



ONLY NEWS PAPER PUBLISHED IN INDIA FOR SCIENTIFIC COMMUNITIES

NESAs

NATIONAL ENVIRONMENTAL SCIENCE ACADEMY

Vol. 22 Issue - 02 (MONTHLY)

February 2019

NESA Award 2019 Notification No. 1

APPLICATIONS ARE INVITED

LAST DATE **31st MAY 2019**

(1) NESA FELLOWSHIP AWARD

AGE

45 and above.

The recipients shall get Citation, Certificate, Memento and a Gold plated medal, and can suffix F.N.E.S.A. after their names.

(2) NESA EMINENT SCIENTIST AWARD

AGE

40 and above.

The recipient shall get Citation, Certificate, Memento and a Gold plated medal.

(3) NESA SCIENTIST OF THE YEAR AWARD

Any award / recognition at National level.

AGE

35 and above.

The recipient shall get Citation, Certificate, Memento and a Gold plated medal.

(4) NESA ENVIRONMENTALIST AWARD

AGE

Up to 35 and above

The recipients shall get Citation, Certificate, Memento and a Gold plated medal.

(5) NESA GREEN TECHNOLOGY INNOVATIVE AWARD

AGE

35 and above

The recipients shall get Citation, Certificate, Memento and a Gold plated medal.

(6) NESA YOUNG SCIENTIST AWARD

AGE : Up to 35.

The recipients shall get Citation, Certificate, Memento and a Gold plated medal.

PRESCRIBED APPLICATION FORMS

The application forms could be downloaded from www.nesa-india.org

Separate application form should be submitted for separate awards.

The application forms are non-transferable and it can also be obtained by sending a bank draft of Rs. 1000-00 only (per form). Drawn in favour of NATIONAL ENVIRONMENTAL SCIENCE ACADEMY payable at NEW DELHI.

GENERAL SECRETARY

NATIONAL ENVIRONMENTAL SCIENCE ACADEMY
206, Raj Tower-1, Alaknanda Community Centre,
NEW DELHI-110019 (INDIA) Tel.: 011-2602 3614

E-mail: nesapub@yahoo.co.in; nesapublications@gmail.com

Website: www.nesa-india.org

ELECTION NOTICE (2019-2022)

Applications on Nomination Form are invited from the Life Members of the Academy for different posts of office bearers of the Academy for the year 2019 to 2022. The last date of the receipt of the Nomination Forms is **31st March 2019**:

Sl. No.	Name of the posts	Nos.	Last Date
1.	President	1	15.03.2019
2.	Vice Presidents	4	15.03.2019
3.	General Secretary	1	15.03.2019
4.	Joint Secretary (Treasurer) Local	1	15.03.2019
5.	Joint Secretaries (1 should be local)	4	15.03.2019
6.	Member of the Executive Committee	8	15.03.2019
7.	Member of the Executive Council	8	15.03.2019

The application forms should be sent to:

The Executive Secretary,
National Environmental Science Academy (NESAs),
206, Raj Tower-1, Alaknanda Comm. Centre, New Delhi-110 019

TERM AND CONDITIONS

According to the Academy bye-laws, the General Secretary will report to the President in decisions taken by him for smooth functioning of the Academy. The person to be elected as General Secretary must fulfill the following conditions:

1. An active life member of the Academy.
2. Physically fit and not more than 70 years.
3. A resident of Delhi / NCR.
4. Proven academic record with Ph.D. and minimum (20) years experience in teaching/higher research, not less than the grade of Professor/Director.
5. Willingness to devote time for the working at NESA Office at least twice a week.
6. The post is purely honorary and travelling allowance is not permissible on monthly basis.
7. The Life members may download the NOMINATION FORM from the Academy's website: www.nesa-india.org

ECOTOURISM

S. K. Basu

PS, Lethbridge AB Canada

email: saikat.basu@alumni.uleth.ca

Ecotourism has changed the world of nature based tourism around the globe. It has not only provided tourists an opportunity to enjoy and explore nature in its native form; but, has also provided an additional revenue for several economically backward communities who are exclusively dependent on hosting tourists throughout the year as their often only source of income. It is important to note that ecotourism has not only changed quality of life for their hosts in the First World countries; but, also in developing and underdeveloped nations of Asia Africa, Latin America, Eastern and Southern Europe, several island nations in the Atlantic, Pacific and Indian Ocean regions. Ecotourism has played a significant role in the economic transformation of several isolated and remote communities settled in dense forests, difficult terrains, inaccessible locations and isolated island groups.

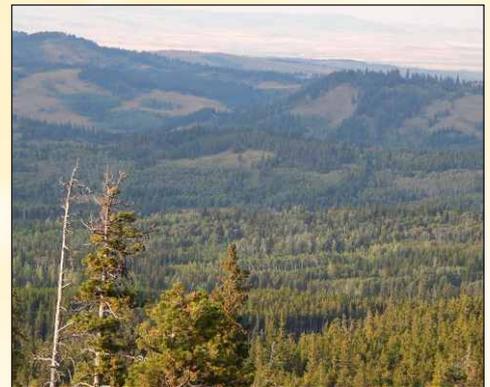
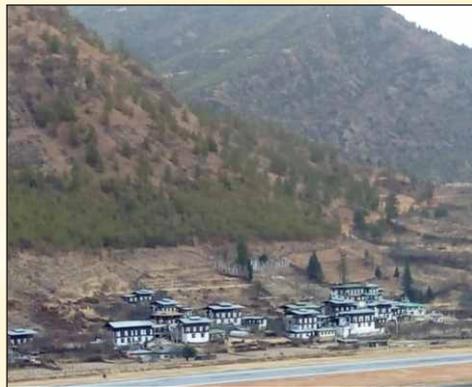
Many such remote, rural communities, tribal or aboriginal groups, fringe forest residents or people settled close to nature with spectacular natural beauty have benefited from the process. Additional cash flow into the region through the tourists has helped in slowly transforming local as well as regional economies. A part of the money generated has been utilized in conservation of the local natural resources such as sea beaches, mountain forests, wildlife and biodiversity. While another part has gone towards rapid development of local infrastructure in the form of building better motorable roads and railway networks, bridges and underpasses, small airports, nearby hotels, motels, guest houses, resorts and recreation centres over time.

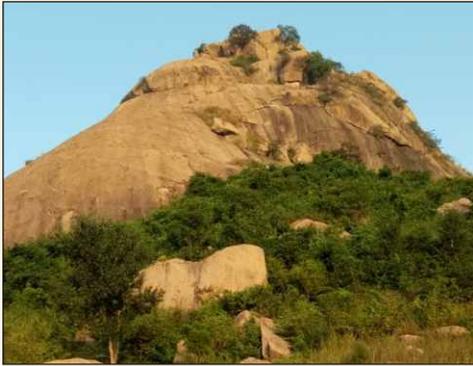
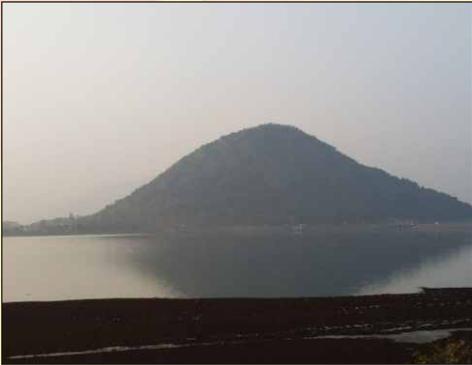
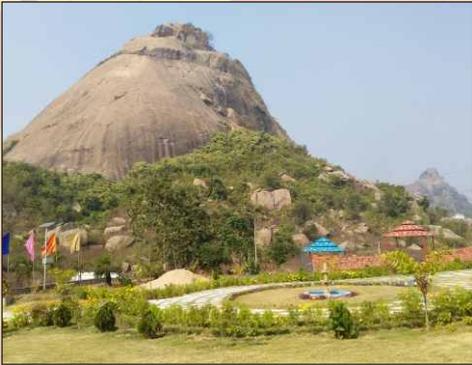
The objective has been to increase the flow of tourists and make it a year round process for higher income for the region. Furthermore m, such an endeavour has been important for earning much needed foreign exchange for boosting the national economy. Hence, ecotourism can be looked upon as a highly cherished fancy pie and

every stakeholder got a share of that pie in pieces. There has been strong political support in the development of ecotourism as every political party in any country benefits from the process demonstrating that their policies and initiatives have been greatly successful in transforming the economies of remote rural areas and that secure their closely guarded vote bank.

However, ecotourism has not always been super beneficial in different highly fragile and sensitive ecosystems in many countries around the world. The over flow of enthusiastic tourists in overwhelming large numbers in highly fragile ecosystems have been turning detrimental and resulting in slow destruction of these ecologically sensitive units. Accidental death of local wildlife coming in close contact with vehicles or railway engines are being killed or seriously injured regularly. The waste disposal and sewage system management in many of these sensitive areas have been quite poor and as a consequence have been putting negative pressures on the local ecosystems. Often pathogens, diseases and exotic predators have been introduced into many ecologically sensitive areas damaging wildlife and complex forest food chains and food webs established through several million years of complex evolution.

Often, the hosts serving ecotourists and the so called ecotourists themselves are not thoughtful of their responsibility and role in protecting the natural ecosystems. Not being sensitive to the ecological issues, they are often over exploitative of their immediate environments for short term economic benefits. Our small actions have long-term, negative consequences on the same ecosystem and environment that are there bread-and-butter. Unless care is taken to protect these sensitive ecosystems and to cater to the local wildlife and biodiversity in sustainable manner; ecotourism has often proved to be a rather nuisance than an opportunity with long term negative impacts on the local environment. Several rare and endangered as well as endemic species of flora and fauna have slowly started disappearing from such special ecological areas due to over harvesting as souvenirs or memorabilia or as trophies. Such







behaviour cannot be tolerated in sensitive eco zones and need to be dealt with utmost priority and seriousness.

Education and awareness about the sensitive local ecosystems among the local host communities as well as visiting ecotourists is important in that aspect. Both stakeholders must realize that irresponsible and selfish behaviour and attitude goes completely against the true spirit of ecotourism. The main objective of ecotourism is to share and care for the nature and not ruthless and indiscriminate exploitation of natural resources. Hence all stakeholders involved in this process including host communities, ecotourists, forest department, local administration and several

non-government organizations working in the area to promote education and awareness regarding involvement as well as conservation of forests, wildlife and biodiversity need to come together to work on a common platform. If everyone plays their role with enthusiasm, honesty and responsibility towards the nature, ecotourism has much more to offer than simply promoting local economies. It is a new world view that all needs to recognize, respect and appreciate as well learn to protect and conserve for our future generations. Acknowledgement: Sikkim Express & Technology Times; *Photo credit: S. K. Basu*

CYBER EXTENSION: IMPORTANCE AND NEED IN INDIAN AGRICULTURE

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Recent global issues such as privatization, democratization and decentralization determine the policy process for agricultural and rural development.

Cyber Extension thus can be explained as the "Extension over Cyber Space". Cyber Extension includes the effective use of ICT, national and international information Networks, Expert Systems, Multimedia Learning Systems, Internet and Computer based training systems to improve information access to the Farmers, Extension workers and researchers. It is believed that the agricultural and rural sectors have diverted more towards diversification and commercialization.

The consequence of the phenomenon made it necessary for a paradigm change in agricultural development, including agricultural extension practices. Agricultural and rural extension plays a very crucial role in shaping the success of agricultural

development. Appropriate strategies to improve facilities to ensure the efficiency in agricultural production and distribution are framed at every level.

The commercialization of farming commodities means quick information and innovative services are needed. Applying conventional extension methods, such as face-to-face extension, group meetings, leafletting and field studies are no longer sufficient. In regard to new challenges, the development and utilization of information and communication technologies (ICTs)



Fig 1: Information & Communication Technology (ICT)

for agricultural extension has become a promising future strategy. The young generation of farmers has higher ability to access more complicated ICT methods. ICT in some cases could guarantee high speed and effectiveness of information distribution for new technologies and innovations.

The use of ICTs for agricultural and rural extension is regarded as 'cyber extension'. It is therefore the utilization of online networking, computer and digital interactive multimedia to facilitate the dissemination of agricultural technology and the development of such technology could facilitate the community on a real time basis.

Important Tools of Cyber Extension:

Multiple tools have been specified for cyber extension. Databases are a fundamental prerequisite for the development of cyber extension. Thus, information could be accessed through email, short message and interactive discussion.



Fig. 2: Cyber extension

File Transfer Protocol (FTP):

File Transfer Protocol (FTP) support is one method of supporting remote networks. The most common protocol used for sending files between computers is the FTP. It is a protocol, which allows simple file transfer of documents. There are FTP servers, which provides vast amount of information stored as files. It allows for transferring both text and binary files. The data in these files cannot be accessed directly, rather the entire file must be transferred from the FTP server to the local computer.

Telnet:

It is like a terminal emulation programme. Telnet is an application that allows you to log on to a remote computer. Telnet sessions present text based data as a terminal would. However now GUI (Graphic User Interface) clients are now available which offer better service.

World Wide Web (WWW):

This helps to locate and transport resources between computers. The World Wide Web (www) is the Internet's multimedia service that contains a vast storehouse of hypertext documents written using the Hypertext Markup Language (HTML).



Fig.3: World Wide Web

Hypertext is a method for presenting text, images, sound, and videos that are linked together in a non-sequential web of associations. The hypertext format allows the user to browse through topics in any order.

Discussion Groups and News Groups:

The emerging subject, issue is flagged by one of the group members

and then an email alert is sent to all the members. Discussion groups are the virtual networks of Scientists and other stake holders having email interactions / message postings on a common subject. Discussion groups undertake in-depth discussion on email mode. Thus, highly focused discussions take place on the internet, without having any physical meeting. Discussion groups are emerging as one of the very effective scientific discussion forums on the internet.

Electronic Mail:

E-mail is used for communicating all types of messages- text, graphics, audio and also visual clips as long as these can be digitized. It is currently one of the most popular activities on the Internet. E-mail or the electronic mail is the most widely used application on the Internet for sending and receiving electronic messages. Technically E-mail is a system of delivery of messages on the computers connected via communication networks. For most of the Internet users, it has practically replaced other traditional methods such as telephones, fax etc. E-mail is electronic version of the paper mail or letters used to deliver personal and official messages.



Fig. 4: Various channels of e-messages

The largest users of e-mail, however, are the students of graduate and post-graduate programmes in the universities.

Gopher, Archie, Veronica:

Gopher was the first attempt of making it easy to access resources on the Internet. As recently as in 1994, Gopher was considered the most useful Internet tool. It uses text based nested menus to access FTP sites, directories, files and documents. Archie, Veronica, Jughead and other sites were all developed to assist with finding the right Gopher site. Gopher sites did a good job of organizing FTP sites, but it did not take long before the number of Gopher sites was unmanageable. Gopher and its derivatives have been largely made obsolete by the search engines available on the web today.

Usenet Newsgroups:

Newsgroups provide a bulletin board type area where users can read other opinions and are their own opinion can be posted. More than 20,000 Usenet Newsgroup categories are currently organized which cover almost any imaginable area of interest. Modern web browsers like Netscape and Explorer include software for reading and posting to Usenet. Email mailing lists are an alternative for Usenet groups as these lists are normally more focused.

Advantages of Cyber Extension

- Information rich and interactive: It appeals to the curious extension workers and analytical farmers which allows them to search and locate the information they need urgently. The extension workers can talk to the concerned scientists for more information on the subject, wherever the scientists may be. The rural technologies can be made available on CD-ROMs for quicker dissemination.

- Saves money, time and effort: scientists prepares electronic version of messages themselves. These versions don't have to be

NEED FOR COMPREHENSIVE CONSERVATION STRATEGIES FOR ENDANGERED MAMMALS

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Mammals constitute an important section of global wildlife and biodiversity; and are distributed across all the continents and oceans. However, the situation of the mammals across the globe is not at all promising; and in some cases agonizingly morbid! A large number of mammalian species and sub species are being threatened, endangered, critically endangered and some have even been pushed towards virtual extinction. The most prominent and well known mammals around the world are different species and sub species of majestic wildcats (such as lions, tigers, leopards, snow leopards, cheetahs, clouded leopards, Sunda clouded leopard, pumas, jaguars, fishing cats, wild cats, golden cats, Andean cats, caracal, Leopard cats to mention only a handful). Several species and sub species of ursids (giant panda, polar bears, grizzlies, sloth bear, brown and black bears), canids (wolves, wild dogs, coyotes, foxes and jackals), elephants, rhinoceros, ungulates (deer and antelopes, wild goats and sheep, zebras, giraffes, wild horses and donkeys), civets, pangolins, ant eaters, primates (monkeys and apes), red panda etc are all showing signs of alarming decline in their respective ecosystems and habitats. The highly biodiverse but

economically poor countries of Asia, Africa, Latin America and the Eurasian region are being worst impacted.

Poor economy, unstable political system, high rates of unemployment, racial and ethnic tensions, economic marginalization, persecution as well as rise of insurgence in several developing and under developed countries have been impacting global forests, wildlife and biodiversity; and hence the different vulnerable mammalian species directly as well as indirectly. Hunger and desperation have been pushing isolated tribes, forest residents and fringe dwellers, remote rural communities to be involved in poaching and trafficking of wildlife and stealing or over harvesting of major and minor forest resources. Highly organized, poaching gangs with sophisticated weapons and gadgets are engaging such economically impoverished and marginalized communities as their trackers, porters, guides, informers and temporary shelter providers to escape forest guards, police and local administration, security forces and border patrols in sensitive ecosystems.

The heavy dependence of local communities on the local forests and wildlife for their daily sustenance has been pushing these over exploited forests towards rapid deterioration. As a consequence of illegal encroachments inside the forests, habitat loss and habitat fragmentation mammals existing in these ecosystems are becoming more visible and are coming in close proximity of their human neighbours resulting in serious human-animal conflicts with wild cats, elephants, primates, ungulates, ruminants; as well as all kinds





of herbivorous (deer and antelopes, elephants), carnivorous (wild cats and canids) and omnivorous (bears) mammals. The rapid rate of deforestation, unrestricted and unmonitored natural as well as anthropogenic forest fires, illegal encroachments into forested areas, grazing of livestock and cattle in restricted forested areas, soil erosion, primitive slash and burn method of agriculture have resulted in complete habitat destruction and habitat fragmentation for numerous mammals around the globe. These factors have directly and indirectly contributed to the loss of hunting and breeding habitats for many mammals making them vulnerable to predation, poaching, diseases and frequent, deadly human-animal conflicts. Several of these negative anthropogenic factors have decimated mammalian species in both northern and southern hemispheres.

Lack of proper mammalian conservation strategies, policies, logistics, training and awareness and proper legislation have impacted populations of different mammalian species and sub species across the globe. Furthermore, the huge pressure exerted by international, illegal wildlife markets operating in China and Southeast Asia have been rapidly closing opportunities for heavily and overexploited mammalian species to revert back to their basic population dynamics. The high demand for mammalian body organs, trophies, horns, antlers, fur, skin, pelt, scales, teeth, claws, skulls, bones, cartilages, embryos, bush meat, blood, bile, mucilage; and even excretory products in illegal wildlife markets have been causing havoc to wild populations of several mammalian species. The newly emergent pet industry is harvesting young mammals at the cost of killing their parents to retrieve them safely and damaging and/or crashing their wild population bases. Climate Change and Global Warming is also forcing several mammalian species to move to lower altitudes in search of food making them vulnerable to exploitation, poaching and deadly human-animal conflicts.

The condition of several marine mammals like whales, dolphins, porpoises, seals, walruses, dugongs, manatees, otters, etc are getting bad to worse due to over exploitation, marine pollution and destruction of crucial and highly sensitive marine ecosystems and habitats. The rise of traffic movements in global oceans, severe pollution, destructive mass scale fishing techniques and discharge of untreated sewage and j distrust effluents directly into coastal, estuarine and marine ecosystems have been pushing several marine mammals towards slow extinction. The over exploitation and non judicious, indiscriminate if harvesting of several marine mammals fir food and industrial purposes is resulting in irreversible population crashes and bottlenecks for many marine mammals; and is in need of urgent intervention for their future survival.

Hence, we can confidently mention that mammals surviving in both terrestrial and aquatic (freshwater and marine) ecosystems have been deeply and negatively impacted around the globe by anthropogenic factors. Superficial and cosmetic conservation efforts initiated by some countries will not help in the recovery of their global populations. A more holistic and cooperative approach is needed for protecting endangered mammals. Small local and/or regional efforts may be inspiring but not sufficient enough to bring in major global changes. Adjacent countries need to cooperate and coordinate with one another through Joint Conservation Initiative (JCI) to protect terrestrial as well as freshwater and marine mammals comprehensively through well development management strategies, policies and legislations. We need both strong regional and international cooperation to protect global mammals through consistent conservation efforts.

Acknowledgement: Sikkim Express & Technology Times; **Photo credits:** S. K. Basu, S. Chakraborty, P. Basu Chatterjee, S. Mazumder, A. Patra, A, Ghosh & S. Dasgupta



PLANTATION DRIVE BY THE ACADEMY

The Academy Members are requested that whenever they plant a tree on their birthday or any other event, please send us the photographs with report so we can publish the same in our newsletter. This will inspire and encourage many more life members of the Academy to participate in the “Green drive” of the Academy.

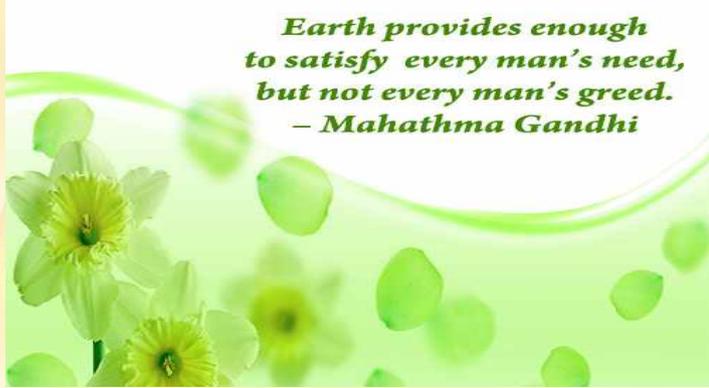
Members are also requested to preferably plant a medicinal plant which can benefit each and every one around us. Also they can form a committee in their RWA for plantation of tree on weekends.

Dr. Shefali Gola
Editor, NESA E-newsletter

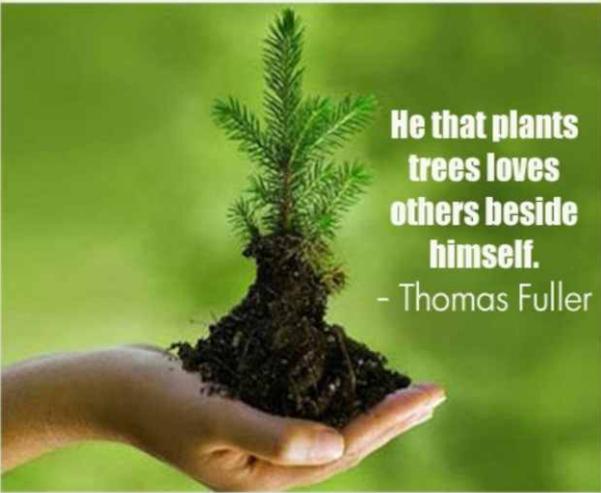
EVENT / CONFERENCES

Following are the details of some important conferences:

1. International Conference on Molecular Basis of Diseases & Therapeutics, March 8-10, 2019. Website: www.icmbdt.org
2. International Conference on Advances in Medical and Industrial Biotechnology (ICAMIB 2019). 20th to 22nd March, 2019. Sathyabama Institute of Science and Technology (Deemed to be University), Chennai, India. Website: <http://www.icamib2019.com>
3. 5th Asia Pacific Drosophila Research Conference (APDRC5) and Indian Drosophila Research Conference. January 6-10, 2020. <http://www.iiserpune.ac.in>
4. 5th Asia Pacific Drosophila Research Conference (APDRC5) and Indian Drosophila Research Conference. January 6-10, 2020. <http://www.iiserpune.ac.in>



*Earth provides enough
to satisfy every man's need,
but not every man's greed.
— Mahatma Gandhi*



**He that plants
trees loves
others beside
himself.**
- Thomas Fuller



It's not yours,
not mine,
It's Ours.
So, Protect your
mother who,
nourish you

To,

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From
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INVITATION OF RESEARCH ARTICLES for PUBLICATION in NESA Journals

INTERNATIONAL JOURNAL ON AGRICULTURAL SCIENCES

ISSN NO. 0976-450X | NAAS RATING 2.60

INTERNATIONAL JOURNAL ON ENVIRONMENTAL SCIENCES

ISSN NO. 0976-4534 | NAAS RATING 3.06

INTERNATIONAL JOURNAL ON BIOLOGICAL SCIENCES

ISSN NO. 0976-4518 | NAAS RATING 3.14

INTERNATIONAL JOURNAL ON CHEMICAL SCIENCES

ISSN NO. 0976-4526

INTERNATIONAL JOURNAL ON PHYSICAL SCIENCES

ISSN NO. 2230-9683

INDIAN JOURNAL OF UNANI MEDICINE

ISSN NO. 0974-6056

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For further details and **NOTES FOR AUTHORS**, please contact Academy at
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nesapub@yahoo.co.in

APPEAL TO LIFE MEMBERS

NESA Life Members are requested to submit short articles for the NESA e-Newsletter that are consistent with NESA's objectives to improve environment. The articles should focus on topics related to environment and facilitate communication and discussion among researchers, academicians and students. The articles for December edition can be submitted to nesapublications@gmail.com before **20th February, 2019**.

Dr. Shefali Gola, Editor, NESA E-newsletter