



## ENVIS Centre on Hazardous Waste

### Performance Report of 2015-16 on Activities of ENVIS Centre

<b>1. Name of Host Organization:</b>	CSIR-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur				
<b>2. Assigned Subject Area:</b>	Hazardous waste				
<b>3. Date/Month/Year of establishment of ENVIS Centre:</b>	1993				
<b>4. Name and designation of ENVIS Coordinator (2015-16):</b>	Prakash Kumbhare, ENVIS Coordinator, CSIR-NEERI / Sr. Principal Scientist & Head, R&D Planning Division, CSIR-NEERI				
<b>5. Has the Host Organization constituted an Advisory Committee for guiding the activities of the Centre?</b>	Yes				
<b>Composition of the Advisory Committee:</b>  (Select YES or NO: if YES kindly fill the right column space; if NO kindly leave it blank) <input type="radio"/> YES ✓ <input type="radio"/> NO	Er. K.P. Nyati, Environmental Expert and Former Head, CII Er. N.K. Verma, Ex. Additional Director, CPCB Dr. Tapan Chakrabarti, Chair Professor, VNIT, Nagpur Dr. Tapas Nandy, Acting Director, CSIR-NEERI Dr. A.N. Vaidya, Head, Solid & Hazardous Waste Management Division, CSIR-NEERI				
<b>6. Current ENVIS Staff Structure:</b>					
	Name	Position held	Qualification and Experience	Joining Date in ENVIS Centre	Joining Date in current position
	Mrs. Snehal Deshmukh	Programme Officer	B.Tech. (Chemical Engineering) M.Tech. (Membrane & Separation Technology)	5.9.2014	5.9.2014
	Mr. Pranay Bankar	Information Officer	B.E.(Chemical Engineering), MSCIT (Diploma in Computer Science)	11.10.2013	11.10. 2013
	Mr. Firoz Baksh	IT Assistant	Graduate and Diploma in Computer Technology from Polytechnic College, Nagpur	6.6.2014	6.6.2014
<b>7. Mandate of the Host Organization</b>	<b>Mandate of the ENVIS Centre</b>				
Research and Development in Environmental Science & Engineering and to provide sustainable technological solutions to environmental problems of government, industry, and the society, especially the 800 million under privileged people of India. The R&D performance indicators of the Institute are: Research Publications in high impact factor SCI	Systematically collect, compile and disseminate information on "Hazardous Waste and Its Management" useful to various industries / researchers / policy makers / academicians / environmentalists / Universities / Pollution Control Boards / NGOs, etc.  The activities include:  • Collection and compilation of national as well as				

<p>journals, Patents, ECF generation, R&amp;D Projects, Technology development &amp; transfer, and participation of scientists in societal missions and decision making in government and industry</p>	<p>international information on various issues related to hazardous waste management</p> <ul style="list-style-type: none"> <li>• Development of information databases and strengthening of information resources in the field of hazardous waste management</li> <li>• Publications of reports covering various aspects of hazardous waste management to ensure sustainable development</li> <li>• Development of a website on hazardous waste management</li> </ul>
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## 8. Databases:

### 8.1. Catalogue of Non-numeric Databases compiled by the ENVIS Centre till date:

Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/year of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)

### 8.2. Catalogue of Numeric and Time-series Databases compiled by the Centre till date:

Name of Database	Description (in brief)	Time Period (Starting year- Ending year) and Periodicity (annual/ monthly/ other)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
Bioremediation for hazardous waste management	<ul style="list-style-type: none"> <li>- Patents database on bioremediation</li> <li>- Abstracts database on bioremediation</li> <li>- Business / commercial database on bioremediation</li> <li>- Technical guidelines on bioremediation for hazardous waste management</li> </ul>	(1994-2016)  Fortnightly Last updated: (31 March 2016)	Patent citations, high impact factor national and international journals, national and international magazines, websites, national and international environmental regulatory authorities	Yes (neerienvis.nic.in)
Database on status of technologies for hazardous waste management	Information on processes/know-how/ technologies being used by industries for hazardous waste management and their environmental impacts	(2000-2016)  Fortnightly Last updated: (31 March 2016)	High impact factor national and international journals	Yes (neerienvis.nic.in)
Use of hazardous wastes in industries as a raw material	Information on hazardous wastes being used as a raw material, being recycled / reused	(2000-2016)  Fortnightly Last updated: (31 March 2016)	High impact factor national and international journals	Yes (neerienvis.nic.in)
Hazardous waste treatment and disposal facilities in India	State-wise information on treatment and disposal facilities in India	As and when data is available for updation	National regulatory authorities	Yes (neerienvis.nic.in)

Name of Database	Description (in brief)	Time Period (Starting year-Ending year) and Periodicity (annual/ monthly/ other)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
Common Effluent Treatment Plants (CETPs) in India	State / District wise information on Common Effluent Treatment Plants (CETPs) available to treat industrial waste water	As and when data is available for updation	National regulatory authorities	Yes (neerienvis.nic.in)
Health impacts of hazardous wastes	This database addresses the potential hazards of exposure to hazardous wastes	(2000-2016)  Fortnightly Last updated: (31 March 2016)	High impact factor national and international journals	Yes (neerienvis.nic.in)
Abstract database	Abstracts of Research Papers related to hazardous waste management	(2002-2016)  Fortnightly Last updated: (31 March 2016)	High impact factor national and international journals	Yes (neerienvis.nic.in)
R&D database	S&T breakthroughs in the area of hazardous waste management	(2000-2016)  Fortnightly Last updated: (31 March 2016)	High impact factor national and international journals	Yes (neerienvis.nic.in)
News database	Current legal and scientific affairs related to hazardous waste management	(2000-2016)  Fortnightly Last updated: (31 March 2016)	High impact factor national and international journals	Yes (neerienvis.nic.in)

### 8.3. New Databases developed during the Financial Year (2015-16)

#### 8.3.1. Non-numeric Databases:

Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/year of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
Solidification and stabilization of hazardous wastes	Information on solidification and stabilization for treatment and disposal of hazardous wastes, and remediation of contaminated sites	Descriptive	(1995-2016)  Fortnightly Last updated: (31 March 2016)	High impact factor national and international journals	Yes (neerienvis.nic.in)
State-wise	Units Registered	Descriptive /	As and when data	National	Yes

Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/year of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
registered recyclers / preprocessors	with MoEFCC/CPCB as Recyclers/ Preprocessors having Environmentally Sound Management Facilities	geospatial (state-wise)	is available for updation	regulatory authorities	(neerienvis.nic.in)

### 8.3.2. Numeric and Time-series Databases:

Name of Database	Description (in brief)	Time Period (Starting year- Ending year) and Periodicity (annual/ monthly/ other)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
Hazardous waste generation in India	State-wise generation of hazardous waste (industry-wise)	2010-2015 Monthly / data as available	CPCB / SPCBs / published reports of Govt. Organizations or regulatory authorities	Yes (neerienvis.nic.in)
Minimal risk levels of hazardous chemicals	Minimum permissible levels of hazardous chemicals for protection of human health	As available	Published reports	Yes (neerienvis.nic.in)

8.4. Status of data entry in **ISBEID**: (For State/ UT ENVIS Centres) – As in Annex

## 9. Information/ Knowledge Products:

## 9.1. ENVIS Newsletters published during the Financial Year (2015-16):

Cover snapshot	Quarter/ Volume/ Issue/ Theme  Main Articles	Number of copies printed and circulated	URL of the PDF file in ENVIS website (Kindly note that the PDF file should open without login prompt)
	Vol.10 No.4-6, April – June 2015 Current R&D Achievements/ Technologies / Rules /Regulations / Policies/ Abstracts with regard to hazardous waste and its management (National and International)	300 to all State Pollution Control Boards/ Industries/NGOs /Environment and Forest Departments/IITs/Universities	<a href="http://neerienvis.nic.in/pdf/newsletter/April%20June%202015.pdf">http://neerienvis.nic.in/pdf/newsletter/April%20June%202015.pdf</a>
	Vol.10 No.7-9, July– Sep. 2015 Current R&D Achievements/ Technologies / Rules /Regulations / Policies/ Abstracts with regard to hazardous waste and its management (National and International)	300 to all State Pollution Control Boards/ Industries/NGOs /Environment and Forest Departments/IITs/Universities	<a href="http://neerienvis.nic.in/pdf/newsletter/July%20September%202015.pdf">http://neerienvis.nic.in/pdf/newsletter/July%20September%202015.pdf</a>
	Vol.10 No.10-12, Oct.– Dec. 2015 Current R&D Achievements/ Technologies / Rules /Regulations / Policies/ Abstracts with regard to hazardous waste and its management (National and International)	300 to all State Pollution Control Boards/ Industries/NGOs /Environment and Forest Departments/IITs/Universities	<a href="http://neerienvis.nic.in/pdf/newsletter/ENVIS%20Oct.-Dec.2015.pdf">http://neerienvis.nic.in/pdf/newsletter/ENVIS%20Oct.-Dec.2015.pdf</a>
	Vol.11 No.1-3, Jan.– Mar. 2016 <b>Special Issue on Distilleries</b> Current R&D Achievements/ Technologies / Rules /Regulations / Policies/ Abstracts with regard to hazardous waste and its management (National and International)	300 to all State Pollution Control Boards/ Industries/NGOs /Environment and Forest Departments/IITs/Universities	<a href="http://neerienvis.nic.in/pdf/newsletter/ENVIS%20Jan.-March%202016.pdf">http://neerienvis.nic.in/pdf/newsletter/ENVIS%20Jan.-March%202016.pdf</a>

**9.2. Other publications/ information products brought out during the Financial Year (2015-16):**

Cover snapshot	Publication/ Product  Theme(s)/ Subject Area(s)	Number of copies printed and circulated	URL of the PDF file in ENVIS website (Kindly note that the PDF file should open without login prompt)
	Dos and Don'ts in safe use of pesticides for the farmers while purchasing and using (IN ENGLISH)	150	<a href="http://neerienvis.nic.in/dos_n_donts/dos_donts002.html">http://neerienvis.nic.in/dos_n_donts/dos_donts002.html</a>
	Dos and Don'ts in safe use of pesticides for the farmers while purchasing and using (IN MARATHI)	150	<a href="http://neerienvis.nic.in/pdf/do_dont/DO_AND_DONT_MARATHI.pdf">http://neerienvis.nic.in/pdf/do_dont/DO_AND_DONT_MARATHI.pdf</a>
	Hazardous waste: Its sources and health effects	150	<a href="http://neerienvis.nic.in/publications.html">http://neerienvis.nic.in/publications.html</a>
	Socio-economic impacts of hazardous waste	150	<a href="http://neerienvis.nic.in/pdf/publications/Socio%20economic%20impact%20of%20HW.pdf">http://neerienvis.nic.in/pdf/publications/Socio%20economic%20impact%20of%20HW.pdf</a>
	Status report on management of hazardous waste in India	150	<a href="http://neerienvis.nic.in/pdf/status_reports_data/Status%20Report%20on%20Management%20of%20Hazardous%20Waste%20inIndia.pdf">http://neerienvis.nic.in/pdf/status_reports_data/Status%20Report%20on%20Management%20of%20Hazardous%20Waste%20inIndia.pdf</a>



**9.3 Information Products published/ released so far:**

<b>Publication / Product</b>	<b>Theme(s)/ Subject Area(s)</b>	<b>Year of Publication</b>	<b>URL of the PDF file in ENVIS website (Kindly note that the PDF file should open without login prompt)</b>
<b>Compiled by NEERI-ENVIS</b>			
Status report on hazardous waste management in India	Technological and legal framework for hazardous waste management in India	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
<b>Compiled from other sources</b>			
Protocol for performance evaluation and monitoring of the common hazardous waste treatment storage and disposal facilities including common hazardous waste incinerators	Review of hazardous waste management facilities	2014	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Technical EIA guidance manual on chemical fertilizers	For enhancing functional efficiency and effectiveness in the environmental clearance process for stakeholders with regard to hazardous waste management of chemical fertilizer industries	2014	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Inventory of hazardous materials in tannery and pulp industries in Nigeria	Hazardous waste management in tannery and pulp industries	2014	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
National Hazardous Waste Management Plan 2008-2012	Hazardous Waste Management in Ireland	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Tar sands pipelines safety risks	Impacts of tar sands and safety from tar sands	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Hazardous waste management & Basel Convention	Hazardous waste management in compliance with Basel Convention	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Inventorisation and characterisation of hazardous waste categories in Andhra Pradesh: preliminary study report	Hazardous waste management in Andhra Pradesh	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Toxic and hazardous waste management	Assessment of hazardous waste management practices in	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>

training guide	Philippines		
Hazardous waste policy study for Nepal	Hazardous waste management policy in Nepal	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Hazardous waste management in ARAB Countries	Hazardous waste management in ARAB Countries	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Feasibility study for hazardous waste management in Egypt	Hazardous waste management in Egypt	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Hazardous waste management in Bangladesh: A country inventory	Hazardous waste management in Bangladesh	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>
Guidelines on techno-economic feasibility of implementation of zero liquid discharge (ZLD) for water polluting industries	Prevention of water pollution due to hazardous wastes	2015	<a href="http://neerienvis.nic.in/status_reports.html">http://neerienvis.nic.in/status_reports.html</a>

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

**10.1. URL:** <http://neerienvis.nic.in/>

**10.2. Status of restructuring of Website:**

**10.3. Frequency of updating Website 2015-16:** Daily

**10.4. Subject-specific database updation (numeric/ others):** Fortnightly

**10.5. Publication uploaded/ updated on Website:** As and when brought out

**11. User Engagement and Interaction** (*ENVIS Centres whose Website has been restructured may provide the Performance Report/Graphs generated therein wherever possible*):

<i>User engagement and interaction</i>	<i>FY 2015-16</i>	<i>FY 2014-15</i>	<i>FY 2013-14</i>
i. Total number of visits	11, 059	1,193	NA
ii. Number of unique visits	1, 692	1,094	NA
iii. Reports Downloaded/Read	NA	NA	NA
iv. Total Number of Queries received	307	289	344
v. Number of Queries responded	307	289	344



<i>User engagement and interaction</i>	<i>FY 2015-16</i>	<i>FY 2014-15</i>	<i>FY 2013-14</i>
vi. Grade received	-	A	B

## 12. Implementation of Annual Plan of Activities of the Financial Year (2015-16):

Activity/ Target	Achievements	Shortfalls, if any, and reasons therefore
<b>Centre's proposed activities 2015-16</b>		
<ul style="list-style-type: none"> <li>Data analysis of the compiled data on hazardous waste and its management</li> <li>Data analysis with regard to the processes generating hazardous wastes, Schedule 1 of HWMT Rules</li> </ul>	Data analysis indicates the nature of processes used	-
	Data analysis indicates the most preferred treatment options	-
<b>Suggestions for improvement by Processing Division, MoEF &amp;CC</b>		
<b>A. Regular Activities: Web-based Environmental Information</b>		
<b>Collection and Compilation of Information and Data</b>		
		-
<b>Maintenance of ENVIS Website and User Engagement through it</b>		
		-
<b>Maintenance of ISBEID and Preparation of State of Environment (SoE) Reports</b>		
<b>Publications and Value-Addition</b>		
<b>Reaching-out/Networking Activities</b>		
<b>B. SPECIAL ACTIVITIES</b>		

13.	<b>New initiatives taken during the previous Financial Year (2015-16):</b>	<ul style="list-style-type: none"> <li>Uploading of information on Bhuvan Portal</li> <li>Data analysis of the compiled data on hazardous waste and its management</li> <li>Database development on solidification and stabilization of hazardous wastes (as suggested by the experts in the ENVIS Regional Workshop held at CSIR-NEERI on 16-17 Feb. 2015)</li> <li>Dissemination of information in the area of hazardous waste management, in particular to farmers in the form of Dos and Don'ts (in the form of pamphlets or brochures in English and regional language-Marathi)</li> <li>Development of enviro-legal framework for</li> </ul>
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		<p>sustainable development</p> <ul style="list-style-type: none"> <li>- National and International legislations</li> <li>- Gap analysis</li> <li>- Case studies (for various industries)</li> </ul>
<b>14.</b>	<b>Date of most recent physical verification by the Ministry:</b>	15.4.2016

**15. Status of existing hardware:**

	Hardware item	Specification	Sanction Order with Date	Date of procurement
Procured from ENVIS Grant 2015-16	Desktop Computers (2)	Latest available	No.11/16/96-EI (Vol.II) dtd. 2 December 2015	22 February 2016
	UPS (2)			
	Multifunction printer cum scanner cum copier (1)			

**16. Status of utilization of grant in previous year (2015-16) and reasons for shortfalls, if any:**

	Head of Expenditure	Sanctioned amount (Rs.)	Actual Expenditure (Rs.)	Reasons for Shortfall/ Excess (if any)
Recurring Annual	Manpower	5, 31, 000	5, 02, 587	Due to extra leave taken by the Programme Officer
	Databases, etc.	2, 00, 000	84, 847	Some bills related to the ENVIS publications could not be cleared till 31 <sup>st</sup> March 2016, as the agencies submitted the bills lately
	Travel & Training	33, 696	40, 957	Over expenditure due to participation in the ENVIS National Evaluation Workshop held at Ministry of Environment, Forests & Climate Change, New Delhi and visit to TSDF sites for data collection for Bhuvan portal
Non-Recurring	Procurement of desktop computers (2), UPS (2), Multifunction printer cum scanner cum copier (1)	2, 00, 500	1, 73, 355	Purchase procedure (through tender invitation) was followed to procure these items and the payment has been made accordingly

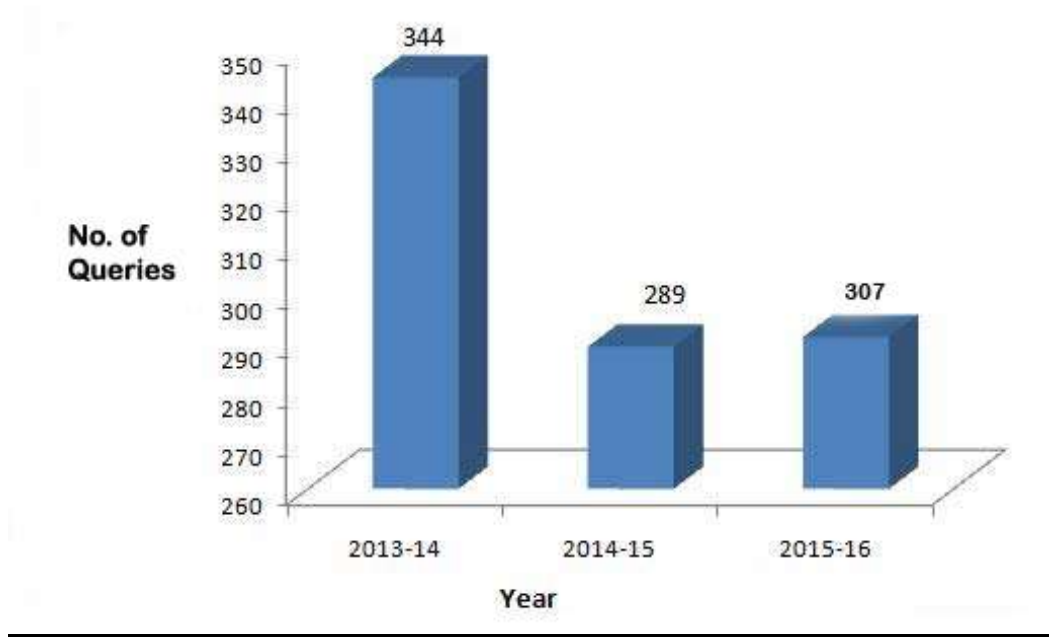
**17. Issues/ hurdles faced in undertaking ENVIS activities:**

<ul style="list-style-type: none"> <li>• In spite of several communications / reminders, could not receive the latest data on hazardous waste generation from SPCBs. MoEFCC is requested to kindly pass on necessary instructions to CPCB/SPCBs in this regard</li> <li>• Adequate fund may please be provided for travel, etc. as the ENVIS-NEERI staff could not approach various TSDFs, CETPs, industrial sites, authorities, etc. of various states to collect latest data on hazardous waste and its management with a view to link and upload the data on Bhuvan</li> </ul>
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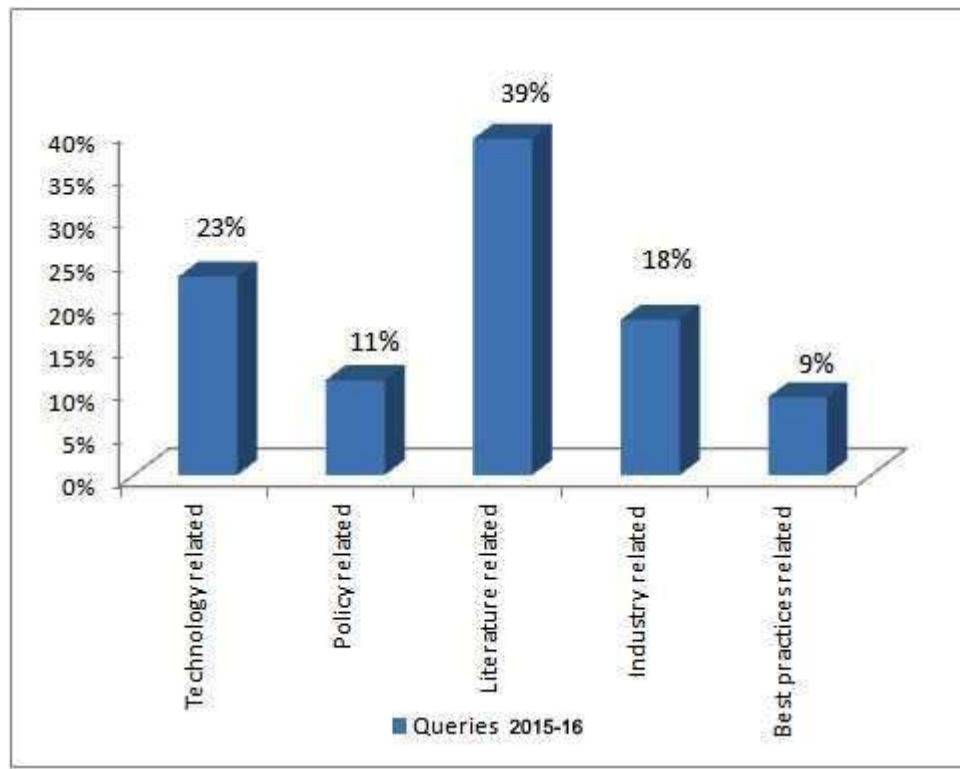
portal due to inadequate funds in this particular head

- One data entry operator is required for preparation of state-of-the art reports and making the ENVIS publications, website and other information products bilingual
- The sanction letter issued by MoEFCC should clearly include essential qualifications and experience of the manpower in accordance with the thematic area of the ENVIS centre. ENVIS-NEERI needs M.Tech. / M.E. / M.Sc. with 3 years' experience for Programme Officer, B. Tech. / B.E. / B.Sc. with 1 year experience for Information Officer and graduate with good knowledge of computer technology for IT Assistant
- Head-wise (break-up) sanction to the ENVIS-NEERI for 2016-17 may please be accorded taking into account the closing balance as on 31.3.2016 as given in the expenditure statement, which otherwise mismatches with the carrying forward amounts of the last financial year. This has been pointed out by the Finance & Accounts Section of CSIR-NEERI and Chartered Accountant aswell.

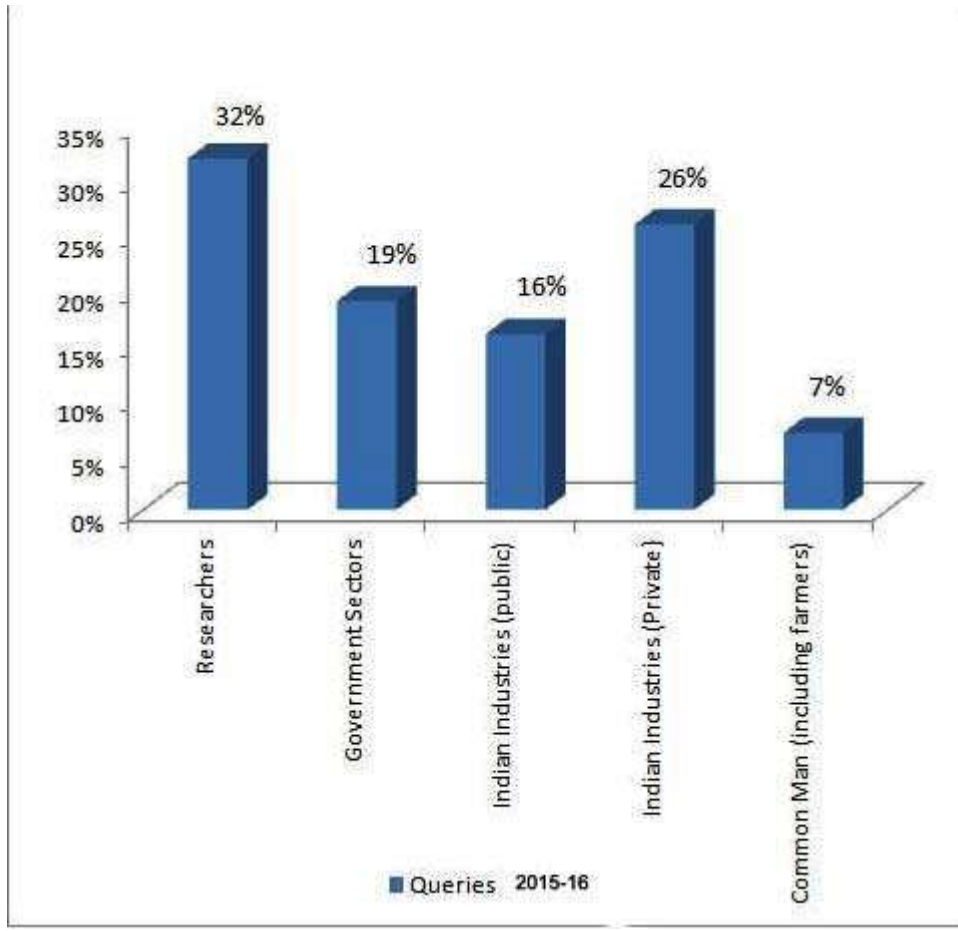
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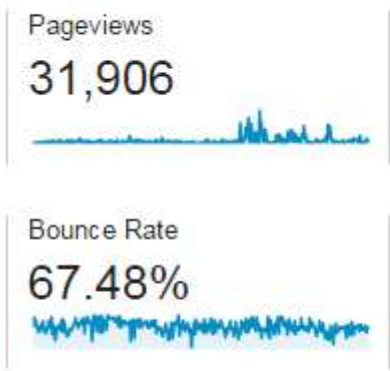
**Country-wise visits on neerienvs.nic.in**



Country	Sessions	% Sessions
1.  India	5,391	 56.17%
2.  United States	1,712	 17.84%
3. (not set)	815	 8.49%
4.  China	206	 2.15%
5.  Russia	118	 1.23%
6.  United Kingdom	108	 1.13%
7.  Japan	104	 1.08%
8.  Germany	101	 1.05%
9.  South Korea	84	 0.88%
10.  Netherlands	81	 0.84%

(Source: Google Analytics)

**New visitors / Returning Visitors on neerienvis.nic.in**



(Source: Google Analytics)