhi	0.87	46.	MC Nalagarh	2.33
17.	NP Jawali	1.66	47.	MC Parwanoo	2.02
18.	MC Kangra	2.14	48.	M Corp. Solan	6.58
19.	MC Nagrota Bagwan	1.31	49.	NP Daulatpur	0.61
20.	MC Nurpur	1.82	50.	NP Gagret	0.74
21.	M Corp. Palampur	5.79	51.	MC Mehatpur	1.61
22.	NP Banjar	0.23	52.	MC Una	3.27
23.	NP Bhunter	0.72	53.	MC Santokhgarh	1.63
24.	MC Kullu	3.00	54.	NP Tahliwal	0.70
25.	MC Manali	1.91	55.	NP Shahpur	0.54
26.	MC Jogindernagar	0.86	56.	NP Amb	0.87
27.	NP Karsog	0.42	57.	NP Kandaghat	0.31
28.	M Corp. Mandi	7.29	58.	NP Nirmand	0.24
29.	MC Ner-chowk	1.38	59.	NP Chirgaon	0.41
30.	NP Rewalsar	0.29	60.	NP Nerwa	0.27

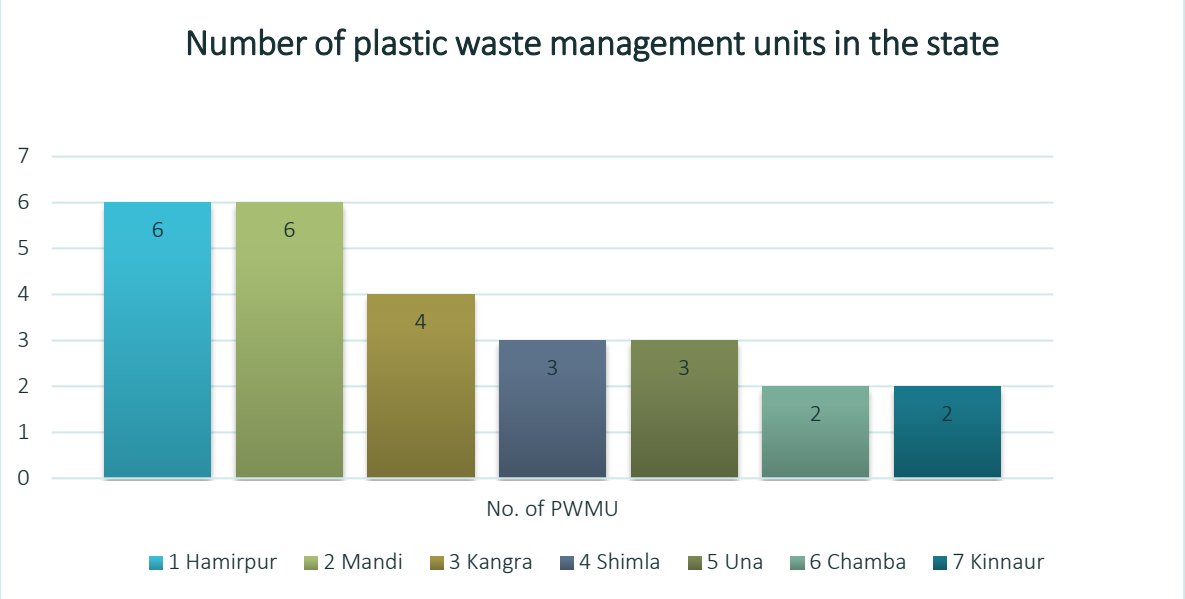
Plastic Waste Collection Centres

The Collection Centers for Plastic Waste (PW) have been set up in various urban local bodies (ULBs). Out of the 60 ULBs, 57 have established separate PW Collection Centers, with proactive approach in managing plastic wastes through recycling and other processes. These ULBs include major cities such as Shimla, Dharamshala, and Solan, as well as smaller towns like Naina Devi Ji and Talai. However, three ULBs, namely Nirmand, Nerwa, and Kandaghat, have not yet established plastic waste collection centers.

1.7 Rural Development

In Himachal Pradesh, the number of Plastic Waste Management Units (PWMUs) varies across districts, with notable concentrations in Hamirpur, Mandi, and Shimla, each having 6, 6, and 3 PWMUs, respectively. Chamba and Una also have 2 and 3 PWMUs, while the remaining districts such as Bilaspur, Kinnaur, Kullu, L&S, Sirmour, and Solan have not reported or set up PWMUs as of now in Rural Areas, they have preferred to supply the collected plastic waste to the nearby ULBs directly.

The plan for establishment of Waste Deposition Centers, known as PWMUs (Public Waste Management Units), aims to cover a total of 88 Blocks, with one center in each Block. Currently, there are 26 PWMUs already in existence, leaving a gap of 36 centers yet to be established. To enhance waste management practices, there is a scope for improvement by setting up the remaining 36 centers. The responsible agencies for implementing this plan are the respective Block Development Offices, and the action plan is expected to be completed by the year 2026-27. By the end of 2027 there will be one PWMU in each block in Himachal Pradesh.



1.8 Remediation of legacy dumpsite; Urban Development

Among the ULBs, M. Corp. Solan has the highest installed capacity of 48,000 metric tons, but it is generating 36,483.84 metric tons, short of 11,516.17 metric tons of waste to reach optimum capacity. On the other hand, MC Bilaspur has an installed capacity of 6,400 metric tons and is not generating any waste, resulting in a balance of 6,400 metric tons. Similarly, MC Santokhgarh has an installed capacity of 2,300 metric tons, with only 0.43 metric tons cleared, leading to a balance of 2,299.57 metric tons. These values indicate the efficiency and utilization of waste-to-energy facilities in each ULB.

Remediation of legacy dumpsite

S.No.	ULB Name	Total estimated Quantity (Tons)	Total Legacy Waste Cleared (Tons)	Balance
1	M Corp. Solan	48000	36483.84	11516.17
2	M Corp. Mandi	45000	23672.62	21327.38
3	M Corp. Dharamshala	40000	1076.43	38923.57
4	MC Manali	40000	6349.75	33650.25
5	MC Baddi	40000	28814.68	11185.32
6	MC Kullu	38000	29952	8048
7	MC Bilaspur	6400	6400	0
8	MC Santokhgarh	2300	0.43	2299.57
9	MC Hamirpur	2100	4180.53	0
10	MC Una	1200	4735.08	0
11	MC Chowari	525	473.7	51.3
12	MC Sunder Nagar	400	400	0
13	MC Sarkaghat	200	200	0
14	MC Baijnath	45	41.9	3.1
15	MC Dalhousie	36	36	0
16	NP Rewalsar	35	35	0

In Rural areas there is hardly any significant issue w.r.t. clearing and managing the Legacy Waste Sites/ Dumpsite. The Hotspots to be identified and will be cleared in each Districts/ Blocks.

User Charges regarding door-to-door garbage collection

The analysis of Demand and Collection of User Charges w.r.t door-to-door garbage collection in the state reveals varying levels of success in revenue generation for waste management services. Some ULBs, such as Municipal Corp. Shimla, Municipal Corp. Dharamshala, and Municipal Corp. Solan, have achieved substantial User Charges collection compared to their Demand. However, there are instances where the User Charges collection shortfalls are there in comparison to the Demand; this also raises questions about the efficiency of revenue collection systems in certain ULBs. Surprisingly, some ULBs like Municipal Corp. Sundernagar and NP Tahliwal have reported zero User Charges collection, highlighting potential gaps or challenges in implementing user fee systems.

The analysis suggests the need for a closer review of the revenue collection mechanisms in place, with a focus on improving efficiency and ensuring a more balanced and sustainable financial model for waste management services across all ULBs.

1.9 Extended Producer Responsibility

Extended Producer Responsibility (EPR) is an environmental policy approach that shifts the responsibility for managing the end-of-life of a product to the producer. This means that producers are financially and physically responsible for the collection, recycling, and disposal of their products once they reach the end of their useful life.

EPR is based on the principle that the producer of a product is best placed to understand and manage the environmental impacts of that product throughout its lifecycle. By shifting the responsibility to the producer, EPR can incentivize producers to design products that are more sustainable and easier to recycle or reuse.

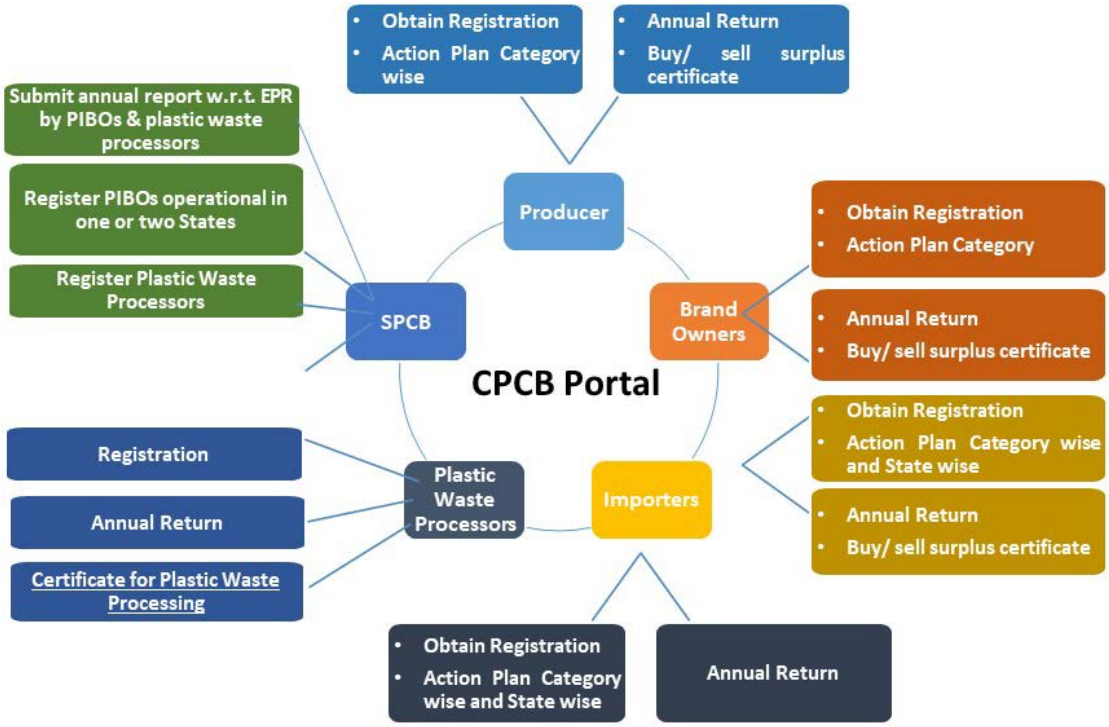
1.9.1 EPR in Plastic Waste Management Rules

The Plastic Waste Management Rules, 2016, were amended in 2022 to introduce mandatory EPR for plastic packaging waste. This means that producers, importers, and brand owners are now responsible for ensuring that their plastic packaging waste is collected, processed, and recycled or disposed of in an environmentally sound manner.

The new EPR rules set out a number of targets for plastic packaging waste recycling and reuse. For example, by 2030, 50% of plastic packaging waste must be recycled or reused. The rules also require producers to use a minimum of 25% recycled plastic content in their packaging.
The new EPR rules for plastic packaging waste have the potential to help India achieve a circular economy by:

i. Increasing the amount of plastic packaging waste that is recycled or reused
ii. Reducing the amount of plastic packaging waste that is sent to landfill
iii. Encouraging producers to design more sustainable packaging

For the monitoring of implementation of EPR, a centralized portal has been created by CPCB wherein the entities shall obtain registration, buy/ sell the EPR certificates. The functioning of the said portal is depicted in the following diagram:



1.9.2 Duties of the stakeholders in EPR under PWM Rules

Producers, Importers, and Brand Owners (PIBOs)

- Registering with the Central Pollution Control Board (CPCB) or the State Pollution Control Board (SPCB): PIBOs must register with the relevant authority and submit an annual report outlining their EPR activities.
- Establishing a waste collection system: PIBOs must set up a system for collecting plastic waste generated from their products. This system may involve collaborating with authorized waste collectors or establishing their own collection infrastructure.
- Processing and recycling of collected waste: PIBOs must ensure that collected plastic waste is processed and recycled in an environmentally sound manner. They may partner with authorized recyclers or invest in their own recycling facilities.
- Disposal of non-recyclable waste: PIBOs must arrange for the safe and environmentally sound disposal of plastic waste that cannot be recycled. This may involve incineration in designated facilities or co-processing in cement kilns.
- Financial obligations: PIBOs must bear the financial costs associated with EPR activities, including collection, processing, recycling, and disposal of plastic waste.

H.P. State Pollution Control Board (SPCB)

- SPCBs play a crucial role in overseeing and enforcing EPR implementation. Their duties include:
- Monitoring and enforcement: SPCBs are responsible for monitoring PIBO compliance with EPR rules and taking appropriate enforcement actions in case of non-compliance.
- Coordination with other stakeholders: SPCBs must coordinate with other stakeholders, such as local bodies, waste collectors, and recyclers, to ensure effective EPR implementation.
- Guidance and facilitation: SPCBs can provide guidance and support to PIBOs in setting up and implementing EPR plans.
- Data management: SPCBs maintain a centralized database of PIBO registrations, EPR plans, and waste management records.

Urban Local Bodies (ULBs)

- Waste collection and segregation: ULBs are responsible for collecting and segregating plastic waste at the source, ensuring proper separation from other waste streams.
- Waste disposal: ULBs manage the disposal of plastic waste that cannot be recycled or reused, ensuring it is disposed of in designated landfills or through other environmentally sound methods.
- Public awareness and education: ULBs play a key role in raising public awareness about the importance of waste segregation, recycling, and EPR.
- Collaboration with PIBOs: ULBs collaborate with PIBOs to facilitate the collection and management of plastic waste generated from their products.

Recyclers and Waste Processors

- Obtaining necessary authorizations: Recyclers and waste processors must obtain the necessary authorizations from SPCBs to operate and manage their facilities.
- Adherence to environmental standards: Recyclers and waste processors must adhere to environmental standards and regulations during the processing and recycling of plastic waste.
- Maintaining records: Recyclers and waste processors must maintain proper records of the plastic waste they receive, process, and recycle.
- Collaborating with PIBOs: Recyclers and waste processors collaborate with PIBOs to ensure the efficient flow of plastic waste for processing and recycling.

Consumers

- Segregating waste at source: Consumers should segregate plastic waste from other waste streams at the household level, making it easier for collection and recycling.
- Using reusable alternatives: Consumers should opt for reusable alternatives to plastic products whenever possible, reducing the generation of plastic waste.
- Participating in recycling initiatives: Consumers should actively participate in local recycling initiatives and utilize designated recycling facilities.
- Raising awareness: Consumers can raise awareness among family, friends, and community members about the importance of EPR and responsible waste management practices.

In the state of Himachal Pradesh, the EPR guidelines have been adopted asper provisions notified by GoI. The state government has initiated the process for registration of PIBOs, and the proper action plan has been prepared to ensure implementation of the guidelines to improve the plastic waste management in the state.

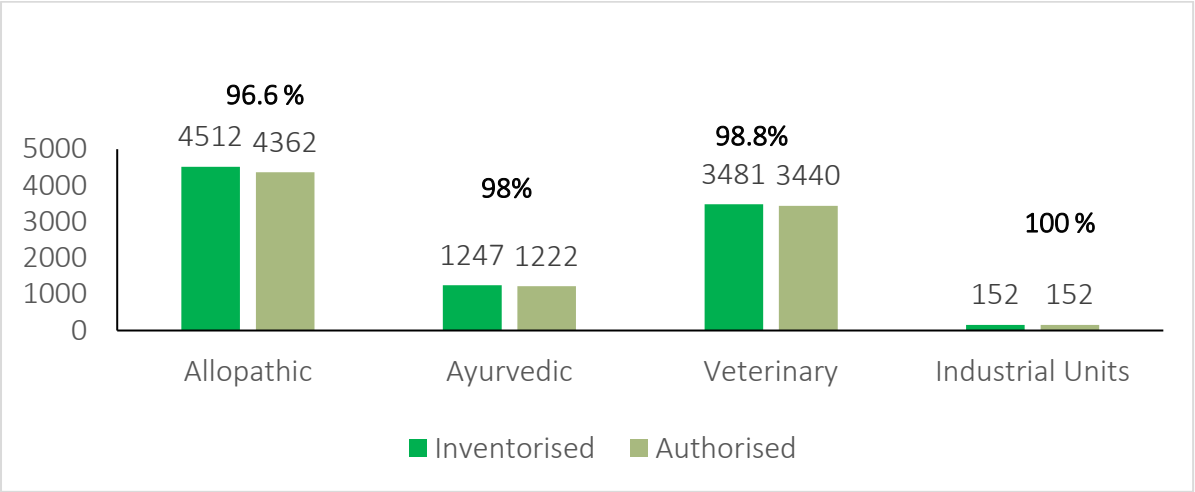
2. Bio Medical Waste Management

The State of Himachal Pradesh has initiated various steps for implementation of BMWM Rules, safe management of Biomedical Waste including COVID-19 Waste generated in the health care facilities (HCFs).

Himachal Pradesh has been ranked as top performing State in the country scoring 21 /24 (2022) position

- CPCB identified 12 key Performance indicators to assess with respect to effectiveness in monitoring, ensuring compliance and implementation of the Biomedical Waste Management Rules, 2016.
- Himachal Pradesh, Chandigarh, Delhi, Puducherry and West Bengal, share the top rank with a total score of 21 out of 24 according to a report submitted by the CPCB before the Hon'ble National Green Tribunal.

Till 30.11.2023 the State has an inventory of 9392 health care institutions, which fall under the ambit of the Rules and out of which approximately 97.69 % i.e 9176 institutions have been authorized by the State Board. There are 4512 allopathic institutions (Both Govt. and Private) in the State, out of which 4362 institutions about 96.6% have been authorized by the State Board so far.



In Ayurveda there are 1247 institutions, and the compliance level is about 98% wherein, 1222 institutions have been authorized against the inventory. Besides, the compliance level of Veterinary institutions is about 98.8%, wherein, 3440 institutions possess authorization from the State Regulatory agency against the total inventory of 3481 institutions. In addition to this, there are 152 industrial units that also fall under the ambit of these Rules and all of the units have been authorized under the prescribed Rules.

2.1 Guidelines on BMWM by Health Department, H.P.

Guidelines have been prepared wherever required and have been uploaded on website, BMWM website, as well as hard copies circulated to all CMOs/MS of different health institutions.

(a) BMW Guidelines: The guidelines for management of health care waste under BMW Management Rules, 2016 along with amendments 2018, 2019 have been circulated to all CMO's, MS and BMOs in the state.

(b) Revision Guidelines for COVID-19: Specific guidelines for management of waste generated during diagnostics prepared and treatment of COVID-19, Suspected/ confirmed patients, under BMW Management Rules, 2016. These guidelines have been revised from time to time as per requirement and guidelines additionally suggested by GOI.

Revision 1: Issued on 25/03/2020 (COVID-19 Waste)
Revision 2: Issued on 18 April 2020 in supersession of earlier guidelines (25/03/2020.
Revision 3:Issued on 10th June 2020 in suppression of earlier guidelines (18/04/2020)
Revision 4: Issued on 17th July in suppression of earlier guidelines (10/06/2020)

2.2 State Level Advisory Committee for BMWM

State Level Advisory Committee has also been constituted by the Department of Health & Family Welfare, H.P. to oversee and monitor the progress of implementation of Biomedical Waste Rules in H.P.

(a) Notifications
   i). Notified vide letter No. Health-C-A(2)12/2018/ on 21/02/2019.
   ii). Re-Constituted dated: 4/02/2020

(b) State Level Advisory Committee meets on regular basis:

   i). First meeting: 17th Jan 2020
   ii). Second meeting: 7th July 2020

iii). Third meeting: 15 January 2021
iv). Fourth meeting: 27th July 2021
v). Fifth meeting: 2nd Nov 2021
vi). Sixth meeting: 22nd July 2022
vii). Seventh meeting: 30th Jan 2023

2.3 Details of Health Care Facilities: Directorate of Health and Family Welfare

Details of Health Care Facilities: (Source: Directorate of Health and Family Welfare)

Sr. No.	Category of HCF's under DHS	Number of HCFs	
1.	Bedded	351	
2.	Non-Bedded	2530	
	Total	2881	
	i) Functional Vs bed strength	58	PHC's
	ii) Building under construction	05	HSC's
3.	Total	2818	

Authorization under Bio-medical waste Rules, 2016 granted by HP SPCB

(A) Authorization Status

Health Care Facility (Allopathic)	Number	Authorization granted	Percentage (%)	Remarks
Total Functional HCFs	2818	2782	98.6%	More Authorizations by HP PCB

(B) Percentage increase in authorizations from January 2020 to August, 2023

Sr. No.	Month	Authorizations	Increase
1.	January 2020	832; (28.2%)	1950
2.	September 2020	1955;(67.8%)	
3.	July 2021	2274;(73.8%)	
4.	November 2021	2306;(80%)	
5.	July 2022	2570;(91%)	
6.	January 2023	2697;(96%)	
7.	August 2023	2782;(98%)	

Authorization Status: District and Category Wise

Total HCFs	Exemption sought	Ongoing construction	HCFs (Functional)	Total Authorization
2881	58	05	2818	2782 (98.6%)

District wise Authorizations

Sr. No.	Total HCFs	G Total	HCFs	Authorized	Total	Percentage	Rank
1.	Bilaspur	170	NB: 151	151	169	99.4 %	1
			B:19	18			
2.	Mandi	443	NB:388	388	440	99.3 %	2
			B:55	52			
3.	Solan	232	NB:206	206	230	99.1 %	3
			B:26	24			
4.	Kangra	576	NB:536	534	569	98.7 %	4
			B:40	35			
5.	Hamirpur	193	NB:170	170	189	97.9 %	5
			B:23	19			
6.	Shimla	401	NB:329	329	390	97.2 %	6
			B:72	61			
7.	Kullu	133	NB:117	117	129	96.9 %	7
			B:16	12			
8.	Kinnaur	61	NB:55	55	59	96.7 %	8
			B:6	04			
9.	Chamba	217	NB176:	176	207	95.3 %	9
			B:41	31			
10.	Sirmaur	208	NB:197	192	196	94.2 %	10
			B:11	04			
11.	Una	176	NB:138	138	163	92.6 %	11
			B:38	25			
12.	L&S	57	NB:44	33	41	71.9 %	12
			B:13	8			
		2881	NB:2507 B; 360	NB:482 B;283	2782	97%	

The healthcare facilities (HCFs) in the state have differences in the total number, authorization, and percentage of bedded (B) and non-bedded (NB) facilities in the different districts. Bilaspur ranks 1 in the list with a total of 170 HCFs, comprising 151 NB and 19 B facilities, achieving an impressive 99.4% authorization rate. Mandi follows closely with 443 HCFs, of which 388 are NB and 55 are B, achieving a 99.3% authorization rate.

Solan, Kangra, and Hamirpur also demonstrate high authorization rates, securing the third, fourth, and fifth positions, respectively.

Overall, out of the total 2881 HCFs, 2507 are NB, and 360 are B, resulting in an impressive 97% authorization rate for the entire state.

Pending authorizations:

Sr. No.	Total HCFs	Bedded	Non bedded
1.	Bilaspur	1 STP (allotted) 3 new required	0
2.	Mandi	3 New STP required	0
3.	Solan	2 Chail: sampling under process One new STP required at	0

		Kandaghat)	
4.	Kangra	5 (bedded) commissioned sampling under process 1 STP required (Jaisingpur)	2 SC (Bankandi) Dolakharyana
5.	Hamirpur	4(bedded) Commissioned sampling	0
6.	Shimla	11 4 new STP required	0
7.	Kullu	4 2 new required	0
8.	Kinnaur	2	0
9.	Chamba	10 3 new STP required	0
10.	Sirmaur	7 3 new STP required	5 (2 Submitted) (3 application process)
11.	Una	13 Installed	0
12.	L&S	5 Installed but not commissioned	11 (Pits constructed) Authorization awaited by PCB
		77(19 new required)	18

Current Status related to Biomedical Waste Management in the State of Himachal Pradesh (Health):

Inventory of BMW	Quantity
Total no. of Bedded Healthcare Facilities	351
Total no. of non-Bedded Healthcare Facilities	2530
No. of HCFs authorized by SPCBs	2782
No. of common biomedical Waste treatment and Disposal Facilities	4
Capacity of common biomedical Waste treatment and Disposal Facilities	9.6 MT/day
No. of deep burial Pits	4618
Quantity of biomedical waste generated per day	3.81 MT/day
Quantity of biomedical waste treated per day	3.61 MT/day

2.3.1 Capacity building / Trainings

The capacity building and imparting training to health workers, staff is adopted as one of the key activity for bio medical waste management in the State. The Department of Health & Family Welfare, DEST & CC, SPCB conducts training programme on regular basis under BMW Rules. Major state level training programmes details are as below:

- Year 2021
  - Biomedical Waste Management: Guidelines 2016, 2018, 2019: 3424 HCWs trained.
- Year 2023
  - State level training on 27 and 28 July 2023; 30 participants Nodal Officers.
  - Sessions held in training of MOs.
- Training specific to COVID-19
  - COVID-19 Biomedical Waste Management

- Infection prevention and Control & Hand Hygiene.
- Management of waste generated during diagnostics and treatment of COVID-19 suspected/confirmed patients.

2.3.2 Waste Management during COVID-19- isolation wards and sample collection centres.

A series of webinars and training sessions were conducted under the Bio-Medical Waste Management (BMWM) program, focusing on various aspects related to COVID-19. The main objective was to address bio-medical waste management during the pandemic, while subsequent webinars covered topics such as infection control and safe injection practices, as well as guidelines for the collection, packaging, and transportation of respiratory specimens for SARS Cov-2. Another training was conducted at the block level by the Rural Development Department emphasized biomedical waste management along with procedures for sampling and testing for COVID-19. Ongoing training sessions on infection control practices are complemented by in-house training initiatives. Collectively, these efforts enhanced knowledge and skills in managing bio-medical waste, particularly in the context of the COVID-19 pandemic, with various webinars targeting specific aspects of healthcare practices and waste management.

Waste Management in COVID-19 isolation wards and sample collection centres

Sr. No.	BMWM (COVID-19)	Details
1.	Bio medical waste management during covid-19 pandemic	Webinar on 11/5/2021
2.	Infection Control and Safe Injection, practices	Webinar on 16/5/2021
3.	Respiratory specimen, collection, packaging and transportation guidelines for SARS Cov-2	Webinar on 22/5/2021
4.	Biomedical Waste management and sampling and testing of COVID-19	Webinar on 30/5/2020 Block level trainer Rural Development Department
5.	Infection control Practices	Ongoing
6.	In house training	

Year 2020

Sr. No.	BMWM (COVID-19)	Total Participants
1.	Training on COVID-19 Waste Management	89 (Videoconferencing on 10/6/2020)
2.	Biomedical waste management :COVID -19 Updates	Webinar on 29/6/2020 575 login and 3.8K Views
3.	Basic infections control practices in Covid-19	Webinar on 17/72020 (375 logins and 2.8 K Views
4.	In House Training	640+880=1520 (General+Covid-19)
5.	Other trainings	Ongoing process

IEC Designing and Publication – Awareness

1. Booklets on Bio-Medical Waste Management:70 (GOI) Sent to all BMO's
2. IEC material specific to COVID waste handling and management prepared at State level for distribution.
3. IEC material on biomedical waste management prepared at District level.

Sr. No.	IEC Material	Numbers
1.	Booklets on Covid waste Management	350
2.	Dos and Don'ts sun boards	80
3.	Posters and Standees	350

4 Media Publicity on unlock 2 (link address)

2.4 Status of Bio-medical Waste Management in Ayurvedic & Other HCFs in H.P.

The Department of Ayurveda has put into effective compliance to the Bio Medical Waste Management Rules of 2016 by all related institutions in the State. The current status of the implementation of these rules Himachal Pradesh is as follows:

2.4.1 Status on Implementation of Bio-Medical Waste Management in Health Care Facilities (HCF) AYUSH as on 30.11.2023

The implementation status of Bio-Medical Waste Management in Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy (AYUSH) Health Care Facilities (HCF) up till November 2023, reveals varying degrees of progress and challenges. Among the 35 bedded HCFs, 19 have received authorization, while 16 faced rejection primarily due to the non-establishment of Effluent Treatment Plants (ETP) or Sewage Treatment Plants (STP). The rejection is linked to a proposal requesting funds of Rs. 454.54 lakh from the State Government, which has not been provided yet. In addition, for the financial year 2023-24, the State Government has allocated a minimal budget of Rs. 10.00 lakh for Bio-Medical Waste, indicating potential financial constraints.

For the 1206 bedded HCFs, 1186 have received authorization, with 20 facing rejection for various reasons. Some HCFs have applied for authorization and await approval, while others are non-functional or require construction work, such as the construction of pits in 9 HCFs. Notably, one HCF, HHC Nahan, is functional within the premises of District Ayurvedic Hospital (DAH), Nahan. Overall, the analysis suggests a need for increased financial support and concerted efforts to address the specific challenges faced by HCFs to ensure effective Bio-Medical Waste Management in AYUSH facilities.

2.4.2 Status of BMW in Bedded Health Care Facility (AYUSH) as on 30.11.2023

As of November 30, 2023, the status of Bio-Medical Waste (BMW) management in Bedded Health Care Facilities (HCF) for Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homoeopathy (AYUSH) across districts in Himachal Pradesh highlights both progress and challenges. Out of the 35 HCFs, ETP/STP facilities have not been established in 18 facilities, primarily due to the non-availability of funds. The rejection of authorization by the Pollution Control Board (PCB) stands at 16, further indicating financial constraints as the key reason.

In addition, districts, viz; Bilaspur, Chamba, Hamirpur, Kinnaur, Sirmour, and Solan face challenges in establishing ETP/STP due to funding issues. In contrast, Kangra, Kullu, L & S, Mandi, Shimla, and Una have varying degrees of success in implementing BMW management systems, with Shimla having one facility with ETP in place. Moreover, Regional Ayurveda Hospitals (RAH) in Shimla and Paprola are part of this assessment, with RAH Shimla having ETP while RAH Paprola faces authorization rejection.

Hospitals in Municipal Limits are connected to Sewage and Water Waste Management System, where the HCF(AYUSH) are not connected with the Sewage and Water Waste Management System is done by using Sodium Hypochlorite maintaining its pH level. Solar Energy roof panel has been installed only in One Hospital i.e. Regional Ayurvedic Hospital, Shimla-2 and on the building of the Directorate of AYUSH, HP, Shimla-171009.

2.4.3 Trainings

All the guidelines issued with regard to Bio-Medical Waste management from time to time is being followed and implement in letter and spirit and quarterly induction trainings for implementations of Bio-Waste Management are also being conducted. Till date 17 Trainings have been conducted and 20 No. (Training on online Bio-Medical Waste Management Module of OCMMS) has been conducted.

Implementation of Bio-medical Waste Management Rule 2016 in Veterinary HCFs by Animal Husbandry Department, H.P.

There are total 3487 Number of Veterinary Institutions in the State of Himachal Pradesh which needs to be covered under BMW Rules. The BMW Action Plan by Animal Husbandry Department, H.P. is being implemented in a phased manner.

The detail of authorization of Veterinary Institutions in the State under Bio-medical Waste Management Rules 2016 is as under:-

Sr. No.	Total No. of Institutions	No. of Vety. Institutions received authorization from HPPCB	No. of left out institutions to be authorized from HPSPCB	Remarks
1.	168	168	NIL	--
2.	306	306	NIL	--
3.	237	237	NIL	--
4.	216	215	1	One VD is nonfunctional
5.	36	20	16	Deep burial pits are under construction for which funds have been deposited to BDO, Keylong.
6.	25	---	25	3 pits prepared & 22 under construction.
7.	72	69	3	One Institution i.e. Sheep & Wool extension Centre Sangla is not functional.
8.	543	543	--	---
9.	504	504	NIL	---
10.	428	422	6	---
11.	223	223	NIL	---
12.	242	240	2	---
13.	246	246	NIL	---
14.	241	236	5	One V.D. not connected with road & 4 PVDs have no building & land.
	3487	3429	58	

2.5 Common Biomedical Waste Treatment Facilities in H.P.

Due to the area restriction there are very limited CBWTF in the state. Currently there are four Common Biomedical Waste Treatment Facilities (CBWTFs) operating in the State with incineration capacity is 9.6 MT/ day. Approximately 3.61 MT/ day (95.8%) of bio-medical waste is being disposed-off through the CBWTFs and 0.20 MT/ day (4.2%) by captive disposal/ deep burial methods.

To ensure the operational compliance of these CBWTFs, online continuous emission monitoring systems have been installed, which transmit its emissions monitoring data on real time basis with the server of the State/Central regulatory agencies. Besides, segregation, pre-treatment, on-site storage, bar coding and treatment of liquid waste etc. is also mandatory for all health care facilities.

List of Common Biomedical Waste Treatment & Disposal Facilities and coverage area.

S. No.	Name and Address of CBWTF	Capacity (Kg/Hr)	District/Area Covered
1	M/s Suraksha Bio-Sanitizers, Dhugiari, District Kangra HP	50	Kangra
			Chamba
			Hamirpur

2.	M/s Enviro Engineers, Sandli, District Solan HP	100	Shimla, Solan Sirmour
3.	M/s Enviro Engineers, CBWTF, Industrial Area Pandoga, District Una	250	Una
4.	M/s Himalayan Envirocare Company, Village-Malyawar Tehsil Ghumarwin, Distt. Bilaspur 174026.	200	Kullu Mandi Bilaspur Lahaul Sub division of L&S

3. Construction & Demolition Waste

Construction and Demolition waste is generated whenever any construction/ demolition activity takes place, such as, building roads, bridges, fly over, subway, remodelling etc. It consists mostly of inert and non-biodegradable material such as concrete, plaster, metal, wood, plastics etc.

It is estimated that the construction industry in India generates about 10- 12 million tons of waste annually. Projections for building material requirement of the housing sector indicate a shortage of aggregates to the extent of about 55,000 million cum. An additional 750 million cum. aggregates would be required for achieving the targets of the road sector. Recycling of aggregate material from construction and demolition waste may reduce the demand-supply gap in both these sectors. While retrievable items such as bricks, wood, metal, titles are recycled, the concrete and masonry waste, accounting for more than 50% of the waste from construction and demolition activities, are not being currently recycled in India.

In Himachal Pradesh due to the climatic and extreme weather conditions, post disaster such waste are quite often a major problem, restoration and rebuilt process is always in progress inviting more attention towards these Rules.

3.1 C&D Waste Impacts on Environment

- C&D waste is often mixed with municipal solid waste making the municipal waste heavy and degrading its quality for further treatment like such as composting, recycling or energy recovery.
- Construction or demolition waste if not managed properly or disposed of unscientifically can lead to choking of drains, degradation of water quality.
- It constitutes about 10 - 20 % of the municipal solid waste (excluding large construction projects).
- Dust particles significantly contribute to air pollution especially particulate matters.

3.2 Applicability of Rules

The Construction and Demolition Waste Rules apply to:

- Every waste resulting from construction,
- Re-modeling,
- Repair and
- Demolition of any civil structure of individual or organisation or authority who generates construction and demolition waste such as building materials, debris, rubble
- Excavation/laying of asphalt/concrete roads
- Installation and service of public utilities

3.3 Regulations

- The Ministry of Environment, Forest and Climate Change notified the Construction & Demolition Waste Management Rules, 2016.
- The GoHP notified Himachal Pradesh State Policy and Strategy on Management of Construction and Demolition Waste vide notification no. Urban Department-F (10)-2/2019 dated 20th July, 2019.
- The GoHP vide notification no. STE-E(3)-19/2019 dated 27th January, 2020 has constituted districts level committees headed by Additional District Magistrate for checking illegal dumping of debris from construction activities.

3.4 Duties of waste generators

- Every waste generator shall prima-facie be responsible for collection, segregation of concrete, soil and others and storage of construction and demolition waste generated, as per direction.
- C&D waste shall not get mix with other waste (such as solid waste) and is stored and disposed separately.
- Waste generators who generate more than 20 tons or more in one day or 300 tons per project in a month shall segregate the waste into four streams such as concrete, soil, steel, wood and plastics, bricks and mortar and shall submit waste management plan and get appropriate approvals from the local authority before starting construction or demolition or re-modelling work.
- Every waste generator shall deposit the C&D Waste at proper collection centre so made by the local body and ensure no littering or deposition of C&D waste so as to prevent obstruction to the traffic or the public or drains.
- Every waste generator shall pay relevant charges for collection, transportation, processing and disposal as notified by the concerned local authorities.

3.5 Duties and responsibilities of local authorities

- Issue detailed directions with regard to proper management of C&D waste.
- Shall chalk out stages, methodology and equipment, material involved in the overall activity and final clean up after completion of the construction and demolition.
- Shall seek assistance from concerned authorities for safe disposal of C&D waste contaminated with industrial hazardous or toxic material (if any).
- Shall make arrangements and place appropriate containers for collection of waste and shall remove when they are filled.
- Shall get the collected waste transported to appropriate sites for processing and disposal.
- Shall give appropriate incentives to generator for salvaging, processing and or recycling preferably in-situ.
- Shall examine and sanction the waste management plan of the generators.
- Shall keep track of the generation of C&D waste within its jurisdiction.
- Shall device appropriate measures in consultation with expert institutions for management of C&D waste and recycling in the best possible manner.
- Shall create a sustained system of information, education, and communication for C&D waste.
- Shall make provision for giving incentives for use of material made of C&D waste in the construction activity.

3.6 Duties of Service providers and Contractors

- The service providers shall prepare a comprehensive waste management plan for waste generated within their jurisdiction, within six months from the date of notification of these rules.
- Shall remove all construction and demolition waste in consultation with the concerned local authority on their own or through any agency.

3.7 Current status related to Construction & Demolition Waste in H.P.

The ULBs have made considerable progress in identifying and securing land for waste disposal, with most reporting possession of government land dedicated to this purpose. However, challenges persist in some ULBs, such as NP Bhota, NP Bhunter, NP Banjar, NP Rajgarh, NP Jawali, and NP Nerwa, where either the identification or allocation of suitable land is pending. Efforts are being made by these ULBs to address the issue, involving communication with concerned authorities and exploration of alternatives.

In order to address the challenges effectively, there is a need for continued coordination and procedural actions to ensure effective land management for C&D waste disposal across all ULBs in the state.

3.8 Muck Disposal of HEP

A large quantity of muck is mostly generated as a result of construction of roads and hydro power projects. For the diversion of forest lands under hydro power projects of capacity equivalent or above 10 MW, CAT Plans are being formulated by the HEPs to reduce impact of the silt on the project in the catchment area. Activities like plantation, nursery rising, soil and moisture conservation works, infrastructure development w.r.t. forestry etc. are carried out. Muck generated from excavation of any project component is required to be disposed in a planned manner so that it takes a least possible space and is not hazardous to environment.

While preparing FCA cases, if there is any activity in the project which involves digging of land, muck disposal/ management plan has to be prepared. A dumping site has to be developed and retaining walls and other structures are to be constructed as per requirement of the site. The objective is to completely stop rolling down of the muck. Then the rehabilitation of dumping site like levelling, planting of grass, shrubs and tree species etc.; is carried out. Cost to be incurred on the mentioned activities has to be given component wise by the user agency. Undertaking by the user agency has to be given to the effect that muck management plan will be carried out by the user agency and in case of non-implementation of the plan; they will be liable to penalty/ action.

4. Hazardous Waste Management

Hazardous waste comprises of waste that by reason or its characteristics such as physical, chemical, biological, reactive, toxic, flammable, explosive, or corrosive, causes danger to ecosystem or is likely to cause danger to health or environment, whether alone or in contact.

In Himachal Pradesh there are 2579 industrial units regulated under the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 registered by HP State Pollution Control Board.

Detail of industrial units and hazardous waste generation is at Annexure-A. The majority of hazardous waste is being generated in district Solan being highly industrialized district followed by District Una and District Sirmour which are adjoining to Solan.

For effective management of hazardous waste generated by these units there is one Common Treatment, Storage, Disposal Facility (TSDF) with landfill capacity of 10 lakh MT, has been established at Nalagarh, District Solan and 52 authorized recyclers engaged in recycling of metals & drum washing, etc.

Besides this three Cement Plants have also been authorized by HPPCB for co-processing of hazardous waste so as to recover the calorific -energy value from the wastes. It has been made mandatory for all the units generating hazardous waste to dispose it off through the authorized Treatment Storage and Disposal Facility (TSDF), Recycler, users and Co-processing units.

4.1 Common Treatment Storage, Disposal Facility (CTSDF)

The HP Pollution Control Board has authorized M/s Shivalik Solid Waste Management Ltd., a Common Treatment, Storage, Disposal Facility (CTSDF) at Village Majra, P.O. Dabhota, Tehsil Nalagarh, Distt. Solan, H.P. Shivalik Solid Waste Management Limited is operating a CTSDF site in Himachal Pradesh since 2007 for the disposal of Hazardous waste in safe and scientifically engineered ways. SSWML is accredited EIA consultant under accreditation scheme of National Accreditation Board for Education and Training (NABET-a constituent board Of the Quality Council of India (QCI). It has a design capacity of 10 Lac MT for the disposal of land fillable hazardous waste with a capacity of 50,000 MT/ Annum.

Subsequently, the TSDF was also authorized for collection & transportation of used oil @ 1000 KL/year and utilization of empty barrels @ 48000 Nos/year generated from various units operating in the State of Himachal Pradesh. The TSDF is being used for the scientific disposal of land fillable hazardous waste generated by the industries.

Current Status related to Hazardous Waste Management

Details of Data Requirement	Present Status
No of Industries generating HW	2579
Quantity of HW in the state	Approx. 47618.19
Quantity of Incinerable HW	4230.787
Quantity of land-fillable HW	33608.87
Quantity of Recyclable/ utilizable HW	Recyclable: 8020.233 Utilizable: 1758.29
No of captive/ common TSDF	1
Contaminated Sites or probable contaminated sites	Nil

Detail of Hazardous Waste Generating Industries and HW Generation																				
S. No.	Name of the District	Total Number of HW Generating Industry	Number of Units possessing authorisation	Number of Units exempted from obtaining Authorisation	Number of Units submitted annual returns	Authorized Quantity of Hazardous Waste (Metric Tonne)				Total Quantity	Quantity of Hazardous Waste generated as per Annual Return of HPPCB (Metric Tonne)				Total Quantity	Details on Import and Export of Hazardous Waste			
						Landfillable	Incinerable	Recyclable	Utilizable		Landfillable	Incinerable	Recyclable	Utilizable		Quantity of HW imported during the year (MT)	Type of HW	Quantity of HW exported during the year (MT)	Type of HW
					1	2	3	4	5		6	7	8	9		10	11	12	13
1	Solan	1150	1150	0	1016	40263.86	294.5	604.96	7990.011	49153.33	32491.5	3210.56	7493.83	1758.288	44954.17	2816.9	Zinc Ash	99.554	Zinc Ash
2	Sirmour	393	393	0	262	1210.89	0	57.44	642.61	1910.94	508.738	738.065	261.794	0	1508.60	--	--	--	--
3	Shimla	118	104	3	118	18	0	58.09	0	76.09	1.972	5.47	21.157	0	28.60	--	--	--	--
4	Kinnaur	29	28	0	28	0	0	86.853	0	86.853	0.265	1.119	23.958	0	25.34	--	--	--	--
5	Bilaspur	48	36	0	48	9.475	1.95	120.744	0	132.169	4.65	0.05	19.21	0	23.91	--	--	--	--
6	Mandi	64	48	0	64	620.68	25.852	86.94	0	733.472	36.735	4.14	32.739	0	73.61	--	--	--	--
7	Una	212	212	0	183	4037.319	0	68.881	29.925	4136.125	482.523	269.23	65.207	0	816.96	--	--	--	--
8	Hamirpur	27	27	0	26	1.34	0	23.91	0	25.25	0.581	0	8.287	0	8.87	--	--	--	--
9	Kangra	273	214	0	214	0	0	0	0	0	81.688	2.153	50.434	0	134.28	--	--	--	--
10	Kullu	225	225	0	216	0.146	0	46.936	0	47.082	0.228	0	12.571	0	12.80	--	--	--	--
11	Lahul&Spiti	4	4	0	4	0	0	3.055	0	3.055	0	0	0	0	0.00	--	--	--	--
12	Chamba	36	26	0	36	0	0	12607	0	12607	0	0	31.05	0	31.05	--	--	--	--
Total		2579	2467	3	2215	46161.71	322.302	13764.81	8662.546	68911.37	33608.88	4230.787	8020.233	1758.288	47618.19				

(Source:SPCB)

5. MANAGEMENT OF ELECTRONIC WASTE (E-WASTE) IN HIMACHAL PRADESH

E-waste means electrical or electronic equipment, whole or in part discarded as waste by the consumer or bulk consumer or manufacturer. Used electronics items which are destined for refurbishment, reuse, resale, salvage recycling through material recovery, or disposal are also categorized as E-waste units.

5.1 IMPACTS ON ENVIRONMENT

E-waste mainly pollutes Air, Water, and Soil. The electrical/electronic items contain toxic materials such as lead, zinc, nickel, barium, and chromium. When electronic waste is dumped into landfills, toxic materials can seep into the soil and groundwater, affecting not only our health, but also land and sea animals.

5.2 SOURCE OF E-WASTE GENERATION

The main sources of E-waste generation in H.P. are as follows:

- Household appliances like refrigerators/ freezers, washing machines, dishwashers, televisions.
- Information Technology (IT) and telecommunications equipment namely personal computers, telephones, mobile phones, laptops, printers, scanners, photocopiers etc.
- Lighting equipment such as fluorescent lamps. Automatic dispensers.
- Bulk Consumers such as Central Government or State Government Departments, public sector undertakings, banks, educational institutions, multinational organizations, international agencies, partnership and public or private companies that are registered under the Factories Act, 1948 (63 of 1948) and the Companies Act, 2013 (18 of 2013) and health care facilities which have turnover of more than one crore or have more than twenty employees.

5.3 REGULATION

The Ministry of Environment, Forest and Climate Change notified the E-Waste Management Rules, 2016. 21 electrical & electronics products as per Schedule-I of the Rules ibid falls under the purview of this rule. It includes Compact Fluorescent Lamp (CFL) and other mercury containing lamps, as well as other IT, Telecom, consumer electrical/electronic equipment.

5.4 RESPONSIBILITIES

- Department of Industry in State or any other government agency authorized in this regard by the State Government, to ensure earmarking or allocation of industrial space or shed for E-waste dismantling and recycling in the existing and upcoming industrial park, estate and industrial clusters.
- Department of Labor in the State or any other government agency authorized in this regard by the State Government shall:
- Ensure recognition and registration of workers involved in dismantling and recycling.
- Assist formation of groups of such workers to facilitate setting up dismantling facilities.
- undertake industrial skill development activities for the workers involved in dismantling and recycling.
- undertake annual monitoring and to ensure safety & health of workers involved in dismantling and recycling.
- State Government to prepare integrated plan for effective implementation of these provisions, and to submit annual report to the Ministry of Environment, Forest, and Climate Change.

5.5 Role and Responsibilities of District Level Committee

- The Urban Development department is required to ensure that e-waste shall not be mixed with Municipal Solid Waste and should be properly segregated, collected and is channelized to authorized dismantler or recycler. A scheme shall be devised by the Urban department to make informal sector collecting waste from all source includes individual House Holds, Small Commercial Activity and offices etc. for ensuring its safe disposal. This department shall also ensure that e-waste pertaining to orphans products is collected and channelized to authorized dismantler or recycler.
- The Industries Department is required to ensure earmarking or allocation of industrial space or shed for e-waste dismantling and recycling in the existing and upcoming industrial parks, estates or industrial clusters in association with State Pollution Control Board as per clause (1) of Rule 12 under E- waste (Management) Rules, 2016.
- Department of Labour HP in association with SPCB as per clause (2) of Rules 12 under E-Waste (Management) Rules, 2016 are required to ensure following:

    - Recognition and registration of workers involved in dismantling and recycling.
    - Assist formation of groups of such workers to facilitate setting up dismantling facilities.
    - Undertake industrial skill development activities for the workers involved in dismantling and recycling.
    - Undertake annual monitoring and to ensure safety & health of workers involved in dismantling and recycling.
    - The Committee has to carry out quarterly drive for checking of informal trading, dismantling, and recycling of waste.
    - This Committee shall also monitor the compliance/ implementation of e-waste management rules, particularly w.r.t. violations and enforcement actions at District Level.
    - The Committee shall conduct special workshops to educate all the stakeholders and build their capacities.
    - The Committee will furnish quarterly Action Taken Report to the State Level Committee through the Nodal Officer-cum-Member Secretary, HP State Pollution Control Board.

In Himachal Pradesh State, the state government has notified Committee (s) at District Level and State Level comprising of concerned responsible Authorities and Stakeholder Departments, these committees were constituted vide notification no. STE-E(3)-8/2019 dated 20.05.2019 to monitor the compliance of Hon'ble NGT order. The composition of committees constituted by the Go HP is as below:

A. District Level Committee

#	Responsible Authority	Role
1.	All the Deputy Commissioners HP	Chairman
2.	All the concerned BDOs	Member
3.	The Commissioner, Municipal Corporation Shimla& Dharamshala HP	Member
4.	All the concerned Executive Officers/ Representatives of Municipal Councils/ SADA	Member
5.	All the concerned Regional Officers of HP State Pollution Control Board	Member
6.	Representatives of Industry Department HP	Member

B. State Level Committee

#	Responsible Authority	Role
1.	Additional Chief Secretary (Env. Sci. & Tech.) GoHP	Chairman
2.	Director, Urban Development Department HP	Member
3.	Director, Department of Industries HP	Member
4.	Director, Labour & Employment Department HP	Member

5.	Director, Department of Env. Sci. Tech. & CC, HP	Member
6.	Member Secretary, HP State Pollution Control Board	Member (Nodal Officer)

Role and Responsibilities of State Level Committee:

- The State Level Committee is required to review the quarterly Action Taken Report submitted by District Level Committee and submit to the Central Pollution Control Board.
- IEC Plan for educating public at large about the system of collection, incentives structure and facilities for recycling be got prepared through the Director, Env. Sci. & Technology within 03 months and ensure its execution over the year.

5.6 Current Status of E-Waste Management

There is one dismantler of e-waste currently in operation in the State of Himachal Pradesh named as M/s Shiwalik Solid Waste Management Ltd. (Unit-II), Village Shabowal, Tehsil Nalagarh, District Solan, H.P. The said unit has been authorized by the State Board for operating a facility for collection, storage, transportation and dismantling of e-waste (capacity 1000 Ton per year) under the category specified in the schedule-I of E-Waste (Management) Rules, 2016 (authorization is valid upto 31.03.2023).

Details of Data Requirement	Present Status
Inventory of E-Waste in MT/year	As per annual report for FY 2021-22, 373.2 MT of E-Waste was collected and recycled in the State
Collection centers established by ULBs in the District	-
Collection centers established by Producers or their PROs	1
No authorized E-Waste recyclers/ Dismantler	3

Details of Dismantler and Recyclers authorized by the State Pollution Control Board for operating a facility for collection, storage, transportation and Recycling of E-waste in Himachal Pradesh under the category specified in the schedule-I of E-waste (Management) Rules, 2016 is as follows:-

Sr. No.	Name of the e-waste recycling industries as well as other such polluting categories of industries	Authorised capacity	Status of operation
1.	M/s Shivalik Solid Waste Management, Unit-II, Village, Shabowal Tehsil- Nalagarh, H.P	5200MT/Year	Operational
2.	M/s Ortech India Corporations, Plot No. 67-B, Industrial Estate, Lodhi Majra, Baddi	500 MT/year	Operational
3.	Eco Works Management Pvt. Ltd., Mauza Nanowal PO Khera Tehsil Nalagarh Distt. Solan HP	540 MT/year	Operational

During the year 2021-2022 approximately 31.1 MTPA of E-waste has been disposed through these dismantler and recycler in the State.

6. Polluted River Stretches in India and in Himachal Pradesh

Government of India enacted Water (Prevention and Control of Pollution) Act 1974 to maintain wholesomeness of aquatic resources in the country. The entire Water Quality Management in India is performed under the provision

of Water (Prevention and Control of Pollution) Act, 1974. The basic objective of this Act is to maintain and restore the wholesomeness of national aquatic resources by prevention and control of water pollution.

Water quality monitoring is therefore an imperative prerequisite in order to assess the extent of maintenance and restoration of water bodies. Central Pollution Control Board (CPCB) has established a network of monitoring stations on aquatic resources across the country. The monitoring of water quality initiated during 1977-78 under Global Environmental Monitoring System (GEMS) and gradually increased the network to cover all the aquatic resources in the country viz. Rivers, Lakes, Tanks, Ponds, Drains, Water Treatment Plant, Sewage Treatment Plants, coastal waters, wetlands and ground water under National Water Quality Monitoring Programme (NWMP).

The present monitoring network comprises of 4294 locations in 28 States and 7 Union Territories spread over the country (no network in Andaman and Nicobar Islands). The monitoring network covers 2026 locations on Rivers, 378 on Lakes, 138 on Tanks, 106 on Ponds, 184 on Creeks/seawater, 65 on Canals, 83 on Drains, 1231 on Wells and 61 on other water bodies. Subsequently through a wide network of water quality monitoring, water quality data is generated. During September 2018, CPCB had identified 351 Polluted river stretches in 31 States/ UTs considering water quality data for Biochemical Oxygen Demand (BOD) parameter generated in the year 2016 and 2017.

Upon intervention of Hon'ble NGT, action plans were prepared by State Governments and UT Administrations for rejuvenation of 351 Polluted river stretches identified by CPCB. Concerned State/ UT Government departments are implementing the action plans and the progress is being reviewed periodically by the River Rejuvenation Committee (RRC) at State Level and Central Monitoring Committee (CMC) constituted under the Chairmanship of Secretary, Ministry of Jal Shakti at Central Level.

6.1 IDENTIFICATION OF POLLUTED RIVER STRETCHES (PRS)

Water quality data for river monitoring locations generated by regional offices in State Pollution Control Boards & Pollution Control Committees by collecting and analysing the water samples for various field observations, physico-chemical, bacteriological, Metals and Pesticide parameters on monthly basis as per The Guidelines for Water Quality Monitoring, 2017 issued by Ministry of Environment, Forest & Climate Change (MoEF & CC).

The water quality data generated is submitted by SPCBs/ PCCs through online data entry portal namely Environmental Water Quality Data Entry System - EWQDES and stored centrally at CPCB server. For identification of polluted river stretches, the water quality data for river monitoring locations is reviewed and the monitoring locations non-compliant with the desired criteria for Bio-chemical Oxygen Demand (BOD) i.e. < 3.0 mg/L are identified as polluted locations.

6.2 CRITERIA FOR IDENTIFICATION AND CLASSIFICATION OF PRS

The water quality data for river monitoring locations with respect to Biochemical Oxygen Demand (BOD) parameter is considered. The locations/ stretches of rivers not meeting with the Primary water quality criteria for outdoor bathing for BOD parameter i.e. more than 3 mg/L are identified as polluted locations or polluted stretches.

- If there is a single location on river, rivulet or stream and the location is not complying to BOD, it is identified as Polluted Location.
- Two or more polluted locations identified on a river in a continuous sequence are considered as a stretch and defined as Polluted River Stretch.

These are categorized under five Priority Classes (I t o V) on the basis of maximum BOD level observed. The criteria has adopted at national level for prioritisation of river stretches, which is given below:

Priority – I

- Monitoring locations exceeding BOD concentration 30.0 mg/ L

Priority – II

- Monitoring locations having BOD between 20.0 – 30.0 mg/ L

Priority – III

- Monitoring locations having BOD between 10.0 – 20.0 mg/ L

Priority – IV

- Monitoring locations having BOD between 6.0 – 10.0 mg/ L

Priority – V

- Monitoring locations having BOD between 3.0 – 6.0 mg/ L

6.3 STATUS OF POLLUTED RIVER STRETCHES IN HIMACHAL PRADESH

Water Quality of rivers in Himachal Pradesh is being monitored at 136 locations on 37 rivers during the year 2019 and 2021, out of which, 19 locations on 9 rivers were found non-complying to the Water Quality Criteria with respect to BOD.

The names of 9 polluted rivers are Ashwini Khad, Bald, Giri, Markanda, Pabbar, Ratta, Shikari Khad, Sirsa, Sukhana. Details of polluted river stretches identified are given in table below.

Sr. No.	River	Polluted River Stretch/ Location	Max BOD Observed	Priority Class
1	Ashwani Khad	Matholi to Bhog	80.0	I
2	Bald	Along Baddi	40.0	I
3	Giri	Along Yashwant Nagar and along Dadahu	4.8	V
4	Markanda	Salani to Rampur Jattan	4.0	V
5	Pabbar	Along Swarakuddu	4.6	V
6	Ratta	Along Nalagarh	8.0	IV
7	Shirkari Khad	Along Rohru	4.6	V
8	Sirsa	Along Nalagarh	40.0	I
9	Sukhana	Along Parwanoo	72.0	I

In the meeting of Central Monitoring Committee constituted by Hon'ble NGT vide order in OA No. 673 of 2018 held under the chairmanship of Secretary, DoWR, RD&GR, Ministry of Jal Shakti on 12/05/2023, it has been directed that state of Himachal Pradesh shall submit detailed action Plan with timelines for polluted river stretches, especially in priority-I.

Accordingly, The Chief Secretary to the Government of Himachal Pradesh vide his office letter No. STE-E(3)-3/2020-loose dated 07-12-2023 furnished the Action Plan of the polluted river stretches Priority –I to the Member Secretary, Central Pollution Control Board, Ministry of Environment, Forest and Climate Change, Government of India, New Delhi-110003.

The detailed action plan of following 4 river stretches under Priority-I has been framed by HPSPCB, Shimla as under:

Sr. No.	River	Polluted River Stretch/ Location	Max BOD Observed	Priority Class
1	Ashwani Khad	Matholi to Bhog	80.0	I (Earlier Cat-V)
2	Bald	Along Baddi	40.0	I (New Addition)
3	Sirsa	Along Nalagarh	40.0	I (Earlier Cat-III)
4	Sukhana	Along Parwanoo	72.0	I (Unchanged)

The data analisis for water bodies in Himachal Pradesh reveal a comprehensive list of rivers, nalas, drains, creeks, and lakes. The main rivers flowing through the region include prominent ones such as River Satluj, River

Beas, River Ravi, and River Yamuna, among others. This enumeration provides a foundational understanding of the water bodies that shape the geographical landscape of the state.

In addition, the presence of nalas, drains, and creeks meeting rivers in various districts adds intricacy to the water system. Districts like Sirmaur, Kullu, Solan, Shimla, Kangra, Chamba, Mandi, Hamirpur, and Kinnaur host a diverse network of water channels. Each district showcases distinct features such as Nallahs like Jattawala Nallah, Duhangan Nallah, and Sukhna Nallah, reflecting the rich hydrological diversity across Himachal Pradesh.

Lakes and ponds contribute significantly to the aquatic resources of the state. Notable water bodies include Govind Sagar Lake, Rewalsar Lake, Renuka Lake, Pong Dam, and Chandertal Lake. These lakes and ponds play pivotal roles in the local ecosystems, providing habitats for various species and serving as essential water sources.

Despite the natural abundance of water resources, there are identified polluted river stretches that require attention and remedial measures. Prioritized areas such as Sukhna at Parwanoo, River Markanda at Kala Amb, and River Sirsa at Baddi Nalagarh are recognized for targeted pollution control efforts.

The inclusion of these small rivulets in priority areas reflects the state's commitment to addressing environmental concerns and maintaining the health of its water bodies. Additionally, Priority-V areas, encompassing River Beas, Ashwani Khad, Giri, and Pabbar, emphasize the need for sustained monitoring and conservation efforts to preserve the integrity of these waterways.

Current Status related to Water Quality Management

Details of Data Requirement	Present Status
Rivers	Main rivers flowing through Himachal Pradesh namely: - River Satluj, River Giri, River Pabbar, River Sirsa, River Bald, River Beas, River Alhi, River Swan, River Ravi, River Suil, River Baira, River Sainj, River Spiti, River Baspa, River Tons, River Tidong, River Sorang, River Markanda, River Yamuna, River Batta, River Thirthan, River Partvati, River Kaushalya, River Bather, and River Gaj.
Nalas/ Drains/Creeks meeting Rivers	Nallas/ Drain/ Creeks meeting river in District Sirmaur: Jattawala Nallah, Moginand Nallah, Tallo Nallah, Salani Khad, Salam Khad, Roon Nalla District Kullu: Allaign Nalla, Duhangan Nalla, Manalsu Nalla, Sarsari Nalla, Baragram Nallah, Khalada Nalla District Solan: Sukhna Nallah, Samtel Nalla, Sector-4 Nalla, Surajmukhi Sector-4 Nalla,Bhatian Sector-4 Nalla, Housing Board, Manpura, Khera, Sandholi Nallah District Shimla: Ashwani Khar, Gumma Khad, Lift Nalla, Ganvi Khad, Churat Nalla, Jagrot Nalla, Sainj Jagrot Nalla, Dhaneson Nalla, Shikari Khad District Kangra: Bhiral Khad, Charan Khad, Chhounch Khad, Lunk Khad, Baner Khad, Bhaled Khad, Jarangla Nallam Budhil Nalla, Kulin Nalla, Sahu Nalla, Maan Khad, Neugal Khad, Garni Khad, Dhauli Khad, Manjhi Khad Dist Chamba: Kluin Nalla,, Sahu Nalla, District Mandi: Suketi Khad District Hamirpur: Hathli Nalla, Lift Water Supply Scheme for MC Hamirpur District Kinnaur: Halog Nalla, Machadda Nalla
Lakes/Ponds	Govind Sagar Lake, Rewalsar Lake, Renuka Lake, Pong Dam, Chandertal Lake
Polluted river stretches if any	Priority-I Sukhna at Parwanoo Priority-II River Markanda at Kala Amb

	Priority-III River Sirsa at Baddi Nalagarh Priority-V River Beas, Ashwani Khad, Giri, Pabbar

7. NON-ATTAINMENT CITIES IN HIMACHAL PRADESH

That the Hon'ble National Green Tribunal (NGT) in its order dated 08-10-2018 passed in OA No 681/2018 observed that 102 cities in the country have been identified as 'non-attainment cities' out of which 7 cities fall in the State of Himachal Pradesh namely Baddi, Nalagarh, Parwanoo, Paonta Sahib, Kala Amb, Damtal and Sunder Nagar, which does not meet the National Ambient Air Quality Standards (NAAQS).

The Hon'ble NGT also constituted the following Air Quality Monitoring Committee (AQMC) to prepare the appropriate action plans within two months aimed at bringing the standards of air quality within the prescribed norms within six months from the date of finalization of the action plan:

1. Director, Environment
2. Director, Transport
3. Director, Industry
4. Director, Urban Development
5. Director, Agriculture
6. Member Secretary, HP State Pollution Control Board

As per the orders the committee may be called as Air Quality Monitoring Committee (AQMC) and will function under the overall supervision and coordination of Principal Secretary, Environment of concerned State. This Committee will be further supervised by the Chief Secretary by ensuring the intra-sectoral co-ordination.

In compliance to the Hon'ble NGT's order and with the objectives to prepare an action plan aimed at bringing the standard of air quality of seven non-attainment cities within prescribed norms, the State Government has notified the Air Quality Monitoring Committee vide Notification no STE-E (3)-22/2018 dated 17-11-2018.

After the notification, the Air quality Monitoring Committee (AQMC) held its three meetings on 29-11-2018, 07-12-2018 and 22-12-2018 respectively. After detailed deliberations, the AQMC has finalized the action plan of 7 non-attainment cities in the State of Himachal Pradesh and the current state environment plan is inclusive of the similar plan of action.

7.1 OBJECTIVES

For the compliance of Hon'ble National Green Tribunal Order passed in OA No 681/2018, the Air Quality Monitoring Committee has the following objectives:

- To prepare appropriate action plans within two months aimed at bringing the standards of air quality within the prescribed norms within six months from date of finalization of the action plans and will be forwarded to the CPCB by 31.12.2018.
- The Action Plans will also take into account the GRAP, the CAP and the action plan prepared by CPCB as well as all other relevant factors.
- The Action Plan will include components like identification of source and its apportionment considering sectors like vehicular pollution, industrial pollution, dust pollution, construction activities, garbage burning, agricultural pollution including pollution caused by burning of crop residue, residential and indoor pollution etc.
- The action plan shall also consider measures for strengthening of Ambient Air Quality (AAQ) monitoring and steps for public awareness including issuing of advisory to public for prevention and control of air pollution and involvement of schools, colleges and other academic institutions and awareness programmes.
- The Action Plan will indicate steps to be taken to check different sources of pollution having speedy,

definite and specific time lines for execution.

7.2 Action Plan for control of air pollution in 7 Non- attainment Cities:

Out of 102 non-attainment cities in the country, 7 non-attainment cities fall in the State of Himachal Pradesh, which do not meet the National Ambient Air Quality Standards (NAAQS) for the particulate matter (PM10). HP State Pollution Control Board is monitoring the ambient air quality through manual operated NAMP Stations at 25 locations in the State including the locations specified under non-attainment category.

Presently the State Pollution Control Board is monitoring the parameters viz. SO_2, NO_x, PM10, PM 2.5, Ozone and Ammonia at five non-attainment cities. The seven cities of Himachal Pradesh fall under the category of non-attainment due to the concentration of Particulate Matter (PM10). The Non-attainment cities of Himachal Pradesh shown in Figure-I and last eight years results of these cities are shown below in Table-I and Figure-II.

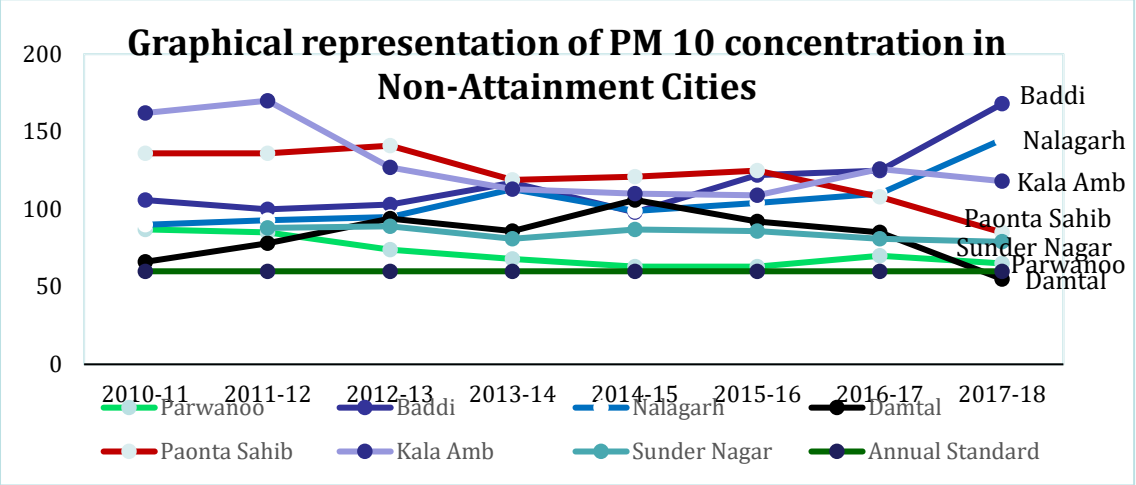
Non-attainment cities shown in the map of Himachal Pradesh

Annual Average values of PM 10 in µg/m^3 from 2011-12 to 2017-18

Sr. No.	Name of Station	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
1	Sector 4 Parwanoo	69.5	67.8	59.3	57	56.8	57.8	64.6	61.5
2	Sector I Parwanoo	103.8	101.8	88	78	69	67.2	74.5	68.3

Average		87	85	74	68	63	63	70	65
3	DIC Baddi	105.5	98.3	107.1	119	118.5	154.4	154.6	192.4
4	AHC Barotiwala	106.7	92.6	99.3	109	102.7	108.3	101	142.8
5	H B Baddi	105.4	109.6	101.8	124	72.2	103.3	119.7	169.6
Average		106	100	103	117	98	122	125	168
6	MC Nalagarh	89.5	92.8	95.4	113	99.3	104.1	109.8	145
Average		90	93	95	113	99	104	110	145
7	RO Damtal	58.7	63.9	71.2	62	66.4	77	97.3	57.3
8	RGMandir, Damtal	74.2	91.1	117.2	110	145.5	106.5	72.1	53.6
Average		66	78	94	86	106	92	85	55
9	Paonta Sahib	109.1	116.6	113.8	96	100.8	90.7	79.6	77.5
10	Gondpur	163.7	155.6	167.4	141	141.6	160.1	136.4	92.5
Average		136	136	141	119	121	125	108	85
11	Kala Amb	224.1	243.8	159.2	148	141.3	139.4	161.6	151.8
12	Trilokpur	100.5	95.6	94.6	78	79.6	78.5	90.2	83.9
Average		162	170	127	113	110	109	126	118
13	OB Sunder Nagar	--	71.3	79.3	71	79.5	77.7	73.2	72.5
14	MC Sunder Nagar	--	105.6	98.7	90	93.9	94.8	89.6	85.2
Average		--	88	89	81	87	86	81	79

Source: SPCB



The Air Quality Monitoring Committee has finalised the action plan for 7 Non-attainment cities of Himachal Pradesh in consultation with respective Regional Officers of HP State Pollution Control Board and an External Expert from IIT Kanpur. For accepting suggestions/ complaints from the public regarding control of air pollution in non-attainment cities, a suggestion tab has been developed by the State Board along with consultation with Direction IT experts. It has been agreed jointly that the action plan as prepared by the AQMC would be sent to Central Pollution Control Board for their further review.

The current status of different actions, level of compliance and air quality status in 7 Non-attainment cities so identified under national framework is as under:

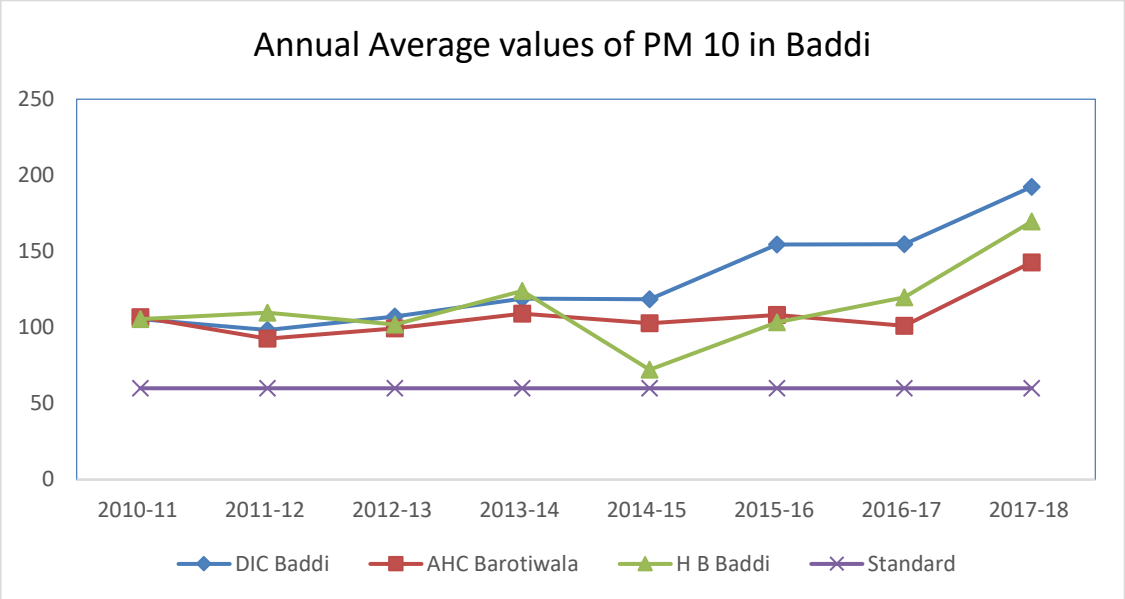
7.3 Baddi -Non-Attainment Cities

Baddi, Barotiwala, is one of the important industrial corridor of State of Himachal Pradesh in district Solan has carved out a name for itself not only in the State of Himachal Pradesh but in North India as Asia's largest pharmaceutical manufacturing hub. It is one of the important growth centres of the economy of Himachal Pradesh having one major urban settlement, Baddi Municipal Council.

Baddi, Barotiwala and Nalagarh are the leading industrial areas with an estimated presence of approximately 2150 national level and international level industrial units. The area as such has grown erratically with many industries coming up in a short span with associated anthropogenic activities, new human settlements, and their environmental repercussions.

7.3.1 Ambient Air Quality Status Baddi - Non-attainment city

Ambient air quality is being monitored at 3 locations namely DIC Baddi, AHC Barotiwala and Housing Board Baddi under National Ambient Air Quality Monitoring Program. The annual average values of SO_2 and NO_x at all the NAMP stations were observed well below the permissible limit. The annual average values of RSPM (PM10) at all the three stations were observed above the permissible limit. The trends of annual average of RSPM (PM10) for the last 8 years are shown below:



Monitoring mechanism for implementation of action plan in Baddi Non-attainment city

Taking a lead in the matter, the state government has constituted a committee comprising of following officers made responsible for implementation of approved action plan for the control of air pollution in the respective area and this committee is required to submit its report to the AQMC on monthly basis to the state government.

1.	Deputy Commissioner/District Magistrate, Solan	Chairman
2.	Superintendent of Police, Baddi	Member
3.	CEO, BBNDA, Baddi	Member
4.	Sub Divisional Magistrate, Nalagarh	Member
5.	Regional Transport Officer, Nalagarh	Member
6.	Executive Engineer, HPPWD, Nalagarh	Member

7.	Dy. Director, DIC Baddi	Member
8.	DFO, Forest Department, Nalagarh	Member
9.	Deputy Director, Department of Agriculture, Solan	Member
10.	EO, Municipal Council, Baddi	Member
11.	Regional Officer, HPSPCB, Baddi	Member Secretary

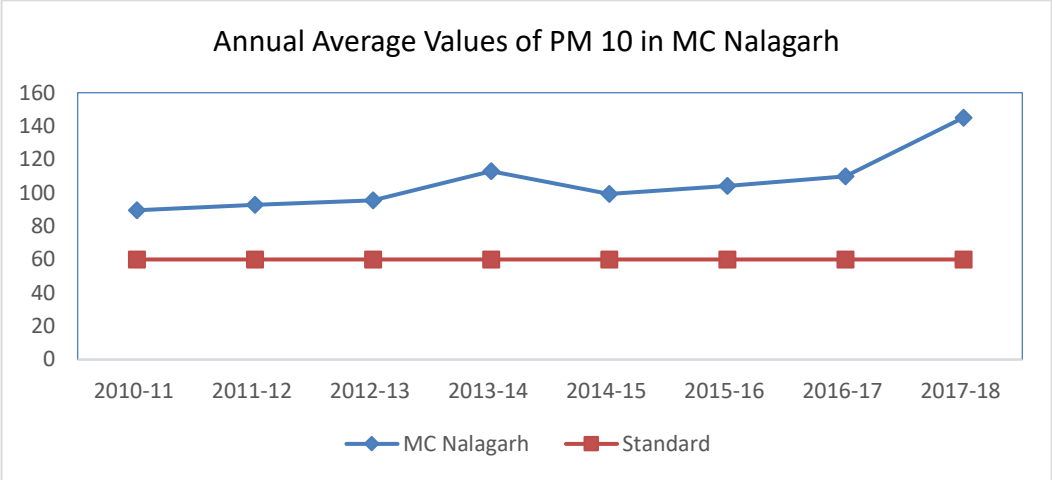
7.4 NALAGARH-NON-ATTAINMENT CITIES

Nalagarh is also one of the emerging industrial town and attractive place for industries which hosts industries like leather, steel, chemicals, thread mills and breweries. It is one of the important growth centres of the economy having one major urban settlement i.e. Nalagarh Municipal Council.

Baddi, Barotiwala and Nalagarh are the leading industrial areas with an estimated presence of approximately 2150 industrial units. The area has grown erratically with many industries coming up in a short span with associated anthropogenic activities, new human settlements and their environmental repercussions.

7.4.1 Ambient Air Quality Status -Nalagarh- Non-attainment cities:

Ambient air quality is being monitored at 1 location namely Municipal Corporation Nalagarh under National Ambient Air Quality Monitoring Program. The annual average values for SO_2 and NO_x were observed well below the permissible limit and for RSPM (PM10) was observed above the permissible limit for the last 8 years. The trends of annual average of RSPM (PM10) for the last 8 years are shown below:



Monitoring mechanism for implementation of action plan in Nalagarh Non-attainment city:

A committee comprising of following officers has been made responsible for implementation of approved action plan for the control of air pollution in the respective area and is required to submit its report to the AQMC on monthly basis.

1.	Deputy Commissioner/District Magistrate, Solan	Chairman
2.	Superintendent of Police, Baddi	Member
3.	CEO, BBNDA, Baddi	Member
4.	Sub Divisional Magistrate, Nalagarh	Member
5.	Regional Transport Officer, Nalagarh	Member
6.	Executive Engineer, HPPWD, Nalagarh	Member
7.	Member Secretary, SWCA, Nalagarh	Member
8.	DFO, Forest Department, Nalagarh	Member
9.	Deputy Director, Department of Agriculture, Solan	Member
10.	EO, Municipal Council, Nalagarh	Member
11.	Regional Officer, HPSPCB, Baddi	Member Secretary

7.5 PARWANOO-NON-ATTAINMENT CITY

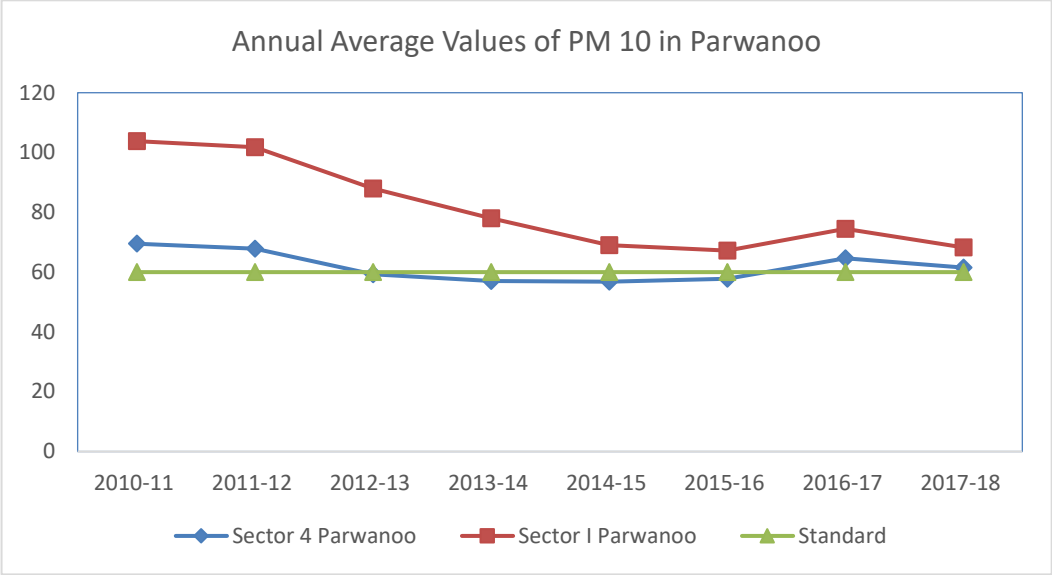
Parwanoo is an industrial and commercial town having biggest wholesale market of Himachal Pradesh. It borders Panchkula district of Haryana and is separated by a river bed from the town of Kalka. There is one Municipal Council and about 1 Gram Panchyats in a nearby area. The town is divided into 6 different sectors spread randomly across the Shivalik Range in a radius of about 4 km. Sectors 1A, 4 and 6 are totally residential the other sectors 1, 2, 3 & 5 are Industrial with only a few residential areas.

Parwanoo is essentially an industrial town with almost 80% of the local population engaged with the industries in one way or other. There are about 19 air polluting industrial units of Red and Orange categories. The major sources of air pollution in the area are vehicular emission, road dust, construction activities along with industrial emissions.

7.5.1 Ambient Air Quality Status of Parwanoo- Non-attainment city:

Ambient air quality is being monitored at 2 locations namely Sector-IV, Parwanoo and MC Parwanoo under National Ambient Air Quality Monitoring Program. The annual average values of SO_2 and NO_x at both the NAMP stations were observed well below the permissible limit.

The annual average values of RSPM (PM10) at MC Parwanoo were observed above the permissible limit for the last 8 years. The trends of annual average of RSPM (PM10) for the last 8 years are shown below:



Monitoring mechanism for implementation of action plan in Parwanoo Non-attainment City:

A committee comprising of following officers shall be responsible for implementation of approved action plan for the control of air pollution in the respective area and shall submit its report to the AQMC on monthly basis.

1.	Deputy Commissioner/District Magistrate, Solan	Chairman
2.	Superintendent of Police, Solan	Member
3.	Regional Transport Officer, Solan	Member
4.	Executive Engineer, HP PWD, Kasauli	Member
5.	Member Secretary, SWCA, Parwanoo	Member
6.	D.F.O, Forest Department, Solan	Member
7.	Deputy Director, Department of Agriculture	Member
8.	EO, Municipal Council, Parwanoo	Member

9.	President / Secretary (Nominee) Indl Association Parwanoo	Non-official Member
10.	Regional Officer, HPPCB Parwanoo	Member Secretary

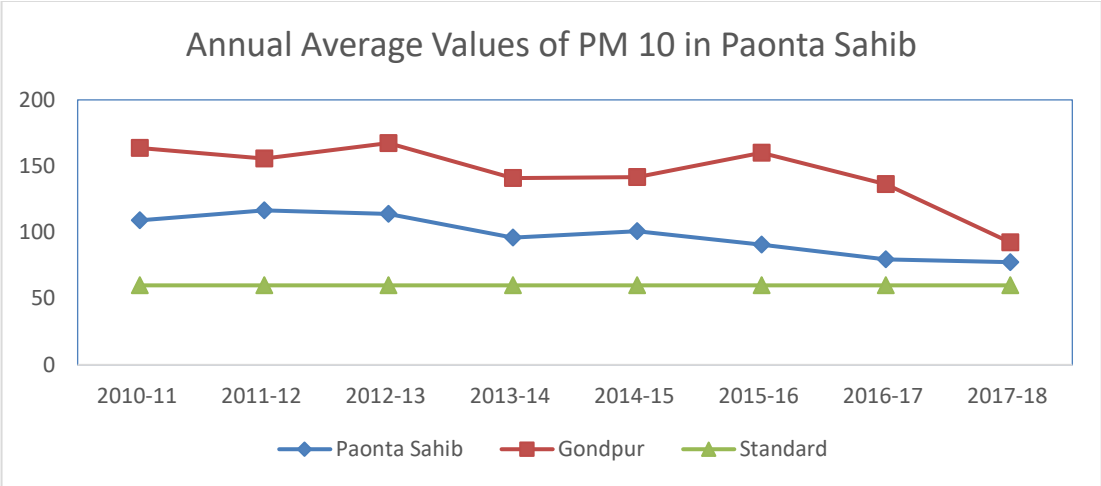
7.6 Paonta Sahib -Non-Attainment City

Paonta Sahib is an industrial townsof Himachal Pradesh. It is also an important place of worship for Sikhs, hosting a large Gurdwara named Gurudwara Paonta Sahib, on the banks of the river Yamuna. The river is the boundary between the states of Himachal Pradesh and Uttarakhand. The major industries at Paonta Sahib are Cement, Pharmaceuticals, Food, and Limestone.

There are about 4 red and orange categories air polluting industrial units at Paonta Sahib. The major sources of air pollution in the area are vehicular emission, road dust, construction activities and industrial emissions.

7.6.1 Ambient Air Quality Status of Paonta Sahib - Non-attainment cities:

Ambient air quality is being monitored at 2 locations namely Paonta Sahib and Gondpur under National Ambient Air Quality Monitoring Program. The annual average values of SO_2 and NO_x at both the NAMP stations were observed well below the permissible limit. The annual average values of RSPM (PM10) at both the NAMP stations were observed above the permissible limit for the last 8 years. The trends of annual average of RSPM (PM10) for the last 8 years are shown below:



Monitoring mechanism for implementation of action plan

A committee comprising of following officers shall be responsible for implementation of approved action plan for the control of air pollution in the respective area and shall submit its report to the AQMC on monthly basis.

1.	Deputy Commissioner/District Magistrate, Sirmour	Chairman
2.	Superintendent of Police, Sirmour	Member
3.	Regional Transport Officer, Sirmour	Member
4.	Executive Engineer, HPPWD, Nahan	Member
5.	Member Secretary, SWCA, Paonta Sahib	Member
6.	DFO, Paonta Sahib, district Sirmour	Member
7.	Deputy Director, Department of Agriculture, Sirmour	Member
8.	EO, Municipal Council, Paonta Sahib	Member
9.	Regional Officer, HPSPCB, Paonta Sahib	Member Secretary

7.7 Kala Amb-Non-Attainment City:

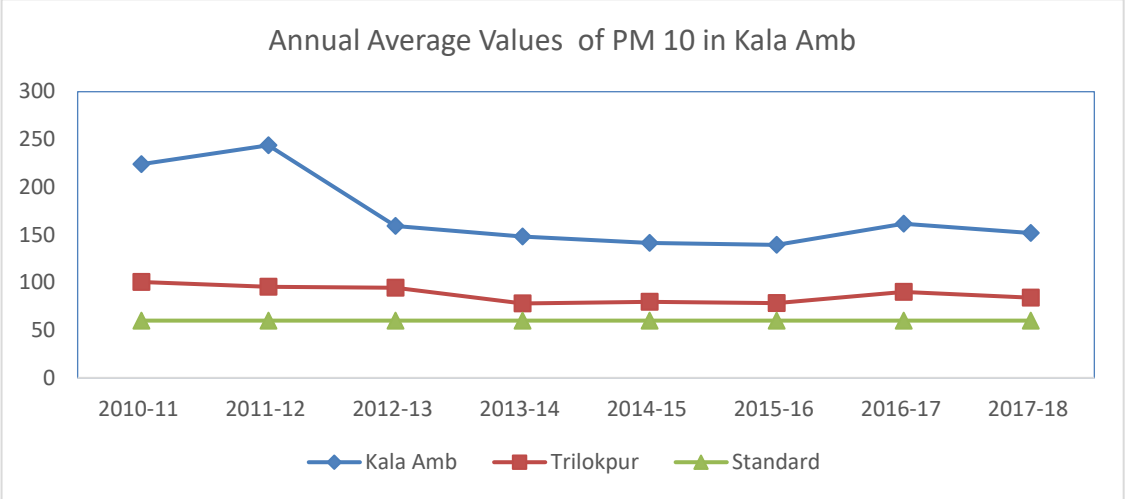
Kala Amb is an emerging town for industries as it hosts production units for paper, metal, chemicals, and textile units.There are about 51 red and orange categories air polluting industrial units at Kala Amb. This town is on the border of Haryana, hence half of the town falls in Haryana and the industrial area is situated in Himachal only.

Kala Amb town is increasing in area due to an increase in industrialization. Now the boundaries of the town have reached until the village Trilokpur which is famous for Bala Sundri Temple in northern India. The major sources of air pollution in the area are vehicular emission, road dust, construction activities and industrial emissions.

7.7.1 Ambient Air Quality Status of Kala Amb- Non-attainment cities:

Ambient air quality is being monitored at 2 locations namely Kala Amb and Trilokpur under National Ambient Air Quality Monitoring Program. The annual average values of SO_2 and NO_x at both the NAMP stations were observed well below the permissible limit.

The annual average values of RSPM (PM10) at both the NAMP stations were observed above the permissible limit for the last 8 years. The trends of annual average of RSPM (PM10) for the last 8 years are shown below:



Monitoring mechanism for implementation of action plan in Kala Amb Non-attainment city:

A committee comprising of following officers shall be responsible for implementation of approved action plan for the control of air pollution in the respective area and shall submit its report to the AQMC on monthly basis.

1.	Deputy Commissioner/District Magistrate, Sirmour	Chairman
2.	Superintendent of Police, Sirmour	Member
3.	Regional Transport Officer, Sirmour	Member
4.	Executive Engineer, HPPWD, Nahan	Member
5.	General Manager, DIC Nahan	Member
6.	DFO, Nahan, district Sirmour	Member
7.	Deputy Director, Department of Agriculture, Sirmour	Member
8.	Member Secretary, SADA	Member
9.	BDO, Development Block Nahan	Member
10.	Regional Officer, HPSPCB, Paonta Sahib	Member Secretary

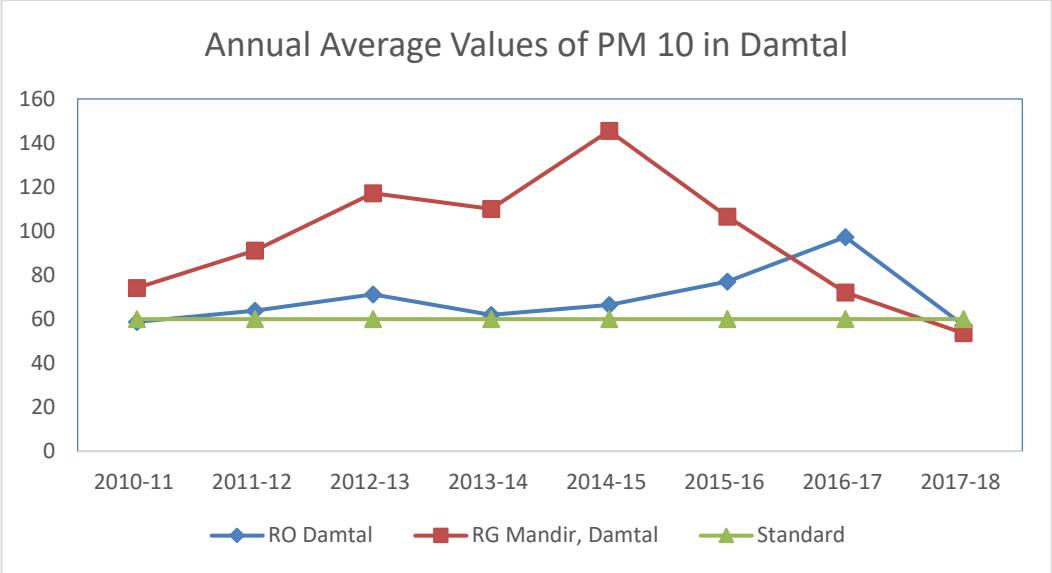
7.8 Damtal-Non-Attainment City

Damtal is a village in Indora Block of Kangra district in Himachal Pradesh. It is a rural area of Kangra district and is one of the 210 villages of Indora Block. The major industries at Damtal are Aluminium sheet and foil, Agriculture, cattle feeds, cement block, Hotels, Hot Mix Plants, Floor Mills and Stone crushers.

There are about 71 red and orange categories air polluting industrial units in the area. The major sources of air pollution in the area is vehicular emission, road dust, construction activities and industrial emissions.

7.8.1 Ambient Air Quality Status Damtal - Non-attainment cities:

Ambient air quality is being monitored at 2 locations namely RO Damtal and Ram Gopal Mandir, Damtal under National Ambient Air Quality Monitoring Program. The annual average values of SO_2 and NO_x at both the NAMP stations were observed well below the permissible limits and the annual average values of RSPM (PM10) at both the NAMP stations were observed sometimes above or below the permissible limits. The trends of annual average of RSPM (PM10) for the last 8 years are shown below:



Monitoring mechanism for implementation of action plan in Damtal Non-attainment city:

A committee comprising of following officers shall be responsible for implementation of approved action plan for the control of air pollution in the respective area and shall submit its report to the AQMC on monthly basis.

1.	Deputy Commissioner/District Magistrate, Kangra	Chairman
2.	Superintendent of Police, Kangra	Member
3.	Regional Transport Officer, Kangra at Dharamshala	Member
4.	Executive Engineer, HPPWD,Fatehpur, Kangra	Member
5.	General Manager, DIC,Kangra	Member
6.	DFO Nurpur, district Kangra	Member
7.	Deputy Director, Department of Agriculture, Kangra	Member
8.	BDO, Development Block, Indora	Member
9.	Regional Officer, HPSPCB, Dharamshala	Member Secretary

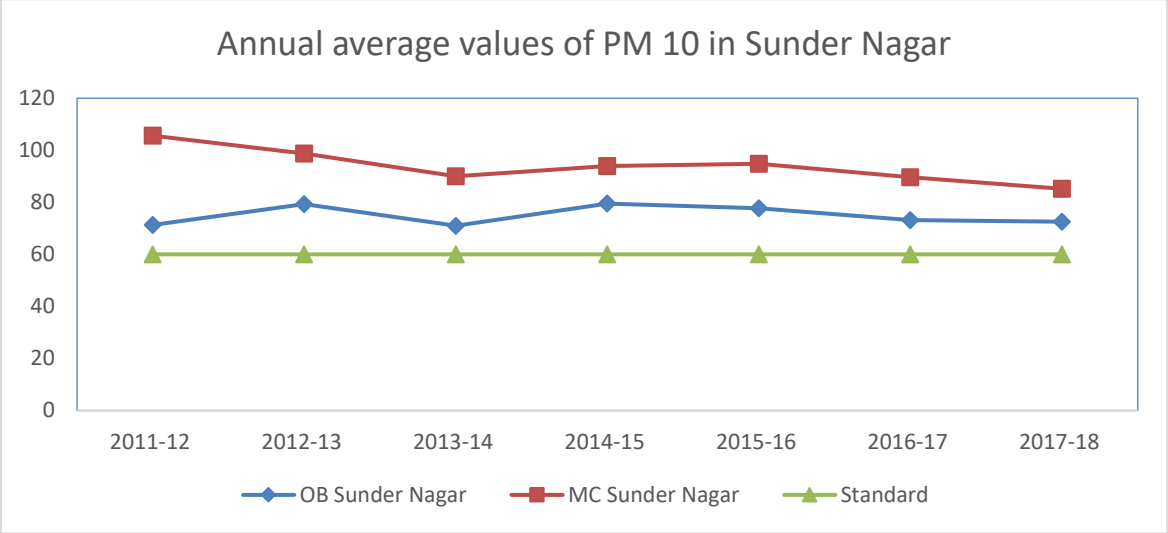
7.9 Sunder Nagar-Non-Attainment City

Sunder Nagar is situated on National Highway 21, and is major town of district Mandi, and is well-connected by road to other places. The major industries in and around Sunder Nagar are Food Processing units, Brick Kilns, Batching Plants and Stone crushers only.

There are about 13 orange categories air polluting industrial units in the area. The major sources of air pollution in the area are vehicular emission, road dust and construction activities.

7.9.1 Ambient Air Quality Status Sunder Nagar- Non-attainment city:

Ambient air quality is being monitored at 2 locations namely OB Sunder Nagar and MC Sunder Nagar under National Ambient Air Quality Monitoring Program. The annual average values of SO_2 and NO_x at both the NAMP stations were observed well below the permissible limits. The annual average values of RSPM (PM10) at both the NAMP stations were observed above the permissible limit. The trends of annual average of RSPM (PM10) for the last 7 years are shown below:



Monitoring mechanism for implementation of action plan in Sunder Nagar Non-attainment City:

A committee comprising of following officers shall be responsible for implementation of approved action plan for the control of air pollution in the respective area and shall submit its report to the AQMC on monthly basis.

1.	Deputy Commissioner/District Magistrate, Mandi	Chairman
2.	Superintendent of Police, Mandi	Member
3.	Regional Transport Officer, Mandi	Member
4.	Executive Engineer, HP PWD, Sunder Nagar	Member
5.	Conservator of Forest, Mandi	Member
6.	Deputy Director, Department of Agriculture, Mandi	Member
7.	EO, Municipal Council, Sunder Nagar	Member
8.	Regional Officer, HPSPCB, Bilaspur	Member Secretary

8. Industrial Clusters in Himachal Pradesh

The Industrial Journey of Himachal Pradesh has been spectacular to reach its pinnacle. Despite being a geographically challenged State, Himachal is a classic example of rapid transformation from a backward to a relatively advanced State of India. In the early era, Himachal Pradesh had only a few industries like Mohan Meakins Breweries at Kasauli and Solan, Salt Mines at Drang (Mandi), Nurpur Silk Mill and Co-operative Tea Factory, at Palampur, Rosin & Turpentine Factories at Nahan & Bilaspur and four small gun factories at Mandi were the main industrial enterprises functioning in the State.

The industrial renaissance began in 2003 when the then Prime Minister, Late Shri Atal Behari Vajpayee government announced an industrial package for Himachal Pradesh, which brought major industries to districts of Solan, Sirmour and Una, significantly altering the state's industrial landscape forever.

With a mere 5% contribution of the Manufacturing sector to State GDP in 1971- 72, today this Sector boasts of contributing 30%.The State has more than 29,900 units with a total project cost of more than Rs. 63,000 Cr and generates employment of approximately 2,37,000. The State Government offers liberal incentives for MSMEs and large units under the Himachal Pradesh Industrial Investment Policy 2019.

In FY 2003, the total exports from the State were at INR 550 Cr, and in FY 2022 it reached INR16,009 Cr.In Himachal Pradesh, 60 Industrial areas and 17 industrial estates have been developed and State Government has now focused on sector-specific parks such as Bulk Drug Park, Medical Devices Park, Plastic Park, Electronic Manufacturing Cluster etc.

8.1 Ease of Doing Business

Since the attainment of Statehood in 1971 State Government has always been proactive in facilitating Investor but the process of Ease of Doing Business got momentum in real sense from 2014-15 onwards when DPIIT started recommending annual Business Reforms action Plan every year to create an ecosystem of competitiveness amongst the States.

Since every State/UT is constantly improving its practices/ procedures to facilitate the existing and new industries, it is pertinent that Himachal Pradesh shall also keep improving its business environment. Against this backdrop, it is heartening to note that the State Government's has made consistent efforts in improving ease of doing business and creating enabling investment ecosystem through transparency and time-bound clearances that will drive sustainable economic growth.

For improving the overall business regulatory environment in the State, one of the important agenda of Himachal Government is to minimize the Regulatory Compliance Burden (MRCB) for the Businesses as numerous regulatory compliances only confuse the entrepreneurs and brings in hesitation in the minds of investors. Departments of the State are focusing on simplicity of processes, timely delivery of services and in creating solutions to local problems, by using technology that promotes the ease of living and of doing business.

Past five years have seen a drastic shift in the approach towards improving governance as State has done many reforms aiming at improving the business environment in a mission mode. The State took the corrective action and focused approach to remove the bottlenecks identified, which resulted in Himachal being acknowledged as the "Best Improvers since 2015" in 2019 by securing the 7th rank and was in "Achievers" category in 2020 ranking.

The State is working proactively to make Governance visible & responsive and has taken various initiatives for Reducing Compliance Burden/ Ease of Living. Himachal Pradesh has uploaded more than 2000 compliances under the Minimizing Regulatory Compliance Burden exercise on the online portal with engagement of more than 45 departments. State Government since 2020 is working on the agenda of Reducing Compliance Burden/ Decriminalization of Minor Offences under the guidance of DPIIT, GoI.

"Single Window Portal- Emerging Himachal for Business services and Himachal Online Sewa Portal- E-District Himachal for Citizen related services" are fully functional to provide one stop solution to all Business/Industries and Citizens service. Improving all the existing services through referring/analysing best practices of the leading States/UTs in India and at global level to provide hassle-free services and make Himachal a more competitive and favorable destination of investment.

The Industries Department grant in in-Principal approval for the project proposals received on Himachal Pradesh Single Window System after obtaining comments of the regulatory Department i.e. HPPCB, HPSEBL, JSV, Labour & Employment etc.

After granting in-principle approvals the unit have to obtain all project specific approvals/clearances from the concerned regulatory authorities of Central & State Govt. as applicable prior to implementation of the project or before starting commercial production as applicable, failing which unit will be held liable for any consequences

without giving opportunities of being heard. Any violation on the part of the unit will attract action under relevant rules/laws. The unit has also to employ at all levels at least 80% (or as prescribed from time to time) of total manpower, whether on regular/ Contractual/ Sub-contractual/ daily basis/ or any other mode from amongst bonafide Himachali.

The Site /location for setting up of the project should conform to the sitting criteria and other environmental considerations as prescribed by the concerned State/ Centre Govt. Departments/ Organizations. In order to reduce requirement of fresh water, it is advised to recycle used/ waste water for the use.

During the year 2023-24 (upto 30.11.2023), 227 projects proposals for setting up new industrial enterprises/undertaking substantial expansion have been approved in-principle by the State

Review Committee and State Single Window Clearance & Monitoring Authority. The Distt.-wise detail is as under:

Sr. No.	Name of District	No. of Projects.
1.	Solan:- Baddi Nalagarh Parwanoo/Solan	 96 59 02
2.	Sirmour:- Kala Amb Paonta Sahib	 16 15
3.	Una	22
4.	Kangra	15
5	Kullu	01
6.	Shimla	01

Besides, 46 projects proposals for setting up new industrial enterprises/undertaking substantial expansion are under pipeline.

MSME Clusters sanctioned under MSE-CDP scheme of Govt. of India in Himachal Pradesh

#	Name of Project	Project Cost	Year of sanctioned
1.	General Engineering Cluster, Tahliwal, Distt. Una.	GIA from GoI = 1259.93 HP Govt. Share = 173.21 SPV Share = 298.91 Total =1732.05 (Lakh)	18.08.2021.
2.	Up-gradation of Infrastructure Development, Sector-2 Industrial Area, Parwanoo	GIA from GoI = 757.85 HP Govt. Share = 456.65 Total= 1214.50 (Lakh)	05.07.2021
3.	Up-gradation of Industrial Infrastructure (Roads, Drain & Street Light) In Industrial area at Jeetpur Behri, in Tehsil Chanri, Distt. Una (H.P)	GIA from GoI= 800 HP Govt. Share = 423.59 Total=1223.59 (Lakh)	17.07.2023
4.	Up-gradation of Industrial Infrastructure (Roads & Drains) in Industrial area	GIA from GoI= 791.55 HP Govt. Share = 213.76 Total=1005.31 (Lakh)	12.06.2023

	Khadeen (H.P)		
5.	Up-gradation of Industrial Infrastructure (Roads & Drains) in Industrial area Phase-1, Gondpur, Distt. Sirmour	GIA from GoI= 800 HP Govt. Share = 205.77 Total= 1005.77 Lakh)	17.07.2023

Above mentioned projects are under implementation and include the upgradation of industrial infrastructure, drainages, roads, and focusses on the conveyance, treatment, recycling and reuse of waste water, the management of sewage sludge, monitoring systems, and improving processes in these Industrial Areas/ Estates.

8.2 Ongoing/ Upcoming Major Projects

8.2.1 Bulk Drug Park

The Department of Pharmaceuticals (DoP), Ministry of Chemicals and Fertilizers, GoI notified the Guidelines of the Scheme "Promotion of Bulk Drugs Parks" vide Gazette notification no. - 31.026/16/2020, dated - 21/07/2020. Under the scheme, one- time grant-in-aid of INR 1000 Cr or 90% of the project cost in case of Hilly States. A total 3 Bulk Drug Parks have been selected across the country through competitive bidding.

A Government land measuring 1,405 acre in Haroli Tehsil of Una District has been allocated for setting up the upcoming Bulk Drug Park with all the supporting infrastructure and amenities. The total cost of the project is INR 1,923 cr for the development of common infrastructure in the Bulk Drug Park.

Department of Pharmaceuticals, GoI has accorded final approval for the project in October 2022. The State Government received the 1st instalment of grant-in-aid of INR. 225 Cr. from the Department of Pharmaceuticals, GoI for the development of Common Infrastructure Facilities for the Bulk Drug Park in Una. The State has also deposited its share of INR 35.54 cr in the escrow account of SIA i.e., “Himachal Pradesh Bulk Drug Park Infrastructure Limited”.

Proposed Common Infrastructure Facility for the Bulk Drug Park are mentioned below:

a. CETP with ZLD (5 MLD)
b. Solid Waste Management (50,000 Tonne per Annum)
c. Storm Water Drain Network
d. Common Solvent Storage, Recovery & Distillation
e. Common Warehouse
f. Power (100-120 MW)
g. Raw, Potable and Demineralised Water
h. Steam Generation and Distribution (300 TPH)
i. Internal Road, Fencing, Bridge, Widening of Approach Road
j. Advance Laboratory Testing Centre
k. Emergency Response Centre
l. Safety/ Hazardous Operations Audit Centre
m. Centre of Excellence

The project has the potential to attract investment in the range of INR 8000-10,000 cr. and expected to generate employment opportunities to 15,000-20,000 persons. It will provide huge impetus to socio-economic development of the region around the park.

Technical Coloration: Government of Himanchal Signed MoU with National Institute of Pharmaceutical Education and Research (NIPER), Mohali as Knowledge Partner to support State Government and SIA in

technological and Knowledge driven aspects of Bulk Drug Park which include research and development, technology transfer, skill development, incubation, quality management, audit, etc.

8.2.2 Medical Devices Park

The Department of Pharmaceuticals (DoP), Ministry of Chemicals and Fertilizers, GoI notified the Guidelines of the Scheme "Promotion of Medical Devices Parks" vide Gazette notification no. - 31026/08/2020-MD, dated - 21/07/2020. Under the scheme, one- time grant-in-aid of INR 100 Cr. for the development of CIF in the proposed Medical Devices Park. Total Four Medical Devices Parks were to be selected across the country.

The State Government has identified land in Nalagarh Tehsil of District Solan admeasuring and area of approx. 265 acres of land. The total project cost for the medical devices parks is INR 350 cr. "The Himachal Pradesh State Industrial Development Corporation Limited" is the State Implementing Agency (SIA) for the development of Medical Devices Park in the State.

Proposed Common Infrastructure Facility for the Medical Devices Park are mentioned below:

a. 3D Design, Rapid Prototyping, Tooling Lab
b. Mechatronics, Medical Robotic Lab
c. Sensor Testing & Integration Facility
d. Component, ESDM, EMC & EMI Component Testing and Design Facility Lab
e. Biocompatibility and Biomaterial Testing Lab
f. Gama Irradiation Lab
g. Software, Data Analytics Zone and Internet of Medical Technology (IoMT) Lab)
h. Centre of Excellence, Skill Development and Incubation Centre
i. Medical Devices Park has the potential to attract an investment of approx. INR 5,000 cr. and able to generate an employment of approx. 10,000 persons.

Department of Pharmaceuticals, GoI has accorded final approval for the project in February 2022. The Department of Pharmaceutical, GoI has already released its first instalment of Cr grant-in aid (around INR 30 Cr) and the State government has also released proportionate share of INR 74.95 Cr to the State Implementing Agency for the development Himachal Medical Device Park.

Technical Collaboration: Government of Himanchal has Signed MoU with National Institute of Pharmaceutical Education and Research (NIPER), Mohali as Knowledge Partner to support State Government and SIA in technological and Knowledge driven aspects of Medical Devices Park which include research and development, technology transfer, skill development, incubation, quality management, audit, etc

During the year 2023-24, 141 project proposals for setting up industrial enterprises and for undertaking substantial expansion have been approved in-principle by the State Single Window. In addition, 30 proposals under pipelining.

District-wise details of these proposals are as under: -

S.No.	District	Projects approved In-principle	Project Proposals under Pipeline	Remarks
1	Solan	88	20	Category-wise detail: 1. Pharmaceutical=49 2. General Engineering=23 3. Food Processing= 8 4. Corrugated Boxes =11 5. Steel = 6 6. Textiles = 3
2	Sirmaur	17	3	
3	Una	18	4	
4	Kangra	15	-	
5	Kullu	1	-	
6	Mandi	1	1	
7	Shimla	1	2	

Total	141	30	7. Others (Cosmetics, Ethanol, Mineral Water, toughned Glass, Foil Printing, etc.) = 41 Total = 141

Industries Department approves the project proposals in-principle after due inter sectoral consultation and after obtaining seeking comments from the concerned regulatory authorities i.e. HPPCB, HPSEBL, JSV, Labour & Employment etc.

9. STP Recycling of Treated Wastewater

There are total 60 Towns/ Urban Local Bodies in Himachal Pradesh (*Anni town has been de-notified vide Pr. Secy (UD) No. UD-A(3)-2/2020 dated 11.07.2023)*. Jal Shakti Vibhag has a mandate for providing sewerage system for 59 Towns/ ULBs, whereas Shimla Jal Prabandan Nigam (SJPNL) is providing sewerage facility to 1 No. Town i.e. Shimla Town.

The sewerage facility has been provided in 36 towns of Himachal Pradesh. Sewerage system of 35 towns is being executed, implemented, operated and looked after by JSV whereas, SJPNL is looking after sewerage system of Shimla Town.

Out of which 13 towns have been provided with complete sewerage system and 23 towns have been partially covered with sewerage system (i.e. few zones/ areas have been left out of coverage due to merger of area, expansion of population etc.).

9.1 Sewage Generation and Capacity

As on Nov, 2023, the total sewage generation is 91.95 MLD in 60 Towns/Urban Local Bodies of the State (Anni town has been de-notified vide Pr. Secy (UD) No. UD-A(3)-2/2020 dated 11.07.2023). Himachal Pradesh has 67 STPs having installed capacity of 121.903 MLD and sewage flow reported as 83.667 MLD. In addition to above sewerage facility has been provided through Septic tank in 4 Towns i.e. Kotkhai, Mehatpur, Sarkaghat and Bilaspur.

9.2 Projections for Sewage Generation for in next ten years i.e. till year 2035

Based on the projected population growth (Decadal growth @ 12.94 %) and rate of water supply (135 LPCD) as per urban norms the Estimated Sewage generation after 15 years (2035) has been reassessed as 129.25 MLD.

Sr. No	Location	Status
1.	Shamshi, Distt. Kullu	A STP of 60 KLD capacity has been proposed to be set up at Industrial Area Shamshi, Distt. Kullu which is under construction.
2.	Paonta Sahib	An STP has been proposed for the Industrial cluster at IA Gondpur.

9.3 STPs installed in industries are being regulated by HPSPCB.

Re-use of treated Wastewater:

In compliance to order dated 21.05.2020 of Hon'ble National Green Tribunal in OA No. 593/2017, the Secretary (Env. Sci & Tech.) to Govt. of HP has constituted a committee vide his office order no. STE-E (3)-34/2017 dated 06.06.2020 consisting of following members:

1. Director (Urban Development), GoHP — Member
2. Director (Rural Development), GoHP — Member
3. Director (Env., Sci. & Tech), GoHP — Member
4. Member Secretary, H.P. State Pollution Control Board — Member
5. Engineer-in-Chief, JSV — Nodal Member/ Convenor

Accordingly, Nodal Member/ Convenor -cum- Engineer-in-Chief (JSV) vide his office letter No. JSV-SE-(P&I-I) D-I-NHT (593)/ 2020-21-2561-66 dated 21.12.2020 has submitted the Action Plan which has been approved by worthy Chief Secretary, GoHP as conveyed vide Secretary (JSV) vide letter No. IPH-B (E) 4-12/2017-I dated 09.08.2021 and the following action has been envisaged for treated wastewater reuse:

1. As per the adopted Action Plan, the STPs have been proposed for up gradation to achieve the admissible limits of vital parameters.
2. Arrangement for collection of the Treated Waste Water (TWW) at the outlet of the STPs (having tertiary treatment facility) will be provided at all STPs for industry, citizens and bulk water users for secondary purposes and processes that do not require direct human contact. The state will not levy user charges from such users, however, the users will have to make their own arrangements to carry the treated waste water either through tankers or pipe lines.
3. The bulk water users will be identified by Industries Department/ HPSPCB in the industrial areas for use of the treated waste water and it shall be ensured that these users utilize the treated waste water as proposed above.

Present Status:

S. No	Action Points	Action require under Rules/ Act /	Implementation Status
1	STPs and re-use of Treated water	Status of STPs installed (Distt. Wise.) (No. of STP)	
		Bilaspur -7	Bilaspur -2
		Chamba -7	Chamba -4
		Hamirpur-9	Hamirpur-7
		Kangra-29	Kangra-15
		Kinnaur-	Kinnaur-
		Kullu -9	Kullu -7
		Lahaul & Spiti -	Lahaul & Spiti -
		Mandi-9	Mandi-6
		Shimla-15	Shimla-9
		Sirmour-8	Sirmour-3
		Solan -11	Solan -5
		Una-9	Una-3
	JSV	113 STPs- (192.727 MLD)	61 STPs (89.143 MLD)
	SJPNL (Shimla Town)	9 STPs- (54.56 MLD	6 STPs- (32.76 MLD)
	Total	Total -122 STPs- (247.287 MLD)	Total -67 STPs- (121.903 MLD)

Source: JSV

10. Common Effluent Treatment Plants in HP

Status of Effluent Treatment Plants in the State is as under

Number of Red, Orange, Green and White industries in the District	[418 Nos of Red industries], [3658 Nos of Orange industries], [6182 Nos of Green industries],[193 Nos of White industries]
No of Industries discharging wastewater	2677
Total Quantity of industrial waste water generated	48.59 MLD
Quantity of treated industrial waste water discharged into Nalas/ Rivers	37.67 MLD
Common Effluent Treatment Facilities	1 CETP at Baddi operational 1 CETP at Kala Amb (Phase-I 2.5 MLD) under commissioning 1 CETP at Paonta Sahib proposed
No of Industries meeting Standards	16 ETPs were non-complying as per the Monthly Progress report of month September 2023.
No of Industries not meeting discharge Standards	

Source: JSV

CURRENT STATUS RELATED TO INDUSTRIAL WASTE WATER MANAGEMENT

#	Location	Status
1.	Kala Amb, Distt. Sirmour	A CETP has already been set up by the Department of Industries with a total capacity of 2.5 MLD which is partially operational. Currently, 55 (only Pharma Industries) have been covered in 1st Phase.
2.	Baddi – Barotiwala - Nalagrah Distt. Solan	In Baddi, there are more than 2400 Industries which includes 2100+ MSMEs. CETP has been set up at Kenduwal by the Department of Industries with a total capacity of 25 MLD which is fully operationalization and only 20 MLD is being utilized. Currently 460 member industries are connected and send their effluent for treatment in CETP, Kenduwal, Baddi. The sewage tank are being cleaned from time to time

Source: JSV

ETPS INSTALLED IN INDUSTRIES ARE BEING REGULATED BY HPSPCB.

Status of STP/CETP in the State is as under:

Sr. No	Location	Status
1.	Shamshi, Distt. Kullu	An STP of 60 KLD capacity has been proposed to be set up at Industrial Area Shamshi, Distt. Kullu which is under construction.
2.	Kala Amb, Distt. Sirmour	The Department of Industries has already set up a CETP with a total capacity of 2.5 MLD which is partially operational. Currently, 55 (only Pharma Industries) have been covered in 1st Phase.
3.	Baddi – Barotiwala - NalagrahDistt. Solan	In Baddi, there are more than 2400 Industries which includes 2100+ MSMEs. CETP has been set up at Kenduwal by the Department of Industries with a total capacity of 25 MLD which is fully operationalization and only 20 MLD is being utilized. Currently 460 member industries are connected and send their effluent for treatment in CETP, Kenduwal, Baddi. The sewage tank are being

		cleaned from time to time
4.	Paonta Sahib	An STP has been proposed for the Industrial cluster at IA Gondpur.

Source: SPCB

11. GROUND WATER EXTRACTION AND RECHARGE

Himachal Pradesh is one of the northern most states with an area of 55673 sq. kms. The major river systems of the region are the Chenab, the Ravi, the Beas, the Sutlej, and the Yamuna. The catchments of these rivers are fed by snow and rainfall and are protected by fairly extensive cover of natural vegetation.
The rainfall in the state varies from 900 to 2000 mm. In the high-altitude areas where rainfall is as low as 200 - 800 mm, snow is the major source of precipitation. Average rainy/snowfall days varies from 50 - 75 / year.

Central Ground Water Board (CGWB) has established 140 Ground Water Monitoring Stations (GWMS) to monitor water level and quality in the alluvium/ valley fill areas of the State. The monitoring is being carried out 4 times in a year i.e., in the month of May, August, November and January. These GWMS are spread over 9 districts namely Bilaspur, Chamba, Kangra, Una, Hamirpur, Solan, Sirmour, Mandi and Kullu. Post monsoon water level data of the November 2022 reveals that the depth to water level ranges between 0.54 m (Kangra district) & 36.25 m bgl (Sirmour district).

Out of the 140 wells monitored, the majority of GWMS (75%) recorded DTW in the range between 2 - 20 m bgl. 19% stations recorded shallow water levels, less than 2 m bgl and 6% station recorded deep water levels more than 20 m bgl in the State.

Rainfall though is abundant, often not available precisely as and when required for domestic or irrigation purpose. This situation has resulted from time immemorial to supplement and conserve the rainfall by construction of wells, storage reservoirs and by bunding the streams. All the traditional water harvesting practice developed are necessitated by the need, scarcity of water resources and terrain conditions. These practices differ depending upon the terrain.

Roof top rain water is common in State. All new government buildings have adopted rooftop rainwater harvesting in the state. Traditionally, roof top water after the first shower, was collected in small subsurface tanks for utilizing during the lean period. This practice was also adopted by the Britishers in all the hill stations like Kasauli, Dagshai, Shimla, Dalhousie etc.

All of this traditional water harvesting practice were maintained and used by the people themselves. These were eco-friendly and socially accepted. Most of these traditional practices has been abandoned or become defunct. Piped water supply has been made available to all the villages in the Himachal Pradesh from various sources like springs, infiltration galleries, streams etc.

Both land and water resources are being degraded for fulfilling the needs of ever-increasing population and by not adopting eco-friendly practices for water harvesting. Now there is an urgent need for the revival of our traditional water harvesting practices by adding modern technology inputs. This will solve the water problems to a larger extent.

SOURCE WATER AVAILABILITY

The State is having abundance of surface water sources, major rivers like the Chandra-Bhaga, the Beas and the Ravi are originating in the Central part of the State whereas Sutlej and Yamuna rivers pass through the State. Water is contributed to the rivers both by rainfall and snowfall received in the catchment area. Major dams, such as Bhakra dam with a storage capacity of 9621 MCM (7.8 MAF) on Sutlej River and Pong dam with a storage capacity of about 7290 MCM (5.91 MAF) are constructed on the Beas River. At Pandoh, another dam with a gross storage capacity of 1400 Ham, has also been constructed to divert the water from the Beas River to Bhakra dam.

On the Ravi River, a reservoir named as Chamera dam has been constructed for power generation. Thein dam is under construction. All the water of the Sutlej, the Beas and the Ravi are being utilized for power generation and irrigation in Punjab, Haryana and Rajasthan States. Water of the Chandra-Bhaga River remains un-utilized in the State. In most of the areas in the hilly region, there is a tradition to divert stream flow by making full use of slope for irrigating the fields by short approach channels locally called Kulhs. In high hill areas, spring water is being utilized for irrigation.

In the lower areas of Siwalik where perennial water sources are limited ponds/ tanks locally called Talabs are the major source of water supplies. These Talabs are generally constructed adjacent to the rivulets or in low topography areas for collection of rain waters. Almost all the villages in Hamirpur, Bilaspur, Sirmaur, Solan, Una and Kangra districts have such talabs used for domestic purposes.

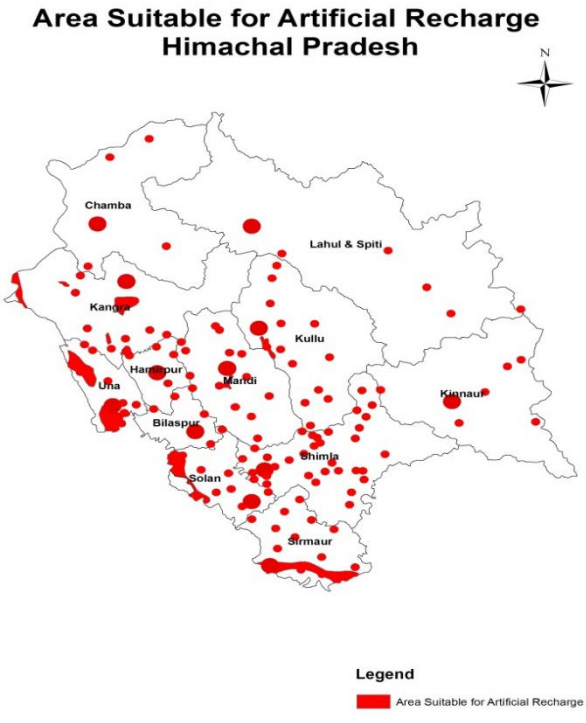
ASSESSMENT OF DYNAMIC GROUND WATER RESOURCES IN H.P.

Assessment of ground water resources of Himachal Pradesh as on March 2023 have been calculated for ten valley areas.

ARTIFICIAL RECHARGE & COST ESTIMATES

The state primarily consists of a hard rock and Alluvial aquifer system, and the measures implemented to recharge the aquifer systems include such as tanks, check dams, Dykes, Contour trenching for spring shed area which are the most suitable methods for the purpose.

NAQUIM 1.0: Central Ground Water Board, Northern Himalayan Region, Dharamshala has taken up National Aquifer Mapping and Management (NAQUIM) in Himachal State in the year 2012 and completed on March 2022 for the entire mappable area (55673 sq km) of the state. The total number of structures proposed in NAQUIM 1.0 (Valley fills and Low hills/Semi-Consolidated) are Gabion Structures-71104, Check Dams-1836, Sub-Surface Dykes-460, Check dam cum sub surface dykes- 784, Modification of village tanks-579, Modification of village ponds-765, Recharge shaft-362, Injection well-133, Roof top rain water harvesting-35903, Nala Bunds-203, Contour Trenching-147840are recommended in 55673 sq kms area.



The number of artificial recharge structures recommended in NAQUIM is based on the source water availability in the identified area. As there is a dearth on the availability of existing structures constructed by various government agencies, the recommended figures were on higher side. However, with the availability of data on existing structures, the management measures have been revised based on the variables such as topography, geomorphologic units, geologic units, depth of occurrence of ground water level and ground water issues, which was finally issued as District Recharge plan that reflects the actual implementable management plan for a district.

Thus, the number of Artificial Recharge structures feasible has been recommended in areas, by considering the available surplus yield and available sub surface storage space and number of existing structures. The unit cost of construction for check dam is Rs.20 Lacs, Sub-Surface Dykes is Rs 3.8 lacs, Check dam cum sub surface dykes is Rs. 23.80 lacs, Modification of village tanks is Rs. 6.50 lacs, Modification of village ponds is 6.50 lacs,

Recharge shaft is Rs.5.25 lacs, Injection well is Rs. 1.50 lacs, Roof top rain water harvesting is Rs.1.50 lacs, Nala Bunds is Rs.4 lacs, Contour Trenching is 375 Rupees per Trench.

The total outlay is estimated to be Rs. 136938.09 lacs for Total No. of Structures 259969 (Valley fills and Low hills/Semi-Consolidated) areas in the state.

Table -1
Assessment of Dynamic Ground Water Resources of Himachal Pradesh (as on March 2023)

S.N.	Assessment Unit/District	Area (ha)	Rainfall Recharge	Recharge from other sources	Ground Water Recharge (ham) Col(4+5)	Environ-mental Flows	Annual Extractable Ground Water Resource (ham) Col(7-6)	Ground Water Extraction for all Uses	Provision for domestic supply upto 2025	Net Ground Water Availability for future use (ham)	Stage of Ground Water Development (%)
1	2	3	4	5	6	7	8	9	10	11	12
1	Nurpur Indora Valley	102400	24207.80	17407.00	41614.8	4161.48	37453.32	8660.27	2967.61	28793.05	23.12
2	Dharmshala Palampur Valley	45200	13323.13	370.60	13693.73	1369.37	12324.36	2922.60	2921.34	9401.76	23.71
3	Balh Valley	10700	3032.24	83.02	3115.26	311.52	2803.74	895.65	632.73	1908.09	31.94
4	Chauntra Valley	5200	1424.75	3846.61	5271.36	263.57	5007.79	217.18	217.18	4790.60	4.34
5	Paonta Valley	27600	8184.12	199.14	8383.26	838.33	7544.93	1556.75	759.20	5988.18	20.63
6	Kala Amb Valley	8200	1666.89	25.45	1692.34	169.23	1523.11	423.58	202.85	1099.53	27.81
7	Nalagarh Valley	33600	7630.74	8560.12	16190.85	809.54	15381.31	8781.84	1213.01	6599.47	57.09
8	Una Valley (Satluj Basin)	104500	13207.30	6499.42	19706.71	1970.67	17736.04	11345.48	2814.33	6390.56	63.97
9	Una Valley (Beas Basin)	6500	1018.11	38.41	1056.52	105.65	950.87	247.17	122.52	703.70	25.99
10	Hum Valley	2900	590.02	175.94	765.96	38.3	727.66	409.70	103.94	317.96	56.30
	TOTAL	346800	74285.1	37205.71	111490.8	10037.66	101453.1	35460.22	11954.71	65992.9	34.95

Table-2

DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN HIMACHAL PRADESH

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 55673 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 3475 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: 10104 sq. km)			Igneous / Crystalline / Consolidated / High Hill Ranges (Area: 42094 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	28535	0.50	14267.50	85138	0.50	42569.00	113673	56836.50
2	Check dams	0	20.00	0.00	1836	20.00	36720.00	967	20.00	19340.00	2803	56060.00
3	Sub-surface dykes	394	3.80	1497.20	66	3.80	250.80	0	3.80	0.00	460	1748.00
4	Check dam cum sub surface dykes	784	23.80	18659.20	0	23.80	0.00	0	23.80	0.00	784	18659.20
5	Modification of village tanks	304	6.50	1976.00	275	6.50	1787.50	18	6.50	117.00	597	3880.50
6	Modification of village ponds	396	6.50	2574.00	369	6.50	2398.50	62	6.50	403.00	827	5375.50
7	Recharge shaft	213	5.25	1118.25	149	5.25	782.25	0	5.25	0.00	362	1900.50
8	Injection well	131	1.50	196.50	2	1.50	3.00	0	1.50	0.00	133	199.50
9	Roof top rain water harvesting	35278	1.50	52917.00	625	1.50	937.50	525	1.50	787.50	36428	54642.00
10	Nala Bunds	0	4.00	800.12	203	4.00	0.00	80118		0.00	80321	800.12
11	Contour Trenching	0	357.00	0.00	147840	357.00	52.77	0	357.00	0.00	147840	52.77
TOTAL		37500		79738.27	32060		57199.82	166828		63216.50	384228	200154.59

Table-3

DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN BILASPUR DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 1167 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 50 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: 902 sq.km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 215 sq.km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	9540	0.50	4770.00	430	0.50	215.00	9970	4985.00
2	Check dams	0	20.00	0.00	668	20.00	13360.00	10	20.00	200.00	678	13560.00
3	Sub-surface dykes	5	3.80	19.00	66	3.80	250.80	0	3.80	0.00	71	269.80
4	Check dam cum sub surface dykes	24	23.80	571.20	0	23.80	0.00	0	23.80	0.00	24	571.20
5	Modification of village tanks	7	6.50	45.50	181	6.50	1176.50	0	6.50	0.00	188	1222.00
6	Modification of village ponds	42	6.50	273.00	180	6.50	1170.00	0	6.50	0.00	222	1443.00
7	Recharge shaft	5	5.25	26.25	18	5.25	94.50	0	5.25	0.00	23	120.75
8	Injection well	2	1.50	3.00	2	1.50	3.00	0	1.50	0.00	4	6.00
9	Roof top rain water harvesting	0	3.50	0.00	50	3.50	175.00	50	3.50	175.00	100	350.00
10	Contour Trenching	0	357.00	0.00	102639	357 (Rupees)	37	0	357.00	0.00	102638.6842	37.00
TOTAL		85		937.95	113343.6842		21036.80	490		590.00	113918.6842	22564.75

Table-4

DETAILS OF RTRWH / ARTIFICIAL RECHARG E STRUCTURES PROPOSED IN CHAMBA DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 6528 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 100 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges(Area: 360 sq. km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 6068 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	720	0.50	360.00	12136	0.50	6068.00	12856	6428.00
2	Check dams	0	20.00	0.00	50	20.00	1000.00	140	20.00	2800.00	190	3800.00
3	Sub-surface dykes	10	3.80	38.00	0	3.80	0.00	0	3.80	0.00	10	38.00
4	Check dam cum sub surface dykes	20	23.80	476.00	0	23.80	0.00	0	23.80	0.00	20	476.00
5	Modification of village tanks	4	6.50	26.00	0	6.50	0.00	0	6.50	0.00	4	26.00
6	Modification of village ponds	5	6.50	32.50	0	6.50	0.00	0	6.50	0.00	5	32.50
7	Recharge shaft	10	5.25	52.50	7	5.25	36.75	0	5.25	0.00	17	89.25
8	Injection well	4	1.50	6.00	0	1.50	0.00	0	1.50	0.00	4	6.00
9	Roof top rain water harvesting	100	1.50	150.00	25	1.50	37.50	25	1.50	37.50	150	225.00
10	Contour Trenching	0	357(Rupees)	0.00	0	357.00	0.00	0	357.00	0.00	0	0
TOTAL		153		781.00	802		1434.25	12301		8905.50	13256	11120.75

Table-5

DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN HAMIRPUR DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 1118 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 130 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: 988 sq. km)			Igneous / Crystalline / Consolidated / High Hill Ranges (Area: NIL)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	1866	0.50	933.00	0	0.50	0.00	1866	933.00
2	Check dams	0	20.00	0.00	129	20.00	2580.00	0	20.00	0.00	129	2580.00
3	Sub-surface dykes	13	3.80	49.40	0	3.80	0.00	0	3.80	0.00	13	49.40
4	Check dam cum sub surface dykes	26	23.80	618.80	0	23.80	0.00	0	23.80	0.00	26	618.80
5	Modification of village tanks	8	6.50	52.00	35	6.50	227.50	0	6.50	0.00	43	279.50
6	Modification of village ponds	50	6.50	325.00	34	6.50	221.00	0	6.50	0.00	84	546.00
7	Recharge shaft	13	5.25	68.25	10	5.25	52.50	0	5.25	0.00	23	120.75
8	Injection well	5	1.50	7.50	0	1.50	0.00	0	1.50	0.00	5	7.50
9	Roof top rain water harvesting	0	3.50	0.00	100	3.50	350.00	0	3.50	0.00	100	350.00
10	Contour Trenching	0	1.23	0.00	19850	357(Rupees)	7	0	1.23	0.00	19849.93421	7.00
TOTAL		115		1120.95	22023.93421		4371.00	0		0.00	22138.93421	5491.95

Table-6

DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN KANGRA DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 5739 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 1350 sq. km)			Siwaliks / Semi –Consolidated / Low Hill Ranges/ (Area: 2939 sq. km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 1450 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	5878	0.50	2939.00	2900	0.50	1450.00	8778	4389.00
2	Check dams	0	20.00	0.00	350	20.00	7000.00	40	20.00	800.00	390	7800.00
3	Sub-surface dykes	135	3.80	513.00	0	3.80	0.00	0	3.80	0.00	135	513.00
4	Check dam cum sub surface dykes	270	23.80	6426.00	0	23.80	0.00	0	23.80	0.00	270	6426.00
5	Modification of village tanks	12	6.50	78.00	0	6.50	0.00	0	6.50	0.00	12	78.00
6	Modification of village ponds with Recharge shaft	197	5.00	985.00	50	5.00	250.00	0	5.00	0.00	247	1235.00
7	Recharge shaft	0	5.25	0.00	0	5.25	0.00	0	5.25	0.00	0	0.00
8	Injection well	44	1.50	66.00	0	1.50	0.00	0	1.50	0.00	44	66.00
9	Roof top rain water harvesting	35178	1.50	52767.00	200	1.50	300.00	100	1.50	150.00	35478	53217.00
10	Nala Bunds	0	0.00	800.12	203	4.00	812.00	0		0.00	45354	1612.12
11	Contour Trenching	0	357(Rupees)	0.00	0	357.00	0.00	0	357.00	0.00	0	0
TOTAL		35836		61635.12	6681		11301.00	3040		2400.00	90708	75336.12

Table-7

DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN KINNAUR DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 6401 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 150 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: NIL)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 6251 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	0	0.50	0.00	12502	0.50	6251.00	12502	6251.00
2	Check dams	0	20.00	0.00	0	20.00	0.00	125	20.00	2500.00	125	2500.00
3	Sub-surface dykes	15	3.80	57.00	0	3.80	0.00	0	3.80	0.00	15	57.00
4	Check dam cum sub surface dykes	30	23.80	714.00	0	23.80	0.00	0	23.80	0.00	30	714.00
5	Modification of village tanks	0	6.50	0.00	0	6.50	0.00	0	6.50	0.00	0	0.00
6	Modification of village ponds	5	6.50	32.50	0	6.50	0.00	0	6.50	0.00	5	32.50
7	Recharge shaft	15	5.25	78.75	0	5.25	0.00	0	5.25	0.00	15	78.75
8	Injection well	6	1.50	9.00	0	1.50	0.00	0	1.50	0.00	6	9.00
9	Roof top rain water harvesting	0	3.50	0.00	0	3.50	0.00	25	3.50	87.50	25	87.50
10	Contour Trenching	0	357(Rupees)	0.00	0	357.00	0.00	0	357.00	0.00	0	0
TOTAL		71		891.25	0		0.00	12652		8838.50	12723	9729.75

Table-8
DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN KULLU DISTRICT (H.P)

S. No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 5503 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 115 sq. km)			Siwaliks / Semi Consolidated / Low Hill Ranges/ (Area: NIL)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 5388 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	0	0.50	0.00	10776	0.50	5388.00	10776	5388.00
2	Check dams	0	20.00	0.00	0	20.00	0.00	108	20.00	2160.00	108	2160.00
3	Sub-surface dykes	11	3.80	41.80	0	3.80	0.00	0	3.80	0.00	11	41.80
4	Check dam cum sub surface dykes	22	23.80	523.60	0	23.80	0.00	0	23.80	0.00	22	523.60
5	Modification of village tanks	11	6.50	71.50	0	6.50	0.00	0	6.50	0.00	11	71.50
6	Modification of village ponds	5	6.50	32.50	0	6.50	0.00	0	6.50	0.00	5	32.50
7	Recharge shaft	12	5.25	63.00	0	5.25	0.00	0	5.25	0.00	12	63.00
8	Injection well	5	1.50	7.50	0	1.50	0.00	0	1.50	0.00	5	7.50
9	Roof top rain water harvesting	0	3.50	0.00	0	3.50	0.00	50	3.50	175.00	50	175.00
10	Contour Trenching	0	357(Rupees)	0.00	0	357.00	0.00	0	357.00	0.00	0	0
TOTAL		66		739.90	0		0.00	10934		7723.00	11000	8462.90

Table-9
DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN LAHAUL & SPITI DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 11685 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 150 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: NIL sq. km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 13685 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	0	0.50	0.00	27370	0.50	13685.00	27370	13685.00
2	Check dams	0	20.00	0.00	0	20.00	0.00	274	20.00	5480.00	274	5480.00
3	Sub-surface dykes	15	3.80	57.00	0	3.80	0.00	0	3.80	0.00	15	57.00
4	Check dam cum sub surface dykes	30	23.80	714.00	0	23.80	0.00	0	23.80	0.00	30	714.00
5	Modification of village tanks	1	6.50	6.50	0	6.50	0.00	0	6.50	0.00	1	6.50
6	Modification of village ponds	5	6.50	32.50	0	6.50	0.00	0	6.50	0.00	5	32.50
7	Recharge shaft	15	5.25	78.75	0	5.25	0.00	0	5.25	0.00	15	78.75
8	Injection well	6	1.50	9.00	0	1.50	0.00	0	1.50	0.00	6	9.00
9	Roof top rain water harvesting	0	3.50	0.00	0	3.50	0.00	25	3.50	87.50	25	87.50
10	Contour Trenching	0	357(Rupees)	0.00	0	357.00	0.00	0	357.00	0.00	0	0
TOTAL		72		897.75	0		0.00	27669		19252.50	27741	20150.25

Table-10
DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN MANDI DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 3950 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 160 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: 1265 sq. km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 2525 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	2530	0.50	1265.00	6000	0.50	3000.00	8530	4265.00
2	Check dams	0	20.00	0.00	160	20.00	3200.00	50	20.00	1000.00	210	4200.00
3	Sub-surface dykes	35	3.80	133.00	0	3.80	0.00	0	3.80	0.00	35	133.00
4	Check dam cum sub surface dykes	50	23.80	1190.00	0	23.80	0.00	0	23.80	0.00	50	1190.00
5	Modification of village tanks	0	6.50	0.00	16	6.50	104.00	0	6.50	0.00	16	104.00
6	Modification of village ponds	0	6.50	0.00	40	6.50	260.00	0	6.50	0.00	40	260.00
7	Recharge shaft	16	5.25	84.00	26	5.25	136.50	0	5.25	0.00	42	220.50
8	Injection well	7	1.50	10.50	0	1.50	0.00	0	1.50	0.00	7	10.50
9	Roof top rain water harvesting	0	3.50	0.00	50	3.50	175.00	50	3.50	175.00	100	350.00
10	Contour Trenching	0	357(Rupees)	0.00	0	357.00	0.00	0	357.00	0.00	0	0
TOTAL		108		1417.50	2822		5140.50	6100		4175.00	9030	10733.00

Table-11
DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN SHIMLA DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 5131 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 70 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: NIL sq. km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 5061 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	0	0.50	0.00	10122	0.50	5061.00	10122	5061.00
2	Check dams	0	20.00	0.00	0	20.00	0.00	160	20.00	3200.00	160	3200.00
3	Sub-surface dykes	35	3.80	133.00	0	3.80	0.00	0	3.80	0.00	35	133.00
4	Check dam cum sub surface dykes	42	23.80	999.60	0	23.80	0.00	0	23.80	0.00	42	999.60
5	Modification of village tanks	0	6.50	0.00	0	6.50	0.00	18	6.50	117.00	18	117.00
6	Modification of village ponds	0	6.50	0.00	0	6.50	0.00	62	6.50	403.00	62	403.00
7	Recharge shaft	7	5.25	36.75	0	5.25	0.00	0	5.25	0.00	7	36.75
8	Injection well	3	1.50	4.50	0	1.50	0.00	0	1.50	0.00	3	4.50
9	Roof top rain water harvesting	0	3.50	0.00	0	3.50	0.00	100	3.50	350.00	100	350.00
10	Contour Trenching	0	357(Rupees)	0.00	0	357.00	0.00	0	357.00	0.00	0	0
TOTAL		87		1173.85	0		0.00	10462		9131.00	10549	10304.85

Table-12
DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN SIRMOUR DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 2825 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 420 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: 1595 sq. km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 810 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.5	0	3190	0.5	1595	1620	0.5	810	4810	2405
2	Check dams	0	20	0	180	20	3600	32	20	640	212	4240
3	Sub-surface dykes	42	3.8	159.6	0	3.8	0	0	3.8	0	42	159.6
4	Check dam cum sub surface dykes	84	23.8	1999.2	0	23.8	0	0	23.8	0	84	1999.2
5	Modification of village tanks	38	6.5	247	0	6.5	0	0	6.5	0	38	247
6	Modification of village ponds	62	6.5	403	0	6.5	0	0	6.5	0	62	403
7	Recharge shaft	42	5.25	220.5	32	5.25	168	0	5.25	0	74	388.5
8	Injection well	17	1.5	25.5	0	1.5	0	0	1.5	0	17	25.5
9	Roof top rain water harvesting	0	3.5	0	50	3.5	175	50	3.5	175	100	350
10	Contour Trenching	0	357(Rupees)	0	660	357	235620	0	357	0	660	235620
TOTAL		285		3054.8	4112		5538	1702		1625	6099	245837.8

Table-13

DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN SOLAN DISTRICT (H.P)

S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 1936 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 230 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: 1065 sq. km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: 641 sq. km)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	2321	0.50	1160.50	1282	0.50	641.00	3603	1801.50
2	Check dams	0	20.00	0.00	162	20.00	3240.00	28	20.00	560.00	190	3800.00
3	Sub-surface dykes	23	3.80	87.40	0	3.80	0.00	0	3.80	0.00	23	87.40
4	Check dam cum sub surface dykes	76	23.80	1808.80	0	23.80	0.00	0	23.80	0.00	76	1808.80
5	Modification of village tanks	223	6.50	1449.50	43	6.50	279.50	0	6.50	0.00	266	1729.00
6	Modification of village ponds	25	6.50	162.50	43	6.50	279.50	0	6.50	0.00	68	442.00
7	Recharge shaft	23	5.25	120.75	22	5.25	115.50	0	5.25	0.00	45	236.25
8	Injection well	10	1.50	15.00	0	1.50	0.00	0	1.50	0.00	10	15.00
9	Roof top rain water harvesting	0	3.50	0.00	50	3.50	175.00	50	3.50	175.00	100	350.00
10	Contour Trenching	0	357(Rupees)	0.00	24691	357(Rupees)	8	0	357.00	0.00	24691.38158	8.00
TOTAL		380		3643.95	27332		5250.00	1360		1376.00	29072.38158	10277.95

Table-14

DETAILS OF RTRWH / ARTIFICIAL RECHARGE STRUCTURES PROPOSED IN UNA DISTRICT (H.P)												
S.No	RTRWH / Artificial Recharge Structures Proposed	MAJOR PHYSIOGRAPHIC / LITHOLOGICAL UNITS (Total Geographical Area 1540 sq. km)									Total No. of Structures	Total Cost (Rs. In Lakh)
		Valley Fills (Area: 550 sq. km)			Siwaliks / Semi – Consolidated / Low Hill Ranges/ (Area: 990 sq. km)			Igneous / Crystallines / Consolidated / High Hill Ranges (Area: NIL)				
		No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)	No. of Proposed structures	Unit cost (Lakh)	Total Cost (Lakh)		
1	Gabion Structures	0	0.50	0.00	2490	0.50	1245.00	0	0.50	0.00	2490	1245.00
2	Check dams	0	20.00	0.00	137	20.00	2740.00	0	20.00	0.00	137	2740.00
3	Sub-surface dykes	55	3.80	209.00	0	3.80	0.00	0	3.80	0.00	55	209.00
4	Check dam cum sub surface dykes	110	23.80	2618.00	0	23.80	0.00	0	23.80	0.00	110	2618.00
5	Modification of village tanks	0	6.50	0.00	0	6.50	0.00	0	6.50	0.00	0	0.00
6	Modification of village ponds	0	6.50	0.00	22	6.50	143.00	0	6.50	0.00	22	143.00
7	Recharge shaft	55	5.25	288.75	34	5.25	178.50	0	5.25	0.00	89	467.25
8	Injection well	22	1.50	33.00	0	1.50	0.00	0	1.50	0.00	22	33.00
9	Roof top rain water harvesting	0	3.50	0.00	100	3.50	350.00	0	3.50	0.00	100	350.00
10	Contour Trenching	0	357(Rupees)	0.00	0	357.00	0.00	0	357.00	0.00	0	0
TOTAL		242		3148.75	2783		4656.50	0		0.00	3025	7805.25

12. Air Pollution- SPM, SOx NOx and Noise Pollution

Air pollution refers to pollution caused due to release of pollutants into the atmosphere, which are detrimental to human health and the planet as a whole. According to the World Health Organization (WHO), each year air pollution is responsible for nearly seven million deaths around the globe. Nine out of ten human beings currently breathe air that exceeds the WHO's guidelines, limit for pollutants, with those living in low and middle-income countries suffering the most.

12.1 Impacts on Environment

People experience a wide range of health effects from being exposed to air pollution, effects can be short-term and long-term effects. Short-term effects such as pneumonia or bronchitis, discomfort such as irritation to the nose, throat, eyes or skin. Air pollution can also cause headaches, dizziness, and nausea. Odour caused by industries, garbage, or sewer systems are considered air pollution too. These odours are less serious but still unpleasant.

Long-term effects of air pollution can last for years or for an entire lifetime. They can even lead to a person's death. Long-term health effects from air pollution include heart disease, lung cancer, and respiratory diseases such as emphysema. The length of exposure and concentration & type of pollutants are also the contributing factors. Air pollution causes long-term damage to people's nerves, brain, kidneys, liver, and other organs. Some scientists suspect air pollutants cause birth defects. Children whose immune systems tend to be weaker are often more sensitive to pollution. Animals also suffer health effects from exposure to air pollution. Birth defects, diseases, and lower reproductive rates have all been attributed to air pollution.

Air pollutants eventually fall back to earth and can directly contaminate the surface water and soil. This can damage the crops or reduce their yield and can enter into the food chain. High concentration of sulphur dioxide and oxides of nitrogen in the air can create acid rain when they mix with water and oxygen in the atmosphere.

Global warming is also an outcome of air pollution. It leads to a rise in air and ocean temperatures around the world. This temperature rise is at least partially caused by an increase in the amount of greenhouse gases in the atmosphere. Carbon dioxide, an air pollutant, is a greenhouse gas that has had the biggest effect on global warming. Carbon dioxide is emitted into the atmosphere by burning fossil fuels (coal, gasoline, and natural gas). Other greenhouse gases emitted by natural and artificial sources also include methane, nitrous oxide, and fluorinated gases. Methane is a major emission from agricultural processes and livestock waste. Nitrous oxide is a common emission from industrial factories, agriculture, and the burning of fossil fuels.

12.1.1 Sources of Air Pollution

Air pollution is caused by human activities in the form of emissions from factories, transport sector, construction activities, burning of garbage & biomass, forest fires, increase in particulate matter due to decrease in green cover, etc.

The natural sources of air pollution are smoke from wildfires or ash from volcanoes which occur naturally. In Himachal Pradesh the main contributor is also road conditions in general, in horticulture dominant area burning of crop residues, industrial areas industries also contribute significantly.

12.1.2 Regulations

In area of jurisdiction of Himachal Pradesh, the major regulatory provisions, different programmes followed are as under:

- The Air (Prevention and Control of Pollution) Act, 1981.
- The Environment (Protection) Act, 1986.

- National Ambient Air Quality Standards (NAAQS), 2009.
- Sector-specific emission standards for industries under EP Rules, 1986.
- National Clean Air Program (NCAP) launched by the MoEF&CC in January 2019.
- GoHP vide notification no. STE-E(J)-22/2018 have constituted the following committees for the effective implementation of NCAP for the control of air pollution in seven non-attainment cities namely Baddi, Nalagarh, Parwanoo, Paonta Sahib, Kala Amb, Sundernagar, and Damtal of the state:
- Steering Committee (headed by Chief Secretary to GoHP),
  ii. Monitoring Committee-cum AQMC (headed by Pr. Secretary EST to GoHP)
  iii. Implementation Committee (headed by Deputy Commissioners of concerned districts)

12.1.3 Responsibility

As per notifications following responsibilities have been assigned as per occupier:

- No person shall, without the previous consent of the State Board, establish or operate any industrial plant in an air pollution control area.

- Responsibilities of State Board shall be –
  - To perform all functions as prescribed in The Environment (Protection) Act, 1986 & The Air (Prevention and Control of Pollution) Act, 1981 and ensure the enforcement of ibid acts.
  - To perform other functions as may be prescribed or as may, from time to time, be entrusted to it by the Central Board or the State Government.

- Responsibility of Steering Committee: The committee will provide the overall guidance and review the implementation of NCAP on quarterly basis.

- Responsibility of Monitoring Committee-cum-AQMC: The committee will monitor and assess the progress made for implementation of NCAP.

- Responsibility of Implementation Committee: The Committee will be responsible for the day-to-day monitoring and implementation of the Program in respective non-attainment city(s) and shall submit the progress report on monthly basis.

12.1.4 Current Status: Air Quality Monitoring

In Himachal Pradesh, one Automatic Air Quality monitoring station has been installed at Baddi and operated by M/s Acom Eco Tech. However, there are no such stations operated by government agencies. Manual monitoring is conducted by State Pollution Control Boards (SPCBs) at 25 locations. Several towns/ cities, including Baddi, Nalagarh, and Kala Amb, are identified to be non-compliant with national ambient air quality standards.

The presence of 3686 air pollution industries underscores the magnitude of the issue. Vehicular pollution, unpaved roads, open burning, forest fires, and industrial activities are identified as prominent sources of air pollution.

There is indeed a need for strengthening air quality monitoring infrastructure, especially by government agencies. The high number of air pollution industries envisages the urgency for stringent regulatory measures and effective enforcement of compliance of emission standards. In addition, addressing the specific sources identified, such as vehicular pollution and open burning, is crucial for improving air quality in the region. The data provides a valuable foundation for developing targeted strategies to mitigate air pollution and enhance overall air quality management efforts in the district.

The State Board is monitoring ambient air quality at 25 locations covering 11 cities/ towns in the State. Out of these Seven (07) cities have been classified/ identified by CPCB as Non-Attainment Towns in Himachal Pradesh with respect to PM10 which is exceeding NAAQS in FY 2010-2015 namely Baddi, Nalagarh, Parwanoo, Kala

Amb, Paonta Sahib, Sundernagar & Damtal.

Action Plans for all above towns for control of air pollution were prepared and submitted to the CPCB by the State Government on 31.12.2018. The action plan has been approved by the CPCB on 12.2.2019.

So far the status of action plan is concerned as of now the Implementation has been started and review meetings are being regularly conducted on quarterly basis under Chairmanship of the Chief Secretary to ensure implementation of Action plans.

Current Status related to Air Quality Management

Details of Data Requirement	Present Status
Number of Automatic Air Quality monitoring stations in the district. • Operated by SPCB/State Govt/ Central govt./ PSU agency: • Operated by Industry:	1 (at Baddi) M/s Acom Eco Tech Nil
Number of manual monitoring States operated by SPCBs.	25
Names of towns/cities which are failing to comply with national ambient air quality standards.	Baddi, Nalagarh, Kala Amb
No of air pollution industries	3686
Prominent air polluting sources [Large Industry] / [Small Industry] / [Unpaved Roads] / [Burning of Waste Stubble] / [Brick Kiln] / [Industrial Estate] / [Others] (Multiple selection)	Vehicular Pollution, Unpaved Roads, open Burning, Forest Fires, Industries, etc.

12.2 Noise Pollution in Himachal Pradesh

Noise is defined as unpleasant sound that has an adverse effect on humans. It is also known as environmental noise or sound pollution and is the propagation of noise with ranging impacts on the activity of human or animal life, most of them harmful to a degree. The Noise Pollution (Regulation and Control) Rules, 2000 were notified by the Government of India vide notification dated 14- 02-2000 amended from time to time which includes Ambient Air Quality Standards in respect of noise. The prescribed rules have been adopted in the state as such with few more regulations in the State.

12.2.1 Impact on Environment

Noise pollution has various impacts on the human health like hearing problems, psychological issues, physical problems, behavioural changes, sleeping disorders, cardiovascular issues etc. At certain levels and durations of exposure, it can cause physical damage to the eardrum and the sensitive hair cells of the inner ear and result in temporary or permanent hearing loss, known as noise induced hearing loss.

12.2.2 Sources of Noise Pollution

Primarily, sources of outdoor noise pollution are machines, transport and noise amplifying instruments. Poor urban planning has potential to give rise to noise pollution, if industries and residential buildings are situated side by side in the residential areas. Some of the main sources of indoor noise pollution are music at marriage, family cultural ceremonies and religious places, transportation (traffic-honking of moving vehicles, rail, airplanes, etc.), lawn care maintenance, construction, diesel generators, etc.

12.2.3 Regulations in Himachal Pradesh

The Government of Himachal Pradesh has adopted the Noise Pollution (Regulation and Control) Rules, 2000 as have been notified by the Ministry of Environment & Forest, Govt. of India under Environment (Protection) Act, 1986, for the regulation and control of noise producing and generating sources.

The Government of Himachal Pradesh vide Notification No. ST EDN[S&T] A [3]1/2000 dated 31 October 2003 has also prescribed the standards for the use of Microphones and Instrumental Sound/ Noise.

12.2.4 Responsibilities

The Government of Himachal Pradesh vide Notification No ST EDN[S&T]A[3]1/2000 dated 1 May 2001 has prescribed the authorities for maintenance of ambient air quality standards which are further amended vide Notification No STE-A(9)-1/2016 dated 06-01-2021 in respect of area of jurisdiction of the prescribed authority in Table

12.2.5 Prescribed Authorities for Noise Control

The prescribed authorities for noise pollution control are distributed among various administrative levels and departments. District Magistrates, Additional District Magistrates, Sub-Divisional Magistrates, Executive Magistrates, and Naib Tehsildars hold jurisdiction over residential zones, commercial zones, silence zones, religious places, as well as noise generated by industrial units and vehicles.

Similarly, the law enforcement authorities, including the Superintendent of Police, Additional Superintendent of Police, Deputy Superintendent of Police, and Station House Officers, are responsible for overseeing noise levels in residential and commercial zones, silence zones, religious places, as well as noise generated by industrial units and vehicles.

The Regional Transport Officer specifically addresses noise concerns related to automobiles and vehicles. Additionally, the Joint Executive Engineer (JEE), Assistant Executive Engineer (AEE), Executive Engineer (EE), and Senior Executive Engineer (SEE) of the Himachal Pradesh State Pollution Control Board focus on noise generated by industrial and commercial units.

This distribution of authorities ensures comprehensive coverage of various noise sources, ranging from industrial activities to vehicular noise, in different zones. It reflects a multi-faceted approach to noise control, involving both administrative and law enforcement bodies, as well as specialized agencies like the State Pollution Control Board. Coordination among these authorities is essential to effectively manage and mitigate noise pollution across different domains within the jurisdiction.

12.2.6 Current Status: Noise Pollution

The Himachal Pradesh State Pollution Control Board regularly conducting ambient noise monitoring in different areas/ zones at 87 selected locations in the State every week. The State Board is monitoring the Ambient Noise Quality in all specified four different zones i.e. Silence Zone, Commercial Zone, Residential Zone and Industrial Zone in Baddi, Parwanoo, Bilaspur, Chamba, Damtal, Dharamshala, Kullu, Manali, Nalagarh, Paonta Sahib, Rampur, Shimla, Sundernagar and Una. The State Board is also regularly spreading awareness about the adverse effects of noise pollution among the public through advertisements in newspapers and jingles through FM radio.

The State Board is also conducting monitoring of ambient noise during the Diwali festivals every year to assess the air and noise pollution due to the bursting of firecrackers, besides, conducting an awareness campaign/ mass awareness program for the reduction of the bursting of firecrackers.

The State Education Department is also advised to educate students about the harmful effects of noise & air pollution. Besides, above directions are also issued to other prescribed authorities i.e. Deputy Commissioners and Superintendent of Police to take necessary measures to comply with the Noise Pollution (Regulation and Control) Rules, 2000 regarding monitoring and control of noise pollution and ensure that noise and ambient air quality standards are maintained within the area of their jurisdiction during the Diwali festival to ensure the compliance to the regulatory provisions.

Department of Environment, Science Technology & Climate Change, Himachal Pradesh has organized launch a State wide "HORN NOT OK" campaign, with the objectives to reduce noise pollution in urban areas, besides, to reduce serious environmental and children health hazards.

Apart from this, mobile app "Shor-Nahin"- has been developed for android & apple-based phone users to reduce nuisance caused by honking & other activities to facilitate the public of State to lodge complaints with the concerned authorities (DC/SP/SDM/SDPO/SHO) for taking corrective measures.

the public is reporting noise complaints through this mobile application. The detail of complaints received & dispose off on mobile app are as under:

Districts	Complaints	Disposed Off	Pending
Bilaspur	2	0	2
Chamba	7	0	7
Hamirpur	7	0	7
Kangra	17	0	17
Kinnaur	1	0	1
Kullu	19	6	13
Lahaul-Spiti	0	0	0
Mandi	20	4	16
Shimla	66	64	2
Sirmaur	11	0	11
Solan	3	0	3
Una	2	1	1
Total	155	75	80

Source: DEST&CC

Minerals & Mining (Limestone, sand, stone)

In State of Himachal Pradesh, 24 mining leases have been granted for the extraction of major minerals limestone and rock salt. More than 520 mining leases have been granted for the extraction/ collection of minor minerals sand, stone, boulder and bajri etc. Apart from above, 232 Govt. lands/ sites have been auctioned in various riverbeds of the State for the extraction/ collection of the minor minerals. Any interested person/ proponent to obtain the mining leases over private lands apply online on Form-C along with supporting documents and thereafter the case is sent to Joint Inspection Committee chaired by the concerned Sub Divisional Officer (civil) comprising of other members from Jal Shakti Vibhag, Forest Department, Himachal Pradesh Public Works Department, Himachal Pradesh State Pollution Control Board, Mining Officer etc. to conduct the inspection of the area applied for the grant of mining lease. After Site inspection, Joint Inspection Committee makes recommendations w.r.t. grant of mining lease. Based on the recommendations of the joint inspection committee, the case is processed for the issuance of Letter of Intent (LOI) to complete the requisite codal formalities like approval of Mining Plan, Environment Clearance and Forest Clearance under the provisions of Forest Conservation Act, 1980 (wherever applicable).

The mining lease grant order is issued once the project proponent submits all the requisite approval and clearances from the competent authorities and thereafter, the mining lease deed agreement is executed. It is imperative to mention here that in the State of Himachal Pradesh; more than 70% of the mining leases have been granted over the riverbed and remaining are granted over hill slopes.

Current Status related to Mining Activity Management

Details of Data Requirement	Existing Mining Operations
Type of Mining Activity	Open Cast Mining
Total No. of mining leases granted	520
Working	407
Non-Working	113
Total Auctioned Sites (Forest/Govt. Land)	232
Working	28
Total Mining Lease Area Granted (in Hects.)	Approx. 2800
Total Area Auctioned (in Hects.)	1850

Source: Deptt of Industries

13. WATER BODIES- (LAKES PONDS ETC.)

Water bodies play a pivotal role in sustaining life and fostering biodiversity, and their significance is particularly pronounced in the context of Himachal Pradesh. Nestled amidst the towering Himalayan peaks, this hilly state boasts a wealth of lakes, rivers, and streams that not only contribute to the region's scenic beauty but also serve as lifelines for its ecosystems and communities. These water bodies support diverse flora and fauna, providing habitats for numerous species and ensuring the delicate ecological balance of the region.

However, rapid urbanization, agricultural practices, and climate change have posed serious threats to the health of these water bodies in Himachal Pradesh. The rejuvenation of these vital resources is thus imperative to address the challenges of dwindling water quality and quantity. The concerted efforts to restore and preserve these water bodies aim not only to secure the availability of freshwater but also to safeguard the myriad ecosystems that depend on them. Furthermore, rejuvenation initiatives play a crucial role in mitigating the impact of climate change, ensuring the resilience of Himachal Pradesh's unique natural heritage for future generations. In essence, the rejuvenation of water bodies in Himachal Pradesh stands as a testament to the state's commitment to environmental conservation, sustainable development, and the well-being of its people and ecosystems.

Himachal Pradesh has undertaken robust initiatives for the rejuvenation of its crucial water bodies, recognizing the significance of sustainable water management in the face of growing environmental challenges.

- Watershed management programs have been implemented to preserve natural drainage patterns and soil health, thereby reducing soil erosion and enhancing water quality.
- Afforestation projects, aimed at increasing vegetation cover, contribute to improved spring shed, watershed health and groundwater recharge.
- Plantation of appropriate species which does not harm the natural ecosystem of the region. Fruit trees are granted to private landowners to bring them on board so that intervention can be completed in the recharge zone.
- Rainwater harvesting is actively encouraged at both community and individual levels, providing an alternative water source and reducing dependence on surface water.
- Activities like contour trenches, percolation structures, managing land use, and vegetation are carried out to increase the amount of water that infiltrates and replenishes the underground reservoir (aquifer) which, in turn, sustains the flow of water to the springs.
- Construction of farm ponds, wells, springs (“Bawdi”) etc. and their timely renovation, contribute to groundwater recharge, enhancing the availability and sustainability of water resources and therefore in turn rejuvenates these water bodies.

13.1 IDENTIFICATION OF WATER BODIES

There are more than 88017 traditional water bodies in the state including rivers, nalas, bawdies, ponds, johads, van sarovars, etc.

S.No.	District Name	Water Bodies
1	BILASPUR	4682
2	CHAMBA	2635
3	HAMIRPUR	13209
4	KANGRA	9250
5	KINNAUR	1467
6	KULLU	5484
7	LAHUL AND SPITI	301
8	MANDI	13465
9	SHIMLA	15060
10	SIRMAUR	10220
11	SOLAN	9677
	Himachal Pradesh	88017
		Source: JSV

The above figures are as per the Catch the Rain portal data captured in the state. (RDD)

Various data pertaining to rejuvenation of water bodies as per Catch the Rain portal are as follows:-

Water Conservation and Rainwater Harvesting								
S.No.	District Name	Check Dam	Pond / Tank	Trench	Rooftop Water Harvesting Structure	Other Rain Water Recharge Structures	Other Water Conservation Structure	Grand Total
1	BILASPUR	97	124	10	0	2	24	257
2	CHAMBA	76	67	66	1	0	86	296
3	HAMIRPUR	183	210	9	0	6	65	473
4	KANGRA	134	119	36	5	3	1219	1516
5	KINNAUR	49	105	0	0	0	297	451
6	KULLU	208	172	13	26	0	73	492
7	LAHUL AND SPITI	1	7	0	0	0	48	56
8	MANDI	473	422	22	1	1	267	1186
9	SHIMLA	124	312	12	7	2	105	562
10	SIRMAUR	56	152	2	1	4	88	303
11	SOLAN	45	205	5	1	0	16	272
12	UNA	59	131	2	0	4	29	225
Total		1505	2026	177	42	22	2317	6089

Source: JSV

Renovation of Traditional Water Bodies		
S.No.	District Name	Traditional Water Bodies Restored
1	BILASPUR	11
2	CHAMBA	222

3	HAMIRPUR	102
4	KANGRA	272
5	KINNAUR	9
6	KULLU	46
7	LAHUL AND SPITI	3
8	MANDI	210
9	SHIMLA	48
10	SIRMAUR	46
11	SOLAN	11
12	UNA	114
Total		1094

Source: JSV

Reuse and Recharge Structures					
S.No.	District Name	Soak Pit	Stabilization Pond	Other Reuse/ Recharge Structure	Grand Total
1	BILASPUR	1	0	14	15
2	CHAMBA	1	0	9	10
3	HAMIRPUR	33	0	46	79
4	KANGRA	77	0	57	134
5	KINNAUR	7	0	3	10
6	KULLU	30	1	13	44
7	LAHUL AND SPITI	0	0	0	0
8	MANDI	13	0	53	66
9	SHIMLA	14	0	9	23
10	SIRMAUR	5	0	10	15
11	SOLAN	0	0	6	6
12	UNA	21	3	10	34
Total		202	4	230	436

Source: JSV

4: Watershed Development						
S.No.	District Name	Gully Plug	Percolation Tank	Staggered Trenches	Other Watershed Construction Activities	Grand Total
1	BILASPUR	2	255	3	268	528
2	CHAMBA	3	100	1	1988	2092
3	HAMIRPUR	9	203	1	886	1099
4	KANGRA	4	308	0	1828	2140
5	KINNAUR	0	61	0	32	93
6	KULLU	17	381	3	604	1005
7	LAHUL AND SPITI	5	6	0	46	57
8	MANDI	36	764	6	3326	4132
9	SHIMLA	87	382	4	1208	1681

10	SIRMAUR	6	266	0	566	838
11	SOLAN	4	117	0	211	332
12	UNA	3	97	4	392	496
Total		176	2940	22	11355	14493

Source: JSV

13.2 Rejuvenation of water bodies under Rural Development Department

Rural Development Department undertaking rejuvenation of water bodies under various programs, prominently under MGNREGA and Watershed Development Component of Pradhan Mantri Krishi Sinchayee Yojana and erstwhile, IWMP.

13.2.1 MGNREGA

Although MGNREGA is an employment generation program, the Act mandates that at least 65% works should be undertaken under the Natural Resource Management Category. The works are geotagged through the Bhuvan portal and the complete detail of the works can be sought from NREGA MIS (nrega.nic.in)

The brief overview is as under:

PUBLIC WORKS RELATED TO NATURAL RESOURCES MANAGEMENT					
S. No.	Work Category Name / Work Sub Category Name / Work Type	Total Works	Ongoing Works	Completed Works	Expenditure
I	Water Conservation	61182	11854	3998	4836.22
2	Watershed Management	7105	879	395	462.59
3	Irrigation	62009	9865	5976	6771.28
4	Traditional Water Bodies	11142	1635	803	903.78
5	Afforestation	9957	2462	745	1642.15
6	Land Development	27896	3089	1 128	1960.55
Sub Total		179291	29784	13045	16576.57

Source: RDD

13.2.2 WDC PMKSY

Various watershed programs have been implemented in the state by the Rural Development Department. The erstwhile Integrated Watershed Management Programs were clubbed under WDC PMKSY 1.0.

The brief overview is as under:

WDC-PMKSY 1.0

Consolidated Physical Plan/Achievement under 1.0 FY 2011-12 to 2022-23												
Water Harvesting Structure	Newly created						Renovated					
	No.		Storage Capacity (Cubic meter)		Command Area (ha.)		No.		Storage Capacity (Cubic meter)		Command Area (ha.)	
	Planned	Achieved	Planned	Achieved	Planned	Achieved	Planned	Achieved	Planned	Achieved	Planned	Achieved
1	2	3	4	5	6	7	8	9	10	11	12	13
Farm Ponds	3741	625	5136407.84	1004021.73	8302.66	3922.4	438	77	14433470.58	569745.9	3791.78	306.41
Check dams	3955	991	13001557.2	1169041.09	0	0	163	30	2188569.15	201659.1	0	0
Nallah Bunds	1710	174	1365774.33	7481	5201.62	21797	50	1	206122.75	0	697	0

Percolation Tanks	3100	614	345852.05	13803.17	0	0	303	28	283104.25	716	0	0
Ground Water Recharge Structure	3708	325	1265800.06	17660.26	0	0	548	39	1508126.15	5852.9	0	0
Others	293969	37892	12828244.28	1847743.89	44791.77	17267.78	55275	535	4934661.89	1318649	7370.28	1060.96

Source: RDD

WDC PMKSY 2.0

Currently the state is implementing WDC PMKSY2.0 in 26 project areas covering 130 panchayats. The brief overview is as under:

Activity Wise NRM Works under WDC-PMKSY 2.0-

S. No.	Activity Name	Total	FY 2022-23	FY 2023-24
1.	Check Dams	312	102	95
2.	Ponds	265	74	97
3.	Tanks	328	94	77
4.	Crate Wire	162	54	34
5.	Others	1138	245	217
	GRAND TOTAL	2205	569	520

Source: RDD

Source Sustainability for Pipe Water Supply

S.No.	Status	No. of Ground Water Sources (only for PWS)	No. of Spring Sources (only for PWS)	No. of Recharge Structures identified	No. of Recharge Structures where work is started	No. of completed Recharge Structures
1	Source sustainability of PWS	103	140	161	79	55

Source: RDD

Watershed Development

S.No.	Status	Gully Plug	Percolation Tank	Staggered Trenches	Other Watershed Construction Activities	Grand Total
1	Watershed Development	149	2668	21	10444	13282

Source: RDD

Reuse and Recharge Structures

S.No.	Status	Soak Pit	Stabilization Pond	other Reuse/ Recharge Structure	Grand Total
1	Reuse and Recharge Structures	184	4	216	404

Source: RDD

Renovation of Traditional Water Bodies

S.No.	Staus	Traditional Water Bodies Restored
1	Renovation of Traditional Water Bodies	1073

Source: RDD

Water Conservation and Rainwater Harvesting

S.No.	Status	Check Dam	Pond / Tank	Trench	Rooftop Water Harvesting Structure	Other Rain Water Recharge Structures	Other Water Conservation Structure	Grand Total
1	Water conservation and Rainwater Harvesting Structures	1287	1920	156	38	20	2158	5579

Source: RDD

Himachal Pradesh – WDC-PMKSY 2.0

Programme Overview:

A total of 26 projects have been sanctioned for the state of Himachal Pradesh under WDC-PMKSY 2.0 (Pradhan Mantri Krishi Sinchayi Yojana- Watershed Development Component) covering an area of 54,000 Hectare in 130 Gram Panchayatsat the total cost of Rs. 151.20 Crores.

As per the data of various projects, Bilaspur, project WDC-01 is initiated in Ghumarwin with 7 panchayats, covering 2100 hectares at a cost of Rs. 588 lakhs. Chamba has three projects (WDC-01, WDC-02, WDC-03) in Tissa, Bharmour, and Pangi, respectively, spanning different blocks with varying panchayats, areas, and costs. Hamirpur's WDC-01 in Bhoranj covers 7 panchayats over 2000 hectares, totaling Rs. 560 lakhs. Kangra is actively engaged in multiple projects (WDC-01 to WDC-05) across different blocks, such as Baijnath, Fatehpur, Sullah, Indora, and Lambagaon, showcasing diverse panchayats, areas, and costs.

Furthermore, Kinnaur, Kullu, Lahaul-Spiti, Mandi, Shimla, Sirmaur, Solan, and Una is also part of this comprehensive development initiative. Each district and block have specific projects with distinct numbers of panchayats, project areas, and total costs, reflecting the regional focus on holistic development.

The grand total of 130 projects covers an extensive area of 54,000 hectares, with a cumulative cost of Rs. 15,120 lakhs, underlining the state's commitment to inclusive growth and rural development.

13.2.3 Activities for Rejuvenation of Water Bodies in Himachal Pradesh

Himachal Pradesh has undertaken robust initiatives for the rejuvenation of its crucial water bodies, recognizing the significance of sustainable water management in the face of growing environmental challenges.

- Watershed management programs have been implemented to preserve natural drainage patterns and soil health, thereby reducing soil erosion and enhancing water quality.
- Afforestation projects, aimed at increasing vegetation cover, contribute to improved watershed health and groundwater recharge.
- Plantation of appropriate species which does not harm the natural ecosystem of the region. Fruit trees are granted to private land owners to bring them on board so that intervention can be completed in the recharge zone.

- Rainwater harvesting is actively encouraged at both community and individual levels, providing an alternative water source and reducing dependence on surface water.
- Activities like contour trenches, percolation structures, managing land use, and vegetation are carried out to increase the amount of water that infiltrates and replenishes the underground reservoir (aquifer) which, in turn, sustains the flow of water to the springs.
- Construction of farm ponds, wells, springs ("Bawdi") etc. and their timely renovation, contribute to groundwater recharge, enhancing the availability and sustainability of water resources and therefore in turn rejuvenates these water bodies.

13.2.4 Traditional Practice of Natural Springs "Bawdis" Management

- Himachal Pradesh is graced with natural springs"Bawdis" that hold cultural and religious importance for local communities. These springs not only serve as water sources but are integral to the region's cultural identity. Recognizing their value, people in Himachal have traditionally managed, renovated, and protected these springs using time-tested practices.

- The people of Himachal actively engage in preserving the socio-religious significance of these natural springs. Through community-driven initiatives, locals participate in the upkeep of these water sources, emphasizing the delicate balance between human needs and environmental preservation. Renovation efforts involve restoring catchment areas to ensure a continuous and pure water supply.

- In Himachal Pradesh, the deep spiritual connection to these springs motivates their protection. This unique blend of tradition, community engagement, and ecological stewardship exemplifies a sustainable approach to water resource management. It goes beyond mere conservation, representing a celebration of the profound connection between culture, spirituality, and environmental well-being.

13.2.5 Frequent Natural Disasters during Monsoon season in Himachal Pradesh

- Frequent natural disasters during monsoon season in Himachal Pradesh brings about a significant disruption to various activities in the region under WDC-PMKSY 2.0. Heavy rainfall, accompanied by landslides and flash floods, wreaked havoc on the infrastructure and environment causing a halt in numerous construction and development projects.

- Roads and bridges were damaged or rendered impassable, hampering transportation and connectivity. The aftermath of the monsoon disaster highlighted the vulnerability of the region to extreme weather events, prompting a need for better preparedness and sustainable development strategies in the face of such natural calamities.

Types of Works

The activities which are being undertaken under various components of WDC-PMKSY 2.0 in blocks for renovation, restoration and rejuvenation of water bodies are as follows:

- Natural Resource Management Activities: panihara, panihara renovation, water storage tanks, irrigation kuhal, irrigation channel, rainwater harvesting tanks, community tanks, Bawari (springs), spring boxes, Pokhars, Kacha pond, ponds, renovation of ponds, water recharge ponds, staggered trenches, contour trenches, plantation, well construction, amritsarovars etc.

Entry Point Activities: Plantation, water storage tank, spring shed wells, Pokhar, farm ponds, renovation of ponds, spring shed wells, Bawari (springs), irrigation storage tank, Panihara, spring shed well, spring boxes, distribution of horticulture plants, amritsarovars etc.

Spring-shed Management under WDC-PMKSY 2.0

Spring-shed management holds paramount importance for Himachal Pradesh, given the state's reliance on natural springs as a primary water source. A spring-shed is a critical area surrounding a spring that directly influences its health and output. Efficient spring-shed management is vital for ensuring a sustained and clean water supply. By implementing comprehensive management plans, Himachal Pradesh can safeguard these springs against degradation, soil erosion, and pollution. This approach not only preserves water quality but also maintains the delicate balance of the ecosystem, contributing significantly to the state's water security and overall environmental resilience.

S. No.	District	Block	No.of Spring-shed (Total)	Cost of Springs (In Rs.)	Completed	Ongoing
1	Bilaspur	Ghumarwin	7	1,061,936.00	4	1
2	Chamba	Tissa	10	3,796,207.00	3	0
		Bharmour	11	2,884,896.00	2	0
		Pangi	6	1,526,567.48	2	0
3	Hamirpur	Bhoranj	8	1,020,000.00	7	1
4	Kangra	Baijnath	17	1,660,000.00	0	0
		Fatehpur	4	1,013,224.00	1	1
		Sullah	67	5,301,380.00	16	0
		Lambagaon	15	150,000.00	5	0
5	Kinnaur	Kalpa	5	1,400,000.00	3	1
6	Kullu	Anni	38	1,157,760.00	0	0
		Nirmand	5	1,120,000.00	0	0
8	Mandi	Seraj	27	2,000,000.00	3	0
		Balh	87	7,253,000.00	12	4
		Churag	24	2,775,000.00	2	2
		Balichowki	23	3,577,800.00	2	1
7	Shimla	Chhohara	19	2,000,680.00	3	0
8	Sirmaur	Paonta Sahib	12	1,194,152.00	7	0
		Pachhad	10	58,100.00	0	0
9	Solan	Dharampur	13	757,000.00	5	2
		Nalagarh	2	335,000.00	1	0
10	Una	Gagret	1	267,314.00	1	0
		Bangana	1	428,528.00	0	0
Grand Total			412	42738544.48	79	13

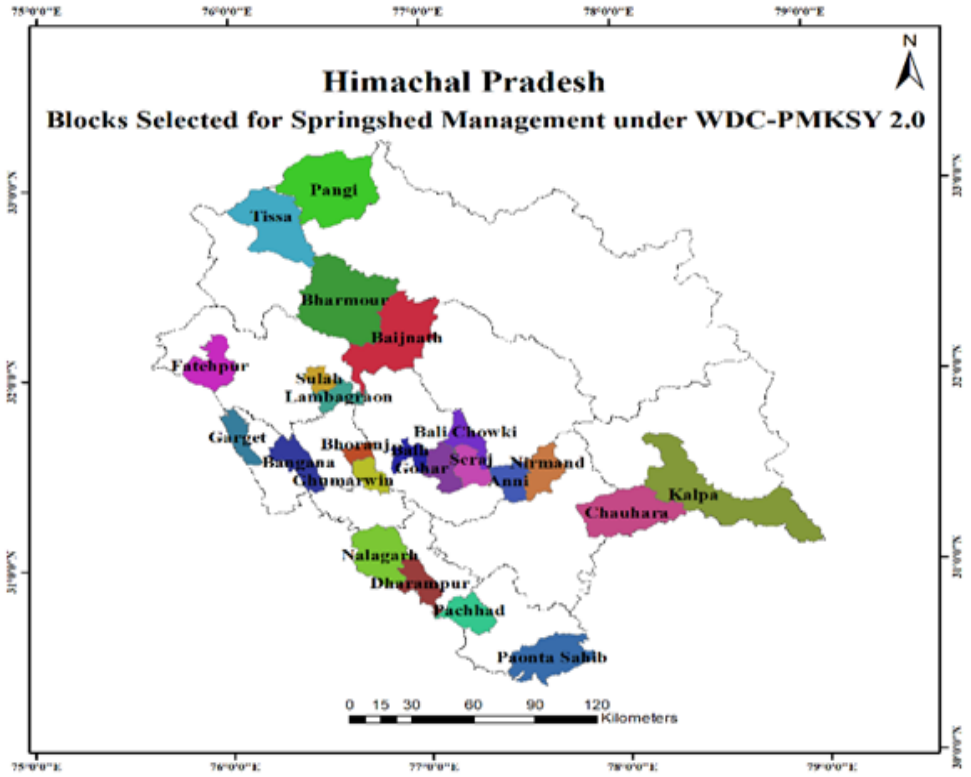
Source: RDD

Spring-shed Management in Himachal Pradesh

- The Spring-shed Management Programme is operational in 23 Project Areas across 12 Districts in Himachal Pradesh.
- 412 springs have been identified and classified into categories based on descending order of dependability of population on a particular spring.
- Himachal Pradesh has committed to completed more than 200 springs by 31st March, 2023 to Govt. of India.

Total Number of Springs under WDC-PMKSY-2.0	Completed	Ongoing	Not Started
412	79	13	320

Source: RDD



Information Regarding Spring-shed under WDC-PMKSY-2.0

As per the information on the spring-shed projects under WDC-PMKSY-2.0 in various districts. In Bilaspur, Ghumarwin block has 7 spring-sheds with a total cost of Rs. 1,061,936.00, covering an area of 37.92 hectares. While 4 spring-sheds are completed, 1 is ongoing, and 2 have not started yet. Chamba, in its Tissa, Bharmour, and Pangi blocks, has a combined total of 27 spring-sheds, with varied costs and coverage. Notably, Tissa has 10 spring-sheds, costing Rs. 3,796,207.00, while Bharmour and Pangi have 11 and 6 spring-sheds, respectively.

Hamirpur's Bhoranj block boasts 8 spring-sheds, costing Rs.1,020,000.00, covering an area of 34 hectares. Most of these projects, with 7 completed and 1 ongoing, showcase substantial progress. Kangra, in its Baijnath, Fatehpur, Sullah, and Lambagaon blocks, has a total of 103 spring-sheds, each with its unique characteristics. Sullah, with 67 spring-sheds, stands out, covering 88.5 hectares at a cost of Rs. 5,301,380.00.

Kinnaur, Kullu, Mandi, Shimla, Sirmaur, Solan, and Una districts are also actively involved in spring-shed projects. These projects aim to harness and manage water resources efficiently, with a grand total of 412 spring-sheds across districts, totalling Rs. 42,738,544.48 in cost and covering an extensive area of 1719.43 hectares. Out of these, 79 spring-sheds are completed, 13 are ongoing, and 320 are yet to start, reflecting the comprehensive efforts undertaken for sustainable water resource management.




No. of Amrit Sarovars targeted for 2022-23	No. of Amrit Sarovars completed	No. of Amrit Sarovars in Progress
97	93	04

- Source: RDD

- Amrit Mahotsav" celebrations for the 75th year of independence.
- The mission aims to construct/rejuvenate at least 75 Amrit Sarovars in each district across India to overcome the water crisis in rural areas.
- The target for these water bodies serves as a crucial step towards ensuring water sustainability at the local level.
- Target of H.P. – The initial target in the Annual Budget 2022-23 was to construct 93 Amrit Sarovar by 15th August, 2023while later Rural Development Department, Govt. of H.P. completed97 Amrit Sarovars in 10 Districts, 18 Blocks covering 466.63 hectare and amounting to Rs. 1,39,61,153. Out of these 97 Amrit Sarovars, 93 has been completed while 04 could not be started due to monsoon calamities in Himachal Pradesh.
- While as per the Govt. of India mandate min. size of Amrit Sarovar should be 1-hectare

District wise details of Amrit Sarovar constructed under Rural Development Department:-
(MGNREGA)

Mission Amrit Sarovar Status (01.01.2024)						
Sr. No.	District	Target District Wise	Total Number of sites on which Works has Commenced	Total Number of Works Completed till date	Remaining Amrit Sarovar to be completed	Total number of Amrit Sarovars where inspection has done
1	Bilaspur	140	153	143	0	175
2	Chamba	140	157	148	0	104
3	Hamirpur	150	200	175	0	172
4	Kangra	280	281	212	68	160
5	Kinnaur	50	51	40	10	41

6	Kullu	140	160	113	27	112
7	Lahul&Spiti	20	28	10	10	11
8	Mandi	210	216	177	33	211
9	Shimla	200	229	187	13	95
10	Sirmaur	160	187	165	0	78
11	Solan	160	157	134	26	91
12	Una	150	175	152	0	116
TOTAL		1800	1994	1656	144	1366

Source: RDD

13.2.6 Training and Capacity Building

- For regular measurement of discharge all JEs deputed under WDC PMKSY 2.0 have been provided detailed training. They can further train some women SHG members or members of VWSC to ensure measurement of discharge on a regular basis. The measurement is done once every season in the 1st year and at the same time during 2nd year.
- 5-Day Training was organized by PSI Dehradun on Springshed Management aiming to aware Junior Engineers about the concept of Springshed and its management. This training was scheduled from 16th to 20th May, 2022. This training highlighted the concept of Springshed, importance of morphology in Springshed, upper area treatment of springs and measurement the water level of springs.
- Similar training-cum-workshop was organised by SLNA, RDD to Junior Engineers and Agriculture Experts from the blocks which emphasized on Springshed Management. This workshop also include a technical session in which participants were trained on usage of the Drishti 2.0 app which is developed by NRSC, Hyderabad and used for geotagging of various activities under WDC-PMKSY 2.0.<more trainings can be added.

Exposure Visit

- The State Level Team conducted a field visit to Sikkim from October 3rd to October 7th, 2023, aiming to gain insights into the successful Spring-shed Management practices implemented in Rinchenpong Development Block.
- The visit culminated in a proposed Memorandum of Understanding (MoU) between Himachal Pradesh and Sikkim. Under this MoU, SIRD, Sikkim has committed to dispatch a team of technicians to provide training in

selected areas of Himachal Pradesh on the various best practices for more effective and efficient Spring-shed management.

Jalayan- I Campaign

- A four-day sensitization campaign '**Jalayan-I**' w.e.f. 27th – 30th June 2022, was organized across all project blocks which included activities like Plantation drives, poster making competitions, livelihood exhibitions etc.
- The 'Jalayan-I' campaign was organized with the aim to popularize the newly launched scheme amongst the stakeholders in all the 26 project blocks of the State.

Jalayan -II Campaign

- A three-day sensitization campaign '**Jalayan-II**' w.e.f. 15th– 17thJune 2023, was organized across all project blocks which included activities like Springs Inventory, Cleaning and Washing of Bawris, Water Quality testing of the Natural Water sources. The activities also included Plantation and cleanliness drives.

The 'Jalayan-II' campaign was organized with the aim to popularize the cleaning and maintenance of Traditional water sources through the scheme amongst the stakeholders in 23 project areas of the State.

Role of GIS & Remote Sensing in WDC-PMKSY 2.0

GIS-based Planning:

- GIS is used for site-specific planning, geo-tagging, and creating a comprehensive resource inventory.
- Satellite images aid in generating crucial data like Land-Use/Land Cover and Digital Elevation Models.
- Thematic layers, including hydrological and meteorological information, are overlaid for effective planning.

GIS-based Monitoring:

- Ground-based data is cross-verified with satellite images for authentication and monitoring.
- Smartphone applications and web-enabled GIS facilitate real-time monitoring and data collection.

- Unique IDs are assigned to structures, allowing for integrated temporal and attribute data points.

Monitoring System Components:

- Mobile applications and GIS tools are employed for geo-tagging, photo capture, and real-time monitoring.
- Web-based Management Information System (WMIS) is used for generating reports and decision-making.
- A web portal integrates spatial and non-spatial data for effective project dissemination.

GIS-based Evaluation:

- GIS and RS technologies are utilized to depict periodic changes and assess impacts.
- Change detection techniques, such as NDVI and NDWI, are applied to understand variations in vegetation cover and water availability.
- Satellite images and drones are used for pre, mid, and post-project evaluations, marking changes in Land Use/Land Cover, water storage, and other interventions.
- In summary, the integration of GIS and RS tools across the project life cycle ensures efficient planning, real-time monitoring, and meaningful evaluation of watershed management initiatives.

CHAPTER-3: GAPS IN IMPLEMENTATION ON THEMATIC AREAS

While preparing the state environment plan a review to the status of compliance to various provisions and directives has been done at the state level involving all concerned stakeholder as elaborated in the previous chapter. Here under an analysis has been undertaken as to assess and quantify the gaps under different prioritized thematic sections.

1. SOLID WASTE MANAGEMENT

a. Rules: The Solid Waste Management Rules notified by Ministry of Environment, Forest and Climate Change (MoEF&CC), Govt of India are also adopted and implemented in Himachal Pradesh. The rules address various aspects of waste management, including segregation, collection, transportation, disposal, and recycling. In addition to these rules the GOHP has notified its own act named as HP Non Biodegradable Garbage Control Act, 1995 & Rules there under quite before notification of Rules by GoI.

b. Duties: The duties related to solid waste management in Himachal Pradesh typically involve multiple stakeholders, including government bodies, municipal corporations, local authorities, and the community. Responsibilities may include:

- Formulating and implementing waste management plans.
- Promoting waste segregation at the source.
- Ensuring proper collection and transportation of waste.
- Establishing waste treatment and disposal facilities.
- Encouraging recycling and resource recovery.
- Raising public awareness about responsible waste management practices.

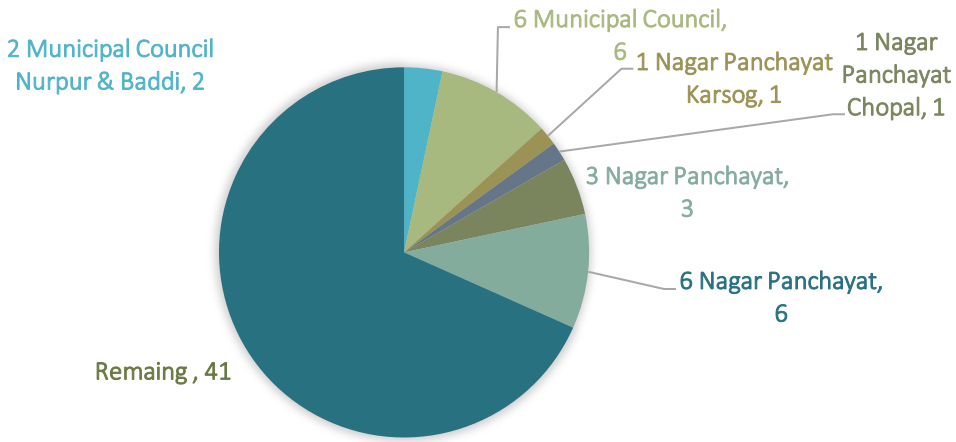
c. Progress and gaps: The state government of Himachal Pradesh has been proactively working towards improvements in waste collection efficiency, establishment of waste processing facilities, increased recycling rates, and public awareness campaigns. But still there are certain gaps in terms of effectively implement the actions/ rules and guidelines on ground. There are gaps in terms of inadequate infrastructure, insufficient funding, lack of community participation, and challenges in enforcing waste management regulations by different urban local bodies. Though the GOHP enacted own Act named as HP Non Biodegradable Garbage Control Act, 1995 & Rules there under quite before notification of Rules by GoI. Meaning thereby that the state of Himachal Pradesh has dealt the subject very proactively.

100% Door to Door Garbage Collection: Urban Development

As per the Notification on Door-To-Door Garbage Collection & Disposal Bye - Laws 2018, ''door to door garbage collection" means collection of solid waste from the door step of households, shops, commercial establishments, offices, institutional or any other non /residential premises and includes collection of such waste from entry gate or a designated location on the ground floor in a housing society, multi storied building or apartments, large residential, commercial or institutional complex or premises. According to the Solid Waste Management bye-laws the Municipal Council / Nagar Panchayat shall establish an integrated Solid Waste Management (SWM) system with an aim to reduce the amount of waste being disposed, while maximizing resources recovery and efficiency. Below table indicates the current gaps in implementation of door-to-door garbage collection across the urban local bodies in the state.

Sr. No.	Action pointsfor municipalities/ Corporations ULB Name	Identification of gap Whether door to door garbage collection practiced by households and other waste generators	Target Status	Gaps

1.	2 Municipal Council Nurpur & Baddi	60%-80%	Target Not Achieved	40%-20% gap in the door to door collection.
2.	6 Municipal Council	99%-90%	Target Not Achieved	1%-10% gap in door to door collection
3.	21 Municipal Council	100%	Target Achieved	No gap Sustain the target
4.	4 Municipal Corporation	100%	Target Achieved	No gap Sustain the target
5.	1 Nagar Panchayat Karsog	0% (there is a need to focus more on addressing gaps or on the existing strengths in solid waste management)	Target Not Achieved	100% gap No progress
6.	1 Nagar Panchayat Chopal	39%	Target Achieved	60% gap in the door to door collection.
7.	3 Nagar Panchayat	60%-90%	Target Not Achieved	40-10% gap in the door to door collection.
8.	6 Nagar Panchayat	99%-90%	Target Not Achieved	1%-10% gap in the door to door collection.
9.	16 Nagar Panchayat	100%	Target Achieved	No gap Sustain the target



No. of ULBs with no Compliance/ Limited Compliance

The data reveals the progress and gaps in door-to-door garbage collection across various urban local bodies (ULBs) in Himachal Pradesh. In Municipal Councils Nurpur & Baddi, the target of 60%-80% has not been achieved, indicating a significant gap of 40%-20% in the current door-to-door collection. Similarly, the 6 Municipal Councils aiming for 99%-90% have a 1%-10% gap.

Contrastingly, 21 Municipal Councils and 4 Municipal Corporations have achieved the 100% target, demonstrating commendable progress with no reported gaps. The emphasis for these ULBs is now on sustaining the achieved targets. Nagar Panchayat Karsog faces a critical situation with a 0% door-to-door collection rate and no progress reported. It is imperative to address gaps or build on existing strengths in solid waste management in Karsog urgently.

Nagar Panchayat Chopal, while achieving a 39% collection rate, presents a substantial 60% gap. This underscores the need for improvement in waste collection strategies.

In 3 Nagar Panchayats with collection rates of 60%-90%, and 6 Nagar Panchayats with rates of 99%-90%, there are gaps ranging from 40%-10% and 1%-10%, respectively. Addressing these gaps is critical for enhancing door-to-door collection efficiency in the state.

In order to ensure effective waste management practices, comprehensive strategies, including awareness campaigns, infrastructure improvements, and efficient monitoring systems, are needed to bridge the existing gaps and sustain achieved targets across the state.The primary cause of noncompliance is budget unavailability. Overcoming non-compliance issues requires addressing budget limitations and finding solutions to optimize resource utilization, explore alternative funding sources, and prioritize key compliance-related activities to mitigate risks and ensure sustainable operations.

Adoption of Door to Door Garbage Collection at HH level in Rural areas: Rural Development

Sr. No.	Action points for Villages/blocks etc.	Identification of gap	Target Status	Gaps
A.	Whether door to door garbage collection practiced by households and other waste generators	Against 13,12,510 Households, 34,705 Households have been covered for door- to-door collection (as per MIS data)	NA	97% gap 2.64% coverage (34,705 out of 13,12,510 households) currently practicing door to door garbage collection and falling short of the target.
B.	District wise household coverage: Household coverage targets at the district level.		Not Achieved	

Source: RDD/RDD

Adoption of Door-to-Door Garbage Collection at HH Level:

In addressing this initiative, the primary emphasis is on determining the prevalence of door-to-door garbage collection practices among households and waste generators in rural areas. The identified gap reveals that- out of a total of 13,12,510 households, only 34,705 households have been covered for door-to-door collection, indicating a significant gap of 97%. Unfortunately, the set target has not been achieved, with a mere 2.64% coverage currently in place. This notable gap implies that approximately 97% of households, amounting to around 12,77,805 households, are not engaged in door-to-door garbage collection, falling drastically short of the intended target.

District Wise Household Coverage:

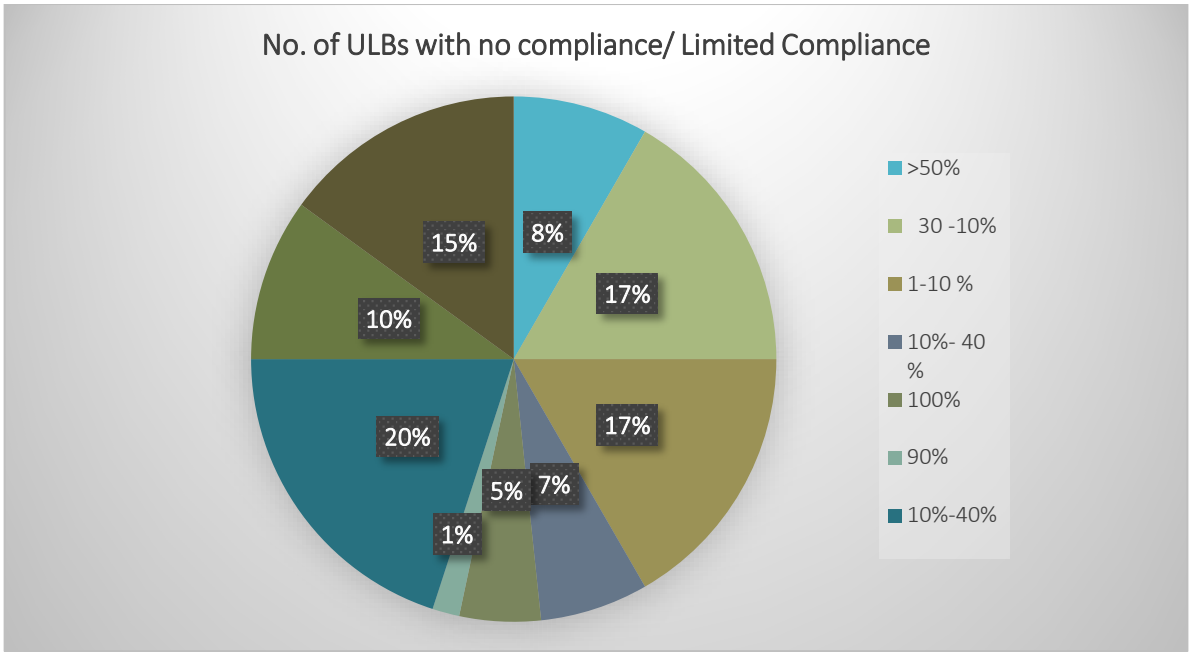
The analysis extends to district-wise household coverage targets, revealing an overarching non-achievement of the set goals at less than 100% across Himachal Pradesh. The household coverage targets at the district level have not been met, indicating a need for intensified efforts to bridge these gaps. Recognizing and addressing these identified gaps is imperative to enhance the adoption of door-to-door garbage collection practices in rural areas, aligning with the broader goals of effective waste management.

In order to drive meaningful change, action points must be directed towards expanding coverage, rectifying identified gaps, and diligently working towards achieving the established targets, ultimately fostering improved waste management practices in these rural communities.

SEGREGATION OF WASTE AT SOURCE: URBAN DEVELOPMENT

Sr. No.	Action points for municipalities/ Corporations ULB Name	Identification of gap Segregation of garbage source collection practiced by households and other waste generators	Target Status	Gaps
1.	5 Municipal Council	<50%	Target Not Achieved	>50% gap
2.	10 Municipal Council	60%-90%	Target Not Achieved	30 -10% gap
3.	10 Municipal Council	90%-99%	Target Not Achieved	1-10 % gap
4.	5 Municipal Council	100%	Target Achieved	No gap Activity needs to be sustained
5.	4 Municipal Corporation	60%-90%	Target Not Achieved	10%- 40 % gap
6.	3 Nagar Panchayat	0% (there is a need to focus more on addressing gaps or on the existing strengths in solid waste management)	Target Not Achieved	No progress
7.	1 Nagar Panchayat Kandaghat	10%	Target Not Achieved	90 % gap
8.	12 Nagar Panchayat	60%-89%	Target Not Achieved	10%-40% gap
9.	6 Nagar Panchayat	90%-99%	Target Not Achieved	9 % gap
10.	4 Nagar Panchayat	100%	Target Achieved	No gap Activity needs to be sustained

Source: RDD



The presented data reveals diverse trends in waste segregation at the source across urban local bodies (ULBs) in the context of door-to-door garbage collection. In Municipal Councils, an alarming gap of over 50% exists for those with less than 50% household participation. The 60%-90% and 90%-99% categories showcase varying degrees of progress, highlighting challenges even in areas with high collection rates.

Moving to Municipal Corporations, the 60%-90% range faces a substantial 10%-40% gap, indicating room for improvement. In Nagar Panchayats, the data underscores critical issues, including 0% door-to-door collection in some, signifying an immediate need for targeted interventions. Nagar Panchayats with 90%-99% collection rates still confront challenges meeting set targets.

Despite the success seen in some Municipal Councils and Nagar Panchayats achieving 100% door-to-door collection, the overarching data emphasizes the urgency for tailored strategies, heightened public awareness, and comprehensive waste management practices to bridge existing gaps and enhance waste segregation efforts across ULBs.

SEGREGATION OF WASTE AT SOURCE: RURAL DEVELOPMENT

Sr. No.	Action points for municipalities/ Corporations	Identification of gap	Target Status	Gaps
A.	Whether Segregation at source practiced by households and other waste generators	Against 13,12,510 Households, 34,705 Households have started source segregation (as per MIS data)	Target not achieved	97% gap 2.64% coverage (34,705 out of 13,12,510 households) currently practicing segregation at the source, falling short of the target.
B.	District wise house hold coverage: -		Household coverage targets at the district level have not been achieved fully yet in Himachal Pradesh	

Source: RDD

SEGREGATION AT SOURCE ADOPTION:

In assessing the practice of segregation at the source, the data reveals a significant gap. Against a total of 13,12,510 households, only 34,705 households have initiated source segregation, as reported in the Management Information System (MIS) data. This represents a substantial 97% gap, indicating a considerable shortfall in achieving the targeted adoption of waste segregation at the source. The current coverage of 2.64% highlights a critical need for interventions to promote and encourage source segregation practices among rural households.

DISTRICT-WISE HOUSEHOLD COVERAGE:

Moving beyond individual households, the analysis extends to district-wise household coverage targets at the broader level in Himachal Pradesh. The data emphasizes that these targets have not been fully achieved across the districts. The lack of full compliance at the district level suggests systemic challenges or barriers hindering the widespread adoption of waste segregation practices in rural areas.

Overall, the data points to a notable gap in the adoption of waste segregation at the source in rural Himachal Pradesh. Strategies and initiatives should be devised to bridge this gap, with a focus on increasing awareness, education, and community engagement to promote sustainable waste management practices at both the household and district levels.

Sweeping & de-silting of drain: Urban Development

(a) Manual Sweeping

The manual sweeping activities in various urban local bodies (ULBs) within Himachal Pradesh present a complex situation. Across 24 Municipal Councils, the manual sweeping efforts have successfully met their objectives, achieved 100% coverage of roads and ensuring the availability of appropriate personal protective equipment (PPE). These areas demonstrate effective implementation without reported deficiencies in workforce or sweeping tools, indicating a well-executed strategy.

In contrast, within 5 Municipal Councils, the designated target for the regular removal of road dust and silt through manual sweeping remains unfulfilled. An improvement is needed in the action plan, particularly addressing gaps in manpower, the method of cleaning, and the frequency of sweeping. This highlights the necessity for focused efforts and refined strategies to achieve the sweeping goals in these specific regions.

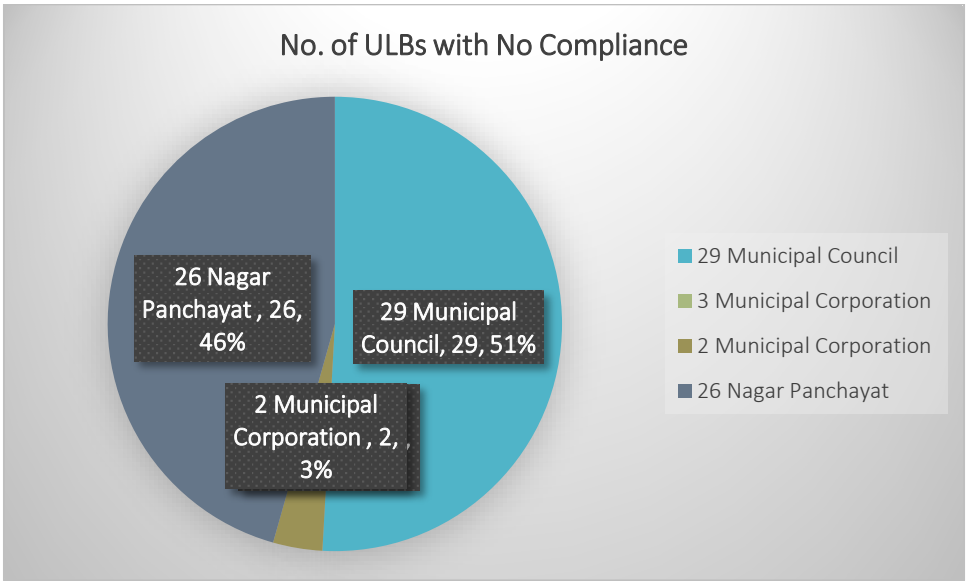
In both 5 Municipal Corporations and 20 Nagar Panchayats, the objectives for both manual and mechanical sweeping have been accomplished. These ULBs showcase a comprehensive 100% coverage of roads and ensure the availability of suitable PPE. Similar to the Municipal Councils, no deficiencies in workforce or sweeping tools are reported, affirming the successful execution of sweeping practices in these regions.

However, in 6 Nagar Panchayats, the target for the routine removal of road dust and silt through manual sweeping is not met. This demands the formulation of an action plan to address the identified gaps, with a particular focus on enhancing the cleaning method and the frequency of sweeping. These findings underscore the imperative for strategic interventions to elevate manual sweeping practices in these specific Nagar Panchayats.

(b). Mechanical Sweeping

Sr. No.	Mechanical Sweeping	Gaps if any in achieving targeted area or length of road identified for mechanical sweeping	Projected growth/intended action plan within timelines.	Target Status	Gaps
1.	29 Municipal Council	No road sweeping machine available in ULB.	Road Sweeping machine not Proposed (25 MC),	NA	100% gap

			machine proposed (4 MC)		
2.	3 Municipal Corporation	Road sweeping machine available in ULB.	Manual as well as Mechanical Road Sweeping is being done	NA	No gap Sustain the achievement
3.	2 Municipal Corporation	No road sweeping machine available in ULB.	Road Sweeping machine not Proposed	NA	100% gap
4.	26 Nagar Panchayat	No road sweeping machine available in ULB.	Road Sweeping machine not Proposed	NA	100% gap



According to the data concerning the implementation of mechanical sweeping across various urban local bodies (ULBs) provides a comprehensive view of the existing infrastructure and operational status, revealing notable gaps and opportunities for improvement.

Status of Municipal Councils:

In the case of 29 Municipal Councils, the absence of road sweeping machines stands out as a critical gap, resulting in a 100% shortfall in mechanical sweeping infrastructure. Additionally, there is no proposed plan for the introduction of road sweeping machines, indicating a clear deficiency in both the current state and future planning for mechanical sweeping in these Municipal Councils.

Status of 3 Municipal Corporations:

Conversely, the data for 3 Municipal Corporations portrays a positive scenario. The presence of road sweeping machines allows for both manual and mechanical road sweeping, demonstrating an effective implementation of the target. As there are no reported gaps, these Municipal Corporations sustain the target successfully, exemplifying a well-established mechanical sweeping infrastructure.

Status of 2 Municipal Corporations:

In another Municipal Corporation, a similar gap emerges as in the case of 29 Municipal Councils. The absence of road sweeping machines results in a 100% gap, and there is no proposed plan for their introduction. This underscores a crucial need for immediate attention to bridge the gap in mechanical sweeping infrastructure within this Municipal Corporation.

Status of 25 Nagar Panchayats:

The data for 25 Nagar Panchayats reflects a parallel scenario to the Municipal Councils. The absence of road sweeping machines leads to a 100% gap, and no proposed plan for their introduction is reported. This points to a widespread deficiency in mechanical sweeping infrastructure across Nagar Panchayats, necessitating strategic interventions and planning.

As per the information, a clear divide in the availability of road sweeping machines across different ULBs can be observed. While some Municipal Corporations demonstrate effective implementation and sustained targets, Municipal Councils and Nagar Panchayats face significant gaps in mechanical sweeping infrastructure. Addressing these deficiencies needs immediate interventions, including the installation of road sweeping machinery and detailed planning to improve mechanical sweeping capabilities in ULBs that now lack this critical infrastructure.

Sweeping & de-silting of drain : Rural Development

According to the information, manual and mechanical sweeping activities aren't deemed significant, particularly in the context of rural development. This shows that, within the current rural development framework, the emphasis on drain sweeping and de-silting does not include manual or machine sweeping activities. The absence of these activities could indicate a different strategy or emphasis on alternate ways of maintaining and managing drains in rural areas. Additional details or context may provide a better understanding of the precise strategies or initiatives used in this rural development environment.

Waste Collection : Urban Development

a) Waste Collection trolleys with separate compartments: Urban Development

#	Waste Collection	Check availability and adequacy if it needs up gradation	Target Status	Gaps
1.	1 Municipal Council Bilaspur	All waste collection vehicles are having separate compartments.	Target achieved	No gap Sustain the target
2.	1 Municipal Council Ghumarwin	Separate drums and bags placed in the vehicle.	Target achieved	No gap Sustain the target
3.	2 Municipal Council Chamba& Dalhausie	Collected waste is being transported in segregated form in separate compartmentalized vehicles by all ULBs.	Target achieved	No gap Sustain the target
4.	1 Municipal Council Naina Devi	Manual Collection from Door to Door are being done in a separate Blue and Green Bags and there is a separate compartment in a collection vehicle.	Target achieved	No gap Sustain the target
5.	2 Municipal Council Kullu & Manali	Provided separate carry bags for collection of segregated waste.	Target achieved	No gap Sustain the target
6.	22 Municipal council	Available and adequate in the ULB.	Target achieved	No gap Sustain the target
7.	5 Municipal Corporation	Available and adequate in the ULB.	Target achieved	No gap Sustain the target
8.	1 Nagar Panchayat Talai	Separate drums and bags placed in the vehicle.	Target achieved	No gap Sustain the target
9.	1 Nagar Panchayat	Collected waste is being	Target	No gap

	Chowari	transported in segregated form in separate compartmentalized vehicles by all ULBs.	achieved	Sustain the target
10.	3 Nagar Panchayat Bhunter,Banjar,Nirmand	Provided separate carry bags for collection of segregated waste.	Target achieved	No gap Sustain the target
11.	1 Nagar Panchayat Karsog	Not Available	Target not achieved	100% gap
12.	20 Nagar Panchayat	Available and adequate in the ULB.	Target achieved	No gap Sustain the target

Source: UDD

In 1 Municipal Council Bilaspur, 1 Municipal Council Ghumarwin, 2 Municipal Council Chamba & Dalhousie, 1 Municipal Council Naina Devi, 2 Municipal Council Kullu & Manali, 22 Municipal Council, 5 Municipal Corporation, 1 Nagar Panchayat Talai, 1 Nagar Panchayat Chowari, 3 Nagar Panchayat Bhunter, Banjar, Nirmand, and 20 Nagar Panchayat.

In these ULBs, the waste collection vehicles are equipped with separate compartments, ensuring the segregation of waste during transportation. This adherence to the target indicates that the ULBs have achieved the set objectives, and there are no reported gaps in the availability or adequacy of waste collection trolleys with separate compartments. The sustained target status suggests effective waste management practices in these areas.

On the contrary, in Nagar Panchayat Karsog, the data reveals a significant gap as waste collection trolleys with separate compartments are not available. This results in a 100% gap, indicating that the target for this specific ULB has not been achieved. The absence of this essential infrastructure highlights a specific deficiency in waste collection practices in Nagar Panchayat Karsog, necessitating immediate attention and strategic interventions to bridge the gap.

Overall, majority of the ULBs have successfully achieved the target of having waste collection trolleys with separate compartments, Nagar Panchayat Karsog stands out with a substantial gap in this crucial waste management infrastructure. More focused efforts are required to ensure the availability and adequacy of waste collection trolleys with separate compartments, aligning with the broader goals of effective waste segregation and transportation in urban development.

WASTE COLLECTION: RURAL DEVELOPMENT

Sr. No.	Waste Collection	Check availability and adequacy if it needs up gradation	Target status	Gap
1.	In Villages/ GPs	No mechanism available	Target not achieved	100% gap

The data indicates a stark scenario where there is no mechanism available for waste collection in these rural areas. This results in a 100% gap, signifying a complete failure to achieve the target. The absence of a waste collection mechanism emphasizes a significant deficiency in waste management infrastructure at the village and Gram Panchayat level. Immediate attention and strategic interventions are essential to address this gap, aiming to establish effective waste collection mechanisms in rural areas, aligning with broader goals of sustainable and comprehensive waste management in rural development.

b) Mini Collection Trucks with separate compartments: Urban Development

Sr. No.	Waste Collection	Gaps Check availability and adequacy if it needs up-gradation	Gaps
12.	1 Municipal Council Bilaspur	Not required.	No gap Sustain the target
13.	1 Municipal Council Naina Devi	Tippers	Requires tippers for waste collection.
14.	1 Municipal Council Ghumarwin	Not required. Existing two no. trucks, Three Wheelers & One No. Tractor, GPS enabled and having separate compartments for wet and dry waste.	No gap Sustain the target
15.	2 Municipal Council Nahan& Paunta	Inadequate	100 % gap
16.	1 Municipal Council Hamirpur	Adequate	No gap Sustain the target
17.	1 Municipal Council Sarkaghat	Inadequate	100% gap
18.	22 Municipal Council	Adequate	No gap Sustain the target
19.	5 Municipal Corporation	Adequate	No gap Sustain the target
20.	1 Nagar Panchayat Talai	Not required. One no. truck GPS enabled and has compartments for wet and dry waste.	No gap Sustain the target
21.	6 Nagar Panchayat	Inadequate	100% gap
22.	19 Nagar Panchayat	Adequate	No gap Sustain the target

Source: UDD

Municipal Council Bilaspur indicates positive progress as existing waste collection mechanisms are deemed sufficient, sustaining the target with no identified gaps. Need for Upgradation: Contrarily, Naina Devi reveals a gap in progress, requiring tippers to meet waste collection targets, highlighting an infrastructure deficiency. Effective Practices: Ghumarwin showcases effective waste management practices with no identified gaps, having GPS-enabled vehicles with separate compartments for wet and dry waste. Significant Gaps: Municipal Councils Nahan & Paunta and Sarkaghat face significant gaps with inadequate mini collection trucks, necessitating immediate attention and upgradation.

Sustained Targets: Municipal Council Hamirpur, a group of 22 Municipal Councils, 5 Municipal Corporations, Nagar Panchayat Talai, and 19 Nagar Panchayats demonstrate progress with sustained targets, reflecting effective waste management practices.

WASTE DEPOSIT CENTRES: URBAN DEVELOPMENT

Sr. No.	Waste Deposit Centers	No. of deposit centers required and no. available. Gaps	Gaps
1.	1 Municipal Council Naina Devi	Required – 01 Available - 01	No gap Sustain the target
2.	28 Municipal Council	Required - No Available - No	100% gap
3.	5 Municipal Corporation	Required - No Available - No	100% gap

4.	26 Nagar Panchayat	Required - No Available - No	100% gap

Municipal Council Naina Devi: Naina Devi exhibits a positive scenario with the required and available deposit centres both being at one, signifying no gap. This indicates effective waste management practices, sustaining the target with existing infrastructure.

28 Municipal Council, 5 Municipal Corporation, 26 Nagar Panchayat: Conversely, Municipal Councils (28 in total), Municipal Corporations (5), and Nagar Panchayats (26) display a significant 100% gap. The absence of available deposition centres aligning with the required number highlights a substantial deficiency in waste management infrastructure. Urgent attention is needed to address these gaps, establishing the necessary deposition centres to meet waste deposition requirements in these urban areas.

Overall, while Naina Devi showcases effective waste management practices with no identified gaps, a widespread deficiency is observed in numerous other ULBs, emphasizing the critical need for infrastructure development to fulfil waste deposition requirements in urban areas.

Waste Deposition Centres: Rural Development

Sr. No.	Waste Depositions Centers	No. of deposition centres required and no. available	Target Status	Gaps
(i)	Total 88 Blocks will be covered by establishment of PWMU. One in each Block	62 No. PWMU to be established. 26 No. available	Not achieved	approximately 58.06% gap in the establishment of PWMUs.

According to data on Waste Deposition Centres in Rural Development, only 26 Public Waste Management Units (PWMUs) have been created out of the intended 88 blocks, leaving a substantial gap of around 58.06%. The breakdown to meet the target indicates issues with the implementation process or resource allocation. Urgent action is necessary to close these gaps, with a strategic emphasis on expediting the establishment of PWMUs in the remaining blocks. Closing this gap is critical for providing comprehensive waste management coverage in all designated rural locations.

Domestic Hazardous Waste: Urban Development

Domestic Hazardous Waste Deposit Centres are being established in several municipalities and corporations in Himachal Pradesh, with varying levels of success. Several municipal councils and Nagar Panchayats have installed kiosks to address domestic hazardous waste (HHW). Municipal Councils Bilaspur, Naina Devi, and Ghumarwin, for example, have established three, four, and two kiosks, respectively, while Nahan and Paonta Sahib are in the process of creating two and five kiosks. Some places, however, have significant infrastructure shortages. The Municipal Corporation of Mandi and the Nagar Panchayats of Rewalsar and Karsog do not have centralised hazardous waste collection facilities. Similarly, the Nagar Panchayats of Talai, Chirgaon, and Nerwa are in the process of erecting kiosks or have yet to do so. These gaps indicate the necessity for targeted measures to speed up the establishment of deposition centres and centralised collection facilities in certain locations, providing complete and efficient management of residential hazardous waste.

Waste Transport

a Review existing infrastructure for waste transport.

The review of existing waste transport infrastructure across various municipalities and corporations in Himachal Pradesh reveals a mixed scenario. In 27 Municipal Councils, the infrastructure is considered adequate, and the waste compartment method is already in use. No specific gaps are identified in these areas, suggesting a functional and sufficient waste transport system. Similarly, the four Municipal Corporations also report that the infrastructure is adequate, with the waste compartment method in operation, and no specific gaps are noted.

Contrastingly, in 2 Nagar Panchayats, Karsog and Banjar, the waste transport infrastructure is still under progress, indicating a need for further development and completion of these facilities. The gaps in these areas highlight ongoing challenges and the necessity for additional efforts to establish a robust waste transportation system.

On the whole, the state of waste transport infrastructure varies across different regions, with some areas exhibiting well-established and functional systems, while others are still in the process of development. This underscores the importance of continuous efforts to enhance waste management infrastructure comprehensively and ensure effective transportation mechanisms throughout the state.

b Bulk Waste Trucks

It indicates the assessment of bulk waste trucks' adequacy across various ULBs in Himachal Pradesh. In the case of Naina Devi, a Municipal Council, the temple trust, which serves as a bulk waste generator, obviates the need for bulk waste trucks due to the close proximity of the waste site to the temple. This situation aligns with the specific requirements of Naina Devi, and as such, there is no apparent gap in the waste disposal infrastructure. This implies that the existing waste management infrastructure in these regions is considered sufficient to handle the bulk waste generated, and therefore, no significant gaps are identified. Overall, the waste disposal methods currently in place align with the waste generation characteristics of each region, demonstrating a proactive and efficient approach to waste management without the need for additional bulk waste trucks.

c Waste Transfer points.

In assessing waste transfer points in various regions, including 29 Municipal Councils, 5 Municipal Corporations, and 26 Nagar Panchayats, the consensus is that they are not required due to the relatively small quantum of waste and limited geographical areas of the Urban Local Bodies (ULBs). The Solid Waste Management (SWM) facilities are in proximity to waste generation areas, suggesting an efficient setup. However, gap lies in the lack of specified criteria for determining the adequacy of waste transfer points.

Waste Treatment and Disposal : Urban Development

a.) Wet-waste Management: On-site composting by bulk waste generators (Authority may decide on requirement as per Rules)

In the realm of urban development, dedicated efforts have been made to implement on-site composting initiatives for wet-waste management, specifically targeting bulk waste generators in Municipal Councils, Municipal Corporations, and Nagar Panchayats across Himachal Pradesh. The identification of bulk waste generators for on-site composting has been completed for 29 Municipal Councils, 5 Municipal Corporations, and 26 Nagar Panchayats. However, it is noteworthy that the set targets have not been achieved in these areas, indicating existing gaps or challenges in the comprehensive implementation of on-site composting initiatives. Addressing these challenges and refining the strategies in place will be imperative to ensure the successful execution of on-site composting practices and enhance wet-waste management effectiveness in these urban regions.

b.) Wet-waste Management: Facility(ies) for central Bio-methanation/ Composting of wet waste.

S. No.	Wet waste management facility (i.e all central Bio Methanation/ composting of wet waste)	Whether facility exist / functional / needs up gradation/	Gaps
1.	1 Municipal Council Bilaspur	Due to local dispute in existing waste processing site, Composting pits at existing site are not in use; however the waste is being disposed to piggery farm at Bhadsin village near Ghumarwin. Need new site.	100% gap due to lack of utilization of existing composting pits.
2.	1 Municipal Council Ghumarwin	Wet waste is sent to the piggery farm at Bhadsin village.	50 % gap due to reliance on a piggery farm for wet waste disposal
3.	2 Municipal Council Kullu & Manali	There is need of up- gradation of composting facility as existing facilities are not properly maintained & are inadequate.	Composting facility need to maintain.
4.	2 Municipal Council Rampur & Sarkaghat	No facility Exists	No progress
5.	23 Municipal Council	Facility exists and functional	No gap Sustain the target
6.	1 Municipal Corporation Mandi	Facility Exists required upgradation	No gap Sustain the target
7.	3 Municipal corporations	Facility exists and functional	No gap Sustain the target
8.	1 Municipal Corporation Shimla	Mixed waste treatment facility exists and functional	No gap Sustain the target
9.	1 Nagar Panchayt Bhota	Temporary Facility exists and functional	Need more permanent and robust wet waste management.
10.	3 NagarPanchayat Bhunter, Banjar & Nirmand	There is need of up- gradation of composting facility as existing facilities are not properly maintained & are inadequate.	Up-gradation of composting facility is require.
11.	1 Nagar Panchayat Talai	Honey comb pits provided for composting of wet waste.	Honeycomb pits indicates an basic wet waste management infrastructure.
12.	6 Nagar panchayat	No facility Exists	No progress
13.	15 Nagar Panchayat	Facility exists and functional	No gap Sustain the target

The data on wet-waste management facilities for central bio-methanation/composting in urban areas reveals a diverse landscape of implementation and challenges. In Municipal Council Bilaspur, existing composting pits are unused due to a local dispute, requiring the identification of a new site, resulting in a 100% gap in utilization. Similarly, in Ghumarwin, there is a 50% gap as wet waste is directed to a piggery farm for disposal, indicating reliance on alternative methods.

In Kullu & Manali and Rampur & Sarkaghat, the need for upgradation is emphasized due to inadequately maintained and insufficient composting facilities, respectively. Notably, no facility exists in Rampur & Sarkaghat, indicating a lack of progress in wet-waste management infrastructure.

Conversely, 23 Municipal Councils and 3 Municipal Corporations report functional facilities, showcasing successful implementation with no identified gaps. The sustenance of these targets is a positive aspect, indicating effective wet-waste management practices. Municipal Corporation Shimla's mixed waste treatment facility is functional, representing no identified gaps, and the target is sustained, reflecting effective wet-waste management practices.

Challenges exist in Nagar Panchayats Bhota and Bhunter, Banjar & Nirmand due to inadequately maintained facilities, requiring upgradation. Talai demonstrates a basic wet-waste management infrastructure with honeycomb pits. Meanwhile, 15 other Nagar Panchayats report functional facilities with no identified gaps.

However, no progress is noted in 6 Nagar Panchayats, underscoring a significant gap in establishing wet-waste management infrastructure. In conclusion, the data highlights the need for addressing gaps in existing facilities, including dispute resolution, upgradation, and the establishment of new sites to ensure effective and sustainable central bio-methanation/composting practices across urban areas.

Waste Treatment and Disposal : Rural Development:

S.No.	Wet waste management facility (i.e all central Bio Methanation/ composting of wet waste)	Whether facility exist / functional / needs up gradation	Target Status	Gaps
1	40313 Households have been covered with community compost pits	Based on need	Not achieved	Only 40313 households covered with community compost pits

The primary method for wet waste management in rural areas is through community compost pits, with coverage for 40,313 households. However, the data indicates that this falls short of the intended target, resulting in a notable gap. The target for achieving widespread coverage with community compost pits has not been met, highlighting an implementation shortfall.

The key gap in rural waste treatment and disposal lies in the limited coverage of households with community compost pits, emphasizing the need for scaling up efforts to meet the intended targets and enhance the effectiveness of wet waste management in rural regions.

Dry Waste Management: Urban Development

a) Material Recovery for dry-waste fraction

There are dry waste management facilities in different regions, including Municipal Councils and Nagar Panchayats in Himachal Pradesh. In the case of 27 Municipal Councils, the existing facility is operational, with the RDF/SCF (Refuse Derived Fuel/Solid Compressed Fuel) being sent to Cement Plants for Co-Processing, reflecting an efficient waste management strategy. Similarly, 5 Municipal Corporation and 20 Nagar Panchayats have operational facilities, utilizing RDF/SCF for Co-Processing, demonstrating effective dry waste management practices.

However, notable gaps are identified in the dry waste management infrastructure of 2 Municipal Councils (Dehra & Nurpur) and 6 Nagar Panchayats, where facilities have not yet been developed. This signifies a critical need for establishing infrastructure for managing dry waste in these areas. The absence of developed facilities points to potential challenges in the disposal and recycling of dry waste, highlighting the necessity for investment and efforts to create suitable facilities. Addressing these gaps will be crucial for the overall improvement of waste management systems, ensuring that dry waste is effectively processed and contributing to sustainable and eco-friendly practices in these regions. The existing operational models in other regions emphasize the need for similar efficient infrastructure across the state to enhance overall waste management capabilities.

Dry Waste Management :Rural Development

S. No.	Dry Waste management	MRF for dry waste fraction/ Whether MRF facility exist? Is there any arrangement to sending the dry waste to any common MRF or sent to Waste to Energy plant or %age dry waste converted as RDF or need to set up own waste to Energy plant?	Target Status	Gaps
1	GPs/Blocks	-No- The present practice for disposal of plastic waste is being adopted from collection-cum-segregation centers.	Not achieved	Implementation of MRF (Material Recovery Facility) for dry waste fraction in GPs/Blocks has not been achieved yet.

Disposal of inert and non-recyclable wastes: Urban Development

It provides information on the status of disposal of inerts and non-recyclable waste, specifically focusing on sanitary landfills (SLFs), dump sites, and other arrangements made by various Urban Local Bodies (ULBs). The summary of the table is as follows:

ULB-wise Disposal Information: Out of 60 ULBS most ULBs have one or more dump sites, but many of them have not achieved the target status of converting to sanitary landfills (SLFs).Legacy waste remediation is under process in several locations.

Gaps Identified:

a. Lack of Sanitary Landfills (SLFs): A significant gap exists as SLFs are either not existing or not planned in most ULBs. This indicates a deficiency in the infrastructure for proper and environmentally sustainable waste disposal.

b) Dump Sites Still in Use: Many ULBs continue to dispose of waste in dump sites, indicating a failure to transition to modern waste management practices.

c) Unclear Agreements: In some cases, agreements have been signed with recyclers or waste management entities, but the nature and effectiveness of these arrangements are not clearly stated.

ULBs need to develop detailed plans for the establishment of SLFs or alternative waste disposal methods, specifying timelines and budgets or assess and address any regulatory hurdles or compliance issues that may be hindering the transition to modern waste management practices.
ULBs should also increase public awareness regarding proper waste disposal practices and the importance of transitioning to environmentally sustainable methods.

Disposal of inert and non-recyclable wastes: Rural Development

Legacy Waste Sites/Dumpsite/Hotspots to be identified and will be eliminated in Districts/Blocks.

Remediation of legacy dumpsite: Urban Development

S.No.	ULB Name	Remediation of legacy dumpsite	Gaps
1.	3 Municipal Corp. Dharamshala	Waste is not cleared yet.	100% gap

	Mandi,Solan		
2.	6 Municipal Council Kullu, Manali, Baddi, Santokgharh, Chowari, Baijnath	Waste is not cleared yet.	100% gap
3.	5 Municipal Corporation Sunder Nagar, Sarkaghat, Bilaspur, Rewalsar, Dalhousie	Waste is not cleared yet.	100% gap
4.	1 MC Hamirpur	Actual legacy waste is found to be much higher than the original estimate. The revised estimated quantity is under process, leading to a target not achieved status.	100% gap

3 Municipal Corporations, Dharamshala, Mandi, and Solan, shows that all waste has not been cleared, indicating a target not achieved status. Similarly, for six Municipal Councils, including Kullu, Manali, Baddi, Santokhgarh, Chowari, and Baijnath, the target has not been achieved as all waste has not been cleared. 5 Municipal Councils, namely Sunder Nagar, Sarkaghat, Bilaspur, Rewalsar, and Dalhousie, report that all waste has been cleared, achieving the target. For Municipal Corporation Hamirpur, gap is identified in waste management. The originally estimated quantity of waste has not been scientifically determined, and the actual legacy waste is found to be much higher than the original estimate. The revised estimated quantity is under process, leading to a target not achieved status.

Involvement of NGOs

S.No.	Involvement of NGO's / ECO Clubs / NCC / NSS / Scout Guides etc.	Whether involvement of NGO envisaged?	Whether all NGOs involved	Target Status	gaps
1	29 Municipal Council	Yes	No	Target not achieved	No progress
2	5Municipal Corporation	Yes	No	Target not achieved	No progress
3	26 Nagar Panchayat	Yes	No	Target not achieved	No progress

This table assesses the involvement of various entities such as NGOs, ECO Clubs, NCC, NSS, Scout Guides, etc., in waste management across different Municipal Councils, Corporations, and Nagar Panchayats. For 29 Municipal Councils, 5 Municipal Corporations, and 26 Nagar Panchayats, the table indicates that the involvement of NGOs is envisaged (Yes). However, the "Target not achieved" status suggests that, at the present moment, not all NGOs have been successfully involved in waste management initiatives in these areas. The status of NGO involvement in waste management across the specified locations, highlighting a gap between the intended target of involvement and the current achieved status.

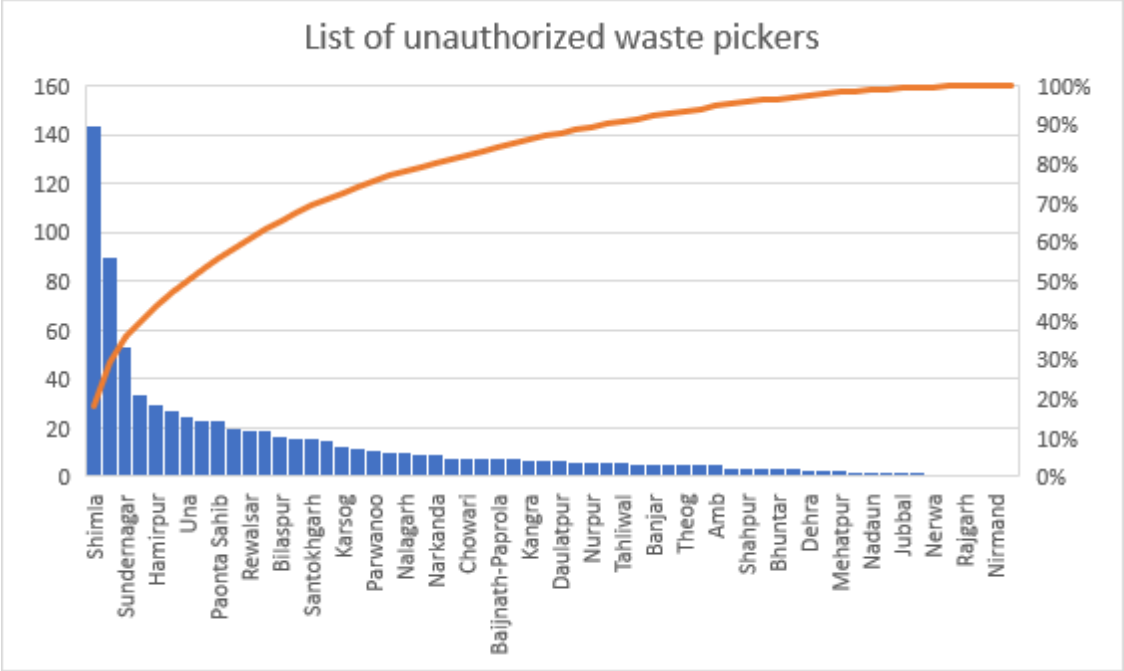
Authorization of Waste Pickers

Shimla:Gaps: Presence of a high number of unauthorized waste pickers (144) indicates a significant challenge. There is a need for more effective waste picker management.
Mandi:Gaps: Substantial presence of unauthorized waste pickers (90) suggests a challenge in waste picker regulation. The waste picker authorization target is not fully achieved.
Sundernagar:Gaps: Presence of unauthorized waste pickers (53) despite. Need for enhanced waste picker management strategies.
Jogindernagar:Gaps: The waste picker authorization target is not fully achieved.Presence of unauthorized waste pickers (34) indicates challenges in waste picker regulation.

Hamirpur:Gaps: The presence of 30 unauthorized waste pickers indicates challenges in waste picker management.
Chamba:Gaps: The waste picker authorization target is not fully achieved. Presence of unauthorized waste pickers (27) suggests ongoing challenges in waste picker regulation.
Una:Gaps: A considerable number of unauthorized waste pickers (25) indicates challenges in waste picker regulation.
Dharamshala:Gaps: Presence of unauthorized waste pickers (23) indicates challenges in waste picker regulation .
Paonta Sahib:Gaps: Considerable presence of unauthorized waste pickers (23) suggests challenges in waste picker management.
Sarkaghat:Gaps: The waste picker authorization target is not fully achieved. Presence of unauthorized waste pickers (20) suggests challenges in waste picker regulation.
Kandaghat, Nirmand: Gaps: The absence of waste picker authorization (0) suggests the need to initiate and complete the authorization process in this area.

Overall Observations:

Ongoing processes across various ULBs indicate that waste picker authorization targets are not fully achieved in many areas. Presence of a considerable number of unauthorized waste pickers highlights challenges in waste picker regulation and effective management.



Preparation of own bye-laws to comply with SWM Rules 2016

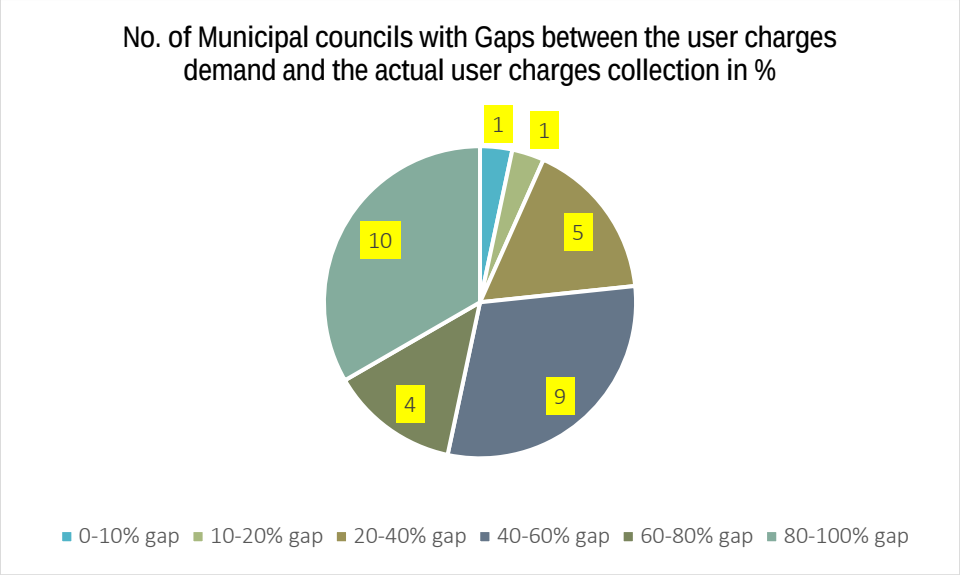
The information provided indicates that all three entities, Municipal Council 29, Municipal Corporation 5, and Nagar Panchayat 26, have achieved the target of preparing bye-laws to comply with the Solid Waste Management Rules 2016. As a result, there are no identified gaps for these entities in terms of the preparation of bye-laws. The target has been successfully accomplished, signifying compliance with the SWM Rules 2016 in these jurisdictions.

User Charges regarding door-to-door garbage collection

Municipal Council

Sr. No.	ULB Name	Gaps between the user charges demand and the actual user charges collection in %
1.	MC Sarkaghat	9.57% gap
2.	MC Jogindernagar	10.16% gap
3.	MC Solan	15.79% gap
4.	MC Hamirpur	23.48% gap
5.	MC Jawalamukhi	31.83% gap
6.	MC Kangra	32.80% gap
7.	MC Shri Naina Devi Ji	35.00% gap
8.	MC Bilaspur	35.70% gap
9.	MC Manali	37.26% gap
10.	MC Una	41.63% gap
11.	MC Dalhousie	44.59% gap
12.	MC Nagrota Bagwan	45.51% gap
13.	MC Ghumarwin	46.14% gap
14.	MC Santokhgarh	49.13% gap
15.	MC Kullu	55.56% gap
16.	MC Rohru	55.81% gap
17.	MC Chamba	59.34% gap
18.	MC Sujanpur	59.48% gap
19.	MC Nahan	60.82% gap
20.	MC Dehra	61.28% gap
21.	MC Mehatpur	62.83% gap
22.	MC Parwanoo	75.00% gap
23.	MC Ner Chowk	80.00% gap
24.	MC Nurpur	84.11% gap
25.	MC Rampur	85.08% gap
26.	MC Paonta Sahib	85.73% gap
27.	MC Nalagarh	86.88% gap
28.	MC Theog	87.07% gap
29.	MC Baddi	88.00% gap
30.	MC Sundernagar	100% gap/No progress

Source: UDD



Financial Differences in User Charges Collection:

The Municipal Councils of Sarkaghat, Jogindernagar, Solan, Hamirpur, Jawalamukhi, Kangra, Shri Naina Devi Ji, Bilaspur, Manali, Una, Dalhousie, Nagrota Bagwan, Ghumarwin, Santokhgarh, Kullu, Rohru, Chamba, Sujanpur, Nahan, Dehra, Mehatpur, Parwanoo, Ner Chowk, Nurpur, Rampur, Paonta Sahib, Nalagarh, Theog, Baddi, Sarkaghat (repeated entry), and Sundernagar exhibit gaps ranging from 9.57% to 100%. These gaps indicate discrepancies between the anticipated revenue from user charges and the actual amounts collected.

Substantial Revenue Gaps and Non-Progressive Instances:

Municipal Councils such as Karsog and Sundernagar report a 100% gap, signifying a complete failure in the collection of user charges. Additionally, the Municipal Council of Sundernagar, despite a significant gap, also notes "No progress," indicating a lack of improvement in the situation. This suggests a critical need for strategic interventions and improvements in revenue collection mechanisms.

The above figures emphasize the urgent need for addressing the financial gaps in user charges collection across various Municipal Councils. Municipalities should implement effective strategies to bridge these discrepancies, ensuring the financial sustainability of door-to-door garbage collection services. Continuous monitoring and improvement measures are essential to enhance revenue collection efficiency and achieve progress in areas reporting stagnation.

Municipal Corporation

Sr. No.	ULB Name	Gaps between the user charges demand and the actual user charges collection in %
1.	M. Corp. Palampur	10.91% gap
2	M. Corp. Dharamshala	35.01% gap
3	M Corp. Shimla	41.95% gap
4	M Corp. Mandi	69.57% gap

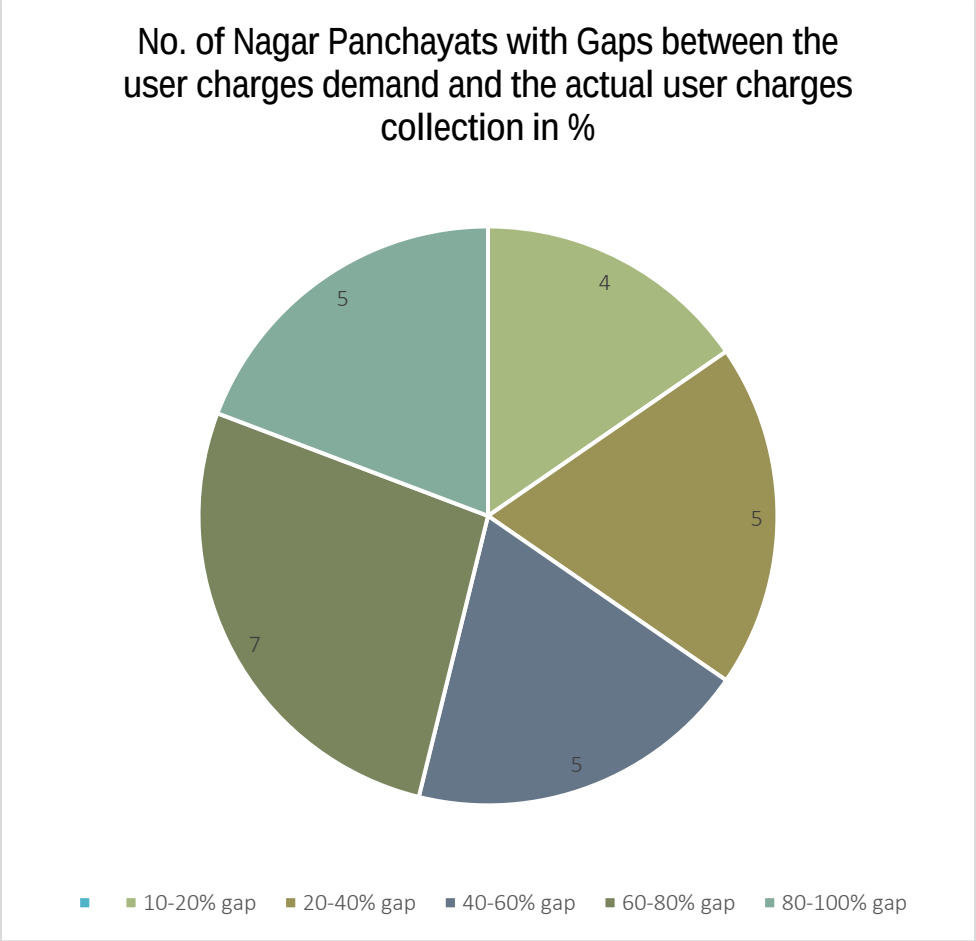
The data on user charges collection in Municipal Corporations reveals significant gaps between the demanded user charges and the actual collection percentages. Analysing this information provides insights into financial challenges and the effectiveness of revenue collection mechanisms. Among the Municipal Corporations, Palampur shows a 10.91% gap, Dharamshala reports a substantial 35.01% gap, Shimla records a significant

41.95% gap, and Mandi indicates a substantial 69.57% gap. These gaps represent disparities between the expected revenue from user charges and the actual amounts collected, highlighting potential financial challenges.

The gaps vary across Municipal Corporations, with Palampur experiencing a comparatively lower gap of 10.91%, while Mandi faces a more significant challenge with a 69.57% gap. These differences underscore the need for tailored approaches and interventions based on the specific financial dynamics of each Municipal Corporation. The substantial gaps in user charges collection, particularly in Mandi, indicate potential financial sustainability concerns for waste management services. These discrepancies may impact the ability of Municipal Corporations to fund and maintain effective waste collection and disposal systems.

Nagar Panchayat

Sr. No.	ULB Name	Gaps between the user charges demand and the actual user charges collection in %
1.	NP Narkanda	12.90% gap
2.	NP Kandaghat	14.06% gap
3.	NP Bhota	16.67% gap
4.	NPArki	18.75% gap
5.	NP Chowari	25.68% gap
6.	NP Amb	29.68% gap
7.	NP Banjar	30.00% gap
8.	NP Baijnath Paprola	33.70% gap
9.	NP Jubbal	35.24% gap
10.	NP Rewalsar	40.17% gap
11.	NP Talai	45.64% gap
12.	NP Bhunter	50.77% gap
13.	NP Gagret	57.51% gap
14.	NP Chirgaon	58.33% gap
15.	NP Chopal	60.87% gap
16.	NP Daulatpur	63.60% gap
17.	NP Shahpur	64.48% gap
18.	NP Sunni	68.00% gap
19.	NP Rajgrah	70.22% gap
20.	NP Nirmand	71.11% gap
21.	NP Nadaun	74.76% gap
22.	NP Jawali	90.14% gap
23.	NP Kotkhai	94.29% gap
24.	NP Tahliwal	100 % gap/No progress
25.	NP Karsog	100% gap/No progress
26.	Nagar Panchayat Nerwa	100% gap/No progress



Similarly, the data on user charges collection in Nagar Panchayats highlights substantial gaps between the demanded user charges and the actual collection percentages. Notable disparities exist across various Nagar Panchayats, indicating diverse financial dynamics and challenges in revenue collection. For instance, Narkanda has a 12.90% gap, Kandaghat reports a 14.06% gap, Bhota faces a 16.67% gap, and Arki shows 18.75% gap.

The gaps further vary, with some Nagar Panchayats experiencing higher challenges in user charges collection. Talai, for instance, has a significant 45.64% gap, while Tahliwal faces a substantial 100% gap, indicating no progress in user charges collection. These disparities underscore the need for targeted interventions to enhance revenue collection efficiency in specific Nagar Panchayats.

Dry Waste: Urban Development

Sr. No.	Action pointsfor municipalities/ Corporations	Identification of gap Whether door to door garbage collection practiced by households and other waste generators	Gaps
1.	1 Municipal Council Dalhousie	60%	40% gap
2.	1 Municipal Council Nahan	80%	20% gap
3.	1 Municipal Council Paonta Sahib	90%	10% gap

4.	4 Municipal Council Solan, Parwanno, Baddi, Chamba	95%	5% gap
5.	1Municipal Council Chamba	95%	5% gap
6.	1 Municipal Council Nalagarh	97%	3% gap
7.	22 Municipal Council	100%	No gaps
8.	4 Municipal Corporation	100%	No gaps
9.	1 Nagar Panchayat Rajgrah	0%	100% gap/ No progress
10.	1 Nagar Panchayat Arki	39%	61% gap
11.	1 Nagar Panchayat Kandaghat	75%	25% gap
12.	1 Nagar Panchayat Talai	80%	20% gap
13.	1 Nagar Panchayat Nadaun	85%	15% gap
14.	2 Nagar Panchayat Bhota, Daulatpur	90%	10% gap
15.	1 Nagar Panchayat Gagret	92%	8% gap
16.	2 Nagar Panchayat Amb, Tahliwal	95%	5% gap
17.	15 Nagar Panchayat	100%	No gap

In Municipal Councils, Dalhousie has a 40% gap with only 60% of households practicing door-to-door collection, while Nahan reports an 80% implementation with a 20% gap. Paonta Sahib is at 90% implementation with a 10% gap, and four Municipal Councils - Solan, Parwanno, Baddi, and Chamba - exhibit a 5% gap at 95% implementation. Two Municipal Councils, Chamba and Nalagarh, achieve 95% and 97% implementation, respectively, with minimal or no gaps. The remaining 22 Municipal Councils and four Municipal Corporations have achieved 100% door-to-door collection with no reported gaps.

In Nagar Panchayats, disparities exist with varying levels of implementation. Nagar Panchayats like Rajgrah and Arki show no progress with 0% and 39% implementation, respectively. Kandaghat and Talai report 75% and 80% implementation, each with a 25% and 20% gap, respectively. Other Nagar Panchayats, such as Nadaun, Bhota, Daulatpur, Gagret, Amb, Tahliwal, and the 15 Nagar Panchayats collectively, have achieved 85% to 100% implementation with minimal or no reported gaps.

The data suggests a need for targeted interventions in specific Municipal Councils and Nagar Panchayats to improve door-to-door collection practices for dry waste, ensuring comprehensive coverage and bridging the identified gaps. Continuous monitoring and strategic measures are essential for enhancing the effectiveness of dry waste management practices across Urban Development areas. Continuous monitoring for this is necessary.

a. Plastic Waste Collection Centres

Regarding Plastic Waste Collection Centres in Himachal Pradesh's 60 Urban Local Bodies (ULBs) equipped with Public Works (PW) collection centres, the majority have demonstrated successful achievement of their targets. However, three specific centres – Nirmand, Nerwa, and Kandaghat – have fallen short of meeting their set objectives. It is noteworthy that the rest of the centres have effectively attained their targets, showcasing a commendable overall success rate in establishing and operating PW collection centres throughout the ULBs in the state. This indicates a robust performance in managing plastic waste at the local level, highlighting the need for focused interventions to address the challenges faced by the identified centres. Continuous monitoring and strategic measures will further contribute to sustaining and enhancing the success of plastic waste collection initiatives across Himachal Pradesh.

1.1 EPR (Extended Producer Responsibility)

Extended Producer Responsibility (EPR) is a legal policy that holds producers, brand-owners, and importers responsible for recycling the waste generated by their products. The EPR policy is under the control of the Central Pollution Control Board (CPCB), which provides guidelines for waste recycling.

The EPR guidelines oblige different stakeholders such as brand-owners, producers, importers, consumers, and vendors to take responsibility for the recycling or end-of-life disposal of plastic waste and packaging plastic waste.

Gaps : (a) Inadequate Infrastructure:

a. Collection Systems: There is a deficiency in the systems for collecting plastic packaging waste. The lack of a well-established and efficient collection infrastructure poses a challenge in ensuring that plastic waste is gathered effectively from consumers, businesses, and other sources.
b. Processing Facilities: The state may lack the necessary processing facilities to handle the diverse types of plastic waste. Adequate recycling and disposal units are essential for the effective implementation of EPR, but the current infrastructure may fall short in accommodating the scale of plastic waste generated.

(b) Consumer Awareness:

a) Limited Education Initiatives: There is a gap in initiatives aimed at educating consumers about the significance of recycling and reuse. Many people might not be fully aware of the environmental impact of plastic waste or the role they play in EPR. Comprehensive awareness campaigns are essential to inform and motivate individuals to actively participate in recycling programs.
b) Behavioural Change: The lack of awareness contributes to a gap in desired behavioural changes. Without understanding the importance of responsible waste disposal, consumers may not segregate waste properly or make choices that align with recycling objectives outlined in EPR policies.

To address these gaps, Himachal Pradesh would benefit from:

- Investing in the development of a robust waste collection and processing infrastructure.
- Launching targeted awareness campaigns to educate the public on the environmental impact of plastic waste and the benefits of recycling.
- Collaborating with industry stakeholders to enhance the overall efficiency and effectiveness of EPR programs.

By focusing on these aspects, the state can work towards closing the identified gaps in EPR implementation and fostering a more sustainable approach to plastic waste management.

2. Bio Medical Waste Management:

a) Rules: The Biomedical Waste Management Rules (BMWM Rules) in Himachal Pradesh are established to regulate the proper handling, treatment, and disposal of biomedical waste generated by healthcare facilities. These rules align with the guidelines provided by the Central Pollution Control Board (CPCB) at the national level, ensuring a standardized and systematic approach to managing biomedical waste.

b) Duties Under BMWM Rules:

1) Guidelines Dissemination:

Duty: Disseminating comprehensive guidelines on biomedical waste management to healthcare facilities.
Achievement: The Health Department in Himachal Pradesh has successfully circulated detailed guidelines to healthcare institutions, ensuring that they are well-informed about the proper procedures for waste segregation, collection, and disposal.

2) Regulatory Compliance and Authorization:

Duty: Ensuring that healthcare institutions comply with the BMWM Rules and obtain necessary authorization from the State Pollution Control Board.
Achievement: The state has achieved a high compliance rate, with approximately 97.69% of healthcare institutions authorized by the State Board, indicating a strong commitment to regulatory adherence.

3) Sector-Specific Compliance:

Duty: Monitoring and ensuring compliance across different healthcare sectors, including allopathic, Ayurveda, veterinary, and industrial units.
Achievement: The compliance levels in allopathic, Ayurveda, and veterinary institutions are commendable. All industrial units falling under the BMWM Rules have been duly authorized, demonstrating a comprehensive approach.

4) COVID-19 Waste Management:

Duty: Formulating and implementing specific guidelines for the safe disposal of biomedical waste generated during the diagnosis and treatment of COVID-19 patients.
Achievement: The state has proactively revised guidelines for COVID-19 waste management, showcasing adaptability to emerging healthcare challenges and ensuring the safe handling of pandemic-related biomedical waste.

c) Progress in Biomedical Waste Management:

High Authorization Rates: The state has made significant progress in authorizing healthcare institutions under the BMWM Rules, with a vast majority of them obtaining the required authorization. This indicates a proactive approach to compliance and regulatory adherence.

Specific Guidelines for COVID-19:

The formulation and implementation of specific guidelines for managing biomedical waste generated during the COVID-19 pandemic highlight the state's responsiveness to evolving healthcare needs.

d) Gaps in Biomedical Waste Management:

- Coverage and Authorization Discrepancies: Despite achieving an overall high compliance rate, specific healthcare facilities across the state still shows significant gaps in authorization. This indicates the need for targeted interventions to ensure complete coverage and adherence to biomedical waste management regulations.

- Monitoring and Enforcement Challenges: Ongoing monitoring and stringent enforcement mechanisms are critical for sustaining compliance. Any lapses in monitoring may lead to potential gaps in waste management practices over time. Strengthening monitoring processes is essential to maintain the effectiveness of biomedical waste management initiatives.

- Public Awareness and capacity building: There are gaps in terms of technical know-how and in public awareness regarding the proper segregation and disposal of biomedical waste. Closing this knowledge

gap through regular capacity building/training programs for healthcare staff and the public is critical. Enhancing awareness can contribute significantly to improving waste management practices at the community level.

- Infrastructure and Technology Needs Assessment: Adequate infrastructure for waste segregation, treatment, and disposal is Addressing gaps in infrastructure and leveraging advanced technologies can further enhance the efficiency of biomedical waste management systems.

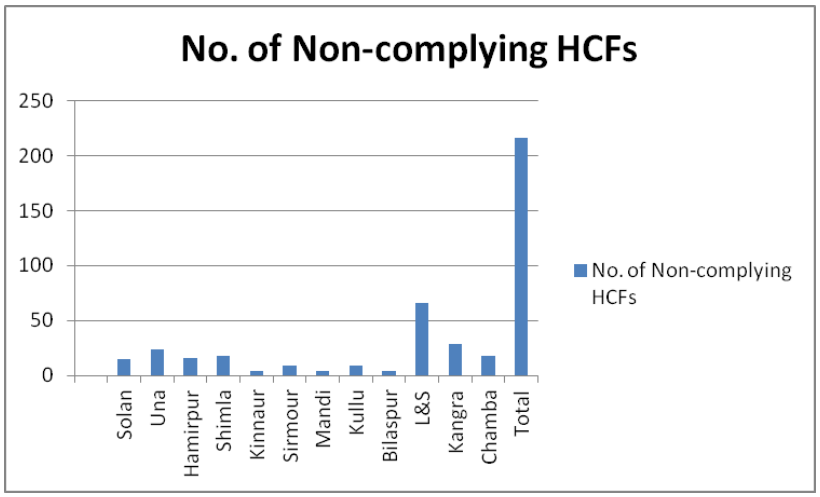
- Periodic Audits and Evaluation: Regular audits and evaluations of healthcare facilities are necessary to identify evolving gaps or areas requiring improvement in the implementation of BMWM Rules. A consistent focus on improvement through periodic assessments is essential for maintaining and elevating the standards of biomedical waste management practices. Periodic reviews will aid in adapting to changing healthcare needs and ensuring continuous improvement in waste management systems.

(a) Non-complying HCFs in H.P.

A. HP State Pollution Control Board grants authorisation under Bio-medical Waste Rules, 2016. As per the information available with HP PCB there are 216 non-complying Govt. and private Health Care Facility (HCFs) [103 are Allopathic Institutions, 41 are Veterinary Institutions, 24 are Ayurvedic Institutions and 48 are Pvt. Institutions.].
B. Approx. 68 non-bedded institutions (14 Allopathic 41 Veterinary; 10 Ayurveda; and 3Pvt.) would only require basic system(s) {Tie-up with CBWTFs or to develop pit for deep burial and disinfection system for liquid waste} for treatment and disposal of waste.
C. Approx. 148 bedded HCFs (89 Allopathic, 14 Ayurvedic, and 45 Private) would be required to connect with common STP or to install liquid waste treatment system(s) for the treatment of chemical liquid waste and sewage in addition to agreement with CBWTF or develop deep burial pit for disposal of waste.
D. In case these institutions still remain non-compliant the HP PCB takes penal action as per Bio-medical Waste Management Rules, 2016 and directions of Hon'ble National Green Tribunal.

(b) District Wise gap analysis is as given below.

S. No.	District	No. of Non-complying HCFs	Govt. HCFs		Private HCFs		
			Bedded	Non-Bedded	Bedded	Non-Bedded	Gap
1.	Solan	15	6	0	9	0	15 non complying HCFs
2.	Una	24	14	0	9	1	24 non complying HCFs
3.	Hamirpur	16	10	0	6	0	16 non complying HCFs
4.	Shimla	18	17	0	1	0	18 non complying HCFs
5.	Kinnaur	4	3	1	0	0	4 non complying HCFs
6.	Sirmour	9	8	0	1	0	9 non complying HCFs
7.	Mandi	4	3	0	1	0	4 non complying HCFs
8.	Kullu	9	5	2	2	0	9 non complying HCFs
9.	Bilaspur	4	3	0	1	0	4 noncomplying HCFs
10.	L&S	66	6	60	0	0	66 non complying HCFs
11.	Kangra	29	16	2	10	1	29 non complying HCFs
12.	Chamba	18	12	0	5	1	18 non complying HCFs
	Total	216	103	65	45	3	216 non complying HCFs



The evaluation of healthcare facilities (HCFs) compliance across districts reveals significant non-compliance in both government and private sectors, highlighting gaps in meeting regulatory standards.

1) Solan, 15 non-complying HCFs are identified, with 6 in government and 9 in the private sector, all of which are bedded.
2) Una faces challenges with 24 non-complying HCFs, consisting of 14 in government and 9 in the private sector, along with 1 non-bedded facility.
3) Hamirpur reports 16 non-complying HCFs, divided into 10 government and 6 private facilities, all bedded.
4) Shimla identifies 18 non-complying HCFs, with 17 in government and 1 in the private sector, all bedded.
5) Kinnaur has 4 non-complying HCFs, featuring 3 in government and 1 in the private sector, with a bedded gap.
6) Sirmour has 9 non-complying HCFs, encompassing 8 in government and 1 in the private sector, all bedded.
7) Mandi has 4 non-complying HCFs, including 3 in government and 1 in the private sector, all bedded.
8) Kullu reports 9 non-complying HCFs, comprising 5 in government and 2 in the private sector, without significant bedded gaps.
9) Bilaspur identifies 4 non-complying HCFs, featuring 3 in government and 1 in the private sector, all bedded.
10) Lahaul & Spiti (L&S) raises concern with 66 non-complying HCFs, with 6 in government and 60 in the private sector, indicating a complete gap in private compliance.
11) Kangra faces challenges in 29 non-complying HCFs, encompassing 16 in government and 2 in the private sector, with 1 non-bedded gap.
12) Chamba reports 18 non-complying HCFs, featuring 12 in government and 5 in the private sector, along with 1 non-bedded gap.

Across all districts, the total number of non-complying HCFs is 216, including 103 in government and 65 in the private sector. The gaps in bedded and non-bedded facilities are 45 and 3, respectively. Addressing these gaps is imperative to ensure that healthcare facilities adhere to regulatory standards and provide quality services to the communities in each district.

3. Construction & Demolition Waste:

The evaluation of Construction & Demolition (C&D) waste management in Himachal Pradesh reveals several critical gaps that require attention and strategic interventions.

(a). Lack of Comprehensive Policy: There is a noticeable gap in the existence and effectiveness of a comprehensive policy or regulations specifically addressing C&D waste management in Himachal

Pradesh. The absence of a robust regulatory framework may hinder the efficient management of construction and demolition waste.

(b). Inadequate Infrastructure: Gaps in infrastructure, including the need for more recycling facilities and disposal sites, pose a significant challenge. The insufficient number of recycling facilities and designated disposal sites indicates a need for substantial investment and development in this aspect of C&D waste management.

(c). Lack of Enforcement Mechanisms: Monitoring and enforcement mechanisms exhibit gaps, including the absence of penalties for non-compliance. Strengthening enforcement measures is crucial to ensuring that construction and demolition activities adhere to waste management regulations.

(d). Insufficient Recycling Initiatives: There are noticeable gaps in promoting and supporting recycling practices within the construction sector. The lack of incentives for using recycled materials in construction indicates a need for proactive measures to encourage sustainable practices.

(e). Inadequate C&D Waste Segregation Practices: Gaps in waste segregation methods underscore the need for improvements. Implementing effective waste segregation practices is essential for maximizing the recovery of reusable materials and minimizing environmental impact.

(f). Occupational Health and Safety: There are evident gaps in training, provision of protective equipment, and health monitoring related to occupational safety in the C&D waste management sector. Addressing these gaps is crucial to ensuring the well-being of workers involved in construction and demolition activities.

(g). Integration of Circular Economy Principles: Gaps in adopting sustainable practices within the construction sector, such as the integration of circular economy principles, highlight the need for a paradigm shift towards more environmentally friendly and resource-efficient construction practices.

(h). Research and Innovation: Gaps in exploring and implementing new technologies and best practices indicate a need for increased emphasis on research and innovation in C&D waste management. Encouraging and implementing advancements in technology can lead to more efficient and sustainable waste management practices in the construction sector.

4. MANAGEMENT OF HAZARDOUS WASTE CTSDF:

There are 2579 industrial units regulated under the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 registered by HP Pollution Control Board in Himachal Pradesh. Detail of industrial units and hazardous waste generation is at Annexure-A. For effective management of hazardous waste generated by these units there is one Common Treatment, Storage, Disposal Facility (TSDF) of landfill capacity 10 lakh MT, established at Nalagarh, District Solan and 52 authorized recyclers engaged in recycling of metals & drum washing etc. Besides this three Cement Plants have also been authorized by HPPCB for co-processing of hazardous waste so that energy value is recovered from the waste. It is mandatory for all the units generating hazardous waste to dispose it off through the authorized Treatment Storage and Disposal Facility (TSDF), Recycler, users and Co-processing units.

The management of Treatment, Storage, and Disposal Facilities (TSDF) for hazardous waste in Himachal Pradesh is as on date a successful endeavour but due to scattered setting up of hazardous waste generating units reveals several notable gaps and challenges, emphasizing the need for comprehensive attention and remedial actions in terms of safe transportation of the waste to CTSDF.

Infrastructure and Resources

Compliance with Regulations

Monitoring and Reporting

Emergency Response and Preparedness

Public Awareness and Participation

Waste Segregation and Characterization

Transportation and Logistics

Environmental Impact Assessment (EIA)

Legal Framework and Enforcement

(a). Infrastructure and Resources: Gaps persist in facilities catering to the treatment, storage, and disposal of hazardous waste. Inadequate infrastructure and capacity hinder the effective management of hazardous waste, necessitating investments and development in this aspect.

(b). Compliance with Regulations: Instances of non-compliance with environmental laws indicate gaps in regulatory adherence. Ensuring strict compliance with regulations is essential to prevent environmental hazards and safeguard public health.

(c). Monitoring and Reporting: Gaps in reporting mechanisms, transparency, and accuracy of data on hazardous waste management pose challenges. Strengthening monitoring and reporting systems is vital for effective oversight and data-driven decision-making.

(d). Emergency Response and Preparedness: Gaps in training, equipment, and coordination for emergency situations present a potential risk. Improving emergency response and preparedness measures is crucial to mitigate the impact of hazardous waste incidents.

(e). Public Awareness and Participation: Communication and community engagement exhibit gaps, impacting public awareness and participation in hazardous waste management. Addressing these gaps is essential to foster community understanding, address concerns, and enhance cooperation.

(f). Waste Segregation and Characterization: Gaps in the characterization of hazardous waste types are evident, impacting proper treatment and disposal. Enhancing waste segregation and characterization practices is vital for ensuring accurate management protocols.

(g). Transportation and Logistics: Gaps in logistics pose risks during transportation, leading to accidents or spills. Strengthening transportation and logistics practices is imperative to minimize potential hazards associated with the movement of hazardous waste.

(h). Environmental Impact Assessment (EIA): Gaps in assessing and mitigating potential environmental impacts underscore the need for comprehensive Environmental Impact Assessments. Conducting thorough EIAs is crucial for identifying and addressing environmental risks associated with hazardous waste management.

(i). Legal Framework and Enforcement: Gaps in enforcement mechanisms and legal measures indicate challenges in addressing non-compliance effectively. Strengthening the legal framework and enforcement mechanisms is essential to ensure accountability and deter non-compliant practices.

In order to foster a robust and environmentally responsible system for managing hazardous waste in Himachal Pradesh, strategic interventions, regulatory enhancements, and community involvement are necessary to bridge these existing disparities and promote safe and sustainable hazardous waste management practices even for the non point sources.

5. Electronic Waste (e-waste):

The electronic waste management scenario in Himachal Pradesh presents several critical gaps that require focused attention to ensure effective and sustainable handling of e-waste.

The state's infrastructure, spanning both urban and rural areas, needs a comprehensive assessment to establish accessible and efficient collection mechanisms. The level of public awareness regarding proper e-waste disposal necessitates evaluation, urging the implementation of targeted awareness and education programs. A thorough examination of the adequacy and enforcement of regulations related to e-waste management is crucial to fortify legislative frameworks.

The implementation of Extended Producer Responsibility (EPR) programs by manufacturers requires scrutiny to ensure accountability for end-of-life disposal. The existence and efficiency of both formal e-waste recycling facilities and informal recycling practices demand assessment and regulation. Identifying gaps in the capacity of local authorities, businesses, and communities is vital for effective e-waste management. Scrutinizing the data management system for tracking e-waste generation, collection, and disposal is essential to address gaps in accuracy, timeliness, and transparency.

In addition, assessing the efficiency and coverage of transportation networks is critical for the proper channelling of e-waste to designated facilities. Identifying gaps in penalties for non-compliance with e-waste disposal regulations is necessary, requiring effective incentives and penalties. Evaluating gaps in engaging communities and businesses in sustainable e-waste practices is critical for fostering public participation.

Identifying gaps in research and development for more efficient and environmentally friendly e-waste management methods is imperative for encouraging technological innovation.

Promoting the reuse and recycling of electronic components is essential through the adoption of a circular economy approach. Bridging these identified gaps through strategic interventions, stakeholder collaboration, and policy enhancements will pave the way for a more efficient and sustainable e-waste management framework in the state.

6. Polluted River Stretches:

Sr. No.	Polluted river stretches in Himachal Pradesh
1.	Sukhana, Parwanoo,
2.	Markanda, Kala Amb
3.	Sirsa, Baddi
4.	Ashwani,Shimla
5.	Beas,Kullu,Mandi,Hamirpur,Kangra
6.	Giri,Shimla
7.	Pabbar,Rohru

The Central Pollution Control Board has identified seven critically polluted rivers stretch in Himachal Pradesh.The result was based on monitoring results in terms of Biochemical Oxygen Demand levels, an indicator of organic pollution.

The seven rivers viz. Sukhana, Markanda, Sirsa, Ashwani, Beas, Giri and Pabbar in Himachal were found critically polluted.

Sukhana river flow in Parwanoo, Sirsa rivers in Baddi, Markanda river in Kala Amb, Beas River drenches Kullu, Mandi, Hamirpur and Kangra districts. Giri river originates from Shimla district and passes through Sirmour district before flowing into Beta and later merged with Yamuna river. Ashwani Khud, notorious for the Jaundice outbreak in Shimla and Solan city, flow into the Giri River, while the Pabbar river flows through Rohru and Hatkoti town of the Shimla district.

Gaps:

Gaps in the management of polluted river stretches in Himachal Pradesh involves considering various aspects related to water quality, pollution sources, and regulatory frameworks. While a detailed on-site assessment would provide a more accurate analysis, here are potential gaps based on general considerations:

- Water Quality Monitoring:
- Pollution Source Identification
- Enforcement of Regulatory Measures
- Industrial Effluent Treatment
- Agricultural Runoff Management
- Urban Runoff Management
- Community Awareness and Involvement
- Sewage Treatment Infrastructure
- Waste Disposal Practices
- Erosion and Sedimentation Control

7. NON-ATTAINMENT CITIES:

Sr. No.	Non-attainment cities in Himachal Pradesh
1.	Baddi
2.	Damtal
3.	Kala Amb
4.	Nalagarh
5.	Paonta Sahib
6.	Parwanoo
7.	Sunder Nagar

There are total 7 non-attainment cities in Himachal Pradesh, including Baddi, Damtal, Kala Amb, Nalagarh, Paonta Sahib, Parwanoo, and Sunder Nagar. These designations indicate that these urban areas fail to meet the National Ambient Air Quality Standards (NAAQS) set by the Central Pollution Control Board. The reasons for non-attainment could include industrial emissions, vehicular pollution, and other sources impacting air quality.

The gaps in the table include a lack of detailed air quality data, specific causes for non-attainment, information on current mitigation measures, understanding community impacts, and collaboration initiatives.

Non-attainment cities in Himachal Pradesh, which fail to meet the National Ambient Air Quality Standards, often exhibit various gaps in air quality management. Some key gaps in non-attainment cities of Himachal Pradesh include:

- Air Quality Monitoring Infrastructure: Limited availability and coverage of air quality monitoring stations in non-attainment cities.
- Data Accuracy and Timeliness: Gaps in the accuracy and real-time reporting of air quality data, hindering prompt decision-making.
- Emission Source Identification: Incomplete identification and quantification of major sources contributing to air pollution in non-attainment cities.
- Lack of Comprehensive Action Plans: Absence of robust and comprehensive action plans addressing specific sources and sectors contributing to high pollution levels.
- Enforcement and Compliance: Weak enforcement mechanisms and inadequate compliance monitoring leading to violations of air quality standards.
- Public Awareness and Participation: Limited public awareness and participation in initiatives related to air quality improvement and pollution control.
- Integration of Transportation Policies: Gaps in integrating sustainable transportation policies to address vehicular emissions and traffic congestion.
- Industrial Pollution Controls: Inadequate implementation of pollution control measures in industries, contributing to elevated pollution levels.
- Urban Planning and Green Spaces: Lack of effective urban planning strategies and insufficient green spaces to mitigate the urban heat island effect and improve air quality.
- Waste Management Practices: Challenges in implementing effective waste management practices, leading to open burning and increased particulate matter.
- Renewable Energy Adoption: Slow adoption of renewable energy sources, contributing to reliance on conventional and polluting energy sources.
- Monitoring Indoor Air Quality: Limited initiatives to monitor and address indoor air pollution, especially in residential areas.
- Public Transportation Infrastructure: Inadequate public transportation infrastructure, leading to increased dependence on personal vehicles and higher emissions.
- Lack of Technological Innovation: Limited incentives and support for industries and businesses to adopt cleaner technologies and practices.

8. INDUSTRIAL CLUSTERS

Sr.No.	Category	No. of Units	Investment(Rs. In Crore)	Employment
1	Small Scale Enterprises	44056	11488.26	280362
2	Medium Scale Enterprises	466	5791.872	46566
3	Large Scale Enterprises	138	6853.12	29082
Grand Total		44660	24133.252	356010

The industrial landscape in Himachal Pradesh, categorizing enterprises into Small Scale, Medium Scale, and Large Scale, with a comprehensive Grand Total. In the realm of Small Scale Enterprises, which constitute the majority with 44,056 units, the collective investment stands at Rs. 11,488.26 Crore, contributing significantly to the employment of 280,362 individuals. Medium Scale Enterprises, represented by 466 units, contribute to both investment and employment with Rs. 5,791.872 Crore and 46,566 jobs, respectively.

Large Scale Enterprises, though fewer in number at 138 units, contribute substantially to the overall investment with Rs. 6,853.12 Crore and provide employment to 29,082 individuals. The Grand Total consolidates these contributions, revealing that Himachal Pradesh hosts a total of 44,660 industrial units, collectively investing Rs. 24,133.252 Crore and employing 356,010 individuals. This comprehensive overview highlights the diverse and dynamic nature of the industrial sector in the state, with each category playing a crucial role in shaping its economic landscape.

Baddi is the largest industrial area in Himachal Pradesh. Baddi houses a total of 3,120 factories belonging to leading pharma, FMCG and textile companies among others and which generate an annual turnover of Rs 60,000 crore. Baddi employs one-third of all persons engaged in Himachal's medium and large industries.

In Himachal Pradesh, the assessment of industrial clusters reveals several gaps that need attention for sustainable and efficient industrial development.

Infrastructure and Connectivity: One of the challenges it may face is ensuring robust infrastructure and connectivity. Rapid industrialization can lead to increased demand for transportation, logistics, and other essential services.
Environmental Sustainability: The industrial growth in Baddi may pose challenges related to environmental sustainability. Ensuring that industries adopt eco-friendly practices and comply with environmental regulations is crucial.
Waste Management: Managing industrial waste, including hazardous waste from pharmaceutical manufacturing, is a critical aspect. Gaps in waste management practices can lead to environmental pollution and public health concerns.
Water Resource Management: Given the water-intensive nature of several industries, efficient water resource management is crucial. Over-extraction or contamination of water sources can pose challenges to sustainability.
Regulatory Compliance: Ensuring strict regulatory compliance by industries is essential. Gaps in compliance can lead to environmental degradation, affecting the quality of air, water, and soil in the region.
Skill Development: there may be a need for a skilled workforce. Gaps in skill development programs could impact the efficiency and productivity of the industrial sector.
Community Engagement: Ensuring positive community engagement is essential. Gaps in communication or understanding between industries and the local community can lead to social challenges.

Limited access to financing and support for small and medium enterprises (SMEs) operating in these clusters is a significant hurdle. Providing financial assistance, promoting innovation, and creating an enabling ecosystem for SMEs are essential steps to nurture entrepreneurship and foster economic growth in these regions.

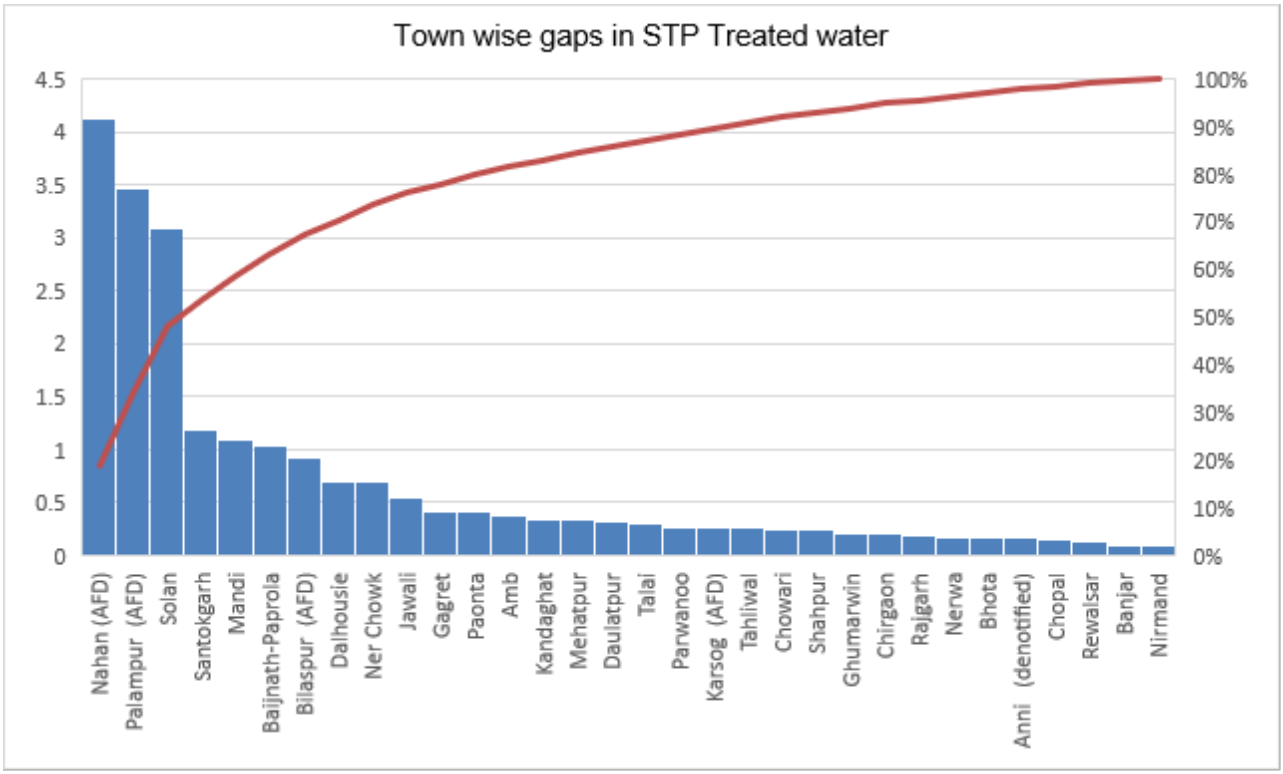
9. STP Recycling of Treated Water

Although, overall adequate capacity is available and there is surplus capacity of 22.85 MLD in 29 Towns, however, presently there is a gap of 22.15 MLD in Sewage generation and installed treatment capacity in 32 towns in the State.

Sr. No.	Name of Town	Total Sewage generation (2023) MLD	Treatment Capacity available (MLD)	Gap (MLD)
1	Dalhousie	0.7	0	0.7
2	Chowari	0.24	0	0.24
3	Mandi	5.39	4.3	1.09
4	Rewalsar	0.13	0	0.13
5	Parwanoo	1.27	1	0.27
6	Santokgarh	1.18	0	1.18
7	Gagret	0.42	0	0.42
8	Banjar	0.1	0	0.1
9	Baijnath-Paprola	1.03	0	1.03
10	Ner Chowk	0.7	0	0.7

11	Talai	0.3	0	0.3
12	Bhota	0.16	0	0.16
13	Bilaspur (AFD)	0.93	0	0.93
14	Palampur (AFD)	3.82	0.351	3.47
15	Karsog (AFD)	0.26	0	0.26
16	Nahan (AFD)	4.12	0	4.12
17	Ghumarwin	1.41	1.2	0.21
18	Jawali	0.54	0	0.54
19	Shahpur	0.24	0	0.24
20	Anni (denotified)	0.16	0	0.16
21	Nirmand	0.1	0	0.1
22	Chopal	0.14	0	0.14
23	Chirgaon	0.2	0	0.2
24	Nerwa	0.17	0	0.17
25	Paonta	3.57	3.16	0.41
26	Rajgarh	0.18	0	0.18
27	Solan	5.98	2.9	3.08
28	Kandaghat	0.33	0	0.33
29	Mehatpur	1.16	0.83	0.33
30	Tahliwal	0.26	0	0.26
31	Amb	0.37	0	0.37
32	Daulatpur	0.32	0	0.32
	Total	35.88	13.741	22.15

The data reveals a significant gap in Sewage Treatment Plant (STP) capacity in various towns across Himachal Pradesh. While there is an overall surplus capacity of 22.85 MLD in 29 towns, there exists a considerable gap of 22.15 MLD between sewage generation and the installed treatment capacity in 32 towns. This gap indicates an inadequacy in the current infrastructure to effectively handle and treat the sewage generated. Several towns, including Mandi, Santokgarh, Baijnath-Paprola, Palampur, Nahan, and Solan, face notable shortfalls in treatment capacity compared to the sewage they generate. Addressing this gap is crucial for ensuring proper sewage management and preventing environmental hazards. The identified towns require strategic investments in sewage treatment infrastructure to bridge the existing capacity deficit and achieve a more sustainable and efficient STP recycling of treated water system.



10. Common Effluent Treatment Plants in HP

Common Effluent Treatment Plants (CETPs) are centralized facilities designed to treat effluent (wastewater) generated by multiple industrial units in a particular area or industrial cluster. The primary objective of CETPs is to provide a cost-effective and environmentally sustainable solution for treating industrial wastewater before its discharge into water bodies or municipal sewage systems. Here's an overview of CETPs and potential gaps associated with their implementation in Himachal Pradesh:

CETPs in Himachal Pradesh serve as crucial infrastructure to address the wastewater treatment needs of industrial clusters. These clusters often include various small, medium, and large-scale industries.

- Industrial Clusters: Industries such as pharmaceuticals, textiles, chemicals, and manufacturing are commonly part of industrial clusters where CETPs are established. These clusters benefit from shared wastewater treatment facilities.
- Environmental Compliance: CETPs play a vital role in ensuring that industrial effluents meet environmental standards before being discharged. Compliance with regulations helps prevent water pollution and protects local ecosystems.
- Cost Efficiency: By sharing a common treatment facility, industries in the same cluster can benefit from cost savings compared to establishing individual treatment plants. This collaborative approach enhances cost efficiency.

Here are common areas where gaps might exist, and investigations could be focused:

- Capacity and Efficiency
- Infrastructure and Technology
- Compliance and Monitoring
- Waste Disposal and Residue Management
- Community Impact
- Financial Sustainability
- Emergency Response and Contingency Plans
- Regulatory Framework

- Stakeholder Collaboration
- Capacity Building and Training.

11. Ground water Extraction and Recharge

The Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005, is a legislative framework governing the extraction and management of groundwater resources in the state. Enacted to address concerns related to over-exploitation and depletion of aquifers, the act empowers regulatory authorities to monitor, control, and regulate the development and usage of groundwater. It likely outlines provisions for obtaining permits for groundwater extraction, specifying the permissible limits and conditions. The act may also include measures for sustainable groundwater management, artificial recharge, and enforcement mechanisms to ensure compliance with prescribed guidelines. The primary objective is to strike a balance between meeting water demands and preserving the long-term sustainability of groundwater resources in Himachal Pradesh.

The gaps are given below:

- Over-extraction: The increased demand for water, particularly in agriculture and domestic sectors, has led to excessive pumping of groundwater. This over-extraction results in a decline in groundwater levels, posing a threat to the sustainability of aquifers.

- Recharge Infrastructure: Inadequate measures for recharging aquifers, such as the implementation of rainwater harvesting systems, check dams, and percolation tanks, contribute to an imbalance between the rate of groundwater extraction and the rate of recharge. Insufficient infrastructure hinders the natural replenishment of aquifers.

- Urbanization: Rapid urbanization and changes in land use patterns associated with urban development led to increased impervious surfaces like roads and buildings. These surfaces reduce natural infiltration, limiting groundwater recharge. Urban expansion without proper planning exacerbates the strain on groundwater resources.

- Data Accessibility and Transparency: Insufficient information on aquifer characteristics, groundwater quality, and extraction rates hampers the development of effective groundwater management strategies. Access to accurate and up-to-date data is crucial for informed decision-making and sustainable resource planning.

- Unsustainable Agricultural Practices: Agricultural activities, which heavily rely on groundwater for irrigation, can contribute to over-extraction. Inefficient water use practices and lack of sustainable agricultural techniques may exacerbate the stress on groundwater resources.

- Community Involvement: Community-based approaches, including awareness programs and participatory planning, are crucial for fostering responsible water use. Lack of community involvement can result in a limited understanding of the importance of sustainable groundwater management and hinder the adoption of water-conserving practices.

12. Air Pollution, SPM, SOx NOx Noise

Air Pollution: Air pollution refers to the presence of harmful substances, such as pollutants, particulate matter, and gases, in the Earth's atmosphere. These pollutants can have adverse effects on human health, ecosystems, and the climate.

Sources: Common sources include vehicle emissions, industrial activities, power plants, agriculture, and natural sources like wildfires and volcanic eruptions.
Gaps:

- Emission Controls: Gaps may exist in enforcing stringent emission controls on industries and vehicles.
- Monitoring Infrastructure: Inadequate air quality monitoring infrastructure may hinder accurate assessment and timely response to pollution events.
- Public Awareness: Gaps in public awareness about the causes and effects of air pollution may hinder collective efforts to address the issue.

Suspended Particulate Matter (SPM):SPM consists of tiny particles suspended in the air, including dust, soot, and aerosols.
Sources: Combustion processes, industrial emissions, construction activities, and natural sources contribute to SPM.
Gaps:

- Control Measures: Gaps may exist in implementing effective control measures to reduce emissions from industrial and construction activities.
- Regulatory Compliance: Enforcement gaps in ensuring compliance with air quality standards for SPM.

Sulfur Oxides (SOx) and Nitrogen Oxides (NOx): SOx include compounds like sulphur dioxide (SO2), while NOx includes nitrogen oxides such as nitric oxide (NO) and nitrogen dioxide (NO2).
Sources: Combustion of fossil fuels, industrial processes, and transportation are major sources of SOx and NOx.
Gaps:

- Emission Reduction Strategies: Gaps may exist in the implementation of effective strategies to reduce emissions from industries and vehicles.
- Alternative Technologies: The slow adoption of cleaner and alternative technologies may contribute to gaps in reducing SOx and NOx emissions.

Noise Pollution: Noise pollution is the presence of excessive or disturbing noise that can have harmful effects on human health and the environment.
Sources: Traffic noise, industrial activities, construction, and urbanization contribute to noise pollution.

Present status for Noise Pollution in Himachal:

- Currently State Board has 16 number of noise monitoring meters.
- State Board conducts ambient sound level monitoring of 87 location including residential, sensitive zone etc. Further special Diwali noise monitoring is carried out.
- The public grievance platform such as E-Samadhan, CM Seva Sankalp, 24 hr helpline are already in place and compliant received are resolved as and when received.
- The duty of the noise control of Automobiles/ Vehicles has been assigned to District Magistrate/Additional District Magistrate/Sub-Divisional Magistrate/ Executive Magistrate/Naib Tehsildar, Superintendent of Police/ Additional Superintendent of Police/Deputy Superintendent of Police/SHOs, Regional Transport Officer.
- The duty of the noise control for industrial units has been assigned to District Magistrate/Additional District Magistrate/Sub-Divisional Magistrate/ Executive Magistrate/Naib Tehsildar, Superintendent of Police/ Additional Superintendent of Police/Deputy Superintendent of Police/SHOs and HPSPCB.
- Mass awareness activities are being carried out by the authorities regarding noise pollution.

Gaps:

- Installation of noise barriers at critical sections and silence zones.
- Green belt development-plantation of trees and shrubs to create natural buffer in between the traffic movement corridors and residential areas.
- Identification of silence zone in each district and information of same be uploaded on website of District Administration.
- Registration of tent houses providing logistics & instrumental support for cultural/ religious activities be made mandatory and instruments capable of producing noise higher than the prescribed limit should install noise limiter.
- Restriction on use of diesel gensets without acoustic enclosure.

- Speed limit to be strictly enforced within the city/ town as lowest sound emission arise from vehicles moving smoothly at 30-40KMPH.
- Display of proper signage to reduce congestion & overloading.
- Conducting monitoring and issuing challans on use of Pressure Horns.
- Regular monitoring of the residential, sensitive zone by HPSPCB
- Regular monitoring & reporting of disposal of complaints on "ShorNahin" mobile app.
- Spreading mass awareness about side effects of vehicular horns by organizing "Horn Not Ok" campaigns in the State.

13. MINERALS & MINING (LIMESTONE, SAND, STONE):

The state government plays a crucial role in granting leases and regulating mining operations to ensure sustainable and responsible extraction of minerals. it contains several minerals that are important for industrial and economic activities. Some of the key minerals found in Himachal Pradesh include:

Major minerals: Limestone,Clay,Coal,Quartz etc.
Minor minerals: Sand stone bajri,limestone, building stones etc.

In State of Himachal Pradesh, 24 mining leases have been granted for the extraction of major minerals limestone and rock salt and 520 mining leases have been granted for the extraction/collection of minor minerals sand, stone, boulder and bajri etc.

It is crucial to emphasize that in the state of Himachal Pradesh, a significant majority, exceeding 70%, of the granted mining leases are situated atop hill slopes. Concurrently, the remaining portion of leases is allocated over riverbeds, marking a distinctive distribution of mining activities in the region."

Gaps in controlling minerals and mining activities (such as limestone, sand, and stone) in Himachal Pradesh involves examining various aspects of regulatory frameworks, enforcement mechanisms, environmental impact assessments, community engagement, and sustainable practices. Here are potential gaps:

- Regulatory Framework: gaps in the regulatory framework related to licensing, environmental clearances, and adherence to mining plans.
- Inspection of Mining Sites: Establishing a structured schedule and clear inspection criteria would enhance the effectiveness of this action.
- Checking of Mining Lease/Auctioned Areas: A standardized approach for inspections needs to be established for checking mining lease areas
- Monitoring Environmental Compliances: Developing a comprehensive checklist aligned with environmental regulations is essential.
- Preparation of DSRs (District Survey Reports): A more detailed plan for maintaining up-to-date and accurate DSRs should be outlined.
- Quarterly Meetings:
- Monthly Reports on Illegal Mining: The reporting mechanism and format for monthly reports should be described. Establishing a standardized reporting format and ensuring timely submission is crucial.
- Action Against Illegal Mining: The specific actions should be taken against illegal mining .Developing a detailed protocol, including legal actions, is crucial for addressing such activities effectively.
- Periodic Verification of Environmental Compliance: Defining clear guidelines for verification processes will ensure consistency. A detailed framework and guidelines should be established to ensure effective and coordinated efforts.

14. WATER BODIES- (LAKES PONDS ETC.)

S.No	State	Number of water bodies						
		Ponds	Tanks	Lakes	Reservoirs	Water Conservation Schemes/percolation tanks/check dams	Others	Total
1	Himachal Pradesh	1503	7769	19	59	159	2637	12146

The data for water bodies in Himachal Pradesh reveals a comprehensive inventory, encompassing ponds, tanks, lakes, reservoirs, water conservation schemes, percolation tanks, check dams, and others, totalling 12,146. However, a comprehensive analysis uncovers potential gaps in the management of these water bodies. Disparities in their distribution may exist, with certain regions lacking specific types critical for local ecosystems.

The data does not provide insights into the health and water quality of these bodies, nor does it delve into their ecological impact and biodiversity. Gaps may persist in monitoring, maintenance, and conservation efforts, impacting the sustainability of these resources. In addition, the data lacks information on community participation, highlighting a potential gap in engaging and educating local communities for effective water resource management.

In summary, while the data offers a quantitative overview, a more in-depth analysis is essential to address distributional, ecological, and community-related gaps for sustainable water body management in Himachal Pradesh.

The state has implemented 159 water conservation schemes, including percolation tanks, check dams, and other structures designed to enhance groundwater recharge and prevent soil erosion. These initiatives are crucial for maintaining water quality and sustaining ecosystems. Moreover, the inventory includes 2,637 structures categorized as "Others," indicating a diverse range of water management features.

This comprehensive network of water bodies in Himachal Pradesh showcases the state's commitment to sustainable water resource management. It plays a vital role in supporting agricultural practices, preserving ecological balance, and addressing the water needs of both rural and urban communities. The various types of water bodies contribute collectively to the state's resilience in managing water resources efficiently and addressing the challenges posed by changing environmental conditions. Regular monitoring and conservation efforts are essential to ensure the continued functionality and ecological health of these water bodies in Himachal Pradesh.

Current status of water bodies:

- Sewage Disposal and Contamination: The increasing population, urbanization, and modernization pose problems of sewage disposal and contamination of surface waters like lakes. However, it doesn't provide specific details on the current status, extent, or measures in place to address these issues.

- Nutrient Enrichment and Eutrophication: Lakes leading to nutrient enrichment, it lacks specific information on the existing nutrient levels, causes, and the effectiveness of current measures to prevent eutrophication.

- Water Quality Assessment: Such as BOD, temperature, electrical conductivity, nitrate, phosphorus, potassium, dissolved oxygen, and heavy metals. However, it doesn't provide insights into the actual water quality status in Himachal Pradesh's lakes or specific challenges faced in monitoring and maintaining water quality.

- Harmful Algal Blooms: Harmful algal blooms as a global issue in freshwater ecosystems, but it doesn't specify if this is a problem in Himachal Pradesh's lakes or if any measures are being taken to address it.

- Plastic Pollution: Plastic pollution as a concern in water bodies, it doesn't offer details on the extent of the issue in Himachal Pradesh's lakes or measures taken to mitigate plastic pollution.

- Analytical Methods: Methods for analyzing water quality, such as Hyperion, water quality index, and hazard quotient, but it lacks information on how widely these methods are implemented in Himachal Pradesh and their effectiveness.

- Regular cleaning, chlorination needed to make the water potable.

- Regular dredging, removal of encroachment and soil erosion measures needed.

CHAPTER-4: ACTION PLAN

1. SOLID WASTE MANAGEMENT

Solid Waste Management in Urban Areas

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
1.	Prepare a solid waste management plan	• Regular activity and SWM plan will be updated time to time.	60 ULBs	0 ULBs	NA	UDD	ULBs TCP SPCB	Regular Activity	
2.	Mechanism for door-to-door collection	• Awareness Generation, • Invoking of penalty clauses.	42 ULBs	18 ULBs	From user charges	UDD	ULBs TCP SPCB	31st December 2024	
3.	Mechanism for segregation at household level/source.	• Awareness Generation, Invoking penalty clauses.	9 ULBs	51 ULBs	From user charges	UDD	ULBs TCP SPCB	31st December 2024	
4.	Identification & Registration of rag pickers	• Identification of rag pickers in ULBs. • Enrolment of rag pickers in all districts/ULBs	1000 801	- 199	-	UDD	ULBs TCP SPCB	31st December 2024	More rag picker needs to be identified and registered.
5.	Formation of Self Help Groups for integration of solid waste management focusing on door to door collection & segregation of waste;	• Formation of SHGs • Awareness Generation	120	130	From Swachh Bharat Mission Project	UDD	ULBs	31st December 2024	
6.	Framing of bye-laws for MSW	• Notifying and adoption of bye laws • Updation of bye laws	60 ULBs	0	-	UDD	ULBs	Notified & Adopted	On going activity
7.	Imposition of User	• Notification on user charges/fee.	58 ULBs	02	Swachh Bharat	UDD	ULBs	31st	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
	Charges/Fee & adoption of mechanism for implementation.	• Development of mechanism for collection of user charges/fee • Identify/authorize independent agencies			Mission Project			December 2024	
8.	Develop mechanism for recycling of recyclable MSW.	• Develop, notify adopt mechanism for recycling of recyclable MSW. (paper, water bottles, liquor bottles, soft drink canes, tetra packs, fruit peel, wrappers, etc.,) • Generate awareness. Introduce/ notify penal provisions.	60 ULBs	0	Swachh Bharat Mission Project	UDD	ULBs	31st March 2026	Regular activity
9.	Setup Material Recovery Facilities (MRF)	• Identify land. • Acquisition/ FCAs, other clearances. • Site development. • Setup machineries. • Operationalize MRF	50	10	Swachh Bharat Mission Project	UDD	ULBs TCP SPCB DESTCC FOREST REVENUE PWD	31st March 2025	
10	Setup waste deposition centres for domestic hazardous waste	• Notify Deposition Centre • Site development. • Setup machineries. • Operationalize Deposition Centre	51	9	Swachh Bharat Mission Project	UDD	ULBs TCP SPCB	31st March 2025	
11	Storage, transportation & safe disposal of domestic hazardous waste.	• Identify & register recyclers. • Sign MoU with recyclers, TSDF & each ULBs deposition centre.	0	60	State Budget/ External	UDD	ULBs	31st March 2025	
12	Stop burning of biodegradable waste in open space (including tree leaves)	• Sensitization & awareness generation of municipal workers & general public w.r.t burning of biodegradable waste (including tree leaves) • Designate space for creating compost pits at public places/ parks for tree leaves etc.	58	2	Swachh Bharat Mission Project	UDD	ULBs	31st December 2024	Regular activity.
13	Capacity building of waste-pickers and waste collectors	• Develop IEC material (Do's & Don'ts) • Conduct training programme on solid waste management of different stakeholders.	60	0	Swachh Bharat Mission Project	UDD RDD	ULBs	Regular Activity	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		• Procurement & distribution of safety kits.							
14	Setting up of decentralised compost plant or bio-methanation plant	• Develop mechanism to collect waste from vegetable, fruit, flower, meat, poultry and fish market on day-to-day basis. • Identify land & develop site. • Setup machineries. • Operationalize compost plant or bio-methanation plant	0	60	Swachh Bharat Mission Project	UDD	ULBs	31st March 2030	
15	Collection of waste from sweeping streets, lanes, and by-lanes.	• Increase frequency daily, alternate days, or twice a week, contingent on the density of population, commercial activity, and local situation.	60	0	Regular Budget	UDD	ULBs	Regular Activity	
16	Setup covered secondary storage facility for temporary storage of street sweepings.	• Identify locations. • Develop storage facility. • Define frequency of disposal/clearance of waste from temporary storage locations.	0	60	Swachh Bharat Mission Project	UDD	ULBs	31st March 2026.	
17	Onsite processing of waste generated from horticulture activity, parks and garden waste separately.	• Identify location. • Develop composting facility (composting pits etc.) in the parks and garden.	0	60	Swachh Bharat Mission Project	UDD RDD Horticulture	ULBs	31st March 2026.	
18	Deployment & use of vehicles with separate containers for transportation of SW (biodegradable).	• Assess requirement and deploy vehicles with separate containers for transportation of SW. • Define frequency.	58	2	User Charges and Swachh Bharat Mission Project	UDD	ULBs	31st March 2024.	
19	Deployment & use of vehicles with separate containers for transportation of SW (non-biodegradable).	• Assess requirement and deploy vehicles. • Define frequency. • Designate MRF/TSDF & signing of MoU.	58	2	User Charges and Swachh Bharat Mission Project	UDD	ULBs	31st March 2024.	
20	Mobilizing community for waste management.	• Develop IEC material (Do's & Don'ts) • Conduct training programme. • Waste collection cleaning drives.	0	60	Swachh Bharat Mission Project	UDD	ULBs NGOs	31st March 2026	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		• Promote household composting, segregation, use of two dustbins. • Develop community level facilities. • Ensure control of odour and maintenance of hygienic conditions around the facility;							
21	Promotion and adoption of use of compost, organic manure - phasing out use of chemical fertilizers.	• Develop composting facilities at household, community cluster level. • Conduct awareness & training programme. • Promote use of locally made compost in all parks, gardens maintained by the local community/body and wherever possible in other places under its jurisdiction. • Incentivize use of locally made compost and phasing out chemical fertilizers.	0	60	Swachh Bharat Mission Project	UDD	ULBs Agriculture Horticulture	31st March 2030	
22	Awareness campaigns for waste collectors & municipal workers.	• Develop IEC material (Do's & Don'ts) • Conduct training & awareness programme. • Periodic education sessions to educate municipal workers including contract workers. • Programme to educate supervisors for door to door collection, segregation of waste. • Programme to educate drivers of vehicle transporting the waste to dump site, MRF.	58	2	Swachh Bharat Mission Project	UDD	ULBs NGOs	Regular Activity	
23	Safety, Health & Hygiene of sanitary workers, drivers etc.	• Assessment & procurement of personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate footwear. • Conduct regular health checkups.	58	2	User Charges	UDD	ULBs Health NGOs	Regular Activity	
24	Provision of imposing on spot fine from violators.	• Introduce provisions for spot fine under municipal bye-laws • Create awareness about penal provisions amongst community on violations.	60	0	NA	UDD	ULBs	Regular Activity	
25	Awareness campaigns for waste generators.	• Develop IEC material (Do's & Don'ts), information boards and place them on	60	0	Swachh Bharat Mission Project	UDD	ULBs NGOs	Regular Activity	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		prominent places. • Organize cleanliness drives at various locations, near hot spots in all ULB on regular basis.							
26	Legacy Waste – Management & restoration of old dumping sites	• Assess, investigate and analyse all old open and existing operational dumpsites of MSW. • Analyse potential of biomining and bio-remediation. • Prepare restoration plan of old dumping sites. • Reclamation of old dumping sites by developing biodiversity parks etc.	16	10	Swachh Bharat Mission Project	UDD	ULBs Research Institutes.	31st March 2025.	
27	Development and adoption of online mechanism to update all information w.r.t. SWM generation and disposal for effective M&E	• Develop online portal. • Provide Hardware & Software support. • Designate nodal person from ULB responsible to update information.	0	60	State Budget	UDD	UDD DEST&CC ULBs	31st March 2025.	

Solid Waste Management in Rural Areas

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partner (Dept./ Org.)	Timeline	Remarks
1.	Prepare a solid waste management plan	• Regular activity and SWM plan will be updated time to time	Complied	Complied	SBM-G/ 15th FC	RD & PR	PRIs TCP SPCB	June 2025	GP level Solid Waste Management Action Plan was notified in 2011. However, the same is being updated.
2.	Mechanism for door-to-door collection	• Awareness Generation • Invoking of penalty clauses	Partially complied	86% gap	SBM-G/ 15th FC	RD & PR	PRIs TCP SPCB	June 2025	Against 13,12,510 Households, 193400 Households have been covered for door- to- door waste collection.

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partner (Dept./ Org.)	Timeline	Remarks
3.	Mechanism for segregation at household level/source	• Awareness Generation Invoking penalty clauses	Partially complied	86% gap	SBM-G/ 15th FC	RD & PR	PRIs TCP SPCB	June 2025	Against 13,12,510 Households, 193400 Households have started source segregation.
4.	Formation of Self-Help Groups for integration of solid waste management focusing on door-to-door collection & segregation of waste	• Formation of SHGs • Awareness Generation	Partially complied	86% gap	NRLM/ 15th FC	RD & PR	PRIs/ NRLM	31st December 2024	SHG's after imparting proper training would be deployed for awareness generation throughout the state. Village and cluster level approach can be taken at Village Organization and Cluster level federation. Special Community Resource Person (CRP) round can be organized in this regard.
5.	Introduction of bye-laws at PRI level for SWM	• Notifying and adoption of bye laws • Updating of bye laws	Not complied	100% gap	NA	RD & PR	PRIs	31st December 2024	Under preparation.
6.	Imposition of User Charges/Fee & Adoption of mechanism for implementation of SWM provisions in peri urban panchayats.	• Notification on user charges/fee. • Development of mechanism for collection of user charges/fee • Identify/authorize independent agencies	Not complied	100% gap	PR/ 15th FC	RD & PR	PRIs/ UD/ ULBs	31st December 2024	O&M Policy for user charges is in final stage. In this regard, amendment in existing Panchayati Raj Act,1994 would be required and proposal in this regard would be submitted to higher authorities after O&M policy is finalized.
7.	Develop mechanism for recycling of recyclable MSW at PRI level.	• Develop, notify adopt mechanism for recycling of recyclable MSW. (Paper, water bottles, liquor bottles, soft drink canes, tetra packs, fruit peel, wrappers, etc.) • Generate awareness. Introduce/notify penal provisions.	Partially complied	93% gap	Swachh Bharat Mission Project/ 15th FC	RD&PR	PRIs UD ULB DEST SPCB	31st March 2026	Waste pickers after collection of recyclable waste are handing over the waste to the junk dealers as well as ULBs MRF. 1207 villages are disposing plastic waste through Kabadi Walas/ Informal Sector.

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partner (Dept./ Org.)	Timeline	Remarks
8.	Setup cluster of panchayat level Material Recovery Facilities (MRF)	• Identify land. • Acquisition/ FCAs, other clearances. • Site development. • Setup machineries. • Operationalize MRF	Partially complied	Needs improvement	Swachh Bharat Mission Project/ 15th FC/ State fund	RD&PR	PRIs SPCB DEST FOREST REVENUE PWD	31st March 2025	32 MRFs/ PWMU & 1543 segregation shed in place.
9.	Setup waste deposition centres for domestic hazardous waste at cluster of panchayats	• Notify Deposition Centre • Site development. • Setup machineries. • Operationalize Deposition Centre	Not complied	100% gap	Swachh Bharat Mission Project/ 15th FC/ State fund	RD&PR	PRIs SPCB Health Department Forest PWD Revenue	31st March 2025	At the initial stages the work of establishing PWMU including segregation shed at the GP level is in process.
10.	Stop burning of biodegradable waste in open space (including tree leaves)	• Sensitization & awareness generation of municipal workers w.r.t burning of biodegradable waste (including tree leaves) • Designate space for creating compost pits at public places/ parks for tree leaves etc.	Not complied		JJM/ 15th FC/ SBM-G	JSV/ RD&PR	PRIs SPCB DEST	31st December 2024	SHG's after imparting proper training would be deployed for awareness generation throughout the state. Instruction will be issued to all the GPs not to burn leaves and to construct compost pits wherever required. Currently, 2010 Community Compost Pits are in place.
11.	Onsite processing of waste generated from horticulture activity	• Advocacy with farmers/ local communities for scientific disposal of agricultural waste. • Develop composting facility (composting pits etc.)	Not complied	80 % gap	Horticulture/ 15th FC/ SBM-G	Horticulture	PRIs Agriculture Horticulture	31st March 2026	2010 no. of community compost pits are constructed for processing of horticulture & agriculture waste. As per AIP submitted to GoI, 10,000 Community Compost Pits will be constructed.
12.	Mobilizing community for waste management.	• Develop IEC material (Do's & Don'ts) • Conduct training programme • Waste collection cleaning	Complied partially	Needs improvement	JJM/ SBM-G/ 15th FC/ State funds	RD&PR	PRIs NGOs JSV DEST SPCB	31st March 2026	This exercise is a continuous process. However, at present more than 15587 IEC messages are displayed in public places. The department regularly

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partner (Dept./ Org.)	Timeline	Remarks
		drives • Promote household composting, segregation, use of two dustbins • Develop community level facilities • Ensure control of odour and maintenance of hygienic conditions around the facility							organized Swachhata Saptah/ Sanitation drive with the involvement of SHGs/ PRIs.
13.	Promotion and adoption of use of compost, organic manure - phasing out use of chemical fertilizers	• Develop composting facilities at household, community cluster level • Conduct awareness & training programme • Promote use of locally made compost in all parks, gardens maintained by the local community/body and wherever possible in other places under its jurisdiction • Incentivize use of locally made compost and phasing out chemical fertilizers.	Complied partially	Needs improvement	Agriculture/ Animal Husbandry/ 15th FC/ SBM-G/ NRLM	RD&PR	PRIs Agriculture Horticulture Animal Husbandry NRLM	31st March 2026	AS per MIS, 19095 HHs are feeding organic waste to the cattle. However, awareness generation campaigns for establishment of compost pits are being organized through SHGs.
14.	Awareness campaigns for PRI representatives & members	• Develop IEC material (Do's & Don'ts) • Conduct training & awareness programme. • Periodic education sessions to educate municipal workers including contract	Complied partially	Needs improvement	15th FC/ SBM-G/ JJM	RD & PR	PRIs NGOs RD DEST	Regular Activity	The trainings are being imparted in regular intervals which include solid and liquid waste management. As per MIS, 15587 IEC messages are displayed in public places.

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partner (Dept./ Org.)	Timeline	Remarks
		workers. • Programme to educate supervisors for door-to-door collection, segregation of waste.							
15.	Awareness campaigns for identified significant waste generators.	• Develop IEC material (Do's & Don'ts), information boards and place them on prominent places. • Organize cleanliness drives.	Complied partially	Needs improvement	15th FC/ SBM-G/ JJM	RD & PR	PRIs NGOs RD DEST SPCB	Regular Activity	Swachhata Green Leaf Rating (SGLR) program is being initiated with aim to elevate hygiene and sanitation standards in tourism industry of the state such as Hotels, Lodges, Homestays, Dharamshala's and Camps.
16.	Mechanism for door-to-door collection & segregation	• Engagement of SHGs, NGOs • Awareness Generation	193400 Households Covered	11,19,110 Households	15th FC/ User Charges/ JJM/ NRLM	RD&PR/ JSV	PRIs SPCB NRLM	March 2027	Campaign for D/D collection of waste with the support of SHGs will be organised throughout the state after lifting of MCC.
17.	Establishment of PWM units	• Land identification. • Acquire all statutory clearances/approvals.	32 Blocks	59 Blocks	SBM-G/ 15th FC	RD&PR	RD PRIs NRLM	March 2027	32 PWMU are in place.
18.	Waste management in peri-urban Panchayats	• Community Compost pits for wet waste management. • Tie up with nearby ULBs for waste management. • Setting up of SWF in large peri-urban areas.			15th FC/ SBM-G	RD&PR	UD PR RD	March 2027	7 blocks (100 GPs) are already having tie-up with the Urban MRFs of the peri-urban GPs & villages are being covered through ULBs infrastructure.

1.1 Plastic Waste Management

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Time Line	Remarks
1.	Awareness & capacity building	• Conduct cleaning drives. • Organize awareness campaigns. • Publish and distribute IEC material. • Distribution of biodegradable carry bags thela etc.	Complied partially	Not being done regularly	State Plan	DEST&CC	UDD RDD SPCB Forest District Administration and other Stakeholder Departments NGOs	Every 2nd Saturday in all ULBs& PRIs	Regular Activity
2.	Checking of violations under HP Non-biodegradable Control Act 1995	• Delegation of powers to relevant categories of officials of various departments. • Define timelines & schedule for checking of illegal use of banned material & reporting. • Introduce incentive provision.	100% compliance Not complied 100% compliance	No gap 100% gap No gap	State Plan	DEST&CC	UDD RDD SPCB Forest District Administration and other Stakeholder Departments		Regular Activity
3.	Implementation of Plastic Waste Buy Back Policy	• Establish Collection Centres in ULBs. • Register rag pickers. • Disposal of plastic collected as per the policy provisions. • Division wise agreements between ULB & PWD for supply of shredded plastic for road construction. • PWD to fix target of 1 km per year per sub-division in the State. • Institutionalization of funding pattern under EPR.	100% compliance 100% compliance 50% compliance No compliance 50% compliance No compliance	No gap No gap 50% gap 100% gap 50% gap 100% gap	State Plan EPR	DEST&CC	UDD RDD PWD SPCB District Administration and other Stakeholder Departments NGOs	December 2024	
4.	Alternatives to	• Establish R&D for bio-degradable	100%	No gap	Under CER/CSR	DEST&CC	RDD		Regular

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Time Line	Remarks
	plastic	cutlery.	compliance				PWD SPCB District Administration and other Stakeholder Departments NGOs		Activity
		• Registration of artisans making pattal & duna from tree leaves traditionally.	No compliance	100% gap					
		• Distribution of pattal and duna making machines under CER/CSR.	Complied partially	More machines to be distributed					
		• Provide trainings on new technologies.	Complied partially	Gap to be addresssed					
		• Awareness campaigns to popularize use of biodegradable material as per Act.	100% Compliance	No gap					
5.	Policy and Regulatory Framework to eliminate SUPs	• Preparation of state level comprehensive action plan for elimination of single use plastics.	100% compliance	No gap	State / Scheme budget	DEST&CC	RDD SPCB & ULB PRI & RDD Dist. Admn.		
		• Preparation of district level comprehensive action plan for elimination of single use plastics.	10	2	State / Scheme budget	DEST&CC	Dist. Admn.	December 2024	
		• Framing guidelines & directives to include elimination of SUP in area of jurisdiction of respective sector & deptts.	-	12 districts	State / Scheme budget	DEST&CC SPCB	RDD SPCB & ULB PRI & RDD Dist. Admn.		
		• Survey of all legacy waste sites located in Urban & Rural areas of State	-	100% gap	State / Scheme budget	UDD RDD	ULBs PRIs	June 2024	
		• Preparation & submission of project proposal for management of legacy waste one each by all ULBs	-	100% gap	State / Scheme budget	UDD	ULBs	December 2024	
		• Setting up of a plastic waste management cell at State level (each in Urban and Rural Development Departments or the	-	100% gap	State / Scheme budget	UDD RDD	ULBs PRIs	June 2024	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Time Line	Remarks
		concerned Departments), District level (in Zila Parishad for all the rural areas), and in each ULB							
		• Identification of ingress points of littered single use plastic items in surface water bodies and drains and strategy for prevention	-	100% gap	State / Scheme budget	UDD RDD PWD Forest Tourism Industry	UDD RDD PWD Forest Tourism Industry	June 2024	
		• Prepare phased plan for cleaning surface water bodies, and drains of floating singles use plastic items and their further management	-	100% gap	State / Scheme budget	UDD RDD PWD Forest Tourism Industry JSV	UDD RDD PWD Forest Tourism Industry JSV	June 2024	
		• Identification and closure of manufacturing facilities of prohibited SUP items .	-	100% gap	State / Scheme budget	Industry SPCB	Industry SPCB	June 2024	
6	Plastic waste management in all ULBs and Developmental Blocks.	• Setting up of PWM facilities.		100% gap	State / Scheme budget	UDD RDD		March 2025	
		• Setting up of plastic processing machines (shreeders, bailers, compactors etc.)		100% gap	State / Scheme budget	UDD RDD		March 2025	
		• Tie up / MOU with cement companies for disposal of PW as RDF.		100% gap	State / Scheme budget	UDD RDD		March 2025	

1.2 EXTENDED PRODUCER RESPONSIBILITY

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
1.	Institutionalization of EPR guidelines.	• Initiate process to develop State level implementation guidelines to support the introduction of EPR. – Notify policy and legislative framework, including: ▪ Defining the producers and products concerned to be covered under EPR ▪ Define actual responsibilities for the producers, e.g. quantified targets for take-back, collection and recycling of waste ▪ Define roles of other stakeholders, e.g. local municipalities, informal waste sector. ▪ Define procedure for accreditation-approval and monitoring of EPR schemes, to ensure good functioning and enforce compliance ▪ Take steps to combat illegal imports of packaging or packaging waste in the State. • Initiate process for dialog to seek support from the GoI as to support the introduction of EPR mobilizing the large scale private companies. • Initiate process to setup and support the necessary waste collection infrastructure. • Notify - include comprehensive and stable EPR bye-laws and enforce them to create a reliable legal framework for all stakeholders. • Constitution of State Steering Committee to implement and review EPR in the State. • Review existing gaps in creating awareness among public for minimising use of SUPs and recycling SUPs. • Conceptualize & implement setting up of a EPR Help Desk in the State. • Undertake research/feasibility studies on benefits	Partially complied	Needs improvement	EPR Funding/ SPCB	SPCB	SPCB DEST&CC ULB PRIs GPs Industrial Units	Dec 2025	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Plan Budget	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		and opportunities of establishing EPR in the State.							
2.	Engagement of PIBOs	• Create a network or communication between like-minded businesses keen to participate in EPR Consider how to support the development of markets for recycled material • Create PROs in cooperation with key stakeholders. • PIBOs (Producer, Importer, and Brand Owners) online registration with State Pollution Control board (HPPCB) having Obligation for EPR fulfilment in HP. • Registration of PWPs (Plastic Waste Processors) in the State • Participate in EPR schemes by reporting plastic quantities and characteristics, paying respective EPR fees and complying with additional EPR measures • Setting up of collection centres for producers and brand-owners or their PROs. • PIBOs to establish waste plastic collection points and Material Recovery Facilities (MRFs) • PIBOs to ensure the collection of the plastic packaging waste from the collection points, with a frequency that is proportionate to the area covered and the volume. • PIBOs to offer the collection of plastic, from the entities like ULBs, GPs, other public authorities or third parties carrying out waste management and provide for the collection from all entities that have made use of that offer; provide for the necessary practical arrangements for collection and transport. • PIBOs to ensure that the plastic packaging waste collected from the collection points are subsequently subject to recycling in a registered facility by a recycler or its permitted end use in the designated manner.	Meagrely complied	Needs improvement	EPR Funding/ SPCB funding/ PPP funding	RDD, UDD, PIBOs, HPSPCB	ULB PRIs GPs Industrial Units	Dec 2025	

2. BIOMEDICAL WASTE MANAGEMENT

a) Health & Family Welfare

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./Org.)	Time Line	Remarks
1.	Constitute State Level Advisory Committee	• Notify SLAC. • Convene SLAC meeting twice a year.	100% compliance	No gap	State/ Scheme Budget	DHS	DHS SPCB Allied Departments	Twice a year	Regular activity
2.	Constitute Distt. Level Advisory Committee	• Notify DLAC. • Convene DLAC meeting every Six Months	100% compliance	No gap	State/ Scheme Budget	DHS	CMO ROPCB	Twice a year	Regular activity
3.	Inventory and identification of healthcare facilities	• Prepare inventory of HCFs • Digitization of inventory. • Establish mechanism to register, enrol new HCFs.	100% compliance	No gap	State/ Scheme Budget	DHS	HPPCB Allied departments	-	Regular activity - updated
4.	Adequacy of Facilities to treat biomedical waste	• Assessment of requirement of CBMWTF. • Registration of CBMWTF in PPP mode. • Develop mechanism for collection, disposal of biomedical waste at respective CBMWTF sites	100% compliance	No Gap	State/ Scheme Budget	DHS	CMO	As per BWWMR Rules.	Regular Activity
5.	Deep Burial Pits	• Construct deep burial pits >99% in remote and rural areas. • Allocation of budget.	Not fully complied	30% Gap in Rural Area	State/ Scheme Budget	DHS	DHS HPPCB	Dec 2025	
6.	Tracking of BMW	• BMW source identification & quantification. • Software development • Introduction of internal bar coding mechanism to track BMW in phased manner: a) Phase 1: District Hospitals,	Not fully complied	30% Gap	State/ Scheme Budget	DHS	DHS SPCB CBMWTF proponents	Dec 2027	

		Zonal Hospital. b) Phase 2: CHCs, RHs. c) Phase 3: PHCs, Dispensaries • Conduct trainings on internal Bar coding mechanisms.							
7.	Awareness and education of healthcare Staff	• Organize State Level Training on BMW for Nodal Officers • Organize training programme at district level for doctors, nursing staff. • Publish IEC (DO's & DONTs)	100% compliance	No Gap	State/ Scheme Budget	DHS	DHS DEST&CC SPCB	State level 1 workshop every year. District level 1 workshop every year.	Regular activity.
8.	Provision of budget for BWM	• Institutionalization of budget provisions for BWM in plan budget. • Introduce guideline for demand generation by CMOs.	100% compliance	No Gap	State/ Scheme Budget	DHS	DHS	Dec 2024	Regular Activity
9.	Regulatory compliance on BWM Rules.	• Regular inspections by PCB of HCFs and CBWTFs • Adopt mechanism of penal provisions. • Introduce online monitoring mechanism. • Delegation of powers for inspections under BWM Rules.	100% compliance	No Gap	State/ Scheme Budget	DHS	SPCB	Dec 2024	Regular activity by SPCB

b) AYUSH

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./Org.)	Time Line	Remarks
1.	Constitute State Level Advisory Committee	• Notify SLAC. • Convene SLAC meeting twice a year.	100% compliance	No gap	State/ Scheme Budget	DHS	DHS SPCB Allied departments	Twice a year	Regular activity
2.	Constitute Distt.	• Notify DLAC.	100%	No gap	State/ Scheme	DHS	AYUSH	Twice a year	Regular

	Level Advisory Committee	• Convene DLAC meeting every Six Months	compliance		Budget		DAO SPCB		activity
3.	Inventory and identification of healthcare facilities	• Prepare inventory of HCFs • Digitization of inventory. • Establish mechanism to register, enrol new HCFs.	100% compliance	No gap	State/ Scheme Budget	DHS	AYUSH HPPCB Allied departments	-	Regular activity - updated
4.	Adequacy of Facilities to treat biomedical waste	• Assessment of requirement of CBMWTF. • Registration of CBMWTF in PPP mode. • Develop mechanism for collection, disposal of biomedical waste at respective CBMWTF sites	100% compliance	No Gap	State/ Scheme Budget	DHS	AYUSH DAO	As per BWMR Rules.	
5.	Deep Burial Pits	• Construct deep burial pits >99% in remote and rural areas. • Allocation of budget.	100% compliance	No Gap	State/ Scheme Budget	DHS	AYUSH DHS	Dec 2025	
6.	Tracking of BMW	• BMW source identification & quantification.	100% compliance	No Gap	State/ Scheme Budget	DHS	AYUSH DHS SPCB CBMWTF proponents	Dec 2026	
7.	Awareness and education of healthcare Staff	• Organize State Level Training on BMW for Nodal Officers • Organize training programme at district level for doctors, nursing staff • Publish IEC (DO's & DONTs)	100% compliance	No Gap	State/ Scheme Budget	DHS	AYUSH DHS DEST&CC SPCB	State level 1 workshop every year. District level 1 workshop every year.	Regular activity.
8.	Installation of STPs	• Assessment of wastewater in Ayurvedic medical institutions, AHCs. • Prepare DPR for STPs. for budget.	-	35 institutions are not connected to STPs	Rs. 454.54 Lakh	DHS	AYUSH	Dec 2026	

c) Animal Husbandry

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./Org.)	Time Line	Remarks
1.	Inventory and identification of healthcare facilities	• Prepare inventory of HCFs • Digitization of inventory. • Establish mechanism to register, enrol new HCFs.	98% compliance 3429 authorized out of 3478	2% Gap 58 Vety. Institutions to get authorization.	State/ Scheme Budget	DHS	AH HPPCB Allied departments	December, 2024	Regular activity - updated
2.	Deep Burial Pits	• Construct deep burial pits in tribal areas. • Allocation of budget.	Not complied	100% Gap in tribal area.	State/ Scheme Budget	DHS	AH SPCB	Dec 2025	

3. CONSTRUCTION & DEMOLITION WASTE MANAGEMENT

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./Org.)	Time Line	Remarks
1.	Policy guidelines for C&D waste.	• Formulate, notify & adopt State level policy guidelines for C&D waste. • Introduce penal provisions on violations of C&D waste regulations. • Integration of C&D waste disposal mechanism in approval of building plans. • Mandatory C&D waste disposal plan.	Not complied	100% Gap	State/ Scheme Budget	PWD UDD TCP RERA (in respective area of jurisdiction, nature of building)	PWD UDD TCP SPCB RDD DEST&CC Forest	December, 2024	
2.	Identification of	• Identification of major buildings in	Not	100% Gap	State/ Scheme	PWD	PWD	December,	

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./Org.)	Time Line	Remarks
	source and quantification of C&D waste.	urban, peri urban, rural areas. • Inventorize quantity of C&D waste.	complied		Budget	UDD TCP (in respective area of jurisdiction, nature of building)	UDD TCP SPCB RDD DEST&CC Forest	2025	
3.	Introduce regulatory mechanism to grant authorization.	• Reassessment of C&D waste from existing, housing & building proponents registered with RERA & preparation of disposal plans. • Grant authorization to construction and demolition waste processing facility.	Not complied	100% Gap	State/ Scheme Budget	PWD UDD TCP RERA (in respective area of jurisdiction, nature of building)	PWD UDD TCP SPCB RDD DEST&CC Forest	December, 2024	
4.	Designate dumping sites for disposal of C &D,	• Identification of lands for landfill & development using C&D waste in all ULBs • Identification of lands for landfill & development using C&D waste in all Developmental Blocks • Identification of lands for landfill & development using C&D waste in all Industrial townships. • GIS mapping of potential sites.	Not complied	100% Gap	State/ Scheme Budget	PWD UDD TCP (in respective area of jurisdiction, nature of building)	PWD UDD TCP SPCB RDD DEST&CC Forest	December, 2024	
5.	Develop recycling mechanism	• Inventorize major disposal sites/hot spots of C&D waste in all ULBs. • Register users of C&D waste. • Revision of SOR/BIS Code by PWD for reuse of C&D waste for construction.	Not complied	100% Gap	State/ Scheme Budget	PWD UDD TCP (in respective area of jurisdiction, nature of building)	PWD UDD TCP SPCB RDD DEST&CC Forest	December, 2025	
6.	Awareness & training programme	• Publish IEC (DO's & DON'T's) on C&D waste. • Organize training programme for	Not complied	100% Gap	State/ Scheme Budget	PWD UDD TCP	PWD UDD TCP	December, 2024	

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./Org.)	Time Line	Remarks
		builders, PWD engineers, Contractors in the State.				(in respective area of jurisdiction, nature of building)	SPCB RDD DEST&CC Forest		
7.	Monitoring mechanism	• Notify C&D waste monitoring team at State level. • Develop reporting mechanism for C&D waste monitoring team. • Authorization/ delegation of powers to waste monitoring team for penal action.	Not complied	100% Gap	State/ Scheme Budget	PWD UDD TCP (in respective area of jurisdiction, nature of building) RERA	PWD UDD TCP SPCB RDD DEST&CC Forest Industry	December, 2025	
8.	Provision of incentives.	• Adoption of scheme for registration of entrepreneurs to setup C&D waste recycling plant. • Introduce incentive mechanism on different type of C&D waste recycling industry.	Not complied	100% Gap	State/ Scheme Budget	PWD UDD Industry TCP (in respective area of jurisdiction, nature of building)	PWD UDD TCP SPCB RDD DEST&CC Forest Industry	December, 2025	

4. HAZARDOUS WASTE MANAGEMENT

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./ Org.)	Time Line	Remarks
1.	Inventorisation of HW generating units.	• Prepare inventory of industrial units generating HW. • Digitization of industrial units generating HW. • GIS mapping of HW generating units.	2579 industrial units inventoried.	No Gap	SPCB Budget	SPCB	SPCB Industries	As per rule	
2.	Grant of authorization under HWMR.	• Adoption of regulatory mechanism as per HWM Rules in State. • Develop mechanism for grant of authorization under HWMR.	100% compliance	No Gap	SPCB Budget	SPCB	SPCB Industries	As per rule	
3.	Quantification of HW.	• Prepare inventory, categorisation of HW. • Estimation of total HW from different streams. • Inventory of disposal mechanisms in State and outside.	100% compliance	No Gap	SPCB Budget	SPCB	SPCB Industries	As per rule	
4.	CTSDF for HW	• Assess need of setting up of CTSDF. • Identify and notify TSDF for disposal of HW	100% compliance	No Gap	SPCB Budget	SPCB	SPCB Industries	As per rule	
5.	Recycling of HW	• Registration of recyclers of HW in HP e.g. waste oil, drums, batteries etc. • Introduce mechanism of tracking transportation of through GPS.	100% compliance	No Gap	SPCB Budget	SPCB	SPCB Industries	As per rule	
6.	Monitoring & Evaluation mechanism.	• Notify HW monitoring team/ flying squads in industrial areas. • Introduce reporting mechanism for flying squads.	100% compliance	No Gap	SPCB Budget	SPCB	SPCB Industries	As per rule	

5. E-WASTE

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partmer (Deptt./Org.)	Time Line	Remarks
1.	Inventorization of E-waste	• Notify mechanism guidelines for inventory of e-waste at institution level, household level. • Develop mechanism for registration of e-waste recyclers. • Setting up of e-waste deposit centres. • Setting up of e-waste collection booth. • Mapping of e-waste deposit centre and collection booths.	Not complied	100% Gap	20-25 Lakh.	SPCB Industry Deptt.	Industry Deptt. HPSPCB UDD RDD	Continuous activity	-
2.	Segregation of E-waste at source.	• Develop mechanism, guideline for collection of e-waste at source on fixed frequency in a year for household and others. • Setup e-waste deposit centre at community level, institution level by e-waste recyclers in all ULBs • Setup e-waste deposit centre at community level, institution level by e-waste recyclers in all notified industrial areas. • Setup e-waste deposit centre at community level, institution level by e-waste recyclers in all Universities, Educational Institutions.	Not complied	100% Gap	SPCB Budget	SPCB Industry Deptt.	Industry Deptt. HPSPCB UDD RDD	Continuous activity	
3.	Awareness and training regarding disposal & handling of E-waste.	• Publish IEC (Dos & DONTs) • Install sign boards at designated / prominent places. • Organize training programme on E-waste at community level, institution level, school, colleges etc. for users of electronic items. • Organize training programme for recyclers of E-waste.	Not complied	100% Gap	SPCB Budget	SPCB Industry Deptt.	Industry Deptt. HPSPCB UDD RDD	Continuous activity	

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partner (Deptt./Org.)	Time Line	Remarks
4.	Registration of PROs.	• Registration of at least one PRO/ dismantlers in each ULBs. • Registration of at least one PRO/ dismantlers in each Industrial areas. • Assess and ensure adequate infrastructure provisions for dismantling of e-waste by recyclers-PROs.	Not complied	100% Gap	SPCB Budget	SPCB Industry Deptt.	Industry Deptt. HPSPCB UDD RDD	Continuous activity	
5.	Regulatory compliance w.r.t. E-Waste Management Handling Rules	• Notify, adopt guidelines for e-waste collection, disposal, sensitization as per Rules notified by GoI under municipal bye-laws by all ULBs.	Not complied	100% Gap	SPCB Budget	SPCB Industry Deptt.	Industry Deptt. HPSPCB UDD RDD	Continuous activity	
6.	Recycling of E-waste.	• Registration of recyclers of e-waste in all ULBs, Industrial Areas. • Inspections of recyclers & dismantler in every 3 months • Verification of facilities of recyclers & dismantler for their infrastructure. • Opening of registers for in and out flow of e-waste by recyclers and dismantlers.	Not complied	100% Gap	SPCB Budget	SPCB Industry Deptt.	Industry Deptt. HPSPCB UDD RDD	Continuous activity	In green field industrial areas, plots may be provided to recyclers for setting up of recycling facilities as when and where required so.
7.	Introduce precautionary and polluter pays	• Notify & adopt guidelines for penal provisions for violation of e-waste management rules.	Not complied	100% Gap	SPCB Budget	SPCB Industry Deptt.	Industry Deptt. HPSPCB UDD	Continuous activity	

#	Target	Activities/Action Plan	Present Status	Gaps	Plan Budget/ Budget Requirements	Lead Department	Implementing Partner (Deptt./Org.)	Time Line	Remarks
	principles	• Notify & adopt guidelines for incentives to e-waste recycling entrepreneurs.					RDD		
8.	Guidelines for disposal of e-waste by Govt. organizations/ institutions.	• Development and adoption of rules for disposal of e-waste through authorized recyclers/ dismantlers.	Not complied	100% Gap	State/ Scheme Budget	SPCB Industry Deptt.	DIT SPCB AR	Continuous activity	

6. POLLUTING RIVER STRETCHES IN H.P.

a) Action Plan for Sukhna Nalla

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
1.	Industrial Effluent Management	Inventorization of the water polluting industries in the catchment of Sukhna Nalla channel covering assessment on aspects relating to status of Consents under Water & Air Acts and authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge. Regular inspections as per schedule notified.	Complied	No gap	SPCB Budget	JSV	HPSPCB	Continuous activity	Total 56 no's of water Polluting industries located at the of Sukhna Nallah. All the units are being regularly inspected by HPPSPCB RO Parwanoo.
		Action against the identified industries in operation without Consent under Water & Air Act / Authorization under Hazardous And other Wastes (Management and Transboundary Movement) Rules, 2016. To ensure all units have valid consent.	Complied	No gap	SPCB Budget	JSV	HPSPCB	Continuous activity	All the industries have obtained consent to operate. Applications for further renewal of 14 units are under process.
		Actions against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not	Complied	No gap	SPCB Budget	JSV	HPSPCB	Continuous activity	Power disconnection order as per requirement on non compliance.

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
		meetingthe prescribed standards. Routine inspections.							
		Prohibition of Burning of any kind of waste including agro-residue. Complete ban on Open Burning and littering. Installation of CCTV cameras at SWM site Parwanoo and at 05No. of hotspot locations.	Complied	Needs regular monitoring	SPCB Budget	JSV	MC Parwanoo HPPCB	March 2024	
		Estimation of industrial effluent generation. Inventorization of all water polluting industries and known-point sources.	Complied	No gap	SPCB Budget	JSV	State Govt. Deptt. of Industries District Administration	Continuous activity	
		Setting up of Solid Waste Management Site. i. 100% Source Segregation of solid waste. ii. Installation of weigh bridge at SWM site Sect-5. iii. Installation of Fire Hydrant and firefighting equipment's at SWM site Sect-05. iv. Extension of shed for RDF storage and loading and unloading shed. Setting up of own Material Recovery Facility and Composting facility	In progress	Action needs to be completed	SPCB Budget	JSV	Executive Officer, MC Parwanoo	i. 90 days. ii. 31.12.23 iii. 31.03.24 iv. 31.03.24 v. 31.03.24	
		Conversion of industrial units to ZLD.	In progress	-	SPCB Budget	JSV	HPSPCB	31.03.2024	Currently 05 Number of red category units are meeting Zero Liquid Discharge i.e. 1. M/s Electrowave Electronics 2. M/s Daljeet Electro plating 3. M/s Premier Electroplating 4. M/s Him Metal Processing 5. M/s Himachal Fastener

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
2.	Domestic Sewage Management	Area wise estimation of total population, water requirement and sewage generation. Installation of remaining 01 STP of capacity 01 MLD (out of 02 proposed) is under process at Tipra.	In progress	-	SPCB Budget	JSV	HIMUDA JSV UDD RDD	31.03.2024	As per Census 2011, the population of Parwanoo area is 8758 persons and the present population including the floating population for employment and non-permanent residents is around 20,000 persons. As per the information provided by the HIMUDA Parwanoo the water supplied is about 2.5 MLD and the Sewage Load of Parwanoo comes around about 02 MLD. In Parwanoo Town 02 No. of 01MLD,STP'sareproposedtobeinstalled. Out of which 01 number has been installed and is operational at Sector-2 Parwanoo. Remaining 01 No. STP is under process.
		Repair/ Improvement of existing phyto-remediation system installed in Semtal Nallah. To repair the root zone bed and improvement in design to improve its efficiency.	In progress	-	SPCB Budget	JSV	MC Parwanoo	31.03.2024	01 No. of Phyto-remediation system was installed in Semtal Nallah for in-situ treatment. Due to heavy rains the working and root zone bed got disturbed.
3.	Ground Water Management	Sampling of Tubewells, Borewells, Hand Pumps.	In progress	-	SPCB Budget	JSV	JSV HPPCB	Continuous Activity	Monthly 03 No. of samples are collected to check ground water quality in Parwanoo Town. All the samples are complying with the standards.
4.	Miscellaneous	Regular monitoring and sampling of water quality of Sukhna Nallah and various drains on monthly basis.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous Activity	10 No's of Sample have been collected from on the stretch of Sukhna Nallah and its tributaries every Month.
		Detection and removal of encroachment on forest land	In progress	-		JSV	Deptt. of Forest	Continuous Activity	The concerned field officers of the Forest Department, in whose jurisdiction this stretch falls, have been instructed to detect and remove encroachments on forest land in this stretch on priority.

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
									The concerned field officers of the Forest Department have been instructed to ensure that there is no illegal dumping of muck in to the forest land falling in this stretch.
		Impact of water pollution on health of public by organizing Health camp.	In progress	-	SPCB Budget	JSV	Health & FW	Continuous Activity	Health camps are being regularly organized in Sukhna Catchment to check water borne diseases.
		Involvement of Civil Society i.01 Public Awareness Drive a month. Installation of LED/Digital display boards for public advisories.	In progress	-	SPCB Budget	JSV	MC Parwanoo	i.Continous activity ii.31.03.24	Cleanliness drives are being regularly organized in Parwanoo town by involving various Stakeholders, Institutions, Industrial Units of Parwanoo, and agencies.
		Complaints redressal system	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	There are complaint redressal systems available for filing complaints like E-samadhan, CM Seva Sankalp, HimPragati, 24x7 helpline of HPSPCB etc.
		Prevention of solid waste dumping in water bodies. Installation of solid waste catch-nets at 05 locations.	In progress	-	SPCB Budget	JSV	MC Parwanoo	31.03.2024	Currently routine inspections are conducted in Parwanoo area.

b) Action Plan for River Sirsa, Baddi - Nalagarh

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Time Line	Remarks
1.	Industrial Sewage Management	Inventorization of the water polluting industries in the catchment of River Sirsa Nalla channel covering assessment on aspects relating to status of Consents under Water & Air Acts and	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Time Line	Remarks
		authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge. Regular inspections as per schedule notified.							
		Action against the identified industries in operation without Consent under Water & Air Act / Authorization under Hazardous And other Wastes (Management and Transboundary Movement) Rules, 2016. To ensure all units have valid consent.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	Action as per relevant provisions of Water Act, 1974 and Air Act,1981 is taken against any unit found operating without mandatory consent of the HPSPCB.
		Actions against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meeting the prescribed standards.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	Inspection and Sampling of unitis conducted on regular basis and action is initiated against the defaulting units as per relevant provisions of Water Act,1974 and Air Act,1981
		Prohibition of disposal of Municipal Solid waste, Plastic Waste, Bio-medical Waste, Hazardous Waste and burning of any kind of solid waste	In progress	-	SPCB Budget	JSV	BBNDA MC Baddi MC Nalagarh Distt. Admin.	Continuous activity	-
		Improvement in functioning of existing CETP at Baddi w.r.t connecting the near about areas with Conveyance Pipeline	In progress	-	SPCB Budget	JSV	JSV Baddi infrastructure CETP Industry Deptt.		Household Sewerage Connections Total Connections 5492 (3744DPR +1748 Afterwards), 4684 connection released. The A/A & ES for construction of Sewerage scheme to Baddi Town in Tehsil Baddi District Solan have been accorded on dated 02.09.2023 amounting to Rs.37.0971Crore under “Special Assistance to the State for Capital Expenditure 2023-24”.
		Conducting Surprise inspections and Water Audit to reduce the Gap in Effluent generation and Treatment with CETP at Baddi.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	-
		Detection of leakages in conveyance pipelines	In progress	-	SPCB	JSV	HPSPCB	Continuous	-

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Time Line	Remarks
		of CETP, Baddi.			Budget		Baddi Infrastructure	activity	
		Detection of leakages in sewage pipeline	In progress	-	SPCB Budget	JSV	JSV	Continuous activity	-
		Identification of industries falling in the catchment Zone of CETP, Baddi and not connected with CETP and Action to be taken thereafter.	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	-
		Proposal for improvement in functioning of CETP by modification in treatment process to improve the discharge effluent quality.	In progress	-	SPCB Budget	JSV	Baddi infrastructure	May 2025	3 MLD Effluent Refractory Management & TDS Reduction in the CETP is proposed and studies are being carried out.
		Installation of Real Time Online Effluent Monitoring System on 17 category units.	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	-
		Sludge Management from Industrial Effluent Treatment.	In progress	-	SPCB Budget	JSV	HPSPCB		Sludge generated is being sent to SSWML Dabhota
		Setting up & operation of a Solid Waste Management facility at Kenduwal, Baddi	100% compliance	No gap	SPCB Budget	JSV	Deptt. of Industries, District Administration, BBNDA UDD	Completed	
2.	Domestic Sewage Management	Area-wise estimation of total population, water requirement, and sewage generation of Baddi-Nalagarh Area.	In progress	-	SPCB Budget	JSV	Distt. Admin BBNDA JSV RDD Statistical Deptt	31.03.2024	-
		Measurement of Flow of Drains, Pollution Load contributing to River Sirsa.	In progress	-	SPCB Budget	JSV	JSV HPSPCB	Continuous process	-
		Execution of Project Proposal for Sewage Management through State of Art-Technology for Sewage Treatment Plant at Nalagarh.	100% compliance	No gap	SPCB Budget	JSV	JSV	Completed	-
		Installation of continuous Real Time Water Quality Monitoring Station on River Sirsa	100% compliance	No gap	SPCB Budget	JSV	JSV	Completed	-

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Time Line	Remarks
		Sewage Management for Industrial Areas of Baddi, Jharmajri, Lodhimajra, Davni, &Thana.	100% compliance	No gap	SPCB Budget	JSV	HPSIDC DIC	Completed	
		Sewage/Septage management for Rural Areas with low cost treatment technologies along with Construction of drains and cleaning thereof	In progress	-	SPCB Budget	JSV	RDD BDO Nalagarh	31.03.2024	-
		Implementation of phyto remediation project in the Sandholi Nallaha and Housing Board Nallah w.r.t. Hotspot of WaterContamination : Sandholi Nallah, Housing Board Nallah and Un-authorized Jhuggis in the catchment	In progress	-	SPCB Budget	JSV	Distt. Admin HPSPCB	31.03.2024	Work to be executed by Indorama India limited and Morepen Laboratories Limited w.r.t. Condition imposed in the environmental Clearance granted from SEIAA.
3.	Ground Water Management	Sampling of Tube wells, Bore wells, Hand Pumps in BBN area.	In progress	-	SPCB Budget	JSV	JSV HPSPCB	Continuous activity	-
		Sampling and analysis of Drinking Water Supply Schemes in and around Baddi Nalagarh Area	In progress	-	SPCB Budget	JSV	JSV	Continuous activity	-
		Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public.	In progress	-	SPCB Budget	JSV	JSV HPGWA	Continuous activity	
		Carrying assessment of ground water Survey for quality and to identify over exploited and critical areas.	100% compliance	No gap	SPCB Budget	JSV	JSV HPGWA	Completed	
		To conduct periodic surprise inspection of the industries to rule-out any forceful injection of industrial effluents in to ground water sources	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	-
		All the industries should be directed to obtain NOC from HPGWA/ CGWA and action against the units in operation without obtaining NOC from PGWA/ CGWA.	In progress	-	SPCB Budget	JSV	JSV	Continuous activity	-
		Remedial measures for de-contamination of Highly Polluted Ground Water resources within Jurisdiction of Baddi –Nalagarh Area.	No compliance	100% gap	SPCB Budget	JSV	JSV HPSPCB	Continuous activity	-
4.	Miscellaneous	Regular monitoring and sampling of water quality of River Sirsa and various drains on monthly basis.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	-

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Time Line	Remarks
		Impact of water pollution on health of public by organizing Health camp	In progress	-	SPCB Budget	JSV	Health & FW	Continuous activity	-
		Plantation in Flood Plain Zone, Setting up of Bio-diversity Parks	In progress	-	SPCB Budget	JSV	Forest Deptt. Biodiversity Board		-
		Checking Encroachment in FPZ of River Sirsa by Notifying the Flood plain Area.	In progress	-	SPCB Budget	JSV	Distt. Local Admin BBNDA JSV		-
		Setting up of website for public participation.	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	
		Monitoring of the Executing the Action Plans	In progress	-	SPCB Budget	JSV	BBNDA HPSPCB	Continuous activity	
		Cleanliness Drive along the Stretch of River Sirsa	In progress	-	SPCB Budget	JSV	HPSPCB BBNDA Industry Deptt. ULB RDD Industrial Association Other	Continuous activity	
		Identification and regulation of unauthorized the tankers engaged in illegal discharge of sewage in river/nallahs	In progress	-	SPCB Budget	JSV	Distt. Admin HPSPCB RTO Nalagarh MC Baddi MC Nalagarh	Dec 2023	
5.	Other Aspects as NGT Order dated 20.09.2018 and 19.12.2018	Rainwater Harvesting/ Ground Water Recharge aspects	In progress	-	SPCB Budget	JSV	JSV		10 Sites identified, DPR preparation is under process. Implementation is subject to the availability of funds from the Central Government.

c) Action Plan for Balad Khad

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
1.	Industrial Sewage Management	Inventorization of the water polluting industries in the catchment of Balad Khad covering assessment on aspects relating to status of Consents under Water & Air Acts and authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge. Regular inspections as per schedule notified.	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	
		Action against the identified industries in operation without Consent under Water & Air Act / Authorization under Hazardous And other Wastes (Management and Transboundary Movement) Rules, 2016. To ensure all units have valid consent.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	Action as per relevant provisions of Water Act, 1974 and Air Act, 1981 is taken against any unit found operating without mandatory consent of the HPSPCB
		Actions against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meeting the prescribed standards.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	Inspection and Sampling of unit is conducted on a regular basis, and action is initiated against the defaulting units as per relevant provisions of Water Act, 1974 and Air Act, 1981.
		Prohibition of Disposal of Municipal Solid Waste, Plastic Waste, Bio-medical Waste, Hazardous Waste, and Burning of any kind of Solid Waste	In progress	-	SPCB Budget	JSV	Distt. Admin BBNDA MC Baddi	Continuous activity	-
		Improvement in functioning of existing CETP at Baddi with respect to connecting the near about areas with Conveyance Pipeline	In progress	-	SPCB Budget	JSV	JSV Baddi Infrastructure (SVP) CETP Industry Deptt.		Household Sewerage Connections Total Connections 5492 (3744 DPR + 1748 afterwards), 4684 connections released. The A/A&ES for construction of Sewerage scheme to Baddi Town in Tehsil Baddi District Solan have been accorded on dated 02.09.2023 amounting to

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
									Rs.37.0971Crore under "Special Assistance to the State for Capital Expenditure 2023-24".
		Conducting Surprise inspections and Water Audit to reduce the Gap in Effluent generation and Treatment with CETP at Baddi	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	-
		Detection of leakages in conveyance pipelines of CETP, Baddi	In progress	-	SPCB Budget	JSV	HPSPCB Baddi Infrastructrure	Continuous activity	-
		Detection of leakages in Sewage pipeline	In progress	-	SPCB Budget	JSV	JSV	Continuous activity	
		Identification of industries falling in the catchment zone of CETP, Baddi, and not connected with CETP and Action to be taken thereafter	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	
		Installation of Real-Time Online Effluent Monitoring System on category 17 units	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	
		Sludge Management from Industrial Effluent Treatment	In progress	-	SPCB Budget	JSV	HPSPCB	Sludge generated is being sent to SSWML Dabhota	
2.	Domestic Sewage Management	Area-wise estimation of total population, water requirement, and sewage generation of Balad Catchment Area	In progress	-	SPCB Budget	JSV	Distt. Admin Statistical Deptt. JSV RDD BBNDA	31.03.2024	-
		Measurement of Flow of Drains, Pollution Load contributing to Balad Khad	In progress	-	SPCB Budget	JSV	JSV HPSPCB	Continuous process	-
		Proper design, execution of sewerage lines to be incorporated in	In progress	-	SPCB Budget	JSV	JSV Industry Deptt.	-	-

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
		proposed CETP at Baddi							
		Sewage Management for Industrial Areas of Baddi, EPIP Phase-I and II Jharmajri of DIC, Hilltop Jhramajri, and HIMUDA industrial area at Bhatoli kalan	100% compliance	No gap	SPCB Budget	JSV	DIC HIMU & DA	Completed	-
		Sewage/Septage management for Rural Areas with low-cost treatment technologies along with Construction of drains and cleaning thereof	In progress	-	SPCB Budget	JSV	RDD BDO Nalagarh	31.03.2024	
		Identification of Un-authorized Jhuggis in the Balad area and management of Solid waste/sewage management and lifting of Jhuggis/Slum dwellers along the catchment of Balad Khad and its rivulets. Identification bulk sewage generator i.e. rental properties for migrated labor in the BBN area	In progress	-	SPCB Budget	JSV	JSV BBNDA MC Baddi	31.03.2024	
		Hotspot of Water Contamination: Jharmajri, Kunjhal, Kotla Nallah, and Un-authorized Jhuggis in the Balad catchment	In progress	-	SPCB Budget	JSV	JSV BBNDA MC Baddi	Continuous activity	Hot spot identified
3.	Ground Water Management	Sampling of Tube wells Bore wells, Hand Pumps in BBN area.	In progress	-	SPCB Budget	JSV	JSV HPSPCB	Continuous activity	-
		Sampling and analysis of Drinking Water Supply Schemes in and around Baddi Area	In progress	-	SPCB Budget	JSV	JSV	Continuous activity	-
		Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public.	In progress	-	SPCB Budget	JSV	JSV HPGWA	Continuous activity	-
		Carrying assessment of groundwater survey for quality and to identify overexploited and critical areas	100% compliance	No gap	SPCB Budget	JSV	JSV HPGWA	Completed	-

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
		To conduct periodic surprise inspection of the industries to rule out any forceful injection of industrial effluents into groundwater sources.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	-
		All the industries should be directed to obtain NOC from HPGWA/CGWA and action against the units in operation without obtaining NOC from PGWA/CGWA	In progress	-	SPCB Budget	JSV	JSV	Continuous activity	-
		Remedial measures for de-contamination of Highly Polluted Groundwater resources within jurisdiction of Baddi – Nalagarh Area	In progress	-	SPCB Budget	JSV	JSV HPSPCB	Not identified	-
4.	Miscellaneous	Regular monitoring and sampling of water quality of Balad Khad.	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	-
		Plantation in Flood Plain Zone, Setting up of Bio-diversity Parks.	In progress	-	SPCB Budget	JSV	Forest Deptt. Biodiversity Board		
		Checking encroachment in FPZ of Balad Khad by notifying the floodplain area	In progress	-	SPCB Budget	JSV	Distt. Local Admin. JSV BBNDA		
		Setting up of website for public participation	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	
		Monitoring of the executing action plans	In progress	-	SPCB Budget	JSV	HPSPCB BBNDA	Continuous activity	-
		Cleanliness drive along the stretch of Balad Khad	In progress	-	SPCB Budget	JSV	UDD RDD Industry Deptt. HPSPCB BBNDA Industries Association Others	Continuous activity	-
		Identification and regulation of	In progress	-	SPCB	JSV	Distt. Admin	31.03.2024 and	

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Timeline	Remarks
		unauthorized tankers engaged in illegal discharge of sewage in river/nallahs			Budget		RTO Nalagarh Police MC Baddi MC Nalagarh BBNDA HPSPCB	thereafter continuous	
5.	Other aspects	Rainwater harvesting/groundwater recharge aspects.	In progress	-	SPCB Budget	JSV	JSV		10 Sites identified, DPR preparation is under process. Implementation is subject to the availability of funds from the Central Government

d) Action Plan for Ashwani Khad

#	Target	Activities/Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partner (Deptt./ Org.)	Time Line	Remarks
1.	Domestic Sewage Management	Area-wise estimation of total population, water requirement, and sewage generation	100% compliance	No gap	SPCB Budget	JSV	SJPNL	Completed	Data regarding total population has been taken by SJPNL from Census 2011, and the projected wastewater calculations have been done taking into account the decadal growth rate of the area
		Connectivity of left-out areas through conveyance pipeline to existing common sewage treatment plants (STPs) operational along the stretch of Ashwani.	In progress	-	SPCB Budget	JSV	SJPNL	Continuous activity	Area under common STPs is continuously increasing, and more number of households are being provided the facility of connectivity through common STPs.
		Upgradation of existing Sewage Treatment Plants (STPs)	In progress	-	SPCB Budget	JSV	SJPNL	STP Malyana: 31.07.2023 STP Lalpani: 31.03.2024 STP Dhalli: 31.07.2023	STP Malyana: Work has been completed STP Lalpani: • 94% work completed. • Building components completed. • Primary treatment unit has been completed.

									• Retrofitting of existing UASB tank to SBR basin-II is in progress. • Work of SBR Basin-I in progress after court stay got vacated on 21.1.23. STP Dhalli: • Work has been completed.
		Sewage Treatment Plants (STPs) proposed.	In progress	-	SPCB Budget	JSV	SJPNL	31.12.2024	There is 1 No. of Common STP proposed in the catchment of River Ashwani, i.e., STP Panthaghati (3.1 MLD)
		Setting up of Faecal Sludge Treatment Plant (FSTP)	100% compliance	No gap	SPCB Budget	JSV	SJPNL	Already completed	
		Channalization of Lift Nalla	In progress	-	SPCB Budget	JSV	SJPNL	31.03.2024	Channelization of lift nallah and its landscaping from Indira Gandhi Sports Complex to Lalpani bridge is under progress, which will help in collection of solid waste dumped along the nallah.
		Installation of Real-Time Continuous Effluent Monitoring Stations at the outlet of STPs	In progress	-	SPCB Budget	JSV	SJPNL	31.03.2024	Real-time continuous effluent monitoring stations are to be set up at outlets of all the STPs
2.	Industrial Effluent Management	Inventorization of the water-polluting industries and hotels in the catchment of Ashwani Khad.	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	There are 9 water-polluting industries and approx. 166 hotels situated in the catchment of Ashwani Khad
		Action against the identified industries/hotels which are not connected with common STPs or who have not installed requisite PCDs, i.e., ETPs/STPs, or whose treated effluent is not meeting the prescribed standards	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	
3.	Ground Water Management	Sampling of bore wells and hand pumps from the area falling under the catchment of Ashwani Khad	In progress	-	SPCB Budget	JSV	HPSPCB JSV SJPNL	Continuous activity	HPSPCB is carrying out sampling of one hand pump falling under the catchment of Ashwani Khad on a monthly basis
		Sampling and analysis of drinking water supply schemes from area falling under the catchment of Ashwani Khad	In progress	-	SPCB Budget	JSV	JSV HPSPCB SJPNL	Continuous activity	HPSPCB is carrying out sampling of three drinking water supply schemes falling under the catchment of Ashwani Khad on a monthly basis
		Sealing of contaminated hand pumps found to be unfit for	In progress	-	SPCB Budget	JSV	HPSPCB JSV	Continuous activity	

		drinking purpose by the public					SJPNL		
4.	Surface Water Quality	Regular monitoring and sampling of water quality of Ashwani Khad and its tributaries on a monthly basis	In progress	-	SPCB Budget	JSV	HPSPCB	Continuous activity	HPSPCB is monitoring the water quality of Ashwani Khad and its tributaries at 8 locations on a monthly basis and 2 additional locations on a quarterly basis
		Hotspots of water contamination	100% compliance	No gap	SPCB Budget	JSV	MC Shimla SJPNL	Completed	Already Identified. 1.Krishna Nagar quality of Ashwani Khad. 2. STPs (Dhalli, Lalpani, and Malyana)
		Installation of continuous Real Time Water Quality Monitoring Station at Ashwani Khad	In progress	-	SPCB Budget	JSV	SJPNL	Continuous activity	
		Regular checking of muck dumping in catchment of Ashwani.	In progress	-	SPCB Budget	JSV	Forest department, Police and Local bodies	Continuous activity	
5.	Solid Waste Management	Arrangement for door to door collection	In progress	-	SPCB Budget	JSV	MC Shimla	March 2024	Door-to-door collection has been started in all the 34 wards of MC Shimla. Collected waste is being transported in segregated form in separate compartmentalized vehicles
		Wet-waste management: Facility (i.e.) for central bio-methanation / composting of wet waste	In progress	-	SPCB Budget	JSV	MC Shimla	Dec 2024	MC Shimla has provided 1 MT/day bio-methanation plant at Lalpani. Also, a 5 TPD composting plant is to be installed near IGMC at old incinerator premises
		Dry-waste management: Material Recovery for dry-waste fraction	In progress	-	SPCB Budget	JSV	MC Shimla	Dec 2024	MC Shimla has provided a Material Recovery Facility at Bhariyal
		Waste to Energy Plant	100% compliance	No gap	SPCB Budget	JSV	MC Shimla	Completed	MC Shimla has provided a waste-to-energy plant at Bhariyal where mixed solid waste having calorific value more than 1500 Kcal is converted into RDF (Re-derived Fuel), which in turn is used to generate electricity
		Disposal of inert and non-recyclable wastes : Sanitary Landfill	In progress	-	SPCB Budget	JSV	MC Shimla	31.03.2024	MC Shimla has provided a sanitary landfill site at Bhariyal for disposal of inert waste.
		Remediation of historic / legacy dumpsite	In progress	-	SPCB Budget	JSV	MC Shimla	31.03.2024	MC Shimla has bio-remediated the legacy waste site at 'Darni Ka Bagicha'. In the rest of the ULBs, there is no legacy waste sites
		Authorization of Waste Pickers	100%	No	SPCB	JSV	MC Shimla	Completed	MC Shimla has authorized 144 waste

			compliance	gap	Budget				pickers
		Preparation of own by-laws to comply with SWM Rules 2016.	100% compliance	No gap	SPCB Budget	JSV	MC Shimla	Completed	Shimla has framed their own bylaws to comply with Solid Waste Management Rules, 2016
		Regular Cleaning Drives and Mass Awareness Programs	In progress	-	SPCB Budget	JSV	MC Shimla Rural local bodies HPSPCB	Continuous activity	
6.	Miscellaneous	Complaints redressal system	100% compliance	No gap	SPCB Budget	JSV	HPSPCB	Completed	There are several complaint redressal systems available for filing complaints like E-samadhan, CM Seva Sankalp, Him Pragati, 24x7 helpline of HPSPCB, etc.
		Plantation activity in the catchment of Ashwani Khad	In progress	-	SPCB Budget	JSV	Forest Deptt. Local Bodies HPSPCB	Continuous activity	
		Proposal for improving the water quality of Ashwani Khad by installing various components, for the rejuvenation of water sources by improving the purity of water of Natural Nallahs by Phytorid Treatment at Ashwani Khad, Sanjauli-Malyana-Chamyana Khad, Shimla project	In progress	-	SPCB Budget	JSV	SJPNL		The matter has been submitted to Finance Department, and approval is awaited

7. NON-ATTAINMENT CITIES IN H.P.

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
1.	Issue instruction to Hotels/ Restaurants/ Banquet Halls	• Issue instructions to all Hotels/ Restaurants/ Banquet Halls not to use coal as source of energy. • Issue commercial license with condition to use clean fuel/energy. • Issue directions to avoid use of tandoor and other means of open burning in public area.	Partially complied	Needs improvement	SPCB/ CPCB Budget	SPCB UDD Industry	Municipal Committee, Department of Food, Civil Supplies and Consumer Affairs and Oil Companies (Indian Oil/HP, etc.)	Dec 2024	
2.	Issue instructions/ notification for domestic Sector	• Issue instructions/ guidelines for shifting toward electric cooking • Provide LPG to all. slums.	Partially complied	Needs improvement	SPCB/ CPCB Budget	SPCB UDD Industry	Municipal Committee, Department of Food, Civil Supplies and Consumer Affairs and Oil Companies (Indian Oil/HP, etc.)	Dec 2024	
3.	Open Burning Municipal Solid Waste (MSW)	• Ensure segregation of waste. • Door to door collection of MSW. • Check on open illegal dumping of MSW. • Surveillance to check the transportation of hazardous waste to TSDF.	Partially complied	Needs improvement	SPCB/ CPCB Budget	SPCB UDD Industry	Municipal Committee, HPSPCB, HIMUDA	Dec 2024	
4.	Construction and Demolition	• Undertake wet suppression (Unpaved Roads, C& D Sites), ensure deployment water sprinkling system. • Provision for controlling wind speed/ wind breaking walls on C&D sites. • Strict enforcement of C&D Waste Management Rules • Prohibition on storage of construction material along the roadsides	Partially complied	Needs improvement	SPCB/ CPCB Budget	SPCB UDD Industry	TCP, HIMUDA, Municipal Committee, Urban Development Department, PWD	Dec 2024	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		• Directives to builders to leave 25% area for green belt in residential colonies as mandatory condition. • Sensitization programme for control of air, water & noise pollution its impacts for workers and contractors.							
5.	Road Sweeping & Vehicles	• Deployment of manpower & machine for regular vacuum sweeping/ manual sweeping • Prepare & implement material loading/ unloading guidelines; use appropriate enclosures for haul trucks and gravel paving for all haul routes. • Diesel vehicles entering the city should be equipped with DPF • Expedited installation of weigh-in- motion bridges and machines at all entry points.	Partially complied	Needs improvement	SPCB/ CPCB Budget	SPCB UDD Industry	HIMUDA, Municipal Committee, National Highway Authority, PWD, HPSPCB Traffic Police	Dec 2025	
6.	Vehicles	• Bus stop and their parking should be rationalized to ensure more efficient utilization. • Route rationalization • Movement of Heavy Vehicles within the city should be allowed between 10 PM to 5 AM. • User of transport & industries to adopt BS-VI or BS-IV norms. • To prepare and adopt E-vehicle Policy & promotion of use of electric/hybrid vehicles.	Partially complied	Needs improvement	SPCB/ CPCB Budget	SPCB UDD Industry	Transport Department, RTO HIMUDA, RTO, Traffic Police,	Dec 2024	
7.	Industries and DG Sets	• Ensure 100% compliance to emission standards by all industries. • Initiate strict action against violators/ unscientific hazardous waste disposing entities. • Encourage & adopt best practices to minimize fugitive emissions. • Industrial to maintain surrounding & adjoining open area and road. • Notify adopt & implement State Fuel Policy • Develop programme to reduce significant emission from rotary furnaces. • Adopt & implement installation of Fume gas capturing hood followed by bag house usage, Diesel Generator Sets	45108	25252	SPCB/ CPCB Budget	SPCB UDD Industry	Industrial Associations, HPSPCB	Dec 2024	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		• Strengthening of grid power supply, uninterrupted power supply to the industries to reduce use of Diesel DG Sets. • Programme to maximize use of renewable energy in industrial areas.							
8.	Decongestion of Roads in high traffic areas	• Develop plan to reduce roadside encroachment, initiate punitive measures. • Guidelines for plying of diesel tempo, scooters and directions to stop only at designated places. • Introduce provisions for punitive action on driving in the wrong lane. • Adopt disciplined public transport (designate one lane stop). • Removal of the free parking zones. • Regulate No parking within 50 meter of any major crossing and or chaurahs, rotaries. • Strictly follow Indian Road Congress guidelines. • Examine the existing framework for removing broken vehicles from roads and create a system for speedy removal and ensure minimal disruption to traffic.	Partially complied	Needs improvement	SPCB/ CPCB Budget	SPCB UDD Industry	HIMUDA, Municipal Committee, RTO ,Traffic Police,	Dec 2025	
9.	Dust Management	• Edge to edge road carpeting (tiring/ paving/ concreting) to avoid dust. • Notify Loading/Unloading of construction material points.	Partially complied	Needs improvement	SPCB/ CPCB Budget	SPCB UDD Industry	HIMUDA, Municipal Committee, RTO ,Traffic Police,	Dec 2025	

8. INDUSTRIAL CLUSTERS

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
1.	Identification of industrial clusters	• Identify suitable for developing Industrial areas with basic amenities • Identify possibilities of setting industrial estates in the State. • Assess requirement of nature of industries to be setup in future in existing industrial areas.	-	No Gap	State/ Scheme Budget	Industry	Industry SPCB HPSIDC PWD Forest JSV HPSEB HPIDB	March 2024	Nalagarh, Poanta Shaib, Pandoga in Una, S terrace & Kandrori in Kagra are the Industrial cluster
2.	Development of industrial parks	• Prepare plans to develop industrial parks in the state. • Prepare plans to setup common product manufacturing unit hubs.	60 IAs and 17 IEs are existing in the state. Besides, theme parks such as medical device park at Nalagarh and Bulk Device Park at Una is being established.	No Gap	100 cr	Industry	Industry SPCB HPSIDC PWD Forest JSV HPSEB HPIDB	Dec 2029	Continuous process
3.	Common waste management facilities	• Assess and quantify the effluent generation from industrial area and accordingly plan to setup CETP. • Assess and quantify the hazardous waste generation from industrial area and accordingly plan to setup TSDF. • Assess and quantify the SW generation from industrial area and accordingly plan to setup MRF facilities for maximizing recycling and disposal of SW at common place.	25 MLD capacity CETP at Kenduwal, 2.5 MLD CETP ***at*** Kala Amb has been set up and made operational. Solid waste management (TSDF) has been set up in Nalagarh.	No Gap	50 cr	Industry	SPCB Industry	Dec 2029	i) Operational, leakage in pipeline and augmentation issues are of recurring nature which are being addressed from time to time ii) based on inventorisation of effluent by

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
									SPCB, CETP in green feild industrial area/theme parks will be installed.

9. STPs AND RE-USE OF TREATED WATER

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
4.	Installation of Sewage Treatment Plant (STP) in ULBs	• Land identification. • Obtain all clearances. • Create infrastructure. • Setup machineries. • Connectivity of domestic & commercial users. • Operationalize STP	Bilaspur -2 Chamba -4 Hamirpur-7 Kangra-15 Kinnaur- Kullu -7 Lahaul-Spiti - Mandi-6 Shimla-9 Sirmour-3 Solan -5 Una-3	Bilaspur -5 Chamba -3 Hamirpur-2 Kangra-14 Kinnaur- Kullu -2 Lahaul-Spiti - Mandi-3 Shimla-6 Sirmour-5 Solan -6 Una-6	State/ Scheme Budget	JSV	UDD SPCB JSV	Dec., 2035	No ULB in the district Kinnaur & Lahaul Spiti
5.	Installation of Sewage Treatment Plant (STP) by JSV.	• Installation of STP's to reduce the gap in phased manner.	121.903 MLD	Overall Surplus capacity of 22.85 MLD in 29 Towns . However, there is gap of 22.15 MLD in 32 towns in the State	State/ Scheme Budget	JSV	UDD SPCB JSV		
		- Installation 4.05 MLD in 7 towns						Mar 2024	
		- Installation 2.29 MLD in 5 towns						Mar 2025	
		- Installation of 8.77 MLD in 4 towns						Mar 2026	
		- Installation of 7.04 MLD in 16 towns						Mar 2035	
6.	Installation of Sewage Treatment	• Conduct site Assessment • Obtain the necessary permits and	6 STPs- (32.76 MLD)	3 STPs- (21.80 MLD)	State/ Scheme	JSV SJPNL	UDD SPCB	Dec., 2029	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
	Plant (STP) categorized by SJPNL, Shimla, MC	approvals. • Setup required equipment. • Connectivity of domestic & commercial users. • Operationalize STP • Training of the operating staff			Budget		JSV SJPNL		
7.	Installation of total STPs in JSV & SJPNL	• Land identification. • Obtain all clearances. • Create infrastructure. • Setup machineries • Connectivity of domestic & commercial users. • Operationalize STP	Total -67 STPs-(121.903 MLD)	Total -55 STPs-(125.384 MLD)	State/ Scheme Budget	JSV	UDD SPCB JSV SJPNL	Dec., 2029	
8.	Installation of capacity/ Treatment capacity 247.287 MLD	• Installation 4.05 MLD in 7 towns • Installation 2.29 MLD in 5 towns • Installation of 8.77 MLD in 4 towns • Installation of 7.04 MLD in 16 towns	121.903 MLD	Surplus capacity of 22.85 MLD in 29 Towns 22.15 MLD gap in 32 towns in the State	Funds required for sewerage facility to left out 10 towns (15 STPs) is approx. Rs. 400.34 cr. at 2022 price level (with 10% cost escalation per year)	JSV	UDD SPCB JSV SJPNL	March 2024 March, 2025 March 2026. By year 2035	
9.	Sewerage Generation 129.25 MLD	• Assessment of sewerage load in all ULBs. • Assessment of sewerage load from all hotels. • Assessment of sewerage load from	Action plan prepared for 91.95 MLD	Action plan to be prepared for 37.3 MLD	State/ Scheme Budget	UDD Tourism Industry Health SPCB	UDD Tourism Industry Health SPCB	Dec 2035	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		all industries. • Assessment of sewerage load from all commercial institutions. • Assessment of sewerage load from all health institutions. • Prepare category wise action plan.							
10	Household sewer connections (70360)	• Upgradation of sewerage infrastructure • Implementation of public outreach programmes. • Conduct inspections of household sewer connections • Maintenance	45108	25252	State/ Scheme Budget	JSV	UDD SPCB JSV SJPNL	Dec 2030	
11	Clearances	• Prepare DPR. • Obtain all statutory clearances.	All statuary clearance have been made and DPR's have been prepared.	-	State/ Scheme Budget	-	ULBs	Completed As per requirements	
12	Maintenance	• Regular inspections • Conduct maintenance programmes	61 STPs in 35 towns are operational as per CPCB/ HPSPCB norms	0	State/ Scheme Budget	JSV	UDD SPCB JSV SJPNL	Regular activity	

10. CETPs/ ETPs

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
1.	Compliance to discharge norms by Industries	• Identification & assessment of load of effluent from water polluting sources. • Assess need of CETPs & ETPs • Establishment of Flying Squad for surprise inspections of industrial units.	Consistently conduction of sampling of industrial units as per schedule.	-	SPCB Budget	HPSPCB	ULBs	Regular activity	
2.	Complaint redressal system	• General Awareness on water pollution. • Regular review and evaluation of redressal/ public issues.	Public grievance sites, including E-Samdhan, CM Seva Sankalap, and a 24-hour helpline, are already operational.	-	SPCB Budget	HPSPCB	ULBs	Regular activity	

11. GROUND WATER EXTRACTION/ CONTAMINATION AND RECHARGE

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Department	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
1.	Regulatory Provisions	• Establishment of the Authority under Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005 • Mechanism for time bound grant of permit to extract and use ground water. • Registration of drilling agencies. • Registration of existing users of ground water. • Penal actions/ Compounding of offences.	Partially complied	Needs improvements	State/ Scheme budget	JSV	GWA	Dec 2024	
2.	Preparation of Inventory of Ground Water Resources	• Notify nodal point - authority to maintain data base on ground water resources	Partially complied	Needs improvements	State/ Scheme budget	JSV	GWA	Dec 2024	
3.	Recharge & Restoration	• Installation of GW measuring devices. • Rainwater harvesting for conservation and ground-water recharge • Prepare watershed development plans in catchment of GW resources.	Partially complied	Needs improvements	State/ Scheme budget	JSV	GWA Forest	Dec 2024	
4.	Water Quality	• Water quality sampling on regular intervals (twice in a year). • Publication of water quality data on public domain.	Partially complied	Needs improvements	State/ Scheme budget	JSV	GWA	Dec 2024	

12. AIR POLLUTION- SPM, SOX, NOX AND NOISE POLLUTION

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
A. Industrial									
1.	Policy Action	• Policy for permitting new Industries in Critically Polluted Areas (CPAs)	NA	-	SPCB budget	SPCB	SPCB	-	There is no critically polluted area in the State.
		• Guidelines for laying city gas distribution network	66 CNG, 8170 PNG, Connection stations; 2ons. 45 CNG Station; 32000 Domestic Connections	-	SPCB budget	BPCL/IOCL	BPCL/IOCL SPCB Food & Civil Supply	Dec 2040	
		• Notify policy for replacement of heavy oil (eg., furnace oil, diesel etc.) based industries to alternate energy sources (CNG/ PNG/ Electricity)	100% compliance (State Fuel Policy of GoHP notified)	No gap	SPCB budget	DEST&CC	SPCB Industry DEST&CC Inspector of boilers	-	
		• Notify policy for restriction on usage of Pet coke for industrial use.	100% compliance (State Fuel Policy of GoHP notified)	No gap	SPCB budget	DEST&CC	SPCB Industry DEST&CC Inspector of boilers	-	
		• Notify guidelines for uninterrupted power supply in State/ UT.	100% compliance HP Electricity Regulatory Commission (Distribution Performance	No gap	SPCB budget	Energy	HP Electricity Board	-	HP Electricity Regulatory Commission (Distribution Performance Standards) Regulations, 2010 vide Notification no. HPERC/401 dated 08.10.2020 issued.

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
			Standards) Regulations, 2010 vide Notification no. HPERC/401 dated 08.10.2020 issued.						
		• Strict implementation and compliance of DG sets emission and noise pollution norms.	100% compliance	No gap	SPCB budget	HPSPCB	HPSPCB Industry	-	
		• Prepare & adopt policy regarding installation of CAAQMS based on the emission potential or capacity of air polluting industries.	No million plus cities in H.P, however HPSPCB has installed CAAQMS in Baddi and proposed in Shimla and in other non-attainment towns, i.e Parwanoo, Damtal, PaontaSahib, KalaAmb, Sundernagar.	No gap	CPCB/ HP SPCB funds.	HPSPCB	HPSPCB CPCB	Dec 2024 (subject to funding from CPCB)	As per criteria of Non-attainment Cities/Towns based on Ambient Air Quality, CAAQMS is to be installed only under million plus cities.
		• Mechanism to be devised for expansion of OCEMS to air polluting industries are not covered currently (such as emission from utility stacks in 17 categories, etc.)	Present 21 industries under category- 17, have already installed OCEMS	No gap	SPCB budget	HPSPCB	HPSPCB CPCB	Dec 2024	Industries are not violating the norms on regular basis, Hence not mandatory.

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		• Mechanisms to control fugitive emissions sources.	Checked and regulated by emission norms stipulated under EP Rules, 1986.	No gap	SPCB budget	HPSPCB	HPSPCB CPCB	Dec 2024	All operational air-polluting industries are equipped with pollution control devices to trap fugitive emissions.
		• Regulations for conversion of brick kilns to clean technologies • Issue directions to convert all brick kilns to forced draft, zig-zag technology.	100% compliance (Policy notified)	No gap	SPCB budget	SPCB	SPCB Industry/ Mining HP Food & Civil Supply Corporation		• Majority of brick kilns are converted to forced draft, zig-zag technology.
		• Regulations for Emission Trading Scheme (ETS)	100% compliance	No gap	SPCB budget	SPCB	SPCB UDD Industry	Dec 2024	
		• Policy to set up e-waste recycling unit in industrial areas in compliance with e-waste management rules	100% compliance	No gap	SPCB budget	SPCB	UDD Industry	Dec 2024	
		• Identification of industries in the state complying emission standards.	100% compliance	No gap	SPCB budget	SPCB	UDD Industry	Dec 2025	There are 3238 air polluting industries which are complying with the norms.
		• Inventory of fuel consumed in the industries (type and quantity)	100% compliance	No gap	SPCB budget	SPCB	UDD Industry	Dec 2027	• Pet Coke. • Coal • Refused Derived Fuel • Briquette • Furnace Oil • LDO • Low Sulphur Heavy Stock. • HSD • Rice Husk • Wood • Liquefied Petroleum Gas
		• Issue guidelines for shifting of industries/ commercial units to gaseous fuels (CNG/ PNG/ CBG	100% compliance	No gap	SPCB budget	SPCB	UDD Industry	Dec 2027	State Fuel Policy of Go HP, notified on 18.04.2022 f

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
2.	Domestic fuel (LPG/CNG)	• Initiate action for 100% coverage of households shifted to PNG/ LPG • Prepare action plan for supply of LPG through pipelines in ULBs	100% compliance	No gap	SPCB budget	Food & Civil Supply	Food & Civil Supply ULBs	Dec 2027	• Mukhya Mantri Grihni Suvidha Yojna implemented for free LPG connections. • 3.27 Lakh gas connections issued. • 1.37 lakhs gas connections issued under Pradhan mantra Ujjwala Yojna.
B. Vehicular Emission									
1.	Policy Initiatives	• Notification for phasing out old vehicles (Commercial: 10 years; Private: 15 years)	100% compliance	No gap	SPCB budget	SPCB	UDD Industry Transport	Dec 2027	Reregistration done as per directions No.12-02(1)/88-Road Safety Vol.07-1058036 dated 03.02.2016
		• Policy for scrapping old vehicles	100% compliance	No gap	SPCB budget	SPCB	UDD Industry Transport	Dec 2027	State adopted the MoRTH, GOI's" The Motor Vehicle Registration and Functions of Vehicles Scrapping Facility) rules 2021 on 23/09/2021.
		• Policy/ Plan for Li-battery waste management from scrapped vehicles.	100% compliance	No gap	SPCB budget	SPCB	UDD Industry Transport	Dec 2027	State is implementing Battery Waste Management Rules, 2022.
		• Policy / Scheme for Eco- Friendly Mass Rapid Transport Systems	100% compliance	No gap	SPCB budget	SPCB	UDD Industry Transport	Dec 2027	Electric buses are operational on selected state routes.
		• Policy for augment- vehicles Vehicular Emissions	20% achieved	More than 80% complied	SPCB budget	SPCB	UDD Industry Transport	Dec 2029	GoHP notified “Himachal Pradesh Electric Vehicle Policy, 2022”
		• Notification and enforcement to PUC norms Vehicular Emissions	100% achieved		SPCB budget	SPCB	UDD Industry Transport		
		• Online monitoring of PUC	100%		SPCB	SPCB	UDD		

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		implementation	achieved		budget		Industry Transport		
		• Mechanism for centralized record maintenance of PUC checks, certification and cross check by the concerned transport authorities to be incorporated	100% achieved		SPCB budget	SPCB	UDD Industry Transport		
		• Construction of by pass/ ring roads	Dynamic process in progress		SPCB budget	PWD	Transport PWD	Dec 2027	
		Re-filling Stations retro fitted with Vapor Recovery System	-	Needs imporve ment	SPCB budget	Energy SPCB	Energy UDD Industry Transport	Dec 2027	
		Incentive of setting up R&D facilities related to EVs	-	Needs imporve ment	SPCB budget	Energy	Energy Transport Industry	Dec 2027	HP Industrial Investment Policy 2019 notified and adopted.
C. Construction & Demolition Waste and Road Dust Management									
1.	Policy Actions	• Policy for development of projects/ plants for C&D waste management	-	100% gap	Plan/ Scheme Budget	PWD Industry	PWD Industry UDD	Dec 2027	C&D Waste Management Policy for the State notified on 20.07.2022.
		• Policy for use of C&D waste in laying and construction of State highways	25% complied	75% gap	Plan/ Scheme Budget	PWD Industry	PWD Industry UDD	Dec 2027	
		• Schemes for development of green belt/ open spaces and street sides greening on State highways	-	100% gap	Plan/ Scheme Budget	PWD Industry	PWD Forest Industry UDD	Dec 2027	
		• Development of Nature parks.	-	100% gap	Plan/ Scheme Budget	PWD Industry Forest	PWD Industry UDD Forest	Dec 2027	
		• Plantations	-	100% gap	Plan/ Scheme	Forest	PWD Industry	Dec 2027	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
					Budget		UDD Forest		
		• Penalty provisions for non-compliance of C&D waste management rules at construction sites	-	100% gap	Plan/ Scheme Budget	SPCB Forest	SPCB Forest PWD Industry	Dec 2027	SWM bye-laws framed & Gram Panchayats empowered.
		• Mechanism for development and maintenance of road infrastructures for industrial states and clusters.	-	100% gap	Plan/ Scheme Budget	SPCB Industry	SPCB Forest PWD Industry	Dec 2027	
		• Develop action plan to setup C&D waste Processing Plants	-	100% gap	Plan/ Scheme Budget	SPCB Industry	SPCB Forest PWD Industry	Dec 2024	
D. Noise Pollution Action Plan									
	Provision for equipment	Availability of Sound/Noise Level • Procurement 13 nos of noise monitoring meters.			40 lakhs	HPSPCB	HPSPCB	Dec 2024	
		Ambient Noise Level monitoring • Regular monitoring of the residential, sensitive zone by HPSPCB			SPCB budget	HPSPCB	HPSPCB	Dec 2024	
		Complaint redressing system • Develop Mobile app for redressal. • Remedial action on the public grievance received by the concerned authorities. • IEC activities – awareness drives, pasting of stickers on vehicles.	App & portal Developed & made operational	-	State/ Scheme Budget	DEST&CC	DEST&CC SPCB Transport - RTOs Distt. Admn. (DC/SP/SDPO/ SHO)	Dec 2024	IEC & Awareness regular activities
1.	Traffic noise/ transportation Regulation.	• Restriction on use of pressure horns • Restriction on use of horns within city limits. • No honking unless for danger. • Speed limit to be strictly enforced	Partially Complied	Needs improve ment	State/ Scheme Budget	HPSPCB	Police Department, Transport Dept. Urban Local Bodies.	-	Regular Activity

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		within the city/ town as lowest sound emission arise from vehicles moving smoothly at 30-40KMPH. • Display of proper signage to reduce congestion & overloading. • Conducting monitoring and issuing challans on use of Pressure Horns. • Installation of noise barriers at critical sections and silence zones. • Green belt development-plantation of trees and shrubs to create natural buffer in between the traffic movement corridors and residential areas.							
2.	Industrial Noise Pollution	• Green belt development-Plantation of trees and shrubs to create natural buffers in between the industry and its vicinity. • Use noise absorbing obstacles, barriers, screens, partition and natural objects. • Installing sound barriers/ absorbers	Partially Complied	Needs improvement	State/ Scheme Budget	Forest	SPCB Industry Dept, Urban Local Bodies, SADA		Regular Activity
3.	Silence Zone	• Identification of silence zone in each district and information of same be uploaded on website of District Administration.	Partially Complied	Needs improvement	SPCB budget	SPCB	District Admin., Police, Transport		Regular Activity
4.	Loudspeaker noise and noise from cultural/ religious activities	• Cultural and religious activities are major source of noise pollution which need to be checked. • Registration of tent houses providing logistics & instrumental support for cultural/ religious activities be made mandatory and instruments capable of producing noise higher than the prescribed	Partially Complied	Needs improvement	SPCB budget	SPCB	District Magistrate, Superintendent of Police, UDD		Regular Activity

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		limit should install noise limiter.							
5.	Elimination of noisy activities	• Restriction on use of diesel gensets without acoustic enclosure.	Partially Complied	Needs improvement	SPCB budget	SPCB	Police Department, ULBs, HPSPCB		Regular Activity
6.	Mass awareness	• Installation of sign Boards in Silence Zone • IEC Activities	Partially Complied	Needs improvement	SPCB budget	SPCB	UDD, RDD, Police Deptt., Transport Department		Regular Activity
E. Emissions from MSW									
1.	Waste collection (%)	• To achieve 100% collection	Achieved in 60 ULBs out of 61	1	SPCB budget	UDD	ULBS SPCB	December,2024	
2.	Waste segregation (%)	• To achieve 100% collection	Achieved in 60 ULBs out of 61	1	SPCB budget	UDD	ULBS SPCB	December,2024	
3.	Material Recovery Facility (MRF) site	• Identification of site • Development of site • Setting up machines • Operationalization of MRF site • Safety equipments	Operational in 47 ULBs	14	State govt.	UDD	ULBS SPCB	March, 2025	
4.	Waste to Energy plants	• To achieve in all ULBs			State Govt.	UDD	ULBS SPCB	March, 2025	
5.	Waste to compost plants	• To achieve in all ULBs				UDD	ULBS SPCB	March, 2025	
6.	Remediation of dumping sites	• Recover recyclable material • Reduce leachate generation • Air sparging & soil vapour extraction • Pump & treat leachate	16	45	SPCB budget	UDD	ULBS SPCB	March, 2024	
7.	Control open burning of MSW	• Draft bye-laws • Penalization on violation of laws • Training programs for waste pickers			SPCB budget	UDD	ULBS SPCB	March, 2024	
8.	Any other	• Setting up composting units (wet	20 ULBs	41	SPCB	UDD	ULBS	March, 2030	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
	activity/project pertaining to MSW Management	waste) • Shredder (Plastic waste) • EPR			budget		SPCB		
F. Emissions due to burning of agro-residues									
1.	Control of Emissions from burning of agro residues.	• Adopt & implement schemes for procurement of agriculture machinery in In-situ treatment • Provide assistance for establishment of farm machinery banks/ custom hiring centres in- situ Crop residue Management. • Use of decomposer for in- situ Crop residue Management. • Adopt schemes for balers/pellet/ Briquette machines, etc. in ex-situ treatment. • Biomass projects with respect to the hotspots of Crop residue burning. • Promote use of biomass / crop residue based pellets mass blending with coal and its co-firing in thermal power plants with blending ratio which needs no modification in boilers. • Notify policy for supply chain mechanism for in-situ and ex-situ management of stubble. • Notify guidelines for supply chain for crop residues to cow shelters. • Development of effective protocol for monitoring of fire incidents including crop area consideration and crop Fire area data.	35,000 farmers covered	Needs improve ment	State/ Scheme Budget	Agriculture Horticulture	Agriculture Horticulture	Dec, 2026	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Dept	Implementing Partmer (Deptt./ Org.)	Timeline	Remarks
		• Collaboration with ISRO and preparation of Satellite based maps for monitoring of fire incidence							
G. Household Emissions									
1.	Household fuel quality and supply	• Notify & adopt schemes for use of LPG/ PNG for cooking fuels. • Enhance coverage of users of LPG. • Amendment of by-laws for " Indoor air quality management" • Issue any other Policy/ Rules/Standards/ Guidelines required to control Household emissions	Partially Complied	Needs improve ment	State/ Scheme Budget	Energy SPCB	Energy SPCB	Dec 2026	

13. MINERALS & MINING (LIMESTONE, SAND, STONE)

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Imple-menting (Deptt./ Org.)	Timeline	Remarks
1.	Regulation of the Minerals under various Act/Rules	• Identification and inventorization of the areas for mineral concessions after conducting site inspection. • Prepare & digitize inventory of Mining Leases with geo references/ coordinates. • Undertake auctions of areas available in riverbeds/ hill Slopes etc. having mineral resource. • Adopt sustainable development of mineral resources in harmony with environment using modern methods of mining • Strengthening of IT network for online services in mining sector.	Partially complied	Needs improvement	State/ Scheme budget	Industries/ Mining	Industries/ Mining SPCB	Dec 2024	
2.	District Survey Reports/ documents	• Preparation of District Survey Reports to identify the mineral resources for all districts of the State. • Undertake Geological and geotechnical Investigation of the sites for preparation of Geological reports under DSR. • Approval of DSR from State Environment Authority. • Updation of District Survey Report after 5 years as per Mining & Mineral Guidelines of MoEF&CC after conducting replenishment Studies. • Re-endorsement & approval of updated DSRs from State Environment Authority.	Partially complied	Needs improvement	State/ Scheme budget	Industries/ Mining	Industries/ Mining SPCB SEIAA	Dec 2024	
3.	Regulation of stone crushers	• Develop mechanism for site inspection of the areas applied for the establishment of the stone crusher unit. • Develop mechanism for registration of the Stone crusher unit. • Notify guidelines for regular inspection of the Stone crusher units. • Prepare and digitize inventory of Stone Crushers with GPS coordinates. • Introduce drone based centralized online monitoring of stone crushers.	Partially complied	Needs improvement	State/ Scheme budget	Industries/ Mining	Industries/ Mining SPCB DEST&CC	Dec 2024	
4.	Transportation & evacuation of	• Develop & adopt mechanism to use of 100% GPS enabled transportation vehicles.	Partially complied	Needs improvement	State/ Scheme	Industries/ Mining	Industries/ Mining	Dec 2024	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Imple-menting (Deptt./ Org.)	Timeline	Remarks
	minerals	• Centralized control room to monitor movement of vehicles. • Installation of waying bridges at appropriate locations. • Digitize the evacuation route through GIS mapping.			budget		SPCB DEST&CC Police Transport		
5.	Monitoring & Control illegal mining activities	• Identification of areas prone to illegal mining. • Delegation of power to officers of various departments to check illegal mining. • Conduct regular checking drives for illegal mining. • Issue guidelines to Lodge FIR & to challan and compound the offences of illegal mining, transportation and storage. • Formation of Task Force to Control Illegal mining.	Partially complied	Needs improvement	State/ Scheme budget	Industries/ Mining	Industries/ Mining SPCB DEST&CC Police Transport	Dec 2024	
6.	Systematic and Scientific Mining	• Prepare Mining and Restoration Plans, Mine closure plans before start of mining activities. • Adopt & develop infrastructure for drone monitoring technology for mining sector. • Guidelines for monitoring of implementation of Environment Management Plan of all mineral concession areas.	Partially complied	Needs improvement	State/ Scheme budget	Industries/ Mining	Industries/ Mining SPCB DEST&CC	Dec 2024	

14. WATER BODIES (LAKES, POND ETC.)

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Imple-menting (Deptt./ Org.)	Timeline	Remarks
1.	Scientific identification and management of springs (lakes, ponds etc.)	• Prepare inventory of springs (lakes, ponds etc.) sources. • Identification of springs and recharge zone shall be carried out in consultation with Hydro geologists under JSV, physical observation including lakes, ponds etc. • Document local knowledge on traditional sources of water and	320 constructed out of 412	92	State/ Scheme budget	JSV	Forest JSV RDD	Dec 2026	

#	Action Required/ Target	Activities/ Action Plan	Present Status	Gaps	Budget	Lead Deptt.	Imple-menting (Deptt./ Org.)	Timeline	Remarks
		springs (lakes, ponds etc.). • Restoration of structure in traditional construction. • Collaboration and Partnership with best performing State/NGOs • Documentation of best practices for more effective and efficient Spring shed management including lakes, ponds etc.							
2.	Capacity Building	• Conduct training programme on hydrogeology. • Organize community level Water quality testing awareness & training programme for community members. • Formation of user groups and depute trainers at local level. • Organize programme Promotion of Indigenous Knowledge for managing springs sources including lakes, ponds etc. • Encourage low-cost, sustainable technologies for research and innovation in the State. • Develop and secure long-term funding for spring shed projects including lakes, ponds etc. • Share experiences and best practices among communities. • Advocate for supportive regional and national policies for spring shed management for long term planning & investments.	Partially complied	Need to be institutionalized	State/ Scheme budget	JSV	Forest JSV RDD	Dec 2026	
3.	Scientific Assessment and Monitoring - Regulation and Enforcement	• Conduct regular hydrological studies. • Water quality tests and establish monitoring systems. • Enforce protective regulations and encourage community-driven rules. • Preparation of GIS based Water Harvesting Plan of the districts.	Partially complied	Need to be institutionalized	State/ Scheme budget	JSV	Forest JSV RDD	Dec 2026	
4.	Maintenance, replenishment, restoration	• Conduct regular cleanliness drives of water bodies. • Disinfection of traditional water bodies. • Catchment Areat Treatment of waterbodies.	Partially complied	Need to be institutionalized	State/ Scheme budget	JSV	Forest JSV RDD	Dec 2026	To be done at least twice a year.

CHAPTER-5: MONITORING AND EVALUATION

Monitoring and Evaluation (M&E) play a crucial role in ensuring the effectiveness of initiatives in these areas. In the state the appropriate reporting mechanism has been devised for reporting the progress to the state nodal department which after compilation of information will report to the state level committee for further review and advice.

Brief overview of suggestive for M&E that can be applied to each of the mentioned thematic areas is given as follows:

5.1 SOLID WASTE MANAGEMENT:

In order to track the solid waste management practices, to start with the quantity assessment of waste generated, ensure efficiency of waste collection and disposal methods how the implementation of waste segregation and recycling programs is being undertaken can be monitored and evaluated through following indicators under different important components:

For the purpose of Monitoring the following needs to be regularly checked:

- Waste Generation and Composition: Track the quantity and types of solid waste generated in a specific area.
- Waste Collection and Transportation: Assess the efficiency of waste collection services, including frequency and coverage.
- Waste Segregation and Recycling: Monitor the implementation of waste segregation at the source and assess recycling rates.
- Waste Disposal and Landfill Management: Track the amount of waste sent to landfills and assess landfill capacity and conditions.
- Compliance with Regulations: Ensure that waste management practices comply with local and national regulations.
- Community Participation: Track community involvement in waste management programs and initiatives.
- Cost-effectiveness and Budget Allocation: Track financial resources allocated to waste management activities.
- Innovation and Technology Adoption: Stay updated on new technologies and innovative approaches in waste management.
- Environmental Impact Assessment: Monitor environmental indicators such as air and water quality near waste management facilities.
- Public Health and Safety: Monitor public health indicators related to waste management, such as disease rates.
- Long-term Sustainability: Track changes in waste generation patterns over the long term.

For the purpose of Evaluation the following needs to be regularly checked:

- Analyze trends in waste composition to identify potential changes in consumption patterns.
- Evaluate the reliability of collection systems and identify areas for improvement.
- Evaluate the effectiveness of public awareness campaigns on waste segregation and recycling.
- Evaluate the environmental impact of landfill sites and explore alternatives such as waste-to-energy or composting.
- Assess the effectiveness of regulatory enforcement mechanisms.
- Assess the impact of community engagement on waste reduction and proper disposal.
- Assess the cost-effectiveness of different waste management strategies and adjust budget allocations accordingly.

- Assess the feasibility and effectiveness of adopting new technologies to improve waste management practices.
- Assess the environmental impact of waste management practices and implement measures to mitigate negative effects.
- Assess the effectiveness of waste management in protecting public health and safety.
- Assess the sustainability of waste management practices and make adjustments for continuous improvement.

Overall, we understand that the effective M&E in Solid Waste Management involves a comprehensive approach, including the monitoring of various stages in the waste management process, assessing compliance with regulations, and evaluating the overall impact on the environment, public health, and community participation. Regular evaluations provide valuable insights for making informed decisions and improving the efficiency and sustainability of solid waste management systems.

5.1.1 MONITORING EPR (EXTENDED PRODUCER RESPONSIBILITY) ACTIVITIES:

Monitoring the implementation of Extended Producer Responsibility (EPR) programs by producers and evaluating the collection and recycling of products at the end of their life cycle involve the use of specific indicators.

By monitoring these indicators, policymakers, regulatory bodies, and environmental agencies can assess the success and impact of EPR programs in promoting responsible product stewardship, reducing environmental impact, and moving towards a more sustainable and circular economy. Regular evaluations help identify areas for improvement and ensure ongoing commitment from producers to fulfill their extended responsibilities. In order to monitor EPR programs and the key indicators to consider area s under:

For the purpose of Monitoring the following needs to be regularly checked:

- Percentage of producers participating in EPR programs. Track the number of producers in a given industry or sector that have adopted and are actively participating in EPR initiatives.
- Types and quantity of products covered by EPR programs.
- Assess the range and volume of products for which producers have taken responsibility under the EPR framework.
- Amount of financial contributions made by producers to fund EPR programs.
- Producers' adherence to EPR regulations and guidelines.
- Effectiveness of educational programs implemented by producers.
- Assess the success of campaigns aimed at raising awareness among producers and the public about the importance of EPR.
- Transparency in reporting on EPR activities.
- Level of engagement with relevant stakeholders (government agencies, environmental organizations, etc.).
- Quantity of end-of-life products collected for recycling.
- Percentage of products covered by EPR programs that are successfully collected at the end of their life cycle.
- Percentage of collected products that are recycled.
- Percentage of products diverted from landfills.
- Efficiency in recovering materials during recycling.
- Investment in and maintenance of collection infrastructure.
- Public awareness and participation in EPR programs.
- Contribution to resource conservation through EPR.

For the purpose of Evaluation the following needs to be regularly checked:

- Evaluate the financial resources allocated by producers to support the collection, recycling, and proper disposal of their products.
- Conduct regular audits and reviews to ensure that producers are complying with the specified EPR requirements and standards.
- Review the quality and transparency of reports submitted by producers, detailing their EPR efforts, achievements, and challenges.
- Evaluate the extent to which producers actively engage and collaborate with stakeholders to enhance the effectiveness of EPR programs.
- Assess the effectiveness of recycling processes in turning collected materials into reusable resources.
- Measure the success of EPR programs in reducing the amount of waste sent to traditional disposal sites.
- Assess the extent to which valuable materials are successfully recovered from end-of-life products.
- Evaluate the commitment of producers to develop and maintain efficient systems for collecting end-of-life products.
- Assess the success of EPR programs in engaging and educating the public about responsible disposal and recycling.
- Consider the broader environmental impact, including reductions in resource extraction and energy consumption resulting from effective EPR implementation.

5.2 Biomedical Waste Management:

Biomedical waste management is crucial for preventing environmental pollution and protecting public health. Monitoring and evaluating the proper disposal of medical waste to prevent environmental and public health risks, as well as the effectiveness of bio hazardous waste treatment facilities, involve a series of processes and considerations.

By actively monitoring and evaluating these aspects of biomedical waste management, authorities can ensure safe and environmentally responsible disposal of medical waste, mitigating potential risks to public health and the environment. Regular assessments contribute to the development of effective policies, the improvement of waste management infrastructure, and the overall sustainability of biomedical waste disposal practices.

For the purpose of Monitoring the following needs to be regularly checked:

- Waste Segregation at Source: Monitor healthcare facilities to ensure the proper segregation of biomedical waste at the source. This involves separating infectious and non-infectious waste, sharps, and pharmaceutical waste.
- Collection and Transportation: Track the collection and transportation processes to ensure that medical waste is handled safely from its generation point to the treatment facility. Monitoring should include the use of color-coded containers and appropriate labeling.
- Compliance with Regulations: Monitor healthcare facilities to ensure compliance with local and national regulations governing the disposal of biomedical waste. This includes adherence to guidelines on packaging, labeling, and transportation.

For the purpose of Evaluation the following needs to be regularly checked:

- Evaluate the effectiveness of the treatment methods employed at biohazardous waste treatment facilities. This may include incineration, autoclaving, microwaving, or other approved technologies. Assess whether the chosen methods meet regulatory standards and effectively neutralize infectious agents.
- Evaluate the capacity of treatment facilities to handle the volume of biomedical waste generated. Assess the efficiency of the facility in processing waste in a timely manner to avoid accumulation and potential hazards.

- Assess the emissions generated during the treatment process to ensure that they meet environmental standards. This includes monitoring air and water emissions to prevent the release of harmful pollutants.
- Ensure proper documentation and tracking of biomedical waste from collection to treatment. Evaluate the accuracy and completeness of records, including manifests and disposal certificates.
- Evaluate the training programs provided to healthcare personnel regarding the proper handling, segregation, and disposal of biomedical waste.
- Assess the effectiveness of public awareness campaigns aimed at informing the community about the importance of proper biomedical waste disposal and the potential health risks associated with mishandling.
- Evaluate the existence and effectiveness of contingency plans for managing unexpected events, such as spills, accidents, or equipment failures, to prevent the release of biohazardous materials.
- Conduct regular audits and inspections of healthcare facilities and treatment plants to identify areas for improvement and ensure ongoing compliance.
- Establish feedback mechanisms that allow healthcare facilities and waste treatment facilities to provide input and suggestions for improving the overall biomedical waste management system.

5.3 Construction and Demolition Waste Management:

Construction and Demolition (C&D) waste management is essential to reduce the environmental impact associated with the construction industry. Assessing the management and disposal of C&D waste, as well as monitoring recycling efforts for materials like concrete, wood, and metals, involves a multifaceted approach.

By actively assessing C&D waste management practices and monitoring recycling efforts for specific materials, stakeholders can contribute to sustainable construction practices, reduce environmental impact, and promote a circular economy within the construction industry. Regular evaluations and adjustments to strategies will enhance the effectiveness of C&D waste management initiatives over time.

For the purpose of Monitoring the following needs to be regularly checked:

- Ensure that C&D waste management practices comply with local and national regulations. This includes adherence to guidelines related to waste disposal, recycling, and the proper handling of hazardous materials.
- Assess the effectiveness of waste segregation at construction sites to separate different types of materials. Monitor the collection process to ensure that waste is properly sorted before transportation.
- Monitor the presence and effectiveness of facilities that specialize in separating and recycling C&D waste materials. Evaluate the capacity of these facilities to handle the volume of materials generated.
- Track the recycling of concrete, a significant component of C&D waste. Evaluate the use of crushing equipment to produce recycled aggregates for use in new construction projects.
- Monitor efforts to recycle wood from construction and demolition sites. Assess whether wood waste is being processed into mulch, biomass fuel, or other useful products.
- Track the recycling of metals such as steel and aluminum. Evaluate the efficiency of metal recovery processes, including the use of magnets and other separation technologies.
- Monitor recycling rates for different materials, providing insights into the overall success of recycling initiatives.
- Implement education and awareness programs to inform construction industry stakeholders about the importance of sustainable waste management practices. Encourage the adoption of environmentally responsible construction methods.
- Raise public awareness about the benefits of C&D waste recycling and the importance of responsible disposal practices.
- Monitor the extent to which C&D waste is diverted from landfills through recycling and reuse initiatives.

For the purpose of Evaluation the following needs to be regularly checked:

- Assess the overall environmental impact of C&D waste management practices, considering factors such as greenhouse gas emissions, energy consumption, and habitat disruption.
- Foster collaboration among construction companies, waste management facilities, local authorities, and environmental organizations to enhance C&D waste management efforts.
- Evaluate the quantity and types of C&D waste generated within a specific area or construction project. This includes assessing the composition of the waste, such as concrete, wood, metals, plastics, and other materials.
- Assess the adoption of green building standards that emphasize sustainable construction practices, including the reduction of waste generation and the use of recycled materials.
- Evaluate programs that encourage the reuse of construction materials, such as salvaging fixtures, doors, or windows from demolished structures for use in new projects.
- Establish reporting mechanisms to track progress in C&D waste management, providing transparency and accountability.

5.4 TSDF-HAZARDOUS WASTE:

Monitoring and Evaluation (M&E) indicators are essential for assessing the performance of Treatment, Storage, and Disposal Facilities (TSDFs) for hazardous waste. Following are the possible indicators that can be used to evaluate their performance and ensure compliance with safety regulations and environmental standards. These indicators, when regularly monitored and evaluated, offer a comprehensive view of the TSDF's performance in managing hazardous waste, ensuring compliance with safety regulations, and minimizing environmental impact. Regular assessments enable continuous improvement and contribute to the overall effectiveness and sustainability of hazardous waste management practices:

For the purpose of Monitoring, the following needs to be regularly checked:

- Percentage of hazardous waste accepted by the TSDF that meets the established waste acceptance criteria. It ensures that only waste meeting safety and environmental standards is accepted.
- Percentage of hazardous waste treated successfully compared to the total amount received.
- Concentrations of air and water emissions (e.g., stack emissions, effluent discharges) from the TSDF. Monitoring of the release of pollutants into the environment to ensure compliance with permissible limits.
- Number of incidents and accidents reported at the TSDF.
- Time taken to respond to emergencies or spills at the TSDF.
- Percentage of TSDF staff trained and certified in hazardous waste management and emergency response.
- Percentage of the TSDF's storage capacity utilized over a specified period.
- Percentage of energy consumed at the TSDF derived from renewable sources. Encourages environmentally friendly practices and reduces the facility's carbon footprint.
- Implementation of waste minimization strategies within the TSDF.
- Monitoring of the facility's efficiency in managing and storing hazardous waste within its designed capacity.

For the purpose of Evaluation the following needs to be regularly checked:

- Tracking of safety incidents and helps identify areas for improvement in safety protocols.
- Assess the facility's preparedness and ability to respond promptly to hazardous situations. Accuracy and completeness of records, including manifests and tracking documentation. Ensures proper documentation of hazardous waste from receipt to disposal, aiding regulatory compliance and accountability.
- Frequency and results of compliance audits and regulatory inspections.
- Assess the TSDF's adherence to safety and environmental regulations.
- Gather feedback from nearby communities, regulatory bodies, and other stakeholders. Provides insights into the facility's impact on the local community and stakeholder perceptions.
- Evaluate efforts to reduce the generation of hazardous waste and promote sustainability.

5.5 E-WASTE:

Continuous monitoring and assessment of following aspects contribute to the refinement and improvement of e-waste management programs, ensuring their effectiveness and promoting sustainable practices in handling electronic waste.

For the purpose of Monitoring the following needs to be regularly checked:

- Regularly assess the availability and accessibility of e-waste collection points, such as drop-off centers or recycling events. Ensures convenient disposal options for the public, encouraging proper e-waste handling.
- Track the quantity of e-waste collected over specific time periods and geographic regions. Provides data on e-waste generation patterns and helps in planning collection strategies.
- Identify the primary sources of e-waste, distinguishing between households, businesses, and institutions. Allows for targeted awareness campaigns and tailored collection approaches based on the major generators.
- Measure the level of public awareness through surveys or outreach programs. Track participation rates in e-waste collection initiatives. Indicates the effectiveness of educational campaigns and community engagement efforts.
- Assess the efficiency of transportation systems employed for collecting e-waste, considering factors like route optimization and vehicle capacity. Ensures safe and timely transport of collected e-waste to recycling facilities.
- Percentage of e-waste that is recycled rather than sent to landfills. Measures the success of diverting e-waste from traditional disposal methods.
- Monitor the adoption and effectiveness of EPR programs that hold manufacturers responsible for the end-of-life management of their products.
- Encourage and assess the implementation of innovative technologies and research in e-waste recycling.
-

For the purpose of Evaluation the following needs to be regularly checked:

- Regularly review and audit e-waste management programs to ensure compliance with environmental regulations and safety standards.
- Validates that the programs align with legal requirements, promoting responsible practices.
- Evaluate the effectiveness of e-waste recycling processes in recovering valuable materials like metals, plastics, and rare earth elements.
- Focuses on resource recovery and reduction of environmental impact.
- Review and audit protocols for secure data erasure or destruction from electronic devices.
- Evaluate the overall environmental impact of e-waste management practices, considering factors such as energy consumption, emissions, and waste generation.
- Evaluate initiatives that promote a circular economy, such as the refurbishment, repair, and resale of electronic devices.
- Feedback from the public through surveys or community forums to gauge satisfaction with e-waste management programs.
- Evaluate the social impact of e-waste management programs, including job creation, community development, and social empowerment.

5.6 POLLUTED RIVER STRETCHES IN HP:

Monitoring and evaluating polluted river stretches in Himachal Pradesh require a multi-faceted approach that combines continuous water quality monitoring with targeted pollution control measures. Regular assessments provide crucial insights into the effectiveness of interventions, guide adaptive management strategies, and contribute to the restoration and protection of river ecosystems.

Public participation and awareness play a vital role in sustaining long-term efforts to mitigate pollution in these river stretches.

For the purpose of Monitoring the following needs to be regularly checked:

- Regularly collect water samples from identified polluted river stretches. Under take regular sampling, with a focus on seasonal variations.
- Install continuous monitoring stations along polluted river stretches.
- Sample and analyze riverbed sediments for pollutants and contaminants. Presence of heavy metals, organic pollutants, and sediment characteristics.
- Assess microbial contamination through regular testing for fecal coliforms and other pathogens.
- Monitor the health of aquatic ecosystems within polluted river stretches.
- Assess the performance of wastewater treatment plants discharging into polluted river stretches.
- Treated effluent quality and compliance with discharge standards.
- Implement source tracking to identify and control point and non-point sources of pollution.
- Continuous monitoring with regular source identification studies.
- Conduct awareness campaigns and involve communities in monitoring and reporting.
- Implement restoration projects to enhance riverbank vegetation and ecosystems.
- Assess compliance with discharge limits and penalties.

For the purpose of Evaluation the following needs to be regularly checked:

- Enable immediate response to sudden changes in water quality and captures dynamic variations.
- Evaluate the microbial risk to human health and ecosystem.
- Assess the impact of pollution on the overall river ecosystem.
- Periodic assessments post-restoration efforts. Changes in biodiversity, vegetation health.

5.7 Non-Attainment Cities in HP:

Monitoring and evaluating air quality in non-attainment cities in Himachal Pradesh require a comprehensive and integrated approach. By continuously assessing air quality, tracking emission sources, and evaluating the impact of pollution control measures, authorities can make informed decisions to improve air quality and ensure the well-being of residents in these urban areas.

Regular feedback, public participation, and technological advancements contribute to a robust and dynamic air quality management framework.

For the purpose of Monitoring the following needs to be regularly checked:

- Regularly measure and calculate AQI based on concentrations of key pollutants (PM10, PM2.5, NO2, SO2, CO, O3).
- Monitor specific pollutants known to be critical in non-attainment areas, such as particulate matter, nitrogen dioxide, and sulphur dioxide.
- Identify and track major sources of emissions (industries, vehicular traffic) within non-attainment cities.
- Continuous monitoring with periodic source apportionment studies.
- Implement and monitor traffic management strategies, including emission controls for vehicles.
- Conduct public awareness campaigns and involve communities in monitoring and reporting.
- Use of advanced monitoring technologies, such as satellite data and remote sensing, for a comprehensive understanding.

For the purpose of Evaluation the following needs to be regularly checked:

- Conduct regular audits to ensure industrial compliance with emission standards.

- Evaluate the impact of green spaces and urban forestry on air quality.
- Assess Continuous integration of technological advancements.

5.8 Industrial Clusters:

Continuous monitoring and evaluation of industrial clusters are essential for ensuring sustainable and responsible industrial practices. It helps identify areas for improvement, supports compliance with environmental regulations, and promotes the long-term environmental and social sustainability of industrial activities within defined region.

For the purpose of Monitoring the following needs to be regularly checked:

- Conduct comprehensive environmental impact assessments (EIAs) for industrial clusters. Air quality, water quality, soil quality, and biodiversity. Periodic assessments, especially before and after the establishment or expansion of industrial clusters.
- Install emission monitoring systems and conduct regular air quality measurements. Continuous monitoring with real-time or periodic reporting.
- Assess the contribution of industrial clusters to climate change.
- Use air quality monitoring stations and emission measurement systems.
- Ensure compliance with air quality standards and identifies areas for emission reduction.
- Implement waste tracking systems and conduct regular waste audits.
- Conduct regulatory compliance audits and inspections.

For the purpose of Evaluation the following needs to be regularly checked:

- Evaluate the impact on local water resources and ensures compliance with water quality standards.
- Track water usage and monitor the quality of wastewater discharged.
- Evaluate the overall impact of industrial activities on the surrounding environment.
- Assess t he efficiency of resource use in industrial processes.
- Periodic assessments with ongoing regulatory checks.
- Assess health and safety indicators, conduct community health studies.
- Evaluate the quality and transparency of environmental reports.
- Periodic assessments and updates of emergency response plans.
- Assess the effectiveness of engagement programs through feedback and surveys.

5.9 STP Recycling of Treated Water:

Continuous monitoring and evaluation of STP efficiency and treated water reuse contribute to sustainable water management, resource conservation, and environmental protection. Regular assessments based on key parameters and metrics help identify areas for improvement and ensure the long-term viability of treated water reuse practices.

For the purpose of Monitoring the following needs to be regularly checked:

- Determines the effectiveness of the STP in reducing pollutant concentrations. Regular sampling and analysis of influent and effluent for key parameters. Continuous monitoring with frequent comprehensive assessments. (Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), Nitrogen, and Phosphorus.)
- Ensures that the STP meets and maintains compliance with environmental regulations. Regularly compare treated effluent quality against regulatory limits. Continuous monitoring with regular reporting to regulatory authorities.
- Regular inspection of treatment infrastructure and equipment.
- Track energy usage, chemical dosages, and resource efficiency.
- Energy consumption per unit of treated water, chemical usage.

- Regularly assess sludge characteristics and disposal methods. Ensures proper handling and disposal of sludge generated during treatment.
- Regularly sample and analyze treated water quality. Ensures that the treated water meets the required standards for safe reuse.
- Maximizes the economic and environmental benefits of treated water reuse.

For the purpose of Evaluation the following needs to be regularly checked:

- Evaluates the STP's ability to consistently operate at optimal conditions.
- Track the volume of treated water diverted for reuse. Measures the success of reuse initiatives and resource conservation.
- Assess the variety and extent of treated water reuse applications.
- Assess the safety of treated water for various reuse purposes.
- Assess the financial efficiency of treatment and reuse operations.

5.10 Common Effluent Treatment Plants in HP:

Regular and comprehensive monitoring of CETP performance and discharged effluent quality is essential for safeguarding the environment, public health, and compliance with regulatory standards. Continuous improvements based on monitoring results contribute to the overall effectiveness and sustainability of wastewater treatment practices. Following mechanism can help in better monitoring and evaluation process:

For the purpose of Monitoring the following needs to be regularly checked:

- Regularly analyze influent and effluent samples for pollutants for reduction in pollutant concentrations (COD, BOD, TSS).
- Regularly compare treated effluent quality against regulatory limits. Adherence to local and national effluent discharge standards.
- Regular inspection of treatment infrastructure and equipment. Maintenance of treatment equipment, uptime, and reliability.
- Track energy usage and resource efficiency.
- Use flow meters and load analysis for influent and effluent.
- Regular collection of treated effluent samples. Analyze samples for key water quality parameters.
- Study changes in water quality, biodiversity, and habitat conditions downstream.
- Analyze for potential contaminants and waterborne pathogens.
- Regularly measure and record effluent temperatures.
- Promote transparency and community awareness.
- Communicate treated effluent quality to the public.

For the purpose of Evaluation the following needs to be regularly checked:

- Ensure that the CETP meets and maintains compliance with environmental regulations.
- Evaluate the CETP's ability to consistently operate at optimal conditions.
- Energy consumption per unit of treated effluent.
- Flow rates and pollutant loads entering and leaving the CETP.
- Evaluate the ecological health of the receiving water body.
- Regularly review and update discharge permits.
- Evaluate public understanding and perception of CETP operations.

5.11 Groundwater Extraction and Recharge:

Regular monitoring and evaluation different activities for ensuring sustainable groundwater extraction and recharge is essential to understand the dynamic nature of aquifers and ensure sustainable water resource management. This involves installing monitoring wells and using water level measuring devices to track changes over time.

Continuous monitoring and evaluation of groundwater levels, extraction rates, and recharge effectiveness are essential for informed and sustainable water resource management. This data-driven approach helps authorities make well-informed decisions to ensure the long-term viability of groundwater sources. Following process can be adopted to monitor and evaluate the sustainability of ground water restoration and recharge effectively:

For the purpose of Monitoring the following needs to be regularly checked:

- Deploy groundwater level sensors in strategic locations.
- Establish a network of monitoring wells across the aquifer. Regularly measure and record groundwater levels.
- Monthly or seasonal monitoring to capture variations in groundwater levels of strategically located wells representing different hydro geological zones.
- Monitoring the rate at which groundwater is extracted is crucial for preventing over-extraction and depletion of aquifer resources. This involves tracking the volume of water pumped from wells and boreholes.
- Install flow meters on extraction wells.
- Implement a water abstraction permitting system.
- Regularly record and report extraction volumes.
- Continuous monitoring with real-time or periodic reporting.
- Monitor changes in groundwater levels post-recharge.
- Assess the quality of recharged water.
- Analyze land cover and land use changes.
- Monitor soil permeability and porosity.
- Areas prone to natural recharge processes.
- Monitor changes in vegetation health.
- Assess the impact on aquatic ecosystems.
-

For the purpose of Evaluation the following needs to be regularly checked:

- Artificial recharge mechanisms aim to replenish groundwater by introducing water into aquifers. Assessing their effectiveness involves monitoring the success of various techniques, such as infiltration basins, percolation ponds, or injection wells.
- Measure the water input into artificial recharge structures.
- Regular assessments, especially during and after recharge events.
- Visit Areas where artificial recharge structures are implemented.
- Understanding and enhancing natural recharge processes are crucial for sustaining groundwater levels. This involves evaluating factors such as land use, soil characteristics, and precipitation patterns that influence natural recharge.
- Assess the relationship between precipitation and groundwater recharge.
- Periodic assessments to account for changing environmental conditions.
- Evaluating the overall efficiency of recharge mechanisms involves assessing the ratio of recharged water to the amount extracted. This metric helps determine whether recharge efforts are maintaining or enhancing groundwater levels.
- Regular assessments, ideally annually or as per recharge events.
- Assessing the impact of groundwater recharge on the surrounding ecosystem is crucial. This involves considering the ecological health of wetlands, riparian zones, and vegetation influenced by recharged groundwater.
- Regular ecological assessments, especially after significant recharge events.

5.12 Air Pollution, SPM, SOx, NOx, Noise:

Monitoring air quality parameters (such as Suspended Particulate Matter - SPM, Sulfur Oxides - SOx, Nitrogen Oxides - NOx) and noise levels is crucial for understanding the environmental impact of industrial and vehicular emissions.

Continuous monitoring and evaluation are essential for implementing effective air quality management strategies. Regular assessments provide insights into the success of pollution control measures, guide policy adjustments, and help protect public health and the environment. The integration of real-time monitoring data, community

feedback, and regulatory compliance assessments contributes to a comprehensive understanding of the impact of industrial and vehicular emissions on air quality.

In order to monitor and assess following indicators could be useful:

For the purpose of Monitoring the following needs to be regularly checked:

- Installation of high-volume air samplers to collect particulate matter samples for gravimetric analysis.
- Regular sampling, with results analyzed for concentrations of PM10 (particles with a diameter of 10 micrometers or less) and PM2.5 (particles with a diameter of 2.5 micrometers or less).
- Install monitoring stations in areas with high industrial or vehicular activities.
- Employ gas analyzers to measure concentrations of SOx and NOx in the air.
- Set up AAQMS Continuous monitoring for real-time data on pollutant levels. Install monitoring stations near industrial sources, traffic intersections, and other emission hotspots.
- Calculate AQI based on concentrations of various air pollutants, including SPM, SOx, and NOx.
- Regularly update and disseminate AQI values to the public. Establish AQI monitoring stations across different areas of the state.
- Monitor meteorological factors (wind speed, temperature, humidity) that influence air quality dispersion. Continuous monitoring to understand the atmospheric conditions affecting pollutant dispersion.
- Install meteorological stations in strategic locations
- Develop inventories of industrial and vehicular emissions based on source-specific data.
- Periodically update emission inventories to reflect changes in industrial and vehicular activities.
- Obtain data from industries, traffic management authorities, and relevant agencies.
- Use source apportionment techniques to identify the proportion of pollutants attributed to specific emission sources.
- Installation of noise level meters to measure ambient noise levels. Regular noise mapping to identify areas with high noise pollution.
- Monitor the success of educational campaigns and initiatives aimed at raising awareness about the impact of emissions on air quality.
- Enforcement of emission standards and regulatory measures.

For the purpose of Evaluation the following needs to be regularly checked:

- Incidence of respiratory diseases, cardiovascular issues, and other health problems. Analyze health data to identify correlations between air quality parameters and public health outcomes.
- Contribution of different sources (industries, vehicles) to overall air pollution.
- Regularly assess air quality data against established standards to determine compliance and identify areas of non-compliance.
- Conduct surveys and analyze complaint data to understand community concerns and assess the perceived impact of emissions.
- Conduct ecological studies to assess the impact of pollutants on plant life and overall ecosystem health.
- Integration of air quality considerations into urban planning and zoning regulations.
- Assess the effectiveness of land use policies in minimizing exposure to industrial and vehicular emissions.
- Adoption of emission reduction technologies and practices.
- Assess the effectiveness of policies and incentives encouraging industries and transport systems to adopt cleaner technologies.
- Review regulatory actions, penalties, and enforcement mechanisms to ensure compliance with air quality regulations.

5.13 Minerals & Mining (Limestone, Sand, Stone):

Monitoring minerals and mining activities, particularly in the extraction of limestone, sand, and stone, and assessing compliance with environmental regulations are critical for sustainable resource management. Regular

and comprehensive monitoring, combined with a robust assessment of regulatory compliance, helps ensure responsible and sustainable mineral and mining practices. It enables early detection of environmental issues, facilitates timely corrective measures, and contributes to the overall environmental sustainability of mining operations.

For the purpose of Monitoring the following needs to be regularly checked:

- Adoption of online monitoring survey and mapping of the extent of mining activities.
- Assessment of the physical footprint of mining operations, facilitating the assessment of land use changes.
- Track changes in topography and land cover caused by mining activities.
- Conduct air quality assessments, especially in areas near mining sites.
- Regularly test water quality in nearby rivers, streams, and groundwater.
- Conduct surveys to assess the impact of mining on local flora and fauna.
- Measure noise levels and ground vibrations generated by mining operations.
- Conduct periodic audits to ensure compliance with local and national environmental regulations.
- Review regulatory inspections and enforcement actions taken against non-compliant mining operations.

For the purpose of Evaluation the following needs to be regularly checked:

- Evaluate the effectiveness of erosion control measures.
- Assess the progress of land reclamation efforts.
- Verification of, whether mining sites are being rehabilitated and restored in accordance with approved reclamation plans.
- Review mining permits and assess compliance with permit conditions.
- Evaluate the accuracy and thoroughness of EIAs conducted for mining projects.
- Evaluate how mining companies handle and dispose of waste materials.
- Evaluate the level of engagement and consultation with local communities.
- Review the frequency and transparency of environmental monitoring and reporting by mining companies.
- Evaluate the adequacy of financial assurance mechanisms, such as reclamation bonds.
- Evaluate the inclusion of environmental NGOs, local communities, and other stakeholders in the regulatory process.

5.14 Monitoring and evaluation of Management of Water Bodies (Lakes, Ponds, etc.):

Monitoring water bodies, such as lakes and ponds, with respect to water quality involves a systematic approach to assessing various physical, chemical, and biological parameters. Additionally, evaluating conservation and restoration efforts requires ongoing assessment and analysis to ensure the effectiveness of interventions.

Continuous monitoring and evaluation help identify trends, challenges, and the success of conservation and restoration initiatives. Regular data collection allows for adaptive management, where strategies can be adjusted based on the ongoing assessment of their effectiveness. By combining scientific monitoring with community engagement and regulatory compliance, comprehensive evaluations contribute to the sustained health and resilience of lakes and ponds.

Water bodies can be monitored and conservation efforts can be evaluated through following mechanism:

For the purpose of Monitoring the following needs to be regularly checked:

- Procurement and use of sensors, depth soundings, and secchi disks to measure temperature, clarity, and depth.

- Conduct water sampling and laboratory analysis. Use field kits for on-site measurements. Monitoring of chemical parameters pH, dissolved oxygen, nutrients (nitrogen and phosphorus), and contaminants (heavy metals, pesticides).
- Conduct regular biological surveys, including plankton and benthic organism sampling.
- Collect sediment samples and analyze for nutrient levels and potential contaminants. Composition and nutrient content of sediments.
- Install flow meters and gauges, and regularly measure water levels. Water flow rates, water level fluctuations, and inflow/outflow rates.
- Monitor the presence and abundance of native vegetation and habitat structures to assess the success of restoration efforts.
- Assess changes in sediment nutrient levels and monitor sedimentation rates to evaluate the effectiveness of sediment management strategies.
- Monitor water usage patterns and assess the efficiency of water conservation measures.
-

For the purpose of Evaluation the following needs to be regularly checked:

- Compare pre- and post-intervention ecological data to assess the impact of conservation efforts on the lake or pond ecosystem. Changes in biodiversity and species composition.
- Analyze water quality data over time to determine if conservation measures have positively influenced water quality parameters. Reduction in nutrient levels, improvement in dissolved oxygen, and decrease in contaminant concentrations.
- Increase in submerged aquatic vegetation, restoration of shoreline habitats.
- Measure and compare storm water runoff quality before and after implementation of storm water management practices.
- Conduct surveys and community meetings to gauge awareness and support for conservation initiatives.
- Review regulatory reports and inspections to ensure compliance with environmental standards.
- Increased public knowledge and engagement. Measure the success of educational programs through surveys and public participation in restoration activities.
- Trends in water quality, habitat, and biodiversity over an extended period. Establish a continuous monitoring program to track the sustained impact of conservation and restoration efforts.

For each of these areas, setting up indicators, collecting relevant data, and conducting periodic evaluations are key components of a robust monitoring and evaluation system. The goal is to ensure that environmental initiatives are effective, sustainable, and contribute to long-term environmental health and sustainability.

FORMAT – MONITORING & EVALUATION

1. SOLID WASTE MANAGEMENT

Report to be submitted by Lead Department: Urban Development
Month of Report _____

Solid Waste Management in Urban Areas

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	% age	Gap	Likely date of Achievement	
1.	Prepare a solid waste management plan	• Regular activity and SWM plan will be updated time to time.	60 ULBs					
2.	Mechanism for door-to-door collection	• Awareness Generation, • Invoking of penalty clauses.	42 ULBs					
3.	Mechanism for segregation at household level/source.	• Awareness Generation, Invoking penalty clauses.	9 ULBs					
4.	Identification & Registration of rag pickers	• Identification of rag pickers in ULBs. • Enrolment of rag pickers in all districts/ULBs	1000 801					
5.	Formation of Self Help Groups for integration of solid waste management focusing on door to door collection & segregation of waste;	• Formation of SHGs • Awareness Generation	120					
6.	Framing of bye-laws for MSW	• Notifying and adoption of bye laws • Updation of bye laws	60 ULBs					
7.	Imposition of User Charges/Fee & adoption of mechanism for implementation.	• Notification on user charges/fee. • Development of mechanism for collection of user charges/fee • Identify/authorize independent agencies	58 ULBs					
8.	Develop mechanism for recycling of recyclable MSW.	• Develop, notify adopt mechanism for recycling of recyclable MSW. (paper, water bottles, liquor bottles, soft drink canes, tetra packs, fruit peel, wrappers, etc.,) • Generate awareness. Introduce/ notify penal	60 ULBs					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	% age	Gap	Likely date of Achievement	
		provisions.						
9.	Setup Material Recovery Facilities (MRF)	• Identify land. • Acquisition/ FCAs, other clearances. • Site development. • Setup machineries. • Operationalize MRF	50					
10	Setup waste deposition centres for domestic hazardous waste	• Notify Deposition Centre • Site development. • Setup machineries. • Operationalize Deposition Centre	51					
11	Storage, transportation & safe disposal of domestic hazardous waste.	• Identify & register recyclers. • Sign MoU with recyclers, TSDF & each ULBs deposition centre.	0					
12	Stop burning of biodegradable waste in open space (including tree leaves)	• Sensitization & awareness generation of municipal workers & general public w.r.t burning of biodegradable waste (including tree leaves) • Designate space for creating compost pits at public places/ parks for tree leaves etc.	58					
13	Capacity building of waste-pickers and waste collectors	• Develop IEC material (Do's & Don'ts) • Conduct training programme on solid waste management of different stakeholders. • Procurement & distribution of safety kits.	60					
14	Setting up of decentralised compost plant or bio-methanation plant	• Develop mechanism to collect waste from vegetable, fruit, flower, meat, poultry and fish market on day-to-day basis. • Identify land & develop site. • Setup machineries. • Operationalize compost plant or bio-methanation plant	0					
15	Collection of waste from sweeping streets, lanes, and by-lanes.	• Increase frequency daily, alternate days, or twice a week, contingent on the density of population, commercial activity, and local situation.	60					
16	Setup covered secondary storage facility for	• Identify locations.	0					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	% age	Gap	Likely date of Achievement	
	temporary storage of street sweepings.	• Develop storage facility. • Define frequency of disposal/clearance of waste from temporary storage locations.						
17	Onsite processing of waste generated from horticulture activity, parks and garden waste separately.	• Identify location. • Develop composting facility (composting pits etc.) in the parks and garden.	0					
18	Deployment & use of vehicles with separate containers for transportation of SW (biodegradable).	• Assess requirement and deploy vehicles with separate containers for transportation of SW. • Define frequency.	58					
19	Deployment & use of vehicles with separate containers for transportation of SW (non-biodegradable).	• Assess requirement and deploy vehicles. • Define frequency. • Designate MRF/TSDF & signing of MoU.	58					
20	Mobilizing community for waste management.	• Develop IEC material (Do's & Don'ts) • Conduct training programme. • Waste collection cleaning drives. • Promote household composting, segregation, use of two dustbins. • Develop community level facilities. • Ensure control of odour and maintenance of hygienic conditions around the facility;	0					
21	Promotion and adoption of use of compost, organic manure - phasing out use of chemical fertilizers.	• Develop composting facilities at household, community cluster level. • Conduct awareness & training programme. • Promote use of locally made compost in all parks, gardens maintained by the local community/body and wherever possible in other places under its jurisdiction. • Incentivize use of locally made compost and phasing out chemical fertilizers.	0					
22	Awareness campaigns for waste collectors & municipal workers.	• Develop IEC material (Do's & Don'ts) • Conduct training & awareness programme. • Periodic education sessions to educate municipal workers including contract workers.	58					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	% age	Gap	Likely date of Achievement	
		• Programme to educate supervisors for door to door collection, segregation of waste. • Programme to educate drivers of vehicle transporting the waste to dump site, MRF.						
23	Safety, Health & Hygiene of sanitary workers, drivers etc.	• Assessment & procurement of personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate footwear. • Conduct regular health checkups.	58					
24	Provision of imposing on spot fine from violators.	• Introduce provisions for spot fine under municipal bye-laws • Create awareness about penal provisions amongst community on violations.	60					
25	Awareness campaigns for waste generators.	• Develop IEC material (Do's & Don'ts), information boards and place them on prominent places. • Organize cleanliness drives at various locations, near hot spots in all ULB on regular basis.	60					
26	Legacy Waste – Management & restoration of old dumping sites	• Assess, investigate and analyse all old open and existing operational dumpsites of MSW. • Analyse potential of biomining and bio-remediation. • Prepare restoration plan of old dumping sites. • Reclamation of old dumping sites by developing biodiversity parks etc.	16					
27	Development and adoption of online mechanism to update all information w.r.t. SWM generation and disposal for effective M&E	• Develop online portal. • Provide Hardware & Software support. • Designate nodal person from ULB responsible to update information.	0					

Solid Waste Management in Rural Areas

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan. 24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Prepare a solid waste management plan	• Regular activity and SWM plan will be updated time to time	Complied					
2.	Mechanism for door-to-door collection	• Awareness Generation • Invoking of penalty clauses	Partially complied					
3.	Mechanism for segregation at household level/source	• Awareness Generation Invoking penalty clauses	Partially complied					
4.	Formation of Self-Help Groups for integration of solid waste management focusing on door-to-door collection & segregation of waste	• Formation of SHGs • Awareness Generation	Partially complied					
5.	Introduction of bye-laws at PRI level for SWM	• Notifying and adoption of bye laws • Updating of bye laws	Not complied					
6.	Imposition of User Charges/Fee & Adoption of mechanism for implementation of SWM provisions in peri urban panchayats.	• Notification on user charges/fee. • Development of mechanism for collection of user charges/fee • Identify/authorize independent agencies	Not complied					
7.	Develop mechanism for recycling of recyclable MSW at PRI level.	• Develop, notify adopt mechanism for recycling of recyclable MSW. (Paper, water bottles, liquor bottles, soft drink canes, tetra packs, fruit peel, wrappers, etc.) • Generate awareness. Introduce/notify penal provisions.	Partially complied					
8.	Setup cluster of panchayat level Material Recovery Facilities (MRF)	• Identify land. • Acquisition/ FCAs, other clearances. • Site development. • Setup machineries. • Operationalize MRF	Partially complied					
9.	Setup waste deposition centres for domestic hazardous waste at cluster of panchayats	• Notify Deposition Centre • Site development. • Setup machineries.	Not complied					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan. 24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		• Operationalize Deposition Centre						
10	Stop burning of biodegradable waste in open space (including tree leaves)	• Sensitization & awareness generation of municipal workers w.r.t burning of biodegradable waste (including tree leaves) • Designate space for creating compost pits at public places/ parks for tree leaves etc.	Not complied					
11	Onsite processing of waste generated from horticulture activity	• Advocacy with farmers/ local communities for scientific disposal of agricultural waste. • Develop composting facility (composting pits etc.)	Not complied					
12	Mobilizing community for waste management.	• Develop IEC material (Do's & Don'ts) • Conduct training programme • Waste collection cleaning drives • Promote household composting, segregation, use of two dustbins • Develop community level facilities • Ensure control of odour and maintenance of hygienic conditions around the facility	Complied partially					
13	Promotion and adoption of use of compost, organic manure - phasing out use of chemical fertilizers	• Develop composting facilities at household, community cluster level • Conduct awareness & training programme • Promote use of locally made compost in all parks, gardens maintained by the local community/body and wherever possible in other places under its jurisdiction • Incentivize use of locally made compost and phasing out chemical fertilizers.	Complied partially					
14	Awareness campaigns for PRI representatives & members	• Develop IEC material (Do's & Don'ts) • Conduct training & awareness programme. • Periodic education sessions to educate municipal workers including contract workers. • Programme to educate supervisors for door-to-door collection, segregation of waste.	Complied partially					
15	Awareness campaigns for identified	• Develop IEC material (Do's & Don'ts), information	Complied					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan. 24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
	significant waste generators.	boards and place them on prominent places. • Organize cleanliness drives.	partially					
16	Mechanism for door-to-door collection & segregation	• Engagement of SHGs, NGOs • Awareness Generation	193400 Households Covered					
17	Establishment of PWM units	• Land identification. • Acquire all statutory clearances/approvals.	32 Blocks					
18	Waste management in peri-urban Panchayats	• Community Compost pits for wet waste management. • Tie up with nearby ULBs for waste management. • Setting up of SWF in large peri-urban areas.						

1.1 Plastic Waste Management

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Awareness & capacity building	• Conduct cleaning drives.	Complied partially					
		• Organize awareness campaigns.						
		• Publish and distribute IEC material.						
		• Distribution of biodegradable carry bags thela etc.						
2.	Checking of violations under HP Non-biodegradable Control Act 1995	• Delegation of powers to relevant categories of officials of various departments.	100% compliance					
		• Define timelines & schedule for checking of illegal use of banned material & reporting.	Not complied					
		• Introduce incentive provision.	100% compliance					
3.	Implementation of Plastic Waste Buy Back Policy	• Establish Collection Centres in ULBs.	100% compliance					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		• Register rag pickers.	100% compliance					
		• Disposal of plastic collected as per the policy provisions.	50% compliance					
		• Division wise agreements between ULB & PWD for supply of shredded plastic for road construction.	No compliance					
		• PWD to fix target of 1 km per year per sub-division in the State.	50% compliance					
		• Institutionalization of funding pattern under EPR.	No compliance					
4.	Alternatives to plastic	• Establish R&D for bio-degradable cutlery.	100% compliance					
		• Registration of artisans making pattal & duna from tree leaves traditionally.	No compliance					
		• Distribution of pattal and duna making machines under CER/CSR.	Complied partially					
		• Provide trainings on new technologies.	Complied partially					
		• Awareness campaigns to popularize use of biodegradable material as per Act.	100% Compliance					
5.	Policy and Regulatory Framework to eliminate SUPs	• Preparation of state level comprehensive action plan for elimination of single use plastics.	100% compliance					
		• Preparation of district level comprehensive action plan for elimination of single use plastics.	10					
		• Framing guidelines & directives to include elimination of SUP in area of jurisdiction of respective sector & deptts.	-					
		• Survey of all legacy waste sites located in Urban & Rural areas of State	-					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		• Preparation & submission of project proposal for management of legacy waste one each by all ULBs	-					
		• Setting up of a plastic waste management cell at State level (each in Urban and Rural Development Departments or the concerned Departments), District level (in Zila Parishad for all the rural areas), and in each ULB	-					
		• Identification of ingress points of littered single use plastic items in surface water bodies and drains and strategy for prevention	-					
		• Prepare phased plan for cleaning surface water bodies, and drains of floating singles use plastic items and their further management	-					
		• Identification and closure of manufacturing facilities of prohibited SUP items .	-					
6	Plastic waste management in all ULBs and Developmental Blocks.	• Setting up of PWM facilities.						
		• Setting up of plastic processing machines (shreeders, bailers, compactors etc.)						
		• Tie up / MOU with cement companies for disposal of PW as RDF.						

1.2 Extended Producer Responsibility

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of Achievement	
1.	Institutionalization of EPR guidelines.	• Initiate process to develop State level implementation guidelines to support the introduction of EPR. - Notify policy and legislative framework, including: ▪ Defining the producers and products	Partially complied					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of Achievement	
		concerned to be covered under EPR ▪ Define actual responsibilities for the producers, e.g. quantified targets for take-back, collection and recycling of waste ▪ Define roles of other stakeholders, e.g. local municipalities, informal waste sector. ▪ Define procedure for accreditation-approval and monitoring of EPR schemes, to ensure good functioning and enforce compliance ▪ Take steps to combat illegal imports of packaging or packaging waste in the State. • Initiate process for dialog to seek support from the GoI as to support the introduction of EPR mobilizing the large scale private companies. • Initiate process to setup and support the necessary waste collection infrastructure. • Notify - include comprehensive and stable EPR bye-laws and enforce them to create a reliable legal framework for all stakeholders. • Constitution of State Steering Committee to implement and review EPR in the State. • Review existing gaps in creating awareness among public for minimising use of SUPs and recycling SUPs. • Conceptualize & implement setting up of a EPR Help Desk in the State. • Undertake research/feasibility studies on benefits and opportunities of establishing EPR in the State.						
2.	Constitution of PROs & PIBOs	• Create a network or communication between like-minded businesses keen to participate in EPR Consider how to support the development of markets for recycled material • Create a PRO, in cooperation with key stakeholders • PIBOs (Producer, Importer, and Brand Owners) online registration with State Pollution Control board (HPPCB)	Meagrely complied					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of Achievement	
		having Obligation for EPR fulfilment in HP. • Registration of PWPs (Plastic Waste Processors) in the State • Participate in EPR schemes by reporting plastic quantities and characteristics, paying respective EPR fees and complying with additional EPR measures • Setting up of collection centres for producers and brand-owners or their PROs. • PIBOs to establish waste plastic collection points and Material Recovery Facilities (MRFs) • PIBOs to ensure the collection of the plastic packaging waste from the collection points, with a frequency that is proportionate to the area covered and the volume. • PIBOs to offer the collection of plastic, from the entities like ULBs, GPs, other public authorities or third parties carrying out waste management and provide for the collection from all entities that have made use of that offer; provide for the necessary practical arrangements for collection and transport. • PIBOs to ensure that the plastic packaging waste collected from the collection points are subsequently subject to recycling in a registered facility by a recycler or its permitted end use in the designated manner.						

Report to be submitted by Lead Department: Rural Development
Month of Report _____

2. Biomedical Waste Management

Report to be submitted by Lead Department: Department of Health
Month of Report _____

a) Health & Family Welfare

#	Target	Activities/Action Plan	Status as on Ja.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Constitute State Level Advisory Committee	• Notify SLAC. • Convene SLAC meeting twice a year.	100% compliance					
2.	Constitute Distt. Level Advisory Committee	• Notify DLAC. • Convene DLAC meeting every Six Months	100% compliance					
3.	Inventory and identification of healthcare facilities	• Prepare inventory of HCFs • Digitization of inventory. • Establish mechanism to register, enrol new HCFs.	100% compliance					
4.	Adequacy of Facilities to treat biomedical waste	• Assessment of requirement of CBMWTF. • Registration of CBMWTF in PPP mode. • Develop mechanism for collection, disposal of biomedical waste at respective CBMWTF sites	100% compliance					
5.	Deep Burial Pits	• Construct deep burial pits >99% in remote and rural areas. • Allocation of budget.	Not fully complied					
6.	Tracking of BMW	• BMW source identification & quantification. • Software development. • Introduction of internal bar coding mechanism track BMW in phased manner: a) Phase 1: District Hospitals, Zonal Hospital. b) Phase 2: CHCs, RHs. c) Phase 3: PHCs, Dispensaries • Conduct trainings on internal Bar coding mechanisms.	Not fully complied					
7.	Awareness and education of	• Organize State Level Training on BMW for Nodal	50%					

	healthcare Staff	Officers • Organize training programme at district level for doctors, nursing staff. • Publish IEC (DO's & DONTs)	compliance					
8.	Provision of budget for BWM	• Institutionalization of budget provisions for BWM in plan budget. • Introduce guideline for demand generation by CMOs.	100% compliance					
9.	Regulatory compliance on BWM Rules.	• Regular inspections by PCB of HCFs and CBWTFs • Adopt mechanism of penal provisions. • Introduce online monitoring mechanism. • Delegation of powers for inspections under BWM Rules.	Not fully complied					

b) AYUSH

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Lilely date of achievement	
1.	Constitute State Level Advisory Committee	• Notify SLAC. • Convene SLAC meeting twice a year.	100% compliance					
2.	Constitute Distt. Level Advisory Committee	• Notify DLAC. • Convene DLAC meeting every Six Months	100% compliance					
3.	Inventory and identification of healthcare facilities	• Prepare inventory of HCFs • Digitization of inventory. • Establish mechanism to register, enrol new HCFs.	100% compliance					
4.	Adequacy of Facilities to treat biomedical waste	• Assessment of requirement of CBMWTF. • Registration of CBMWTF in PPP mode. • Develop mechanism for collection, disposal of biomedical waste at respective CBMWTF sites	100% compliance					
5.	Deep Burial Pits	• Construct deep burial pits >99% in remote and rural areas. • Allocation of budget.	100% compliance					
6.	Tracking of BMW	• BMW source identification & quantification. • Software development. • Introduction of internal bar coding mechanism track	100% compliance					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Lilely date of achievement	
		BMW in phased manner: a) Phase 1: District Hospitals, Zonal Hospital. b) Phase 2: CHCs, RHs. c) Phase 3: PHCs, Dispensaries • Conduct trainings on internal Bar coding mechanisms.						
7.	Awareness and education of healthcare Staff	• Organize State Level Training on BMW for Nodal Officers • Organize training programme at district level for doctors, nursing staff • Publish IEC (DO's & DONTs)	100% compliance					
8.	Installation of STPs	• Assessment of wastewater in Ayurvedic medical institutions, AHCs. • Prepare DPR for STPs. for budget.	-					

C) Animal Husbandry

#	Target	Activities/Action Plan	Status as on Jan. 24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Inventory and identification of healthcare facilities	• Prepare inventory of HCFs • Digitization of inventory. • Establish mechanism to register, enrol new HCFs.	98% compliance 3429 authorized out of 3478					
2.	Deep Burial Pits	• Construct deep burial pits in tribal areas. • Allocation of budget.	Not complied					

3. Construction & Demolition waste Management

Report to be submitted by Lead Department:
Month of Report _____

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Policy guidelines for C&D waste.	• Formulate, notify & adopt State level policy guidelines for C&D waste. • Introduce penal provisions on violations of C&D waste regulations. • Integration of C&D waste disposal mechanism in approval of building plans. • Mandatory C&D waste disposal plan.	Not complied					
2.	Identification of source and quantification of C&D waste.	• Identification of major buildings in urban, peri urban, rural areas. • Inventorize quantity of C&D waste.	Not complied					
3.	Introduce regulatory mechanism to grant authorization.	• Reassessment of C&D waste from existing, housing & building proponents registered with RERA & preparation of disposal plans. • Grant authorization to construction and demolition waste processing facility.	Not complied					
4.	Designate dumping sites for disposal of C &D,	• Identification of lands for landfill & development using C&D waste in all ULBs • Identification of lands for landfill & development using C&D waste in all Developmental Blocks • Identification of lands for landfill & development using C&D waste in all Industrial townships. • GIS mapping of potential sites.	Not complied					
5.	Develop recycling mechanism	• Inventorize major disposal sites/hot spots of C&D waste in all ULBs. • Register users of C&D waste. • Revision of SOR/BIS Code by PWD for reuse of C&D waste for construction.	Not complied					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
6.	Awareness & training programme	• Publish IEC (DO's & DON'T's) on C&D waste. • Organize training programme for builders, PWD engineers, Contractors in the State.	Not complied					
7.	Monitoring mechanism	• Notify C&D waste monitoring team at State level. • Develop reporting mechanism for C&D waste monitoring team. • Authorization/ delegation of powers to waste monitoring team for penal action.	Not complied					
8.	Provision of incentives.	• Adoption of scheme for registration of entrepreneurs to setup C&D waste recycling plant. • Introduce incentive mechanism on different type of C&D waste recycling industry.	Not complied					

4. Hazardous Waste Management

Report to be submitted by Lead Department:
Month of Report _____

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Inventorisation of HW generating units.	• Prepare inventory of industrial units generating HW. • Digitization of industrial units generating HW. • GIS mapping of HW generating units.	2579 industrial units inventoried.					
2.	Grant of authorization under HWMR.	• Adoption of regulatory mechanism as per HWM Rules in State. • Develop mechanism for grant of authorization under HWMR.	100% compliance					
3.	Quantification of HW.	• Prepare inventory, categorisation of HW.	100% compliance					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		• Estimation of total HW from different streams. • Inventory of disposal mechanisms in State and outside.						
4.	CTSDF for HW	• Assess need of setting up of CTSDF. • Identify and notify TSDF for disposal of HW	100% compliance					
5.	Recycling of HW	• Registration of recyclers of HW in HP e.g. waste oil, drums, batteries etc. • Introduce mechanism of tracking transportation of through GPS.	100% compliance					
6.	Monitoring & Evaluation mechanism.	• Notify HW monitoring team/ flying squads in industrial areas. • Introduce reporting mechanism for flying squads.	100% compliance					

5. E-WASTE

Report to be submitted by Lead Department:
Month of Report _____

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Inventorization of E-waste	• Notify mechanism guidelines for inventory of e-waste at institution level, household level. • Develop mechanism for registration of e-waste recyclers. • Setting up of e-waste deposit centres. • Setting up of e-waste collection booth. • Mapping of e-waste deposit centre and collection booths.	Not complied					
2.	Segregation of E-waste at source.	• Develop mechanism, guideline for collection of e-waste at source on fixed frequency in a year for household and others. • Setup e-waste deposit centre at community level, institution	Not complied					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		level by e-waste recyclers in all ULBs • Setup e-waste deposit centre at community level, institution level by e-waste recyclers in all notified industrial areas. • Setup e-waste deposit centre at community level, institution level by e-waste recyclers in all Universities, Educational Institutions.						
3.	Awareness and training regarding disposal & handling of E-waste.	• Publish IEC (Dos & DONTs) • Install sign boards at designated / prominent places. • Organize training programme on E-waste at community level, institution level, school, colleges etc. for users of electronic items. • Organize training programme for recyclers of E-waste.	Not complied					
4.	Registration of PROs.	• Registration of at least one PRO/ dismantlers in each ULBs. • Registration of at least one PRO/ dismantlers in each Industrial areas. • Assess and ensure adequate infrastructure provisions for dismantling of e-waste by recyclers-PROs.	Not complied					
5.	Regulatory compliance w.r.t. E-Waste Management Handling Rules	• Notify, adopt guidelines for e-waste collection, disposal, sensitization as per Rules notified by GoI under municipal bye-laws by all ULBs.	Not complied					
6.	Recycling of E-waste.	• Registration of recyclers of e-waste in all ULBs, Industrial Areas. • Inspections of recyclers & dismantler in every 3 months • Verification of facilities of recyclers & dismantler for their infrastructure. • Opening of registers for in and out flow of e-waste by recyclers and dismantlers.	Not complied					
7.	Introduce precautionary and polluter pays principles	• Notify & adopt guidelines for penal provisions for violation of e-waste management rules. • Notify & adopt guidelines for incentives to e-waste recycling entrepreneurs.	Not complied					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
8.	Guidelines for disposal of e-waste by Govt. organizations/ institutions.	• Development and adoption of rules for disposal of e-waste through authorized recyclers/ dismantlers.	Not complied					

6. Polluting River Stretches in H.P.

Report to be submitted by Lead Department:
Month of Report _____

a) Action Plan for Sukhna Nalla

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Industrial Effluent Management	Inventorization of the water polluting industries in the catchment of Sukhna Nalla channel covering assessment on aspects relating to status of Consents under Water & Air Acts and authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge. Regular inspections as per schedule notified.	Complied					
		Action against the identified industries in operation without Consent under Water & Air Act / Authorization under Hazardous And other Wastes (Management and Transboundary Movement) Rules, 2016. To ensure all units have valid consent.	Complied					
		Actions against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meetingthe prescribed standards. Routine inspections.	Complied					
		Prohibition of Burning of any kind of waste including agro-residue. Complete ban on Open Burning and littering. Installation of CCTV cameras at SWM site Parwanoo and at 05No. of hotspot locations.	Complied					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		Estimation of industrial effluent generation. Inventorization of all water polluting industries and known-point sources.	Complied					
		Setting up of Solid Waste Management Site. v. 100% Source Segregation of solid waste. vi. Installation of weigh bridge at SWM site Sect-5. vii. Installation of Fire Hydrant and firefighting equipment's at SWM site Sect-05. viii. Extension of shed for RDF storage and loading and unloading shed. Setting up of own Material Recovery Facility and Composting facility	In progress					
		Conversion of industrial units to ZLD.	In progress					
2.	Domestic Sewage Management	Area wise estimation of total population, water requirement and sewage generation. Installation of remaining 01 STP of capacity 01 MLD (out of 02 proposed) is under process at Tipra.	In progress					
		Repair/ Improvement of existing phyto-remediation system installed in Semtal Nallah. To repair the root zone bed and improvement in design to improve its efficiency.	In progress					
3.	Ground Water Management	Sampling of Tubewells, Borewells, Hand Pumps.	In progress					
4.	Miscellaneous	Regular monitoring and sampling of water quality of Sukhna Nallah and various drains on monthly basis.	In progress					
		Detection and removal of encroachment on forest land	In progress					
		Impact of water pollution on health of public by organizing Health camp.	In progress					
		Involvement of Civil Society ii.01 Public Awareness Drive a month. Installation of LED/Digital display boards for public advisories.	In progress					
		Complaints redressal system	In progress					
		Prevention of solid waste dumping in water bodies. Installation of solid waste catch-nets at 05 locations.	In progress					

b) Action Plan for River Sirsa, Baddi - Nalagarh

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Industrial Sewage Management	Inventorization of the water polluting industries in the catchment of River Sirsa Nalla channel covering assessment on aspects relating to status of Consents under Water & Air Acts and authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge. Regular inspections as per schedule notified.	100% compliance					
		Action against the identified industries in operation without Consent under Water & Air Act / Authorization under Hazardous And other Wastes (Management and Transboundary Movement) Rules, 2016. To ensure all units have valid consent.	In progress					
		Actions against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meeting the prescribed standards.	In progress					
		Prohibition of disposal of Municipal Solid waste, Plastic Waste, Bio-medical Waste, Hazardous Waste and burning of any kind of solid waste	In progress					
		Improvement in functioning of existing CETP at Baddi w.r.t connecting the near about areas with Conveyance Pipeline	In progress					
		Conducting Surprise inspections and Water Audit to reduce the Gap in Effluent generation and Treatment with CETP at Baddi.	In progress					
		Detection of leakages in conveyance pipelines of CETP, Baddi.	In progress					
		Detection of leakages in sewage pipeline	In progress					
		Identification of industries falling in the catchment Zone of CETP, Baddi and not connected with CETP and Action to be taken thereafter.	100% compliance					
		Proposal for improvement in functioning of CETP by modification in treatment process to improve the discharge effluent quality.	In progress					
		Installation of Real Time Online Effluent Monitoring System on 17 category units.	100% compliance					
		Sludge Management from Industrial Effluent Treatment.	In progress					
		Setting up & operation of a Solid Waste Management facility at Kenduwal, Baddi	100% compliance					
2.	Domestic Sewage Management	Area-wise estimation of total population, water requirement, and sewage generation of Baddi-Nalagarh Area.	In progress					
		Measurement of Flow of Drains, Pollution Load contributing to River Sirsa.	In progress					
		Execution of Project Proposal for Sewage Management through State of Art-Technology for Sewage Treatment Plant at Nalagarh.	100% compliance					
		Installation of continuous Real Time Water Quality Monitoring Station on	100%					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		River Sirsa	compliance					
		Sewage Management for Industrial Areas of Baddi, Jharmajri, Lodhimajra, Davni, &Thana.	100% compliance					
		Sewage/Septage management for Rural Areas with low cost treatment technologies along with Construction of drains and cleaning thereof	In progress					
		Implementation of phyto remediation project in the Sandholi Nallaha and Housing Board Nallah w.r.t. Hotspot of WaterContamination : Sandholi Nallah, Housing Board Nallah and Un-authorized Jhuggis in the catchment	In progress					
3.	Ground Water Management	Sampling of Tube wells, Bore wells, Hand Pumps in BBN area.	In progress					
		Sampling and analysis of Drinking Water Supply Schemes in and around Baddi Nalagarh Area	In progress					
		Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public.	In progress					
		Carrying assessment of ground water Survey for quality and to identify over exploited and critical areas.	100% compliance					
		To conduct periodic surprise inspection of the industries to rule-out any forceful injection of industrial effluents in to ground water sources	In progress					
		All the industries should be directed to obtain NOC from HPGWA/ CGWA and action against the units in operation without obtaining NOC from PGWA/ CGWA.	In progress					
		Remedial measures for de-contamination of Highly Polluted Ground Water resources within Jurisdiction of Baddi –Nalagarh Area.	No compliance					
4.	Miscellaneous	Regular monitoring and sampling of water quality of River Sirsa and various drains on monthly basis.	In progress					
		Impact of water pollution on health of public by organizing Health camp	In progress					
		Plantation in Flood Plain Zone, Setting up of Bio-diversity Parks	In progress					
		Checking Encroachment in FPZ of River Sirsa by Notifying the Flood plain Area.	In progress					
		Setting up of website for public participation.	100% compliance					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		Monitoring of the Executing the Action Plans	In progress					
		Cleanliness Drive along the Stretch of River Sirsa	In progress					
		Identification and regulation of unauthorized the tankers engaged in illegal discharge of sewage in river/nallahs	In progress					
5.	Other Aspects as NGT Order dated 20.09.2018 and 19.12.2018	Rainwater Harvesting/ Ground Water Recharge aspects	In progress					

c) Action Plan for Balad Khad

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Industrial Sewage Management	Inventorization of the water polluting industries in the catchment of Balad Khad covering assessment on aspects relating to status of Consents under Water & Air Acts and authorization, Effluent Generation, ETP Capacities and final mode of effluent discharge. Regular inspections as per schedule notified.	100% compliance					
		Action against the identified industries in operation without Consent under Water & Air Act / Authorization under Hazardous And other Wastes (Management and Transboundary Movement) Rules, 2016. To ensure all units have valid consent.	In progress					
		Actions against the industries who have not installed ETPs or ETPs exist but not operating or treated effluent is not meeting the prescribed standards.	In progress					
		Prohibition of Disposal of Municipal Solid Waste, Plastic Waste, Bio-medical Waste, Hazardous Waste, and Burning of any kind of Solid Waste	In progress					
		Improvement in functioning of existing CETP at Baddi with respect to connecting the near about areas with Conveyance Pipeline	In progress					
		Conducting Surprise inspections and Water Audit to reduce the Gap in Effluent generation and Treatment with CETP at Baddi	In progress					
		Detection of leakages in conveyance pipelines of CETP, Baddi	In progress					
		Detection of leakages in Sewage pipeline	In progress					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		Identification of industries falling in the catchment zone of CETP, Baddi, and not connected with CETP and Action to be taken thereafter	100% compliance					
		Installation of Real-Time Online Effluent Monitoring System on category 17 units	100% compliance					
		Sludge Management from Industrial Effluent Treatment	In progress					
2.	Domestic Sewage Management	Area-wise estimation of total population, water requirement, and sewage generation of Balad Catchment Area	In progress					
		Measurement of Flow of Drains, Pollution Load contributing to Balad Khad	In progress					
		Proper design, execution of sewerage lines to be incorporated in proposed CETP at Baddi	In progress					
		Sewage Management for Industrial Areas of Baddi, EPIP Phase-I and II Jharmajri of DIC, Hilltop Jhramajri, and HIMUDA industrial area at Bhatoli kalan	100% compliance					
		Sewage/Septage management for Rural Areas with low-cost treatment technologies along with Construction of drains and cleaning thereof	In progress					
		Identification of Un-authorized Jhuggis in the Balad area and management of Solid waste/sewage management and lifting of Jhuggis/Slum dwellers along the catchment of Balad Khad and its rivulets. Identification bulk sewage generator i.e. rental properties for migrated labor in the BBN area	In progress					
		Hotspot of Water Contamination: Jharmajri, Kunjhal, Kotla Nallah, and Un-authorized Jhuggis in the Balad catchment	In progress					
3.	Ground Water Management	Sampling of Tube wells Bore wells, Hand Pumps in BBN area.	In progress					
		Sampling and analysis of Drinking Water Supply Schemes in and around Baddi Area	In progress					
		Sealing of contaminated hand pumps and found to be unfit for drinking purpose by the public.	In progress					
		Carrying assessment of groundwater survey for quality and to identify overexploited and critical areas	100% compliance					
		To conduct periodic surprise inspection of the industries to rule out any forceful injection of industrial effluents into groundwater sources.	In progress					
		All the industries should be directed to obtain NOC from HPGWA/CGWA and action against the units in operation without obtaining NOC from PGWA/CGWA	In progress					
		Remedial measures for de-contamination of Highly Polluted Groundwater resources within jurisdiction of Baddi – Nalagarh Area	In progress					
4.	Miscellaneous	Regular monitoring and sampling of water quality of Balad Khad.	In progress					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		Plantation in Flood Plain Zone, Setting up of Bio-diversity Parks.	In progress					
		Checking encroachment in FPZ of Balad Khad by notifying the floodplain area	In progress					
		Setting up of website for public participation	100% compliance					
		Monitoring of the executing action plans	In progress					
		Cleanliness drive along the stretch of Balad Khad	In progress					
		Identification and regulation of unauthorized tankers engaged in illegal discharge of sewage in river/nallahs	In progress					
5.	Other aspects	Rainwater harvesting/groundwater recharge aspects.	In progress					

d) Action Plan for Ashwani Khad

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Domestic Sewage Management	Area-wise estimation of total population, water requirement, and sewage generation	100% compliance					
		Connectivity of left-out areas through conveyance pipeline to existing common sewage treatment plants (STPs) operational along the stretch of Ashwani.	In progress					
		Upgradation of existing Sewage Treatment Plants (STPs)	In progress					
		Sewage Treatment Plants (STPs) proposed.	In progress					
		Setting up of Faecal Sludge Treatment Plant (FSTP)	100% compliance					
		Channalization of Lift Nalla	In progress					
		Installation of Real-Time Continuous Effluent Monitoring Stations at the outlet of STPs	In progress					
2.	Industrial Effluent	Inventorization of the water-polluting industries and hotels in the catchment of	100%					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
	Management	Ashwani Khad.	compliance					
		Action against the identified industries/hotels which are not connected with common STPs or who have not installed requisite PCDs, i.e., ETPs/STPs, or whose treated effluent is not meeting the prescribed standards	In progress					
3.	Ground Water Management	Sampling of bore wells and hand pumps from the area falling under the catchment of Ashwani Khad	In progress					
		Sampling and analysis of drinking water supply schemes from area falling under the catchment of Ashwani Khad	In progress					
		Sealing of contaminated hand pumps found to be unfit for drinking purpose by the public	In progress					
4.	Surface Water Quality	Regular monitoring and sampling of water quality of Ashwani Khad and its tributaries on a monthly basis	In progress					
		Hotspots of water contamination	100% compliance					
		Installation of continuous Real Time Water Quality Monitoring Station at Ashwani Khad	In progress					
		Regular checking of muck dumping in catchment of Ashwani.	In progress					
5.	Solid Waste Management	Arrangement for door to door collection	In progress					
		Wet-waste management: Facility (i.e.) for central bio-methanation / composting of wet waste	In progress					
		Dry-waste management: Material Recovery for dry-waste fraction	In progress					
		Waste to Energy Plant	100% compliance					
		Disposal of inert and non-recyclable wastes : Sanitary Landfill	In progress					
		Remediation of historic / legacy dumpsite	In progress					
		Authorization of Waste Pickers	100% compliance					
		Preparation of own by-laws to comply with SWM Rules 2016.	100% compliance					
		Regular Cleaning Drives and Mass Awareness Programs	In progress					
6.	Miscellaneous	Complaints redressal system	100% compliance					
		Plantation activity in the catchment of Ashwani Khad	In progress					

#	Target	Activities/Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		Proposal for improving the water quality of Ashwani Khad by installing various components, for the rejuvenation of water sources by improving the purity of water of Natural Nallahs by Phytorid Treatment at Ashwani Khad, Sanjauli-Malyana-Chamyana Khad, Shimla project	In progress					

7. Non-attainment Cities in H.P.

Report to be submitted by Lead Department:
Month of Report _____

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Issue instruction to Hotels/ Restaurants/ Banquet Halls	• Issue instructions to all Hotels/ Restaurants/ Banquet Halls not to use coal as source of energy. • Issue commercial license with condition to use clean fuel/energy. • Issue directions to avoid use of tandoor and other means of open burning in public area.	Partially complied					
2.	Issue instructions/ notification for domestic Sector	• Issue instructions/ guidelines for shifting toward electric cooking • Provide LPG to all. slums.	Partially complied					
3.	Open Burning Municipal Solid Waste (MSW)	• Ensure segregation of waste. • Door to door collection of MSW. • Check on open illegal dumping of MSW. • Surveillance to check the transportation of hazardous waste to TSDF.	Partially complied					
4.	Construction and Demolition	• Undertake wet suppression (Unpaved Roads, C& D Sites), ensure deployment water sprinkling system. • Provision for controlling wind speed/ wind breaking walls on C&D sites.	Partially complied					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		• Strict enforcement of C&D Waste Management Rules • Prohibition on storage of construction material along the roadsides • Directives to builders to leave 25% area for green belt in residential colonies as mandatory condition. • Sensitization programme for control of air, water & noise pollution its impacts for workers and contractors.						
5.	Road Sweeping & Vehicles	• Deployment of manpower & machine for regular vacuum sweeping/ manual sweeping • Prepare & implement material loading/ unloading guidelines; use appropriate enclosures for haul trucks and gravel paving for all haul routes. • Diesel vehicles entering the city should be equipped with DPF • Expedited installation of weigh-in- motion bridges and machines at all entry points.	Partially complied					
6.	Vehicles	• Bus stop and their parking should be rationalized to ensure more efficient utilization. • Route rationalization • Movement of Heavy Vehicles within the city should be allowed between 10 PM to 5 AM. • User of transport & industries to adopt BS-VI or BS-IV norms. • To prepare and adopt E-vehicle Policy & promotion of use of electric/hybrid vehicles.	Partially complied					
7.	Industries and DG Sets	• Ensure 100% compliance to emission standards by all industries. • Initiate strict action against violators/ unscientific hazardous waste disposing entities. • Encourage & adopt best practices to minimize fugitive emissions. • Industrial to maintain surrounding & adjoining open area and road. • Notify adopt & implement State Fuel Policy • Develop programme to reduce significant emission from rotary furnaces. • Adopt & implement installation of Fume gas capturing hood	45108					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		followed by bag house usage, Diesel Generator Sets • Strengthening of grid power supply, uninterrupted power supply to the industries to reduce use of Diesel DG Sets. • Programme to maximize use of renewable energy in industrial areas.						
8.	Decongestion of Roads in high traffic areas	• Develop plan to reduce roadside encroachment, initiate punitive measures. • Guidelines for plying of diesel tempo, scooters and directions to stop only at designated places. • Introduce provisions for punitive action on driving in the wrong lane. • Adopt disciplined public transport (designate one lane stop). • Removal of the free parking zones. • Regulate No parking within 50 meter of any major crossing and or chaurahs, rotaries. • Strictly follow Indian Road Congress guidelines. • Examine the existing framework for removing broken vehicles from roads and create a system for speedy removal and ensure minimal disruption to traffic.	Partially complied					
9.	Dust Management	• Edge to edge road carpeting (tiring/ paving/ concreting) to avoid dust. • Notify Loading/Unloading of construction material points.	Partially complied					

8. INDUSTRIAL CLUSTERS

Report to be submitted by Lead Department:
Month of Report _____

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)	Remarks

				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Identification of industrial clusters	• Identify suitable for developing Industrial areas with basic amenities • Identify possibilities of setting industrial estates in the State. • Assess requirement of nature of industries to be setup in future in existing industrial areas.	In progress					
2.	Development of industrial parks	• Prepare plans to develop industrial parks in the state. • Prepare plans to setup common product manufacturing unit hubs.	In progress					
3.	Common waste management facilities	• Assess and quantify the effluent generation from industrial area and accordingly plan to setup CETP. • Assess and quantify the hazardous waste generation from industrial area and accordingly plan to setup TSDF. • Assess and quantify the SW generation from industrial area and accordingly plan to setup MRF facilities for maximizing recycling and disposal of SW at common place.	In progress 1 CETP functional in BBNDA 1 under construction at Kala Amb					

9. STPs AND RE-USE OF TREATED WATER

Report to be submitted by Lead Department:
Month of Report _____

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Installation of Sewage Treatment Plant (STP) in ULBs	• Land identification. • Obtain all clearances. • Create infrastructure. • Setup machineries. • Connectivity of domestic & commercial users. • Operationalize STP	Bilaspur -2 Chamba -4 Hamirpur-7 Kangra-15 Kinnaur- Kullu -7 Lahaul-Spiti - Mandi-6 Shimla-9					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
			Sirmour-3 Solan -5 Una-3					
2.	Installation of Sewage Treatment Plant (STP) by JSV.	• Conduct site assessment • Obtain the necessary permits and approvals. • Setup required equipment. • Connectivity of domestic & commercial users. • Operationalize STP • Trainings & capacity building of the operating staff	61 STPs (89.143 MLD)					
3.	Installation of Sewage Treatment Plant (STP) categorized by SJPNL, Shimla, MC	• Conduct site Assessment • Obtain the necessary permits and approvals. • Setup required equipment. • Connectivity of domestic & commercial users. • Operationalize STP • Training of the operating staff	6 STPs- (32.76 MLD)					
4.	Installation of total STPs in JSV & SJPNL	• Land identification. • Obtain all clearances. • Create infrastructure. • Setup machineries • Connectivity of domestic & commercial users. • Operationalize STP	Total -67 STPs- (121.903 MLD)					
5.	Installation of capacity/ Treatment capacity 247.287 MLD	Installation of STP's to reduce the gap in phased manner. • Installation 4.05 MLD in 7 towns • Installation 2.29 MLD in 5 towns • Installation of 8.77 MLD in 4 towns	121.903 MLD					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		• Installation of 7.04 MLD in 16 towns						
6.	Sewerage Generation 129.25 MLD	• Assessment of sewerage load in all ULBs. • Assessment of sewerage load from all hotels. • Assessment of sewerage load from all industries. • Assessment of sewerage load from all commercial institutions. • Assessment of sewerage load from all health institutions. • Prepare category wise action plan.	Action plan prepared for 91.95 MLD					
7.	Household sewer connections (70360)	• Upgradation of sewerage infrastructure • Implementation of public outreach programmes. • Conduct inspections of household sewer connections • Maintenance	45108					
8.	Clearances	• Prepare DPR. • Obtain all statutory clearances.	All statuary clearance have been made and DPR's have been prepared.					
9.	Maintenance	• Regular inspections • Conduct maintenance programmes	61 STPs in 35 towns are operational as per CPCB/ HPSPCB norms					

10. CETPs/ ETPs

Report to be submitted by Lead Department:
Month of Report _____

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Compliance to discharge norms by Industries	• Identification & assessment of load of effluent from water polluting sources. • Assess need of CETPs & ETPs • Establishment of Flying Squad for surprise inspections of industrial units.	Consistently conduction of sampling of industrial units as per schedule.					
2.	Complaint redressal system	• General Awareness on water pollution. • Regular review and evaluation of redressal/ public issues.	Public grievance sites, including E-Samdhan, CM Seva Sankalap, and a 24-hour helpline, are already operational.					

11. GROUND WATER EXTRACTION/ CONTAMINATION AND RECHARGE

Report to be submitted by Lead Department:
Month of Report _____

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Regulatory Provisions	• Establishment of the Authority under Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005 • Mechanism for time bound grant of permit to extract and use ground water. • Registration of drilling agencies. • Registration of existing users of ground water. • Penal actions/ Compounding of offences.	Partially complied					
2.	Preparation of Inventory of GWS	• Notify nodal point - authority to maintain data base on ground water	Partially complied					
3.	Recharge & Restoration	• Installation of GW measuring devices. • Rainwater harvesting for conservation and ground-water recharge • Prepare watershed development plans in catchment of GW sources.	Partially complied					
4.	Water Quality	• Water quality sampling on regular intervals (twice in a year). • Publication of water quality data on public domain.	Partially complied					

12. Air pollution- SPM, SOx, NOx and Noise Pollution

Report to be submitted by Lead Department: SPCB
Month of Report _____

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
A. Industrial								
1.	Policy Action	• Policy for permitting new Industries in Critically Polluted Areas (CPAs)	NA					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		• Guidelines for laying city gas distribution network	66 CNG, 8170 PNG, Connection stations; 2ons. 45 CNG Station; 32000 Domestic Connections					
		• Notify policy for replacement of heavy oil (eg., furnace oil, diesel etc.) based industries to alternate energy sources (CNG/ PNG/ Electricity)	100% compliance (State Fuel Policy of GoHP notified)					
		• Notify policy for restriction on usage of Pet coke for industrial use.	100% compliance (State Fuel Policy of GoHP notified)					
		• Notify guidelines for uninterrupted power supply in State/ UT.	100% compliance HP Electricity Regulatory Commission (Distribution Performance Standards) Regulations, 2010 vide Notification no. HPERC/401 dated 08.10.2020 issued.					
		• Strict implementation and compliance of DG sets emission and noise pollution norms.	100% compliance					
		• Prepare & adopt policy regarding installation of CAAQMS based on the emission potential or capacity of air polluting industries.	No million plus cities in H.P, however HPSPCB has installed CAAQMS in Baddi and proposed in Shimla and in other non-attainment towns, i.e Parwanoo, Damtal, PaontaSahib, KalaAmb, Sundernagar.					
		• Mechanism to be devised for expansion of OCEMS to air polluting industries are not covered currently (such as emission from utility stacks in 17 categories, etc.)	Present 21 industries under category-17, have already installed OCEMS					
		• Mechanisms to control fugitive emissions sources.	Checked and regulated by emission norms stipulated under EP Rules, 1986.					
		• Regulations for conversion of brick kilns to clean technologies • Issue directions to convert all brick kilns to forced draft, zig-zag technology.	100% compliance (Policy notified)					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		• Regulations for Emission Trading Scheme (ETS)	100% compliance					
		• Policy to set up e-waste recycling unit in industrial areas in compliance with e-waste management rules	100% compliance					
		• Identification of industries in the state complying emission standards.	100% compliance					
		• Inventory of fuel consumed in the industries (type and quantity)	100% compliance					
		• Issue guidelines for shifting of industries/ commercial units to gaseous fuels (CNG/ PNG/ CBG	100% compliance					
2.	Domestic fuel (LPG/CNG)	• Initiate action for 100% coverage of households shifted to PNG/ LPG • Prepare action plan for supply of LPG through pipelines in ULBs	100% compliance					
B. Vehicular Emission								
2.	Policy Initiatives	• Notification for phasing out old vehicles (Commercial: 10 years; Private: 15 years)	100% compliance					
		• Policy for scrapping old vehicles	100% compliance					
		• Policy/ Plan for Li-battery waste management from scrapped vehicles.	100% compliance					
		• Policy / Scheme for Eco- Friendly Mass Rapid Transport Systems	100% compliance					
		• Policy for augment- vehicles Vehicular Emissions	20% achieved					
		• Notification and enforcement to PUC norms Vehicular Emissions	100% achieved					
		• Online monitoring of PUC implementation	100% achieved					
		• Mechanism for centralized record maintenance of PUC checks, certification and cross check by the concerned transport authorities to be incorporated	100% achieved					
		• Construction of by pass/ ring roads	Dynamic process in progress					
		Re-filling Stations retro fitted with Vapor Recovery System	-					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		Incentive of setting up R&D facilities related to EVs	-					
C. Construction & Demolition Waste and Road Dust Management								
2.	Policy Actions	• Policy for development of projects/ plants for C&D waste management	-					
		• Policy for use of C&D waste in laying and construction of State highways	25% complied					
		• Schemes for development of green belt/ open spaces and street sides greening on State highways	-					
		• Development of Nature parks.	-					
		• Plantations	-					
		• Penalty provisions for non-compliance of C&D waste management rules at construction sites	-					
		• Mechanism for development and maintenance of road infrastructures for industrial states and clusters.	-					
		• Develop action plan to setup C&D waste Processing Plants	-					
D. Noise Pollution Action Plan								
1.	Provision for equipment	Availability of Sound/Noise Level • Procurement 13 nos of noise monitoring meters.						
		Ambient Noise Level monitoring • Regular monitoring of the residential, sensitive zone by HPSPCB						
		Complaint redressing system • Develop Mobile app for redressal. • Remedial action on the public grievance received by the concerned authorities. • IEC activities – awareness drives, pasting of stickers on vehicles.	App & portal Developed & made operational					
7.	Traffic noise/ transportation	• Restriction on use of pressure horns • Restriction on use of horns within city limits.	Partially Complied					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
	Regulation.	• No honking unless for danger. • Speed limit to be strictly enforced within the city/ town as lowest sound emission arise from vehicles moving smoothly at 30-40KMPH. • Display of proper signage to reduce congestion & overloading. • Conducting monitoring and issuing challans on use of Pressure Horns. • Installation of noise barriers at critical sections and silence zones. • Green belt development-plantation of trees and shrubs to create natural buffer in between the traffic movement corridors and residential areas.						
8.	Industrial Noise Pollution	• Green belt development-Plantation of trees and shrubs to create natural buffers in between the industry and its vicinity. • Use noise absorbing obstacles, barriers, screens, partition and natural objects. • Installing sound barriers/ absorbers	Partially Complied					
9.	Silence Zone	• Identification of silence zone in each district and information of same be uploaded on website of District Administration.	Partially Complied					
10	Loudspeaker noise and noise from cultural/ religious activities	• Cultural and religious activities are major source of noise pollution which need to be checked. • Registration of tent houses providing logistics & instrumental support for cultural/ religious activities be made mandatory and instruments capable of producing noise higher than the prescribed limit should install noise limiter.	Partially Complied					
11	Elimination of noisy activities	• Restriction on use of diesel gensets without acoustic enclosure.	Partially Complied					
12	Mass awareness	• Installation of sign Boards in Silence Zone • IEC Activities	Partially Complied					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
E. Emissions from MSW								
1.	Waste collection (%)	• To achieve 100% collection	Achieved in 60 ULBs out of 61					
2.	Waste segregation (%)	• To achieve 100% collection	Achieved in 60 ULBs out of 61					
3.	Material Recovery Facility (MRF) site	• Identification of site • Development of site • Setting up machines • Operationalization of MRF site • Safety equipments	Operational in 47 ULBs					
4.	Waste to Energy plants	• To achieve in all ULBs						
5.	Waste to compost plants	• To achieve in all ULBs						
6.	Remediation of dumping sites	• Recover recyclable material • Reduce leachate generation • Air sparging & soil vapour extraction • Pump & treat leachate	16					
7.	Control open burning of MSW	• Draft bye-laws • Penalization on violation of laws • Training programs for waste pickers						
8.	Any other activity/project pertaining to MSW Management	• Setting up composting units (wet waste) • Shredder (Plastic waste) • EPR	20 ULBs					
F. Emissions due to burning of agro-residues								
1.	Control of Emissions from burning of agro residues.	• Adopt & implement schemes for procurement of agriculture machinery in In-situ treatment • Provide assistance for establishment of farm machinery banks/ custom hiring centres in- situ Crop	35,000 farmers covered					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		residue Management. • Use of decomposer for in- situ Crop residue Management. • Adopt schemes for balers/pellet/ Briquette machines, etc. in ex-situ treatment. • Biomass projects with respect to the hotspots of Crop residue burning. • Promote use of biomass / crop residue based pellets mass blending with coal and its co-firing in thermal power plants with blending ratio which needs no modification in boilers. • Notify policy for supply chain mechanism for in-situ and ex-situ management of stubble. • Notify guidelines for supply chain for crop residues to cow shelters. • Development of effective protocol for monitoring of fire incidents including crop area consideration and crop Fire area data. • Collaboration with ISRO and preparation of Satellite based maps for monitoring of fire incidence						
G. Household Emissions								
1.	Household fuel quality and supply	• Notify & adopt schemes for use of LPG/ PNG for cooking fuels. • Enhance coverage of users of LPG. • Amendment of by-laws for " Indoor air quality management" • Issue any other Policy/ Rules/Standards/ Guidelines required to control Household emissions	Partially Complied					

13. Minerals & Mining (Limestone, sand, stone)

Report to be submitted by Lead Department: Industry Department (Mining)
Month of Report _____

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Regulation of the Minerals under various Act/Rules	• Identification and inventorization of the areas for mineral concessions after conducting site inspection. • Prepare & digitize inventory of Mining Leases with geo references/ coordinates. • Undertake auctions of areas available in riverbeds/ hill Slopes etc. having mineral resource. • Adopt sustainable development of mineral resources in harmony with environment using modern methods of mining • Strengthening of IT network for online services in mining sector.	Partially complied					
2.	District Survey Reports/ documents	• Preparation of District Survey Reports to identify the mineral resources for all districts of the State. • Undertake Geological and geotechnical Investigation of the sites for preparation of Geological reports under DSR. • Approval of DSR from State Environment Authority. • Updation of District Survey Report after 5 years as per Mining & Mineral Guidelines of MoEF&CC after conducting replenishment Studies. • Re-endorsement & approval of updated DSRs from State Environment Authority.	Partially complied					
3.	Regulation of stone crushers	• Develop mechanism for site inspection of the areas applied for the establishment of the stone crusher unit. • Develop mechanism for registration of the Stone crusher unit. • Notify guidelines for regular inspection of the Stone crusher units. • Prepare and digitize inventory of Stone Crushers with GPS coordinates. • Introduce drone based centralized online monitoring of stone crushers.	Partially complied					
4.	Transportation & evacuation	• Develop & adopt mechanism to use of 100% GPS enabled	Partially					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
	of minerals	transportation vehicles. • Centralized control room to monitor movement of vehicles. • Installation of waying bridges at appropriate locations. • Digitize the evacuation route through GIS mapping.	complied					
5.	Monitoring & Control illegal mining activities	• Identification of areas prone to illegal mining. • Delegation of power to officers of various departments to check illegal mining. • Conduct regular checking drives for illegal mining. • Issue guidelines to Lodge FIR & to challan and compound the offences of illegal mining, transportation and storage. • Formation of Task Force to Control Illegal mining.	Partially complied					
6.	Systematic and Scientific Mining	• Prepare Mining and Restoration Plans, Mine closure plans before start of mining activities. • Adopt & develop infrastructure for drone monitoring of mineral concession areas. • Guidelines for monitoring of implementation of Environment Management Plan of all mineral concession areas.	Partially complied					

14. WATER BODIES (LAKES, POND ETC.)

Report to be submitted by Lead Department: JSV
Month of Report _____

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
1.	Scientific identification and management of springs (lakes, ponds etc.)	• Prepare inventory of springs (lakes, ponds etc.) sources. • Identification of springs and recharge zone shall be carried out in consultation with Hydro geologists under JSV, physical observation including lakes, ponds etc. • Document local knowledge on traditional sources of water and	320 constructed out of 412					

#	Action Required/ Target	Activities/ Action Plan	Status as on Jan.24	Quarterly Achievements (_____ Quarter)				Remarks
				Physical Achievement	%age	Gap	Likely date of achievement	
		springs (lakes, ponds etc.). • Restoration of structure in traditional construction. • Collaboration and Partnership with best performing State/NGOs • Documentation of best practices for more effective and efficient Spring shed management including lakes, ponds etc.						
2.	Capacity Building	• Conduct training programme on hydrogeology. • Organize community level Water quality testing awareness & training programme for community members. • Formation of user groups and depute trainers at local level. • Organize programme Promotion of Indigenous Knowledge for managing springs sources including lakes, ponds etc. • Encourage low-cost, sustainable technologies for research and innovation in the State. • Develop and secure long-term funding for spring shed projects including lakes, ponds etc. • Share experiences and best practices among communities. • Advocate for supportive regional and national policies for spring shed management for long term planning & investments.	Partially complied					
3.	Scientific Assessment and Monitoring - Regulation and Enforcement	• Conduct regular hydrological studies. • Water quality tests and establish monitoring systems. • Enforce protective regulations and encourage community-driven rules. • Preparation of GIS based Water Harvesting Plan of the districts.	Partially complied					
4.	Maintenance, replenishment, restoration	• Conduct regular cleanliness drives of water bodies. • Disinfection of traditional water bodies. • Catchment Areat Treatment of waterbodies.	Partially complied					To be done at least twice a year.

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