

Annual Report

(2012-2013)

Prof. S. C. Santra
Coordinator



**ENVIS Centre on Environmental Biotechnology,
Department of Environmental Science,
University of Kalyani,
Kalyani-741235, Nadia,
West Bengal**

i) Introduction

Environmental biotechnology is the application of all components of biotechnology related to environmental problems. The prime target of this science is the abatement of pollution through bioremediation / biotreatment or supporting as resources for human use in nonpolluting ways. It can also help in cleaner production of existing products. As a whole it encompasses aspects of natural resources management, the treatment of waste and control of pollution.

Therefore, the major areas of understanding can be grouped as follows:

- Environmental pollution abatement through biodegradation, biotransformation, bioaccumulation of toxic elements like organics, metals, dyes, oil & hydrocarbons, etc.
- Energy management through production of non-conventional nonpolluting energy like bio-diesel, methanol, biogas, biohydrogen etc.
- Agricultural application of biofertilizer, biopesticides, or bio-organics of multiple uses.
- Recovery of resources from toxic or nontoxic wastes through biotechnological applications.
- Biosensor approach of pollution monitoring and several other allied issues.
- Application of nano-biotechnology in environmental management.

ii) Objectives:

The general objective of the ENVIS Centre on Environmental Biotechnology is to collect data, related to the above-mentioned subject, from different major libraries of institutions and organizations all over the India. The subject related information was accumulated through consultation of journals, annual reviews, internet portals etc. All the information was provided to the people through a website, printed materials and direct contacts. A Database also created and uploaded in the website in regularly. Viewpoint of this centre is to help the interested students, research workers, scientist, administrators and the general people in the field of environmental biotechnology.

However, the basic objectives of this centre are as follows:

- Establishment of liaison with various institutes of India and abroad, working on the field of Environmental Biotechnology.
- Establishment of environmental data bank and documentation centre on the subject concerned.
- Publication of '**Abstract volume**' by collecting update abstracts on related subjects from different journals, proceedings of conferences/seminars/symposiums at a regular interval of 6 months. These are also made available in our website database.
- Publication of regular "**Newsletter**" emphasized on specific subject for wide dissemination of information to all concerned subjects.
- Establishment of advanced training cum demonstration facilities on some selected areas.

- Development and maintenance of a website in this subject area and incorporated all collected information for easy accessing through internet.
- Building of good collection of books, reports and journals in particular subject areas of environmental biotechnology.
- Documentations and collection of Effective Micro-organisms in environment management.

iii) Existing Staff Strength:

1. Programme officer: Dr. Anusaya Mallick
2. Information officer: (Vacant from Jan 2013)
3. Data entry operator cum Web Assistant: Shri Sourav Banerjee

iv) Activities:

Our regular activities to maintain and update our ENVIS Website, publish Newsletters and Abstract volumes in regular intervals, training, workshop & seminar on related subjects, provide information services etc. Our ENVIS center Website (<http://www.deskuenvis.nic.in>, <http://www.kuenvbiotech.org>) has been designed according to the Ministry guideline.

The activities of the centre are as follows:

- Maintenance of ENVIS website regularly. The database and other information were regularly updated and uploaded in the website.
- As per direction of technical persons of ENVIS secretariat, upgraded our OS and installed the Digital Certificate for using VPNCA/VPN service.
- Documentation on R & D activities of various organizations of India and abroad.
- The abstract of recent research on sub-thematic area in the database section were updated regularly.
- A separate section on '**Microbes in application**' is unique to contain information on different Effective Microbes and its application in Environmental management.
- A Kids Corner page was newly incorporated in the website containing animated and easily understandable information related to the subject area for the kids.
- Information regarding the concerned subject in the form of books, newsletters, journals, thesis and reports were collected in the ENVIS library and also given in website '**Library**' page. Research publications of our University related to the subject were also collected in the form of hard copy and soft copy and included in this web-page.

- Links of different [National](#) & [International](#) research institutes/ universities / organizations working in the field of environmental biotechnology were established and updating relating information regularly in the website
- Linkages developed with Government, academic, non-governmental organizations and all ENVIS centers in India.
- Current research activity and achievements of related important organizations of India were given in the website.
- We attend and participate in all meetings & conferences organized by the ENVIS secretariat.
- Continuous efforts are made in maintaining the reliability and relevance of all the data & information stored in our website. Our site is very useful, helpful, user friendly & highly demandable for the public, researchers, industry personals, NGOs who are working in this related field.
- Our website has been designed in such a way that usages of very simple hyperlinks have made it possible for users to get an easy access to the links with minimum time investment.
- The website has been made accessible to every individual from any part of the world using any type of web browser.
- Arrangement of training programme and workshop relating to the subject area.
- The centre provides query services to researchers, scientific communities and other concerned people. In most of the cases replies to the specific queries are given and in a few specific cases some relevant references are provided for better information supports.

v) **Training/Workshop**

An interactive workshop on “**Food security, GM crops, GMO and Biosafety Issue**” was organized by ENVIS Centre on Environmental Biotechnology, University of Kalyani, Nadia, West Bengal on March 19th, 2013. Hon’ble Vice Chancellor of our University inaugurated the workshop. Three eminent experts - Dr. Ashok Kanti Sanyal, Chairman, West Bengal Biodiversity Board, Prof. Ratan Gachhui, Department of Biotechnology, Jadavpur University, and Prof. Parthadeb Ghosh, Department of Botany, University of Kalyani, presented lectures in the workshop & interacted with the participants. About 70 participants were participated in this workshop.

vi) **Facilities available in the Centre:**

The following facilities is currently available in the Centre

1. ENVIS Library facility for readers
2. Query service and Referral service
3. Training service
4. Carrier consultancy service

vii) Infrastructural facilities:

- Dedicated ENVIS room
- Reading facility
- Photocopy facility
- 24 hour high speed internet service

Viii) Website details:

A. SALIENT FEATURES OF CURRENT WEBSITE

URL: <http://www.deskuervis.nic.in> and <http://www.kuenvbiotech.org>)

- **Uploading software:** Cute FTP, FileZila, Terrapin and Web Page maker V2
- **On Dynamic page (asp) uploading for NIC Website: [deskuervis.nic.in](http://www.deskuervis.nic.in), host folder is wsnic1/deskuervis & another website is www.kuenvbiotech.org, host folder is /wwwroot/normal**
- **On NIC website static page uploading for website: [ftp.deskuervis.nic.in](ftp://deskuervis.nic.in), host folder is deskuervis**
- **On Static page uploading for website: [ftp.envis.kuenvbiotech.org](ftp://envis.kuenvbiotech.org), host folder is /wwwroot**

Details of the Website URL: <http://www.deskuervis.nic.in> and <http://www.kuenvbiotech.org>

- **Server:** Windows 2000 Ultra II
- **Front end:**
Static Page: Web page maker V2, FrontPage, Dreamweaver, [Html, Htm], Javascript & Macromedia Flash
Dynamic Page: MS Visual Inter Dev, ASP
- **Back end:**
Database: MS SQL
- This site is optimized for internet explorer with 1024 * 768 screen resolution.

Sponsored by Ministry of Environment & Forest (MoEF), Govt of India

April 3, 2013

[Home](#) | [About Us](#) | [ENVIS Library](#) | [Current News](#) | [Sitemap](#) | [Gallery](#) | [Query](#) | [Contact Us](#)

ENVIS Centre

on Environmental Biotechnology

Dept. of Environmental Science
University of Kalyani

ENVIS
Environmental Information System
MoEF
INDIA

KALYANI
UNIVERSITY

Introduction	Database	Experts	ENVIS Centres	Biotechnology Policy	National Organisations	International Inst	Numerical Data
Microbes in Application	Events/Archives	Conventions/Treaties	Current Research	Regional Language	Workshop/Seminars	Disclaimer	Kid's Corner

Dept of
Envs, KU

MoEF

ENVIS

Kalyani University

Supported by: The Department of Environmental Information System
Sponsored by: The Ministry of Environment & Forest, Government of India.

NOTICE BOARD

An interactive workshop on "Food security, GM crops, GMO and Biosafety Issues" was organized by ENVIS Centre on Environmental Biotechnology, University of Kalyani, Nadia, West Bengal on March 19th, 2013. Three eminent experts - Dr. Ashok Kanti Saayal, Chairman, West Bengal Biodiversity Board, Kolkata, Prof. Ratan Gachhui, Department of Biotechnology, Jadavpur University, Kolkata 700 032 and Prof. Parthadeb Ghosh, Department of Botany, University of Kalyani, presented lectures in the workshop & interacted with the participants.

Access Statistics

008863

OneStat.com

Envis Co-ordinator: Prof. S.C. Santra (scsantra@yahoo.com)

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This site is optimized for 1024 x 768 screen resolution

Latest version of web page

B. Updating and interactivity of Website Structure

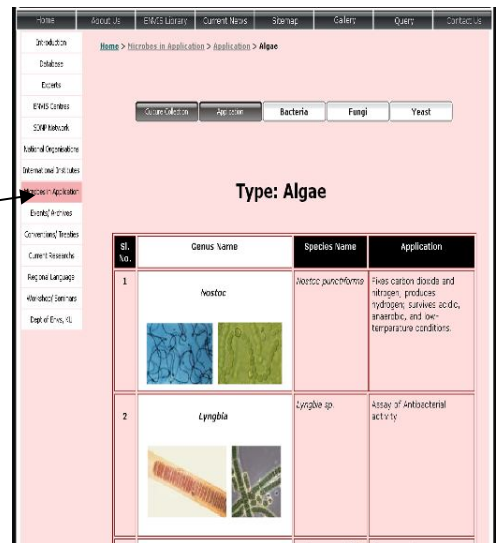
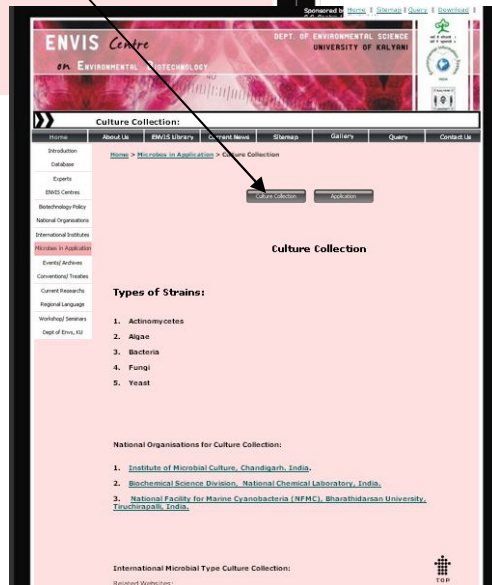
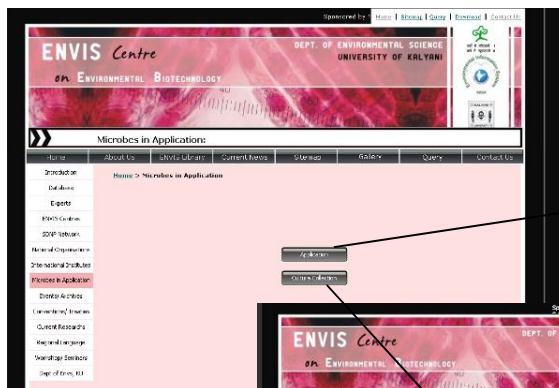
As per the suggestion of ENVIS ministry we thoroughly re-organized the structure of the Website, in a user friendly and interactive pattern with regular modification.

Example 1: In the '[Introduction](#)' web page 4 specific links are introduced about Introduction, Abstract Format, Background, and General Information. From each link other links can be accessed in an interactive way.



- 1) Web page editor software changed from front page to Web page maker V2
- 2) **Cute FTP software** is used to upload information in the website.
- 3) Hit counter service in the home page.
- 4) Website tracker incorporated in the homepage to get the full information about the website users
- 5) Flash player technology used in the homepage to exhibit photographs of important microorganisms

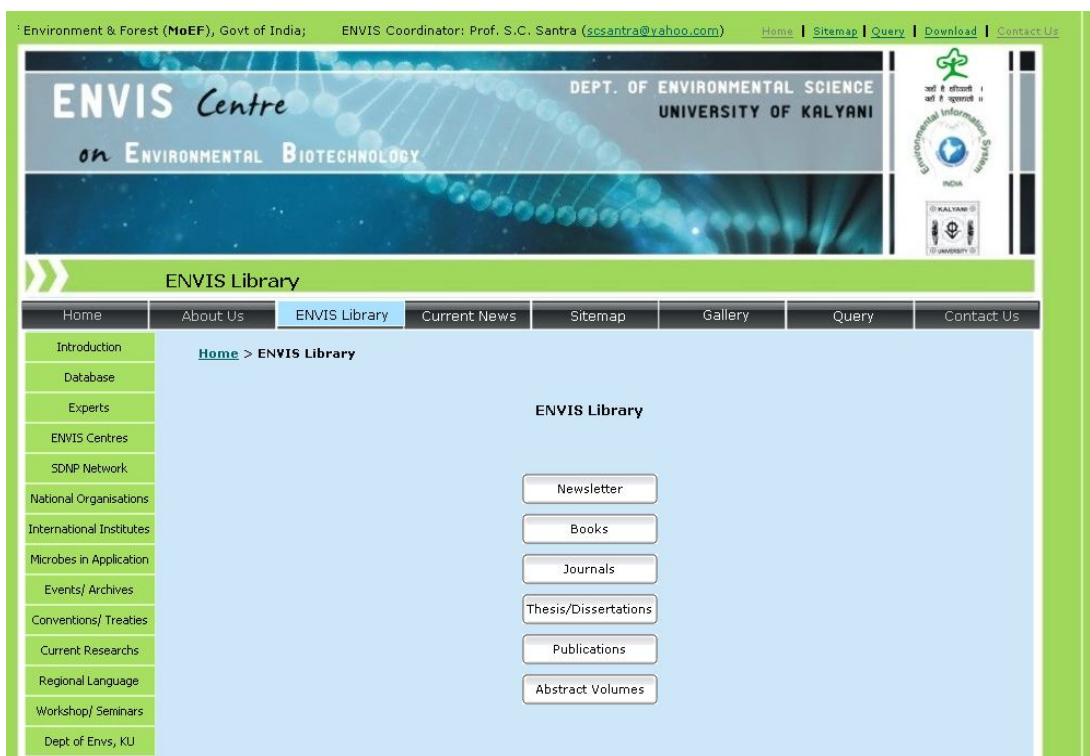
Interactivity and easy navigation in the website



Trends of Database development

- ❑ Database of our ENVIS website contains 15 sub-thematic area of environmental biotechnology
- ❑ Abstract of research papers from National and International Journals related to sub-thematic areas regularly updated
- ❑ Case studies are included related to environmental biotechnology in Database section as a separate links which is regularly updated
- ❑ Patents information in related to environmental biotechnology were also incorporated in this page
- ❑ Trends of number of database users are continuously increasing over the years

Example 2: ENVIS Library Page is now equipped with 6 specific links, like Newsletter, Books, Journals, Thesis/Dissertations, Publications, and Abstract



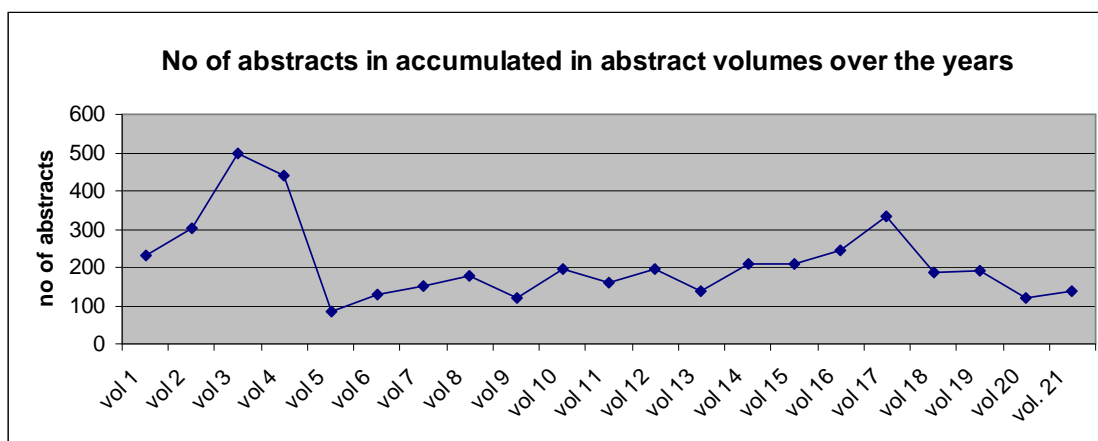
C. Addition of new information and/ update of database in the website

- ❑ We routinely upload recent news related to environmental biotechnology in the notice board section in home page.

- ❑ We regularly adding and update the list of effective microbes (bacteria, fungi and algae) and its applications with photographs in the “Microbes in application” section. Information regarding microbial culture collection centers (national & international) also included in this page.
- ❑ Information on Biotechnological Patents: We have developed a separate database on the patent issues on biotechnological aspects both at national and international levels. A separate web-page on the same has been introduced and regularly updated in our website.
- ❑ We regularly updated Abstract and Newsletter section on ENVIS Library link
- ❑ We updated National & International expert list of Environmental Biotechnology.
- ❑ We added detailed information on ‘Major issues of Biotechnology’ section
 - a) Updated research on transgenic crops and recent initiative of Government of India on this regard.
 - b) Information on Cartagena Biosafety protocol.
 - c) Links incorporated regarding biosafety regulations
 - http://www.envfor.nic.in/divisions/csurv/geac/geac_home.html
 - <http://dbtbiosafety.nic.in>
 - <http://www.igmoris.nic.in>
- ❑ In the ‘Data base’ section ‘Bioenergy’ under sub-thematic area was completely updated and current information were added.
- ❑ The ‘Database’ has been made more informative with Indian perspective. Specially the theme area biofuels has been modified, a new topic i.e. Biofuel Status in Indian Transport sector was also included.
- ❑ ‘Current news’ section updated regularly.
- ❑ In ‘Current Research’ page, summary of subject related research project list were updated regularly.
- ❑ Potentiality of nano-biotechnology in environmental clean up was also included in introductory part of SDNP page.
- ❑ Indian Environmental standard linkage from Pollution Control Board included in the website.
- ❑ In ENVIS-Library page, sub page on ‘Publication’ updated regularly.
- ❑ Identification of information/data gaps in the web site was carried out and suitable corrective action was undertaken to fill these gaps, namely:
 - More Indian journals were added to the database;
 - More search criteria were introduced (eg. Year , Author and Journal name etc)
 - Navigation in the web site was made more user friendly (usages of very simple hyperlinks have made it possible for users to get an easy access to the links with minimum time investment)

ix) PUBLICATION:

- This ENVIS centre publishes Abstract volume biannually from approximately 130 National and International journal on thematic area of Environmental Biotechnology under 15 sub-themes (1. Bioaccumulation, 2. Biocomposting, 3. Biodegradation, 4. Bioenergy, 5. Bioengineering, 6. Biofertilizer, 7. Biomarker, 8. Biopesticide, 9. Bioremediation, 10. Biosensor, 11. Biotechnology & Agricultural Issue, 12. Biotechnology Policy Issue, 13. Bio-Transformation, 14. Pollen-Biotechnology, 15. Nanobiotechnology). Till now 21 Abstract volumes has been published from the centre.



- The ENVIS Newsletter on Environmental Biotechnology is a half yearly publication with ISSN number: 09742476. Upto December 2012 the center published 21 numbers Newsletters in different specific subject related to environmental biotechnology and its applications.
- Theme of the last two newsletters that are published in the year 2012 pertaining to the field of '**Nanobiotechnology**' and '**Biomining**'.

x) QUERY SERVICES

- We supplied information on the received queries to individuals, students, scientific institutions, research scientists, Central and State government Departments & Organizations.
- We are also sending abstracts, research papers and reports as newsletters to different organizations by email, by post or in person.

Query Service details for the Period 1st April 2012 to 31st March 2013

1. General:

a) Number of query received by post

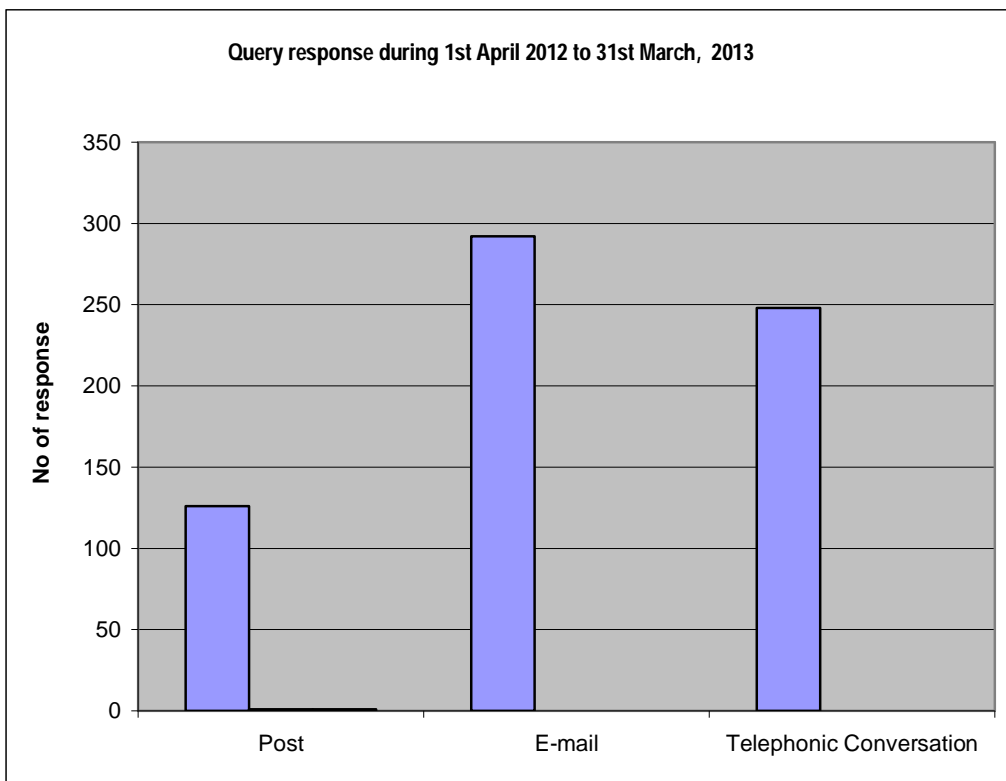
No of Queries received	No of Queries replied
126	126

b) Number of query received by E-mail

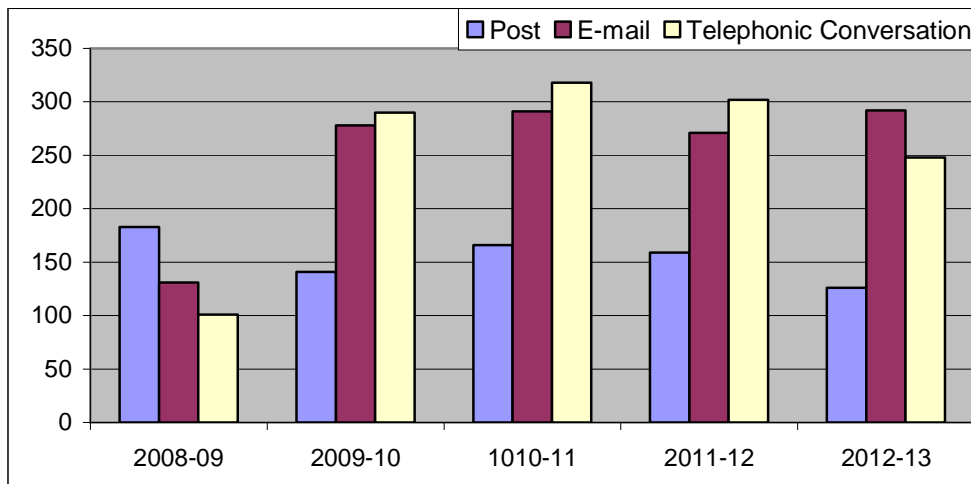
No of Queries received	No of Queries replied
292	292

c) Number of query received by Telephone/Fax

No of Queries received	No of Queries replied
248	248



Year-wise different query response comparison (last 5 years)



2. Website service availed

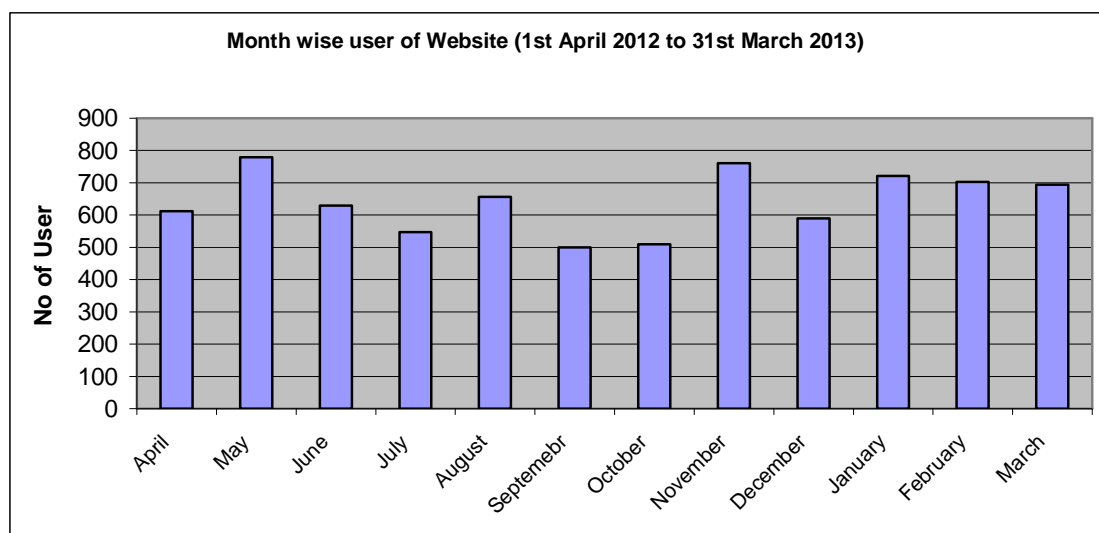
Total number of visitors from 1 st April 2012 to 31 st March, 2013	7701
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Type/Nature of services availed

Types of use	India	Other Countries	Total
a) Use of Database	1051	1407	2458
b) Other Information	3590	953	5243
Both (a + b)	4641	2360	7701

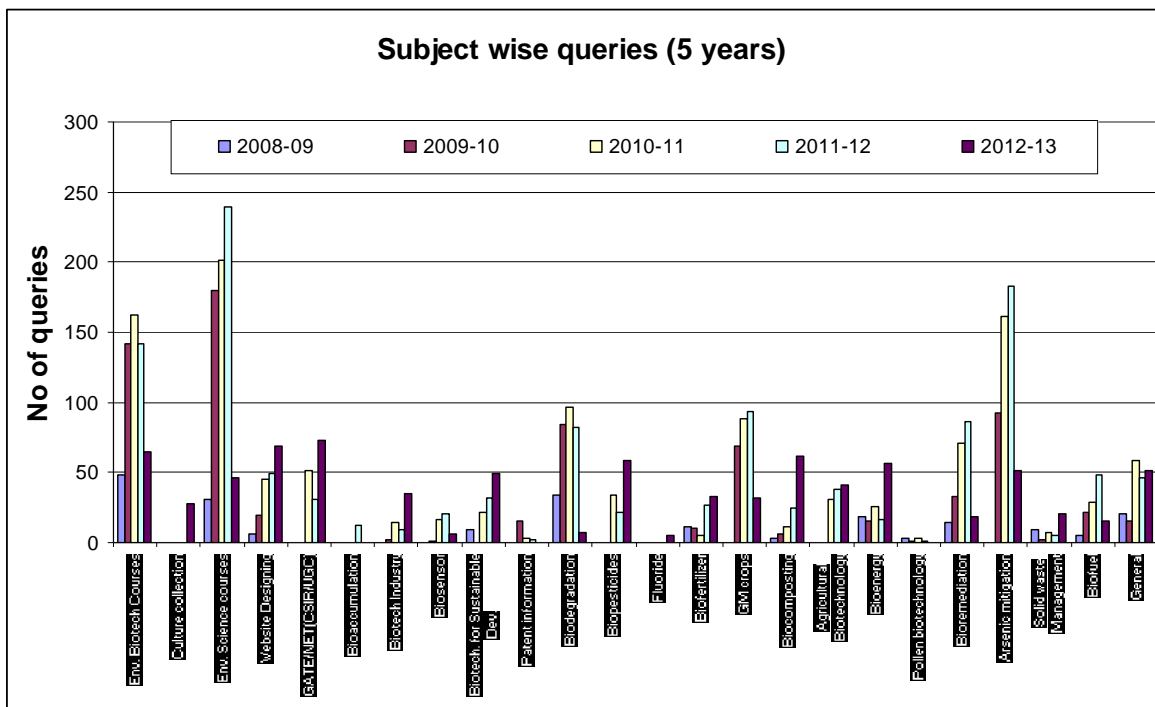
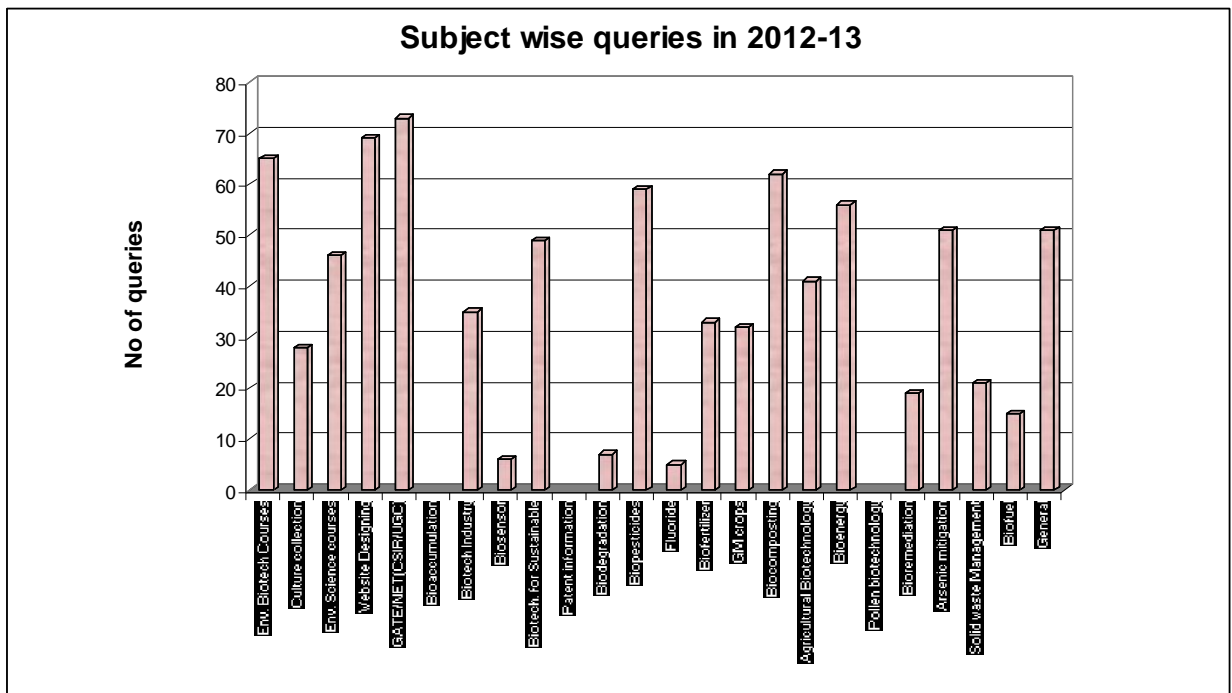
Statistics of the Website user (from April 1st 2012 to 31st March, 2013)

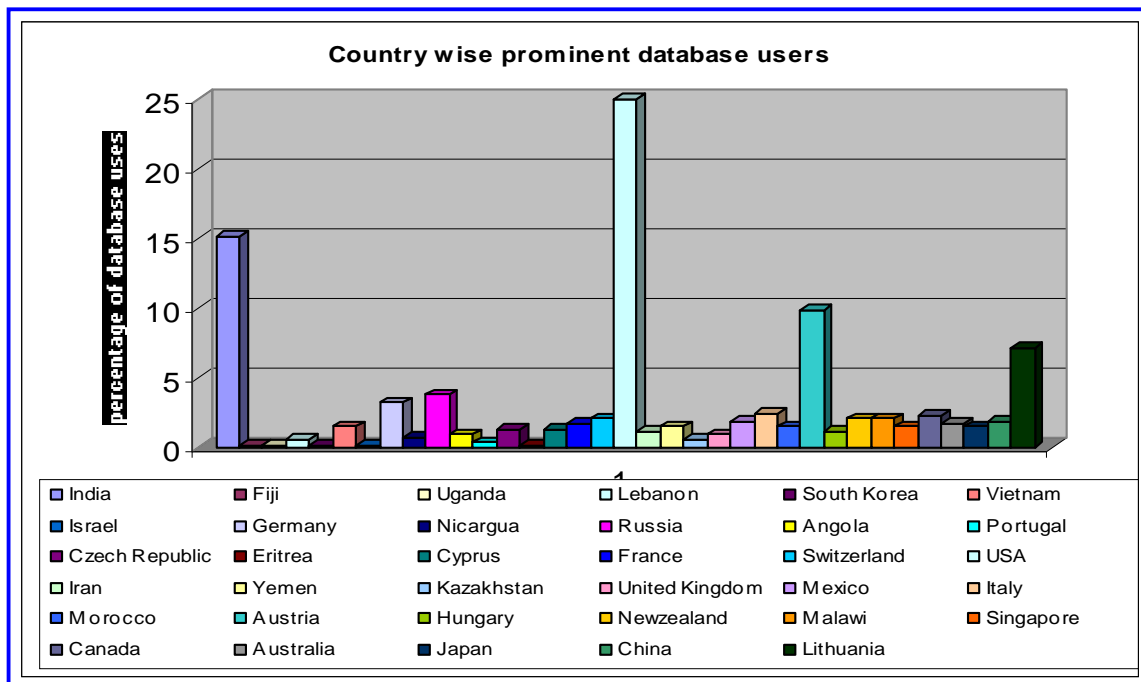
Month	No. of Visitors
April 2012	612
May 2012	779
June 2012	629
July 2012	547
August 2012	656
September 2012	500
October 2012	509
November 2012	761
December 2012	590
January 2013	721
February 2013	703
March 2013	694



Subject wise query service details (5 years):

Year	April 2008 to March 2009	April 2009 to March 2010	April 2010 to March 2011	April 2011 to March 2012	April 2012 to March 2013
Env. Biotech Courses	48	142	162	142	65
Culture collection	--	--	--	--	28
Env. Science courses	31	180	201	239	46
Website Designing	06	20	45	49	69
GATE/NET(CSIR/UGC)	--	--	51	31	73
Bioaccumulation	--	--	--	12	--
Biotech Industry	--	02	14	9	35
Biosensor	--	01	16	21	6
Biotechnology for Sustainable Development	09	--	22	32	49
Patent information	--	15	03	2	--
Biodegradation	34	84	97	82	7
Biopesticides	--	--	34	22	59
Fluoride	--	--	--	--	5
Biofertilizer	11	10	5	27	33
GM crops	--	69	88	94	32
Biocomposting	03	06	11	25	62
Agricultural Biotechnology	--	--	31	38	41
Bioenergy	19	15	26	16	56
Pollen biotechnology	03	01	03	1	--
Bioremediation	14	33	71	86	19
Arsenic mitigation	--	92	161	183	51
Solid waste Management	09	02	07	5	21
Biofuel	05	22	29	48	15
General	21	15	59	46	51

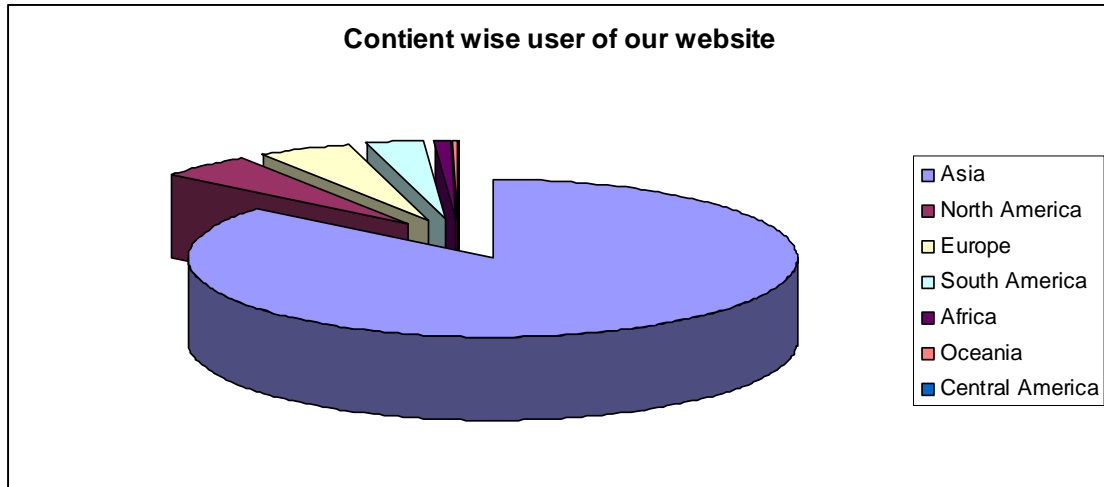




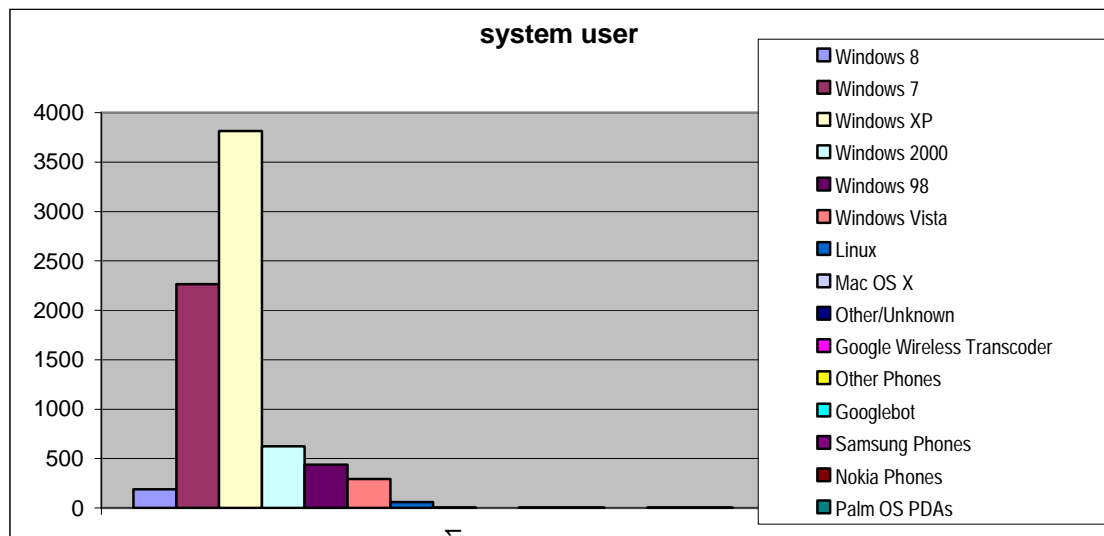
STATUS OF FEEDBACK RECEIVED FROM USERS

Feedback related to website	Response received about 5% of the total feedback form supplied
Feedback about publications of ENVIS Centre	Response received about 20% of the total feedback form supplied
About website information and design	Response received about 15% of the total feedback form supplied
Subject related query	Response received about 10% of the total feedback form supplied
Feedback about any other information's provided by the Centre	Feed back received about 55% of the total query

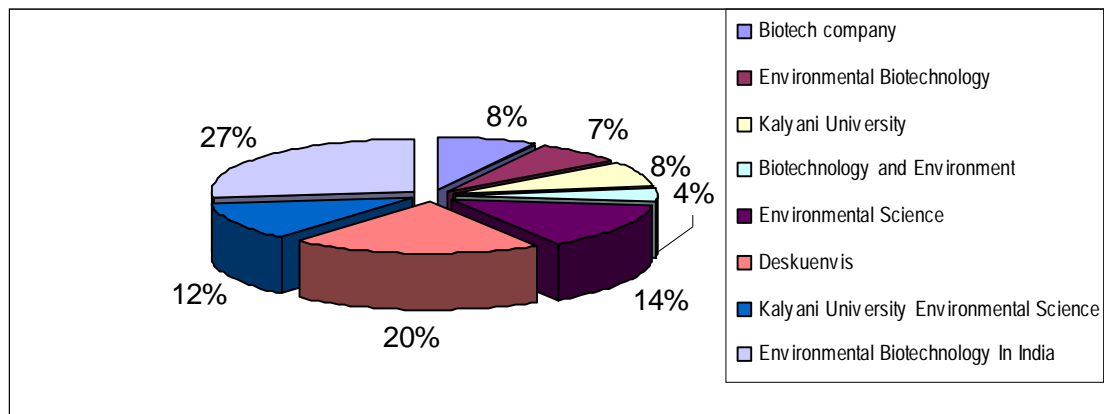
Continent wise users

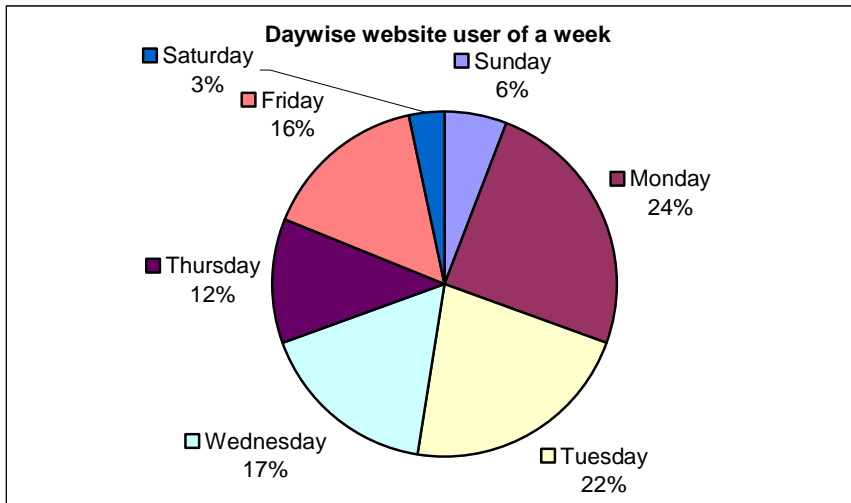
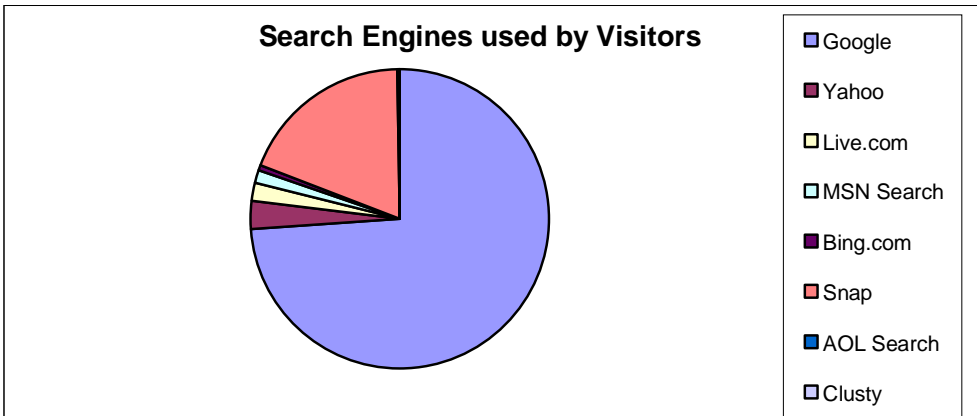
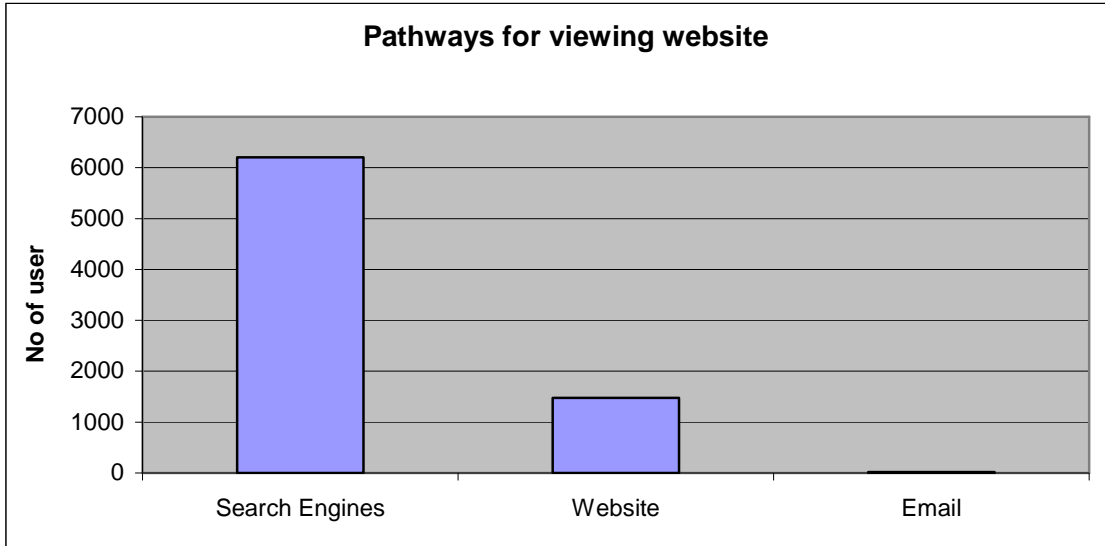


System wise users



Selected keyword used for main search engine queries





FEEDBACK FORM

Name and Designation :

Organization:

Address with Email & Contact No.:

.....

.....

Do you Receive the Newsletter Regularly, As it is Published?

Electronically: (Yes/No) Hardcopy: (Yes/No)

Any Specific Area, which Attracted your Attention?
(General Information, News and Views, Forth Coming Events, Important Links)

Have you ever been seen our ENVIS Website: (<http://www.kuenvbiotech.org>)

Your Opinion on our Website:

Which Portion is Useful to You:

Yours Valuable Suggestion for Improvement:

.....

Any Others:

.....

Comment/Feedback regarding ENVIS Center ,Univ. of Kalyani, Kalyani, Nadia, WB

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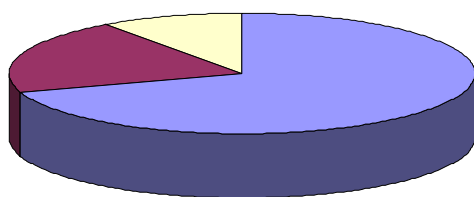
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Note: kindly fill the feedback form & mail to : desku@envis.nic.in, webmail.kuenvbiotech.org or by post in below address

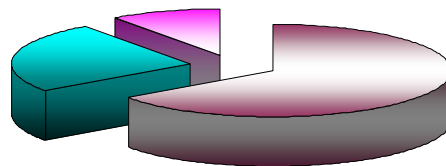
_____ Signature

Prof. S.C.Santa, *Coordinator*, ENVIS Centre on Environmental biotechnology,
Dept. of Environmental Science, University of Kalyani, Nadia 741 235, West Bengal, India

PERCENTAGE OF TARGET USERS RECEIVING INFORMATION FROM ENVIS WEBSITE OVER THE YEARS



- Academic
- Biotech Industries
- NGOs



- Research Scholar
- Students
- Teachers

LINKAGES WITH VARIOUS ENVIS CENTRES AND THE FOCAL POINT IN THE MINISTRY

- ❑ This centre has very good liaison with all other ENVIS Centres and Focal point in the ministry.
- ❑ For the enrichment and development of website and publication our ENVIS team interact regularly with other ENVIS centres namely ENVIS centre of ZSI, BSI, Govt of West Bengal, University of Madras etc.
- ❑ All publications of the ENVIS centre are regularly distributed among all other ENVIS Centres

FUTURE ACTION PLANS TO MEET THE OBJECTIVES DURING THE PERIOD OF 2013-2014

1. Establishing a video library of information related to the theme area of the ENVIS centre.
2. This Centre will increase its website linkages with information sources within the country & abroad for increasing the information content.
3. The Centre will add more bottoms and publish more R & D activity reports, documents, abstracts & research papers.
4. We intend to build up a strong inventory of information related to environmental biotechnology, data bank on Microbial Application potential in various fields, Industrial linkages in various application areas.
5. Our ENVIS centre will give more emphasis on database generation on success stories of application carried out by various institutions.
6. We intend to tie up with different industries to solve their problems regarding waste disposal, treatment and recycling, greenbelt development through different biotechnological strategies.

SOME CONSTRAINS IN THE WAY OF PROPER RUNNING OF THE ENVIS CENTRE OF ENVIRONMENTAL BIOTECHNOLOGY

1. Manpower deployment (Salary /wage issues)
2. Computer network, replacement and repair of computer parts

ENVIS Workshop photographs, March 19th, 2013

