

BIODIV News

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Editorial

Dear Readers,

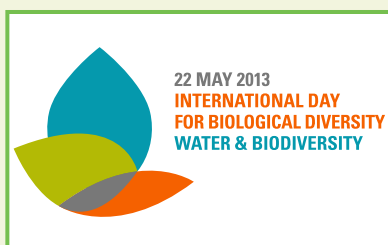
Water is a critical natural resource that supports all terrestrial, freshwater and marine biodiversity. Biodiversity is critical to the maintenance of both the quality and quantity of water. Forests, grasslands, soils, wetlands, all of these influence water availability in one way or the other and are called “Natural infrastructures”. Degradation of these natural infrastructures increases susceptibility to natural disasters.

This year, 2013, has been declared by the United Nations as the **“International Year of Water Co-operation”**. This quarter also has the **“International Day for Biological Diversity”**, May 22nd in it. This year the theme for the International Day for Biological Diversity is **“Water and Biodiversity”**.

A conference was organized by the Board on this occasion, the report of which is included in this issue. In addition, a week long **“Biodiversity Festival”** was also celebrated just before May 22nd, 2013. The quarter also saw the celebration of the Amphibian Day on 27th April and World Environment Day on June 5th, 2013.

Hopefully, our efforts will help to spread awareness to be more conscious and sensitive about our precious water resources for a growing population and ensuring protection to the very eco-systems we depend on.

– Editor



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1. Save the Frogs Day: 27th April, 2013

"Save the frogs day" is the World's largest day of amphibian education and conservation actions. Frog populations have been declining worldwide at unprecedented rates and nearly one-third of the world's amphibian species are threatened with extinction. Upto 200 species have disappeared since 1980, and **THIS IS NOT NORMAL**. Amphibians go extinct naturally at a rate of only about one species every 250 years! Amphibian populations are today declining due to pollution, habitat loss, invasive species, climate change, infections diseases and overharvesting for pet and food trades.



Only a small proportion of our public is aware that frogs are disappearing and amphibian conservation efforts will not be successful with an un-informed public. So, Save the "Frogs Day" was celebrated on 27th April 2013 by the UPSBB with an aim to encourage the appreciation and celebration of amphibians by people from all walks of life.

On this occasion, U. P. State Biodiversity Board, Lucknow and Department of Zoology, University of Lucknow conducted various competitions such as Poster making on "Paint a pond for your frog", an open quiz and frog leap for the students at Regional Science City, Aliganj, Lucknow.

About 300 students from 15 schools participated in the events with great enthusiasm. Participants were felicitated with wildlife books and mugs as well as posters and pamphlets. The list of prize winners of the various competitions is mentioned below:

Poster Competition Group 'A' (Class 6th-8th)

S. No.	Name of Student	School	Class	Prize
1	Brahmjot Kaur	Avadh Collegiate	8th	First
2	Shivam	New way College	7th	Second
3	Kajal Singh	Avadh Collegiate	8th	Third
4	Akansha Singh	Avadh Collegiate	8th	Consolation
5	Shivam Kumar	Shri Ayodhya Singh M. Inter College	8th	Consolation
6	Sayama Ara	New Way Senior Secondary School	6th	Consolation
7	Akansha Kushwaha	Vidya Gyan School	7th	Consolation

Poster Competition Group 'B' (Class 9th-12th)

S. No	Name of Student	School	Class	Prize
1	Shruti soni	Avadh Collegiate	9th	First
2	Kalpana Kushwaha	Vidhya Gyan School, Sitapur	9th	Second
3	Priyanka	Avadh Collegiate	9th	Third
4	Akash Patel	Vidhya Gyan School, Sitapur	9th	Consolation
5	Parul Gupta	Sri Ayodhya Singh M. Inter College	10th	Consolation
6	Rihka Chourasia	Vidhya Gyan School, Sitapur	9th	Consolation
7	Yamini Singh	Avadh Collegiate	9th	Consolation

Open Quiz Competition

S. No.	Name of Student	School	Class
1	Sumit Awasthi	Avadh Collegiate	10th
2	Jahanu Sharma	Vidhya Gyan School	9th
3	Rudra Pratap	Vidhya Gyan School	9th
4	Sachin Mishra	Avadh Collegiate	10th
5	Saurabh Pandey	LPS	10th
6	Saurabh Sonker	Avadh Collegiate	10th
7	Sakshi Yadav	Rani Laxmi Bai Memorial School, Indira Nagar, Lucknow	6th
8	Mukul	Vidhya Gyan School	8th
9	Saloni Saxena	LPS	8th
10	Anubhav Srivastava	Vidhya Gyan School	8th
11	Roli Yadav	LPS	8th
12	Arjun Singh	New Way Senior Secondary School	8th
13	Aashma Srivastava	New Way Senior Secondary School	6th
14	Abhishek Singh	New Way Senior Secondary School	7th
15	Ajay Kumar	Vidhya Gyan School	8th
16	Nancy	Vidhya Gyan School	8th
17	Aayesha Nomani	Lucknow Public School	8th

18	Saksham	Vidhya Gyan School	8th
19	Astik Suri	Vidhya Gyan School	8th
20	Anish Afsar	Avadh Collegiate	8th
21	Vani Tiwari	LPS	8th
22	Musa kazem	New Way Senior Secondary School	9th B
23	Saumya Sharma	L.P.C. Sahara Estate	12th
24	Ashish Singh	New Way Senior Secondary School	10th

Frog Leap Competition

(Class Vth - VIIth)

S. No.	Name of Student	School	Remark
1	Mahak Bhatnagar	New Way Senior Secondary School	Ist Prize
2	Ananya Sinha	New Way Senior Secondary School	IIInd Prize
3	Nitin Singh Katiyar	New Way Senior Secondary School	IIIrd Prize
4	Sakshay Katiyar	New Way Senior Secondary School	Consolation

(Class VIIIth - Xth)

S. No.	Name of Student	School	Remark
1	Akash Singh	Vidhya Gyan School	Ist Prize
2	Anubhav Srivastava	Vidhya Gyan School	IIInd Prize
3	Sarthak Singh	Vidhya Gyan School	IIIrd Prize

(Class XIth - XIIth)

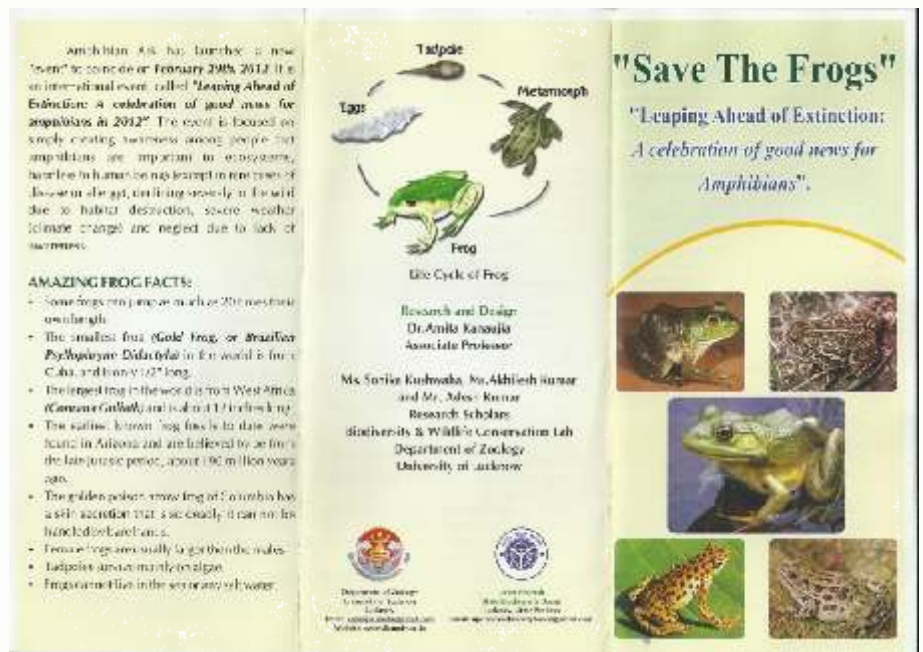
S. No.	Name of Student	School	Remark
1	Yash Jaiswal	New Way Senior Secondary School	Ist Prize
2	Abhishek Gautam	New Way Senior Secondary School	IIInd Prize
3	Aastik Suri	New Way Senior Secondary School	IIIrd Prize

Glimpses of events organized on “Save the Frogs Day”





Awareness material distributed on “Save the Frogs Day”



“The present trend of elitism towards all other life on the planet is dangerous and extremely short-sighted. We must learn to co-exist if not for compassionate reasons, then for practical ones of a healthy survival”.

2. Why save Frogs at all?

Frogs are an Integral Part of the Food Web

Tadpoles keep waterways clean by feeding on algae. Adult frogs eat large quantities of insects, including disease vectors that can transmit fatal illnesses to humans (i.e. mosquitoes/malaria). Frogs also serve as an important food source to a diverse array of predators, including dragonflies, fish, snakes, birds, beetles, centipedes and even monkeys. Thus, the disappearance of frog populations disturbs an intricate food web, and results in negative impacts that cascade through the ecosystem.

Frogs are Bioindicators

Most frogs require suitable habitat in both the terrestrial and aquatic environments, and have permeable skin that can easily absorb toxic chemicals. These traits make frogs especially susceptible to environmental disturbances, and thus frogs are considered accurate indicators of environmental stress: the health of frogs is thought to be indicative of the health of the biosphere as a whole. Frogs have survived in more or less their current form for 250 million years, having survived countless ice ages, asteroid crashes, and other environmental disturbances, yet now one-third of amphibian species are on the verge of extinction. This should serve as an alarm call to humans that something is drastically wrong in the environment.

Frogs and Human Health

Frogs produce a wide array of skin secretions, many of which have significant potential to improve human health through their use as pharmaceuticals. Approximately 10% of Nobel Prizes in Physiology and Medicine have resulted from investigations that used frogs. When a frog species disappears, so does any promise it holds for improving human health.



Photo: B. Ballangee

Source: <http://www.savethefrogs.com/threats/index.htm>

Habitat Destruction

+

Over-harvesting

+

Invasive Species

+

Pesticides

+

Disease

+

Climate Change

=

Big Problems!

[savethefrogs.com](http://www.savethefrogs.com)

Frogs are an integral part of our existence on this planet and have every bit as much right to exist as do we. Let's do our best to make the planet safe for them!

3. Science Express - Biodiversity Special (SEBS)

Bareilly Junction, Bareilly (11th May 2013)

The 'Science Express - Biodiversity Special' (SEBS) arrived at Bareilly Junction, Bareilly during 11th May 2013 to 13th May 2013. Shri. Dharm Singh, Divisional Director, Social Forestry, Bareilly helped to generate awareness in Bareilly about SEBS to increase foot falls in SEBS.



Shri. Dharm Singh, Divisional Director, Social Forestry, Bareilly and Students interacting with the SEBS team



Shri. Dharm Singh, Divisional Director, Social Forestry, Bareilly viewing different exhibits

“Water, like religion and ideology, has the power to move millions of people. Since the very birth of human civilization, people have moved to settle close to it. People move when there is too little of it. People move when there is too much of it. People journey down it. People write, sing and dance about it. People fight over it. And all people, everywhere and every day, need it.”

— **Mikhail Gorbachev**

4. Biodiversity Festival

16th - 21st May, 2013

The Uttar Pradesh State Biodiversity Board, Lucknow celebrated “Biodiversity Festival” from 16th May to 21st May, 2013 at the Regional Science City, Aliganj, Lucknow. The programme was jointly organized by the U.P. State Biodiversity Board, Zoology Department, Lucknow University and Regional Science City, Lucknow.

The idea was to spread the message of biodiversity conservation and importance of water. On this occasion, several competitions and workshops were organized. The details of the events are as follows:

Programme Schedule

S.N	Date	EVENTS	Group	DURATION
1.	16-5-2013	Inaugural Function WORKSHOP ON- Topic- “Birds Watching and Identification”.	Class 8th to 12th	9:30-10:30 am 10:30 -12:30pm
2.	17-5-2013	WORKSHOP ON- Topic- “Insects Watching and Identification”	Class 8th to 12th	9:30 -11:30am
3.	18-5-2013	WORKSHOP ON- Topic- “Plants Identification”	Class 8th to 12th	9:30 -11:30am
4	19-5-2013	a) Poster making competition- Topic- “Aquatic Biodiversity”	Group A & B	9:30 -11:00am
		b) Rangoli Competition- Topic- “Aquatic Biodiversity”	Group A & B	11:30-1:00pm
5.	20-5-2013	Power point presentation Topic- “Importance of Biodiversity in Water”	Class 8th to 12th	9:30 am Onwards
6.	21-5-2013	Open Quiz- Topic- “Biodiversity & Water” Valedictory function	Group A & B	9:30-10:30 am 10:30am Onwards

The festival was inaugurated by Shri Pawan Kumar, Secretary (Forests), U. P. Govt. and Secretary U.P. State Biodiversity Board. In his address to audience, Shri Pawan Kumar emphasized on the importance of children knowing about biodiversity. The programme was aimed at sensitizing children about the importance of biodiversity in our daily lives. He further said that the children should be sensitized for nature by simple activities such as gardening, bird watching, observing trees, by placing bird houses and so on.

Mrs. Pratibha Singh briefed about the various activities that were going to be held on the seven days of the Biodiversity Festival. This included workshops on birds, insects and plants. She also explained the importance of water and biodiversity.

On day one, 16th May 2013 the workshop on Bird watching and identifying was done. Dr. Amita Kanaujia explained various facts about birds such as their evolution, their behavior, feeding, nesting, their identification, threats to birds as well as how to protect birds. Her presentation included bird watching tips and a field visit with children to identify common birds.

The 2nd day workshop was designed to introduce the amazing world of Arthropods particularly insects, to help the students in identifying insects that are likely to be seen in and around in our daily lives. The workshop started with the lecture on Arthropods by Dr. Ashish Kumar, Assistant Professor,

Department of Zoology, University of Lucknow. He spoke on various insects including mosquitoes, grasshoppers, spiders, beetles, wasps, flies, bugs and beautiful butterflies. The lecture was very interesting as it included amazing facts about the insect world. It was followed by a field visit with children.

On the 3rd Day Dr. Amita Kanaujia and Ms. Riddhi Pandey explained the students how to identify the plants, how to collect plants and prepare herbarium. This was followed by a field visit in the gardens.

About 40 students from Rani Laxmi Bai School, Avadh Collegiate, Krishna Convent Inter College, New Way Senior Secondary School and CMS Aliganj, Lucknow registered themselves for free of cost for the three days workshop. The students were provided with activity sheets, bird booklets, and other awareness material such as flyers and pamphlets etc.

On the remaining three days various competition viz. poster competition, rangoli competition, powerpoint competition and quiz competition were organized. More than 300 students actively participated in the competitions. The list of prize winners of the competition is mentioned below:

Winner Students in Poster Competition Group 'A' (Class 6th-8th)

S. No.	Name of Student	Class	School	Prize
1	Pawan Kumar Pal	8th	T D G I College	First
2	Sakshi Goel	7th	New Way Senior Sec. School	Second
3	Zeba Naz	8th	Avadh Academy Inter College	Third
4	Utkarsh Singh	5th	Rani Laxmi Bai Senior Sec School	Consolation
5	Prabal Gupta	8th	C M S Aliganj	Consolation

Winner Students in Poster Competition Group 'B' (Class 9th-12th)

S. No	Name of Student	Class	School	Prize
1	Mansi Singh	9th A	Jawahar Navodaya Vidyalaya	First
2	Kishan Yadav	12th	Avadh Academy Inter College	Second
3	Saif Ali	9th	Avadh Academy Inter College	Third
4	Priyanka Kumari	11th B	T D G Inter College	Consolation
5	Vartika Kashyap	9th	Hoerner College	Consolation

Winner Students in Rangoli Competition Group 'A' (Class 6th-8th)

S. No.	Name of The student	Class	School	Prize
1	Pooja	8th	T D Girls Inter College	First
2	Sakshi Lodhi	8th	Avadh Academy Inter College	Second
3	Zeba Naz	8th	Avadh academy Inter College	Third

Winner Students in Rangoli Competition Group 'B' (Class 9th-12th)

S. No.	Name of The student	Class	School	Prize
1	Akriti Yadav	11th	T D Girls Inter Colege	First
2	Kishan Yadav	12th	Avadh Academy Inter College	Second
3	Khusboo	9th	Avadh Academy Inter College	Third

Winner Students in Power Point Presentation

S. No	Name of the student	Class	School	Prize
1	Vijay Chakrawarty	9th	Rani Laxmi Bai Memorial Senior Sec School	First
2	Prarita Agarwal	8th	Mount Carmel College	First
3	Varun Rai	9th	Hoerner College	Second
4	Astitva Verma	9th	Rani Laxmi Bai Memorial Senior Sec School	Third
5	Kishan Yadav	12th	Avadh Academy Inter College	Third

Winner Students in Quiz Result Group 'A'

S. No.	Name of The student	Class	School	Prize
1	Kritika Verma	7th	Delhi Public School	First
2	Shaswat Gupta	7th	St. Fidelis College	Second
3	Vishnupriya	8th	Lucknow Public School	Third
4	Harsh Ratn	6th	CMS, Rajendra Nagar	Consolation
5	Yash Gupta	5th	Montfort School	Consolation

Winner Students in Quiz Result Group 'B'

S. No.	Name of The student	Class	School	Prize
1	Prakhar Kishore	10th	Central Academy	First
2	Divya Vibhu Mishra	9th	Montfort Inter college	Second
3	Kirish	9th	Chaitanya Techno Vizay	Third
4	Ojas Pandey	8th	CMS Aliganj	Consolation
5	Aprit Yadav	9th	Hoerner College	Consolation

On the last day of the festival, i.e. 21st May 2013 the valedictory session was chaired by Shri Sanjay Singh, Special Secretary Forests, U. P. Government. On this occasion Mrs. Pratibha Singh, DCF, U. P. State Biodiversity Board, Mr. Umesh Kumar, Co-ordinator Regional Science City, Prof. A.K Sharma Head Department of Zoology, and Dr.Amita Kanaujia of Department of Zoology, University of Lucknow was present. The participants of workshop were felicitated with a memento on the theme of water and biodiversity.

The prizes of the different competitions were distributed by Hon'ble Minister of State, Zoological Gardens, Dr. Shiv Pratap Yadav on 22 May 2013 at the occasion of celebration of International Day for Biological Diversity at Dr. Ram Manohar Lohia National Law University, Lucknow.

“The destruction of aquatic ecosystem health, and the increasing scarcity, are in my opinion the most pressing environmental problems facing human kind.”

-Mande Barlow

Glimpses of different competitions/workshops at the Biodiversity Festival



Hon'ble Minister of State, Zoological Gardens, Dr. Shiv Pratap Yadav distributing prizes to the winners of the various competitions organized at the Biodiversity Festival



5. International Day for Biological Diversity

22nd May, 2013

National Conference on “Water and Biodiversity”



Uttar Pradesh State Biodiversity Board celebrated the International Day on Biological Diversity (IDB-2013) on 22nd May 2013 at Dr. Ram Manohar Lohia National Law University Campus, Lucknow. On this occasion, a National Conference on “*Water and Biodiversity*” was also organized in which more than 400 delegates including various research organizations/ institutes, universities, officers from U.P. Forest Department and other states as well as NGO's etc participated. The conference was inaugurated by Hon'ble Minister of State, Zoological Gardens, Dr. Shiv Pratap Yadav.

Shri J.S. Asthana, PCCF Forest Deptt., Govt. of U.P. welcomed the gathering including the Hon'ble Minister and all the dignitaries and delegates of the National Conference and delivered the welcome speech. He also made some introductory remarks on the importance of water and biodiversity conservation. He said that 70% of our planet earth is covered with water. Water is life and so many living creatures are derived from it. Human societies have developed at the banks of rivers and water bodies in general. Water has prime importance in the development of cities, industries and human resources. Shri Asthana believed that the outcome of the conference deliberations would be definitely helpful in conservation of biological diversity.



J.S. Asthana



Rajendra Singh

Shri Rajendra Singh, “*Jal Purush*”, spoke on the current water crisis and the urgent need for water conservation. In his talk, Mr. Singh said that we will only get success in conserving our biodiversity through love with our planet earth and nature in view of our common future and sharing of benefits in true sense. He further said that pollution, exploitation, encroachment impede biodiversity conservation. He spoke about his practical work on water harvesting structures in fracture zone of about 1057 ha (53 structures) in Rajasthan.

He also demonstrated through his presentation the community water management project by which water was brought back to 1000 villages in Rajasthan by building various water conservation structures which were used to collect rain water to be used in the dry season. According to him his campaign aimed to help communities, particularly the poorest to regain rights, responsibilities and control over access to water resources and equity in water distribution.



Pawan Kumar

Speaking on this occasion, Shri Pawan Kumar, Secretary, U.P. State Biodiversity Board, Lucknow focused on the importance of the year 2013. 2013 is the International year of water co-operation. The national seminar is being organized is on the theme of ***“Water and Biodiversity”***. Ever since the landmark event of U.N. conference on Environment and Development held in Rio in 1992, 193 nations are party to the Convention on Biological Diversity. Shri Pawan Kumar further said that only 2.5% of water on earth is available as fresh water and the remaining 97.5% is bound as seas and oceans. The threats of aquatic biodiversity include over exploitation, pollution, habitat alteration and flow modification. The aquatic water bodies play a major role in ecosystem services of biodiversity, cycling of nutrients, ecotourism, food, medicine and aesthetic values etc. Further they also support fisheries and regulate water cycle. Therefore, the catchments of fresh water bodies should be protected for conservation of biodiversity.

The Hon’ble Minister of State, Zoological Gardens, U.P. Dr. Shiv Pratap Yadav, highlighted the different policies of government in protecting the forests and biodiversity areas of Uttar Pradesh. He then congratulated the Forest Department for the green belt programme being implemented in each district of the state. He spoke of Uttar Pradesh becoming a *“Harit Pradesh”* and said that by conserving soil, forests and water, we could also encourage eco-tourism in the state. He said that the tradition of conserving natural resources e.g. forests, vegetation, wild animals, water resources, rivers and ponds etc. in our state is directly linked with our cultural diversity as well.



Dr. Shiv Pratap Yadav



Dr. Gurdeep Singh

The Vice-chancellor of Dr. Ram Manohar Lohia National Law University **Dr. Gurdip singh**, spoke on the legal aspects of biodiversity. He said that the year 2010 was important for two things. One was the *“Nagoya protocol”* which actually supplemented the biosafety protocol of UN and the other was the *“National Green Tribunal Act”*. He said that for the first time the *“pollutor pays”* principle was now there in India. Earlier there was only a criminal liability for pollution. He said that if the developed nations joined the bigger treaties the value of carbon credits would shoot up. So the corporate sector was watching anxiously.

Dr. Ashok Kumar Jain, Advisor (Rural Development, Water Resources and Planning Commission) delivered his talk on *“Status of Water Resources in India and their Impact on Biodiversity”*. He said that a scarce natural resource, water is fundamental to life, livelihood, food security and sustainable development. India has 18 % of the world's population, 4% of its fresh water resources and 2.4% of world land area. Groundwater is the major source of water in our country with 85% of the population dependent on it.



Dr. Ashok Kumar Jain

Issues related to water governance not addressed properly and mismanagement of water resources has led to critical situation. He said that according to a recent U.N. report, human kind persists with thoughtless extravagant consumption of water. Thus, earth is hurtling towards an unprecedented resource crunch. Over utilization of resources beyond the consumption levels are fast depleting the world's resources and India is no exception to it.

He further said that both our rivers and groundwater are being polluted by untreated effluents and sewage continuing to be dumped into them. The 2030 Water Resources Group (2009) estimates that if the current pattern of demand continues, about half of the demand for water will be unmet by 2030. Giving a brief account of recommendations of National Water Policy, 2012, Dr Jain said that there should be an emphasis on the need for a national water framework law. Dr Jain said water resources and aquatic biodiversity are intimately interrelated and interdependent. Both provide a wide range of functions and have intrinsic value as well as provide for the sustenance of human populations. Biodiversity and conservation of freshwater ecosystems has been the focus of regional assessments recently, since aquatic ecosystems have been increasingly placed under pressures to provide renewable resources while being exposed to the ravages of poor planning and pollution. He further added that water quality and habitat quality affect the composition, diversity and therefore health of aquatic ecosystems. The management of water resources and aquatic ecosystems rests heavily on land management and sustainable land use practices. Degradation of water quality, depletion of water resources and loss of aquatic biodiversity are prominent features of the environmental landscape requiring urgent attention at global and national scales.

Listed among the identified threats on aquatic biodiversity are deforestation, agriculture (including pesticides & irrigation), urban and industrial development, river regulation for water and hydropower production, mining, petroleum extraction, introduction of exotic species, dumping of solid wastes, dredging & channelization and overfishing etc.

He suggested that too much interference with the natural flow of water should be avoided. The minimum ecological flow of water in river while designing the large dams/ hydro power projects etc. should be maintained. The over drawl of the ground water in coastal areas should be controlled to reduce the sea water ingress. He said that there is a need in controlling the indiscriminate encroachment of water bodies and their natural drainage system to reduce the impact on the aquatic eco-system.



Dr. Ravi Chellam

Dr. Ravi Chellam, Director (Research & Conservation), Madras Crocodile Bank Trust/ Centre for Herpetology, Vice-Chairman, Ghariyal Conservation Alliance delivered his talk on *“Challenges and opportunities for conserving ghariyals and managing National Chambal Sanctuary”*. Talking about the status of Ghariyals, Dr. Chellam said that it is included in Schedule I of the WLP (1972), critically endangered under IUCN list due to their restricted distribution. In India U.P. the vast majority of ghariyals are located in the Chambal river.

For effective conservation and management of ghariyals within their natural habitats, it is necessary to understand the biology and ecology of the species.

Very little is known about the population size, age structure, feeding ecology, seasonal movement, survival and recruitment of different size-classes, and other aspects of ghariyal ecology. Similarly, not much is known about other associated species in the Chambal, their interactions with each other and with their environment. In 2007-2008 there was a die off ghariyals in Chambal that can

get media attention and it was attributed to pollution in Chambal river. Further the presence of over 200 irrigation projects and 04 major dams on the Chambal river has severely reduced water levels. He said that for further conservation of ghariyals studies on their diet, prey availability are needed along with research on river water management and impacts of dams, barrages, canals, pollution, excessive ground water extraction, impact of sand mining, river bed cultivation are needed.



Dr. R. K. Singh

Dr R.K. Singh, Senior Scientist, Central Pollution Control Board, Lucknow delivered his talk on “*Groundwater remediation-a case study from Kanpur, India*”. He described the technique of bioremediation used for removal of heavy metals and other chemical pollutants from heavily polluted soils, surface water bodies as well as groundwater. Speaking on phytoremediation Dr. Singh expressed that it exploits natural ability identified plant species to entrap the target pollutant in their cellular structure to accumulate and/or degrade them into harmless products. He gave a brief account of a case study on Kanpur Groundwater Remediation Project. He concluded that of groundwater remediation the technology is quite suitable to Indian conditions.

Dr. Singh also highlighted the technique of ground water remediation through decontamination/ treatment both *in-situ* and *ex-situ* experiments demonstrated for the change of the state of pollutants particularly Chromium, Arsenic etc. The soil bacteria *i.e. Pseudomonas aeruginosa* is introduced/injected to reduce the concentration to < 1.0 mg/l. This method can be scaled up to other areas to the country including hard rock areas as suggested by Dr. Ashok Kumar Jain for taking up in the state of Andhra Pradesh. He concluded by saying that effective, eco-friendly and economical remediation of ground water in India is a reality.

Dr. Raghuvansh Saxena, Country Director, Earth watch Institute, New Delhi spoke on “*Safeguarding urban fresh ecosystems*”. He began by saying that historically, many cities and towns in India have a rich legacy of fresh water bodies.



Dr. Raghuvansh Saxena

Ground water levels today are dangerously low today in urban areas. Habitats for aquatic and avian biodiversity are vanishing. Due to rapid urbanisation, flows from catchments to water bodies are interrupted. Siltation and solid waste disposal along with vector diseases are issues of concern. Water bodies are disappearing across cities and towns. There is urgent need to conserve urban water bodies. He said that Earth watch's mission is to engage people in scientific field research and education to promote the understanding and action necessary for a sustainable environment. He emphasized that safeguarding of threatened ecosystems is an opportunity of our life time, especially the urban fresh water ecosystems including wetlands and water bodies.



Dr. Sandeep K. Bahera

Dr Sandeep Kumar Bahera, Associate Director, River Basin and Biodiversity, WWF- India, New Delhi delivered his talk on “*Protecting aquatic biodiversity in Upper Ganga River through community participation*”. He said that Ganges River basin is the largest basin in India covering an area of 861,404 sq. km and in a source of livelihood for over 450 million people. It supports rich aquatic biodiversity such as Dolphin, others, Ghariyals and Turtles etc. He further said that since past two decades WWF-India is working in the upper Ganga River for the conservation of aquatic biodiversity through community

participation. Two important species have been identified as a species of particular concern, the Ganges River Dolphin “National Aquatic Animal” and three species of fresh water turtles. Populations of Ganges River Dolphin and fresh water turtles have been declined drastically during the last few decades as a result of direct and indirect human interventions.

Through his presentation, Dr. Behera demonstrated the various conservation methods adopted in the project. He expressed that the local community played a significant role in the conservation of the river dolphins and fresh water turtles. Various awareness programmes were conducted in different villages along the bank of Ganges river which include talks and lectures of experts, discussion and film shows focusing on field demonstration of wise use of the river banks, pesticides/fertilizers etc. Besides, promotion and adoption of vermin-composting practices were also carried out among the farmers. The turtle habitats were also improved by organizing awareness programmes and workshops in different stretches of the Ganga River. Highlighting major achievements of the activities, he said that the river stretch has been declared as a Ramsar site because of its rich biodiversity and wise use concept.



Romit Sen

Shri Romit Sen, Senior Assistant Director, FICCI said that there is a close connection between business and ecosystem services. Businesses rely on various ecosystem services and they also impact them. The various biodiversity related business risk include – operational, market, regulatory, reputational and access to capital.

He said that the gap between India’s ecological footprint and its bio capacity is increasing which indicates that our “**ecological debt**” is increasing. India’s water footprint is mainly her agricultural water footprint. Projections by the Ministry of Water Resources indicate an increase in demand for all sectors – agriculture, domestic, industry and energy. When it comes to industrial water use, thermal power sector uses the maximum amount of freshwater. This is followed by the engineering, pulp and paper, textiles, steel sectors.

He said that planned industrial growth is likely to occur in basins that are water stressed. This will increase the competition amongst various users of water. More so, with groundwater depletion the problem will intensify. He identified three major risks relating to water. These are:–

- Physical risks: a lack of water in terms of quantity or adequate quality
- Regulatory risks: from the conditions under which water may be used or discharged
- Reputation risks: competing for freshwater access with alternative social, economic and environmental uses.

While inadequate availability is the major risk facing the industries, others agree that poor water quality is another major risk in the running of business. Regulatory policies in respect of allocation of water (mainly in the state water policy) is also an important risk that industries see will have a bearing on their functioning in the coming years. He spoke on the correlation between the forest rich areas which are also mineral rich areas and are also areas which have increased water stress. He emphasized that our development plans need to balance these sensitive considerations while planning for development. He also touched on the topics of water audits and said that we need an incentives frame work – one that encourages conservation and penalizes wastage.

Photography Contest:

A photography contest was also held in which only photos from Uttar Pradesh were invited. The winners included:



1st Prize, Shri Sanjay Kumar,
DM, Moradabad



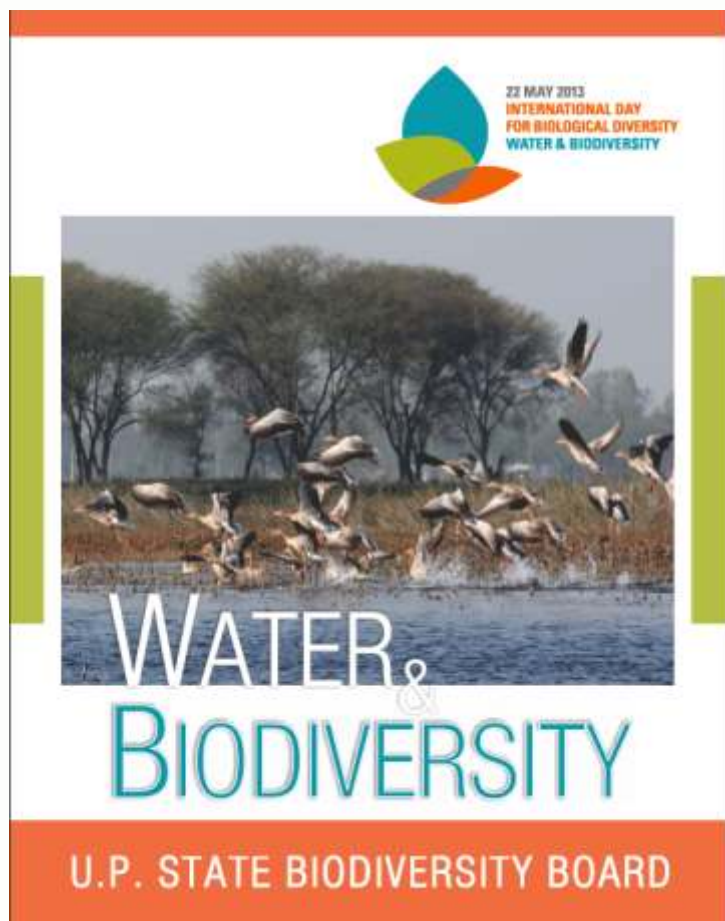
2nd Prize Shri Neeraj Mishra,
Kanpur



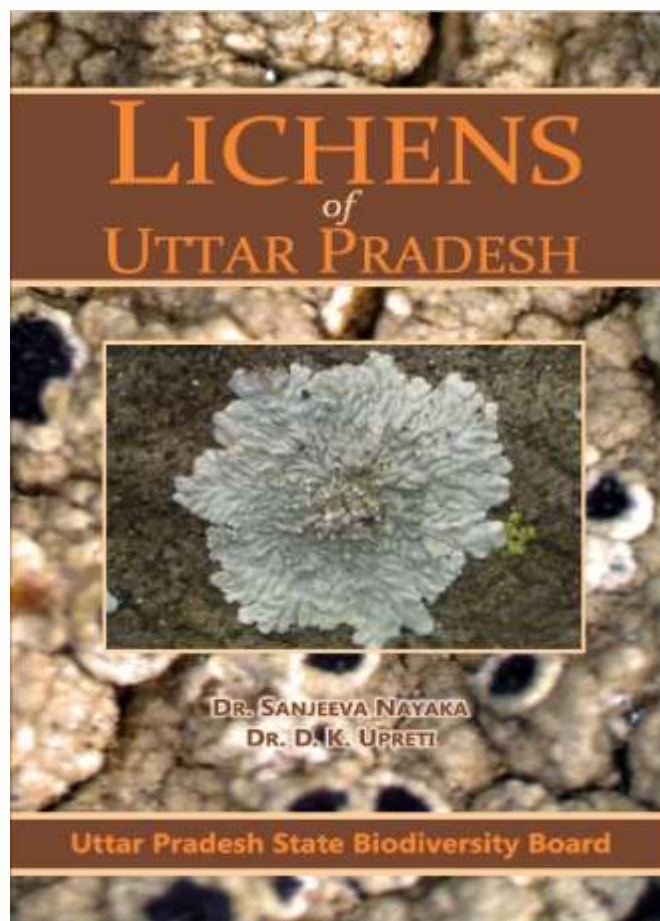
3rd Prize Ms Sonika Kushwaha,
Zoology Department,
University of Lucknow, Lucknow

Book Release:

On this occasion, two books were also released. One was a souvenir on **“Water and Biodiversity”** with 24 articles related to the theme in 188 pages. The second was a book on **“Lichens Diversity of Uttar Pradesh”**. This book has identified over 40 new species of Lichens in Uttar Pradesh for the first time, in addition to 10 new varieties recorded for the first time in India.



Cover Page of the Souvenir



Cover Page of the Lichen Book

Press Clippings of 22nd May, 2013

राजधानी
www.voiceofmovement.in
कौन्सिल ऑफ मूवमेंट
महज दिखावे से नहीं होगा
जल संरक्षण : राजेन्द्र सिंह



जल संरक्षण का काम जमीन से जुड़े किसानों से सीखना होगा
सुप्रीमट कोर्ट

जल संरक्षण का काम जमीन से जुड़े किसानों से सीखना होगा

EXPERTS STRESS ON BIODIVERSITY CONSERVATION

CONCLUSION: About 70 % of earth's surface is covered with water and only 2.6% of this is available as fresh water for humans, the rest being saline. But even the available fresh water is not available as about two-thirds of it is frozen in the form of glaciers etc. Experts gathered at the seminar on the occasion of International Biodiversity Day, Wednesday, at Lohia Law University said conserving biodiversity will raise the happiness index. "The year 2011 was important for two things. We signed the Nagoya Protocol, which supplements the safety protocol of UN National Green Treaty."

2 कल्पतरु एक्सप्रेस

जैव संप्रदाय बचाना जरूरी: जन्तु उद्यान मंत्रा

जल एवं जैव विविधता विभाग पर आयोजित हुई टॉपिक डे

जैव विविधता का केंद्र एनबीआरआई

लखनऊ, 22 मई

05 मई 2013

2050 में नहीं मिलेगा पीने का पानी

मैक्सिमम 2050 में नहीं मिलेगा पीने का पानी

जल संरक्षण का काम जमीन से जुड़े किसानों से सीखना होगा

विवि नहीं किसानों से सीखना होगा जल संरक्षण

जल संरक्षण का काम जमीन से जुड़े किसानों से सीखना होगा

जल संरक्षण का काम जमीन से जुड़े किसानों से सीखना होगा

जैव विविधता के संरक्षण का लिया एग

जैव विविधता के संरक्षण का लिया एग

जैव विविधता के संरक्षण का लिया एग

वि वि नहीं किसानों से सीखना होगा जल संरक्षण

जल संरक्षण का काम जमीन से जुड़े किसानों से सीखना होगा

जल संरक्षण का काम जमीन से जुड़े किसानों से सीखना होगा

जैव विविधता के संरक्षण का लिया एग

जैव विविधता के संरक्षण का लिया एग

जैव विविधता के संरक्षण का लिया एग

Biodiversity Day celebrated

Biodiversity Day celebrated

Biodiversity Day celebrated

तालाबों व नदियों के किनारे अर्जुन के पेड़ लगाएं : राजेन्द्र सिंह

जल संरक्षण की सीख किसान से लें

नदियों ने मानव जीवन व स्वास्थ्य को किया है प्रभावित

जल संरक्षण की सीख किसान से लें

जल संरक्षण की सीख किसान से लें

जल संरक्षण की सीख किसान से लें

नदियों ने मानव जीवन व स्वास्थ्य को किया है प्रभावित

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नदियों ने मानव जीवन व स्वास्थ्य को किया है प्रभावित

6. Brief Report on “World Environment Day” 05th June, 2013

The theme for this year's World Environment Day celebrations was “*Think. Eat. Save.*” This is an anti-food waste and food loss campaign that encourages you to reduce your food print. According to the UN Food and Agriculture Organization (FAO), every year 1.3 billion tonnes of food is wasted. This is equivalent to the same amount produced in the whole of sub-Saharan Africa. At the same time, 1 in every 7 people in the world go to bed hungry and more than 20,000 children under the age of 5 die daily from hunger.



The Uttar Pradesh State Biodiversity Board, Lucknow jointly celebrated "World Environment Day on 5th June 2013" with Zoology Department of Lucknow University, Regional Science City Aliganj, Lucknow and Directorate of Environment, U. P., Lucknow.

On this occasion, two stalls were organized one at Regional Science City, Aliganj Lucknow, and another adjacent to the Gandhi Park, Hajaratganj to create awareness to Say No To Polythene in Uttar Pradesh. Stalls were inaugurated by Mrs. Pratibha Singh, U. P. State Biodiversity Board, Lucknow, Mr Umesh Kumar, Project Co-ordinator, Regional Science City, Aliganj, Lucknow, Prof A K Sharma, Head, Deptt. of Zoology, Prof. Madhu Tripathi and Dr. Amita Kanaujia, Associate Professor, Deptt of Zoology, University of Lucknow. At the stall the public was requested to pledge on a cloth to say “*No to Polythene in Uttar Pradesh*”. Hand-made paper bags and biodegradable bags were given to the common man to create awareness on the ills of polythene use in food items.

On the same occasion, an awareness car was also flagged off by Mrs. Pratibha Singh, Mr. Umesh Kumar and Prof A K Sharma that moved in whole city of Lucknow and distributed awareness materials to the people regarding the same cause.

Student of University of Lucknow Miss Sonika Kushwaha, Mr. Akhilesh Kumar, Adesh Kumar, Riddhi Pandey, Pankaj Awasthi, Shiwangi Mishra, and Deepmala Gupta took part enthusiastically and distributed biodegradable bags and awareness material to the people and explained the public the harmful effects of polythene. They were supported by Dr. Ram Jee Srivastava, Senior Scientist and Dr. Somesh Gupta, GIS Associate from U.P. State Biodiversity Board.



The volunteers exchanged the polythene bags with the biodegradable bags and the public happily accepted the exchange. They explained to the public that the Lead and Cadmium present in the coloured polythene act as slow poison when we store food in it. The soil also gets polluted when polythene settles down in the soil and does not allow water to penetrate. Polythene also blocks the drainage systems causing a number of problems. The volunteers raised the voice for ***“Stop pollution, when you have solution”***.

A view of Awareness Stall at Regional Science City, Aliganj Lucknow



A view of Awareness Stall at Hazratganj, Lucknow



Awareness Material distributed at Campaign



Cloth Bags



Handbills



News paper packets

7. Newspaper Clippings

(i) International News

THE HINDU • SATURDAY, APRIL 6, 2013

Game reserve poisons rhino horns to deter poachers

David Smith

A game reserve in South Africa has taken the radical step of poisoning rhino horns so that people risk becoming "seriously ill" if they consume them. Sabi Sand said it had injected a mix of parasiticides and indelible pink dye into more than 100 rhinos' horns over the past 18 months to combat international poaching syndicates. More than 200 rhinos have been poached so far this year in South Africa, driven by demand in the Far-East, where horn ground into powder is seen as a delicacy or traditional medicine.

The toxicification process involves tranquillising a rhino, drilling a hole in its horn then



injecting the dye and parasiticides generally used to control ticks on animals such as horses, cattle and sheep; it is toxic to humans. "It'll make

[people] very ill — nausea, stomach ache, diarrhoea — it won't kill them," Mr. Parker continued. "It will be very visible, so it would take a very stupid consumer to consume this." Asked if he had any moral qualms about harming potentially naive consumers, he replied: "The practice is legal. The chemicals are available over the counter. We are advertising it, doing a media run now and putting up signs on our fences. If somebody does consume it, they won't die and hopefully word will spread that you shouldn't take rhino horn." The dye can be detected by airport scanners as well as when the horn is ground into a powder.

Up to 1,000 rhinos would

die this year, said Mr. Parker, so bold action was necessary. "Despite all the interventions by police, the body count has continued to climb. Everything we've tried has not been working and for poachers it has become a low-risk, high-reward ratio. By contaminating the horn, you reduce the reward and the horn becomes a valueless product."

"If the poacher hacks off the horn, he'll immediately see it's contaminated. We're saying to the poachers: Don't bother coming to Sabi Sand. You're wasting your time."

But the scheme got a mixed reception from Traffic, the wildlife trade monitoring network. Tom Milliken, its rhino programme coordinator, said it could act as a de-

terrent in areas where it was highly publicised, but "is impractical in situations involving free-ranging animals in large areas, places like Kruger National Park with 20,000 sq km. Thus, like dehorning, it probably has the effect of displacing poaching intensity to other areas, not stopping it altogether."

Mr. Milliken, author of a report on rhino-horn consumption in Vietnam, also expressed concerns about the end-user market. "One wonders if unscrupulous dealers in these markets will not simply employ some means to 'bleach' them to 'back to a 'normal' appearance and continue raking in high profits."

— © Guardian Newspapers Limited, 2013

06 April, 2013 : Rhinos in South Africa are often poached for their horns. Hence a game reserve in Africa has stated poisoning rhino horns with the injection of parasiticides and an indelible pink dye. Consumption of such a horn makes people very ill. The dye can also be detected by airport scanners. Will this method bring down poaching of rhinos?

LUCKNOW

THE HINDU • THURSDAY, MAY 23, 2013

Are salamanders' immune systems key to regeneration?

Salamanders' immune systems are key to their remarkable ability to regrow limbs, and could also underpin their ability to regenerate spinal cords, brain tissue and even parts of their hearts, scientists have found.



Puzzle of why the penguin cannot fly solved

By looking at seabirds closely related to the penguin, scientists confirmed that a wing that is good for flying cannot also be good for diving and swimming. Penguin's underwater prowess may have cost it its flying ability.



23 May, 2013

- Salamanders' immune system helps them to grow back limbs. Could this be used in humans?
- Penguins don't fly. But they swim remarkably well. A case of wing good for swimming not good for flying?

Newspaper Clippings

LUCKNOW

THE HINDU • FRIDAY, MAY 24, 2013

White Bengal tiger enigma solved



A white Bengal tiger at the Buenos Aires Zoo.
— PHOTO: REUTERS

R. Prasad

A change in a single amino acid (A477V) in one pigmentation-related gene (SLC45A2) causes some tigers to have white fur with dark or sepia brown stripes, scientists from Peking University, Beijing, have found. They studied 16 captive white tigers from three parents. The results were published on Thursday in the *Current Biology* journal.

The colour of the fur, stripes and eye of the tiger is determined independently by two types of melanin — pheomelanin and eumelanin. In the case of white tigers, only the pheomelanin that produces the red to yellow

colour is affected. Eumelanin gives the black to brown colour and is unaffected, the reason why the eye and hair in the stripes are dark or sepia brown.

The scientists found that the point mutation in the amino acid partially blocks a particular channel, as a result of which the yellow pigment-forming process gets affected. Incidentally, mutations in the same pigmentation-related gene (SLC45A2) causes light skin colour in modern Europeans, as well. Mutations in the same gene causes skin lightening in some mouse, horse, and chicken, the scientists point out.

The point mutation has "evolved only once and its

frequency is probably never high," they write. Though white tigers were found in the wild once, their decline was probably due to mindless killing by humans. The last known white tiger was killed in 1958, they note.

To maintain and increase the number of white tigers in zoos, humans often force them to inbreed. But inbreeding, as seen in the case of humans, causes many health problems. In the case of white tigers, the human-induced inbreeding has resulted in "premature death, stillbirth and deformities." Since the mutation affects only the pigmentation process, it probably has no role in causing deaths.

LUCKNOW

THE HINDU • THURSDAY, JUNE 6, 2013



Atlantic puffin population is at risk in the United States

The Atlantic puffin population is at risk in the U.S. In the Gulf of Maine, the seabirds have been dying of starvation and losing body weight, possibly because of shifting fish populations as ocean temperatures rise, according to scientists.

24 May, 2013 : White tigers have always fascinated people. Scientist from Peking University have found that the colour of fur, stripes and eye of tiger is determined independently by two types of Melanin- pheomelanin and eumelanin. In case of white tigers, pheomelanin that produces the red to yellow colour is affected.

This is caused by change in a single amino acid (A477V) in one pigmentation related gene (SLC45A2).

6 June, 2013 : As sea temperatures rise due to global warming, cold-water fish are migrating towards poles. In the gulf of Maine, the population of the Atlantic puffin is declining because of this.

Newspaper Clippings

(ii) National News

THE HINDU • SATURDAY, APRIL 6, 2013

BiodiverCity in our backyards

The objective of the competition was to raise awareness about the rich flora and fauna found in urban areas

Special Correspondent

HYDERABAD: The Nature Pioneer Society has announced the winners of the BiodiverCity Photo Contest that was a resounding success having attracted a large number of entries.

The objective of the contest — to raise awareness about the rich flora and fauna found in the backyard of people — has indeed been met.

Armed with cameras

Armed with whatever cameras they had, people captured images that ranged from birds to reptiles and helped in the release of photo documentation.

A challenge

It was a challenging task for eco photographer Sufian Shivarum to go through so many photographs and choose the winners.

"The idea was not to look at these photos from a mere technical angle but how these little creatures pushed to the corner were adapting to the new changing urban environment," said Mohammed Dilwar of NPS.

Three were chosen winners and two for special mention.

Winners

The first prize was won by Thangaraj Sekhorel for the photo "Pelicans on transmission tower".

It is noted as a good example of how the birds have adapted to urbanisation, perfectly depicting the theme of the competition, says Mr. Dilwar.

The photographer has composed the image well showing the roosting of Pelicans on the wire and the transmission tower in the background. The second prize was won by Mahadev Nongthoham for the "pretty crisp and sharp image" of ants, focusing on their behavioural aspect. The third prize was taken by Lakshmi Anandalei for the photo "Birds inside apartments".

It was treated as another example of how the birds have adapted to new developments in the cities. Finding five different species on the same tree is not something we get to see regularly, Mr. Dilwar added. Dr. K. Rajesh and Siraj Mami Chaudhary earned special mentions.



The behavioural aspect of ants is captured by Mahadev Nongthoham.

THE HINDU • SUNDAY, APRIL 7, 2013

A flowering outbreak

Ramona Vagstad

A recent survey of the Himachal Pradesh Forest Department has pointed out that the deadly weed Lantana, called Ghod Lakh in local parlance, has affected the mountain bio-diversity in more than 1,800 sq km of forest lands in the State.

The weed which is a flowering shrubby plant is now found in abundance in the State and is seriously threatening the natural environment. It is mostly in the plant species. Though there are also other weed species found in the hill State like Parthenium (Chingra), Grass, Agrostis (Noddy Grass) and Euphorbia but the invasive Lantana is proving to be the most lethal to the rich forest biodiversity of the region.

Lantana is a genus of about 100 species of perennial flowering plants in the Verbenaceae family. Verbenaceae, said experts. Though native to tropical regions of the Americas and Africa, they have come as introduced species in numerous areas of Asian and Australian Pacific regions. The genus includes both herbaceous plants and shrubs. Ghod Lakh mainly in Himachal Pradesh is tall as well as fast. Lantana's aromatic flower clusters called umbels are a mix of red, orange, yellow, blue or white flowers. "Ghod Lantana" or plants of the introduced genus Verbenaceae, usually called weed-verbenaceae.

Lantana was introduced in India in 1859 in the Indian Botanic Garden, Kolkata as an ornamental plant due to its beautiful aromatic flowers. Profitable seed production and easy disposal helped it in escaping cultivation and becoming a pest, with serious distribution. Present all over Himachal Pradesh, it flowers almost throughout the year. This weed is posing serious problems to plantation forestry as it chokes all other vegetation and becomes the dominant species. In deciduous forests, Lantana is considered as a potential fire hazard and it is combustible even when green. Himachal Pradesh struggles with forest fires every summer and suffers huge losses. This weed is also dangerous to national parks and sanctuaries.

Lantana also competes with agricultural crops and has an allelopathic effect — inhibiting the growth of other plants. The Himachal Pradesh government has failed in eradicating this weed which has now entered the fields and orchards of the farmers. The State is yet to have any comprehensive plan to eradicate this problem which has to be done in entirety and requires massive re-plantation of other friendly species like Bamboo, Acacia, Cedrus (Deodar) and Phyllanthus Emblica (Amla).

The funds allotted by the Centre for the purpose are used in a piecemeal fashion through a campaign suggest-



THE DEADLY WEED: Lantana in full bloom. PHOTO: G. KARTHIKEYAN

The unchecked outgrowth of Lantana weed in Himachal Pradesh's forests and farmlands is destroying biodiversity and damaging agriculture

ed by certain environmental NGOs like the Himachal Green Vision Society. The organisation had run a campaign in some panchayats and blocks of the State in the past and had even destroyed the lethal weed with the help of villagers. In these areas, said D.A. Shrivastava, a scientist with the organisation, the land had later shifted to forest to the benefit of wild animals and monkeys in the countryside, since that has become a haven threat to the agriculture and fruit growing areas, he said. Agriculture is the mainstay in the hill State and 90 per cent population lives in rural areas.

The previous State government had accepted that the weed species have spread to large areas of forest and wastelands, with the 1999-2000 survey revealing that 120,000 hectares were covered by weeds and Lantana alone had spread to over 120,000 hectares of land. For eradicating the Lantana, the Forest Department has used

two methods: mechanical and chemical. Under the mechanical method, the weed is physically removed with tools like 'monkey jack'. This labour-intensive method has shown good results. However, the chemical method like spraying glyphosate has environmental and ecological impact.

During 2009-2013, the weed has been removed from 6,205 hectares of forest land and the government has targeted to clear 8,000 hectares of forest land of Lantana weed during 2013-14. State Forest Minister Thakur Singh Bhambhani said. To root out Lantana, a cut-and-stump method has been adopted. After clearing the weed, fodder is being replanted, he said. The question as to how to eradicate Lantana and other weeds comes up every time here during the Assembly session, with precious time being done to help the small and marginal farmers who are forced to quit agriculture due to this problem.

THE HINDU • SATURDAY, APRIL 20, 2013

Endangered spider sighted at foothills of Tirumala

A.D. Rangarajan

TIRUPATI: Seshachalam hills, home to a variety of plants and animals, reptiles and amphibians, have proved again to be rich in biodiversity, with the recent sighting of a rare poisonous spider after a gap of 113 years in India at the foothills of Tirumala.

The spider belonging to the genus *Poecilotheria* is known to be native to India and Sri Lanka, of which eight species are found in India and seven in Sri Lanka. While taking inventory of the Seshachalam Biosphere reserve spread across Chittoor and Kadapa districts of Andhra Pradesh, officials of

- Very little information available on the species' ecology and distribution
- The poisonous spider sighted after a gap of 113 years in India

the Seshachalam Biodiversity Lab attached to Tirupati Wildlife Management Circle sighted a dead specimen of Theraphosid spider, a variety listed by the International Union for Conservation of Nature (IUCN) as 'critically endangered'.

Very little published information is available on the species' ecology and distribution. It was way back in the year 1899 that the spider was first sighted near Gooty

(in the present Anantapur district) by a researcher Pocock and reported last. Though it was sighted after 102 years in the Eastern Ghats between Nandyal and Giddalur towns, it has not been recorded officially, making the Tirupati discovery the first in 113 years.

The specimen *Poecilotheria metallica* has coloured carapace and abdomen much as in the other species of the genus *Poecilotheria*,

but dark bands on the carapace are found to have higher mesial separation.

"The faint metallic blue lustre gives it a graceful look," explains Bhubesh Gupta, the wildlife biologist at the lab.

Exploration continuing with great zeal

"Studies pertaining to the ecology, threats and conservation of biodiversity are in progress and our lab is continuing the exploration with great zeal." Assistant Conservator of Forest (Biodiversity) N. Sivaram Prasad told The Hindu. Last year that the officials stumbled upon a rare snake of the coluber variety in this region.



A dead specimen of a rare poisonous spider sighted after 113 years in the Seshachalam biosphere reserve. — PHOTO: BY SPECIAL ARRANGEMENT

20th April, 2013 : A spider *Poecilotheria metallica* known to be native to India has been sighted in the Seshachalam hills, Andhra Pradesh after a gap of 113 years. 8 species of this genus *Poecilotheria* occur in India.

Newspaper Clippings

ALLAHABAD

THE HINDU • SUNDAY, APRIL 14, 2013

HERITAGE

Retaining the aroma

Sushanta Talukdar

As the aroma of Assam's joha rice varieties that make the fragrant *pulao*, delicious Assamese dessert *payach* and are a must for a number of ethnic delicacies spread far and wide, the State government has begun the technical exercise to obtain Geographical Indication (GI) tag for joha rice to protect these indigenous varieties and their traditional growers.

The Assam Agricultural University has prepared a detailed proposal to move the GI Registry in Chennai for registering joha rice as a class of non-Basmati indigenous varieties of Assam. So far, two commodities of Assam have got the GI tag — the Muga silk and the Assam orthodox tea.

"Once we get the GI tag for joha rice, it will give these indigenous rice varieties distinctiveness and increase its market demand through quality assurance and at the same time protect the interests of traditional growers of joha rice. Presently Assam has 20,000 hectares under joha rice and produces about 30,000 metric tonnes of this aromatic rice every year," says the State's Agriculture Minister Nilamoni Sen Deka. In Assam, joha rice fetches premium price and is currently sold in the range of Rs. 40 to Rs. 75 a kg in Guwahati's retail market.

Professor and Head of the Department of Plant Breeding and Genetics of the Assam Agricultural University, Pranab Talukdar, says undivided Assam was one of the centres of origin of rice in the world and had more than 10,000 rice varieties. More than 6,000 accessions of indigenous rice varieties of Assam were collected and taken to International Rice Research Institute in Philippines in the 1960s and kept preserved there as Assam Rice Collection. Subsequently, the Assam Rice Collection was transferred to the Central Rice Research Institute (CRRI), Cuttack and these accessions are also conserved at the National Gene Bank, National



A FISTFUL: Joha varieties are sold at a premium. PHOTO: RITU RAJ KONWAR

Efforts are on to obtain Geographical Indication tag for the fragrant non-Basmati joha rice varieties of Assam

Bureau of Plant Genetic Resources (NBPGR) in New Delhi. The Assam Agricultural University is also maintaining around 4,000 rice germplasm, including germplasm of 45 joha varieties, Professor Talukdar says.

In 2007, the first consignment of about 17 metric tonnes of joha rice was exported to three European countries — Germany, U.K. and Switzerland — where it was in high demand. However, the export of this class of indigenous rice varieties had to be stopped after the Centre clamped a ban on export of non-Basmati exports in April 2008 as a measure to curb inflation and the shipment of a second consignment of 33 metric tonnes joha rice had to be cancelled. Although the ban was lifted in September 2011, Mr. Deka says the export of joha rice is yet to resume on an expected scale as it is organic joha, which is more in demand.

Although production of most of the indigenous rice varieties, including joha

rice varieties, in Assam has traditionally been organic due to lack of certification by authorised certification agencies, these organic produce is not recognised as organic by international buyers.

The Assam Agriculture Department has started 30 organic farms with each covering a plot of 50 hectares for growing organic joha and other organic crop. Additional 60 organic farms will be set up in the current financial year and the Department has fixed a target of setting up one organic farm in each of the State's 126 Assembly constituencies over the next three years. A nodal officer has been appointed for this ambitious programme that covers providing agricultural inputs, awareness among the traditional growers and proper organic certification of the produce from these farms. Mr. Deka hopes that the GI tag, coupled with these initiatives, will boost confidence of traditional joha rice growers in Assam to grow more and earn more.

LUCKNOW
THE HINDU • MONDAY, APRIL 22, 2013

New wild banana species found in Arunachal

It can be developed as an ornamental plant

T. Nandakumar

THIRUVANANTHAPURAM: A team of researchers from the University of Calicut has reported the discovery of a new subspecies of wild banana that could be developed as an ornamental plant for tropical gardens.

The plant *Musa velutina* subsp. *markkuana* was discovered from the forests of Arunachal Pradesh and is characterised by smooth skinned fruits, purple pseudostems, erect maroon-coloured inflorescence and pink fruit. It has been named after Markku Hakkinen, an international expert on wild banana, attached to the Finnish Museum of Natural History, University of Helsinki, Finland.

The research team led by M. Sabu, Head, Department of Botany, University of Calicut, and comprising Alfred Joe and P.E. Sreejith, discovered the subspecies as part of a project funded by the Union Department of Science and Technology.

The plant grows in the forests as undergrowth in marshy areas.

Many other plants too

The researchers found many fruiting plants from the Balukpong area, West Kameng district and the Tezu and Hayulpyang areas. The



- Plant grows as undergrowth in marshy areas
- Cut plant remains fresh in the vase even after one week

finding has been published in *Phytotaxa*, an international journal on botanical taxonomy.

According to Dr. Sabu, the plant could be promoted as an ornamental variety.

It also held commercial value for the cut flower industry.

"We have found that the cut plant remains fresh in the flower vase for more than one week. Growing up to a height of two metres, it produces inflorescence contin-

uously for more than one month.

In the fruiting stage, it bears bunches of pink or maroon fruits."

He feels that the plant could be crossed with other species to improve the ornamental value.

Great potential

"The use of wild species for the improvement of crop plants is an area of great potential."

The seed-producing nature of the tropical species made it easy to propagate.

According to Dr. Sabu, the finding confirms the rich genetic diversity of banana in India.

Unexplored regions

The paper published in *Phytotaxa* said wild species of banana were distributed in the North-eastern States, the Western and Eastern ghats and the Andaman and Nicobar islands.

But many of these regions had not been explored systematically.

As a result, only a few new species had been reported from India since the 19th century while many had been reported from other Asian countries such as China, Vietnam and Myanmar which belonged to the same floristic region as Northeast India.

22nd April, 2013: A research team of the University of Calicut has discovered a new subspecies of wild banana, *Musa velutina* subsp. *Markkuana* from the forests of Arunachal Pradesh. This could be developed as an ornamental plant for tropical gardens. This plant has been discovered in the West Kameng district and Tezu and Hayulpyang areas.

14th April, 2013 : The Assam Agricultural University has moved a proposal for GI registry of *Joha rice* as a class of non-basmati indigenous varieties of Assam. So far two commodities of Assam have the GI tag—the Muga silk and Assam orthodox tea.

The GI tag will give Joha rice varieties the distinctiveness and increase its market demand through quality assurance, protecting the interests of traditional growers of *Joha rice*.

LOST & FOUND AGAIN

BORN TO BE WILD

Last spotted Rediscovered

Chetan Chaudhary

India is home to around 12% of the species in the world even though it accounts for less than 3% of the globe's geographical area. But only 30% of the species in the Indian wild is known to science because of inaccessibility of rich bio-diverse areas. Construction of a new road in Mishri Hills in Arunachal led to the re-discovery of a warbler. A great-knee deep inside Western Ghats resulted in finding a group of amphibians after 100 years. "Rediscovery is a rediscovery," says Bhanu Bhatnagar, a conservationist in India. He adds that the species spotted in the wild but weren't spotted by scientists. It's not that those species were extinct and came back, says Bhatnagar. It's just that they were lost. Lack of exploration along forest stretches in the wild is the reason many species are overlooked. They are rediscovered when a knowledgeable person spots them. The recent upsurge of roads inside forests has also helped in finding lost species, he says. What hurts those who search for rare species and suddenly find the lost ones is that the government has failed to maintain species trading system in India. "There's money for tigers, elephants, rhinos... nothing for birds, frogs or small insects," says Bhatnagar.

Last seen in the 1800s and 1900s, here are some species across India that have been spotted again in the last two decades

1 Large-billed Warbler (bird)
1967
Photographed by Surjit Sen in 2007, the bird has not been spotted again since 2008.
2007 in Kolkata

2 Rusty-throated Wren Babbler (bird)
1948
The bird responded to a recording of its nearest relative, the Rufous-throated Wren Babbler.
2004 in Arunachal

3 Whooper Swans (bird)
1990
It's the national bird of Finland and features on the country's one Euro coin. It's also the heaviest flying bird.
2013 in Himachal

4 Spotted aquatic after 137 years

5 Diloconodya (ant)
Exact year NA
It feeds on dead wood and lives in colonies like other ant species but searches for food individually in tree trunks.
2006 in Bangalore

6 Indian Peacock Blue Tarantula (tree spider)
1889
Spiders aren't known for being but this one has an iridescent blue sheen.
1991 in Andhra

7 Forest Owlet (bird)
1884
It was spotted after a herpetology research spread over the northern part of the state, south Maharashtra and eastern Orissa.
1997 in Maharashtra

8 Chalazodes bubble nest (frog)
1874
The original species is located in the British Museum of Natural History. It was rediscovered in Maharashtra's Tiger Reserves.
2011 in Tamil Nadu

9 Geckoeilla jeyporensis (lizard)
1877
The "red-footed" was a small lizard and the natural history journal Hesperia had endorsed it.
2012 in Orissa

10 Elegant Torrent (frog)
1918
Their small size and greyish brown dark mottled back gives an excellent camouflage.
2011 in Karnataka

11 Jerdon's Courser (bird)
1848
This rare northern bird is restricted to a few river valleys in Andhra Pradesh and was spotted by Bharat Choudhary, a young scientist with the Bombay Natural History Society. The environment ministry is expected to announce special programme for the bird.
2010, 2008 in Andhra Pradesh

12 Great Nicobar Crane (bird)
1911
It was spotted by scientists of the Zoological Survey of India (ZSI) in Nicobar Islands. The ZSI is conducting further research on the bird.
2011 in Nicobar Islands

13 Yellow Crested Spangle (butterfly)
Early 1900
Discovered by Rishi Chaudhary, this critically endangered species is protected under India's Wildlife Act.
2009 in Assam

14 Polyalthia crassa (plant)
1920
This species has light green flowers and petals. Found in northern Andaman and collected under A. Department of Botany programme.
2013 in Andaman

15 Woodrow's Crinum Lily (plant)
1904
A rare critically endangered bulbous plant, thought to be extinct, was rediscovered after 100 years. It's found in Maharashtra's Satara and Kolhapur.
2008 in Maharashtra

THE HINDU • SATURDAY, MAY 11, 2013

CITYSCAPE

Invaded by simians

The hill capital of Shimla grapples with monkey menace as they find their way to the city due to random deforestation

Smita Brara

These hillside carrying thousands of monkeys and causing visitors to flee in terror or pushing them to the edge of the city. In Shimla, the monkeys have also been spotted at several places in the tourist town, including a number of schools and colleges when confronted with the simians who can be seen moving freely all over the residential areas, markets, roads or open roofs and trees.

The nuisance and destruction caused by monkeys is a serious problem facing many parts of Himachal Pradesh, including Shimla. So much so that major political parties promised steps to end the menace in their poll manifestos in the Assembly elections. The issue has also come up for debates in the Assembly several times.

With forests being cleared with a view to pave way for construction, the monkeys have become an essential part of the urban eco system and villages where they destroy fruits, vegetables and other crops. According to Deputy Mayor of Shimla and former president of Kirti Sabha, Bhinder Singh Pooni, crops worth Rs.

2,000 crore are lost every year due to destruction caused by monkeys. In fact, farmers in the State had sought permission to kill the monkeys and in 2004, 200 permits were issued. Fifteen monkeys were killed by six farmers from November 1 to December 1 in the same year. The permission, however, was challenged in the court, which put on hold the permits in January 2005. The residents of Shimla, especially women and children, find it difficult to move around freely. In many residential areas, people have put up grids around their houses because of the monkey menace. Last year, in a letter to the State's Chief Wildlife Warden, the Shimla Nagar Palika had sought immediate intervention. According to the State's Forest Department, 1,400 people have been injured in monkey attacks from 2004-2005. On December 1, Rs. 45,51,753 has been paid to the victims. Monkey attacks victims are paid Rs. 8,000 for simple injury and Rs. 32,000 for grievous injuries.

As per the monkey census 2004, there were over 1.2 lakh monkeys across Himachal Pradesh



RUNNING WILD: Monkeys in Shimla.

PHOTO: SMITA BRARA

and over 25,000 monkeys in Shimla alone. However, there is no official figure of their current population which according to some estimates may have doubled. To control their growing number, the government began sterilisation of the monkeys from 2007 and since then 60,000 sterilisations have been carried out. The State budget for 2013-14 presented some 1000 crore sanctioned proposals to open six new monkey sanctuaries. Under the existing norms, the sterilised monkeys are released in the same forest where they were captured.

According to a former Advisor Forestry, Wildlife of the State government, Vinay Tandon, a Private Protection Park had been set up in Tundla near Shimla in 2007-08. The idea was to gradually induct the monkeys there by first keeping them in small cages, then larger ones and later in open cages and feed them twice a day at fixed timings. This was done to ensure that the monkeys would slowly get used to staying in the area

and would not go stray. However, the park was shut down after six to eight months. The government is now thinking of setting up monkey parks and according to Forest Department sources some plans in this direction are in the pipeline. The Shimla Municipal Corporation, too, sent a proposal in March to the Forest Department and the government to set up a shelter for the monkeys in Shimla forests.

According to the DFO Shimla M.C. Inder Kumar, the corporation has identified several areas of unused one-hectare for the setting up of the shelter which he says will be fenced and fruit trees, vegetables will be grown for the monkeys. The proposal can be implemented only after the government gives its nod.

However, Mr. Pooni says that similar efforts earlier have failed. He says that as a long-term measure, the Centre should lift the ban on the export of monkeys. He also says that the process of sterilisation should be put on fast track.

05 May, 23013 : Species have always existed in the Indian wilderness, but many haven't been reported since a long time. Fourteen of these are identified in this article.

11th May, 2013 : Most towns in India are grappling with the monkey menace in India. With tree cover and forest cover becoming thinner monkeys are today an essential part of the urban eco-system destroying fruits, vegetables and crops. Is there a solution in sight to this Simian menace?

Newspaper Clippings

LUCKNOW
THE HINDU • THURSDAY, JUNE 20, 2013

Crop yields will not meet 2050 global demand: study

N. GOPAL RAJ

Yields of four major crops were not rising fast enough to meet projected global demand in 2050, warns a study published today (June 20) in the journal *PLOS ONE*.

Several studies had shown that global crop production needed to double by the middle of this century to meet demands from an increasing human population, more meat and dairy consumption driven by growing affluence and more biofuels use as well to provide food security to millions who were chronically undernourished, observed Deepak K. Ray and his colleagues at the University of Minnesota's Institute

on the Environment in the U.S.

Boosting crop yields, rather than clearing more land for agriculture, was the preferred solution to meet this goal, they pointed out.

The researchers used a newly-developed crop yield and area harvested database to examine yield changes across the globe in maize, rice, wheat and soybean, focusing on trends in the recent two decades.

These four crops together produce nearly two-thirds of the global agricultural calories.

Yields of these crops needed to grow at about 2.4 per cent annually to double production by 2050. But the global average yield increase



INSUFFICIENT: The global average yield increase was only 1.6 per cent a year for maize.

— PHOTO: M. GOVARTHAN

was only 1.6 per cent a year for maize, one per cent for rice, 0.9 per cent for wheat and 1.3 per cent for soybean. At these rates, global pro-

duction of the four crops would be "far below what is needed to meet projected demands in 2050," they noted in the paper.

Moreover, the global trends masked significant variations in the rates of yield change among and within countries.

Yields were growing slowly in the top three rice and wheat producing nations. Rice yields had improved in China by only 0.7 per cent a year, in India by one per cent and in Indonesia by 0.4 per cent.

"At these rates, we found that yield driven production growth in India and China could result in nearly unchanged per capita rice harvests, but decline steeply in Indonesia."

The yearly wheat yield increases in China, India and the U.S. amounted to only 1.7 per cent, 1.1 per cent and 0.8

per cent.

"Clearly, the world faces a looming and growing agricultural crisis," said Dr. Ray and his colleagues in their paper.

However, they also pointed out that opportunities did exist to increase production through more efficient use of arable land and boost yields by spreading best management practices.

A portion of the production shortfall could be met by expanding croplands, but at a high environmental cost.

Additional strategies, particularly changing to more plant-based diets and reducing food waste, could reduce the large expected demand growth in food, they remarked.

LUCKNOW
THE HINDU • TUESDAY, JUNE 25, 2013

Frozen shrimps help seafood exports surge

Staff Reporter

KOCHI: Seafood exports in 2012-13 were higher at Rs.18,856.26 crore, thanks largely to a surge in export of frozen shrimps, which constituted more than 50 per cent of the quantity and value.

Addressing a press conference here on Monday, Chairman of Marine Products Export Development Authority (MPEDA) Leena Nair said that 2012-13 was a difficult year but the seafood business did well to make record earnings in terms of value and quantum.

India exported 9,28,215 tonnes of seafood (up 7.68 per cent over the previous year), valued at \$3,511.67 million (0.1 per cent rise over the previous year). Rupee earnings went up by 13.61 per cent, thanks to the dip in rupee value against the dollar.

Countries in Southeast Asia bought the largest quan-



tum of Indian seafood (23.12 per cent in dollar terms) followed by the European Union (22.14 per cent) and the U.S. (21.29 per cent). Shipments to Japan fell by 10.67 per cent in quantity and 18.36 per cent in value. Japan bought 76,648 tonnes (\$372 million) of Indian seafood last financial year.

"The increase in export figures must be viewed in the light of weaker economic conditions in the European Union, still recovering economy in the U.S., moderate growth in China, technical

Southeast Asia, European Union and the U.S. are the major importers

barriers to trade by Japan, continuing anti-dumping duty and the possibility of countervailing duty on frozen shrimp by the U.S. and continuous devaluation of Indian currency", said a hand-out from the MPEDA.

Ms. Nair said that Vannamei shrimp production touched 1.47 lakh tonnes as compared to 80,000 tonnes during the previous year when total seafood exports stood at 8,62,021 tonnes valued at Rs.16,597 crore (\$3,508 million). MPEDA expects seafood exports to grow to \$4.3 billion during the current financial year with help from increased Vannamei production and better quality control measures.

20th June, 2013 : Maize, Wheat, Rice and Soybean are the four major crops that feed the world. Scientist at University of Minnesota say that yields of these crops need to grow at 2.4% annually to double production by 2050. The current growth is 1.6% a year. Clearly, the world faces a booming and growing agricultural crisis.

25th June, 2013 : Marine Products Export Development Authority (MPEDA) Chairperson has said that India's marine exports were up in 2012-13 by 7.68% over last year (2011-12). India exported about 9,28,215 tonnes of seafood. This was largely due to a surge in exports of Vannamei shrimps.

Newspaper Clippings

(iii) State News

HINDUSTAN TIMES, LUCKNOW
TUESDAY, APRIL 02, 2013

hindustantimes

Ghariyal count increases at NCS

Gaurav Sengupta
Aga Khan Centre for the Environment

LUCKNOW: There has been a significant increase in the number of ghariyals (*Gavialis gangeticus*) in the National Chambal Sanctuary (NCS) indicating the habitat is good for them and the conservation efforts have started bearing fruit.

As per the census estimation this year completed last week, there were 948 ghariyals spotted by the survey team, an increase by 42% from the previous year. The habitat is good for them and the conservation efforts have started bearing fruit.

The census was done across 395 kilometres stretch of the National Chambal Sanctuary,

from Pali to Chakarnagar. This stretch shares border with three states Madhya Pradesh, Uttar Pradesh and Rajasthan, where ghariyals are found.

"The ghariyals were of different age groups including adults, juveniles, subadults," said Rishabh Sharma, senior wildlife officer. The census survey spotted 88 adult ghariyals, 26 juveniles and 834 subadults.

The ghariyal was critically endangered in 1975 with a world population of less than 300. This was due to poaching and habitat loss. The census survey spotted 88 adult ghariyals, 26 juveniles and 834 subadults.

The ghariyal is a critically endangered species. It is found in the Chambal River system. The census survey spotted 88 adult ghariyals, 26 juveniles and 834 subadults.

CENSUS BREAKUP



Adult	88
Sub-adult	834
Juvenile	26
Male	88
Female	82
Unsexed	36

organism, as an adaptation to a predominantly fish diet. Males reach a length of 20 feet and a weight of around 1600 kg.

Ghariyals were found in all the major river systems of the Indian subcontinent, including the rivers of the northern part from the Indus. They are found in the

series of the Ganges River to the Indus. They are found in the Indus River in the Himalayas. They are found in the Indus River in the Himalayas.

The distribution is now limited to only 2% of their former range.

Living monuments

Botanical wonders that they are, the ancient, mammoth Buxteh trees in India need immediate protection from vandalism and destruction



Botanical wonders that they are, the ancient, mammoth Buxteh trees in India need immediate protection from vandalism and destruction



Botanical wonders that they are, the ancient, mammoth Buxteh trees in India need immediate protection from vandalism and destruction

02th April, 2013 : The census estimation has spotted 948 Ghariyals this year in the National Chambal Sanctuary across 395 km. stretch from Pali to Chakarnagar. The Ghariyal (*Gavialis gangeticus*) was critically endangered in 1975 with a world population of less than 300.

Botanical wonders that they are, the ancient, mammoth Buxteh trees in India need immediate protection from vandalism and destruction. The trees are found in the Indus River in the Himalayas. They are found in the Indus River in the Himalayas.

THE HINDU • FRIDAY, APRIL 12, 2013

FOCUS

Tushar Khurana

It is midday. In a dim room in Dadapur, a village in Uttar Pradesh's Greater Noida region, a bunch of women sing the last few lines of a song you won't hear too often: the *Adina Gan* Chose song.

Bright sunlight shining through a bare window illuminates a wall covered with posters featuring horse anatomy, lists of measures that animal owners should take, and detailed data charts with information on such horses, mule or donkey in the village.

The singing is wrapped up, everyone has arrived. Now it is time that this Equine Welfare Group (EWG) gets to work.

Suddenly business-like, the women discuss the bulk purchase of balanced animal feed, review medicine stocks, collect a monthly fee to contribute to their fund and determine whether any animal needs money for treatment. Before you know it, the atmosphere changes, and they slowly disperse, chatting conversationally. The

A steady trot

The equine population in Greater Noida's Dadapur avail better feed and treatment, thanks to an animal welfare organisation



entire procedure has an air of practised efficiency about it.

Simple as it is, this process is the base of a layered support system that has seen the health of every equine (horse, donkey and mule) in the village drastically improve. And it is a system that The Brooke India, a charitable equine welfare

company, has successfully engineered in hundreds of centres around the country.

In Dadapur, residents work in a nearby brick kiln and use their mules to draw loads, a task that occupies most working donkeys and mules in the country. But six years ago, the villagers would not have been too proud of their animals' condition. That is when The Brooke's members—doctors, assistants, community helpers—came to the town, treated injured animals with their free veterinary services, and began to show them ideal animal care practices. "One major change we introduced," says Dr. Ashish, a veterinary officer, "is balanced feed," referring to a diet that includes appropriate

nutrient content. "We also educate communities on basic equine welfare and treatment."

"Within six or seven months, we form an EWG that functions with the help of veterinary assistants who work in several villages around the district," adds Rachna Kishor, communication officer, talking about the process, that generally works in the communities which The Brooke works with. "For problems they can't solve, they can contact the organisation's vets."

The village now has four such EWGs—two comprised of women, two of men. Because of the differences in the way a husband and wife typically spend their day here, multiple groups working in slightly different ways end up complementing each other quite effectively. Dharmraj, the head of one women's group, says, "Now that they see the benefit, every animal owner is part of one of the groups, and regularly attends gatherings." She adds with a smile, "And if they don't, we go and hold the meeting in their homes."

"One of the things we did through the group," explains Tushar Devi, a veterinary assistant in Dadapur, "was to list out all possible problems that an equine can encounter, and then we drew out measures we can use to prevent them." A local resident, Manoj Kumar, says thoughtfully, "Now, with all this information, I have begun to imagine I was the horse, and then think of all the things that I might need."

Simpul, another resident, explains the workings of a pictorial data representation—resembling a rangoli. A simple enough design, it can be used to keep tabs on whether people are following numerous aspects of equine care: vaccination, grooming, balanced nutrition, and hoof and shoe maintenance. As it turns out, Shyamal has been named the ashwa pita (friend of horses) for the example of animal care that he has set. The Brooke, a company that originally began operations in Egypt, also trains farmers (horse-shoe makers) and cart makers on crafting their products in the most animal friendly way.



ASHVA MITRA: Shyamal with his mare Karishma.

PHOTOS: TUSHAR KHURANA

"Unlike bovines, in India, there is no government policy for equines, no schemes, insurance, anything," describes Dr. Ashish, who combines his vet duties with managerial ones as well. He puts in, "Veterinary colleges generally do not even teach equine treatment."

Left to themselves, the owners indulge in treatments that have their roots in tradition but sometimes have "questionable results." In response to these "bad practices," Dr. Ashish says, "We educate the community to involve themselves in better practices."

Manoj Kumar puts it simply. "Before Brooke came, we knew that we had to get our animals treated, but there was no treatment available. Now, we know what to do, and we can do it ourselves. With less injury and better health to our horses, our lives have become better as well."

12th April, 2013 : Dadapur, a village in UP's Greater NOIDA has a EWG (Equine Welfare Groups). This group is a layered support system that helps to improve the health of every equine (horse, donkey, mule). It is backed by The Brooke India, a charitable equine welfare company. It keeps tabs on whether people are following numerous aspects of equine care: vaccination, growing, balanced nutrition, hoof and shoe maintenance etc. Unlike bovines, in India, there is no Government policy for equines, no schemes or insurance.

Agri dept sees potential in guar, to promote large-scale cultivation

Brajendra K. Parashar
@BrajendraKParashar

LUCKNOW: Having already emerged as one of the country's most exported agri commodity, the humble guar (cluster bean), once eaten by animals only, has caught the fancy of authorities in Uttar Pradesh as well.

The state's agriculture department has decided to make guar seeds available to farmers at an affordable price to help them cultivate it on a large scale as the much cash crop and earn good money in return. At present, the crop fetches a price as high as ₹ 20,000-30,000 per quintal to farmers.

"We are going to popularise cultivation of guar in UP in a big way by providing all the requisite help to the growers," agriculture minister Anand Singh told Hindustan Times.

The government, he said, had brought the cultivation of guar under the Diversified Agriculture Support Project for the purpose and the state's agriculture universities were being asked to cultivate guar on an experimental basis this year.

The minister said guar gum obtained from guar seeds had multiple applications as a natural thickener in oil, food and other industries.

DIVERSIFIED AGRICULTURE SUPPORT PROJECT



Guar fetches a 120,000-30,000 per quintal to farmers.

If neighbouring Rajasthan and Haryana farmers can cultivate guar gum on such a big scale and be benefited, why cannot farmers in UP?

ANAND SINGH, agriculture minister

He said guar, which was largely grown in Rajasthan and Haryana, was much in demand by the oil and food industries in the international market and fetched good money to farmers.

"If neighbouring Rajasthan and Haryana farmers can cultivate guar gum on such a big scale and be benefited, why cannot farmers in UP?" the minister asked. The Bundelkhand,

he suggested, could be the ideal region for the cultivation of the guar.

To begin with, the UP Seed Development Corporation (UPSDC) will procure seeds and grow them this year. Thereafter, they can make seeds available to farmers next year for the purpose of growing guar on a large scale in various districts. In UP, guar, also known as guar falli, is a food item and is also served to

animals as fodder.

"We are going to procure guar seeds from an agriculture research institute in Haryana to grow them here. We can expect to make at least 500-600 quintal good quality guar seed for farmers in the state by the next year," UPSDC managing director Mukesh Gautam said.

He said a farmer could easily have 8-12 quintal of guar per hectare, which could get him up to ₹ 1 lakh, using just 15 kg of seeds costing Rs 200-250 per kg.

Gautam said at present, some farmers have bought the seed from Haryana to cultivate guar in some districts in Agra and Aligarh divisions.

The guar gum is an important ingredient in producing food emulsifier, food additive and food thickener and has a variety of uses in sectors like food (including bakery, ice-cream and dairy) cosmetics, paper, textile, medicine and oil and gas.

An official said guar gum was so much in demand in the oil and gas exploration industry in US that its price once reached ₹ 1 lakh per quintal as companies trading it had gone for hoarding anticipating drought in Rajasthan.

The guar gum, he said, was used in oil industry in the US as a controlling agent in oil wells to facilitate easy drilling and prevent fluid loss.

01 May, 2013 : The once humble *guar* (cluster bean) fetches a price of Rs 20,000-30,000 per quintal to farmers. The UP Agriculture department has decided to popularize the cultivation of guar in UP. Under the Diversified Agriculture Support Project Guar gum obtained from guar seeds is a natural thickener in oil, food industries in the international market.

A farmer can easily get 8-12 quintal of guar seed per ha. Which can fetch upto Rs. 1 lakh using 15 kg of seeds costing Rs. 200-250/kg.

htmetro

Ganga has 90 out of 124 fish species in UP: Study

NBFGR OBSERVATION Report on Invasive species lists 11 alien fish species and three exotic hybrids from 38 districts of the state



HT Correspondent
@HindustanTimesUP

LUCKNOW: While there is the 124 species found in UP, Ganga is the richest river in the state in terms of fish biodiversity. Other rivers in the state are Gomti (17 species), Ghaghara (13 species), Sharda (18 species), Tamsa (12 species), Rapti (15 species), Ramganga (10 species), Chandra (11 species) and Gomti (10 species).

There are two observations of a study by the National Bureau of Aquaculture (NBAFGR).

Another study on invasive fish species in the state carried out by the state government says there are a number of alien fish species in various districts across Uttar Pradesh.

Through the third report on fish species in the state, the progress of the project has been submitted before the state biodiversity board.

Pratibha Singh, director state biodiversity board, said: "The state has no less than 124 fish species in the state. However, that had been done had been details for the state and Uttar Pradesh. The project was initiated to get a baseline for Uttar Pradesh state."

WHAT IS BIODIVERSITY?

- It means life and diversity (variety). That diversity means the variety among living organisms from all sources and the ecological complexes of which they are part. It includes diversity within species or between species and of ecosystems.
- **GENETIC:** For example, not all fish have the same genes and thus all are different.
- **SPECIES:** For example, fish, amphibians, reptiles, mammals all live in water, but are different species.
- **ECOSYSTEM:** For example, river, pond, ocean, sea — each ecosystem is different, with its own set of species living in it.

WATERS IN BIODIVERSITY

- Fresh water makes up only 0.01% of the world's abundant water, but only 0.01% of the world's population lives in the drylands of global water scarcity.
- **WATER IN BIODIVERSITY**

WATERS IN BIODIVERSITY

- Our freshwater resources are under increasing pressure from population growth, pollution, and climate change.
- **WATERS IN BIODIVERSITY**

WATERS IN BIODIVERSITY

- The NBFGR study on invasive fish species recorded 11 alien fish species and three exotic hybrids from 38 districts of the state.
- **WATERS IN BIODIVERSITY**

WATERS IN BIODIVERSITY

- The NBFGR study on invasive fish species recorded 11 alien fish species and three exotic hybrids from 38 districts of the state.
- **WATERS IN BIODIVERSITY**



A dolphin being rescued from the Ganga.

PHOTO: REPRESENTATION

WATERS IN BIODIVERSITY

- **WATERS IN BIODIVERSITY**

WATERS IN BIODIVERSITY

- **WATERS IN BIODIVERSITY**

WATERS IN BIODIVERSITY

- **WATERS IN BIODIVERSITY**

21st May, 2013 : The U.P. State Biodiversity Board funded a study on invasive fish species in Uttar Pradesh. About 124 fish species have been identified and recorded. It Alien Fish Species have also been identified along with 82 ornamental fish species from 38 aquarium shops. For the first time, a baseline data of fish species has been developed for U.P.

Low oxygen kills Gomti fish



The riverbank at Kudiya Ghat in Lucknow dotted with dead fish.

DEEPAK GUPTA/HT

Algae in river water the culprit

LUCKNOW: Thousands of small fish have died in the Gomti in the last two days mainly because of the falling dissolved oxygen level in the river water, an expert has said. With algae in the water causing the oxygen deficiency, the riverbank at Kudiya Ghat here is dotted with dead fish.

"A large number of fish has died in the last two days," said former Central Drug Research Institute deputy director Narendra Nath Mehrotra who visited the riverbank to study the cause.

He said, "The Gomti is gasping for breath. The level



Boys netting dead fish from the riverbank.

HTPHOTO

of dissolved oxygen (DO) in the water has gone down. There is no doubt about this."

Despite several special treatment plants and money

being pumped in to rejuvenate the river, aquatic life was under serious threat as the dissolved oxygen was too low, he added.

HTC

04th June, 23013 : Thousand of small fish have died in Gomti River due to falling dissolved oxygen levels in water. The Gomti is gasping for breath it seems!

दैनिक जागरण

लखनऊ, 9 जून 2013

पर्यावरण बचाने के लिए हर बच्चा देगा सौ लोगों को शिक्षा

जागरण सेवादाता, लखनऊ: 21 वीं सदी में प्रदूषित होती जलवायु के प्रति लोगों की जागरूक करना एक बहुत बड़ी चुनौती है। यदि अभी इस चुनौती से निपटने के प्रयास नहीं किए गए तो जलवायु परिवर्तन के प्रभाव से बचने के लिये किसी भी व्यक्ति के पास पर्याप्त प्रतिरोधक क्षमता नहीं होगी। बच्चों में इसका प्रभाव सबसे ज्यादा होगा। इसे दूरित होनी जलवायु और उनके परिवारों के बारे में बच्चों को जागरूक करने हेतु जागरण प्लान इंडिया ने राज्य आपदा प्रबंधन प्राधिकरण के साथ मिलकर रनिवार को एक कार्यशाला का आयोजन कराया।

'परिवर्तनशील मौसम में बच्चे' विषय पर आधारित इस कार्यशाला में मुख्य अतिथि आइएएस वेकटेश्वर लू एवं आइएएस प्रतिभा सिंह जी। कार्यशाला में विभिन्न प्रदेशों से आए विषय विशेषज्ञों ने बड़े जलवायु परिवर्तन और मानव जीवन



- कार्यशाला में दी गई जलवायु परिवर्तन और बच्चों पर असर की जानकारी
- उप में केवल पांच प्रतिशत वन शेष
- 'सौ की शक्ति एक हस्ताक्षर' अभियान की शुरुआत

पर उनके दुष्प्रभाव पर विचार पूर्वक चर्चा की। कार्यक्रम में लगभग 50 बच्चों ने भाग लिया। प्रतिभा सिंह ने पर्यावरण एवं वन सुरक्षा के प्रति जागरूकता देने हुए बताया कि अपनी आवश्यकताओं की पूर्ति के लिए

हम वन काटते जा रहे हैं और अब केवल 20 प्रतिशत वन बचे हैं। उप में तो केवल पांच प्रतिशत ही हैं। इसके बचाव के लिए उन्होंने कार्यक्रम में मौजूद बच्चों को जागरण के प्रति जागरूक होने की सलाह दी। मुख्य और वेकटेश्वर लू ने इस मुद्दे को पंचायत एवं राजनीतिक स्तर पर उठाने की बात की। कार्यक्रम का समापन करते हुए वात्सल्य की मुख्य कार्यकारी प्रतिभा सिंह ने कार्यक्रम को व्यापक स्वरूप प्रदान करते हुए 'सौ की शक्ति एक हस्ताक्षर' अभियान की शुरुआत की जिसके अंतर्गत सभी प्रतिभागियों ने रूपय स्वी कि वापस जाकर कम से कम 100 व्यक्तियों को पूरे वर्ष पर इस विषय पर जागरूक करेंगे। इसके साथ ही सेव द चिल्ड्रेन के प्रदीप कासा के कमल कुमार तमिलनाडु के एलापसिम, उत्तरांचल के विरेंद्र एवं उत्तराखण्ड से आए केएन काकोई ने अपने विचार प्रकट किए।



जलवायु परिवर्तन और बच्चे विषय पर आयोजित सेमिनार में बोलते वक्ता

09th June, 2013 : A workshop was organized for children on Climate Change by Vatsalya –a NGO in Lucknow.

“Every human should have the idea of taking care of the environment, of nature, of water. So using too much or wasting water should have some kind of feeling or sense of concern. Some sort of responsibility and with that, a sense of discipline.”

-The 14th Dalai Lama Tenzin Gyatso



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