UP State Biodiversity Board

BIODIV News

2010 International Year of Biodiversity

Volume : 1 ■ Issue : 4 ■ Jul - Sep, 2010 A Quarterly e-Newsletter

Brown headed barbet
(Photo courtesy: K. Praveen Rao)

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Editorial

Esteemed Readers,

This issue includes the estimated floral diversity of India (2009) that shows 46,340 species of plants (11.1% of the world's total). To introduce children to recognize common plants around them, a Plant diversity test was organized by the U.P. State Biodiversity Board on the Arbor Day in which about 600 students participated.

The International Vulture Day is celebrated in September each year to draw attention of people towards vultures which are an ecologically vital group of birds. Their populations have declined rapidly in the past 15 years. Amita Kanaujia's article reflects on how we still continue to lose this precious population of vultures to date. An attempt has also been made to examine the vulture population in Zoological parks and breeding centers of India.

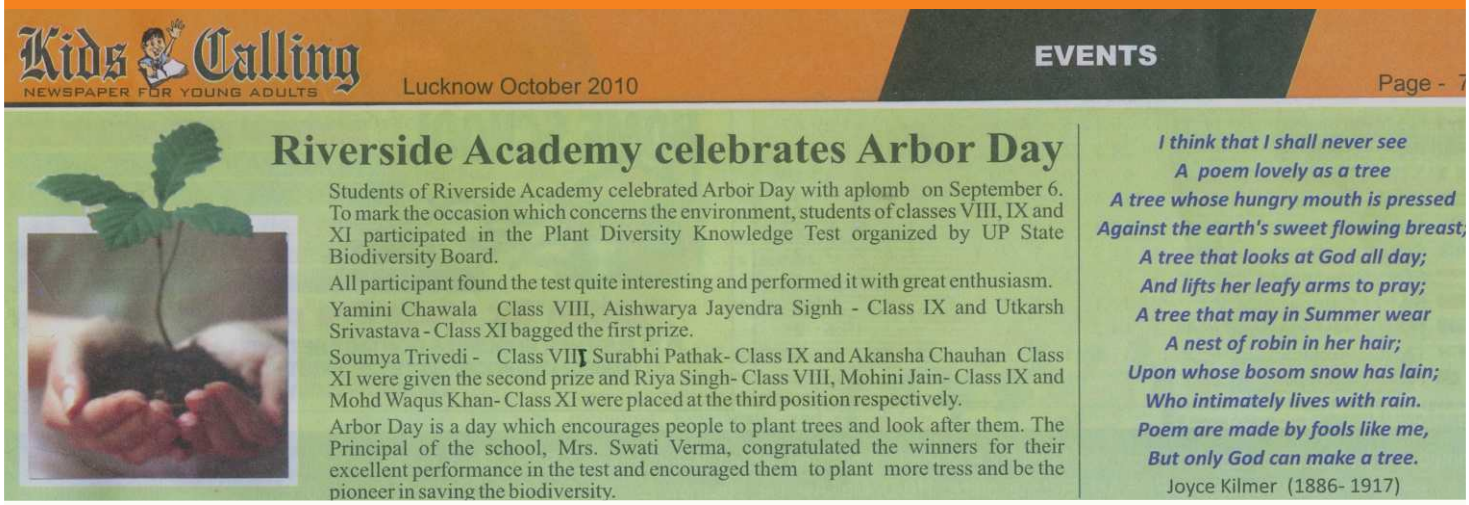
The U.P. State Biodiversity Rules 2010 are now formulated. With this U.P. becomes the 12th State in the country to have its own Biodiversity Rules.

Important press clippings from International events include the Gulf of Mexico oil spill. Who can forget the images of the runaway well and the waves of oil moving slowly ashore and into the marshlands? In the National News, elephants were yet again victims on railway tracks in West Bengal. Seven elephants died on the railway tracks in West Bengal. How do we meet the challenge of maintaining unfragmented, large landscapes for these large mammals? How do we build a secure green future? How does one save biodiversity? Let us continue to discuss this.

– Editors

Arbor Day Celebration

06th September, 2010



Kids Calling
NEWSPAPER FOR YOUNG ADULTS
Lucknow October 2010
EVENTS
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Riverside Academy celebrates Arbor Day

Students of Riverside Academy celebrated Arbor Day with aplomb on September 6. To mark the occasion which concerns the environment, students of classes VIII, IX and XI participated in the Plant Diversity Knowledge Test organized by UP State Biodiversity Board.

All participant found the test quite interesting and performed it with great enthusiasm.

Yamini Chawala Class VIII, Aishwarya Jayendra Signh - Class IX and Utkarsh Srivastava - Class XI bagged the first prize.

Soumya Trivedi - Class VIII, Surabhi Pathak- Class IX and Akansha Chauhan Class XI were given the second prize and Riya Singh- Class VIII, Mohini Jain- Class IX and Mohd Waqus Khan- Class XI were placed at the third position respectively.

Arbor Day is a day which encourages people to plant trees and look after them. The Principal of the school, Mrs. Swati Verma, congratulated the winners for their excellent performance in the test and encouraged them to plant more tress and be the pioneer in saving the biodiversity.

I think that I shall never see
A poem lovely as a tree
A tree whose hungry mouth is pressed
Against the earth's sweet flowing breast;
A tree that looks at God all day;
And lifts her leafy arms to pray;
A tree that may in Summer wear
A nest of robin in her hair;
Upon whose bosom snow has lain;
Who intimately lives with rain.
Poem are made by fools like me,
But only God can make a tree.
Joyce Kilmer (1886- 1917)

Arbor Day is a day, which encourages people to plant trees and look after them. The Millenium School and Riverside Academy celebrated the Arbor Day. A Drawing Competition was organized for the students of class 1st to 5th whereas Plant Diversity Knowledge Test was held for the students of class 5th to 8th and class 9th to 11th. More than 600 students participated in these competitions. The assessment of these competitions was carried out by Dr. Ram Jee Srivastava and Shri R. K. Dubey of UPSBB. Certificates and mementos were distributed to the winners of participating institutions for both the competitions. In addition, about 250 tulsi plants were given to the students of nursery section.

The Millenium School
South City, Lucknow

Drawing Competition- Class I to V

S.No	Prize	Name of the Student	Division
		Class-I	
1	I	Nandika	I-A
2	II	Devlleean	I-C
3	III	Rayhan	I-C
4	Consolation	Serena	I-B
5	Consolation	Lavanya Sarale	I-B
6	Consolation	Harsh	I-C
		Class-II	
1	I	Samridh Goel	II-A
2	II	Ronit Sainil	I-A
3	III	Sanyuktal	I-B
4	Consolation	Suhanil	I-A
		Class-III	
1	I	Achintya	III-A
2	II	Vidyosha	III-A
3	III	Alzia Shafiq	III-A
4	Consolation	Amogh	III-A
		Class-IV	
1	I	Malhias	IV-B
2	II	Aashil	V-B
3	III	Sapna Sharma	IV-A
4	Consolation	Harsh Tandon	IV-A
5	Consolation	Kshitij Sharmal	V-A
		Class-V	
1	I	Mansi	V-B
2	II	Saloni Shukla	

Students of nursery section getting *tulsi* plants from class teacher

Shri Chandra Bhushan Tiwari speaking to the children about plants

RIVERSIDE ACADEMY

Plant Diversity Knowledge Test Results Class VIII to XI

ClassVIII

S.No	Prize	Name of the Student
1	I	Yamini Chawla
2	II	Saumya Gupta
3	III	Riya Singh

Class IX

1	I	Aishwary Jayendra Singh
2	II	Surabhi Pathak
3	III	Mohini Jain

Class XI

1	I	Utkarsh Srivastava
2	II	Akansha Chouhan
3	III	Mohammad Waquas Khas

Dr Ram Jee Srivastatva giving *tulsi* plants to nursery students

Drawing competition participant

Headmistress Dr. Amrita Vohra and Pratibha Singh, DCF , Biodiversity Board Prize Distribution at Millennium School, Lucknow

Headmistress Dr. Amrita Vohra and Pratibha Singh, DCF , Biodiversity Board with the prize winners of drawing competition and Plant Biodiversity Test at Millennium School, Lucknow

Results of Plant Diversity Knowledge Test – Class VI to VIII

Class-VI

S.No	Prize	Name of the Student	Division
1	I	Radhika Jhunjhunwala	VI-A
2	I	Manavii Kumar	VI-B
3	II	Nyonika Mitra	VI-A
4	III	Chinar	VI-A
5	Consolation	Makrand Rastogi	VI-B

Class-VII

1	I	Pranay Pinnamaneni	VII-A
2	II	Vishal Singh	VII-B
3	III	Samriddhi Sharma	VII-A
4	Consolation	Samyak Jain	VII-A
5	Consolation	Manas	VII-B

Class-VIII

1	I	Aditi	VIII-A
2	I	Meghna Srivastava	VIII-B
3	II	Shourya	VIII-A
4	III	Shubham Chaurasia	VIII-B
5	Consolation	Raghav Agarwal	VIII-A
6	Consolation	Chirag Arora	VIII-B

We share this planet with many species. It is our responsibility to protect them, both for their sakes and our own".

- Pamela A. Matson

Workshops/Conferences/Trainings/Tours

1. **Aravalli Biodiversity Park, New Delhi, 30 July 2010.** Dr. Ram Jee Srivastava, Sr. Scientist visited Aravalli Biodiversity Park, a collaborative project of Delhi Development Authority (DDA) and Centre for Environmental Management of Degraded Ecosystem (CEMDE), University of Delhi on 30-07-2010. The Park is being developed as a beautiful landscape serving the purpose of natural museum. Several biotic communities are being developed as repositories that flourished in the Aravalli hills in the past. The park would be helpful in proving ecological services and infrastructure to the students/researchers for nature education programme.

2. **World Food Programme, Workshop on Building Resilience against Climate Change** to ensure Livelihood & Food Security in Uttar Pradesh, on **2nd August 2010.**

   Smt. Pratibha Singh, Dy. Conservator of Forests and Shri R. K. Dubey, Asstt. Conservator of Forests attended the Workshop at Hotel Dayal Paradise, Vipul Khand, Gomti Nagar, Lucknow organized by World Food Programme, U.P. and Uttarakhand. The workshop aimed to develop greater understanding on the issue of climate change *vis-à-vis* raising awareness about individuals' role in saving the planet earth from its adverse effects.

3. **Deptt. of Chemical Engineering, I.I.T. Roorkee-28th August 2010.** A Short Term Course/ Training on **"Green Technologies for Energy Security, Public Health and Clean Environment"** during August 25-28, 2010 was organized by the Deptt. of Chemical Engg, I.I.T. Roorkee, Uttrakhand. Dr. Ram Jee Srivastava, Sr. Scientist attended the programme on 28-08-2010 and delivered a guest lecture on "Environmental Impact Assessment of Chemicals and Chemical Production". He also attended the valedictory session of Training Programme as Chief Guest and distributed the certificates to the trainees.

4. **6th State Biodiversity Boards Meeting,** hoisted by Punjab Biodiversity Board, **Chandigarh, on 6th-8th September 2010.** Venue : Confederation of Indian industry (CII), Northern Region, Sector 31 A, Chandigarh 160030. The welcome address was given by Shri. Viswajeet Khanna, Secretary, Science and Technology & Environment, Punjab. The Presidential address was given by Shri Prakash Singh Badal, Chief minister, Govt of Punjab. The inaugural address was given by Shri . Jairam Ramesh, Minister for Environment anf Forests, Govt of India. Smt. Pratibha Singh, Dy. Conservator of Forests took part in the meet and in the technical session made a presentation of the Board's Annual Activities 2009-2010. Copies of the book, "Biodiversity of Aquatic and Semi – Aquatic Plants of Uttar Pradesh" and "Annual Report 2009-2010" of the UP State Biodiversity Board were given to the representatives of each State Biodiversity Board that attended the meeting. Technical session included discussions on :

   i) Preparation of PBR's

   ii) Prior intimation to State Biodiversity Board for obtaining biological resource for certain purposes (Section 7 and section 24)

   iii) Hosting of website by State Biodiversity Boards.

   iv) Formation of BMCs and their administration

   v) Identification and Notification of Biodiversity Heritage Sites (Sec 37) and Threatened Species (Section 38)

   vi) Enforcement of Biological Diversity Act , 2002, framing of Rules by states

   vii) Setting up of National Biodiversity Fund and State Biodiversity Fund and Maintenance of separate Accounts

   viii) Preparation of COP 11 -2012

5. **Launch of TEEB report, Teen Murti Bhawan, New Delhi. 9th September, 2010.** Pratibha Singh, Dy. Conservator of Forests, UP State Biodiversity Board and Shri RK Dubey, Asst. Conservator of Forests took part in this National Symposium. The TEEB stands for The Study on the Economics of Ecosystems and Biodiversity. It is a study hoisted by UNEP. The TEEB for Local and Regional Policy makers explores and gives practical guidance on how to deal with the challenge of biodiversity loss at a local and regional level. It examines what local Governments can do with respect to natural resource use and management, maintaining and supporting biodiversity, local and regional urban and spatial design.

Estimated Floral Diversity in India - New genera, species and new records

(Source: Botanical Survey of India)

The flora of India is both rich and diverse due to wide range of variations in climate, altitude and ecological habitats.

The Indian flora is mainly concentrated in four hotspots of floristic diversity viz., Himalayas, Western Ghats (and Sri Lanka), NE India and Andaman Islands (Indo-Burma), and Nicobar Islands, (Sundaland), which are identified amongst the thirty four 'global biodiversity hotspots'.

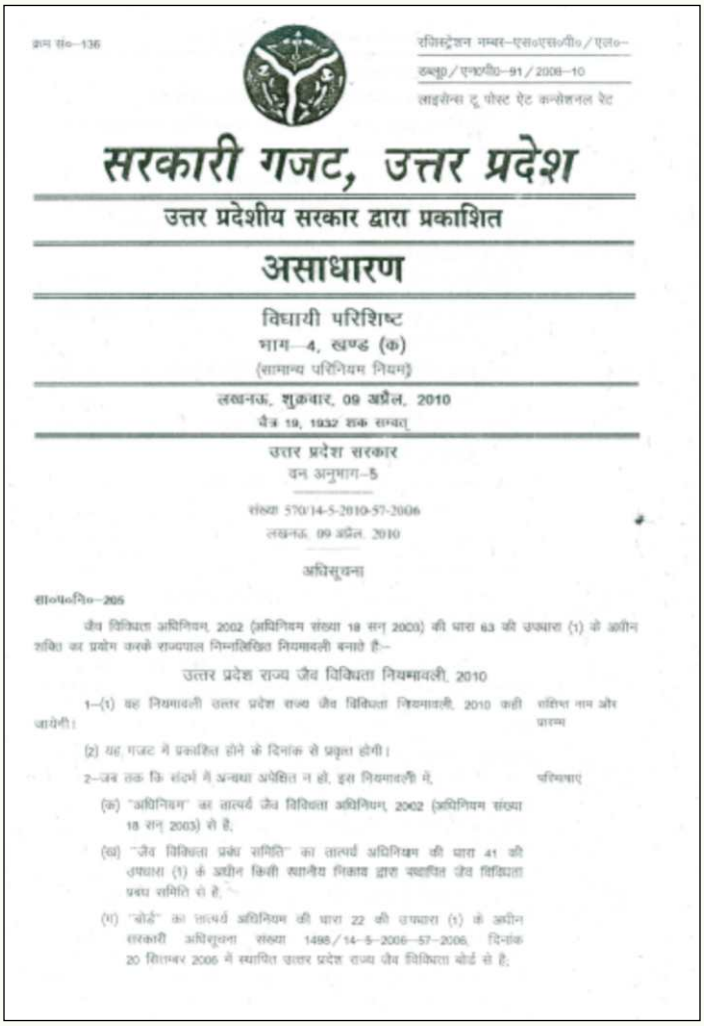
The Indian Flora accounts for about 11 per cent of the total recorded plant species of the world. About 28 per cent of the Indian plants are endemic to the country.

In the present state of our knowledge, India has about 46,340 species of plants already identified and classified, and many more are yet to be identified and described. The species recorded, group wise are given in the table.

During the year 2009, the scientists of BSI published 1 new genus, 41 new species, and 3 new varieties of plants and discovered 3 genera, 31 species and 1 variety as new for India, while the taxonomists from academia and other organizations published 9 new genera, 143 new species, 1 new nothospecies, 5 new varieties of new plants and 29 species as new records for India.

Group	No. of Species in India	No. of Species In World	Percentage
Virus/Bacteria	903	8,050	11.2
Algae	7,182	40,000	17.9
Fungi	14,588	72,000	20.2
Lichens	2,268	13,500	16.8
Bryophytes	2,451	16,600	14.7
Pteridophytes	1,236	10,000	12.3
Gymnosperms	69	650	10.6
Angiosperms	17,643	250,000	7.0
Total	**46,340**	**410,800**	**11.2**

UTTAR PRADESH STATE BIOLOGICAL DIVERSITY RULES, 2010



सरकारी गजट, उत्तर प्रदेश

उत्तर प्रदेशीय सरकार द्वारा प्रकाशित

असाधारण

विधायी परिशिष्ट

भाग—4, खण्ड (क)

(सामान्य परिनियम नियम)

लखनऊ, शुक्रवार, 09 अप्रैल, 2010

चैत्र 19, 1932 सक संवत्

उत्तर प्रदेश सरकार

वन अनुभाग—5

संख्या 570/14-5-2010-57-2006

लखनऊ, 09 अप्रैल, 2010

अधिसूचना

सा०प०नि०—205

जैव विविधता अधिनियम, 2002 (अधिनियम संख्या 18 सन् 2003) की धारा 63 की उपधारा (1) के अधीन शक्ति का प्रयोग करके राज्यपाल निम्नलिखित नियमावली बनाते हैं:—

उत्तर प्रदेश राज्य जैव विविधता नियमावली, 2010

1—(1) यह नियमावली उत्तर प्रदेश राज्य जैव विविधता नियमावली, 2010 कही जायेगी। संक्षिप्त नाम और प्रारम्भ

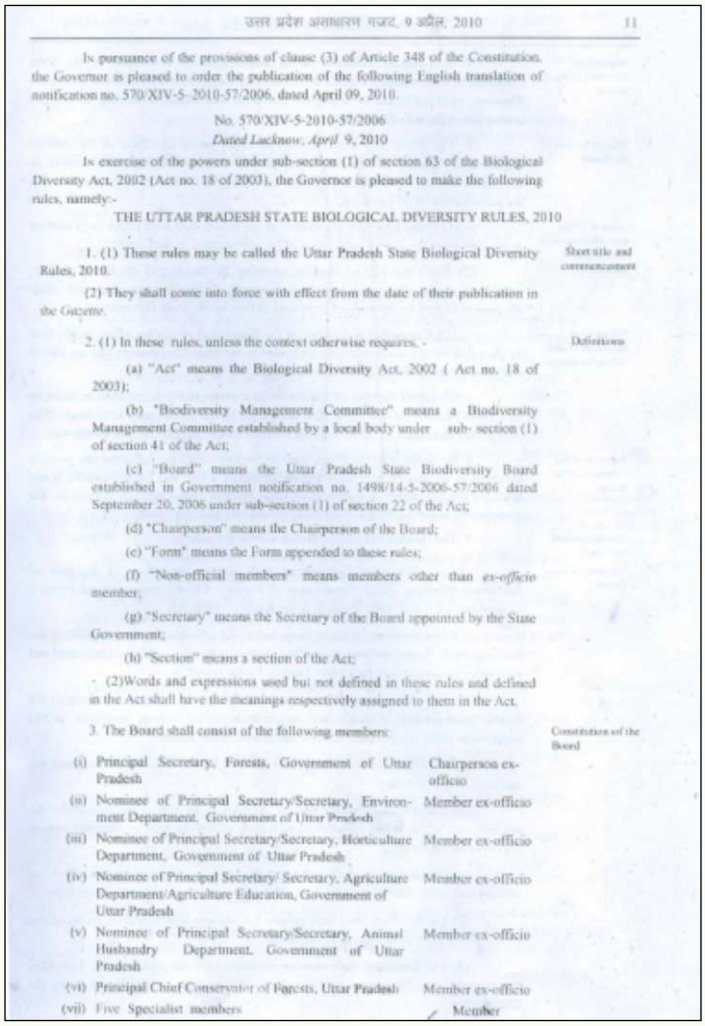
(2) यह गजट में प्रकाशित होने के दिनांक से प्रवृत्त होगी।

2—जब तक कि संदर्भ में अन्यथा अपेक्षित न हो, इस नियमावली में, परिभाषाएं

(क) "अधिनियम" का तात्पर्य जैव विविधता अधिनियम, 2002 (अधिनियम संख्या 18 सन् 2003) से है;

(ख) "जैव विविधता प्रबंध समिति" का तात्पर्य अधिनियम की धारा 41 की उपधारा (1) के अधीन किसी स्थानीय निकाय द्वारा स्थापित जैव विविधता प्रबंध समिति से है;

(ग) "बोर्ड" का तात्पर्य अधिनियम की धारा 22 की उपधारा (1) के अधीन सरकारी अधिसूचना संख्या 1498/14-5-2006-57-2006, दिनांक 20 सितम्बर 2006 से स्थापित उत्तर प्रदेश राज्य जैव विविधता बोर्ड से है;



उत्तर प्रदेश असाधारण गजट, 9 अप्रैल, 2010 11

In pursuance of the provisions of clause (3) of Article 348 of the Constitution, the Governor is pleased to order the publication of the following English translation of notification no. 570/XIV-5-2010-57/2006, dated April 09, 2010.

No. 570/XIV-5-2010-57/2006

Dated Lucknow, April 9, 2010

In exercise of the powers under sub-section (1) of section 63 of the Biological Diversity Act, 2002 (Act no. 18 of 2003), the Governor is pleased to make the following rules, namely:-

THE UTTAR PRADESH STATE BIOLOGICAL DIVERSITY RULES, 2010

1. (1) These rules may be called the Uttar Pradesh State Biological Diversity Rules, 2010. Short title and commencement

(2) They shall come into force with effect from the date of their publication in the Gazette.

2. (1) In these rules, unless the context otherwise requires, - Definitions

(a) "Act" means the Biological Diversity Act, 2002 (Act no. 18 of 2003);

(b) "Biodiversity Management Committee" means a Biodiversity Management Committee established by a local body under sub- section (1) of section 41 of the Act;

(c) "Board" means the Uttar Pradesh State Biodiversity Board established in Government notification no. 1498/14-5-2006-57/2006 dated September 20, 2006 under sub-section (1) of section 22 of the Act;

(d) "Chairperson" means the Chairperson of the Board;

(e) "Form" means the Form appended to these rules;

(f) "Non-official members" means members other than *ex-officio* member;

(g) "Secretary" means the Secretary of the Board appointed by the State Government;

(h) "Section" means a section of the Act;

(2)Words and expressions used but not defined in these rules and defined in the Act shall have the meanings respectively assigned to them in the Act.

3. The Board shall consist of the following members: Constitution of the Board

(i) Principal Secretary, Forests, Government of Uttar Pradesh	Chairperson ex-officio
(ii) Nominee of Principal Secretary/Secretary, Environment Department, Government of Uttar Pradesh	Member ex-officio
(iii) Nominee of Principal Secretary/Secretary, Horticulture Department, Government of Uttar Pradesh	Member ex-officio
(iv) Nominee of Principal Secretary/ Secretary, Agriculture Department/Agriculture Education, Government of Uttar Pradesh	Member ex-officio
(v) Nominee of Principal Secretary/Secretary, Animal Husbandry Department, Government of Uttar Pradesh	Member ex-officio
(vi) Principal Chief Conservator of Forests, Uttar Pradesh	Member ex-officio
(vii) Five Specialist members	Member

UP STATE BIOLOGICAL DIVERSITY RULES, 2010 in Hindi

UP STATE BIOLOGICAL DIVERSITY RULES, 2010 in English

The UP State Biological Diversity rules came out on April 09, 2010. The main functions of the Board include:

i. to provide technical assistance and guidance to the Departments of State Government;

ii. to perform such other functions as may be necessary to carry out the provisions of the Act;

iii. to identify the issues in Biodiversity conservation in Uttar Pradesh and to evolve Biodiversity strategy and Action Plan;

iv. to release of status of Biodiversity Report of Uttar Pradesh at suitable intervals and to evolve strategy and Action Plan;

v. to frame Biodiversity Policy of the State and establishment of Biodiversity Park;

vi. to adopt the different methods of activities for revenue generation such as fixed deposit, advertisement, sponsor, donations and such other methods etc.;

vii. to award individual, or as a group or as institution for innovation and contribution to the Biodiversity conservation of the State;

viii. commission studies, sponsor investigations and research, organize conferences / seminars / workshops / meetings on different fields;

ix. to engage consultant in different fields for a specific period not exceeding three years, for providing technical assistance to the Board in

the effective discharge of its functions provided that if it is necessary and expedient to engage any consultant beyond the period of three years, the approval of the Board shall be necessary;

x. to collect, compile and publish technical and statistical data, manuals, codes relating to conservation of biodiversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resources and knowledge;

xi. to organize through mass media (electronic media, website, print media brochures, newsletters, documentary films or innovative methods etc.) a comprehensive programme regarding conservation of biodiversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of

xii. to plan and organize local, Regional, National and International training as well as online training of all the stake holders for fulfilling the objectives of the Act;

xiii. to prepare the annual plan of operation, annual budget of the Board incorporating its own receipts;

xiv. to grant administrative, technical and financial sanctions to all the activities; and to delegate such administrative, technical and financial sanctions to the Chairperson or the Secretary of the Board as it may deem necessary;

xv. to recommend creation of posts to the State Government, for effective discharge of the functions by the Board and to create such posts;

xvi. to engage the persons on contract/deputation for the proper and effective functioning of the Board;

xvii. to take steps to build up data base and to create information and documentation system for biological resources and associated traditional knowledge through biodiversity registers and electronic data bases, to ensure effective management, promotion and sustainable uses;

xviii. to ensure that biodiversity and biodiversity-dependent livelihoods are integrated into all sectors of planning and management, and at all levels of planning from local to contribute effectively for conservation and sustainable use of bio-resources;

xix. to reinforce and guide the Biodiversity Management Committees for effective implementation of the Act;

xx. to report to the State Government about the functioning of the Board and carrying out the provisions of the Act;

xxi. to recommend, prescribe, modify, collection or distribution of fee in respect of biological resources from time to time;

xxii. to devise methods to ensure protection of rights including intellectual property rights over biological resources and associated knowledge including systems of maintaining confidentiality of such information as appropriate, including the protection of the information recorded in People's Biodiversity Registers;

xxiii. to sanction grants-in-aid and grants to Biodiversity Management Committees for specific purposes;

xxiv. to undertake physical inspection of any area in connection with the carrying out the provisions of the Act;

xxv. to take necessary measures including appointment of legal experts to oppose grant of intellectual property right on any biological resource and associated knowledge obtained from the State in an illegal manner;

xxvi. to acquire, hold and dispose of property, both movable and immovable and enter into contract for the same;

xxvii. to provide the ways to manage and conserve heritage sites;

xxviii. to compensate or rehabilitate any section of the people economically affected by notification under sub section (1) of section 37 of the Act;

xxiv. to conservate and promote biological resources;

xxx. to make socio economic development of areas from where such biological resources or knowledge associated has been accessed;

xxxi. to do such other functions as may be assigned to it or directed by the State Government from time to time or as decided by the Board from time to time.

Details also available on: http://www.upsbdb.org/pdf/UPSBB_English_Rules.pdf

About *Indopiptadenia oudhensis*

Plantation of *Indopiptadenia oudhensis* tree was done at Birbal Sahani Institute of Paleobotany in the presence of **His Excellency - Shri B.L. Joshi, Governor of Uttar Pradesh on 10th September 2010, Ozone day celebrations.**

Plants of Indopiptadenia have also been made available to:

1. **National Botanical Research institute , Lucknow**
2. **Botanical survey of India, Allahabad**
3. **Integral University, Lucknow**

ECOSYSTEM SERVICES PROVIDED BY BIODIVERSITY

from The Economics of Ecosystems and Biodiversity (TEEB)

The Ecosystems services have been defined by TEEB in the following manner:

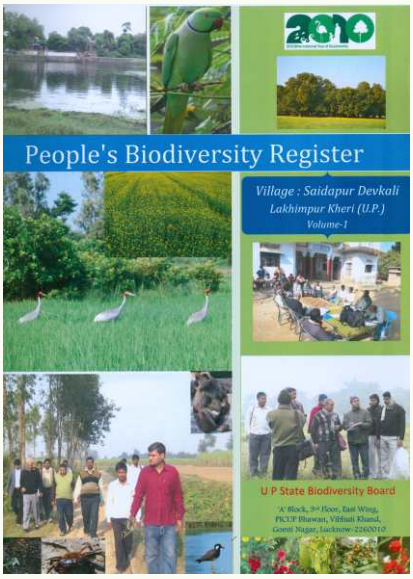
1. PROVISIONAL SERVICES: Are the materials that ecosystem provide.
2. REGULATING SERVICES: Are the services that ecosystems provide by acting as regulators.
3. HABITAT AND SUPPORTING SERVICES: Underpin almost all other services. Ecosystems provide living spaces for plants and animals and maintain their diversity.
4. CULTURAL SERVICES: Are the non-material benefits of ecosystems.

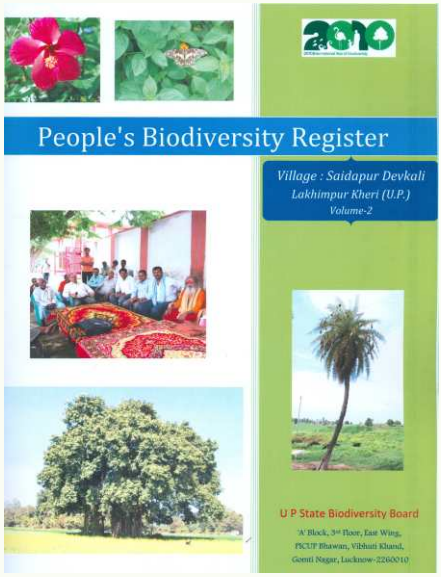
Provisioning Food		*Regulating Extreme Events*		*Habitats for Genetic Diversity*	
Provisioning Raw Materials		*Regulating Waste Water Treatment*		*Cultural Services: Recreation*	
Provisioning Fresh Water		*Regulating Soil Erosion and Fertility*		*Cultural Services: Tourism*	
Provisioning Medicinal Resources		*Regulating Pollination*		*Cultural Services: Aesthetic appreciation*	
Regulating Local Climate		*Regulating Biological Control*		*Cultural Services: Spiritual Experience*	
Regulating Carbon Sequestration		*Habitats for Species*			

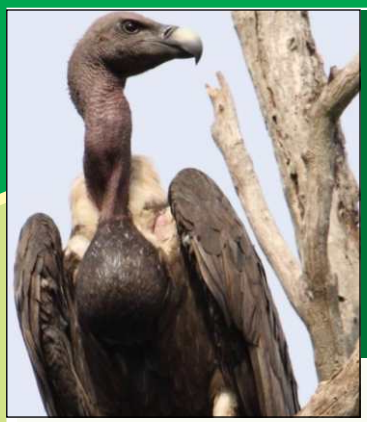
Icons designed by Jan Sasse for TEEB, for details see teebweb.org

PBR – Lakhimpur Kheri : 29-07-2010

The Biodiversity Management Committee (BMC) of village Saidapur Devkali met on 29-07-2010 and discussed they Peoples Biodiversity Register (PBR). This is the first People's Biodiversity Register to be prepared in the State of Uttar Pradesh. It records 304 species, of which 52 are corp species, 23 are fruit species, 5 are fodder species, 19 are insect species, 6 are timber trees, 19 are fishes, 110 are other species are fauna etc. A power point presentation on the PBR was made to make every one aware of the contents of the register.







Oriental White-backed Vulture (*Gyps bengalensis*)(9)

Long billed Vulture (*Gyps indicus*)(11)

Slender billed vulture (*Gyps tenuirostris*) (10)

Egyptian Vulture (*Neophron percnopterus*)(12)

Giddhraj Again Falls Victim to Human Negligence

Amita Kanaujia*, Sonika Kushwaha*, J. P. Shukla[1] & Akhilesh Kumar Mishra[2]
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Background: India has nine species of vultures in the Wild (Ali and Ripley,1995). These are:

1. Oriental White-backed Vulture (*Gyps bengalensis*),
2. Slender billed vulture (*Gyps tenuirostris*)
3. Long billed Vulture (*Gyps indicus*),
4. Egyptian Vulture (*Neophron percnopterus*),
5. Red headed Vulture (*Sarcogyps calvus*),
6. Indian Griffon Vulture (*Gyps fulvus*),
7. Himalayan Griffon (*Gyps himalayensis*),
8. Cinereous Vulture (*Aegypius monachus*) and
9. Bearded Vulture or Lammergeir (*Gypaetus barbatus*).

As you can see, out of 9 species, five belong to the Gyps genus and the others are monotypic. The population of three species i.e. White-backed Vulture, Slender billed Vulture and Long billed Vulture in the wild has declined drastically over the past decade. All three vulture species were listed by IUCN, the World Conservation Union, in 2000 as 'Critically Endangered' (Action Plan for Vulture Conservation in India, 2006.).

Much more needs to be done to generate awareness about the role of vultures in the ecosystem. The vultures are spectacular fliers already listed as critically endangered (Criteria A1c,e and A2c,e) Vultures provide the society with a number of 'services', most notably disposal of carrion. Vultures feed exclusively on the carcasses of dead animals. This prevents the spread of disease such as rabis and anthrax among wild life, livestock, humans. These services have an impact on human health, economic activity and on environmental quality. Vultures are the primary removers of carrion in India and Africa. Removal of a major scavenger from the ecosystem will affect the equilibrium between populations of other scavenging species and/or result in increase in putrefying carcasses. In the absence of carcass disposing mechanisms, vulture declines may lead to an increase in the number of putrefying animal carcasses in the country side. In some areas the population of feral dogs, being the main scavenging species in the absence of vultures, has been observed to have increased.

History: The diminution of vulture population was reported in Kerela in 1960s followed by Andra Pradesh and Karnataka in 1981 (Chhangani, 2007). But it was Bombay Natural History Society (BNHS) that set the alarm bell ringing in 1999. Vulture declines were first documented at Keoladeo National Park, Bharatpur, Rajasthan by Dr.Vibhu Prakash from BNHS. During the last

decade, the diclofenac theory gained wide acceptance as the main cause of the decline. Diclofenac is a widely used medicine for both humans and livestock of the non-steroidal anti-inflammatory group of drugs (NSAIDS) (Prakash, 1999). The sale and use of Diclofenac was banned in India in March 2006. However, there can be other reasons for vulture mortality as well) (In the Gir, vultures died inadvertently feeding on lion cattle kills poisoned by villagers in revenge and in other areas likewise, from eating the poisoned kills of tigers and leopards. Certain communities in India in Guntur and Prakasam districts of Andra Pradesh, Bapne near Mumbai and in villages near Sasan Gir and Vishwaneedan near Bangalore used to catch vultures to eat them as normal food or on festive days. Not only adult but eggs and chicks were also consumed (Satheesan, 1999) With the number of "birdhits" going up alarminely, The civil aviation and air force authorities have had to take steps to crub down bird hits (Satheesan, 1994). A new-virus hypothesis, probably a virus acquired from another species, or a new-disease factor, have also been proposed to account for the deaths of vultures and of their population decline (Risebrough and Berkeley, 2000). The habitat destruction through devastation of feeding sites and cutting of trees used for nesting is also a major cause for the declining vulture population. Constructions have arisen on many previous feeding sites that were used for dumping dead cattle, thus depriving vultures of forage (Kushwaha, 2010). Possibly, the practice of purchasing sick and infirm cattle for skin and meat by slaughtering agents has created shortages of food for these carrion eaters. Consequently, the exact causes for the vulture collapse have not yet been indisputably established.

Red headed Vulture
(*Sarcogyps calvus*)(13)

Cinereous Vulture
(*Aegypius monachus*) (16)

The incident: Despite the legal protection given to Vultures by the Wildlife Protection Act , The Action plan for vulture conservation in India and the many awareness generation measures, tragic accidents do happen. One such accident occurred on 17th February 2010 in Uttar Pradesh at around 11.30am at an unmanned level crossing (ULC), about 500 metres from Mohnapur railway crossing, in Laxmipur range of the Maharajganj forest area.

A dog was run down by a train and was lying on the tracks. The crows started gathering to feed on the dog carcass. As the day progressed the crows were seen by the flying vultures. The vultures too started getting down to join the feast. The local people saw this and they asked the Track Keeper to remove the carcasses, but he refused saying that it was not his job. Delays are dangerous.

The birds were engaged in feeding, ignorant of the impending death and crushed by the speeding Durg Express. Vultures being heavy birds could not fly away all at once. With stomachs full they all the more failed to do so. The ill-fated birds kept running on the tracks instead of moving away. Mr. Nirmal Kumar Srivastava (SDO) with Mr. Vasi Iqbal Naqvi

Vultures lying dead with the dog carcass

Indian Griffon Vulture
(*Gyps fulvus*)(14)

Bearded Vulture or Lammergeir
(*Gypaetus barbatus*) (17

Himalayan Griffon
(*Gyps himalayensis*)(15)

Bearded Vulture or Lammergeir
(Gypaetus barbatus) (18)

(Forest Range Officer) and Dr. Bhagwan Singh (District C.V.O/Supdt, Laxmipur Veterinary Hospital) visited the accident site and saw the irretrievable loss.

Vultures run down on the tracks

30 vultures lost their life (25 males & 5 females).

30 vultures lost their life (25 males & 5 females). Vultures are monogamous i.e. they pair up for life. The number 30 here doesn't only mean 30 deaths, there are others who lost their life partners, about whom we do not know.

Dr. Bhagwan Singh found that the females had eggs when post mortem was done. Two injured were found. One died during treatment while other was sent to Lucknow Zoo. The dead vultures were buried after the post mortem.

Due to the breeding behavior of vultures it has become a herculean task to increase their depleting numbers. Firstly they are monogamous. Secondly they start laying eggs at an age of five and thirdly they lay only one egg per year. So reproduction must go well for most vultures if they are to survive. Some vultures, such as Cinereous vulture will permanently evacuate the nest if they get slightly disturbed (Kanaujia and Kushwaha, 2009). The whole breeding cycle lasts for about 8 months. Besides this only 50-52% of occupied nests are able to produce young in a year.

The news covered the headlines of newspapers. The Forest Department filed a case against the train driver under the Wildlife Protection Act .Another such accident had occurred about a week before this incident i.e 10th February 2010 in Manikapur, about 100 km from Lucknow.

Listing the vultures as critically endangered, banning the drugs harmful to them (Diclofenac), *in-situ* conservation of vultures, opening of vulture restaurants, are all important in the wider interests of vulture survival. During our talk to Mr. Nirmal and Mr. Naqvi we came to the conclusion that the there exists a need to spread awareness among the people, be it the various Government Departments or the common man.

In our opinion monitoring the existing vulture sites is very important for conservation of vultures in Uttar Pradesh. Conducting population surveys and reviewing them periodically is also very important to know if these populations are self sustaining or not. The population estimation studies along with studies on ranging patterns, foraging movements and identification and protection of existing colonies will ensure breeding success in the wild. People need to be made more aware of the ongoing crisis and the steps they need to take for conservation. For this it is imperative to have an awareness campaign on importance of vultures in the ecological cycle and their responsibilities for vulture conservation.

Dr. Amita Kanaujia, Dr. Akhikesh, Dr. J. P. Shukla with Mr. Neeraj Srivastava and Mr. Iqbal in Forest Office, Maharajganj.

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We should preserve every scrap of biodiversity as priceless while we learn to use it and come to understand what it means to humanity.

— E. O. Wilson

Vulture Populations in Indian Zoos

The National Zoo Policy, 1998 says that all zoos are to be managed with the objectives of supporting National efforts on wildlife conservation mainly through ex-situ breeding of endangered species and motivating visitors to live in harmony with nature. Its main objective is to complement and strengthen the national efforts in conservation of the rich biodiversity of our country particularly the fauna.

The Article 9 of the Convention on Biodiversity: "*Ex-situ* Conservation" lays emphasis on each contracting party adopting measures for ex-situ conservation of components of biological diversity, preferably in the country of origin of such components. There are about 198 recognized zoos in the country of which 18 have vultures in them. The table below presents the distribution in each Zoological park:

Name of Zoological Park	Unidentified Vulture Total	*Sarcogyps Calvus* (Asian king)	*Aegypius monachus* (Black)	*Gyps fulvus* (Himalayan)	*Gyps indicus* (Long billed)	*Neophron percnopteeus* (Egyptian)	*Gyps tenuirostris* (Slender billed)	*Gyps bengalensis* (White Backed)	TOTAL
Andhra Pradesh - Indira Gandhi Zoological Park	-	-	-	-	-	3	-	-	**3**
Andhra Pradesh - Nehru Zoological Park	-	1	-	-	-	2	-	5	**8**
Assam- Assam State Zoo and Botanic Gardens	-		2	5	-	-	-	-	**7**
Gujarat - Kamla Nehru Zoological Garden	-	-	-	-	-	-	-	11	**11**
Gujarat - Sakkarbang Zoo	-	-	-		1	4	-	47	**52**
Haryana - Vulture Conservation Breeding Center	-	-	-	2	58		18	58	**136**
Karnataka - Chamarajendra Zoological Garden	1	-	-	-	-	-	-	-	**1**
Kerala- Thiruvananthpuram Zoo	-	2	1	-	-	-	-	-	**3**
Madhya Pradesh - Gandhi Zoological Park	-	-	-	-	-	-	-	5	**5**
Maharashtra - Rajiv Gandhi Zoological Park and Wildlife Research Center	-	-	1		2	-	-	-	**3**
Maharashtra - Sanjay Gandhi National Park and Zoo	-	-	-	-	1	-	-	-	**1**
Manipur - Manipur Zoological Park	-	-	-	-	-	-	-	4	**4**
Mizoram - Aizawal Zoo	-	-	-	1	-	-	-	-	**1**
Orissa - Nandankanan Biological Park	-	-	-	-	-	1	-	-	**1**

Tamil Nadu - Arignar Anna Zoological Park	-	-	-	-	-	-	-	4	**4**
Tripura - Sepahijala Zoological Park	-	-	-	-	-	-	-	3	**3**
Uttar Pradesh - Kanpur Zoological Park	-	1	-	1	-	-	-	-	**2**
West Bengal Jhargram Zoo	1	-	-	-	-	-	-	-	**1**
TOTAL	**2**	**4**	**4**	**9**	**62**	**10**	**18**	**137**	**246**

About 55% of the vulture population in captivity is at Vulture Conservation Breeding Center, Haryana. Majority of these are *Gyps indicus* and *Gyps bengalensis*. Sakkarbagh Zoo in Gujarat has the second highest number *i.e.* about 21%, most of which are *Gyps bengalensis*.

The most widely occurring species in Indian Zoological Parks is *Gyps bengalensis* (white backed vulture) followed by *Gyps indicus* (long billed vulture) and *Gyps tenuirostris* (Slender billed).

Vultures Count in Uttar Pradesh

As compiled by the Wildlife Wing of U.P. Forest Department during the year 2010.

Sl No.	Name of Division	District	Total
1	North Kheri Forest Division	Lakhimpur Kheri	148
2	South Kheri Forest Division	Lakhimpur Kheri	13
3	Dudhwa Tiger Reserve Division	Lakhimpur Kheri	26
4	Katerniaghat Wildlife Division	Baharaich	194
5	Behraich Forest Division	Baharaich	38
6	Shiwalik Forest Division	Saharanpur	23
7	Social Forestry Division, Kanpur	Kanpur Nagar	-
8	Social Forestry Division, Kanpur Dehat	Kanpur Dehat	-
9	Social Forestry Division, Farrukhabad	Farrukhabad	-
10	Social Forestry Division, Etawah	Etawah	-
11	Faizabad Forest Division	Faizabad	-
12	Ambedkar Nagar Forest Division	Ambedkar Nagar	-
13	Sultanpur Forest Division	Sultanpur	-
14	Barabanki Forest Division	Barabanki	-
15	Varanasi Forest Division	Varanasi	-
16	Ghazipur Forest Division	Ghazipur	-
17	Social Forestry Division, Jaunpur	Jaunpur	-

Sl No.	Name of Division	District	Total
18	Gonda Forest Division	Gonda	150
19	Shrawasti Forest Division	Shrawasti	66
20	Bijnaur Forest Division, Nazibabad	Bijnaur	15
21	Basti Forest Division	Basti	11
22	Siddharth Nagar Forest Division	Siddharth Nagar	22
23	Azamgarh Forest Division	Azamgarh	-
24	Mirzapur Forest Division	Mirzapur	25
25	Kaimur Wildlife Division	Mirzapur	8
26	Renukoot Forest Division	Sonbhadra	10
27	Obra Forest Division	Sonbhadra	-
28	Sonbhadra Forest Division	Sonbhadra	12
29	Social Forestry Forest Division, Bhadohi	Bhadohi	-
30	Kashi Wildlife Division	Chandauli	-
31	National Chambal Sanctuary, Agra	Agra	-
32	Allahabad Forest Division	Allahabad	-
33	Kaushambi Forest Division	Kaushambi	-
34	Fatehpur Forest Division	Fatehpur	-
35	Pratapgarh Forest Division	Pratapgarh	-
36	Sohelwa Wildlife Division	Balrampur	188
37	Sohagibarwa Wildlife Division	Maharajganj	284
38	Jhansi Forest Division	Jhansi	23
39	Lalitpur Forest Division	Lalitpur	500
40	Orai Forest Division	Jalaun	-
41	Endangered Project	Lucknow	-
42	Merrut Forest Division	Merrut	-
43	Ghaziabad Forest Division	Ghaziabad	-
44	Gautambudh Nagar Forest Division	Gautambudh Nagar	14
45	Bulandshahar Forest Division	Bulandshahar	-
		Total	**1770**

Newspaper Clippings

(i) International News

Tuesday, April 20 News broke that an explosion occurred at 11 p.m. EST on BP's Deepwater Horizon oil rig in the Gulf of Mexico, 52 miles southeast of the Louisiana port of Venice. According to the Coast Guard, 11 to 15 crew members were reported missing, of the total 126 workers aboard the rig at the time of the blast. The rig was drilling, but not in production.

The oil slick as seen from space by NASA's Terra satellite on May 24, 2010.

Location: Gulf of Mexico near Mississippi River Delta, United States

Date of Spill: 20 April – 15 July 2010

Well officially sealed: 19 September 2010

Cause : Wellhead blowout

Casualties : 13 dead (11 killed on Deepwater Horizon, 2 additional oil-related deaths), 17 injured

For three months, oil spewed into the Gulf of Mexico at an estimated rate of around 60,000 barrels per day. By the time the well was finally capped, nearly 5 million barrels of oil had spilled into gulf waters.

The BP Deepwater Horizon rig ablaze

•BP's initial response to the accident was typical—the company sought to shift the blame to the rig owners (Transocean) and the casing and cementing contractor (Halliburton Energy Services). However, an investigation of the accident revealed that BP chose to save $7 million by installing a less-expensive layer of well casing and chose not to use a casing hanger to tie down the top of the well, apparently because that would have required several extra days, and they were already weeks behind schedule. Further, BP elected not to run a safety case (risk assessment) on the well, did not test the integrity of the cement, and failed to take other actions that might have prevented the accident or lessened its impact.Picture of oil gushing from the riser pipe on the sea floor almost 5000 feet down below the Gulf of MexicoOn July 15, 2010 the leak was stopped by capping the gushing wellhead, after it had released about 4,900,000 barrels (779,000 M^3) of crude oil.

Picture of oil gushing from the riser pipe on the sea floor almost 5000 feet down below the Gulf of Mexico

It was estimated that 53,000 barrels per day (8,400 m^3/d) were escaping from the well just before it was capped. It is believed that the daily flow rate diminished over time, starting at about 62,000 barrels per day (9,900 M^3/d) and decreasing as the reservoir of hydrocarbons feeding the gusher was gradually depleted. On September 19, 2010 the relief well process was successfully completed, and the federal government declared the well "effectively dead".Approximately 25 percent of the oil was recovered, leaving more than 154 million gallons of oil at sea. In addition to the oil, nearly 2 million gallons of toxic dispersants were sprayed into the Gulf's waters. This did not actually reduce the amount of oil left in the ocean, but merely broke it into smaller particles, which may actually make the oil more toxic for some ocean life and ease its entry into the food chain.

The ultimate toll on people and wildlife is yet to be fully understood. But one thing is clear: The number of birds, sea turtles, dolphins and other animals sickened or killed and tallied as part of the government's official count represents a small fraction of the total animals harmed by this disastrous spill.

In total, The Center for Biological Diversity found that the oil spill has likely harmed or killed approximately **82,000 birds of 102 species** (of particular concern are Brown pelicans and piping plovers), **approximately 6,165 sea turtles** (green, Kemp's ridley, hawksbill, leatherback and loggerhead), and up to **25,900 marine mammals** (bottlenose dolphins, spinner dolphins, melon-headed whales and sperm whales), The spill also harmed an unknown number of fish (The Gulf of Mexico is home to more than 500 species of fish) — including Atlantic bluefin tuna, Gulf sturgeon, smalltooth sawfish and substantial habitat for the dwarf . The spill also oiled more than a thousand miles of shoreline, including beaches and marshes, which took a substantial toll on the animals and plants found at the shoreline, including seagrass, beach mice, shorebirds and others. The oil spill also occurred during the peak spawning months for the bluefin tuna, pushing this severely overfished species closer to the brink of extinction.

Oil and dispersed oil are toxic to marine invertebrates such as corals, lobsters, crabs, oysters, clams, zooplankton, starfish and sand-dwelling organisms. It is impossible to tally how many invertebrates have been harmed by the BP oil spill. Oil, dispersed oil and dispersants are all toxic to marine and onshore plants such as seagrasses, mangroves and wetland vegetation, which provide habitat and food for many species.

The price paid by biodiversity in the Gulf for the BP oil spill will continue to rise. Although it is the largest to date, the Gulf oil spill was simply the latest in a string of ongoing and inevitable spills produced in the Gulf. More than 320 known spills involving offshore drilling have occurred there since 1964. Spills massively degrade ecosystems and all of the wildlife dependent on those ecosystems in the Gulf. Clean-up efforts only remove a fraction of the persistent oil and gas spilled. The remainder of the oil, including millions of gallons remaining in the Gulf, will continue to poison biodiversity for generations.

Back home on 10th August 2010 operation were suspended at India's busiest container terminal, Jawaharlal Nehru Port, as two cargo vessels-MSC Chitra operated by mediterrnean shipping collided with MV Khalijia 2. MSC Chitra shed at least 400 containers of hazardous chemicals like phosphatic prsticides and sodium hydroxide. Has anyone tried to find out the impact on biodiversity on this area in the Arabian sea?

Plants and animals can live
Where human beings are not there !!!
But human beings cannot live without
Animals and plants !

– Salim Ali

Newspaper Clippings

(ii) National News

SUNDAY HINDUSTAN TIMES, LUCKNOW
SEPTEMBER 12, 2010

hindustantimes

Climate change to dull crop produce

LOST VEGETATION Scientists report bio-diversity is being damaged by rain as well as heat

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KANPUR: The production of some major agricultural crops is likely to witness a steep fall in the near future, due to change in the climatic conditions! According to a joint study report on 'Climate Change Threatens India: Study', the production of wheat, rice and pulses could fall to a great extent.

The study was conducted by Indian Institute of Management (IIM- Ahmedabad), Tata Energy Research Institute (TERI) and the National Institute of Oceanology (NIO), Goa.

The report said that while the crops may suffer due to rise in rainfall levels during monsoon in the coming years, the Teak and Sal forests could dry out due to rising temperature.

WEATHER IMPACT

- Production of wheat, rice and pulses could fall to a great extent
- 85 per cent of India's forests would modify their existing form due to climatic changes by 2030-2100
- The report warned that the incidences of malaria could increase and the disease could be introduced to new areas.
- In the UP Terai belt 90 per cent of Sal trees have disappeared

The report further said that 85 per cent of India's forests would modify their existing form due to climatic changes by 2030-2100 and the rising sea levels would impact coastal railways, roads, major river basin ecology and rainfall.

The most horrifying impact of the climatic change would be the rise of certain diseases in the country. The report warned that the incidences of malaria could increase and the disease could be introduced to new areas.

The NIO scientists observed that the southern peninsular coast would be most vulnerable to sea level rise, which is evident by the fast changes occurring in the area. The scientists also observed that the climatic variation could cause large-scale loss of bio-diversity.

According to Dr Ram Ji Srivastava, a senior scientist at the Uttar Pradesh Biodiversity Board, the climatic changes have started showing their effect on the UP Terai Belt and also on the Western Ghats. Both these areas known for bio-diversity were facing extinction of the vegetation and other living organism, he said.

Dr Srivastava said that in UP Terai belt 90 per cent of Sal trees have disappeared. Besides, the fauna and flora was on the road to extinction. Similarly in Western Ghats, the bio-diversity has been under threat since the year 2000, he added.

Sep. 12, 2010: IIM (A), TERI and NIO have done combined study titled "Climate Change Threatens India; Study: This study predicts a fall in the production of wheat, rice and pulses among many other changes predicted.

THE TIMES OF INDIA, LUCKNOW
FRIDAY, SEPTEMBER 24, 2010

TIMES BUSINESS

MEGA CORP DIGEST

Rainfed variety of barley

The plant breeders of Govind Ballabh Pant University of Agriculture and Technology have developed the first rainfed variety of barley named as PB-1008 which is suitable for northern hill region of Uttarakhand, Himachal Pradesh and Jammu & Kashmir. This variety was identified for release by a high-level ICAR Committee during All India Wheat and Barley Workers Meet held at Punjab Agriculture University, Ludhiana. Stating about this remarkable achievement, Dr Rajendra Singh Rawat, Project Leader of Wheat & Barley breeding at Pantnagar Centre of All India Co-ordinated Wheat & Barley Improvement Project, funded by ICAR, said that UPB-1008 has been developed at Crop Research Centre, Pantnagar after many years of rigorous efforts. He further added that the plant height of UPB-1008, variety ranges between 105 and 110 centimeter. Maturing in 150-160 days, this variety yield about 27 quintal per hectare with a yield potential of 37 quintal per hectare under rainfed condition and 32-35 quintal per hectare in irrigated condition.

Sep. 24, 2010: PB-1008, in the first rainfed variety of Barley that has been developed by scientists at Govind Ballabh Pant University of Agriculture and

THE HINDU • FRIDAY, SEPTEMBER 24, 2010

7 elephants die as train hits herd

Incident once again raises questions over movement of trains along the elephant corridor

SHOCKING INCIDENT: *A dead elephant being shifted from the accident site near Banarhat area in North Bengal's Jalpaiguri district on Thursday.* – PHOTO: AJAY SHA

Special Correspondent

KOLKATA: In one of the worst accidents involving trains and elephants in north Bengal, seven elephants of a herd died after being hit by a goods train in the Banarhat area of Jalpaiguri district on Wednesday night.

While four were killed on the spot, the rest died on Thursday. The dead include a sub-adult and two juvenile elephants, Divisional Forest Officer (Wild Life II) Sumita Ghatak told *The Hindu* over telephone.

The incident has once again raised questions over the movement of trains along the elephant corridor in the region.

"Incidents of collision have increased over the past four years ever since the conversion from metre to broad gauge of tracks that pass through the national sanctuaries in the region. To compound matters, the movement of goods trains has increased too," State's Principal Chief Conservator of Forests Atanu Raha said.

Prime forest area

Goods trains pass through the prime forest area at odd hours, including at night when elephants go out foraging for food.

"Most of the elephant deaths resulting from collision with trains occur at nights," Ms. Ghatak said.

The wildlife and forest officials have blamed the railway authorities for failing to ensure that the trains passing through the region do not exceed the speed limit of 25 km an hour.

A spokesperson of the Northeast Frontier Railways said, however, that the area of occurrence did not fall within an "identified elephant corridor."

"Speed limits are not being maintained despite our reminding the railway authorities. We shall repeat our request that movement of goods train along this route is also brought down to the minimum," said Mr. Raha.

No patrolling

"Decisions taken remain decisions. They are not implemented. It is not just a question of trains exceeding speed limits. The whistle is not sounded, there is no patrolling. We are taking up the matter with the Railway Ministry and the Ministry of Environment and Forests," Forest Minister Ananta Ray said.

FIR lodged

The goods train that killed the elephants was running at a speed of nearly 70 km an hour, Ms. Ghatak said. The Forest Department has lodged a first information report at the local thana under the Wild Life (Protection) Act 1972.

- West Bengal wildlife officials blame railway authorities
- "The goods train was running at 70 km an hour"

Sep. 24, 2010: Seven elephants of a herd died in an accident with a train in the Banarhat area of Jalpaiguri district of West Bengal. So called symbols of development threatened to permanently rip apart the already tattered habitat fabric.

Newspaper Clippings

(iii) State News

HINDUSTAN TIMES, LUCKNOW
SATURDAY, SEPTEMBER 25, 2010

Green sunscreen from the ponds

Anuraag Singh
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VARANASI: The all-season Blue Green Algae, commonly found in ponds, can protect humans from the harmful ultra-violet radiations. Also, it holds the promise of delaying the human ageing process.

A group of researchers, led by environmental scientist and Associate Professor at the department of Botany, BHU, Dr RP Sinha, after a research of five years, claims so.

The team has succeeded in figuring out photo-protective and oxidative properties of Blue Green Algae (also known as Cynobacteria).

THE TEAM HAS SUCCEEDED IN FIGURING OUT PHOTO-PROTECTIVE AND OXIDATIVE PROPERTIES OF BLUE GREEN ALGAE

Mycosporine-like amino acids (MAAa), the compound in Blue Green Algae, responsible for photo-protective and oxidative properties, has not only been successfully isolated by the BHU researchers (also including Rajesh Rastogi and Richa), but also successfully tested in lab to reveal that if administered on living cells, organisms and skin, it can render up to 95 pc protection from UV radiation.

The ongoing research, findings of which have been published in reputed international journals, like Biotechnology Advances, Journal of Industrial Microbiology and Biotechnology Ageing Research Review, has set the foundation for using MAAs for making natural sunscreen lotions/products, which will protect humans from harmful UV radiation arising from sun.

Sep. 24, 2010: Scientists at BHU have Isolated from Mycosporine like amino acids (MAAa), which if administered on living cells can provide 95% protection from U-V radiation

HINDUSTAN TIMES, LUCKNOW
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HEALTH WISE

Sahjan cultivation to be promoted nationally

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VARANASI: Its leaves contain seven times more Vitamin C than what an Orange has, four times more Calcium and Vitamin A than what milk and carrot have respectively, three time more Potassium than bananas and two times more protein than milk.

Its seeds serve as one of the most ideal purifiers of waste water, while other parts of the plant can render best quality paper as well as bio-fuel.

Above all, the Moringa tree (commonly known as Sahjan) helps humans combat a variety of health problems, spanning from malnutrition/hidden hunger to cancer and even streamlining the immune system against HIV/AIDS.

Known as Moringa - The Miracle Tree, for it's seamless benefits to humanity, cultivation of Sahjan tree, will now be promoted nationally in India, courtesy a project with a budget of Rs three crore and which is in the process of initiation. A marathon brainstorming for this national project was held recently at the Tamil Nadu Agriculture University, Coimbatore, where the necessary spadework for the upcoming project was done.

Moringa-the wonder tree

"It was decided at the September 23 meeting to first collect all local land races of Moringa in the country and (evaluate them and purify them if needed) to generate a proper data bank of all Moringa races in India," said Dr B Singh, National Coordinator (Vegetable) of Indian Council of Agricultural Research (ICAR), while talking to HT in Varanasi on Monday. Once the data bank will be ready, organised cultivation of Moringa will be promoted across the country, to exploit Nutraceutical value of the tree, tablets made from whose leaves are compulsorily distributed among African nations, to combat malnutrition. Said Singh, the project, which is the brainchild of Deputy Director General (Horticulture) ICAR is being initiated by the National Medicinal Plant Board and will have the participation of ICAR institutions, NGOs, Agricultural Universities and others to make it a nationwide success.

"The idea is to go for coordinated and organized cultivation of Moringa, also as a Miracle Tree, which serves unlimited health, commercial and industrial purposes," Singh added.

"Biggest benefit it's cultivation can accrue is to combat dreaded HIV/AIDS. Already African nations are harnessing this for streamlining immunity against HIV/AIDS as also combating malnutrition, particularly among infants and lactating mothers," Singh said.

Sep. 28, 2010: All local land races of Moringa (Sahjan) in the country are to be identified and a data bank is going to be prepared. This is being done for a coordinated and organized cultivation of Moringa also called a Miracle tree.

The more closely we can focus our attention on the wonders and realities of the universe about us, the less taste we shall have for destruction.

-Rachel Carson, *Author*

Alectra chitrakutensis

Photo credit: RLS Sikarwar

Alectra chitrakutensis (Scrophulariaceae) is a root parasite on Vitex negundo. It is a critically endangered plant found in chitrakoot region in Uttar Pradesh and Madhya Pradesh. It is a small parasitic herb of 15-30 cm height. Ethno botanically the species is used for treatment of leprosy, constipation, malaria, oedemic swelling, piles, paralysis and as a tonic, antihelminthic and blood purifier. This species was first describe by Rau, M.A. in 1961. Currently the species is under threat as rhizomes are over-exploited.

RLS Sikarwar, Bharat Pathak and Anil Jaiswal did an ethno-botanical study in 7 villages of M.P. inhabited by tribes in 2006. The first hand information on medicinal uses of this plants viz. mode of preparation, administration/application, dose, duration of the treatment, etc. was collected from old and experienced tribal medicine men and women with the help of a standard questionnaire.

Uses: Rhizome paste mixed with equal quantity of cow urine and strained through a cloth, liquid thus obtained is given to leprosy patients every day for at least one year. Salt, pepper, chilies, acids, sweets and oil are prohibited during treatment. The dried and powdered rhizome is used to cure other skin diseases. Rhizome paste taken with milk early in the morning for 2-3 days relieves constipation. Rhizome paste is given once a day for 2-3 days to expel intestinal worms. For the treatment of malaria, fresh rhizome paste with cow urine is given twice a day for two days. The plant and rhizome extract with almond, cucumber, watermelon, long cucumber, cardamom and rose petals is taken as an invigorating tonic. Rhizome powder is also given to cure paralysis and piles. In case of spermatorrhoea, rhizome powder is given with milk twice a day for one month

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