



Consultancy Services for analysis of the legal bases & rules and regulation at National & State, Output – 1

Stakeholder Consultation Workshop

Sustainable and Environment-friendly Industrial Production (SEIP) – II | 22.11.2019



Implemented by



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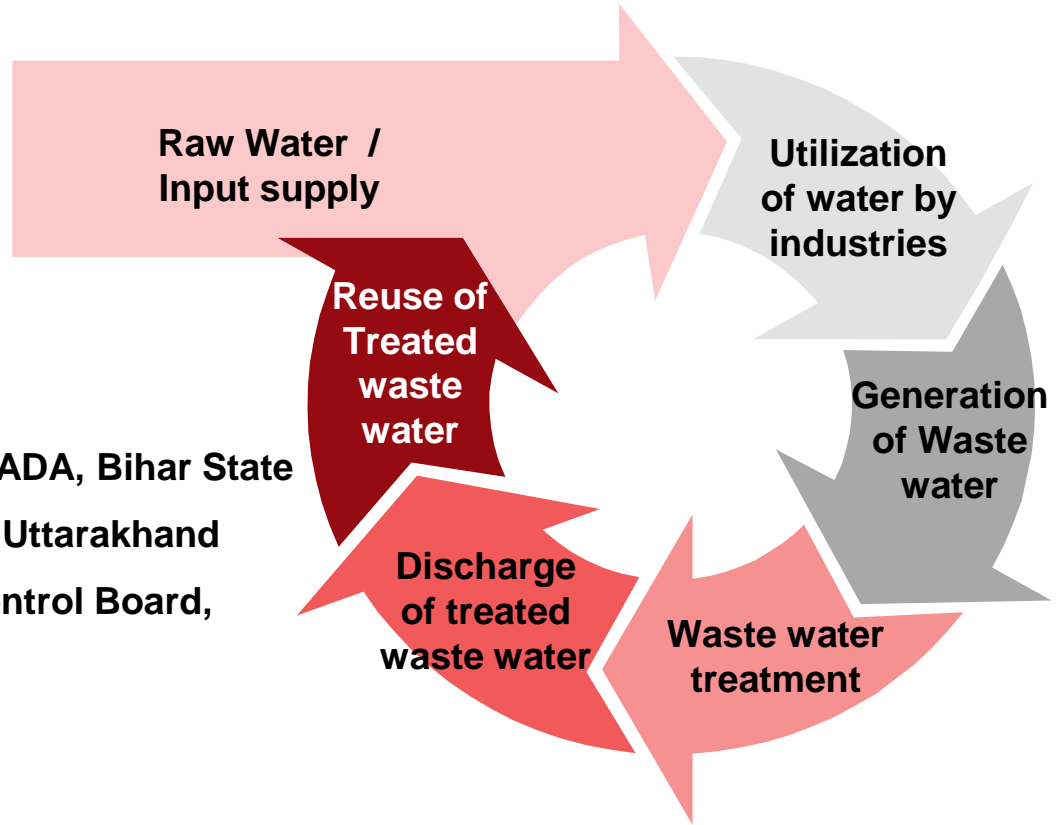
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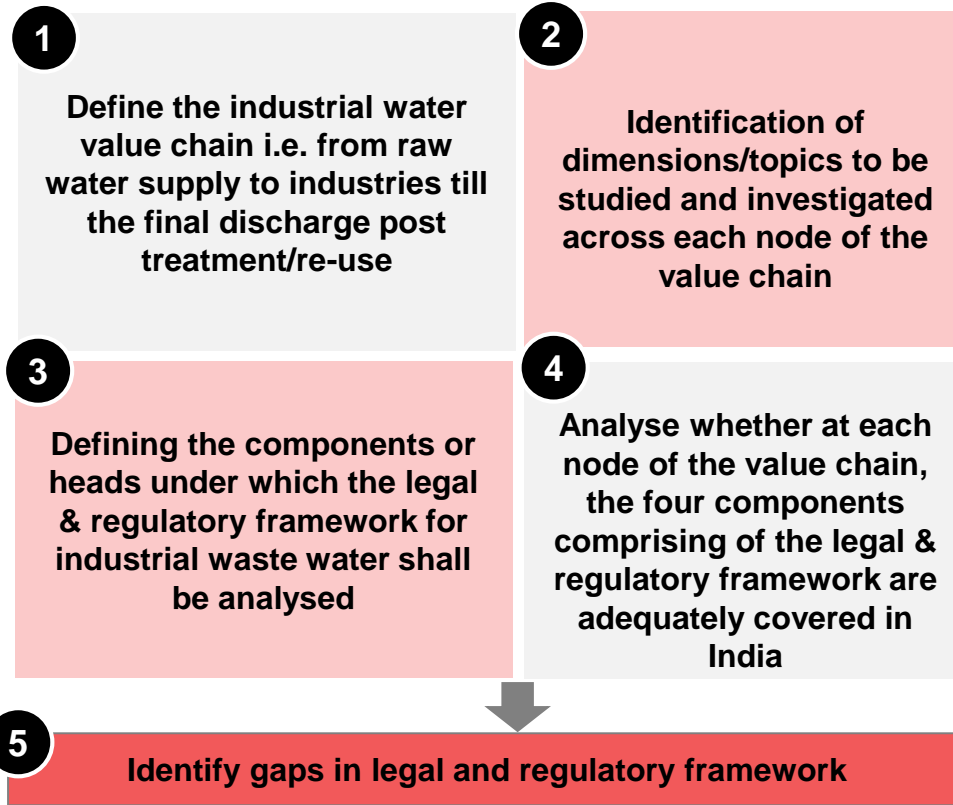
Methodology & Approach for Gaps & Needs Assessment

MAPPING OF STAKEHOLDERS

- ❖ Mapping of the Industrial waste water value chain
- ❖ Secondary research to identify various stakeholders across the value chain and their roles and responsibilities
- ❖ Consultation with GIZ, MOEF, CPCB, BIADA, Bihar State
- ❖ Pollution Control Board, SIDA, SIDCUL, Uttarakhand
- ❖ Environment Protection & Pollution Control Board, Industries, etc



Methodology used for Gaps & Needs Assessment.....1/2



Methodology used for Gaps & Needs Assessment.....2/2

← Legal framework components →

↑ Industrial water value chain ↓

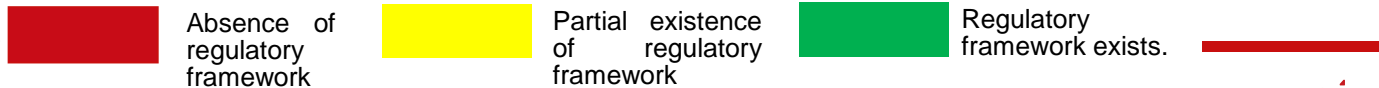
Process Flow	Dimensions	Standards	Approval/Procedure	Reporting Structure	Monitoring
Raw Water Supply to Industry	Quality	Red	Red	Red	Red
	Quantity	Green	Green	Red	Green
	Source	Green	Green	Yellow	Yellow
Utilization of water by Industry	Technology	Red	Red	Red	Red
	Process	Red	Red	Red	Red
	Water Consumption	Green	Green	Red	Green
Generation of waste water after industrial processes	Quality	Yellow	Green	Red	Yellow
	Quantity	Yellow	Green	Red	Yellow
	Technology	Red	Red	Red	Red
Effluent Treatment	Quality	Green	Green	Red	Green
	Technology	Red	Red	Red	Red
	Personnel/Skills	Red	Red	NA	Red
Discharge from CETP/ETP and re-use of water	Quantity	Yellow	Yellow	Red	Green
	Quality	Yellow	Yellow	Red	Green
	Type of re-use	Yellow	Yellow	Red	Red

Regulatory

Instrument

Enforcement

Instrument



Stakeholder Consultation

Workshop

Sr. No.	Workshop	Date
1	Stakeholder Workshop, Uttarakhand	22 nd October 2019
2	Stakeholder Workshop to present the Gap Analysis/Need Analysis	1 st November 2019

List of Stakeholders

Sr.No.	Contact Person	Organisation
1	Mr. Avinash Tripathi	Central Pollution Control Board
2	Mr. Subramaniam	GIZ
3	Mr. D. P Mathuria	National Mission for Clean Ganga
4	Mr. Ajitabh	National Mission for Clean Ganga
5	Mr. Santosh Kumar Sinha	Bihar Industrial Development Authority
6	Mr. S.P. Roy	State Pollution Control Board, Bihar
7	Mr. Sumanpreet Singh	Confederation of Indian Industry
8	Mr. Harendra Garg	SIDCUL Manufacturers Association
9	Mr. S.P. Subudhi	State Pollution Control Board, Uttarakhand
10	Mr. S. S. Pal	State Pollution Control Board, Uttarakhand
11	Ms. Kirti Goyal	IIT Roorkee

Key Takeaways from Stakeholder Consultations

- Since there are no specific standards, monitoring process or approval for the re-use of waste water, it was suggested that in the future, re-use of waste water by the industry itself should be prioritized and zero liquid discharge should be attempted in a systematic manner
- In terms of discharge of waste water, there is a requirement of monitoring of each industrial unit to ensure compliance with discharge standards stipulated under the Environment Protection Rules, however there need to be a more stringent mechanism for the same.
- One of the major gap lies in the compliance of these by industry units and monitoring by the authorities and the same shall be enforced by purview of law.
- Apart from option of filing criminal cases or ordering closure, etc against a non complying industrial unit, other types of enforcement mechanism needs to be looked into and strengthened.
- Common repository and self- assessment tools are crucial in binding the industries to comply with the laws and rules as well as for the authorities for efficient monitoring and enforcement of the laws and rules.

Key Gaps Identified and Potential Interventions

Key Gaps: 1. Standards

Sub-Topic	Gap Identified	Potential Intervention	Rationale for Intervention
Raw Water Input	<ul style="list-style-type: none"> No standards for quality and quantity of raw water to be used by the industrial units 	Standards to be framed by the Central Government under the Environmental Protection Rules mandating industries comply with the raw water standards to be used for industrial processes.	Poor quality of Raw water increases demand for fresh clean water & thereby increases volume of discharge of waste water
Effluent Treatment by CETP/ETP	<ul style="list-style-type: none"> No standard operating procedures which are in place so as to ensure that the discharge standards under EP Rules are fulfilled No minimum standards prescribed for the personnel / skills for ETP & CETP operation 	<ul style="list-style-type: none"> Standard operating procedures for the CETPs, depending on the technology being used, ought to be notified by the Central Government under the Environment Protection Rules Minimum qualifications and skill sets of the personnel operating the CETPs have to be notified under the Environment Protection Rules. Further, states should be allowed to make these standards more stringent, as may be required. 	Optimal operation of ETP/CETP will enable better compliance to discharge standards
Re-use of Wastewater	<ul style="list-style-type: none"> No standards defined for quality parameters for re-use of waste water by different industry types and uses (eg. Process and cleaning water, cooling towers, etc.) 	Standards have to be notified by the Central Government under the Environment Protection Rules specifying the process of re-use and the standards which wastewater must meet for various uses. Different standards to be prescribed for different end uses.	Use based standards for re-use of waste water will streamline the process of re-use and reduce discharge of waste water / demand for fresh water

Elaboration of Priority Interventions: 1. Standards

- | | |
|-----------------------------------|--|
| Recommendation | <ul style="list-style-type: none">• Standards have to be notified by the Central Government under the Environment Protection Rules specifying the standards which wastewater must meet for various uses. Different standards to be prescribed for different end uses. |
| Instrument of Intervention | <ul style="list-style-type: none">• Rule making power of Central Government under Sections 6 and 25 of the Environment Protection Act, 1986 |
| Nodal Authority | <ul style="list-style-type: none">• Ministry of Environment and Forests (MoEF) |
| Provision of Law | <ul style="list-style-type: none">• A new Schedule has to be inserted to the Environment Protection Rules specifying the standards that the wastewater has to adhere to for different end uses. Different standards for different end use i.e. industrial re-use, agricultural re-use, recreational re-use, etc. |

Key Gaps: 2. Self-Reporting

Sub-Topic	Gap Identified	Potential Intervention	Rationale for Intervention
Raw Water Input	No reporting mechanism mandating industrial unit to report the quality and quantity of raw water that they are drawing from any source, post obtaining of CTO.	Industrial units to mandatorily self report quality and quantity of raw water being drawn from any source one a monthly or quarterly basis to a government authority post obtaining a CTE and CTO. Self reporting to SPCB and in the medium term, via an online tool.	This will promote judicious use of water by the industry and hence excess wastewater generation will be deterred.
Utilisation of Water	No self reporting mechanism in place where the industrial unit has to report the type of technology / clean technology being utilized to achieve minimal water pollution	Industrial units to be obligated to report to the SPCB or any other prescribed authority, in a time bound manner, the type of technology being utilized in the industrial process, to achieve minimal water pollution.	Less water intense processes tend to generate less wastewater. This leads to the industry in consuming less of raw material i.e. water and treatment costs. Technology which conserves usage of water ought to be utilised by the industries.
Effluent Treatment by CETP/ETP	There is no provision for self reporting by the operators stating the personnel that they have deployed for operating the CETP on a periodic basis.	CETP operators to periodically report to the SPCB the personnel which are engaged by the CETP and whether such personnel are in compliance with the qualification and skill standards prescribed.	Efficient O&M will lead to reduction of costs of treatment of w/w
Incentivising Use of Wastewater	Re-There is no reporting mechanism for re-use of wastewater and therefore re-use can't be incentivized	A self reporting mechanism has to be notified whereby the re-use of wastewater can be quantified and incentivised	Incentivising re-use of waste water will reduce discharge and demand for fresh water

Elaboration of Priority Interventions: 2. Self- Reporting

Recommendation

- **Mandatory self reporting by the industrial units with respect to the gaps specified including but not limited to quantity and quality of raw water used, water utilisation by type, the type of personnel deployed by the CETPs, etc.**

Instrument of Intervention

- **Rule making power of Central Government under Sections 6 and 25 of the Environment Protection Act, 1986**

Nodal Authority

- **Ministry of Environment and Forests (MoEF)**

Provision of Law

- **By virtue of Sections 6 and 25 of the EP Act, the Central Govt may introduce a new Schedule to the Environment Protection Rules specifying the self reporting protocols that have to be adhered to by the industrial units including the frequency and the timeline within which such reporting has to be done**

Key Gaps: 3. Monitoring

Sub-Topic	Gap Identified	Potential Intervention	Rationale for Intervention
Raw Water Input	No monitoring mechanism mandating government instrumentality to monitor the quality of raw water being used on a periodic basis, post obtaining of CTE and CTO.	Mandatory and time bound monitoring by SPCB to check and ascertain the quality of raw water being used by the industrial unit	Good quality raw water will lead to reduction in pollution load on the w/w generated at the end of the process
Utilisation of Water	No provision allowing for periodic monitoring/audit by government authority to ascertain whether the best available technology (BAT) prescribed for minimizing water pollution is being utilized by the industrial unit, in a periodic and time bound manner.	Periodic monitoring and audit by the SPCB or any other designated government instrumentality to ascertain whether the BAT prescribed for the industries is being adhered to.	Use of BAT will reduce w/w generation
Generation of water immediately post industrial process	No monitoring mechanism to check and ascertain whether the quality of industrial wastewater generated immediately after completion of the industrial processes, in a periodic and time bound manner.	Mandatory, periodic monitoring by the SPCB in a time bound manner to verify and check whether the quality of wastewater generated immediately after the completion of the industrial process and prior to effluent treatment	Stream segregation will reduce the load on the ETP units
Effluent Treatment by CETP/ETP	There is no monitoring mechanism in place wherein government instrumentality shall be obligated to monitor and audit whether the CETP in question is fulfilling the minimum standards of personnel deployment prescribed	Monitoring mechanism may be prescribed whereby the SPCB in coordination with officials from the state industrial development authority shall audit and monitor whether the CETPs are fulfilling the minimum qualification and skill standards prescribed for personnel at the CETP.	Good O&M will reduce operating cost of the CETP and efficient operations of the CETP will lead to reduction in pollutant load at the end of the treatment.
Re-Use of Wastewater	There is no monitoring mechanism in place whereby government instrumentality would have to monitor and audit whether a re-user of wastewater is complying with the re-use standards prescribed while re-using wastewater	A binding monitoring mechanism may be prescribed whereby the SPCB shall in a time bound manner verify and audit whether the re-user of wastewater is complying with the re-use standards laid down.	With precise reuse being mentioned in the CTE the unit will be bound to follow the terms and conditions and establish the relevant ETP process to meet with the recycling standards
Discharge Wastewater	In terms of discharge, there is no mandatory provision stipulating periodic monitoring by a government instrumentality of the discharge being made by each industrial unit	While SPCB does have the monitor the discharge of wastewater by industrial units and ensure that discharge standards are being met, a periodic time bound monitoring structure ought to be prescribed.	This will help SPCB staff understand the need and periodicity of monitoring and reducing the load on the staff

Elaboration of Priority Interventions: 3. Monitoring

Recommendation

- **Mandatory and time bound monitoring by the SPCBs of the industrial units with respect to the gaps specified including but not limited to checking quality of raw water being used, whether CETP/ETP are deploying qualified personnel, whether re-user of wastewater is adhering to the re-use standards, etc.**

Instrument of Intervention

- **Rule making and amending power under Section 6 and 25 of the Environment Protection Act. In the medium and long term, online ICT tools may be considered for undertaking this monitoring.**

Nodal Authority

- **Ministry of Environment and Forests (MoEF)**

Provision of Law

- **By virtue of Section 6 and 25 of the EP Act, a new Schedule has to be inserted in the Environment Protection Rules which shall specify the various monitoring obligations. Schedule shall contain the indicative timelines for monitoring and the various heads under which monitoring shall take place. However, respective SPCB shall be have the discretion to prescribe more stringent timelines for monitoring.**

Key Gaps: 4. Enforcement

Sub-Topic	Gap Identified	Potential Intervention	Rationale for Intervention
Raw Water	There is an absence of a binding formula for Environmental Compensation for illegal extraction of groundwater and surface water.	While a formula for environmental compensation has been devised by CPCB under the directions of NGT, the same may be made mandatory through an official notification.	Irregular extraction of the water makes it a free commodity and hence the wastewater generation will be increased. Further, it also does not help SPCB understand the overall industrial balance in an estate / region
Discharge Wastewater	There is an absence of a binding formula for levy of Environmental Compensation on the errant industrial unit for violating of the discharge standards laid down under the EP Rules	While a formula for environmental compensation has been devised by CPCB under the directions of NGT, the same mechanisms may be made mandatory through an official notification.	In line with Polluter pays principle and will strengthen enforcement
Discharge Wastewater	Absence of empowering and enabling provisions enabling government authorities to take measures such as taking a bank guarantee from industrial unit and encashment of the bank guarantee in case of failure to remedy any default.	Closure order to be issued under the Water Act for violation which can be revoked with a condition that a BG is to be submitted. Second violation will lead to forfeiting of the BG and revocation of the CTO	In line with Polluter pays principle and financial instrument will act as deterrent for the industry



Elaboration of Priority Interventions: 4. Enforcement

Recommendation

- While a formula for environmental compensation for illegal extraction of groundwater and violation of discharge standards has been devised by CPCB under the directions of NGT, the same may be made mandatory through legal intervention.

Instrument of Intervention

- Power of delegation of the Central Government by way of notification in Official Gazette under Section 23 of the EP Act.

Nodal Authority

- Ministry of Environment and Forests (MoEF)

Provision of Law

- Using Section 23 of the EP Act, the Central Government may issue a notification empowering the CPCB to formulate relevant environmental compensation formula for illegal extraction of groundwater and violation of discharge norms and in turn empowering SPCB to levy such environmental compensation for errant cases.

Key Gaps: 5. Reference Documents

Sub-Topic	Gap Identified	Potential Intervention	Rationale for Intervention
Raw Water	Currently there are no reference documents or guidelines issued by any government instrumentality of pre-treatment of raw water	Reference documents/guidelines issued by the appropriate authority prescribing the recommended method for pre-treatment of raw water.	Raw Water quality control has direct implications on quantity of waste water being generated viz. if the TDS in raw water is high the TDS and quantity of wastewater generated at the end of the process tends to be high in TDS as well as volume.
Utilisation of Water	Currently there are no reference documents or guidelines issued by any government instrumentality providing an indicative best available technology which may be adopted when it comes to achieving ZLD or minimize water pollution from discharge of effluents	Reference documents/guidelines issued by the appropriate authority prescribing and recommending the best available technology that may be used for achieving ZLD/minimize water pollution from discharge of effluents.	Techniques like Waste Minimization can lead to less of water use and thus reduce the quantum of wastewater produced.
Effluent Treatment by CETP/ETP	Currently there are no reference documents or guidelines issued any govt. instrumentality prescribing the best available technology for ETP/ CETPs	Reference documents/guidelines issued by the appropriate authority prescribing and recommending the best available technology that may be used by the ETP/CETPs to minimize effluent discharge and water pollution.	Techniques like Waste Minimization can lead to less of water use and thus reduce the quantum of wastewater produced.
Self Assessment Tool	There is no tool which assess the need / applicability of CTE / CTO process		Enables industrial units undertake self assessment and increase compliance

Elaboration of Priority Interventions – 5. Reference Document

Recommendation

- Reference documents may be issued by the Central Government recommending the recommended best available methods pre-treatment of raw water, best available technology which may be adopted when it comes to achieving ZLD or minimize water pollution from discharge of effluents and best technology which may be adopted by CETP/ETP.

Instrument of Intervention

- As per Section 3 (2) xiii of the Environment Protection Act the Central Government is empowered to issue manuals, codes and guides for abatement of environmental pollution

Nodal Authority

- Ministry of Environment and Forests (MoEF)

Provision of Law

- As per Section 3 (2) xiii of the Environment Protection Act the Central Government is empowered to issue manuals, codes and guides for control and abatement of environmental pollution. As per Section 23 of the Environment Protection, Central Govt may delegate any of its functions under the statute to any authority and hence CPCB may be delegated the power to formulate the reference documents and guidelines.

Relevant International Case Studies

Benchmarks/ Country	Legal Instrument Used	Measures taken by benchmark country	Indicative Measures which may be taken in India
Canada (Province of British Columbia)	Enactment of statute- Water Sustainability Act, 2014	<ul style="list-style-type: none"> • Statute lays down the procedure for utilization of groundwater and surface water and the approvals to be taken • Provides for a monitoring mechanism for usage of the raw water. 	<ul style="list-style-type: none"> ▪ Consolidated regulation may be laid down by Govt of India specifying a process by which the permit for usage of water may be granted. ▪ A method for monitoring of usage of water may be laid down.
United States of America (Environment Protection Agency)	EPA Standards (empowered by Clean Water Act) - in the form of regulations	<ul style="list-style-type: none"> • Lays down inlet standards which are to be followed by publicly owned water treatment works (POTWs). • Also provides outlet standards for these POTWs. 	<ul style="list-style-type: none"> ▪ While inlet standards exist at central and state level, a monitoring mechanism to ensure adherence to such standards may be laid down by way of amendment to the EP Rules.
Spain (Royal Decree 1620/2007)	Enactment of statute- Royal Decree 1620/2007	<ul style="list-style-type: none"> • Lays down detailed manner and ways in which the reclaimed water may be reused. For each of these reuses, law prescribes water quality parameters which the reclaimed water has to fulfil. 	<ul style="list-style-type: none"> ▪ A separate statute OR rules may be laid down at the central level stipulating water quality standards depending on the type of re-use as well as the procedure for allowing re-use of water.
EU-LEX and WIPO (legal database tool) NETREGS (self assessment tool)	NA	<ul style="list-style-type: none"> • Legal database tools analysed lists down the laws as of date and captures the amendments on real time basis. • Self Assessment tool analysed provides for an interactive method by which industry operators can check the compliances which have to be adhered to. 	<ul style="list-style-type: none"> • The Govt of India may consider floating a tender for procuring/using such ICT tools from relevant service providers.

THANK YOU

