National activities

Overview of data sources

India – Monitoring of the Sustainable development goals until 2030

The Ministry of Statistics and Programme Implementation (MoSPI) incorporates the National Statistical Office (NSO) which consists of the Central Statistical Office (CSO), the Computer Centre and the National Sample Survey Office (NSSO). The NSO publishes the Statistical Year Book which includes chapters on agriculture, horticulture, livestock & fisheries, sericulture, industry, mining, energy, railways, and roads. Starting in 2018, the NSO combined the Compendium of Environment Statistics – India" and "Statistics Related to Climate Change" into one report "EnviStats – India" based on the United Nations Framework for the Development of Environment Statistics 2013. This report includes data on environmental resources and their use as well as on residuals (environmental releases).[1]
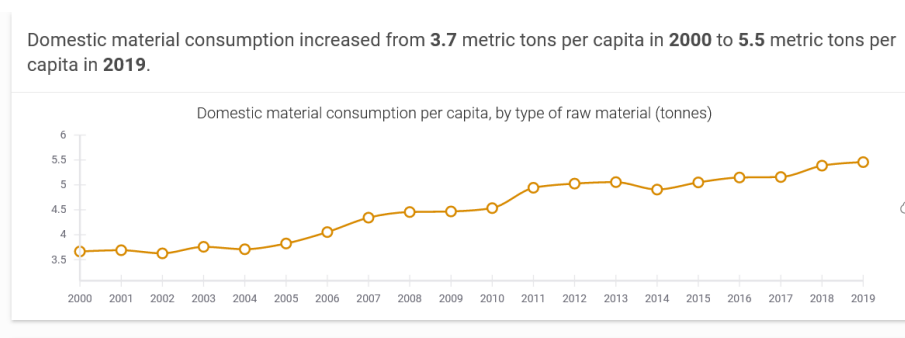
Data availability for indicators 12.2.1, 12.2.2, 12.4.2, and 12.5.1

Information on indicator 12.2.1 (Material footprint, material footprint per capita, and material footprint per GDP) and indicator 12.2.2 (Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP) is available from the UNEP IRP Global Material Flows Database.

Data for indicator 12.4.2 (Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment) are compiled by the Ministry of Environment, Forest & Climate Change, Central Pollution Control Board and included in EnviStats India. The Ministry also compiles data on solid waste generation and proportion of recyclable wastes which are relevant for indicator 12.5.1 (National recycling rate, tons of material recycled).

Information on indicators 12.2.1, 12.2.2, 12.4.2, and 12.5.1 is also available in the UNSD country profile and the WERS Scorecard as shown below. The data in these dashboards are taken from national sources through instruments such as the UNSD/UNEP questionnaire or from international sources such as UNEP's International Resource Panel, Global Material Flows Database.

The following visualizations are available in the UN Statistics Division's Country Profile for India (https://unstats.un.org/sdgs/dataportal/countryprofiles/ind#goal-12):

Domestic material consumption increased from **3.7** metric tons per capita in **2000** to **5.5** metric tons per capita in **2019**.

Domestic material consumption per capita, by type of raw material (tonnes)

The quantity of hazardous waste generated per capita decreased from **6.8** kg in **2000** to **6.2** kg in **2019**.

Hazardous waste generated, per capita (Kg)

In **2019**, the amount of hazardous waste generated for each dollar of GDP was **0.0** kg.

Hazardous waste generated, per unit of GDP (kilograms per constant 2015 United States dollars)

The rate of hazardous waste treated or disposed increased from **90.3**% in **2016** to **94.7**% in **2019**.

Proportion of hazardous waste treated or disposed (%)

UNEP's World Environment Situation Room (WESR) scorecard (https://wesr.unep.org/scorecard/) includes the following visualizations:

12.2.1 Material footprint (MF) and MF per capita, per GDP

12.2.2 Domestic material consumption (DMC) and DMC per capita, per GDP

12.4.2 (a) Hazardous waste generated per capita;

12.4.2 (b) proportion of hazardous waste treated, by type of treatment

12.5.1 National recycling rate, tons of material recycled
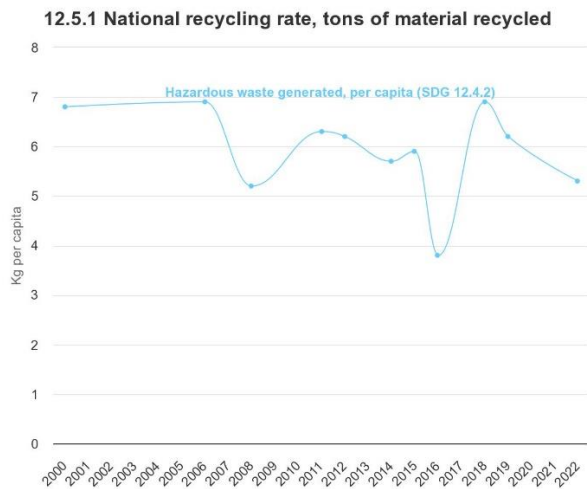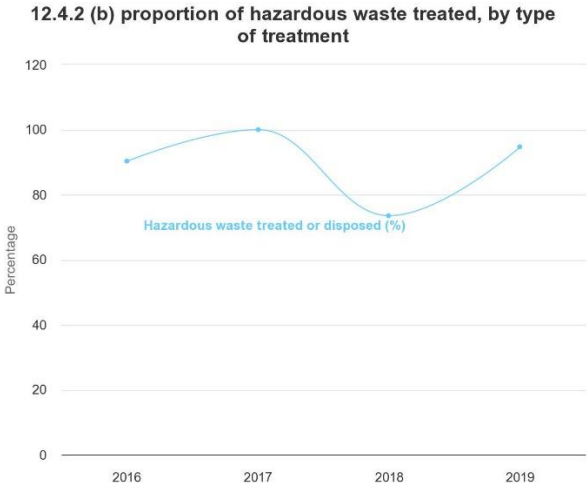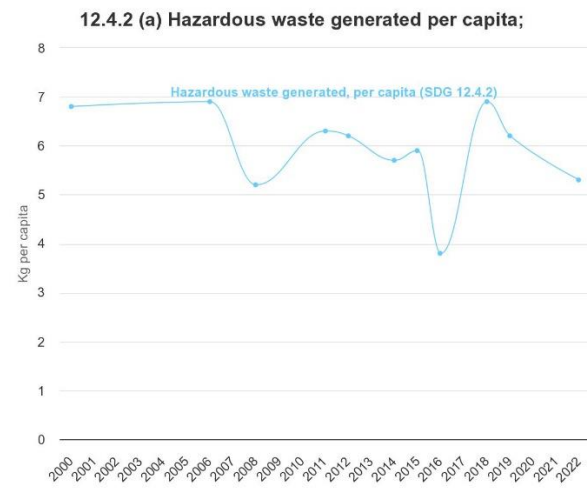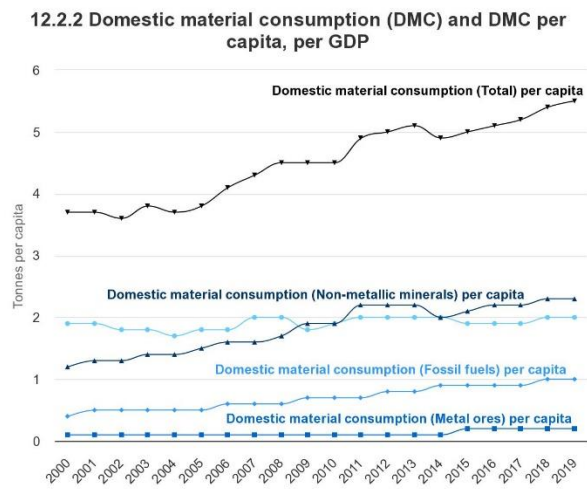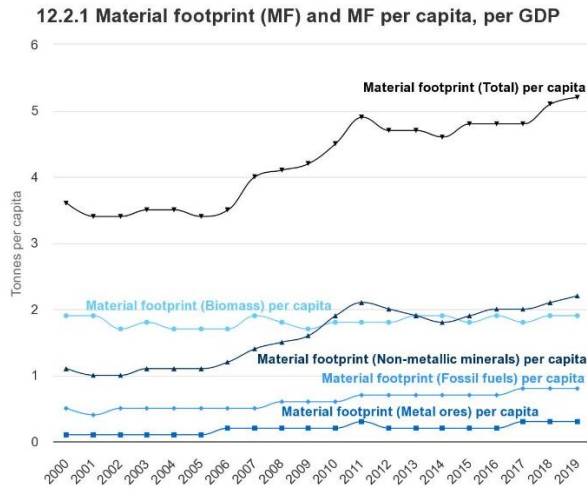
Summary of data availability

a) Material footprint and domestic material consumption

Material category	Information needed	Data availability
Biomass Material of vegetable origin extracted by humans and their livestock – crops, used crop residues, fodder crops, grazed biomass, wood, capture of wild fish, and the biomass of hunted animals.	Statistics on the production, import, export and use of agricultural crops, crop residues, wood, wild harvests (fishing, hunting, gathering of terrestrial and aquatic plants).	EnviStats India includes data from: Ministry of Agriculture and Farmers Welfare, Government of India Nationally, Directorate of Economics and Statistics: Agriculture Statistics – at a Glance; Crop Production Statistics Ministry of Statistics and Programme Implementation: Fuel used for cooking (firewood, chips, crop residues) Ministry of Fisheries, Animal Husbandry and Dairying: State-wise fish production; Import/export of livestock and marine products Data are also available in FAOSTAT and FISHSTAT
Metal ores Deposits of metal compounds in the Earth's crust which can be processed to produce desired metals at an economically viable cost. Only the portion of the excavated rock which is to be processed in some way to obtain the desired metals is included in the accounts. Data is compiled in three ore categories: iron, aluminium, and other ores.	Statistics on production, import, export of metallic ores. This includes information on ore type, ore grade, recovery rate, estimated total tonnage of Run of Mine (ROM) ore extracted, quantity of waste rock. This information may be collected from mine operators.	EnviStats India includes data from: Ministry of Mines, Indian Bureau of Mines: Indian Minerals Yearbook
Non-metallic minerals "stone quarries and clay and sand pits; chemical and	Statistics on production, import, export of non-metallic ores. Data from official	EnviStats India includes data from:

Material category	Information needed	Data availability
fertilizer mineral deposits; salt deposits; deposits of quartz, gypsum, natural gem stones, asphalt and bitumen, peat and other non-metallic minerals other than coal and petroleum."	national statistical reports on consumption of cement, bitumen and bricks can indirectly indicate consumption of non-metallic minerals.	Ministry of Mines, Indian Bureau of Mines: Indian Minerals Yearbook
Fossil fuels Includes coal and peat, crude oil, natural gas and natural gas liquids, and oil shale and tar sands.	Statistics on production, import, export of fossil fuels.	EnviStats India includes data from: Ministry of Coal, Office of the Coal Controller: Statewise production of raw coal by types Ministry of Petroleum and Natural Gas: Key indicators of petroleum industry
Emissions to air Includes Emissions of greenhouse gases (Carbon dioxide (CO_2), Methane (CH_4), Dinitrogen oxide (N_2O), Nitrogen oxides (NO_x), Hydroflourcarbons (HFCs), Perflourocarbons (PFCs) Sulphur hexafluoride (SF_6)) Common air pollutants (Carbon monoxide (CO), Non-methane volatile organic compounds (NMVOC), Sulfur dioxide (SO_2) Ammonia (NH_3), Particles (e.g. PM10, Dust)) Toxic pollutants (Heavy metals Persistent organic pollutants (POPs)) Other emissions to air	Annual quantities of pollutants emitted to air.	EnviStats India includes data from: Ministry of Environment, Forest & Climate Change Greenhouse gas emission: Report to the United Nations Framework Convention on Climate Change
Waste landfilled (uncontrolled)	Total quantities of uncontrolled municipal and	EnviStats India includes data from:

Material category	Information needed	Data availability
Waste refers to materials that are of no further use to the generator for production, transformation or consumption. Waste may be generated during the extraction of raw materials, during the processing of raw materials to intermediate and final products, during the consumption of final products, and in the context of other activities.	industrial waste produced per year In addition to the national environmental authority, sources of this information may include municipal governments and industries	Ministry of Environment, Forest & Climate Change
Emissions to water Substances and materials released to natural waters by human activities after or without passing wastewater treatment. It includes the following pollutants: Nitrogen (N), Phosphorus (P), Heavy metals, Other substances and (organic) materials, Dumping of materials at sea	Information on outflows from municipal or industrial sewage treatment plants	EnviStats India includes data from: Ministry of Environment, Forest & Climate Change
Dissipative use of products Materials that are deliberately dissipated into the environment such as organic fertilizer (manure), mineral fertilizer, sewage sludge, compost, pesticides, seeds, salt and other thawing materials spread on roads, solvents, laughing gas, and other materials.	Agricultural statistics on sale or use of fertilizers, pesticides, seeds. For manure, an estimate could be based on the number of livestock Information on the use of lime (e.g. as a fertilizer in forestry) Information on compost Information on amount of salt or other materials spread on roads For data on non-methane volatile organic compounds solvents, information on use and emissions from paint application, degreasing and	Agriculture Statistics – at a Glance EnviStats India includes data from: Ministry of Agriculture and Farmers Welfare, Directorate of Economics and Statistics: Use of agricultural inputs – fertilisers, seeds, manure Ministry of Chemicals & Fertilizers Department of Chemicals and Petrochemicals: Production of various pesticides

Material category	Information needed	Data availability
	dry cleaning, chemical products manufacture and processing, and other sources. Information on use of laughing gas.	
Dissipative losses Dissipative losses are unintentional outputs of materials to the environment resulting from abrasion, corrosion, and erosion at mobile and stationary sources, and from leakages or accidents. This includes abrasion from tyres, friction products, buildings and infrastructure, leakages (e.g. of gas pipelines), or from accidents during the transport of goods.	Abrasion from tyres, particles worn from friction products, such as brakes and clutches, losses of materials due to corrosion, abrasion, and erosion of buildings and infrastructure, dissipative losses from the transport of goods, and leakages during (natural) gas pipeline transport (if not reported as emissions to air).	None identified
Balancing items The oxygen demand of various combustion processes (both technical and biological ones), water vapour from biological respiration, and from the combustion of fossil fuels containing water and/or other hydrogen compounds. Also, flows of considerable economic importance such as nitrogen which is withdrawn from the atmosphere to produce fertilizer in the Haber-Bosch process or groundwater used in the production of beverages are accounted for as balancing items.	For balancing items – input side: Oxygen for combustion processes Oxygen for respiration of humans and livestock; bacterial respiration from solid waste and wastewater Nitrogen for Haber-Bosch process Water requirements for the domestic production of exported beverages For balancing items – output side: Water vapour from combustion Water vapour from moisture content of fuels	EnviStats India includes data from: Ministry of Coal, Office of the Coal Controller: Statewise production of raw coal by types Ministry of Petroleum and Natural Gas: Key indicators of petroleum industry Ministry of New and Renewable Energy (MNRE): biogas, biomass Ministry of Fisheries, Animal Husbandry and Dairying: Livestock population in India

Material category	Information needed	Data availability
	Water vapour from the oxidized hydrogen components of fuels Gases from respiration of humans and livestock (CO_2 and H_2O), and from bacterial respiration from solid waste and wastewater (H_2O) Carbon dioxide (CO_2) Water vapour (H_2O) Excorporated water from biomass products	
Material footprint and domestic material consumption	Not applicable	Information on Material Footprint and Domestic material consumption is available at <u>UNEP IRP Global Material Flows Database</u>

b) Waste indicators

Indicator: 12.4.2 (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment

Indicator	Information needed	Data availability
Hazardous waste generated	"the quantity of hazardous waste generated within the country during the reported year, prior to any activity such as collection, preparation for reuse, treatment, recovery, including recycling, or export, no matter the destination of this waste".	<u>EnviStats India</u> includes data from: Central Pollution Control Board, Ministry of Environment, Forest & Climate Change
Hazardous waste generated by type, including e-waste	A breakdown of hazardous waste generated by key type of waste, including e-waste, waste engine oils, Hazardous household waste, Healthcare waste	<u>EnviStats India</u> includes data from: Central Pollution Control Board, Ministry of Environment, Forest & Climate Change Data on e-waste: <u>e-waste-management</u>; <u>EnviStats India</u>

Indicator	Information needed	Data availability
		2022: Vol II Environment Accounts
Proportion of hazardous waste treated	The total quantity of hazardous waste treated = sum of quantities of hazardous waste treated, per each type of treatment (recycling, incineration with/without energy recovery, landfilling or other) + Exports - Imports. Proportion of hazardous waste treated = Quantity of hazardous waste treated ÷ Total quantity of hazardous waste generated	EnviStats India includes data from: Central Pollution Control Board, Ministry of Environment, Forest & Climate Change
Hazardous waste intensity of production	= Quantity of hazardous waste generated ÷ Domestic material consumption	EnviStats India includes data from: Central Pollution Control Board, Ministry of Environment, Forest & Climate Change Domestic material consumption is available at UNEP IRP Global Material Flows Database

c) National recycling rate

Indicator	Information needed	Source
National recycling rate	Amount of waste generated, material recycled, material exported for recycling, material imported intended for recycling in the country Total MSW generated (t/day)	EnviStats India includes data from: Central Pollution Control Board, Ministry of Environment, Forest & Climate Change

Indicator	Information needed	Source
	Quantity of material recycled from MSW stream	
Total Waste Generated (excluding construction, mining and agriculture) by type, including e-waste	Waste from manufacturing (ISIC 10-33) + Waste from electricity, gas, steam and air conditioning supply (ISIC 35) + Waste from other economic activities (excluding ISIC 38) + Municipal waste (excluding construction and demolition)	EnviStats India includes data from: Central Pollution Control Board, Ministry of Environment, Forest & Climate Change
National recycling rate by type of waste	Waste streams can include e-waste metals (ferrous, non-ferrous) packaging waste	EnviStats India includes data from: Central Pollution Control Board, Ministry of Environment, Forest & Climate Change Data on e-waste: e-waste-management; EnviStats India 2022: Vol II Environment Accounts
Waste intensity	Total waste generated ÷ Domestic material consumption	EnviStats India includes data from: Central Pollution Control Board, Ministry of Environment, Forest & Climate Change Domestic material consumption is available at UNEP IRP Global Material Flows Database

Stakeholders

a) National Government Stakeholders

The *Ministry of Statistics and Programme Implementation*: The Ministry releases statistics based on administrative sources, surveys and censuses conducted by the central and State Governments, and non-official sources and studies.

- The National Statistics Office ([NSO](#)) is the nodal agency for planned development of the statistical system in India and coordinates the statistical work in respect of the Ministries/Departments of the Government of India and State Statistical Bureaus (SSBs). The Office prepares national accounts and sets out and maintains norms and standards for statistical data.

Ministry of Agriculture and Farmers Welfare, Directorate of Economics and Statistics: The [Directorate](#) collects in formation on production, imports and exports of major crops, and the use of agricultural inputs such as seeds and fertilisers, including manure. Data are available on published in [Agricultural Statistics at a Glance](#). Data on pesticide use are available in the Directorate of Plant Protection, Quarantine & Storage's [Statistical Database](#).

Ministry of Chemicals and Fertilizers: The Ministry comprises of three departments – the [Department of Chemicals and Petrochemicals](#) responsible for policy, planning, development and regulation of chemicals and petrochemicals industries, including production and use of chemical pesticides, the [Department of Fertilisers](#) which ensures access to fertilizers, and the Department of Pharmaceuticals.

Ministry of Coal: The [Coal Controller's Organisation](#) is a subordinate office of the [Ministry](#). It compiles statistics under the authority of the *Collection of Statistics Act, 1953* and the *Collection of Statistics (Central) Rules, 1959*.

Ministry of Commerce and Industry: The [Directorate General of Commercial Intelligence and Statistics](#) is the pioneer official organization for collection, compilation and dissemination of India's trade statistics and commercial information and undertakes an annual survey of industries.

Ministry of Environment, Forest & Climate Change: The [Ministry](#) is the nodal agency for the planning, promotion, co-ordination and overseeing the implementation of India's environmental and forestry policies and programmes. The broad objectives of the Ministry include protection of the environment and the prevention and control of pollution. The mandate of the Central Pollution Control Board is to ensure water quality through the prevention, control and abatement of water pollution, and to promote good air quality through prevention, control or abatement of air pollution. The [Statistical Cell](#) advices the ministry on official statistical matters, provides data to [EnviStats India](#), and coordinates the implementation of SDGs and related frameworks in the Ministry.

Ministry of Fisheries, Animal Husbandry and Dairying: The [Animal Husbandry Statistics Division](#) of the [Ministry](#) compiles and publishes the Basic Animal Husbandry and Fisheries Statistics report which provides data on livestock populations, fish production and the import and export of livestock and marine products.

Ministry of Mines: The [Ministry](#) compiles data on production, imports and exports of minerals. The [Indian Bureau of Mines](#) is the nodal agency for statistics on mineral sector in India and publishes the [Indian Minerals Yearbook](#).

Ministry of New and Renewable Energy: The Ministry is a source of the production and use of [biofuels](#).

Ministry of Panchayati Raj: The [Ministry](#) oversees the process of decentralisation and local governance.

Ministry of Petroleum and Natural Gas: The [Ministry](#) promotes the exploration and production of oil & natural gas, refining, distribution and marketing, import, export and conservation of petroleum products. The [Economic and Statistics Division](#) publishes the Indian Petroleum and Natural Gas Statistics.

b) **Other stakeholders**

Regional and municipal governments

- Association of Municipalities and Development Authorities (https://amdaindia.org/)
- City Managers' Association Gujarat (http://www.cmagindia.org/)
- City Managers' Association Karnataka (https://cmakarnataka.blogspot.com/)
- City Managers' Association Madhya Pradesh (www.cmamp.com/)
- City Managers' Association Orissa (https://www.undrr.org/organization/city-managers-association-orissa)
- City Managers' Association Rajasthan (http://cmar-india.org/)

Industry

- *All India Association of Industries ([AIAI](#))*: The Association aims to promote entrepreneurship and facilitate industrial growth as trade and industry form an integral part of economic development of the country.
- *Confederation of Indian Industry ([CII](#))*: The association works to create and sustain an environment conducive to the development of India, partnering industry, Government, and civil society, through advisory and consultative processes.
- *Federation of Indian Chambers of Commerce and Industry ([FICCI](#))*: FICCI engages with policy makers and civil society. It articulates the views and concerns of India's business and industry.
- *Indian Chamber of Commerce ([ICC](#))*: The premier voice of business and industry in Eastern and North-Eastern India. Sectors of involvement include agro- and food processing, chemicals and fertilizers, coal, energy, minerals and metals, and oil and gas.
- *Industrial Waste Management Association ([IWMA](#))*: Formed on the directive of Tamil Nadu Pollution Control Board its mandate is to establish safe disposal facilities industrial waste in accordance with the Hazardous Waste Rules and Environment Protection Act, 1986.
- *National Solid Waste Association of India ([NSWAI](#))*: The leading organization in the field of solid waste management in India. NSWAI's mission is to facilitate a circular economy, build an ecosystem to formalize the waste management sector and create a sustainable value chain to make a social, economic and environmental impact.