

# Environmental Data: Resources and Access in India

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Environmental data comprises information primarily pertaining to natural resources - use and status. It is generated by institutions involved in ensuring statutory compliance and/or research. Database and statistical inference forms the basis of environmental governance in the form of general management, new policy formulation, hypothesis testing, consideration of alternatives, amendment of existing laws and regulations and public awareness. Such data is indispensable for both descriptive and inferential research. Data driven research with the aid of statistical evidence provides compelling conclusions for empirical observations. Therefore, precision, accuracy and integrity of data are of paramount importance. The data collection methodology and the analytical tools should be thus, robust and rigorous.

Environment plays an integral role in the regional and global development and contributes to the quality of people's lives in innumerable ways. Seventeen Sustainable Development Goals (SDGs), adopted at the United Nations Sustainable Development Summit in New York in 2015, involve commitment from an environmental perspective and outlines a plan for action for the next fifteen years. Monitoring the SDGs will involve data and consequently demand more partnerships among international agencies, statistical offices, government and development partners (World Bank, 2016). It is realized that much of the data will originate from public institutions, public-private partnerships, research enterprises and national statistical systems.

One of the most widely known data source in the field of environment is that of Environmental Data Explorer by United Nation Environment Programme (UNEP). Its online database holds more than 500 different variables, as national, sub-regional, regional and global statistics or as geospatial data sets (maps), covering themes like Freshwater, Population, Forests, Emissions, Climate, Disasters, Health and Gross Domestic Product (GDP) (UNEP, 2016).

There is a need to highlight available resources pertaining to environmental parameters accessible to public in India. One of the most useful portals is the Environmental Information System, commonly known as ENVIS. The scheme, implemented by the Ministry of Environment, Forest and Climate Change (MoEFCC) in 1982, is entrusted with the responsibility of collection and dissemination of environmental information on a national scale. The focal point of ENVIS is located in Delhi; with ENVIS centres located in various states and union territories. In addition, ENVIS centres are located in various governmental and nongovernmental agencies with focus on one of the five broad thematic areas: i) Ecology and Ecosystem services, ii) Environment and Society, iii) Environment and Technology, iv) Environment and Policy and v) Biodiversity. ENVIS is web based and contains descriptive as well as numerical data. Such information holds the key to policy formulation and environmental management at all levels of government as well as decision-making aimed at environmental protection and conservation (ENVIS, 2016). Indian State-Level Basic Environmental Information Database (ISBEID), an outcome of collaboration between MoEFCC, Government of India (GoI) and National Informatics Centre (NIC), is another portal for environment related data. It is primarily intended to provide (a) internet-based Geographic Information System (GIS) application, (b) one-stop information source to users, (c) interactive maps capable of handling operations like zoom in/out, pan, print, measure etc. and (d) querying ISBEID interactively (ISBEID, 2016). Information on several themes such as ecology, infrastructure, energy, agriculture, industries, natural resources, forests, water, air and water pollution, biodiversity, disaster, waste, sanitation etc. are available for public access.

The Central Pollution Control Board (CPCB), formed in 1974 under the Water (Prevention and Control of Pollution) Act, 1974 and further bestowed with the

powers and functions under the Air (Prevention and Control of Pollution) Act, 1981 and Environment (Protection) Act, 1986, is a statutory body in the field of environmental pollution in India. Pollution monitoring data with respect to air and water pollution is available for public access. Pollution monitoring data for episodic pollution events such as Diwali festival and *Ardh Kumbh* festival are also available for public access. National Air Monitoring Programme (NAMP) and National Water Quality Monitoring Network (NWQMN) are elaborate programmes for pollution monitoring in India. Real time air pollution monitoring data from selected sites for criteria and non-criteria air pollutants are available for public. Similarly water pollution data with respect to physico-chemical parameters at different cities on banks of River Ganga and its tributaries is available for public: <http://cpcb.rtwqms.com>. Real time noise data at selected cities in India can also be accessed by public: <http://www.cpcbnoise.com>. Apart from the above, air and water quality standards, industry specific emission guidelines, vehicular exhaust norms, auto fuel quality standards, incinerator and generator set emissions guidelines, and noise standards are regulated by CPCB (CBCB, 2016).

Open Government Data (OGD) platform of the Indian Government (<https://data.gov.in/>) is yet another portal for public access to extensive data sets in a variety of sectors. As a scheme of Digital India Initiative, OGD is an outcome of joint efforts of Government of India and United States of America. The objective of the endeavour has been to promote transparency and greater citizen engagement in decision making. Interested public is also invited to suggest required datasets. Datasets from ministries and affiliated departments of Government of India are available for public use. Most importantly, the scheme intends to engage interested public to brainstorm and come up with innovative uses of government data from various perspectives. Environment features as a prominent domain on the OGD platform. A variety of environmental data such as Comprehensive Environment Pollution Index (CEPI) for critically polluted industrial area/ clusters in India, state wise tiger mortality, compensatory afforestation, annual fuel wood consumption, change in carbon stock in forest land, revenue and expenditure from/on forests, total consumption of Ozone Depleting Substances (ODS),

estimated number of species in various taxonomic groups etc. are available for public access.

One of the first steps to tackle environmental challenges is to be aware of problems and resources available to combat it. Decision making involves goal oriented selection of available choices with the support of best accessible data. Quality control and quality assurance of such data is of prime importance. It is stressed that there is a strong need to carry out high quality research in order to identify the need of datasets in newer domains, deliberate on the suitability of the existing methodologies for data collection and draw meaningful conclusions from datasets available for public access.

### References

- CPCB. 2016. Central Pollution Control Board (CPCB), Government of India. Available at <http://cpcb.nic.in> (Accessed on August 13, 2016).
- ENVIS. 2016. Environmental Information System (ENVIS), Ministry of Environment, Forest and Climate Change, Government of India. Available at <http://envis.nic.in> (Accessed on August 11, 2016).
- ISBEID. 2016. Indian State Level Basic Environment Information Database (ISBEID), Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India. Available at <http://isbeid.gov.in> (Accessed on August 13, 2016).
- MoEFCC. 2016. Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India. Available at <http://envfor.nic.in> (Accessed on August 10, 2016).
- UNEP. 2016. United Nations Environment Programme (UNEP), United Nations (UN), Available at <http://www.unep.org> (Accessed on August 11, 2016).
- World Bank. 2016. World development indicators: Featuring the Sustainable Development Goals. World Bank Group, Washington DC, USA.