Module 5: Environmental ethics and policies

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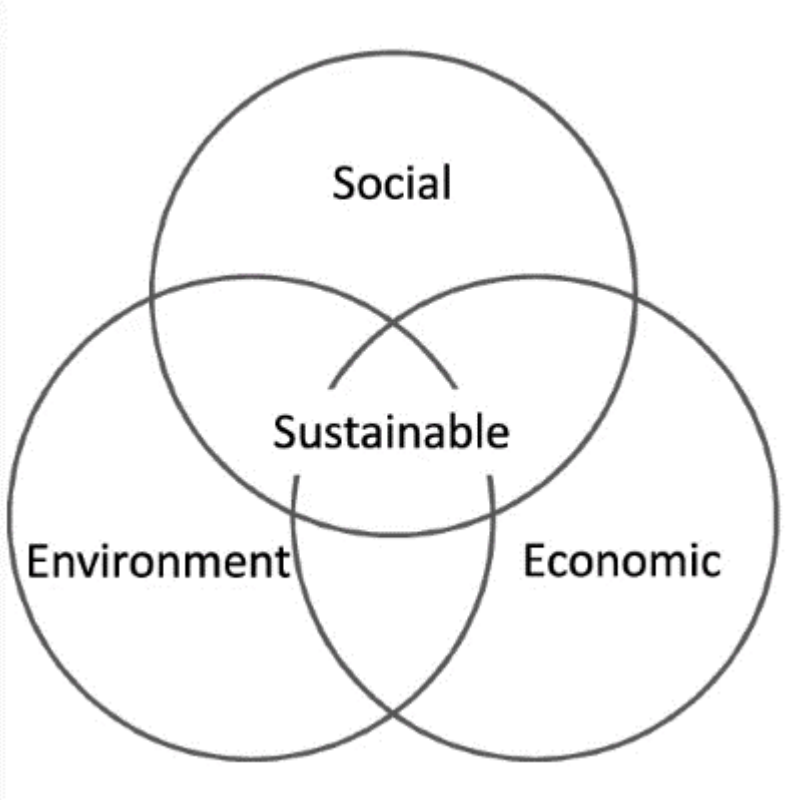
Sustainable development

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

- **Brundtland Commission 1987**
- **Our Common Future, World Commission on Environment and Development**

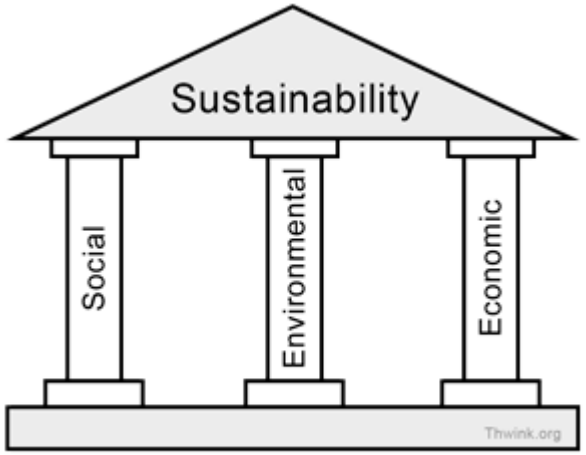
‘’We have only one Earth; there is no planet B’’

Environment and development closely connected



Interconnected systems

Three pillars of sustainability



Conventional way? Think out of box

The key aspects of sustainable development

1. Inter-generation equity

Between present and future generation

2. Intra-generation equity

between the rich and the poor of the present generation

- By using appropriate technology which is locally adoptable, eco-friendly, resource- efficient and culturally suitable.
- Reduce, reuse and recycle approach – less dependence on resources
- Environmental education and awareness.
- Demand < carrying capacity, a) Supporting capacity: the capacity to regenerate.

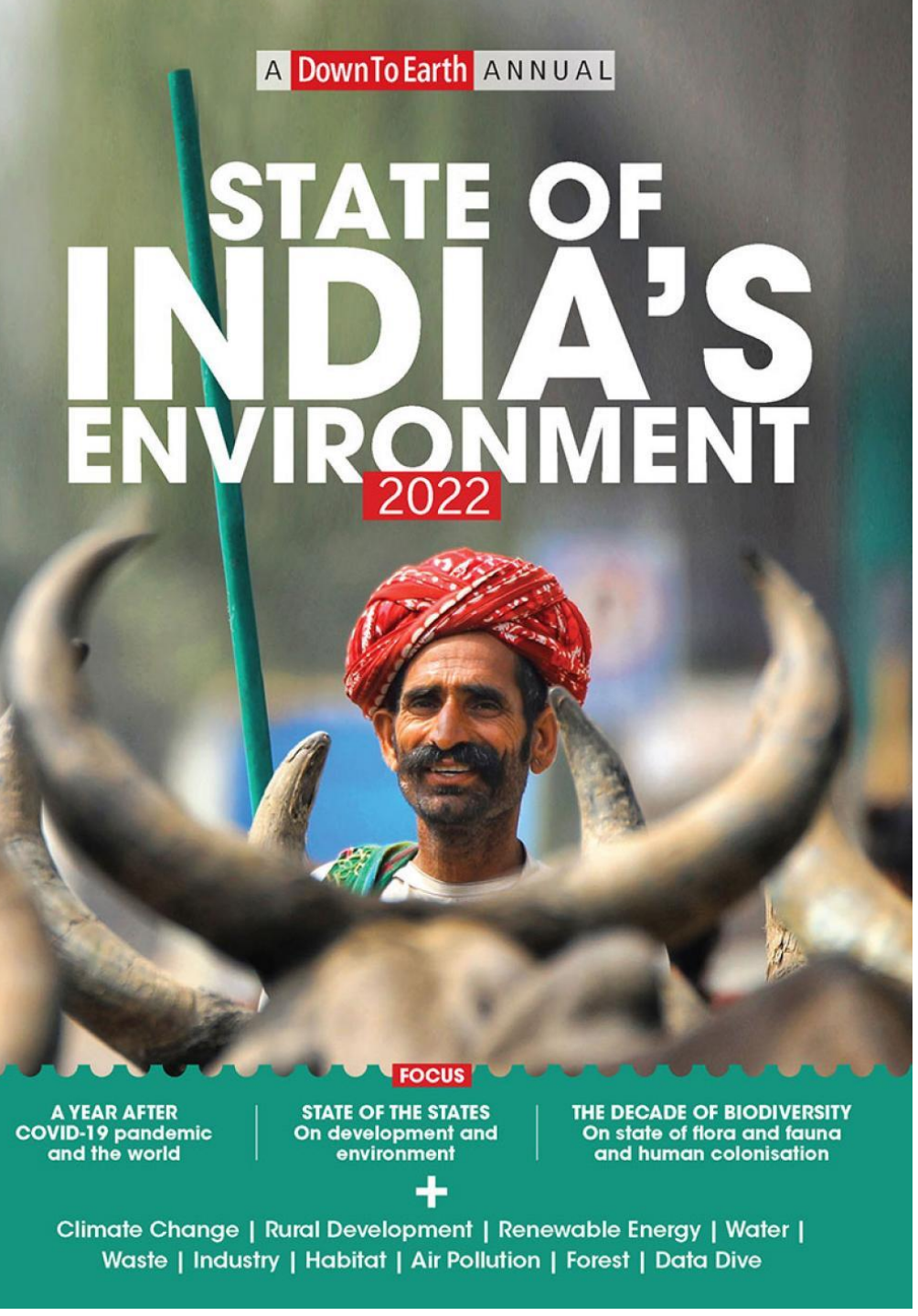
b) Assimilative capacity: the capacity to tolerate different stresses. Consumption < regeneration rate

17 Goals and 169 targets

Environmental ethics

Environmental ethics deals with issues related to rights of individuals that are fundamental to life and well-being.

- **Resource consumption patterns and the need for their equitable utilization**
- **Urban – rural equity issues**
- **The need for Gender Equity**
- **Preserving resources for future generations**
- **The rights of animals**



Resource consumption patterns and the need for their equitable utilization

1. Environmental destruction – consumption of rich
2. Worst sufferers of environmental destruction – Poor
3. Even when nature is being recreated – afforestation – transformed away from the needs of poor towards those of the rich
4. Even among the poor – worst sufferers – marginalised cultures and occupations mostly women
5. Proper economic and social development – holistic understanding of nature and society
6. If we care for the poor, we cannot allow the Gross Nature Product to be destroyed any further. Conserving and recreating nature has become our highest priority
7. The Gross Nature Product will be enhanced only if we can arrest and reverse the growing alienation between the people and the common property resources. Towards this end, we will have to learn a lot from our traditional cultures.
8. It is totally inadequate to talk only of sustainable rural development as the World Conservation Strategy does. We cannot save the rural environment or rural people dependent on it, unless we can bring about sustainable urban development.

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Urban vs Rural?

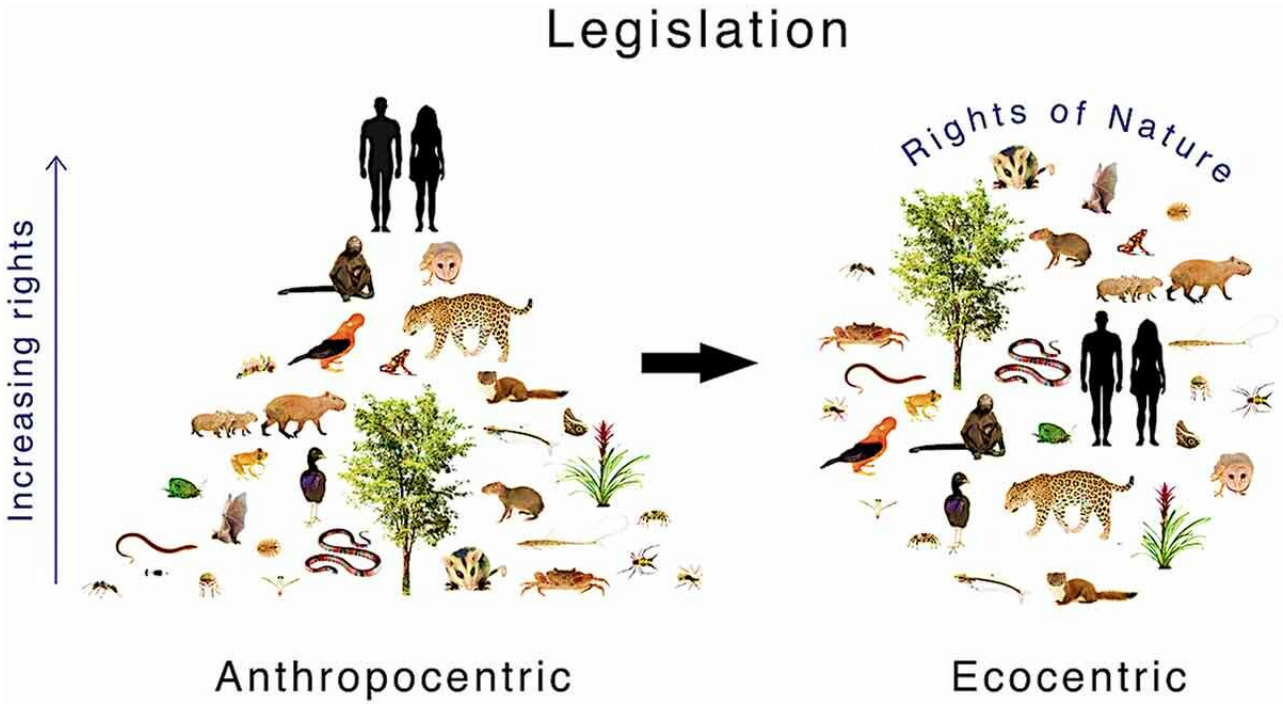
Rich

Poor

The need for Gender Equity


Preserving resources for future generations

The rights of animals



The ethical basis of environment education and awareness

- Awareness
- Pro environmental action

The conservation ethic and traditional value systems of India

- Forests
- Trees
- Animals

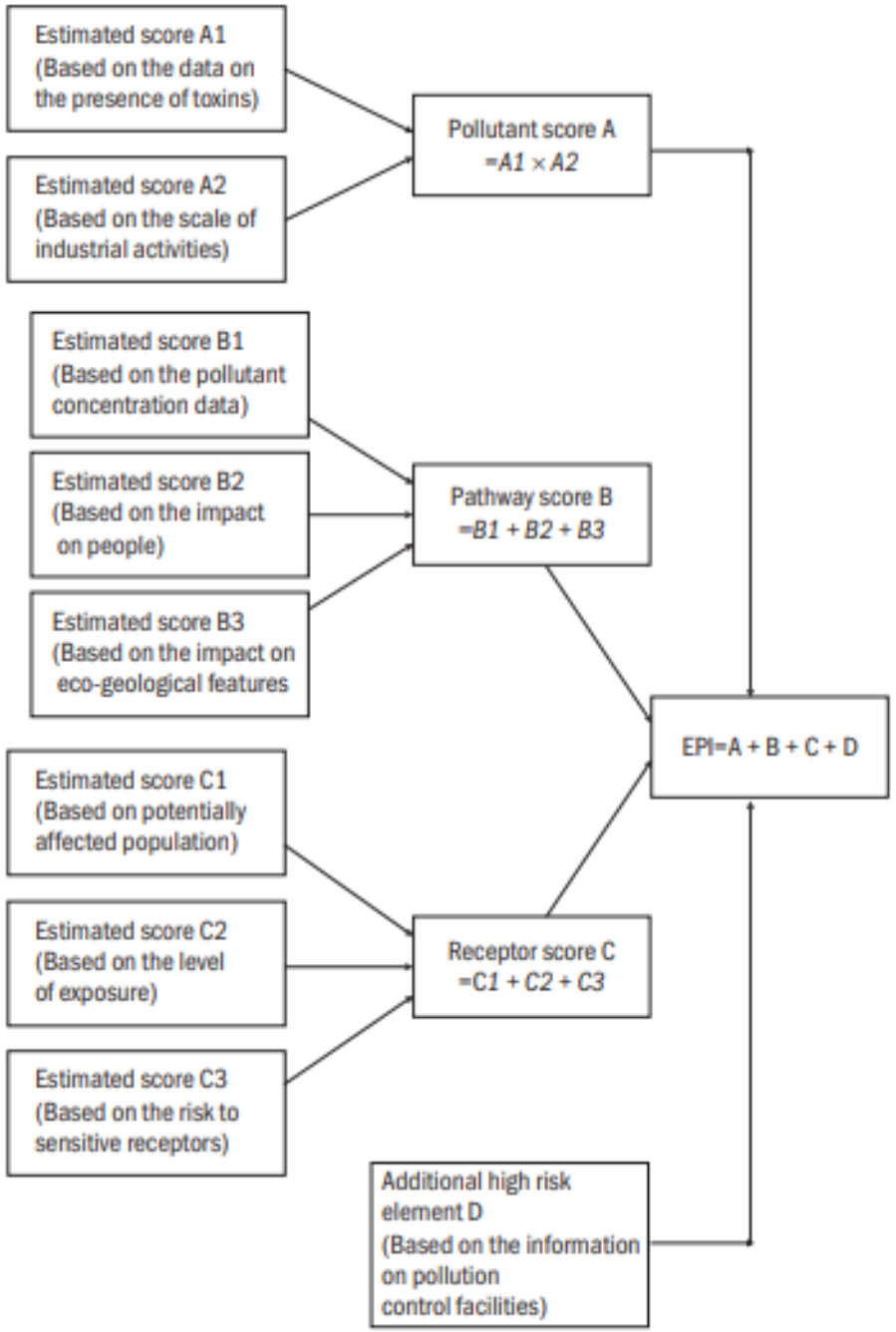

Environmental laws

Environmental regulatory framework

The National Green Tribunal (NGT) has ordered the environmental regulatory authorities (that is, the Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCBs) to strictly enforce and take into account the Compréhensive Environmental Pollution Index (CEPI).

- CEPI allocates weight to various pollutants, ambient pollutant concentrations, receptors (that is, the number of people affected) and additional high-risk elements.
- The original CEPI assessment was undertaken in 2009, but the CEPI criteria were updated in 2016 and the final report on CEPI was issued in 2018.
- After that, the NGT directly supervised the enforcement of the CEPI criteria by the regulatory authorities. Industrial clusters are now categorised under the CEPI as Polluted Industrial Areas (PIAs), which are each ranked as one of the following:
  - A critically polluted area (CPA).
  - A severely polluted area (SPA).
  - Other polluted areas (OPAs).

The sub-indices are calculated with variables A, B, C, and D, named after pollutant (source), pathway, receptor, and additional high-risk elements



Regulatory Authorities

- Ministry of Environment, Forests and Climate Change (MoEFCC).
- CPCB.
- SPCBs.
- District Level Authorities (that is, municipal corporations).

Regulatory Enforcement

- CEPI - State Pollution Control Boards (SPCBs) the necessary and objective information to monitor the compliance of companies in their jurisdiction.
- Further, the state high courts, the Central Supreme Court, and the various benches throughout India of the National Green Tribunal (NGT) closely monitor the implementation and enforcement of environmental laws
- The NGT actively supervises whether and how the CPCB and SPCBs enforce environmental laws
- NGT also has the power to address environmental issues directly with the relevant polluting company, even merely on the basis of media reports of the activity - *suo moto* (on its own motion).

To what extent are environmental non-governmental organisations (NGOs) and other pressure groups active?

- NGOs, think-tanks, and local citizen groups are very active stakeholders and readily use the media, the courts and the NGTs to raise their environmental grievances.
- For example, the Maharashtra Nonbiodegradable Garbage (Control) Act 2006 empowers a citizen to register the offence against any violators of this Act.

The Environmental protection Act, 1986

The Environment (Protection) Act was enacted in 1986 with the objective of providing for the protection and improvement of the environment. It empowers the Central Government to establish authorities [under section 3(3)] charged with the mandate of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country. The Act was last amended in 1991.

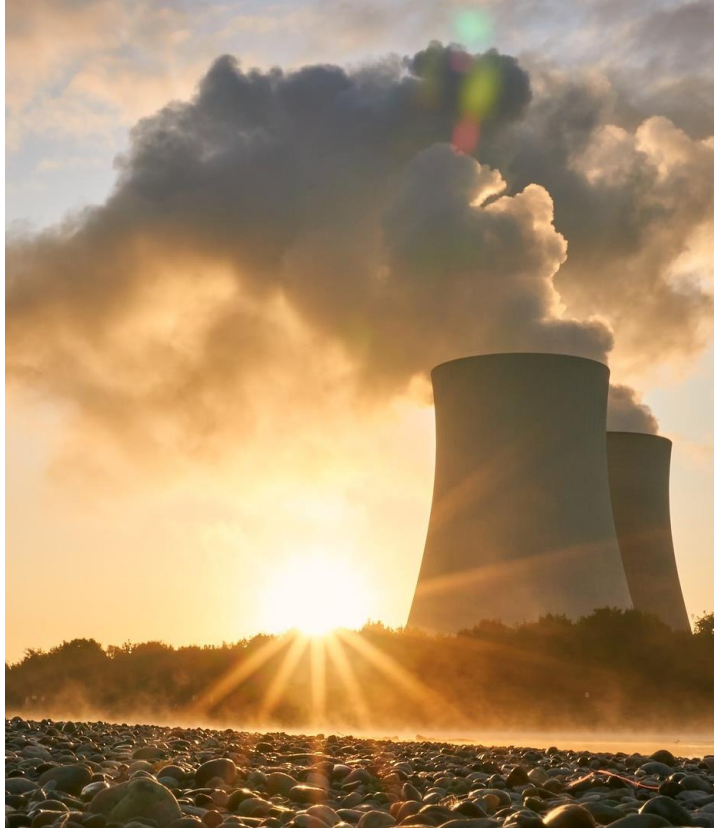
http://envfor.nic.in/division/environment-protection

The Environmental protection Act, 1986

- Act came as important constitutional implication with background of Bhopal gas tragedy.
- The act made EIA (Environmental impact assessment) mandatory for all 29 industries.
- Under this act all the companies must have spill and prevention control and counter measure plans.
- The law requires environmental audit since 1993 – Report to be submitted to State Pollution Control Board (SPCB) Safeguards for handling of hazardous substances
- Restriction on the location of the industries - Coastal Regulation Zone (CRZ)

Environmental Impact Assessment Notification

- EIA 1994
- EIA 2006
- EIA 2020 draft – this will replace EIA 2006



Impacts on environment

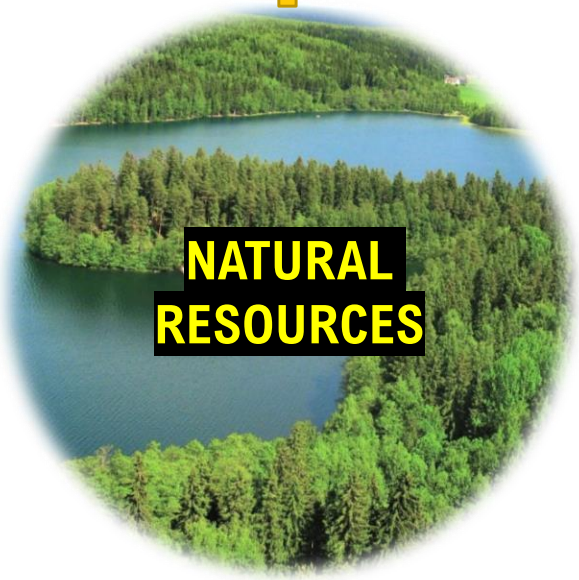
- Blasting – Noise Pollution
- Traffic Congestion - Air Pollution
- Runoff from construction - Water Pollution
- Highway Construction through forest areas on hilly terrain – Loss of habitat
- Quarry for Construction Material – Land degradation

Impact Classification

1. Nature – reversible, irreversible
2. Duration – long term, short term
3. Extent – local, regional
4. Order – direct, indirect

Environment and Social impacts

PROTECTION



INPUT – Resource extraction, Land, Water, Trees etc.

ENVIRONMENTAL IMPACTS

PROCESS OUTPUTS – Effluents, emissions, waste

MANAGEMENT

What is EIA?

- A proactive **tool** that anticipates environmental and social implications of the developmental project, programmes, plans and policies …

- A **process** that influences the concept, design, implementation, operation of the project development cycle to add a value and lend sustainability …

- An **integrated, participatory, consultative and transparent** mechanism to development

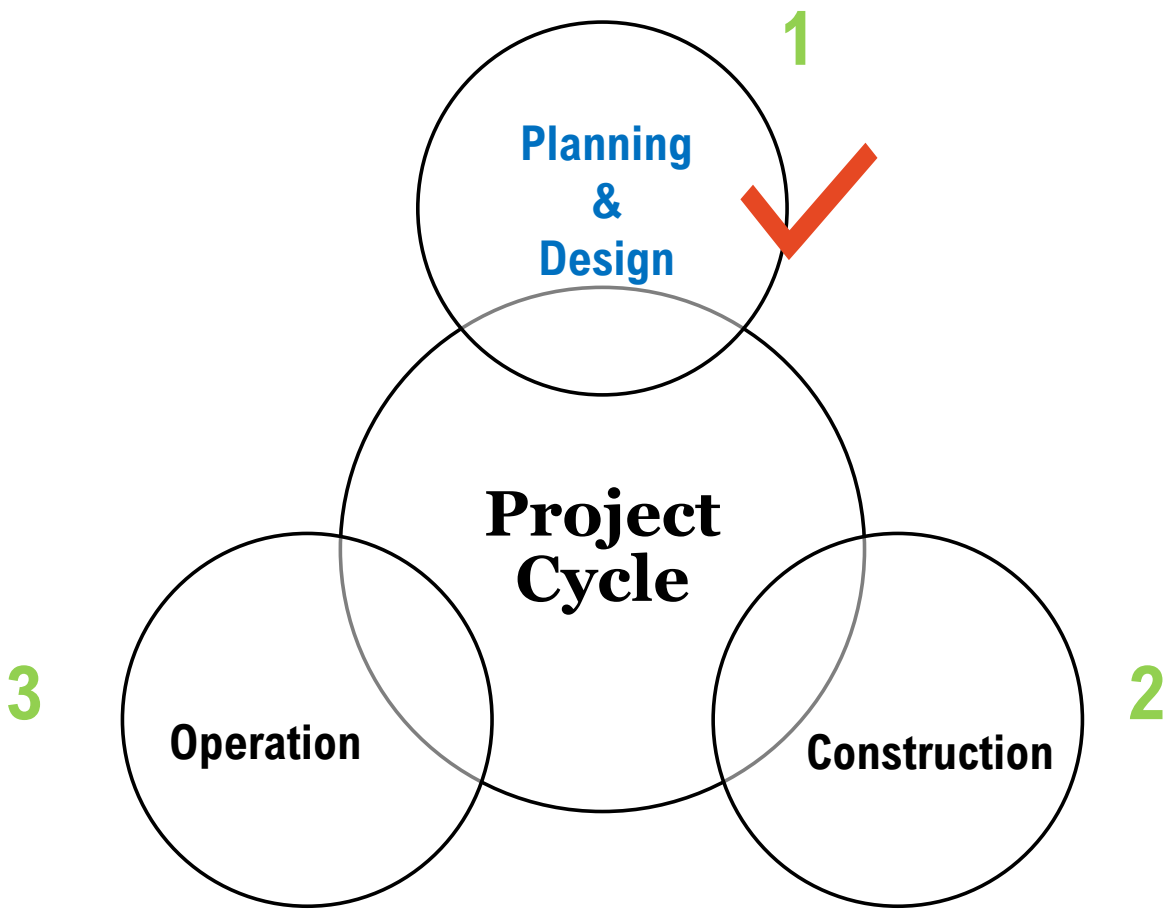
What is Environmental Clearance?

Environmental Clearance is **a permit** issued by the regulatory authority for allowing development of certain types of projects/ activities

Why do Projects require Environmental Clearance?

- Development of projects leads to **adverse impacts** on the environment.
- If these impacts are not identified and prevented/ mitigated, they could lead to permanent **environmental damage** and diminish the effectiveness of the project.
- An Environmental Clearance **ensures** that adverse impacts are identified and prevention/ mitigation measures are designed.

At what stage of a project does environmental clearance have to be obtained?



Who is required to get the EC?

Project Developer/ Proponent

How is Environmental Clearance obtained for a project?

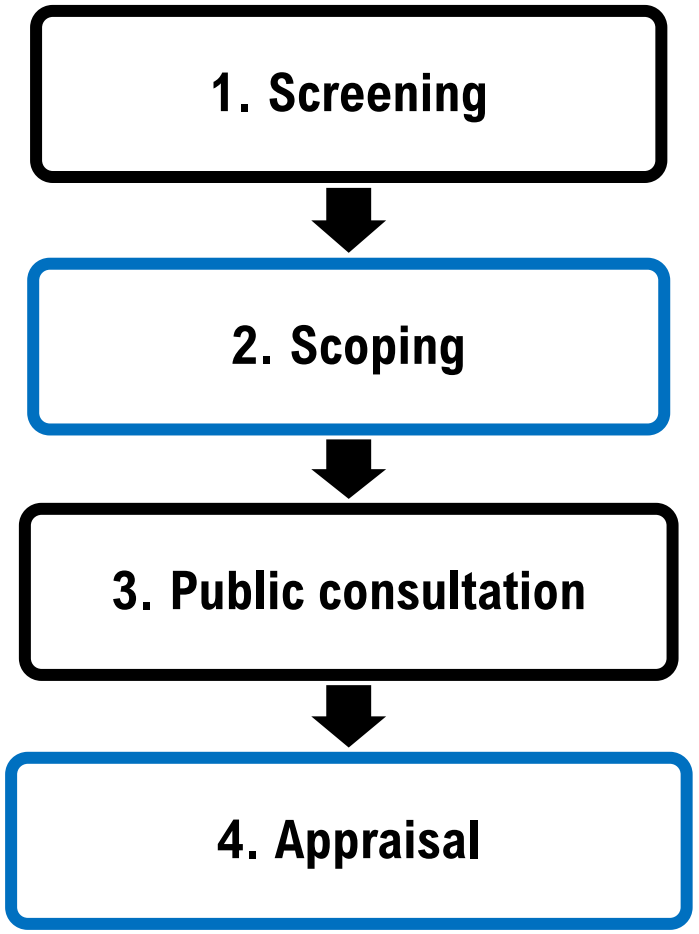
- An **Environmental Impact Assessment** of the project and its allied facilities is carried out.
- The **outcome of the study** is submitted to the Regulatory Authority for a Clearance.

Impact assessment refers to the detailed evaluation of the environmental and social impacts of the planned project and identified alternatives, compared to the baseline conditions. This includes qualitative descriptions such as measuring high, medium and low impacts, and quantitative descriptions, such as indicating the cubic metres of water withdrawn, sewage produced, and pollutants released. This is done for the planned project as well as the identified alternatives, allowing for comparisons.

Environmental Clearance in India

- The Environmental Clearance Process in India is governed by the **Environmental Impact Assessment Notification.**
- The first Notification was introduced in 1994.
- The current active Notification is of 2006.
- EIA 2020 draft – this will replace EIA 2006

EIA Process



Screening

- *Screening* is the first stage of the EIA process which results in a key EIA decision, namely to either **conduct the assessment** (based on the likely significant impacts) or **not conduct it** (in the anticipated absence of such impacts).
- Screening needs to follow specific procedures often described in the legislation, so all the projects follow the same process.
- An essential aspect of conducting an EIA is to determine the level of impact of the proposed project, development or initiative.

Necessity of screening

When we look at major development projects—especially those involving natural resources, such as mining, hydroelectric dams, or oil extraction—we can say for certain that they will require an environmental and social impact assessment.

On the other hand, while the development of a tourism project may seem low-risk at first, a second look could reveal that the project requires large amounts of drinking water, energy, the removal of endangered flora or fauna, and will result in extensive sewage production. It may also lead to increased road and air traffic to deliver supplies, visitors and workers. Finally, the impacts of project could change over time. Thus, during the screening step as well as the whole EIA process, impacts are considered over the lifetime of the project, from the construction phase through to operations and after closing.

Scoping

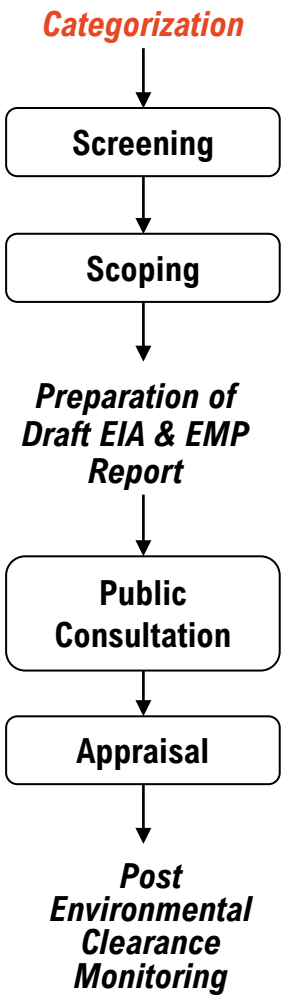
Scoping is a critical step in the preparation of an EIA, as **it identifies the issues that are likely to be of most importance during the EIA** and eliminates those that are of little concern. Scoping is a systematic exercise that establishes the boundaries of your EIA and sets the basis of the analyses you will conduct at each stage. A quality scoping study reduces the risk of including inappropriate components or excluding components that should be addressed. It involves:

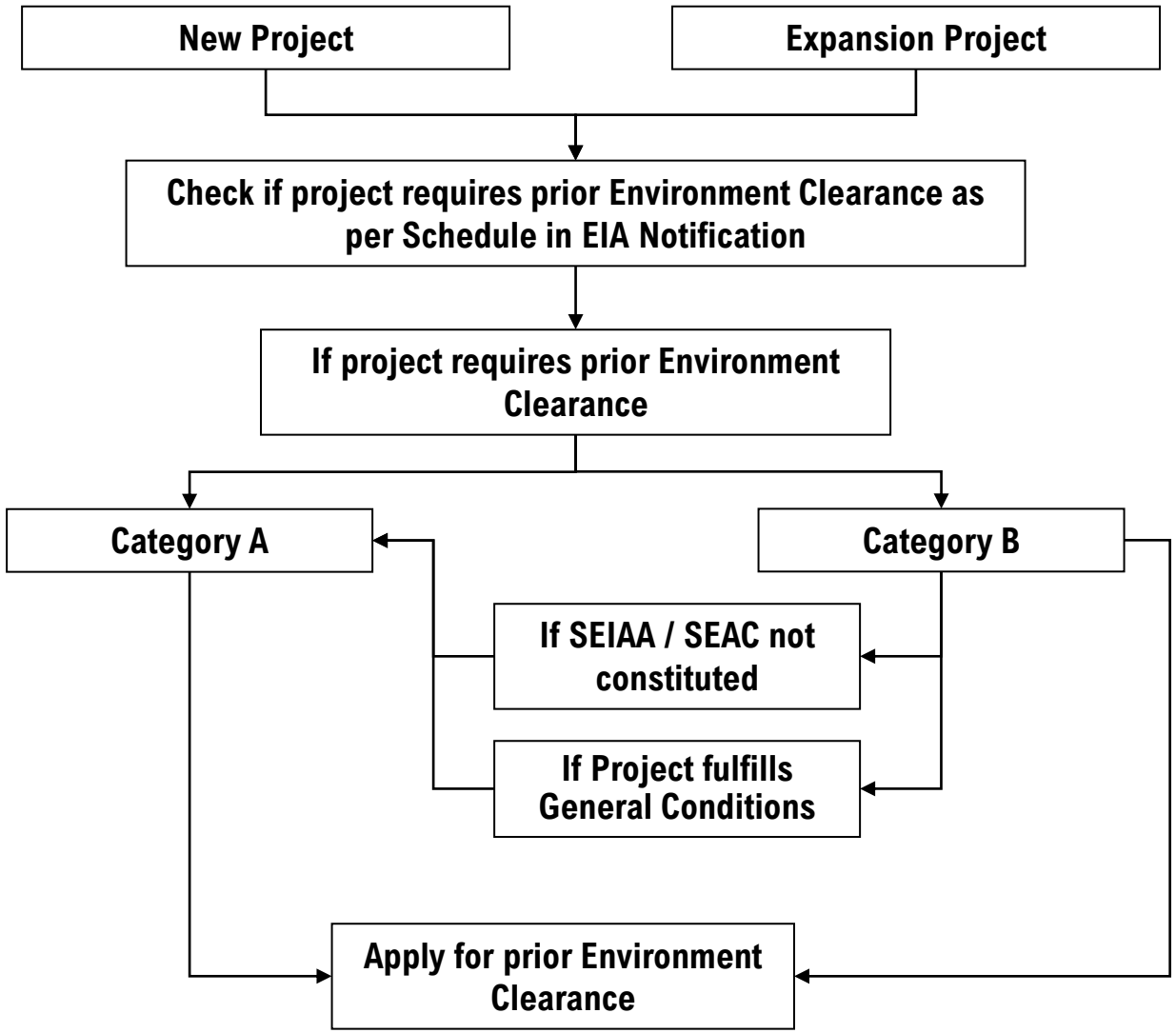
- Identifying all relevant issues and factors, including cumulative effects, social impacts, and health risks.
- Facilitating meaningful public engagement and review.
- Determining the appropriate time and space boundaries of the EIA.
- Identifying the important issues to be considered in the EIA, such as setting the baseline and identifying alternatives.

Why conduct scoping?

- Scoping is critical as it sets up the boundaries of the EIA, including the project area; it establishes what the EIA will include and how to put the EIA together in accordance with the terms of reference (TOR).
- An EIA is an intensive process in terms of costs, cross-sectoral expertise and assessments that must be completed, and the types and extent of the consultations that must be conducted. Scoping helps to select what is needed and what is not relevant, and thus it serves as a work plan for the entire EIA process.
- The information gathered during the scoping phase is used in the next steps of the EIA.

Categorization





State Environment Impact Assessment Authority (SEIAA)/ State Expert Appraisal Committee (SEAC)

Who needs an EIA?

Central Government hereby directs that on and from the date of its publication (14th September, 2006) the required construction of new projects or activities or the expansion or modernization of existing projects or activities listed in the Schedule to this notification entailing capacity addition with change in process and or technology shall be undertaken in any part of India only after the prior environmental clearance from the Central Government or as the case may be, by the State Level Environment Impact Assessment Authority, duly constituted by the Central Government under sub-section (3) of section 3 of the said Act, in accordance with the procedure specified hereinafter in this notification.

Categorization of EIA projects

All projects and activities are broadly categorized in to two categories - Category A and Category B1 and B2

- spatial extent of impacts
- Impacts on natural and man-made resources
- Impacts on human health

General Conditions

A project or activity specified in **Category ‘B’ will be treated as Category ‘A’**

If located in whole or in part within 10 km from the boundary of

- Protected Areas notified under the Wild Life (Protection) Act, 1972
- Critically Polluted areas as notified by the Central Pollution Control Board from time to time
- Notified Eco-sensitive areas
- Inter-State boundaries and international boundaries

Refer to Schedule in EIA Notification 2006

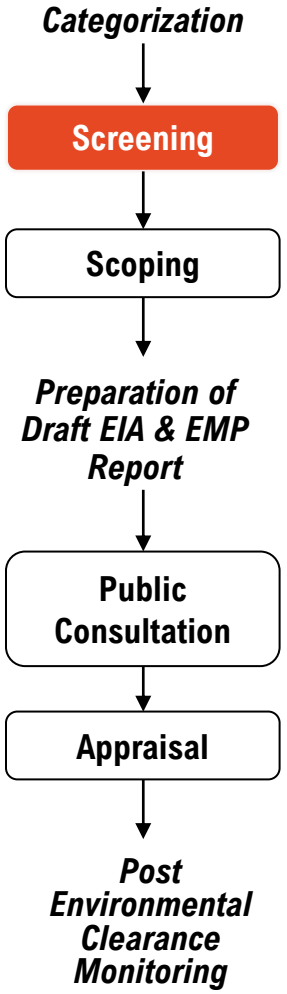
Project or Activity		Category with threshold limit		Conditions if any
		A	B	
1		Mining, extraction of natural resources and power generation (for a specified production capacity)		
(1)	(2)	(3)	(4)	(5)
"1(a)	(i) Mining of minerals.	≥ 50 ha. of mining lease area in respect of non-coal mine lease. > 150 ha of mining lease area in respect of coal mine lease. Asbestos mining irrespective of mining area	<50 ha ≥ 5 ha .of mining lease area in respect of non-coal mine lease. ≤ 150 ha ≥ 5 ha of mining lease area in respect of coal mine lease.	General Condition shall apply Note: Mineral prospecting Is exempted.”;
	(ii) Slurry pipelines (coal lignite and other ores) passing through national parks / sanctuaries / coral reefs, ecologically sensitive areas.	All projects.		
1(b)	Offshore and onshore oil and gas exploration, development & production	All projects		Note Exploration Surveys (not involving drilling) are exempted provided the concession areas have got previous clearance for physical survey

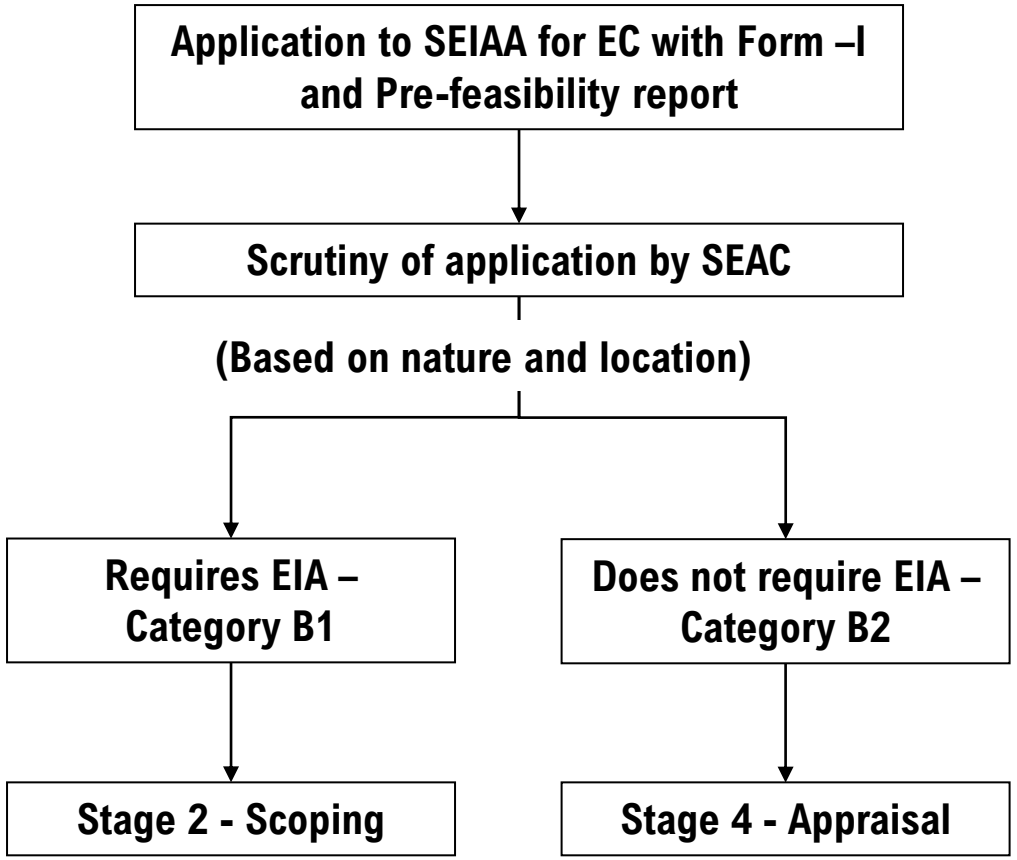
Institutional Mechanism

- Projects / activities under **Category 'A'** in the Schedule are to be referred to the **Ministry of Environment and Forests** at the Central Level
- Projects/ activities under **Category 'B'** in the Schedule are to be referred to the **State Environmental Impact Assessment Authority** (SEIAA) at the State level
- **Expert Appraisal Committees** (EAC) constituted at the Central and State levels are a panel of sector experts who review the project / activity and give recommendations for EC

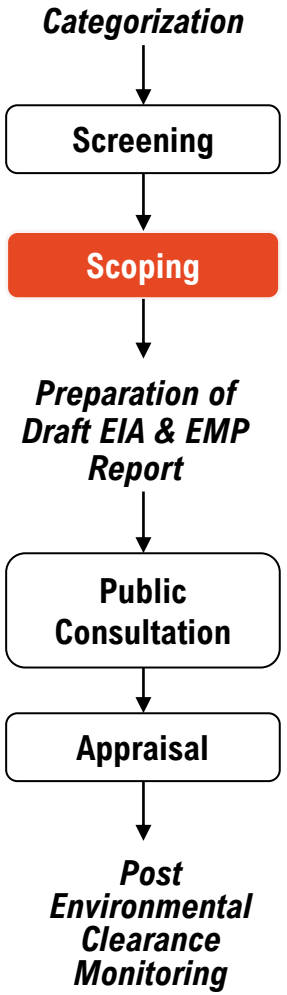
Screening

Only for Category B projects





Scoping



For Category A & B1

Determine Terms of Reference (TOR)

Based on:

-Application i.e. Form-I

-TOR proposed by applicant

-Site visit by sub group of EAC/SEAC (optional)

Is application Accepted?

No → Rejection conveyed to applicant with reasons in 60 days

Yes

Final TOR conveyed to applicant in 60 days

If TOR is not conveyed to applicant within 60 days of receipt of application, TOR proposed by applicant to be considered final.

Prepare draft EIA report

All projects and activities listed as Category 'B' in Item 8 of the Schedule shall not require Scoping and will be appraised on the basis of Form 1/ Form 1A and the conceptual plan

Stage 3 – Public Consultation

Conduct of Environmental Impact Assessment Studies and Preparation of Draft Report including Environmental Management Plan

Public Consultation

Two modes of public consultation

- Public Hearing
- Obtain responses in writing

Request by applicant to Member Secretary SPCB

Letter of request accompanied by

10 hard and 10 soft copies of draft EIA report

Summary of EIA in English & local language

Submission of 1 hard & 1 soft copy of draft EIA report and summary of EIA report to

- MoEF,
- District Magistrate,
- Zilla Parishad or Municipal Corporation,
- District Industries Centre &
- Regional office of MoEF.

Publicize at local level

The following will publicize within their jurisdictions -

- District Magistrate,
- Zilla Parishad or Municipal Corporation,
- District Industries Centre &
- Regional office of MoEF

Publicize at local and state level

Display summary of draft EIA report on MoEF website. Full draft EIA available at Ministry at Delhi. Invitation for comments till Public Hearing is over.

SPCB – within state & summary available in Public libraries / Panchayats / Selected offices for inspection

Notice of Public Hearing

Notice period min. 30 days

Advertise venue & offices where information on project available in National and Regional vernacular daily

Public Hearing

Public Hearing supervised & presided by District Magistrate or his/her representative.

Video film made of entire proceedings

Attendance of all present is noted

Environmental Clearance

F. No. 10-4/2010-IA.III
Government of India
Ministry of Environment & Forests
(IA Division)

DCM(Env) 4 17/09

Paryavaran Bhawan,
CGO Complex, Lodhi Road,
New Delhi - 110 003,

Dated: 31st August 2010

To,
National Highways Authority of India,
Ministry of Shipping Road Transport & Highways,
G – 5 & 6, Sector – 10, Dwarka,
New Delhi – 110075

Subject: Environmental Clearance for 4/6- laning of Jammu-Udhampur Section including Nagrota Bypass and Udhampur bypass of NH-1A in the State of Jammu & Kashmir by M/s. NHAI– Reg.

This has reference to your application No: 11013/12/1/2k/ GM (Env.) dated 02.02.2010 and subsequent letters dated 25.03.2010 and 09.04.2010 seeking prior Environmental Clearance for the above project under the EIA Notification – 2006. The proposal has been appraised as per prescribed procedure in the light of provisions under the EIA Notification – 2006 on the basis of the mandatory documents enclosed with the application viz., the Questionnaire, EIA, EMP and the additional clarifications furnished in response to the observations of the Expert Appraisal Committee constituted by the competent authority in its meetings held on held on 25th – 26th February, 2010 and 28th – 29th June, 2010.

2. It is interalia, noted that the proposal involves for 4/6- laning of Jammu-Udhampur Section (9.7 km to 72.750 km) of NH-1A including Nagrota Bypass and Udhampur in State of Jammu & Kashmir. The project road is a part of NH-1A, which originates at Jammu bypass (km 9.7) and passes through Sidhra, Khanpur, Kamini, Jagti, Dhammi, Panjgram, Ban, Sitleen, Jhanaakha, Suketar, Dayni, Jhajjarkotli, Mand, Tikri, Garnai, Malaad, Battal, Ballian, Rathain, Thanda-Padder, Karlia-

Accordingly, the Ministry hereby accord necessary Environmental Clearance for the above project as per the provisions of Environmental Impact Assessment Notification – 2006 and its subsequent amendments, subject to strict compliance of the terms and conditions as follows:

5. SPECIFIC CONDITIONS:

(i) A confirmation shall be obtained from Defence Authorities to the effect that the road meets the required standards for the movement of troops and other heavy vehicles.

(ii) Sufficient measures shall be taken to prevent land sliding, rock blocks rolling /falling on the forest area and damaging the trees.

(iii) All necessary clearances from the concerned authorities including clearance from the Steering Committee of National Board of Wildlife (NBWL) and forest clearance shall be obtained before initiating the project.

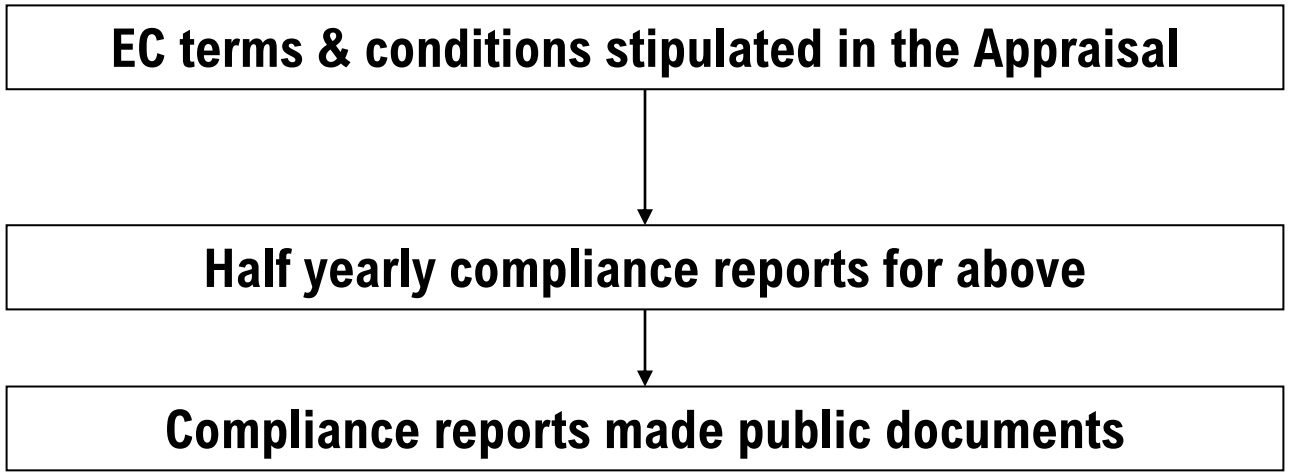
(iv) Necessary mitigative measures against adverse impact to the water bodies that are to be affected shall be provided.

(v) The road profile shall be raised on the low lying structures to prevent flooding of road.

(vi) Green belt development shall undertaken as suggested in EMP.

(vii) Rain water harvesting including oil and grease trap shall be provided. Water harvesting structures shall be located at every 500 mts along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.

Post Environmental Clearance monitoring



Copies of these documents given to any person on application

Latest report displayed on website of regulatory authority

Monitoring EC Conditions

Types of conditions:

- Limits on use of natural resource
- Pollution prevention and management
- Obtaining permits from other regulatory agencies
- Creation of infrastructure
- Defining manpower requirements
- Monitoring and reporting

- **CAPEX** for the measures to be identified

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Permit

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Infra creation

(viii) The seismic nature of the area shall be taken into account while designing the project.

(ix) No ground water shall be used for the project.

Natural Resource

(x) The project proponent shall obtain necessary permission from the State Irrigation Department before drawing water from the river sources for the purpose of the proposed construction activity.

(xi) Sidewalk shall be provided along the bridges.

(xii) The drain shall be at least 1 m. away from the toe of the embankment of the road adopting IRC guidelines.

(xiii) Longitudinal drains shall be provided all along the project road to ensure proper drainage of the area. In addition, adequate number of under passes and culverts to act as cross drainage structures shall also be provided.

(xiv) The solid waste generated shall be used for rehabilitating the borrow areas.

Pollution Management

(xv) For providing safety to the crossing animals and avoid road accidents speed breakers/rumbled strips shall be constructed at the identified locations of the animal movements. Enough hoardings and signages shall also be put up for the public and vehicles convenience.

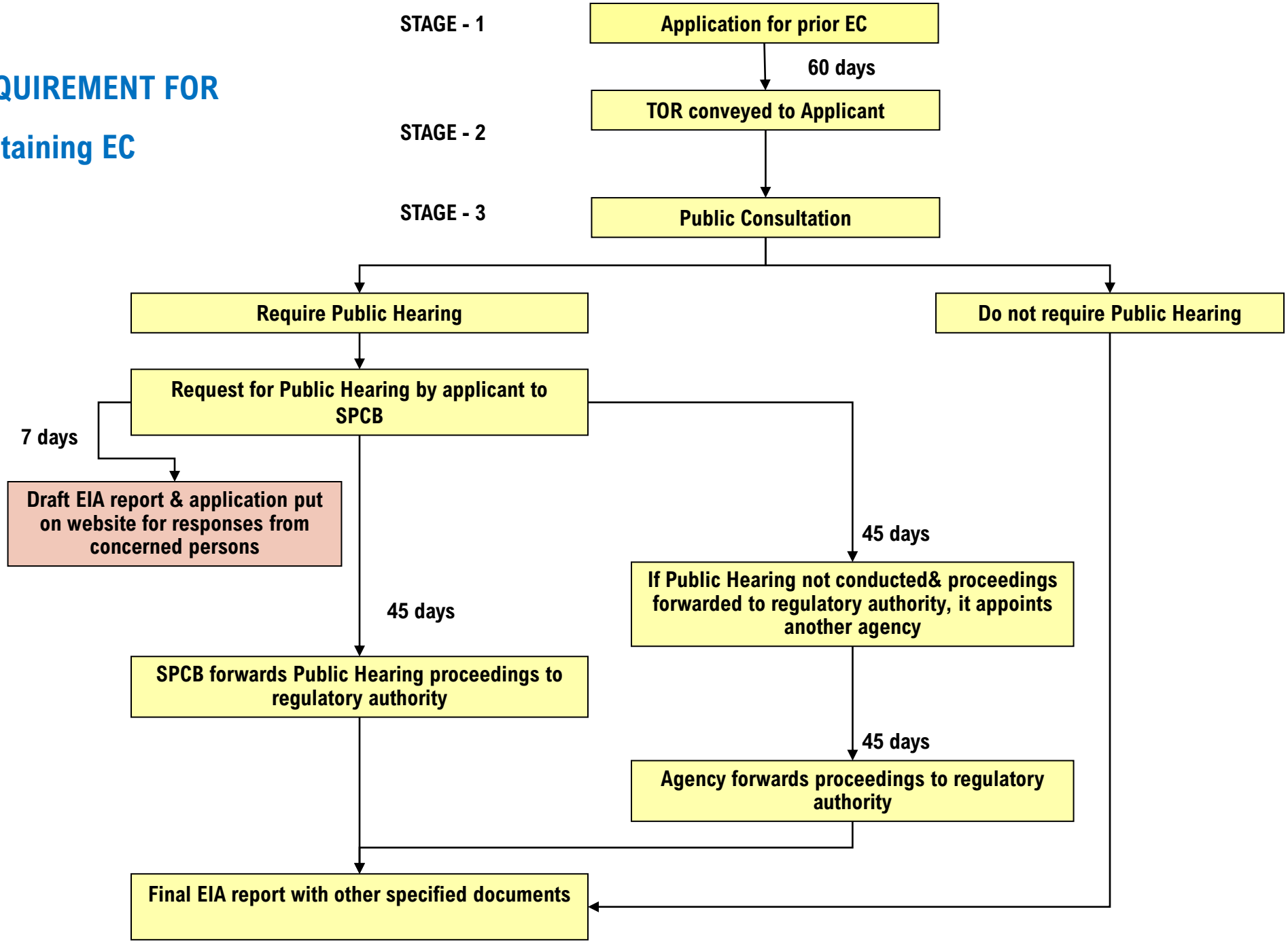
Validity of Environmental Clearance

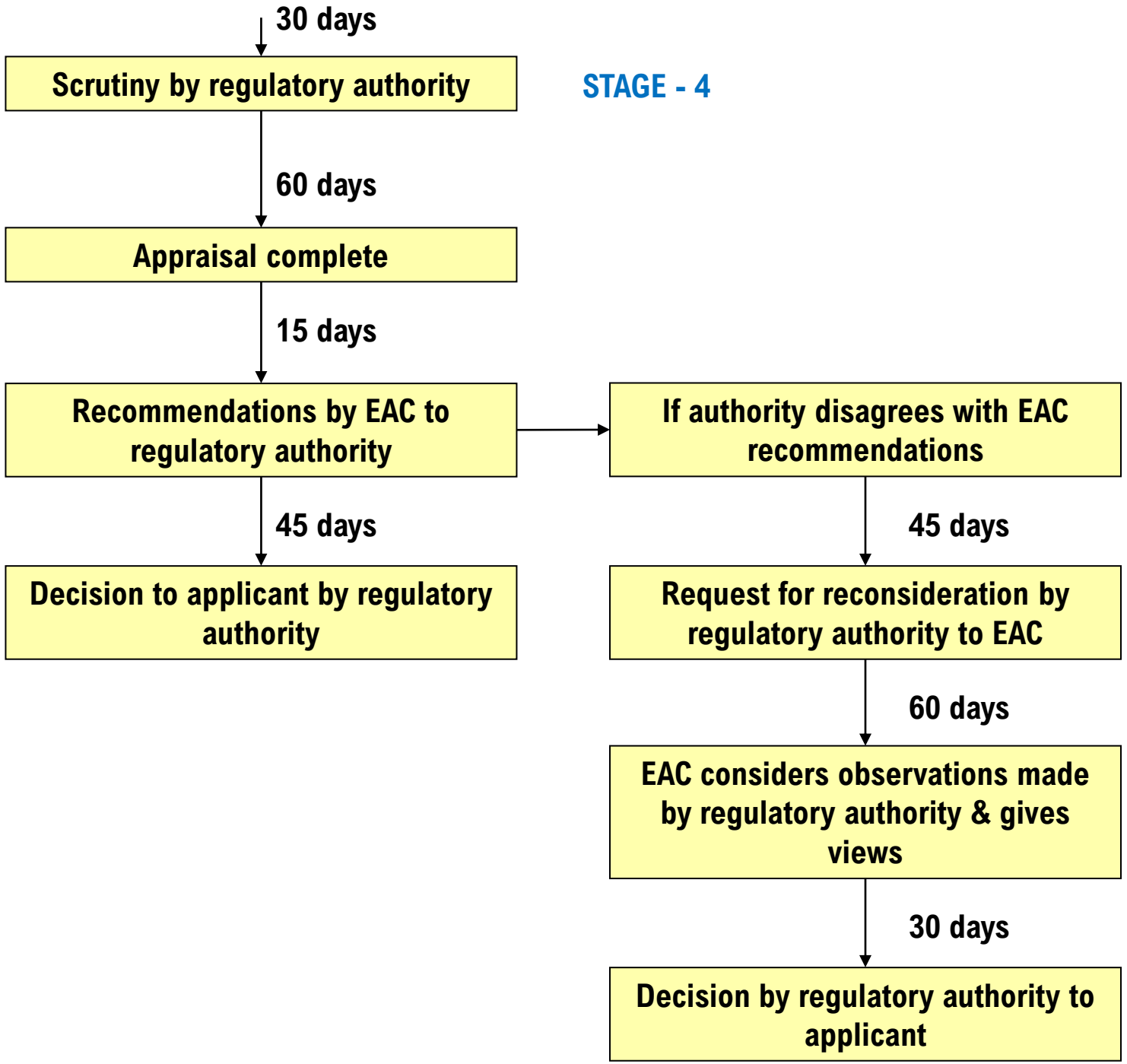
- The **period from** which a prior EC is granted by the regulatory authority, to the **start of production operations** by the project or activity, or completion of all construction operations in case of construction projects (item 8 of the Schedule).
  - 10 years in the case of River Valley
  - 30 years for mining projects
  - 7 years in the case of all other projects and activities

- Validity may be **extended** by a maximum period of **7 years** on application.

TIME REQUIREMENT FOR

Obtaining EC




30 days
Scrutiny by regulatory authority
STAGE - 4
60 days
Appraisal complete
15 days
Recommendations by EAC to regulatory authority
If authority disagrees with EAC recommendations
45 days
45 days
Decision to applicant by regulatory authority
Request for reconsideration by regulatory authority to EAC
60 days
EAC considers observations made by regulatory authority & gives views
30 days
Decision by regulatory authority to applicant

Timeline for Environmental Clearance

- For Category A Projects & Category B1 Projects requiring Public Hearing:
  - Minimum Time – 255 days
  - Timeline with delays – 390 days

- For Category B1 projects without Public Hearing:
  - Minimum Time – 210 days
  - Timeline with delays – 300 days

- For Category B2 projects
  - Maximum Timeline - 180 days

- **Does not include time required for Preparation of EIA Report**

NABET Accreditation

- National Accreditation Board for Education and Training (NABET) conducted first set of accreditation of environmental consultants in 2010-11
- Environmental Consultants with accreditation under NABET are only allowed to conduct EIA and present it to the EAC/ SEAC since June 2011
- Accreditation has been given based on
  - Sectors
  - Categories of projects

The Water (Prevention and Control of Pollution) Act, 1974

The Water (Prevention and Control of Pollution) Act was **enacted in 1974** to provide for the prevention and control of water pollution, and for the maintaining or restoring of wholesomeness of water in the country. The Act was amended in 1988.

The Water (Prevention and Control of Pollution) Cess Act was enacted in 1977, to provide for the levy and collection of a cess on water consumed by persons operating and carrying on certain types of industrial activities. This cess is collected with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974. The Act was last amended in 2003.

Regulators for water pollution matters

- State Pollution Control Board (permission to establish and operate)
- Central Ground Water Board (for permission to extract groundwater)
- Municipal Corporations/State Works Department (who are responsible for water supply and sewerage systems)

Permits and Regulator

- Integrated permit system (consists of 1 and 2)
  1. Consent to Establish (CTE)
  2. Consent to Operate (CTO)

  } **Submit to relevant SPCB**

- The CPCB has waived of CTE for industrial units which require an EC
- Depending upon the type of activity undertaken by a company, multiple permits maybe needed.

Permits and Regulator - continued

MoEFCC classifies the industries it regulates as **red, orange, green or white** based on pollution index (PI).

- **Red category**: PI score of 60 and above. (for example, asbestos, nuclear power plants, shipbreaking, oil and gas extraction, and so on).
- **Orange category**: PI score of 41 to 59. (for example, food and food processing, printing ink manufacturing, paint blending and mixing, and pharmaceutical formulations).
- **Green category**: PI score of 21 to 40. (for example, saw mills, tyres/rube retreating, polythene and plastic products).
- **White category**: PI score up to 20. (for example, solar power generation through solar photovoltaic cells, wind power, and mini hydro-electric power less than 25 megawatts). This category is classified as non-polluting industries that no longer need a Consent to Operate or an Environmental Clearance under the EIA Notification. Instead, they merely need to notify the relevant SPCB.

Permits and Regulator - continued

The key environmental permits (referred to as consents/authorisations in India must be obtained from the local State Pollution Control Board (SPCB).

- The CPCB (for example authorisation as a producer under the E-Waste Rules 2016).
- The Ministry of Environment, Forest and Climate Change (for example, Environmental Clearance under EIA for project A)
- Notification, 2006, import/export of hazardous waste under the Hazardous and Other Waste Rules 2016 and so on).
- Central Ground Water Board (for groundwater extraction related permits)
- Petroleum and Explosives Safety Organisation (PESO) (permits relating to storage of diesel at sites for generators).

Length of permit

Renewable 60 to 120 days of expiry of CTO

The SPCBs have some discretion in determining the duration of consents, but there are efforts to streamline these periods for the various industry categories in each state. Typically:

- An initial **CTE is valid for one year** (for example, during the construction of a site, but depending on the scale of the project this could be longer).
- **A CTO under the Water and Air Acts varies between three to five years**.
- Industries are categorised in red, orange, green or white categories, depending on the pollution index score:
- White category industries (practically non-polluting industries) do not need to obtain a CTO.
- Green category industries can generally submit a simplified CTO application. Their initial CTO in many states is valid for 15 years.
- Initial CTOs for orange categories are typically ten years, and for red categories one or five years.

Penalties

Liability. The Water Act, Air Act and EP Act all contain specific provisions for offences committed by companies.

- Under these Acts, **every person who is in charge** when an offence is committed and is responsible to the company for the conduct of its business, is guilty of the offence and liable to be prosecuted and punished accordingly.

- However, a **person is not liable if they prove that the offence was committed without their knowledge, or that they exercised all due diligence to prevent the offence**.

- Further, if the **offence was committed with the consent** or connivance, or is attributable to any neglect by a **director, manager, secretary or other officer of the company**, the other person is also guilty of the offence, and liable to be prosecuted.

Penalties

1. Failure to obtain an CTO or CTE - Failure to obtain the required consent order will incur penalties. For example, under the Water Act, any person who breaches the consent application process is **punishable with imprisonment for at least 18 months, which can be extended to six years, and a fine**. Any company operating without a consent to establish or operate will immediately receive a closure notice from the relevant SPCB.

- Under directions from the NGT, the CPCB recently devised a formula to compute environmental compensation to be levied on the defaulting industry. The formula is based on the anticipated **severity of pollution, the duration of the violation (number of days), the scale of the operation, and the location** (for example, proximity to large habitations).

- For more information, see ***Central Pollution Control Board: Levying Interest on Environmental Compensation for delay in depositing Environmental Compensation.***

Penalties - continued

2. Court imposed penalties. The Supreme Court and the state high courts can and do impose exemplary damages for damage to the environment.

- For example, in *Sterlite Industries(I) Ltd v Union of India & Ors, Civil Appeal Nos. 2776-2783 of 2013*, one of the largest copper smelter plants in India was found to be operating without a valid renewal of its environmental CTO. When assessing the company's liability to pay damages (that is, for damage caused to the environment during the 15 years it operated without a valid environmental permit), it reviewed the company's annual report, and determined that 10% of the profit before depreciation, interest and taxes (PBDIT) had to be paid as compensation, which amounted to INR1 billion.

Penalties - continued

3. National Green Tribunal Act 2010 (NGT Act) penalties. The NGT Act contains penalty provisions that are considerably higher compared to previously adopted environmental laws. It is likely that all existing environmental laws will be amended to be aligned with the NGT Act penalty provisions, but not for at least another year.

The NGT has jurisdiction over all civil cases where a substantial question relating to the environment is involved, arising out any of the exhaustively enumerated environmental laws specified in Schedule I to the NGT Act (including the EP Act (and the rules adopted under it), the Water Act, the Air Act, the Forest Act, the EIA Notification Act, and so on) (section 14(1 NGT Act).

The NGT can order relief, compensation and restitution in the following cases:

- relief and compensation to the victims of pollution and other environmental damage;
- restitution for property damaged;
- restitution of the environment

In a recent case, the NGT issued directions for fixing the environmental compensation regime (Paryavaran Suraksha Samiti & Anr. v Union of India & Ors (Original Application No.593/2017)), on the basis of the CPCB Report of 30 May 2019.

The NGT can divide the compensation or relief payable under separate heads specified in Schedule II of the NGT Act, which includes claims:

- **due to harm, damage or destruction to flora, including aquatic flora, crops, vegetables, trees and orchards;**
- **including cost or restoration of account of harm or damage to the environment including pollution of soil, air, water, land and eco-systems**.

A person who fails to comply with an order or award or decision of the NGT Tribunal is punishable with imprisonment for a term up to three years, or with a fine up to INR10 crore, or both (one crore is equal to ten million) (section 26(1), NGT Act). If the failure or contravention continues, an additional fine applies of up to INR25,000 for every day the failure/contravention continues, after conviction for the first failure or contravention.

A company that fails to comply with any order or award or decision of the NGT Tribunal is punishable with a fine up to INR25 crore (section 26(2), NGT Act).

If the failure or contravention continues, an additional fine applies up to INR100,000 for every day the failure/contravention continues, after conviction for the first failure or contravention.

Water pollution

Prohibited activities

- That release any poisonous, noxious or polluting matter (standards set by CPCB or complemented by SPCB) to enter directly or indirectly into any stream, well or sewer, or onto land
- Must not permit any matter that can impede with flow of stream or aggravation of pollution (as per water act)
- In case of accident or other foreseen event – notify to SPCB (Section 31 and 32, Water Act).

Clean up/Compensation

- Companies who cause water pollution can be ordered **to clean up the pollution** caused and **pay compensation to remedy the polluted environment**, or to possible victims.
- There are various possible approaches. For example, if a SPCB believes that water or soil pollution is about to be caused, it can apply to a court for a restraining order. The court can then order the entity that is about to or that has caused the water pollution to refrain from doing so or to remove it.
- If the party fails to act, the court can also authorise the SPCB to remove the water pollution. Any expenses incurred by the SPCB are then recoverable from the party that has caused the pollution.
- Similarly, in an emergency the SPCB can act immediately to prevent, remove or mitigate the water pollution, and all expenses are recoverable from the person causing or failing to effectively prevent the water pollution.

SPCB power

1. Closure of the company, or at least the part or process of the company that is causing the pollution (which can extend to the stoppage of an entire manufacturing process, until the pollution has been addressed).

2. Stopping the electricity or water supply to the company.

Companies can approach courts to obtain a stay order against these closure notices, or can appeal against directions to the state appellate authority and/or NGT (which has four zonal benches throughout India).

Penalties

Water Act. Apart from penalties for not having a valid environmental permit/consent, the Water Act has the following penalty provisions:

• **Non-compliance with closure direction**. Whoever fails to comply with a closure direction or stoppage (of electricity and water) direction is liable to imprisonment for a term of at least one and a half years up to six years and a fine (Water Act). If the breach continues, an additional fine up to INR5,000 for every day of non-compliance can be imposed.

• **Other offences**. The Water Act sets out various other offences, such as:

• failure to provide information to the Pollution Control Boards;

• failure to notify an accident;

• knowingly or wilfully making a false statement;

• wilfully tampering with monitoring equipment.

They are all punishable with imprisonment for a term up to three months, or a fine up to INR10,000, or both.

• **Residuary penalty**. A person who breaches the Water Act or fails to comply with any order or direction with no specific penalty, is punishable with imprisonment up to three months, or a fine up to INR10,000, or both. If the failure continues, an additional fine can be imposed up to INR5,000 per day.

Water abstraction

Permits and Regulator

- The Central Ground Water Authority, under the Ministry of Jal Shakti Department of Water Resources, River Development and Ganga Rejuvenation, is the body responsible for the supervision of water abstraction.

- The regulation of ground water development in notified areas is conducted by district administrative heads assisted by Advisory Committees (*section 4, EP Act*). All issues that require a **No Objection Certificate (NOC)** for ground water abstraction must be submitted to the Central Ground Water Authority.

Prohibited Activities

Water abstraction is limited in the sense that the grant of an NOC for ground water extraction for drinking and domestic purposes in relation to infrastructure projects, industries, and the mining sector, are considered only on the production of a completion certificate from the competent authority.

Further, an NOC for ground water withdrawal is only considered in cases where **the water supply department concerned is unable to supply an adequate amount of water in the area**.

NOC will not be granted to industries for the extraction of ground water for construction activities in critical/over-exploited areas. Similarly, water intensive industries (like packaged drinking water, tanneries, distilleries, breweries, paper and pulp industries, fertiliser companies, water parks and amusement centres) must not abstract water from overexploited areas.

Example: Due to the high levels of fluoride present in the ground water of the 12 districts in Maharashtra, the NGT passed an order that prohibits the unauthorised extraction of water for commercial use by dealers and businesses dealing in packaged water. Earlier, the NGT Tribunal issued notices to the collector of these districts over the rampant and illegal digging of borewells in these already water-scarce areas.

Compensation & Penalty

- If the licensee does not comply with their NOC, the NOC may be cancelled or not renewed.
- Penalties can be imposed under the EP Act in the case of non-compliance in notified areas. The SPCB can serve a Show Cause Notice (SCN) or stop work order on the licensee. Subsequently, a closure notice can be issued, if no response is given to the SCN.
- If there is failure to comply with the directions issued, this can be punishable by a term of imprisonment and/or the penalties specified under the EP Act, which can result in either a prison term of up to five years, or a fine of up to INR100,000, or both.
- Industrial, mining and infrastructure users extracting ground water without an NOC are liable to pay compensation of at least INR100,000 (*Guidelines of the Central Ground Water Authority (CGWA)*). This compensation amount can be increased further, depending on the amount of water extracted and the duration of the breach.

Air pollution

Permits and Regulator

Companies must apply to the relevant SPCB for either:

- A CTO (*Air Act*).
- A common consent order (that is, a combined document for consent under the Water Act and Air Act.)
- An integrated environmental permit (*Air Act*).

Prohibited Activities

- The Air Act is similar to the Water Act, in terms of consent application management, air pollution standards set by the CPCB, and the type of infringements and penalties. State governments in consultation with SPCBs identify air pollution control areas, which determine how they approach consent applications.

- Anyone operating an industrial plant in an air pollution control area must not discharge or cause or permit to be discharged air pollutants in excess of the standards set down by the CPCB or the SPCBs (section 22, Air Act).

- Prohibited activities include the use of any fuel or appliance that may cause or is likely to cause air pollution. The State Government may also prohibit the burning of any material that is not a fuel (for example, stubble burning in agricultural lands), if it causes or is likely to cause air pollution. In addition, excessive noise levels by industrial activities are restricted and noise levels around schools and hospitals are kept noise-free zones.

Air pollution

Cleanup/compensation

- SPCBs supervise compliance with the conditions of the environmental permit and applicable standards.
- They can issue (show cause notice) SCNs to permit holders. SPCB officers can: Enter and inspect premises. Take samples (under the procedure set out in the Air Act). Issue closure notices (including stopping water and electricity).
- SPCBs can insist on the cleanup of air pollution and recover cleanup costs from the entity that caused the pollution. Third parties can always seek compensation through the courts for damage caused.

Penalties: The structure and penalties under the Air Act are similar to those under the Water Act

Global policies and India

Climate Change

Conventions and Agreements

India ratified the **UN Framework Convention on Climate Change (UNCCC)** in 1993 and the **Kyoto Protocol in 2002**.

As a non- Annex-I country, India did not take part in the flexibility mechanisms for developed countries (emission trading and joint implementation). India has been a leading host country of clean development mechanism (CDM) investments, enabling Annex- I countries to invest in emission-reducing projects in developing countries (earning certified emission reductions).

Convention vs. Protocol vs. Treaty

(1) Protocol: A protocol is an agreement that diplomatic negotiators formulate and sign as the basis for a final convention or treaty. The treaty itself may not be completed for many years. Example: Kyoto Protocol

(2) Treaty: A treaty is an agreement where the parties to it negotiate to reach common ground and avoid further conflict or disagreement. It is normally ratified by the lawmaking authority of the government whose representative has signed it. Example: Paris Agreement

(3) Convention: A convention begins as an international meeting of representatives from many nations that results in general agreement about procedures or actions they will take on specific topics (e.g., wetlands, endangered species, etc.). Example: Ramsar Convention

Conference of the parties COP27

United Nations (UN) climate summits are held every year, for governments to agree steps to limit global temperature rises. They are referred to as COPs, which stands for "Conference of the Parties". The parties are the attending countries that signed up to the original UN climate agreement in 1992.

COP27 is the 27th annual UN meeting on climate. It took place in Sharm el-Sheikh in November 2022.

Why is COP27 important?

- The world is warming because of emissions produced by humans, mostly from burning fossil fuels like oil, gas and coal.
- Global temperatures have risen 1.1C and are heading towards 1.5C, according to the UN's climate scientists, the Intergovernmental Panel on Climate Change (IPCC).
- If temperatures rise 1.7 to 1.8 C above 1850s levels, the IPCC estimates that half the word's population could be exposed to life-threatening heat and humidity.
- To prevent this, 194 countries signed the Paris Agreement in 2015, pledging to "pursue efforts" to limit global temperature rises to 1.5C.

COP27 focus

COP27 will focus on three main areas:

- Reducing emissions
- Helping countries to prepare for and deal with climate change
- Securing technical support and funding for developing countries for the above

Some areas not fully resolved or covered at COP26 will be picked up:

- Loss and damage finance - money to help countries recover from the effects of climate change, rather than just prepare for it
- Establishment of a global carbon market - to price the effects of emissions into products and services globally
- Strengthen the commitments to reduce coal use

Paris Agreement

India submitted its INDC to the UNFCCC on 2 October 2015. The key targets contained in India's INDCs are:

- To reduce the emissions intensity of its GDP by 33% to 35% by 2030 from the 2005 level.
- To achieve about 40% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.
- To create an additional carbon sink of 2.5 to 3 billion tonnes of CO_2 equivalent through additional forest and tree cover by 2030.

India’s updated NDC

The key highlights of India’s updated NDCs include:

- Target to reduce the emissions intensity of India’s GDP by 45 percent by 2030;
- Achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030; and
- Prime Minister Modi’s global initiative to combat climate change—‘Lifestyle for the Environment (LiFE) Movement’.

Kyoto Protocol

- The Kyoto Protocol was an international treaty which extended the 1992 United Nations Framework Convention on Climate Change that commits state parties to reduce greenhouse gas emissions, based on the scientific consensus that global warming is occurring and that human-made CO_2 emissions are driving it.

What is the Kyoto Protocol?

The Kyoto Protocol came into effect on 16 February 2005. This international treaty seeks to implement the objectives of the United Nations Framework Convention on Climate Change (UNFCCC) to combat global warming by decreasing greenhouse gas concentrations in the atmosphere.

The major greenhouse gases that are addressed are :

- Carbon dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur hexafluoride (SF6)

Montreal Protocol

The Montreal Protocol on Substances that Deplete the Ozone Layer is an important Multilateral Agreement regulating the production, consumption, and emissions of ozone-depleting substances (ODSs).

Examples of ODSs are chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), carbon tetrachloride, methyl chloroform, hydrobromofluorocarbons, halons, etc.

Chlorofluorocarbons are the most abundant ODSs.

National Strategy

In March 2019, India launched the **India Cooling Action Plan** (ICAP). This includes numerous references to India's commitment to refrigerant transition and energy efficiency of air conditioning equipment, and the need to phase out hydrochlorofluorocarbons (HCFCs), while also achieving its climate change and sustainable development goals.

The ICAP document provides a good overview of the HCFCs being phased out as part of its Montreal Protocol obligations.

Habitats and Biodiversity

- Ramsar Convention
- Biological Diversity 1992 in May 1994, and
- The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization 2010 in October 2014.
- CITES

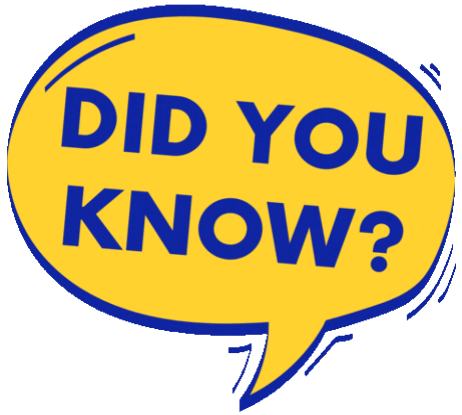
Ramsar Convention

an agreement between states covering matters

What is the Convention about?

The Convention on Wetlands is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. https://www.ramsar.org/

Signed on 2 February 1971 in Ramsar, Iran



2nd February is celebrated as world Wetlands Day

India as a part of Ramsar Convention

- India is a party to the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971, has various Ramsar sites, and has adopted the domestic Wetlands (Conservation and Management) Rules 2017.

- Wetlands must be conserved and managed in accordance with the principle of **"wise use",** as determined by the Wetlands Authority (Wetlands Rules). It is prohibited to convert wetlands for non-wetlands uses, and the setting up of any industry (or the expansion of any existing industries) is also prohibited on wetlands. There are many court cases concerning the wrongful use of wetlands, and the courts impose severe penalties on offenders. Any Environmental Impact Assessment Report must also map the presence of wetlands.

- All industries must also take into account the provisions of both the Forest (Conservation) Act 1980 and the Wildlife (Protection) Act 1972, to assess whether their activity can take place in a particular location.

Convention on Biological Diversity (CBD) 1992

The Convention on Biological Diversity (CBD) is an international legally-binding treaty with three main goals:

- conservation of biodiversity;
- sustainable use of biodiversity; and
- the fair and equitable sharing of the benefits arising from the use of genetic resources.

CBD has been ratified 196 nations as of today.

India in CBD

- India became a party to the United Nations Convention on **Biological Diversity 1992 in May 1994, and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization 2010 in October 2014.**
- It has adopted the Biological Diversity Act 2002 (BD Act) (and related rules under it) to implement these measures.
- A major distinction which runs throughout the BD Act is whether the access to genetic resources is sought by foreign individuals, institutions or companies, or Indian entities.
- The BD Act seeks to ensure that there is an equitable sharing of benefits arising from the use of these resources to India and its people.
- As a result, a prior approval must be obtained from the National Biodiversity Authority by foreign persons/companies to undertake certain activities.

CITES

What is CITES?

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species. https://cites.org/eng/disc/what.php

CITES was drafted as a result of a resolution adopted in 1963 at a meeting of members of IUCN (The World Conservation Union).

The text of the Convention was finally agreed at a meeting of representatives of 80 countries in Washington, D.C., United States of America, on 3 March 1973, and on 1 July 1975 CITES entered in force.

CITES

- It came into force in 1975 and consists of 184 member-countries till date that abide by CITES regulations by implementing legislation within their own borders to enforce those regulations.
- Located in Geneva, Switzerland, the CITES is administered by the United Nations under its UNEP (United Nations Environment Programme) Wing.
- The Convention of Parties (CoP) to CITES is the supreme decision-making body of the Convention and comprises all its Parties.
- The last CoP (17th) was held at Johannesburg (South Africa), in 2016. India hosted CoP (3rd) in 1981. Although CITES is legally binding on the Parties, it does not take the place of national laws.
- Rather, it provides a framework to be respected by each Party, which has to adopt its own domestic legislation to ensure that CITES is implemented at the national level.

Wildlife Protection Act, 1972

- This Act provides for the protection of the country's wild animals, birds, and plant species, in order to ensure environmental and ecological security.
- Among other things, the Act lays down restrictions on hunting many animal species.
- The Act was last amended in the year 2006. An Amendment bill was introduced in the Rajya Sabha in 2013 and referred to a Standing Committee, but it was withdrawn in 2015.

Salient Features of Wildlife Protection Act

- This Act provides for the protection of a listed species of animals, birds, and plants, and also for the establishment of a network of ecologically-important protected areas in the country.
- The Act provides for the formation of wildlife advisory boards, wildlife wardens, specifies their powers and duties, etc.
- It helped India become a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (**CITES**).
  - CITES is a multilateral treaty with the objective of protecting endangered animals and plants.
  - It is also known as the **Washington Convention** and was adopted as a result of a meeting of IUCN member

- For the first time, a comprehensive list of the endangered wildlife of the country was prepared.
- The Act **prohibited the hunting of endangered species**.
- Scheduled animals are prohibited from being traded as per the Act's provisions.
- The Act provides for licenses for the sale, transfer, and possession of some wildlife species.
- It provides for the establishment of wildlife sanctuaries, national parks, etc.
- Its provisions paved the way for the formation of the **Central Zoo Authority**. This is the central body responsible for the oversight of zoos in India. It was established in 1992.
- The Act created **six schedules** which gave varying degrees of protection to classes of flora and fauna.
    - Schedule I and Schedule II (Part II) get absolute protection, and offences under these schedules attract the maximum penalties.
    - The schedules also include species that may be hunted.

Forest Conservation Act 1980

- The Forest (Conservation) Act of 1980 (FCA, 1980) is an act by the Parliament of India which ensures conservation of forest and its resources.

- It was enacted by the Parliament of India in order to control the ongoing deforestation of the forests of India. It came into force on October 25, 1980, containing five sections.
    - Section 1: Title and scope
    - Section 2: Restriction of forests being used for non-forest purposes.
    - Section 3: Advisory committee
    - Section 4: Power to make rules.
    - Section 5: Repeal and saving

Objectives of the Forest Conservation Act 1980

The aim of the Forest is to preserve the forest ecosystem of India by fulfilling the following objectives:

1. Protect the forest along with its flora, fauna and other diverse ecological components while preserving the integrity and territory of the forests.
2. Arrest the loss of forest biodiversity
3. Prevent forest lands being converted into agricultural, grazing or for any other commercial purposes and intentions.

Features of the Forest Conservation Act 1980

The Forest Conservation Act of 1980 come with the following features:

1. The Act restricts the state government and other authorities to take decisions first without permission from the central government.
2. The Forest Conservation Act gives complete authority to the Central government to carry out the objectives of the act.
3. The Act levies penalties in case of violations of the provisions of FCA.
4. The Forest Conservation Act will have an advisory committee which will help the Central government with regard to forest conservation.

Waste and the Circular economy

Permits and Regulator

Specific permits, consents or authorisations must be obtained by various parties generating or handling waste, under the following **key waste-management laws**:

1. Solid Waste Management Rules 2016.
2. Plastic Waste Management Rules 2016.
3. E-Waste (Management) Rules 2016.
4. Bio-Medical Waste Management Rules 2016.
5. Construction and Demolition Waste Management Rules 2016.
6. Hazardous and Other Waste (Management and Transboundary Movement) Rules 2016.
7. Batteries (Management and Handling) Rules 2001 (a draft update of these rules was recently notified but is not yet in force).

Hazardous and Other Waste (Management and Transboundary Movement) Rules 2016 (HW Rules).

- This is the most comprehensive of the waste management rules, as it covers the generation, handling, storage, transport, recycling, disposal, and import/export of hazardous waste.
- The HW Rules impose detailed obligations on the occupier for the management, storage, packaging, labelling and transport of such waste. All parties involved must sign a movement document (or manifest system), and copies of it must be submitted to the SPCB.
- Every occupier/owner/manager of any site dealing with or generating hazardous waste must have a hazardous waste authorisation or permit from the relevant SPCB to handle, generate, dispose of, recycle, reuse or carry out any other activity involving hazardous waste.
- The HW Rules contain a separate chapter on the import and export of hazardous waste, for which prior approval must be obtained from the MoEFCC. The MoEFCC in its review of applications is assisted by a technical review committee, which meets at regular intervals and reviews each import/export application.

Plastic Waste Management Rules 2016.

The Plastic Waste Management Rules 2016, replacing the 2011 Rules, is wider in scope, and:

- More clearly imposes obligations on "brand owners", "producers" and "importers."
- Introduces the notion of **extended producer responsibility (EPR)**, in the context of plastic waste management.
- Covers for the first time **"waste generators",** which includes every person generating waste.
- Explicitly refer to "waste pickers", an important element since the waste management sector or the segregation of it is largely not formally regulated. The failure of earlier waste management rules to acknowledge this segment has often undermined effective implementation of waste rules. This is also true for the management of e-waste.

- The draft Plastic Waste Management (Amendment) Rules 2021 were published in March 2021, proposing to ban plastic in three phases:

- By September 2021, non-woven plastic carry bags made of virgin or recycled plastic must be at least 240 microns thick. Compostable plastic carry bags would be exempted.

- From January 2022, the manufacture, import, stocking, distribution, sale and use of single-use plastic commodities, such as candy sticks, ear-buds with plastic sticks, plastic flags, polystyrene decorations, would be banned.

- **From 1 July 2022, India would ban the manufacture, import, stocking, distribution, sale and use of additional single-use plastic items** (including items made with polystyrene and expanded polystyrene). The single-use plastic commodities that would be prohibited after this date include the following food-contact articles: plates, cups, glasses, cutlery, straws, trays, stirrers, and wrapping films around sweet boxes.

E-Waste (Management) Rules 2016 (E-Waste Rules).

The E-Waste Rules entered into force on 1 October 2016. The new E-Waste Rules apply to every:

- Manufacturer, producer, bulk consumer, other consumer, collection centre, refurbisher, dismantler and recycler.
- Dealer and e-retailer involved in the manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment (EEE), as detailed in Schedule I to the E-Waste Rules.
- An important improvement is that a producer can now obtain one centralised extended producer responsibility authorization from the CPCB, instead of one from each SPCB where it has a market presence.
- Another key change is that the operator can fulfil its extended producer responsibility obligation by becoming a member of the newly created Producer Responsibility Organisation, or of an e-waste exchange, or both. These were introduced to facilitate implementation of the E-Waste Rules, given the failure by industry to create effective mechanisms to implement the earlier Rules (adopted in 2011).

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