

Government of India
Ministry of Environment, Forest & Climate Change
(EI Division)

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Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS Resource Partner-NBRI

1. Name of Host Organization:	CSIR-National Botanical Research Institute (NBRI), Lucknow
2. Assigned Subject Area:	Plants and Pollution
3. Date/Month/Year of establishment of ENVIS Centre:	2005
4. Name and designation of ENVIS Coordinator (2018-19):	Dr. Vivek Srivastava Principal Scientist CSIR-National Botanical Research Institute (NBRI), Rana Pratap Marg, Lucknow-226001
5. Has the Host Organization constituted an Advisory Committee for guiding the activities of the Centre?	Yes, the host organization constituted an Advisory Committee for guiding the activities of the Centre.
Composition of the Advisory Committee: (Select YES or NO: if YES kindly fill the right column space; if NO kindly leave it blank) <input type="radio"/> YES ✓ <input checked="" type="radio"/> NO	<ol style="list-style-type: none"> 1. Dr. U.C. Lavania, INSA Fellow (Chairman) 2. Dr. D.K. Upreti, Emeritus Scientist, CSIR NBRI (Co-Chairman) 3. Prof. R.P. Singh, B.B.R. Ambedkar University, Lucknow 4. Dr. S. Lavania, HOD, Dept. of Botany, University of Lucknow, Lucknow 5. Dr. Manoj Semwal, Senior Scientist, CSIR CIMAP 6. Dr. P. A. Shirke, Senior Principal Sci., CSIR NBRI 7. Dr. R. D. Tripathi, Emeritus Sci. CSIR 8. Dr. S. K. Tewari, Senior Principal Scientist 9. Dr. Vivek Srivastava, Coordinator, ENVIS

6. Current ENVIS-RP-NBRI Staff Structure:	Name	Position held	Qualification and Experience	Joining Date in ENVIS Centre	Joining Date in current position	2019-20		
						Leaving Date (if applicable)	Emoluments drawn (Rs.)	
							Monthly	Annual
	Mr. Sunil Tripathi	Programme Officer	M.Sc (Botany), ADCA, Ad.PGD in Bioinformatics, PG Diploma in IPRs	22/03/2018	22/03/2018	---	42,446	5,09,352
	Mr. Diwakar Saini	Information Officer	BSc.(PCM),Master of Computer Applications (MCA), ADCA Diploma One Year from SSI, GIS three days Training (MoEF&CC) With BISAG Gandhi Nagar, Gujrat, ArcGis Two days training with ESRI at NBRI Lucknow	03/07/2017	03/07/2017	---	35,452	4,25,424
	Mrs. Amrita Awasthi	IT Officer	MSc.(Applied Microbiology & Biotechnology)	04/09/2018	04/09/2018	04/12/2019	28,672	3,44,064
	Mrs. Vineeta Yadav	Data Entry Operator	BSc.(PCM),Master of Computer Applications (MCA), Polytechnic Diploma in 6 months, Typing Certificate in 3 months	18/12/2017	18/12/2017	17/12/2019	13,310	1,59,720

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

7.	Mandate of the CSIR-NBRI	Mandate of the ENVIS RP-NBRI
	To undertake basic and applied R&D programmes in several strategically important areas of plant sciences.	systematically collect, compile and disseminate data on Plants and Pollution, which will be of immense use to several research organizations, town planners, policy makers, teachers and other stakeholders.

8. Databases:

8.1. Catalogue of Non-numeric Databases compiled by the ENVIS-RP-NBRI till date:

Sl. No.	Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/yr of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
1.	Acid rain	<ul style="list-style-type: none"> • Introduction of acid rain, • Causes and sources of acid rain, • Chemistry of acid rain • Effects of acid rain on soil, vegetation, plants, microorganisms and water bodies, • References. 	Descriptive with figure showing acidic effect of acid rain on plants.	Date of upload: 30/3/2013 (Monthly) Date of last update: 20/03/2020	Search engines of internet & different scientific publications	Uploaded on website
2.	Fluoride	<ul style="list-style-type: none"> • Introduction of Fluoride, • Injury symptoms, • Indicators, • coniferous tree, deciduous trees..... • References. 	Descriptive with image of effect of Fluoride on coniferous tree.	Date of upload: 9/4/2013 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
3.	Bioremediation	<ul style="list-style-type: none"> • Introduction, • Phytoremediation, • Phytoextraction • Hyperaccumulator species • Phytodegradation/Biodegradati on • Rhyzofiltration, • Phytovolatilization, • References 	Descriptive with table of metal hyper accumulator species and their bioaccumulation potential.	Date of upload: 11/4/2013 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
4.	Nanoparticle	<ul style="list-style-type: none"> • Introduction, • Usages and advantages of Nanoparticles. • References. 	Descriptive with images of Nanoparticles and graphical representation of synthesis of Nanoparticles	Date of upload: 17/4/2013 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
5.	Biogas	<ul style="list-style-type: none"> • Introduction, • Production, • Gas formation, • Composition, biogas upgrading. • First biogas plant.... • References. 	Descriptive Graphical with images of Biogas formation plant and process.	Date of upload: 24/5/2013 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
6.	Green House Gases	<ul style="list-style-type: none"> • Introduction, • Green house gases....., • Impact of global warming, agriculture, forest..... • References. 	Descriptive Graphical with image of green house gases in normal natural level.	Date of upload: 27/5/2013 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
7.	Metal/ Metalloid	<ul style="list-style-type: none"> • Introduction, 	Descriptive Graphical with	Date of upload: 27/9/2013	As above	Uploaded on website

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

Sl. No.	Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/yr of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
		<ul style="list-style-type: none"> • Sources, • Bioindicators • Accumulators • References 	table of hyper accumulator plants for Metal/Metalloid	(Monthly) Date of last update: 20/03/2020		
8.	Nitrogen oxides	<ul style="list-style-type: none"> • Introduction, sources, • Effects, • Indicators, • Factors effecting sensitivity, • References 	Descriptive with images of some crop species such as bean, leak and pea are regarded as very sensitive to nitrogen oxides.	Date of upload: 23/10/2013 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
9.	Smog	<ul style="list-style-type: none"> • Introduction, • causes of smog, • Effects on plants, • Ozone diminished photosynthesis • Economic hardship • Detection of smog. • references 	Descriptive with images of effect of ozone on plant leaf surface	Date of upload: 21/11/2013 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
10.	Indoor air pollutants	<ul style="list-style-type: none"> • Indoor air pollutants..... • Simple steps to remove indoor air pollutants. • Some example of indoor..... • References 	Descriptive Graphical with images of sources of indoor air pollutants	Date of upload: 6/12/2013 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
11.	Mercury (Hg) in the environment	<ul style="list-style-type: none"> • Hg in the environment • Selenium Applied to Reduce Mercury Accumulation in Rice • Mercury Accumulator plants • Hg accumulates in the food chain, • Movement of metals within plant roots, • Hg effects on plants • References 	Descriptive with images of Mercury Pollution....., Selenium Successfully Applied to Reduce Mercury Accumulation in Rice, Hg accumulator, Hg in food chain.	Date of upload: 8/6/2014 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
12.	Cadmium (Cd) and plants	<ul style="list-style-type: none"> • Introduction, • Effects of Cd exposure to plants at different levels in photosynthetic machinery • Effect of Cd on ROS generation, • Cd effect on plant growth and enzymes, • Long distance transport of heavy metals and references 	Descriptive with image of effect of cadmium on plant, Cd effect on plant growth, long-distance transport of heavy metals, list of sensitive plants of cadmium contamination and accumulation tendency for cadmium in various crop samples.	Date of upload: 8/7/2014 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
13.	Lead (Pb) effects on plants	<ul style="list-style-type: none"> • Lead effects on Plants • Source of lead pollution, • Effects of lead, enzymes activities, 	Descriptive with representation of sources of lead in environment, lead	Date of upload: 19/8/2014 (Monthly)	As above	Uploaded on website

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

Sl. No.	Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/yr of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
		<ul style="list-style-type: none"> Lead tolerance in plants, Photosynthesis and references 	toxicity in plants, mechanism of tolerance and accumulation of metal and effect of lead on plant physiology	Date of last update: 20/03/2020		
14.	Chromium (Cr)	<ul style="list-style-type: none"> Introduction of chromium, Physiological responses of plants to chromium, Effect of chromium on plant physiology, Nutritional and toxic effect of chromium, Toxicity of chromium to plants, Chromium in the environment and references 	Descriptive with image of chromium plant interaction and relationship, Cr in soil and water, Lemna plants growth under Cr (VI) induced stress, Reduction of Cr (VI) to Cr (III) in plant cells and medium, Enhancing phytoremediation of chromium-stressed soils through plant-growth-promoting bacteria	Date of upload: 5/12/2014 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
15.	Lindane insecticide	<ul style="list-style-type: none"> Introduction, Technical lindane, Enzymatic basis of lindane degradation and in microorganisms, Rhizoremediation of lindane, Mode of dose transfer of lindane, Environmental fate and references 	Descriptive with chemical properties of Lindane, images of insects treated by lindane and mode of dose transfer of Lindane	Date of upload: 16/12/2014 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
16.	Arsenic	<ul style="list-style-type: none"> Introduction of As, Arsenic Chemistry, Arsenic contamination, Toxicity of Arsenic and Environmental transport and distribution References 	Descriptive with images of Skin diseases caused by Arsenic toxicity, As standards of WHO, EU, US EPA, table of countries contaminated with As	Date of upload: 16/12/2014 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
17.	Endosulfan	<ul style="list-style-type: none"> Present scenario of pesticides Phytoremediation Remediation of Endosulfan Phytoremediation Using Selected Plant Species Rhizoremediation of endosulfan Degradation pathway in plants Environmental Effects Precautions... References 	Descriptive with images of chemical structure of endosulfan.....and transport and chemical degradation of endosulfan	Date of upload: 17/12/2014 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
18.	Sulphur dioxide (SO ₂)	<ul style="list-style-type: none"> Introduction of SO₂, injury symptoms, indicators, 	Descriptive with images of plant's leaf injured by exposure of SO ₂	Date of upload: 23/12/2014 (Monthly)	As above	Uploaded on website

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

Sl. No.	Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/yr of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
		<ul style="list-style-type: none"> Coniferous tree, Deciduous trees and shrubs, Bryophytes and Fungi showing injury symptoms, and factor effecting sensitivity Reference 	and table showing plant species sensitive to SO ₂	Date of last update: 20/03/2020		
19.	Nickel	<ul style="list-style-type: none"> Introduction Sources of Nickel Inventory of nickel in various global environmentl Nickel is delivered into the environment by several pathways Nickel toxicity in Plants Nickel deficiency Nickel distribution in plant organs Toxic Effects of Ni on Plants References 	Descriptive with image of Nickel toxicity in Plants, Severe leaflet tip necrosis due to nickel deficiency in nitrogen-fixing plants..., Pecan—a hydrophilic species: Ni enables normal spring growth upon application to foliage soon after bud break, Plants showing Nickel treatment, Sugar beet plant showing Nickel toxicity	Date of upload: 5/5/2015 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
20.	Zinc	<ul style="list-style-type: none"> Introduction Importance of Zinc in Plant Growth Role of Zinc in the Crop Crops that respond to zinc Zinc Deficiency in Crop Symptoms of Zinc deficiency include following symptoms Soil Conditions that can result in Zinc deficiency include Soil conditions and the need for Zinc fertilizers Diagnosing Zinc Disorders References 	Descriptive with image of Role of Zinc in the Crop, Sufficiency levels of Zinc for major agronomic crops, vegetable, and fruits grow in Minnesota, Zinc Deficiency in Crop, Symptoms of Zinc deficiency, Soil Conditions that can result in Zinc deficiency, Soil conditions and the need for Zinc fertilizers, Diagnosing Zinc Disorders	Date of upload: 8/5/2015 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
21.	Copper	<ul style="list-style-type: none"> Introduction Copper is essential for many plant functions. Factors Affecting Availability High Response Crops Copper toxicity 	Descriptive with image of Copper toxicity, Effects on plants growth, Using Copper in a	Date of upload: 20/4/2015 (Monthly) Date of last update:	As above	Uploaded on website

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Sl. No.	Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/yr of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
		<ul style="list-style-type: none"> • Copper sulphate • Effects on plants growth • Using Copper in a Fertilizer Program • Copper deficiency • Copper in the environment • References 	Fertilizer Program, Copper deficiency, Copper in the environment	20/03/2020		
22.	Iron	<ul style="list-style-type: none"> • Introduction • Iron and Plant • Distribution of Iron in Plants • Iron Toxicity • Cause of Iron Toxicity and Prevention • Symptoms of Iron deficiency • Treatment options for iron deficiency in trees and shrubs • Iron chlorosis • Causes of Iron chlorosis • Prevention and control of Iron chlorosis • Susceptibility of plants to Iron deficiency • Several following methods are available for treating Iron deficiency • Advantages and disadvantages of Iron chlorosis control methods • Fe chelation and long distance Fe transport • Transcriptional changes in response to Fe deficiency in specific root layers • References 	Descriptive with image of Iron transport in rice, Model of acquisition and transport of iron in plants with an emphasis on changes of the iron-binding..., Iron toxicity on marigold, Symptoms of Iron deficiency, Iron chlorosis, Fe chelation and long distance Fe transport, Transcriptional changes in response to Fe deficiency in specific root layers,	Date of upload: 20/5/2015 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
23.	Neonicotinoids	<ul style="list-style-type: none"> • Introduction • Neonicotinoids contaminated ecosystem • Agricultural performance of Neonicotinamide • Seed Coating • Importance of bee in agriculture • Neonicotinoid and Pollinators • Evidence for impacts on non-target organisms • Environmental concerns 	Descriptive with image of Neonicotinoids contaminated ecosystem, Agricultural performance of Neonicotinamide, Seed Coating, Importance of bee in agriculture, Neonicotinoid and Pollinators, Environmental concerns	Date of upload: 5/12/2016 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
24.	Organophosphate	<ul style="list-style-type: none"> • Introduction • Types of Organophosphorus compounds or organophosphates (OPs) group • Mechanisms of toxicity • Impact on Crop and Distribution pathways • Organophosphorus pesticides are mainly used in crop protection • OPs in the environment • References 	Descriptive with image of Corn uptake and insecticide use in field, Mechanism of Ops Toxicity, Root maggots are less than 1/3 of an inch and tunnel through the crop	Date of upload: 12/1/2016 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

Sl. No.	Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/yr of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
			roots, Consumption of organophosphate pesticides by various crops, Distribution Pathway for agricultural pesticides, Organophosphorus pesticides are mainly used in crop protection ,			
25.	Carbofurans	<ul style="list-style-type: none"> • Introduction • Carbofuran Application • Carbofuran Mode of action • Carbofuran pesticides use in Agricultural field • Safety for the environment • References 	Descriptive with image of sprays carbofuran on a tree, Carbofuran Application, Carbofuran Mode of action, Degradation pathway of Carbofuran, Carbofuran pesticides use in Agricultural field, Carbofuran in the environment	Date of upload: 15/12/2016 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
26.	Wasteland management through plants	<ul style="list-style-type: none"> • Waste Land • Classification of waste land • Categories of Wastelands in India • Causes of land degradation • Choice of Plant Species for Waste land Management • Plant species used for remediation • Mining/Industrial waste land • Wasteland Development Schemes • Major Ongoing Project • Objectives • Activities: The major activities taken up under the scheme • Modified strategies and suggestions • References 	Descriptive with image of Waste Land Management through Plant, Classification of waste land, Categories of Wastelands in India, Causes of land degradation, Plant species used for remediation, Some more plant species used ... ,	Date of upload: 22/9/2015 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
27.	Role of plants in CO ₂ sequestration	<ul style="list-style-type: none"> • Introduction • Terrestrial • Geologic • Participation of Plant • Carbon sequestered into the soil • Forests Are Truly a Green Way to Reduce CO₂ • References 	Descriptive with image of Role of Plants in CO ₂ Sequestration, Possible functional role of root exudate	Date of upload: 11/11/2015 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"




Sl. No.	Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/yr of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
			components in the rhizosphere ¹⁰ , Participation of Plant, n Carbon sequestered into the soil, Forests Are Truly a Green Way to Reduce CO ₂			
28.	Climate change- CO ₂ enrichment	<ul style="list-style-type: none"> • Introduction • Five common methods of generating extra amounts of CO₂ • High CO₂ Makes Crops Less Nutritious • Quality and Quantity • Climate change affected CO₂ level in the environment • Project Publications Related to CO₂ enrichment • References 	Descriptive with image of effect of elevated CO ₂ enrichment, Maize and wheat yield show climate impact, High CO ₂ Makes Crops Less Nutritious, Climate change affected CO ₂ level in the environment, what we should consider to crop with climate change	Date of upload: 7/10/2015 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
29.	Climate change- Methane	<ul style="list-style-type: none"> • Introduction • Source • Methane Emission • CH₄ production, transport and consumption • Methane impacts on Climate change • References 	Descriptive with image of estimated sources of methane, Microbial turnover of methane and transport pathways of gases in wetlands, CH ₄ production, transport and consumption in the rice rhizosphere. Reactions within..., Methane impacts on Climate change	Date of upload: 16/10/2015 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
30.	Ozone	<ul style="list-style-type: none"> • Introduction, • Injury symptoms, • Yield loss caused by O₃ • Indicator of Ozone, • Herbs/Grasses/Crops • Coniferous tree 	Descriptive with images of injury symptom of ozone on plants	Date of upload: 26/12/2017 (Monthly) Date of last update: 20/03/2020	Search engines like: Pub med, Science Direct, Google	Uploaded on website

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"







Sl. No.	Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/yr of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
		<ul style="list-style-type: none"> Deciduous trees and shrubs Bryophytes References 			Scholar etc. Magazines like: Down to earth, The pollution	
31.	Nitrogen fertilizer	<ul style="list-style-type: none"> Introduction Properties of Nitrogen fertilizers Uses Nitrogen fixing cover crops Nitrogen transformation in the soil Enhancing fertilizer efficiency Eco friendly liquid formulation for nitrogen fertilizer protection Benefits References 	Descriptive with images of Graph of Nitrogen fertilizer in environment of US, Image of Nitrogen fixing cover crops, Nitrogen cycle, Graph of Nitrogen fertilizer in winter wheat	Date of upload: 10/6/2017 (Monthly) Date of last update: 20/03/2020	As above	Uploaded on website
32.		<ul style="list-style-type: none"> Introduction, Uses of Aromatic hydrocarbons, Symptoms and Signs of Hydrocarbon toxicity, Polycyclic aromatic hydrocarbons (PAHs), References 	Descriptive with images Symptoms and Signs of Hydrocarbon toxicity and Polycyclic aromatic hydrocarbons (PAHs)	Date of upload: 26/12/2018 (Monthly) Date of last update: 20/03/2020	Search engines like: Pub med, Science Direct, Google Scholar etc. Magazines like: Down to earth, The pollution	
33.	Carbon monoxide	<ul style="list-style-type: none"> Introduction Properties of Carbon monoxide Uses Carbon Monoxide Sources in the Home Some Indoor plants for removing formaldehyde, benzene, and carbon monoxide from the air Benefits References 	Descriptive with images Indoor plants for removing formaldehyde, benzene, and carbon monoxide from the air	Date of upload: 10/1/2018 (Monthly) Date of last update: 20/03/2020	As above	
34.	Suspended Particulate Matter	<ul style="list-style-type: none"> Introduction Microscopic solid or liquid matter suspended in the Earth's atmosphere Sources of particulate matter How are particles formed Causes of Particulate Matter Man Made Causes Effects of Particulate Matter Benefits References 	Descriptive with images of Graph of Effects of Particulate Matter and main group	Date of upload: 10/2/2018 (Monthly) Date of last update: 20/03/2020	As above	

9. Information/ Knowledge Products:

9.1 ENVIS-RP-NBRI Newsletters published during the Financial Year (2019-20):

Cover snapshot	Quarter/ Volume/ Issue/ Theme Main Articles	Number of copies printed and circulated	URL of the PDF file in ENVIS website
	Vol.15, No.02	500	http://nbrienvis.nic.in/PublicationCommon.aspx?LinkId=740
	Vol.15, No.03	500	http://nbrienvis.nic.in/PublicationCommon.aspx?LinkId=740
	Vol.15, No.04	500	http://nbrienvis.nic.in/PublicationCommon.aspx?LinkId=740

9.2. ENVIS-RP-NBRI Brochure published during the Financial Year (2019-20):



Cover snapshot			URL of the PDF file in ENVIS website
			http://nbrienvs.nic.in/PublicationCommon.aspx?LinkId=740
			

9.3. Information Products published/ released during last five years:

9.3.1. Information Products published:

Publication / Product	Theme(s)/ Subject Area(s)	Year of Publication	URL of the PDF file in ENVIS website
Bibliography	Arsenic with special reference to plants	2008	http://www.nbrienvs.nic.in/WriteReadData/Publication/oth_634825317586184608_oth_634793284999489462_Arsenic_Pollution.pdf
Bibliography	Climate Change	2011	http://www.nbrienvs.nic.in/WriteReadData/Publication/oth_634825331816198412_oth_634793262920506617_A4-Size_Bibliography-2011.pdf
Bibliography	Transgenic Plants Used for Phytoremediation	2013	http://www.nbrienvs.nic.in/WriteReadData/Publication/NBRI%20Bibliography.pdf
Case Study	Case studies on phytoremediation	2014	http://www.nbrienvs.nic.in/WriteReadData/Publication/Case%20Studies.pdf
Case Study	Case Studies on Waste Land Management and Ecorestoration	2015	http://nbrienvs.nic.in/WriteReadData/Publication/NBRI%20-%20Case%20Study%202015.pdf

9.3.2. Other publications/ information products

Cover snapshot	Publication/ Product Theme(s)/ Subject Area(s)	Number of copies printed and circulated	URL of the PDF file in ENVIS website
	<p>“Green Planner” <i>‘Plants for Air Pollution Control’</i></p> <p>Android Mobile Application</p>	<p>To be available from the “Google Play” after launching https://play.google.com/store/apps/details?id=com.nbri_csir</p>	<p>http://nbrienvi.nic.in/Database/1_2414.aspx</p>
	<p>“Green Planner” <i>‘Plants for Air Pollution Control’</i></p> <p>iOS Mobile Application</p>	<p>To be available from the “iTunes” after launching https://itunes.apple.com/us/app/envi-s-nbri-%20green-planner/id1367801500?ls=1&mt=8</p>	<p>http://nbrienvi.nic.in/Database/2_2621.aspx</p>

10. ENVIS Website (ENVIS-RP-NBRI whose Website has been restructured may provide the Performance Report/Graphs generated therein wherever possible):

- 10.1. **URL:** <http://www.nbrienvis.nic.in>
- 10.2. **Status of restructuring of Website:** Restructured on (07/07/2014)
- 10.3. **Frequency of updating Website 2019-20:** *
- 10.4. **Subject-specific database updation (numeric/ others):** 34
- 10.5. **Publication uploaded/ updated on Website (2019-20):** *

11. User Engagement and Interaction

<i>User engagement and interaction</i>	<i>FY 2015-16</i>	<i>FY 2016-17* (as on 31-March-2017)</i>	<i>FY 2017-18*</i>	<i>FY 2018-19* (as on 31-March-2019)</i>	<i>FY 2019-20* (as on 31-March-2020)</i>
i. Total number of visits	111557	122442	*	1100117	1365287
ii. Number of unique visits	7028	12900	*	*	*
iii. Reports Downloaded/Read	745	224	*	*	*
iv. Total Number of Queries received	90	177	*	*	*
v. Number of Queries responded	90	180	*	*	*

***These data could not retrieved from the Website Admin Panel/ Performance Reports due to HTTP error display; ENVIS Secretariat has been informed about this error).**

Mode of Query Receipt	Number of Queries Received	Number of Queries Responded	Reasons for shortfalls, if any, and action taken to rectify
Online (CMS based website)	*	*	NA
Email (official NIC server)	-	-	NA
Postal/Telephonic (incl. hand post)	26	26	NA
Physical	417	417	NA

12. Implementation of Annual Plan of Activities of the Financial Year (2019-20):

Activity/ Target	Achievements	Shortfalls, if any, and reasons therefore
Centre's proposed activities 2019-20		
1. Up-gradation of website	Updation with latest information	
2. E-News and Subjective News	Updation with latest information	
3. Photo gallery	Updatons of activities photograph http://nbrienvis.nic.in/ViewAlbum.aspx	

Activity/ Target	Achievements	Shortfalls, if any, and reasons therefore
4. Compilation of Abstract, bibliography, New Articles, events etc on the subject area	Up-gradation on the website http://nbrienvs.nic.in/Archive_Modules.aspx?Year=2019&Mid=100 http://nbrienvs.nic.in/Bibliography.aspx?Name=	
5. Information on R & D institutions, policy, programmes and guidelines in the subject area	Up-gradation on the website http://www.nbrienvs.nic.in/Database/1_1745.aspx	
6. List of Journals in Publication section	Uploaded on the website http://www.nbrienvs.nic.in/PublicationCommon.aspx?LinkId=1399	
7. List of Theses in Publication section	Uploaded on the website http://nbrienvs.nic.in/PublicationCommon.aspx?LinkId=738	
8. List of Books in Publication section	Uploaded on the website http://nbrienvs.nic.in/PublicationCommon.aspx?LinkId=739	
9. Newsletter in Publication section	Published Four Quarterly Newsletters (please see 9.1 of this report)	
10. List of Case studies in Publication section	Uploaded on the website http://nbrienvs.nic.in/PublicationCommon.aspx?LinkId=741	
11. Videos	Uploaded on the website in publication and kind section http://www.nbrienvs.nic.in/PublicationCommon.aspx?LinkId=1385 http://www.nbrienvs.nic.in/KidsCentre/Videos_1675.aspx	
12. List of Presentations in Publication section	Uploaded on the website http://nbrienvs.nic.in/PublicationCommon.aspx?LinkId=1397	
13. Latest News section	Uploaded on the website http://nbrienvs.nic.in/LinkPage.aspx?Year=2019&Mid=4	
14. Glossary section	Uploaded on the website http://nbrienvs.nic.in/SearchGlossary.aspx?Name=	
15. List of activity in Major Activity section	Uploaded on the website http://nbrienvs.nic.in/LinkPage.aspx?Year=2020&Mid=7	
16. R & D projects report	Uploaded on the website http://www.nbrienvs.nic.in/Content/1_2097.aspx	

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

Activity/ Target	Achievements	Shortfalls, if any, and reasons therefore
17. Networking	Up-gradation, Weekly	
18. List of experts	Uploaded on the website http://nbrienvis.nic.in/Content/experts_120.aspx	

‘National Review Meet: ENVIS-2019’ at Ganga Auditorium, Vayu Wing, MoEF&CC, Jor Bagh, New Delhi during April 2nd to 3rd, 2019.

A. Regular Activities: Web-based Environmental Information

Collection and Compilation of Information and Data

1. Development and regular updation of <i>databases</i> (descriptive, numeric, pictorial, geospatial, etc.) on the assigned subject area and regular uploading of the same in the <i>Subject Area</i> section of the ENVIS Website, after due verification/ authentication, with suitable referencing of data sources.	Done	
2. Compilation of <i>Abstracts, Bibliography, News articles, Events, etc.</i> on the subject area and uploading the same in the relevant section of ENVIS Website.	Done	
3. Identification of data gaps and formulation with implementation of action plan to fill them.	Need of a mobile application on list of plants mitigating air pollutants as suggested by the Advisory Committee of ENVIS-RP-NBRI. In follow- up, An android mobile app and iOS Mobile App has been developed.	

Maintenance of ENVIS Website and User Engagement through it

4. Maintaining the ENVIS Website up-to-date and user-engaging, and as an inventory of authentic and reliable information in the subject area	Done	
5. Query-Response/ Referral service to stakeholders.	Up to date	
6. Developing and upgrading a Kids' Corner.	Done	
7. Maintaining a disaggregated record of visitors, including unique visitors, to the Website.	Done	

Publications and Value-Addition

8. Publishing 4 <i>Newsletters</i> and uploading the same in the relevant section of ENVIS Website.	Done (3 Newsletters have been published)	1 is under press * release of grant is pending
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Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

9. Processing/ analyzing data collected and bringing out value-added information Products	The android mobile app and iOS mobile app have been developed on list of plants mitigating air pollutants, namely " Green Planner ".	
10. Collecting books, reports and journals on the subject area; Uploading e-versions of books, reports, etc. on the ENVIS Website. Uploading <i>Abstracts</i> of books, reports, journals and articles of those whose e-versions are not available.	Done	

Reaching-out/Networking Activities		
11. National Review Meet: ENVIS – 2019 during 2nd April to 3rd April 2019	ENVIS Secretariat of Ministry of Environment, Forest & Climate Change (MoEF&CC) organized a ' National Review Meet: ENVIS ' at Ganga Auditorium, Vayu Wing, MoEF&CC, Jor Bagh, New Delhi during April 2 nd to 3 rd April, 2019. ENVIS-Coordinator, Program Officers and Information Officers of 67 ENVIS Centers, i.e., 35 ENVIS- RPs and 32 State Hubs across the nation took participate and displayed their activities and knowledge products on 'Thematic mandates' and 'State of the Environment and Related issues' in the form of posters, banners, products and manuals in ENVIS exhibition. Program started with the inauguration of ENVIS exhibition by Shri C.K Mishra , Secretary, MoEF&CC accompanied by Dr. Anandi Subramaniam , Principal Economic Advisor, MoEFR&CC, Mr. Yashvir Singh , Economic Advisor, Ms. Urmila B , Joint Director EI Division, MoEF&CC and other members of the ENVIS Secretariat. http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=7738&Year=2019	
12. DG, CSIR Visit to NBRI (2-3 May, 2019)	Dr. Shekhar C. Mande , DG CSIR visited CSIR-NBRI during 2-3 May, 2019. He inspected the laboratories of CSIR located in Lucknow and got updated by the activities and achievements of belonging departments. Dr. Pankaj Kumar Srivastava and Dr. Babita Kumari briefed about the regular activities of ENVIS-RP-NBRI and success story of two courses run under GSDP program. He took his keen interest in Green Planner App and appreciated its role. http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=5721&Year=2019	
13. ENVIS-RP-NBRI celebrated 'World Environment day' on 8th June, 2019	ENVIS-RP-NBRI celebrated ' World Environment day ' on 8th June, 2019. The theme of this occasion was " Air pollution ". Prof. S.K. Barik , Director, CSIR-NBRI welcomed the Chief Guest Dr. A.A. Mao, Director , Botanical Survey of India. Dr. Mao	

	<p>elaborated the importance of biodiversity especially for Rhododendron. On this occasion, prize has been distributed to winners of Environment Quiz that was organized by Dr. Vivek Pandey, Sr. Principal Scientist, CSIR-NBRI. ENVIS-RP-NBRI team members explained the ENVIS activity to Hon'ble Chief Guest and provide him the copies of ENVIS-RP-NBRI Newsletters. http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=5722&Year=2019</p>	
<p>14. ENVIS-RP-NBRI Activity in Jigyasa-19</p>	<p>Under the Jigyasa programme, students of Kendriya Vidyalaya from different districts of Uttar Pradesh i.e., Basti, Varanasi and Allahabad visited to CSIR-NBRI on 27 May, 15 July, 22 July and 24 July, 2019. These students had been introduced with the current researches going on in the institute. The importance and role of ENVIS-RP-NBRI was briefed before them. Beside, application of Green Planner was also explained. Lecture on 'Vertical Garden' was presented by Dr. Babita Kumari, Co-coordinator. ENVIS-RP-NBRI team members actively participated for explaining the role of plant to mitigate the indoor and outdoor pollution. They also displayed and distributed ENVIS-RP-NBRI Newsletters to the teachers and students. http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=5723&Year=2019</p>	
<p>15. ENVIS-RP-NBRI celebrated 'World Ozone day' on 16th September, 2019</p>	<p>1. At Seth M.R. Jaipuria School, Gomti nagar, Lucknow ENVIS-RP-NBRI celebrated 'World Ozone day' on 16th September, 2019 in Seth M.R. Jaipuria School, Gomti nagar, Lucknow. Dr. Babita Kumari, Co-ordinator, ENVIS-RP-NBRI, CSIR-NBRI delivered lecture on 'World Ozone day' and briefed about the ozone layer, ozone depletion and its harmful effects. She also introduced students about the 'Montreal Protocol' and steps taken by India and other countries to phase out the Ozone Depleting Substances. Students took keen interest to know about ozone hole and raised various questions that had been answered by her. ENVIS-RP-NBRI team members, Mr. Diwakar Saini, Ms. Amrita Awasthi, and Ms. Vineeta Yadav, elaborated the role of ENVIS-RP-NBRI in the field of environment especially associated with 'Plant and Pollution'. In this occasion, ENVIS team members also distributed the ENVIS-RP-NBRI Brochures, issues of Newsletters related to ozone and pamphlet on 'World Ozone Day'.</p>	

	<p>2. Kendriya Vidyalay, Gomtinagar, Lucknow</p> <p>On the occasion of ‘World Ozone day’, 16th September, 2019 students of Kendriya Vidyalay, Gomtinagar, Lucknow belonging 10 to 12th classes had been introduced with one of the crucial topic of Environment, i.e., Ozone Depletion and Steps toward its recovery. Dr. Babita Kumari delivered lecture on this topic and briefed how the Ozone depleting substances deplete the ozone layer and cause thinning of ozone layer. She also told the students about the ‘Montreal Protocol’, successful story of CFC and HCFC phase out plan and role of India in this direction. Students took keen interest to know about formation of ozone hole and raised various questions that had been answered by her. In this occasion, ENVIS-RP-NBRI team members, Mr. Diwakar Saini, Ms. Amrita Awasthi, and Ms. Vineeta Yadav distributed the ENVIS-RP-NBRI Brochures, issues of Newsletters related to ozone and pamphlet on ‘World Ozone Day’.</p> <p>http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5725&Year=2019</p>	
<p>16. ENVIS-RP-NBRI Celebrated “World Ozone Day-2019” at Bhopal Vigyan Mela-2019</p>	<p>The four days 8th Bhopal Vigyan Mela was jointly organized by Vigyan Bharti and CSIR-AMPRI, Bhopal, during 13-16 September 2019 at BHEL, Dushera Mela Ground at Bhopal. Minister of Science and Technology Shri. PC Sharma, Director General CSIR Dr. Shekhar Mande and Director, CSIR-AMPRI, Dr. Avnish Kumar Srivastava has graced the inauguration ceremony with their presence. The event was started with grand participation of scientists, students and experts from all over the country. There was more than 100 stall by government and nongovernment departments in the fair. Mr. Sunil Tripathi, Programme Officer, ENVIS-RP-NBRI demonstrated the educational display related to harmful effects of ozone layer depletion, Montreal Protocol and India’s role to implements the Montreal Protocol. He has distributed ENVIS- Newsletters and Brochures to the visitors and students.</p> <p>http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5724&Year=2019</p>	
<p>17. Indian Science Congress, 3-7 Jan, 2020</p>	<p>107th Indian Science Congress was held during 3-7 Jan 2020, at University of Agricultural Sciences, GKVK Campus, Bangalore, Karnataka. The theme of this</p>	

B. SPECIAL ACTIVITIES		
22. Focus on database development (numeric and descriptive), with due authentication in consultation with Line Departments/ research institutes, etc.	CSIR e journal consortium	
23. Network and undertake outreach activities with Universities/ Research bodies/ researchers in the State, similar to those of Odisha ENVIS, so that the ENVIS collections/ repositories can be enriched, including with their contact details/ CVs, etc.	Completed nine events of outreach as on 31-03-2019	
24. Circulate Newsletters and knowledge products to as many stakeholders as possible in the State, especially policy makers/ planners.	Circulating	
25. Link its Website to other Government Websites; develop the vernacular Website; and undertake other awareness enhancing activities within the State.		
26. Maintain a Register for keeping track of queries received and transferred/ answered.	Maintained	
27. Build institutional repositories of various types of media related to environmental issues.	In process	
28. Bring out a Brochure on environmental issues to spread awareness about World Environment Day, focusing on forestry/ mining/ Climate Change/ disasters/ etc.	One Brochure by ENVIS-RP-NBRI prepared.	

29.	New initiatives taken during the Financial Year (2019-20):	<ol style="list-style-type: none"> 1. National Review Meet: ENVIS – 2019 during 2nd April to 3rd April 2019 Dated-2nd-3rd April 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=7738&Year=2019 2. DG, CSIR Visit to NBRI Dated- May 2-3, 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5721&Year=2019 3. ENVIS-RP-NBRI Activity in Jigyasa-19 , K.V. Vidyalaya, Basti, Varanasi and Allahabad (U.P.) Dated- 27 May, 15 July, 22 July and 24 July, 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5723&Year=2019 4. ENVIS-RP-NBRI celebrated 'World Environment day' At CSIR-NBRI on 8th June, 2019 Dated- June 08, 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5722&Year=2019
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		<p>5. ENVIS-RP-NBRI Celebrated “World Ozone Day-2019” at Bhopal Vigyan Mela-2019 Dated- 13-16 September, 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5724&Year=2019</p> <p>6. ENVIS-RP-NBRI celebrated ‘World Ozone day’ on 16th September, 2019 Dated- September 16, 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5725&Year=2019</p> <p>7. Indian Science Congress, 3-7 Jan, 2020 Dated- 3-7 January, 2020 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=7740&Year=2020</p> <p>8. ENVIS-NBRI activity during the Rose & Gladiolus Flower Show at CSIR-NBRI on 18-19th January, 2020 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=7733&Year=2020</p>
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13. Status of existing hardware:

	Hardware item	Specification	Sanction Order with Date	Date of procurement
Procured from ENVIS Grant	Computer -2 (Old)	Desktop Computer with Windows 8 operating system, Intel Core i3, Model HP/3330 with 18.5”TFT Monitor	Order No: 8/145/13-P/Plg_861 dated 12-2-14	Order No: 8/145/13-P/Plg_861 dated 12-2-14
	Multifunctional Printer	HP Laserjet 200 Color MFP M276 PCL 6	Order No 8/11/14-P Dated 29.05.2014	09.06.2014

14. Status of utilization of grant during the financial year 2019-20 as on 31st March 2019 and reasons for shortfalls, if any:

	Head of Expenditure	Sanctioned amount (Rs.)	Actual Expenditure (Rs.)	Reasons for Shortfall/ Excess (if any)
Recurring Annual	Manpower	INR 14,38,554.00	INR 12,81,628.00	N/A
	Others (Database development, website maintenance, printing of Newsletters & Prakriti map, contingency, stationary, consumables, AMC, Internet charge,	INR 4,65,300.00	INR 2,01,757.00	N/A

	training, inter-center interaction workshops, expenses on monitoring, ISBEID database development, mobile app development etc.)			
	Travel	INR 1,00,000.00	INR 50,193.00	N/A
Non-Recurring	NIL	NIL	NIL	NIL

15. Issues/ hurdles faced in undertaking ENVIS activities:

1	Performance report at Admin Panel is not working properly to fetch the statistical data.
2	Requirement of two new computation system of (i7 processor) for proper and fast working of ENVIS-RP-NBRI activity.
3	During the financial year the grants was not release on time by the Ministry
4	We have proposed three GSDP programmes and got the sanction order by MoEF&CC but fund was not released during the financial year 2019-20`
5	

Details of Activities Done in 2019-20

1. Activities done as per ENVIS-RP-NBRI's mandate

S. No.	Topic	Content Updated and URL
1.	About Us	<ul style="list-style-type: none"> Addition of Page of ENVIS Portal Url: http://nbrienvs.nic.in/Content/3_2485.aspx Updation of centre number in About the ENVIS Url: http://nbrienvs.nic.in/Content/1_846.aspx
2.	ENVIS Network	<ul style="list-style-type: none"> Addition of 69th ENVIS centre, Itanagar, Arunachal Pradesh Url: http://nbrienvs.nic.in/Content/ENVISCentres_491.aspx
3.	FAQs	<ul style="list-style-type: none"> Addition of 5 new FAQs Url: http://www.nbrienvs.nic.in/Content/FAQs_123.aspx
4.	Contact Us	<ul style="list-style-type: none"> Details of ENVIS team (2 Ex-employees were deleted from the list) Url: http://www.nbrienvs.nic.in/Content/contactus_124.aspx
5.	Related Links	<ul style="list-style-type: none"> 06 new abbreviations were added in Abbreviation Page Url: http://www.nbrienvs.nic.in/Content/1_2095.aspx
6.	Subject Area	<ul style="list-style-type: none"> Database : Updation of New added Numerical data and Reference Data for 34 databases. <ol style="list-style-type: none"> Nickel http://nbrienvs.nic.in/Database/1_2028.aspx Chromium http://nbrienvs.nic.in/Database/1_2029.aspx Cadmium http://nbrienvs.nic.in/Database/1_2031.aspx Copper http://nbrienvs.nic.in/Database/1_2032.aspx Lead

		<p>http://nbrienvs.nic.in/Database/1_2033.aspx</p> <p>6. Mercury http://nbrienvs.nic.in/Database/1_2034.aspx</p> <p>7. Arsenic http://nbrienvs.nic.in/Database/1_2035.aspx</p> <p>8. Zinc http://nbrienvs.nic.in/Database/1_2136.aspx</p> <p>9. Iron http://nbrienvs.nic.in/Database/1_2140.aspx</p> <p>10. Metal/Metalloid http://nbrienvs.nic.in/Database/1_2160.aspx</p> <p>11. Endosulfan http://nbrienvs.nic.in/Database/1_2038.aspx</p> <p>12. Lindane http://nbrienvs.nic.in/Database/1_2037.aspx</p> <p>13. Neonicotinoids http://nbrienvs.nic.in/Database/1_2126.aspx</p> <p>14. Organophosphate http://nbrienvs.nic.in/Database/1_2147.aspx</p> <p>15. Carbofurans http://nbrienvs.nic.in/Database/1_2148.aspx</p> <p>16. Nitrogen fertilizer http://nbrienvs.nic.in/Database/1_2199.aspx</p> <p>17. Ozone http://nbrienvs.nic.in/Database/1_2044.aspx</p> <p>18. Fluoride http://nbrienvs.nic.in/Database/1_2043.aspx</p> <p>19. Biogas http://nbrienvs.nic.in/Database/1_2042.aspx</p> <p>20. Green House Gases http://nbrienvs.nic.in/Database/1_2041.aspx</p> <p>21. Sulphurdioxide http://nbrienvs.nic.in/Database/1_2040.aspx</p> <p>22. Nitrogen Oxides http://nbrienvs.nic.in/Database/1_2039.aspx</p> <p>23. Carbon Monoxide http://nbrienvs.nic.in/Database/1_2462.aspx</p> <p>24. Hydrocarbon http://nbrienvs.nic.in/Database/1_2465.aspx</p> <p>25. Bioremediation http://nbrienvs.nic.in/Database/1_2047.aspx</p> <p>26. Indoor Air Pollutant http://nbrienvs.nic.in/Database/1_2048.aspx</p> <p>27. Nanoparticles http://nbrienvs.nic.in/Database/1_2049.aspx</p> <p>28. Acid Rain http://nbrienvs.nic.in/Database/1_2050.aspx</p> <p>29. Smog http://nbrienvs.nic.in/Database/1_2051.aspx</p> <p>30. Waste Land Management through Plants http://nbrienvs.nic.in/Database/1_2063.aspx</p> <p>31. Role of Plants in CO₂ Sequestration http://nbrienvs.nic.in/Database/1_2162.aspx</p> <p>32. Climate Change-CO₂ Enrichment http://nbrienvs.nic.in/Database/1_2163.aspx</p> <p>33. Climate Change – Methane</p>
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		<p>http://nbrienvs.nic.in/Database/1_2164.aspx 34. Suspended Particulate Matter http://nbrienvs.nic.in/Database/1_2463.aspx</p> <ul style="list-style-type: none"> • News Bulletin: Updation of E-News of up-to-date Url: http://nbrienvs.nic.in/Database/1_2124.aspx • Updation of Subjective News of March Url: http://nbrienvs.nic.in/WriteReadData/CMS/subjectivenews_march_2020.pdf
4.	Publication	<p>Addition of 2 Books</p> <ol style="list-style-type: none"> 1. Indoor Air Pollution http://nbrienvs.nic.in/PublicationCommon.aspx?Year=2019&Mid=2&LinkId=739 2. Phytoremediation With Selected Plants In Heavy Metals Polluted Soils http://nbrienvs.nic.in/PublicationCommon.aspx?Year=2019&Mid=2&LinkId=739 <p>Addition of 2 Theses</p> <ol style="list-style-type: none"> 1. Potential of Alfalfa for use in chemically and biologically assisted Phytoremediation of soil co-contaminated with petroleum hydrocarbons and metals http://nbrienvs.nic.in/PublicationCommon.aspx?Year=2019&Mid=2&LinkId=738 2. Effect of arsenic both in soil and irrigation water on vegetable plants and promising soil additives for remedial measure of arsenic toxicity http://nbrienvs.nic.in/PublicationDetails.aspx?SubLinkId=3765&LinkId=738&Year=2019 <p>Addition of 4 Newsletters</p> <ol style="list-style-type: none"> 1. Biosorbent and Heavy Metal http://nbrienvs.nic.in/PublicationDetails.aspx?SubLinkId=5784&LinkId=740&Year=2019 2. Role of Lichen as Air Pollution http://nbrienvs.nic.in/PublicationDetails.aspx?SubLinkId=5779&LinkId=740&Year=2019 3. Vertical Gardens: Its Role in Conserving Environment and Mitigating Pollution http://nbrienvs.nic.in/PublicationDetails.aspx?SubLinkId=5775&LinkId=740&Year=2019 4. "Role of Plants to curb Plastic Pollution" is in pipeline due to COVID-19 amid situation (Not Uploaded) <p>Addition of 5 Videos</p> <ol style="list-style-type: none"> 1. How To Prevent Air Pollution: Combat Air Pollution With These Air Purifying Plants http://nbrienvs.nic.in/PublicationDetails.aspx?SubLinkId=3770&LinkId=1385&Year=2019

		<ol style="list-style-type: none"> 2. Urban Trees, Better Air Quality http://nbrienvis.nic.in/PublicationDetails.aspx?SubLinkId=3763&LinkId=1385&Year=2019 3. A NASA Study Explains How To Purify Air With House Plants http://nbrienvis.nic.in/PublicationDetails.aspx?SubLinkId=3757&LinkId=1385&Year=2019 4. Smog In Delhi: These Plants Can Help You Save From Pollution Inside Your Home http://nbrienvis.nic.in/PublicationDetails.aspx?SubLinkId=3758&LinkId=1385&Year=2019 5. Best Indoor Plants Cute House Plants That Clean The Air http://nbrienvis.nic.in/PublicationDetails.aspx?SubLinkId=3759&LinkId=1385&Year=2019 <p>Addition of 3 Presentation</p> <ol style="list-style-type: none"> 1. Our Presentation Topic: How to make our campus more green and pollution free http://nbrienvis.nic.in/PublicationDetails.aspx?SubLinkId=3755&LinkId=1397&Year=2019 2. Heavy Metal Pollution & Remediation In Urban and Peri-Urban Agriculture http://nbrienvis.nic.in/PublicationDetails.aspx?SubLinkId=3756&LinkId=1397&Year=2019 3. Indian Science Congress, 3-7 Jan, 2020 http://nbrienvis.nic.in/PublicationDetails.aspx?SubLinkId=5799&LinkId=1397&Year=2020 <p>Addition of 1 Poster</p> <ol style="list-style-type: none"> 1. Indian Science Congress, 3-7 Jan, 2020 http://nbrienvis.nic.in/PublicationDetails.aspx?SubLinkId=5800&LinkId=1398&Year=2020
5.	Latest News	<p>India, Norway sign first joint initiative to combat marine pollution Url:http://nbrienvis.nic.in/ViewGeneralLatestNews.aspx?Id=4711&Year=2019</p>
6.	Upcoming Events	<ol style="list-style-type: none"> 1. 6th World Congress on Climate Change and Global Warming http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=5713&Year=2019 2. 7th World Congress on Earth and Environmental Science http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=5720&Year=2019 3. 2nd World Conference on Soil Microbiology, Ecology and Biochemistry http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=5719&Year=2019 4. 8th International Conference on Biodiversity Conservation and Ecosystem Management http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=5718&Year=2019 5. 9th International Conference on Environment and Climate Change http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=5717&Year=2019 6. International Conference on Environmental Microbial Biofilms and Human Microbiomes http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=5716&Year=2019 7. CSIR-NBRI Chrysanthemum and Coleous show 2019

		<p>http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=5726&Year=2019</p> <p>8. Air Pollution & Plants Conference http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=5730&Year=2020</p> <p>9. 7th International Conference on Pollution Control & Sustainable Environment http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=6730&Year=2020</p> <p>10. Diamond Jubilee, Rose and Gladiolus Flower Show 2020 http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=7730&Year=2020</p> <p>11. Online Competition on "COVID-19 Pandemic and Environment" http://nbrienvis.nic.in/ViewPastEvent.aspx?Id=7734&Year=2020</p> <p>12. 8th Global Summit and Expo on Pollution Control http://nbrienvis.nic.in/ViewEvents.aspx?Id=6731&Year=2020</p> <p>13. Green Skill Development Programme 2019-20 http://nbrienvis.nic.in/ViewEvents.aspx?Id=5728&Year=2020</p>
7.	Kids Centre	<p>1. Addition of Video on " Greenhouse effect Wikipedia audio article" Url: http://nbrienvis.nic.in/KidsCentre/GreenhouseEffectforKids_2543.aspx</p> <p>2. Addition of Video on " The Greenhouse Effect" Url: http://nbrienvis.nic.in/KidsCentre/GreenhouseEffectforKids_2543.aspx</p> <p>3. Addition of Video on " Greenhouse Effect and Global Warming Environmental Science LetsTute" Url: http://nbrienvis.nic.in/KidsCentre/GreenhouseEffectforKids_2543.aspx</p> <p>4. Addition of Video on "The Greenhouse Effect" Url: http://nbrienvis.nic.in/KidsCentre/GreenhouseEffectforKids_2543.aspx</p> <p>5. Addition of Video on " Greenhouse effect kid definition" Url: http://nbrienvis.nic.in/KidsCentre/GreenhouseEffectforKids_2543.aspx</p> <p>6. Addition of Video on " Ecosystem for Kids " Url: http://nbrienvis.nic.in/KidsCentre/Ecosystem_for_kids_3686.aspx</p>
8.	Glossary	<p>Activated sludge , Assimilation , Biochemical oxygen demand (BOD), Catalytic incinerator , Benthic organism (benthos), Carbon adsorber , Toxicity , Fluorides , Fugitive emissions were added Url: http://nbrienvis.nic.in/SearchGlossary.aspx?Name=</p>
9.	Major activity	<p>1. National Review Meet: ENVIS – 2019 during 2nd April to 3rd April 2019 Dated- April 02-03, 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=7738&Year=2019</p> <p>2. DG, CSIR Visit to NBRI Dated- May 2-3, 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5721&Year=2019</p> <p>3. ENVIS-RP-NBRI Activity in Jigyasa-19 , K.V. Vidyalaya, Basti, Varanasi and Allahabad (U.P.) Dated- 27 May, 15 July, 22 July and 24 July, 2019 http://nbrienvis.nic.in/ViewMajorActivity.aspx?Id=5723&Year=2019</p> <p>4. ENVIS-RP-NBRI celebrated 'World Environment day' At CSIR-NBRI on 8th June, 2019 Dated- June 08, 2019</p>

		<p>http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=5722&Year=2019</p> <p>5. ENVIS-RP-NBRI Celebrated “World Ozone Day-2019” at Bhopal Vigyan Mela-2019 Dated- 13-16 September, 2019 http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=5724&Year=2019</p> <p>6. ENVIS-RP-NBRI celebrated ‘World Ozone day’ on 16th September, 2019 Dated- September 16, 2019 http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=5725&Year=2019</p> <p>7. Indian Science Congress, 3-7 Jan, 2020 Dated- 3-7 January, 2020 http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=7740&Year=2020</p> <p>8. ENVIS-NBRI activity during the Rose & Gladiolus Flower Show at CSIR-NBRI on 18-19th January, 2020 http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=7733&Year=2020</p>
10.	Bibliography	<p>Understanding and improving Carbon monoxide Url: http://nbrienvs.nic.in/Bibliography.aspx?Name=</p>
11.	Picture Gallery	<p>Addition of Photographs of</p> <ol style="list-style-type: none"> 1. National Review Meet: ENVIS – 2019 during 2nd April to 3rd April 2019 http://nbrienvs.nic.in/viewPhotos.aspx?Cat_Id=62 2. DG, CSIR Visit to NBRI on May 2-3, 2019 Url: http://nbrienvs.nic.in/viewPhotos.aspx?Cat_Id=56 3. ENVIS-RP-NBRI Activity in Jigyasa-19 , K.V. Vidyalaya, Basti, Varanasi and Allahabad (U.P.) on 27 May, 15 July, 22 July and 24 July, 2019 Url: http://nbrienvs.nic.in/viewPhotos.aspx?Cat_Id=57 4. ENVIS-RP-NBRI celebrated ‘World Environment day’ At CSIR-NBRI on 8th June, 2019 Url: http://nbrienvs.nic.in/viewPhotos.aspx?Cat_Id=58 5. ENVIS-RP-NBRI celebrated ‘World Ozone day’ on 16th September, 2019 Url: http://nbrienvs.nic.in/viewPhotos.aspx?Cat_Id=59 6. ENVIS-RP-NBRI Celebrated “World Ozone Day-2019” at Bhopal Vigyan Mela-2019 on 13-16 September, 2019 Url: http://nbrienvs.nic.in/viewPhotos.aspx?Cat_Id=60 7. Indian Science Congress, 3-7 Jan, 2020 at University of Agricultural Sciences, GKVK Campus, Bangalore, Karnataka Dated- 3-7 January, 2020 http://nbrienvs.nic.in/ViewMajorActivity.aspx?Id=7740&Year=2020 8. ENVIS-NBRI activity during the Rose & Gladiolus Flower Show at CSIR-NBRI on 18-19th January, 2020 Url: http://nbrienvs.nic.in/viewPhotos.aspx?Cat_Id=61

2. Awareness Programme under ENVIS-RP-NBRI

2.1. National Review Meet: ENVIS – 2019 during 2nd April to 3rd April 2019:

ENVIS Secretariat of Ministry of Environment, Forest & Climate Change (MoEF&CC) organized a ‘**National Review Meet: ENVIS**’ at Ganga Auditorium, Vayu Wing, MoEF&CC, Jor Bagh, New Delhi during **2nd April to 3rd April, 2019**. ENVIS-Coordinator, Program Officers and Information Officers of 67 ENVIS Centres, i.e., 35 ENVIS- RPs and 32 State Hubs across the nation took participate and displayed their activities and knowledge products on ‘Thematic mandates’ and ‘State of the Environment and Related issues’ in the form of posters, banners, products and manuals in ENVIS exhibition. Program started with the inauguration of ENVIS exhibition by **Shri C.K Mishra**, Secretary, MoEF&CC accompanied by **Dr. Anandi Subramaniam**, Principal Economic Advisor, MoEF&CC, **Mr. Yashvir Singh**, Economic Advisor, **Ms. Urmila B**, Joint Director EI Division, MoEF&CC and other members of the ENVIS Secretariat.

In Inaugural Session, **Shri Yashvir Singh** welcomed the dignities and special invitees **Dr. Kailash Chandra**, Director, ZSI, **Shri B. Kalyan Chakravarthy**, Director General, EPTRI, **Dr. Ashok Ghosh**, Chairman, BSPSB, **Prof. S.K. Barik**, Director, NBRI, **Dr. Deepak Apte**, Director, BNHS and ENVIS RP, **Dr. Abinash Mohanty**, Coordinator ADRI ENVIS RP. **Ms Urmila** presented the objectives and the new addition of the activities under the ENVIS Scheme followed by the presentations on the work on GRIDSS - A Grid based Resource Information and Decision Support System (GRIDSS) for sustainable Management of Natural Resources by special invitees and Coordinators of few ENVIS centers like **Dr. Gufran Beig**, Coordinator, IITM ENVIS RP, Pune, **Dr. Arendran**, WWF ENVIS RP, New Delhi and **Dr. T.V Ramachandra**, Coordinator, IISc ENVIS RP, Bangalore On this occasion, **Shri C.K Mishra** also launched the ENVIS knowledge and information products of different ENVIS centers like Corridor Mapping Using Habitat Suitability and Cost Distance Analysis for Tiger in Satpuda - Pench Corridor, Central India by World Wide Fund for Nature – India (WWF) ENVIS Hub to predict the possible tiger corridor between Satpuda tiger reserve and Pench tiger reserve, NES GRIDSS Ramanagara Report by Environmental Management Policy & Research Institute (EMPRI), Bangaluru, Mobile App by Department of Environmental Sciences (DES), Kalyani University ENVIS RP on Vermicomposting Earthworm Practices & Applications and Silicosis, Hindi Language Mobile App, by National Institute of Occupational Health (NIOH) ENVIS RP.

On this occasion, a hands on training by EAT/PFMS was conducted by **Shri Ravi Goswami**, ENVIS Secretariat. He detailed the process of how to fill GFR 12A, Utilization Certificate and Expenditure Statement forms. **Mr Ranjan Kumar** and his team demonstrated revamped ENVIS Portal / ENVIS Network Web sites. All databases and their storage will be on one platform. They will provide an interface to all RPs and Hubs. **Dr. Subramaniam**, **Shri Yashvir Singh**, Economic Advisor, **Ms. Urmila** discussed on GSDP-Master Trainers, Placement Facility provided by ENVIS HUBs/RPs. They also discussed general and specific issues and the difficulties faced by the ENVIS centers. They also briefed on NES-GRIDSS district allocation and the flowchart pertaining to the implementation of the same.

➤ **Picture Gallery:**



National Review Meet & Exhibition organized by ENVIS Secretariat, EI Division, Ministry of Environment, Forest and Climate Change on **2-3 April, 2019** at Indira Paryavaran Bhawan, Jorbagh Road, New Delhi

Logo of ENVIS-RPs and State Hubs across the nation participated in the **'National Review Meet & Exhibition-19'**



Shri C.K Mishra, Secretary, MoEF&CC accompanied by **Dr. Anandi Subramaniam**, Principal Economic Advisor, MoEF&CC, **Mr. Yashvir Singh**, Economic Advisor, **Ms. Urmila B**, Joint Director EI Division, MoEF&CC and other members of the ENVIS Secretariat inaugurated Nation Review Meet & Exhibition.

Prof. S.K. Barik, Director, CSIR-NBRI visited stalls in Nation Review Meet Exhibition



Dr. Pankaj Kumar Srivastava, Coordinator, ENVIS-RP, briefing the activities of ENVIS-RP-NBRI and showing the manuals of training programs **'Pollution Monitoring:**

Stalls by ENVIS-RP and State Hubs, displaying their activities and knowledge products on **'Thematic mandates'** and **'State of the Environment and Related**

Soil Pollution’ and ‘Green Belt Development for Industries’ held under Green Skill Development Program 2018-19. issues’ in the form of posters, banners, products and manuals in ENVIS exhibition



Participants belonging to ENVIS RP and State Hubs along with the members of ENVIS Secretariat of Ministry of Environment, Forest & Climate Change (MoEF&CC)

Mr. Yashvir Singh, Economic Advisor, welcoming the dignities and special invitees, **Shri C.K Mishra**, Secretary, MoEF&CC, **Dr. Anandi Subramaniam**, Principal Economic Advisor, **Ms. Urmila B**, Joint Director EI Division, MoEF&CC, **Dr. Kailash Chandra**, Director, ZSI, **Shri B. Kalyan Chakravarthy**, Director General, EPTRI, **Dr. Ashok Ghosh**, Chairman, BSPSB, **Prof. S.K. Barik**, Director, NBRI, and **Dr. Deepak Apte**, Director, BNHS.



Different ENVIS knowledge and information products launched by **Shri C.K Mishra**, Secretary, MoEF&CC accompanied by other dignities and invitees.

2.2. DG, CSIR Visit to NBRI on May 2-3, 2019:

Dr. Shekhar C. Mande, DG CSIR visited CSIR-NBRI during 2-3 May, 2019. He inspected the laboratories of CSIR located in Lucknow and got updated by the activities and achievements of belonging departments. **Dr. Pankaj Kumar Srivastava** and **Dr. Babita Kumari** briefed about the regular activities of ENVIS-RP-NBRI and success story of two courses run under GSDP program. He took his keen interest in Green Planner app and appreciated its role.

➤ **Picture Gallery:**



Dr. Babita Kumari Co-coordinator briefed about the regular activities of **ENVIS-RP-NBRI** and success story of two courses run under **GSDP program** to the **Chief Guest Dr. Shekhar C. Mande, DG, CSIR**

2.3. ENVIS RP-NBRI Activity in Jigyasa-19:

Under the Jigyasa programme, students of Kendriya Vidyalaya from different districts of Uttar Pradesh i.e., Basti, Varanasi and Allahabad visited to CSIR-NBRI on 27 May, 15 July, 22 July and 24 July, 2019. These students had been introduced with the current researches going on in the institute. The importance and role of ENVIS RP-NBRI was briefed before them. Beside, application of Green Planner was also explained. Lecture on 'Vertical Garden' was presented by Dr. Babita Kumari, Co-coordinator. ENVIS RP-NBRI team members actively participated for explaining the role of plant to mitigate the indoor and outdoor pollution. They also displayed and distributed ENVIS RP-NBRI-Newsletters to the teachers and students.

➤ **Picture Gallery:**



Dr. Vivek Srivastava, Coordinator, ENVIS-RP-NBRI interacted to students



ENVIS-RP-NBRI Team conducted the quiz competition for students



Dr. Babita Kumari, Co-coordinator delivered lecture and ENVIS-RP-NBRI team members explained the role of plant to mitigate the indoor and outdoor pollution.



ENVIS-RP-NBRI team and Kendriya Vidyalaya Students and faculty



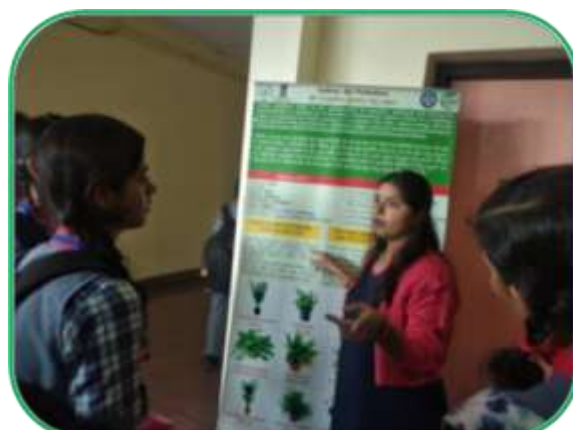
Mr. Sunil Tripathi, Programme Officer, ENVIS-RP-NBRI briefed newsletters to the students



Mrs. Amrita Awasthi, IT-Officer, ENVIS-RP-NBRI briefed posters to the students



Visitor get registered on ENVIS-RP-NBRI Stall



Mrs. Vineeta Yadav, ENVIS-RP-NBRI Team member briefed posters

2.4. ENVIS-RP-NBRI celebrated 'World Environment day' at CSIR-NBRI on 8th June, 2019:

ENVIS-RP-NBRI celebrated 'World Environment day' on 8th June, 2019. The theme of this occasion was "Air pollution". Prof. S.K. Barik, Director, CSIR-NBRI welcomed the Chief Guest Dr. A.A. Mao, Director, Botanical Survey of India. Dr. Mao elaborated the importance of biodiversity especially for Rhododendron. On this occasion, prize has been distributed to winners of Environment Quiz that was organized by Dr. Vivek Pandey, Sr. Principal Scientist, CSIR-NBRI. ENVIS-RP-NBRI team members explained the ENVIS activity to hon'ble Chief Guest and provide him the copies of ENVIS-RP-NBRI Newsletters.

➤ **Picture Gallery:**



Prof. S.K. Barik, Director, CSIR-NBRI welcomed the Chief Guest **Dr. A.A. Mao**, Director, Botanical Survey of India.



Registration of the Scientist, students and other members to attend the Programme



Visitors on the ENVIS-RP-NBRI stall

2.5. ENVIS-RP-NBRI celebrated 'World Ozone day' on 16th September, 2019:

1. At Seth M.R. Jaipuria School, Gomti nagar, Lucknow

ENVIS-RP-NBRI celebrated 'World Ozone day' on 16th September, 2019 in **Seth M.R. Jaipuria School**, Gomti nagar, Lucknow. **Dr. Babita Kumari**, Co-coordinator, ENVIS-RP-NBRI, CSIR-NBRI delivered lecture on 'World Ozone day' and briefed about the ozone layer, ozone depletion and its harmful effects. She also introduced students about the 'Montreal Protocol' and steps taken by India and other countries to phase out the Ozone Depleting Substances. Students took keen interest to know about ozone hole and raised various questions that had been answered by her. ENVIS RP-NBRI team members, Mr. Diwakar Saini, Ms. Amrita Awasthi, and Ms. Vineeta Yadav, elaborated the role of ENVIS-RP, CSIR-NBRI in the field of environment especially associated with 'Plant and Pollution'. In this occasion, ENVIS team members also distributed the ENVIS-RP-NBRI brochures, issues of newsletters related to ozone and pamphlet on 'World Ozone Day'.

➤ Picture Gallery:



Dr. Babita Kumari delivered lecture and interact with students of **Seth M.R. Jaipuria School**, Gomti nagar, Lucknow the on World Ozone Day



Registration of the faculties and students of school on this occasion

2. Kendriya Vidyalay, Gomtinagar, Lucknow:

On the occasion of 'World Ozone day', 16th September, 2019 students of **Kendriya Vidyalaya**, Gomtinagar, Lucknow belonging 10 to 12th classes had been introduced with one of the crucial topic of Environment, i.e., Ozone Depletion and Steps toward its recovery. **Dr. Babita Kumari** delivered lecture on this topic and briefed how the Ozone depleting substances deplete the ozone layer and cause thinning of ozone layer. She also told the students about the 'Montreal Protocol', successful story of CFC and HCFC phase out plan and role of India in this direction. Students took keen interest to know about formation of ozone hole and raised various questions that had been answered by her. In this occasion, ENVIS-RP-NBRI team members, Mr. Diwakar Saini, Ms.

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

Amrita Awasthi, and Ms. Vineeta Yadav distributed the ENVIS-RP-NBRI brochures, issues of newsletters related to ozone and pamphlet on ‘World Ozone Day’.

➤ **Picture Gallery:**



Interaction with Kendriya Vidyalaya, Gomtinagar, Lucknow on “32 years and healing” of Ozone layer



Distribution of publications on Ozone by members of ENVIS-RP CSIR-NBRI

2.6. ENVIS RP-NBRI Celebrated “World Ozone Day-2019” at Bhopal Vigyan Mela-2019:

The four days **8th Bhopal Vigyan Mela** was jointly organized by Vigyan Bharti and CSIR-AMPRI, Bhopal, during 13-16 September 2019 at BHEL, Dushera Mela Ground at Bhopal.

Minister of Science and Technology **Shri. PC Sharma**, Director General CSIR **Dr. Shekhar Mande** and Director, CSIR-AMPRI, **Dr. Avnish Kumar Srivastava** has graced the inauguration ceremony with their presence.

The event was started with grand participation of scientists, students and experts from all over the country. There was more than 100 stall by government and nongovernment departments in the fair.

➤ **Picture Gallery:**



Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

Dr. Vivek Srivastava, Coordinator ENVIS-RP-NBRI emphasized on the harmful effects of the Ozone Depleting Substances like Chlorofluorocarbons (CFCS), Hydrochlorofluorocarbons (HCFCs), Hydrobromofluorocarbons (HBFCs), Halons, Methyl Bromide, Carbon Tetrachloride, Methyl Chloroform, etc. on Ozone Layer.



Mr. Sunil Tripathi, Programme Officer, ENVIS-RP-NBRI demonstrated the educational display related to harmful effects of ozone layer depletion, Montreal Protocol and India's role to implement the Montreal Protocol. He has distributed ENVIS- Newsletters and Brochures to the visitors and students.



More than **300 visitors** have been visited the **ENVIS-RP-NBRI** Stall and shown their interest to in World Ozone Day Brochures and educational display.



Minister of Panchayat and Rural Development Govt of M.P. **Shri Kamleshwar Patel** and Former Governor of Haryana **Shri Kaptan Singh Solanki** were the chief guests on the valedictory function. He congratulated Bhopal Vigyan Mela organizers for the successful event. CSIR-NBRI secured IIIrd Place in Best Educational Stall Category at the end of the event.

2.7. Indian Science Congress, 3-7 Jan, 2020:

107th Indian Science Congress was held during 3-7 Jan 2020, at University of Agricultural Sciences, GKVK Campus, Bangalore, Karnataka. The theme of this conference was “Science Technology: Rural Development”. It was inaugurated by Mr. Narendra Modi, Prime Minister. PM Modi gave the motto of “Innovate, Patent, Produce and Prosper” to the young scientists in the country, saying that these four steps will lead India towards faster development. Dr. Babita Kumari, Co-coordinator, ENVIS-RP-NBRI, presented poster entitled ‘ENVIS: a platform for Environmental Education and Awareness in Environmental Science Division’.

ENVIS: a platform for Environment Education and Awareness
 Babita Kumari*, Sunil Tripathi, Diwakar Saini, Amrita Awasthi, Vineeta Yadav and Vivek Srivastava
 Environmental Technologies, CSIR- National Botanical Research Institute, Lucknow, U.P. -226001 (India)

Abstract
 ENVIS, a program controlled by MoEF&CC, is being run by different centers situated nationwide. ENVIS-RP-NBRI aware persons about the environment especially on 'Plant and Pollution' through its website and outreach activities. This center also provides the knowledge of plant species suitable for planting to mitigate pollution at different sites: Roadside, Road divider, Greenbelt and Indoor through its developed app 'Green Planner'. Besides these awareness programs, ENVIS-NBRI is also involve to skill the youth from different states on two important topics related to environment, i.e., 'Pollution Monitoring: Soil Pollution' and 'Greenbelt Development for Industries' under the Green Skill Development Program (GSDP).

Environmental Information System (ENVIS)
 It is a program launched by MoEF&CC by realizing the importance of Environmental Information. It vides information on environment and related subject areas to researchers, academicians, policy planners, environmentalists, scientists, engineers and the general public.

Plant based information regarding pollution abatement through mobile app
Green Planner App
 The android and iTimes mobile applications. The plant list provides the botanical and common names, of pollution tolerant and mitigant plants, their distribution in India and suitable planting sites, along with economic and ecological benefits as well as other relevant information. These plants can be planted on roadside, road-dividers, in the greenbelts, and in indoor premises.

Environmental Education through GSDP Certificate Courses
 1. Pollution Monitoring: Soil Pollution
 2. Green Belt Development for Industries

Objectives:
 Build up of information storage, retrieval and dissemination capabilities in subject areas related to wildlife science.
 Establish linkages with all information sources in wildlife conservation and management in the country and abroad for increasing the information content.
 Respond to user queries by supplying substantive information in the form of published reports, documents, extracts, research papers and other unpublished and analyzed information as far as possible.

Information through ENVIS Web Site
 Newsletters, Patents, Priority Registrations, E-Books, Subjective News, Wild Camera, Photo Gallery, Thesis, Upcoming Events, Mobile activities, Books, Research Papers, Databases, Bibliography.

Information through ENVIS Publications as Newsletter
 ISSN-2581-7426 (Print), ISSN-2581-740X (Online)

Environmental Awareness through outreach activities

Poster presented by Dr. Babita Kumari in Nation Conference 'ISC-107'

2.8. ENVIS-RP-NBRI activity during the Rose & Gladiolus Flower Show at CSIR-NBRI on 18-19th January, 2020:

CSIR-NBRI organized its 60th ‘Rose and Gladiolus Show’ on 18-19th January, 2020 at the institute ground. On the occasion of this two days annual show, Dr. S.K. Barik, Director, CSIR-NBRI welcomed the Chief Guest Dr. Shekhar C. Mande, DG, CSIR and Secretary, DSIR, Govt. of India. They released the issue of Hindi Rajbhasha magazine ‘Vigyan vani’ and also distributed 26 running cups/shields/trophies along with 291 general prizes to the winners. ENVIS-RP, NBRI has

Factsheet of 2019-20 (as on 31st March 2020) on Activities of ENVIS-RP-NBRI on "Plants and Pollution"

contributed two chapters in this magazine, i.e., 'शुद्ध वायु' and 'शुद्ध वायु' and 'शुद्ध वायु'. **Dr. Sharmila Mande** wife of Shekhar Chintamani Mande released new variety of Chrysanthemum 'Shekhar' developed by CSIR NBRI. ENVIS-RP-NBRI has also displayed the posters and standees related to its activities and themes 'Plant and Pollution'. **Dr. Vivek Srivastava**, Coordinator, **Dr. Babita Kumari**, Co-coordinator, **Mr. Sunil Tripathi**, Program Officer and **Mr. Diwakar Saini**, Information Officer, ENVI-RP-NBRI interacted with the visitors and briefed the role of plants in pollution abatement.

➤ **Picture Gallery:**



Registration of visitors



Briefing about the publication of ENVIS-RP-NBRI



Distribution of ENVIS-Newsletters



Briefing about the application of plant to reduce air pollution

3. Green Skill Development Programme:

3.1. GSDP Advertisement on ENVIS-RP-NBRI Website

Upcoming Event
Past Event

Green Skill Development Programme 2019-20







पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment, Forest & Climate Change
हरित कौशल विकास कार्यक्रम
GREEN SKILL DEVELOPMENT PROGRAMME (GSDP)

In line with the Skill India Mission, Ministry of Environment, Forest & Climate Change (MoEF&CC) has launched a Green Skill Development Programme (GSDP). Following courses/training programmes are being offered by CSIR-National Botanical Research Institute (NBRI), Lucknow:

S. No.	Course Name	Seats	Duration	Minimum Eligibility
1.	Pollution Monitoring: Soil Pollution	20	200 hrs / 30 Days	Science Graduate / Diploma in Engineering
2.	Greenbelt development for industries	30	200 hrs / 30 Days	Science Graduate
3.	Plant Tissue Culture Techniques and its application	25	320 hrs / 45 Days	Science Graduate

APPLY ONLINE at <http://gsdp-envis.gov.in/Default3.aspx>

Last date of online submission of application - 7th January 2020

> Commencement of Courses: January 2020 > Charges: No fees.

> Courses are regular and fulltime. > Staying arrangement shall be offered to selected candidates without any charge.

Venue : CSIR-National Botanical Research Institute (NBRI), Rana Pratap Marg, Lucknow, Uttar Pradesh 226001

For further Details :

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(Mob.) +91-9453557975

Dr. Babita Kumari
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Mr. Sunil Tripathi
(ENVIS-Programme Officer)
(Mob.) +91-9415727881

Please visit us at : <http://nbrienvis.nic.in/>

Link: <http://nbrienvis.nic.in/ViewEvents.aspx?Id=5728&Year=2019>

3.2. GSDP Advertisement Published in Newspapers:



पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment, Forest & Climate Change
हरित कौशल विकास कार्यक्रम
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Venue : CSIR-National Botanical Research Institute (NBRI), Rana Pratap Marg, Lucknow, Uttar Pradesh 226001

For further Details :

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Please visit us at : <http://nbrienvis.nic.in/>

Dainik Jagran Daily Hindi (Lucknow Edition) on 21.12.2019 (Saturday)

Dainik Jagran Daily Hindi (National Edition) on 22.12.2019 (Sunday)

3.3. Screening-cum-advisory-committee for Green Skill Development Programme (GSDP)
CSIR-National Botanical Research Institute, Lucknow
(January 30th, 2020)

S. No.	Name	Designation
1.	Prof. Pramod Tondon	Chief Executive Officer Biotech Park, Lucknow as Chairman ,
2.	Mr. Pankaj Kumar	General Manager (HR) Northern Region Headquarters, NTPC Limited as Co-Chairman
3.	Dr. D.K.Upreti	Emeritus Scientist CSIR-NBRI, Lucknow
4.	Dr. S.K Tewari	Chief Scientist CSIR-NBRI, Lucknow
5.	Mr. Mukesh Mittal	Asst. Vice President (Safety & Environment) Hindalco Industries
6.	Mr. Rajendra Singh	Environmental Engineer U.P. Pollution Control Board Govt. of U.P, Lucknow
7.	Mr. Saurabh Srivastava	Manager Certification & Agro Operations Organic India Pvt.Ltd., Barabanki
8.	Dr. Sitaram Taigor	Environmental Specialist-Ganga U.P State Ganga River Conservation Agency Urdan Development Department Govt. of U.P, Lucknow
9.	Dr. Devendra Kumar Soni	Scientist 'E', Central Pollution Control Board Regional Directorate (North), Lucknow
10.	Dr. Vivek Srivastava	Coordinator (ENVIS-RP-NBRI) CSIR-NBRI, Lucknow as Convenor
11.	Dr. Babita Kumari	Co-Coordinator (ENVIS-RP-NBRI) CSIR-NBRI, Lucknow
12.	Mr. Sunil Tripathi	Programme Officer (ENVIS-RP-NBRI) CSIR-NBRI, Lucknow as Co-Convenor

➤ **Picture Gallery:**



Dr. Vivek Srivastava, Coordinator ENVIS-RP-NBRI briefed about the applications received from various part of the country for GSDP Courses to the advisory committee members



Meeting of Screening cum Advisory Committee chaired by **Prof. Pramod Tondon**, CEO Biotech Park



Discussion about the selection criteria with the committee members



Finalization of the list of Selected, waitlisted and rejected candidates applied for the course



Prof. S.K. Barik, Director, CSIR-NBRI during the advisory committee meeting

3.4. Budget Allocation for GSDP Courses:

S.No	GSDP Course Sanctioned	Total Amount Sanctioned (in INR)	Total Amount Released	Sanction Order No. with date	Shortfall, if any with reason.
1.	Plant Tissue Culture and its application	13,75,000/-	NIL	11/7/2019-EI dt. 26/11/2019	MoEF&CC has not released the sanctioned budget to conduct the course during 2019-20.
2.	Pollution Monitoring: Soil Pollution	10,10,000/-	NIL	11/7/2019-EI dt. 26/11/2019	
3.	Greenbelt Development for Industries	13,40,000/-	NIL	11/7/2019-EI dt. 26/11/2019	

3.5. Applications received and number of Selected, waitlisted and rejected candidates:

Sl .No	GSDP Course Sanctioned	No. of Applications Received	No. of Selected candidates	No. of Waitlisted Candidates	No. of Rejected Candidates
1.	Greenbelt Development for Industries	57	30	05	22
2.	Pollution Monitoring: Soil Pollution	52	20	04	28
3.	Plant Tissue Culture and its application	78	25	07	46
Total		187	75	16	96

4. NATIONAL ENVIRONMENT SURVEY—a Grid based Decision Support System for Sustainable Management of Natural Resources (NES-GRIDSS):

4.1. Districts allotted to ENVIS-RP-NBRI

Sl. No.	Division	Districts
1	Chitrakoot	Banda Chitrakoot Hamirpur Mahoba
2	Devipatan	Bahraich Balrampur Gonda Shravasti
3	Lucknow	Hardoi Lakhimpur Kheri Lucknow Raebareli Sitapur Unnao
4	Faizabad	Ambedkar Nagar Amethi Barabanki Faizabad Sultanpur



4.2. Following 17 modules under NES programme were assigned for the collection of secondary data:

Module No.	Category
1	Administrative
2	Demographic
3	Economic
4	Climate & Disaster Occurrences
5	Natural Resources
6	Water Resource
7	Ecology
8	Infrastructure
9	Agriculture
10	Animal Husbandry & Fisheries
11	Industries& Mining
12	Energy – Stock & Production
13	Pollution
14	Waste
15	Health
16	Heritage, Tourism
17	Funds Allocated For Environmental Protection, Resource Management And Engagement

4.3. Revised Modules: The no. of modules were reduced from 17 to 8 (as per instructions received from MoEF&CC through email dated 01.11.2019) . The list of revised modules are as follows;

Sl. No.	Name
1.	Administrative
2.	Demographic
3.	Economic
4.	Climate & Disaster Occurrences
5.	Natural Resources
6.	Infrastructure
7.	Waste
8.	Funds Allocated For Environmental Protection, Resource Management And Engagement

4.4. ENVIS-RP-NBRI inputs on Indian State Basic Environmental Information Database (ISBEID) Portal

1. Secondary Data of District **Lucknow** were collected from different sources from internet and through personal visit to some state departments like Uttar Pradesh Pollution Control Board, Uttar Pradesh Jal Nigam and other relevant departments as per NES guidelines of MoEF&CC.
2. All the collected information of District **“Lucknow”** has been uploaded on ISBEID Portal.

3. Although rest of the other 18 district data were collected and compiled but not uploaded due to some technical error on portal and the provided link was completely not working since October 21, 2019.

4.5. Issues and suggestions;

1. There is no specific manpower for NES related activities.
2. Ministry has not provided any kind of budget for the same.
3. Uniformity is needed on portal to enter the data for the specific field.
4. MoEF&CC may send a prior communication to the district authorities regarding the collection of data by ENVIS team members.
5. Portal should be full proof and easy to handle.
6. The modules may be constant and finalised by MoEF&CC before entering the data.

4.6. ISBEID (NES Portal) Details;

Previous portal link: <http://122.183.99.225/isbn2> (Not working)

New portal link: <http://164.100.60.53/isbn2> (Not working)