

BRIEF SUMMARY ON THE BASELINE DATA COLLECTION

1. STUDY AREA, PERIOD, COMPONENTS & METHODOLOGY

1.1 Study Area

The study area for the collection of data on various baseline environmental parameters shall be defined as per the Terms of Reference (TOR) issued by EAC, MoEF&CC, Govt. of India as part of scoping clearance. The Study Area for assessment of environmental baseline status is delineated as the project area or the direct impact area within a 10 km radius of the main project components like upper reservoir, lower reservoir, Powerhouse, water intake point etc.

1.2 Study Period

The field surveys for the collection of primary data will be conducted covering winter season to collect data/ information on terrestrial ecology and physical environment. Various attributes such as land features, rivers, forests, and vegetation types will be recorded on the ground with the help of GPS for refining land use/ land cover maps.

Proposed sampling schedule for various Environmental Parameters

Parameters	Winter
Soil	January 2026
Air Environment	January 2026
Noise & Traffic	January 2026
Water Quality	January 2026
Vegetation	January 2026
Fauna surveys	January 2026
Socio-economic survey of Project affected villages	January 2026

1.2.1 Study Components

Environmental Impact Assessment defines and assesses the potential physical, biological, and socio-economic impact of the proposed project in a manner that allows for a logical and rational decision to be made about the proposed action. Environmental baseline data is the basic requirement to define, understand and assess the potential impacts of a project on the physical, biological, and social environment near the project as well as in the area around the project and its components. Baseline data includes:

The baseline data will be prepared from primary data collected during field studies supplemented with data/information gathered during interaction with concerned persons of various government departments and available literature and reports published by various institutions and organizations. Baseline data is the data collected about various factors of the project study. This includes:

- **Physical Environment:** It covers land, air, and water environment. It includes a description of physiography, drainage, geology, land use/ land cover, meteorology, soil, ambient air

quality, noise/ sound levels and average daily traffic, water quality (surface as well as groundwater).

- **Biological Environment:** It covers both floral and faunal components, terrestrial and aquatic. It describes forest type, floristics as well as faunal diversity, the occurrence of RET species if any, and the presence of sensitive ecosystems like any notified Protected Areas in the vicinity of the proposed project.
- **Socio-economic Environment:** It provides the overall socio-economic profile of the villages located in the study area and the district/s in which the project is located. It also describes the socio-economic status of project-affected villages. It covers aspects like demography, social structure, literacy, working population, infrastructure, amenities, educational and health facilities, presence of any archaeological and/or religious sites, etc.

1.2.2 Methodology

Baseline data on environmental parameters are collected at two levels – primary and secondary. Primary data generated from sampling done during field surveys for physical and chemical attributes of soil, surface as well as ground water quality, ambient air quality, noise, and traffic and sampling and surveys for collection of data on floral and faunal elements covering terrestrial as well as the aquatic environment. In addition to primary surveys conducted as mentioned above, substantial secondary data is also collected through interaction with various state and project officials and sourced from published reports and literature. The sources for secondary data collection are mentioned below:

- For the preparation of land use/ land cover map of the study area, digital data on land use/land cover thematic maps prepared by the National Remote Sensing Centre (NRSC), Indian Space Research Organisation (ISRO) of Dept. of Space with Remote Sensing Applications Centre for the period 2015-16 shall be downloaded from their web portal <http://bhuvan.nrsc.gov.in/gis/thematic/index.php>.
- Landsat 9 data for the generation of FCC and the refinement of Land use/Land cover
- For the preparation of soil map of the study area Soils of Bihar for Optimising Land Use, NBSS Publ. (1998), by National Bureau of Soil Survey & Land Use Planning (NBSS&LUP) Nagpur (NBSS & LUP) will be consulted.
- Meteorological data for Temperature, Relative Humidity, Rainfall, Wind Speed, and Wind Direction will be downloaded from <https://www.worldweatheronline.com> for the last 10 years.
- The description of the Geology of the area will be sourced from the DPR of the proposed project prepared by the project proponent.
- 'A Revised Survey of the Forest Types of India' by Champion and Seth (1968) shall be used for forest type classification of forests in the study area
- Forest Working Plan, Nawada Forest Divisions in Bihar for documentation of flora and fauna in the study area.
- National Ambient Air Quality Series: NAAQMS/36/2012-13, Guidelines for the measurement of Ambient Air Pollutants.
- Water Quality Criteria of Central Pollution Control Board (<http://www.cpcb.nic.in/WaterQualityCriteria.php>).

- For describing the socio-economic profile of the study area in the area, Village and Town Directory, District Census Handbook, Nawada district in Bihar, Part-XIIA and Part-XIIB published by Census of India Demographic profile of the study area from Census of India 2011, Directorate of Census Operations, Bihar shall be consulted.