

THE ECO CLUB NEWS LETTER



ANKURA



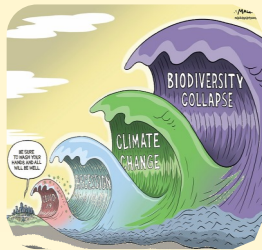
The Saviours of Nature

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About Ankura

Ankura is an annual news letter brought out by the Eco Club at Andhra Mahila Sabha Arts and Science College for Women. It is one of the best practices of the Department of Botany. The Eco Club received National Environmental Awareness Award from Khadi and Village Development, New Delhi in 2008. The publication was initiated to spread the awareness among the society regarding the basic principles of environment. Our intention is not only to foster a habit of learning about the nature and environment, but to inculcate a thought of eco friendly practices in day to day lives. Being said very wisely, never think small deeds taken up by a committed individuals will never change the world, We believe that we will be successful if we can at least trigger a thought process leading towards the change. Even a journey of thousand miles starts with a single step. Hence we are herewith our fourth volume of news letter trying to better ourselves in every step.

Hope you enjoy reading it!

DON'T LET ANOTHER PERIL PERISH US



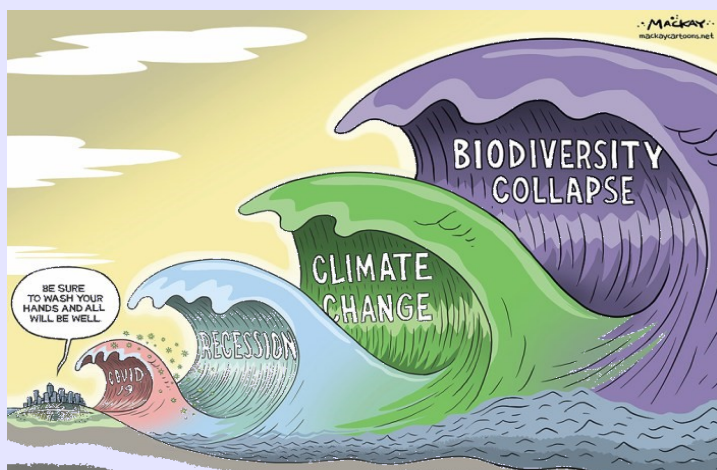
*“Tinka kabahu na nindiye, jo paavan tar hoy,
Kabahu udi aankhin pade, tho peer ghaneeri hoy”*

*Don't despise the small particle of dust that you tread under your feet.
If it flies up and falls in your eye then the pain becomes unbearable.*

Quoting “Saki” of Kabir das gives us a very clear picture that a small thing may lead to a disastrous experience in unforeseen circumstances. Taking the current pandemic as an ongoing example of this it becomes obvious that when nature is disturbed then every corner of the Earth gets disturbed. But we should be mindful of the fact that nothing in nature harms unless it is threatened by us, after all the COVID has not come to us, It is us with our disturbing deeds invited it. Health does not begin with the disease but in fact it is depended on the way of living and environment. When the whole world is choking from covid-19 a lung disease, imagine what nature has felt when 7,747 square km off the “Green lungs of the Earth”, the Amazon forest have been devastated all at once in the forest fire. The increased air pollution also has proven to have effects on mental health. This pandemic is just a warning to the upcoming peril.

The climate change nowadays has been of no match concern. But as the planet warms , Monsoon pattern gets disturbed. The usage of aerogels alters the monsoon nature. Unseasonal rains, floods, destruction and what not happened due to Nisarg and Amphan cyclones. When hidden with such catastrophic abnormality Why consider this anomaly a new normal ? That imbalances existing how far are the up to the implementation of Paris

agreement? .The verity is that man needs to coexist with nature. Nature is not somewhere else, we are a part of it. Any disorder in it, than we are of no exception. We must be heedful of the toxins we breathe in every gasp, the chemicals we drink in every gulp and the adulterants, pesticides we swallow in each morsel.



Man is the pivotal among all species. We need to depend on for our living but never use it so for our living, because man cannot live without nature but nature happily prospers without man. The created destruction of man to nature will not go away till we make our thoughts work. It is just tough solutions for tough problems. Yes, the changes may be difficult to implement but not im-

possible to do. Despite the uncertainties that exist what is certain is the climate change is happening fast and deadly. The good thing is that we know what needs to be done, but the tragedy is our inevitable ability to push and get what needs to be done, done. The devastation is on hype and all the mankind is on blind hope. In the war between hype and hope let our measures taken pave a path for the victory of hope.

Stand by nature for it shall withstand for thou!

Editorial

Buzz for the Nectar Wanderers



S.Rama Devi

M.Sc Zoology I Yr, Osmania University

Honey bees also spelled as "Honeybees" are the social insects which live together in nests or **Hives** belonging to family "**Apidae**" and order Hymenoptera. Honey bees symbolize prosperity, sustainability, and environmentalism. These insects are the essential components to modern agriculture and economy. There are about 20,000 species of bees are known, in which eight species are recognized. The best known honey bee is the "**Apis mellifera**" which is scientifically known as European or western honeybee, is bred since olden days for honey production, crop pollination and for bee products. This practice of apiculture has been started since 10,000 years ago.

Division of labour

Honeybees have three social castes, each with the specific roles that divide all of the labour inside a colony. A honeybee colony typically consists of 10,000 to 60,000 **Worker bees**, several hundred **Drones** and a single **Queen**-the mother of the colony. Each hive will have one queen bee who is the only reproductive individual in the colony. Worker bees are sterile females who do all of the foraging, feeding of young, honey production, wax production, cleaning, and defending the hive against intruders. The only male bees in the colony are drones. Their sole purpose is to spread genetics of the colony by mating with queen.

Pollination

The essential reproductive act in the plant world is **Pollination**. Honeybees provide highly valued pollination services for a wide variety of agricultural crops. Bees carry out 80% of the pollination. About more than 100 crops are pollinated by honeybees. **Pollination** is the transfer of pollen (which contains the male sex cells) from an anther (part of the male reproductive organ) to a stigma (part of female reproductive organ). This process precedes fertilization.

Pollination by honey bees

Tetra P's causing morbidity to sweet pollinators

Tetra P's refer to **Pesticides**, **Pathogens**, **Poor nutrition** and **Parasites** – all combine to compromise bee health and finally to death.

Pesticide

Pesticides are the chemical compounds that are meant to kill pests. The flowers that honeybees forage on, have pesticide residue on petals or in the nectar and pollen. These chemicals can kill bees directly or cause variety of indirect sublethal effects such as impairing the ability to find their hives or providing food to larvae. One most commonly known group of pesticide is **Neonicotinoids**, which are a class of insecticides, having a great toxicity for insects than mammals. This insecticide is mostly acted upon insects nervous system.

Pathogen

Pathogens are the major contributing factors. Honeybees host a diversity of pathogens, the majority of which are single stranded RNA viruses. Honeybee infecting viruses include Acute bee paralysis virus (ABPV), Black queen cell virus

(BQCV), Deformed wing virus (DWV) etc.... In addition to viruses, pathogens of honeybees also include bacterial pathogens such as Paenibacillus larvae, Melissococcus plutonius etc.

Poor nutrition

Poor nutrition could be a major cause for the Colony collapse disorder (CCD), that is noticed in October 2006. Honey bees mostly feed on nectar which is the source of carbohydrates and pollen which is the source of protein. But nowadays, honeybees are not getting good nutrition naturally, because of high temperatures, due to global climate change, result in lower quality and quantity of protein and carbohydrates in their diet.

Parasites

The two major parasites that affect honeybees are the varroa mites and nosema parasites. Varroa parasites primarily feed on honeybee larvae. These parasites spread from hive to hive on honeybees. These parasites will also involve in spreading viral diseases. Nosema parasite is a fungal parasite which involves in disrupting bee's digestive system.

Plants grown to increase bee population

One of the most essential things to encourage a rise in honeybee population is to grow plants in landscapes and gardens that attract these sweet pollinators. Here are some of the best bee friendly plants that can be grown : Lavender, Abelia, Blue borage, Fox glove, chives



A Splendid Daughter of Mother Nature

Salumarada Thimmakka

M.Maithri

M.Sc Botany I Year, Osmania University

The recipient of "Vadmadi" Raskara Award, Palusukada Thimmurma, is a prominent environmentalist from the state of Karnataka "Palunukada Thimmakka" popular as Salumarada Thimmakka. 'Salumarada' means a row of trees. Let us have an insight into her commendable deeds.

Name: Palunukada Thimmakka

Age : 108 years

Place : Pranli Kal, Kudur (Karnataka State)

Stature : Public environmentalist

Glimpse of her tale:

This is from Pranli Kal, where she lives 384 banyan trees are planted along the 4 km road up to Kudur. Thus she became known as the Salumara Thimmakka. With this, her work she became known to the people. Gunni is a town in the Tusukur district in the state of Karnataka. Thimmakka was born in the village. Her parents were uneducated. She did not study much. She started working as a laborer when she was 10 years old. She had an immense bonding with trees and nature since childhood. Her husband Chikkayya is also a coolie. They have no children. They were well insulted by others for not having children. Suffering from their insults and sinking into himself like everyone else and not doing any work, we would not all be talking like this today about Thimmakka.

In the absence of children, Thimmakka decided to grow trees and see them as children. Her husband also wholeheartedly supported her decision. She immediately put the idea into action. The first ten banyan trees were planted about five kilometers away by grafting near her village. Fifteen in the second year, twenty in the next year. Not only that, water was brought from far away and poured into them. Thimmakka has planted 384 banyan trees about four kilometers on either side of the national highway from Hulikul to Kudur. They were also provided with protective shields. Watering the trees every day .. setting foot .. staying there and protecting them became part of their daily routine. The Environmentalists say that the plants she planted were worth Rs.1,75,00,000. The Karnataka government recognized Thimmakka's services and declared her an environmentalist. Without education .. without money, they are often honored in the form of awards for their invaluable services to society. It is a great thing that is being recognized all over the world. It is appreciated by environmentalists all over the world as an asset to future generations. In the last 80 years about 8,000 trees

were planted during the period. Although her husband died over time, Thimmakka did not stop planting trees. Even at the age of 107, she still lives in the same world, looking after the trees as her children.

A lesson about her is included in the CBSE textbooks. Thimmakka, who is working for environmental protection, has given crores of rupees to the society but she is living on a pension of Rs 500 given by the government.

Awards and Recognition

In recognition of her services to the environment, the Government of India has announced the Padma Shri Award for Thimmakka as part of the Padma Awards. Received Indian Citizen Honor in 1995. Indira Priyadarshini Vrikshamitra Award in 1997. She won the "National Citizen's Award" in recognition of her work.

In 2016, BTC named Thimmakka one of the 100 most influential and inspiring women in the world. She received the Central Government National Civil Award in 1996 and the State: Philips Award in 2006. Thus, Thimmakka's efforts to prevent pollution and protect the environment in our country have been recognized not only nationally but also internationally. Environmental organizations based in Los Angeles, California, and Oakland in the United States have been named "Thimmakka Resources for Environmental Education". Shaped tree planting into a real public movement.

Her awards include:

1. National Citizen Award- Government of India
2. National Indira Priyadarshini Vrikshamitra Award- Government of India -1997
3. Gait Free Brabiency National award -2006
4. The NADOJA award, Hampi University -2010
5. Karnataka Rajyothsava Award

6. Karnataka Rajya Parisara Award
7. INDIRA RATNA Award
8. The GREEN MOTHER Award
9. Women Empowerment Award
10. Mother of Tree Award

And the list goes on...



BIO PLASTICS

- A Green Alternative

T. Jaya Madhuri
M.Sc Zoology I Year, Osmania University



Technology has changed our lifestyle and triggered plastic consumerism in a big way. Today, we are more inclined to eat packaged foods which generate huge amounts of plastic waste. But what are these plastics made of? Plastics belong to a group of molecules called polymers, which are large molecules made of repeating units called monomers. For example, a plastic called polyethylene, which is commonly used in grocery bags and packaging, is formed by adding together molecules of ethylene (C_2H_4). Most plastics are made from crude oil. Molecules present in crude oil undergo chemical reactions that create monomers, which are assembled together to make polymers that can be processed into plastics. This process is very common, but it produces pollutants, such as carbon dioxide (CO_2), which contribute to climate change. Also, crude oil is in great demand throughout the world. The world's oil supply may dry up in less than 100 years. To address these problems, scientists have been looking for the past two decades for new ways of making plastics. One way involves the use of plant sources as the raw material, instead of crude oil. This type of plastic is called bioplastic.

Bioplastics are built from biopolymers. Bioplastics are made by converting the sugar present in plants into plastic. That sugar comes from corn, sugar cane, sugar beets, wheat, or potatoes. This makes bioplastics renewable and biodegradable. Unlike conventional/synthetic plastics, most bioplastics are degradable by natural biological process and do not accumulate in the ecosystem. This renewability promotes the sustainable ecological living. There are different types of bioplastics based on the raw materials used; they are Polylactide acid (PLA), Starch based Polymers, Polyhydroxyalkanoates (PHA). Two types of bioplastics are now produced in large quantities they are polylactide acid (PLA) and polyhydroxyalkanoate (PHA). In PLA the main feedstock is corn, sugarcane, beet and starchy

Know your bioplastics!

- **COMPOSABLE** – is biodegradable and breaks down in industrial and home composting systems.
- **BIODEGRADABLE** - is broken down by microorganisms and fungi often requires UV light and warm temperatures to decompose.
- **DEGRADABLE** – breaks apart into smaller pieces and that will exit forever.

tubers where as in PHA biopolymers are obtained by bacterial fermentation of sugars. Once the required polymer resins have been suitably synthesized from raw materials, the bioplastic manufacturing process is essentially similar to that of conventional plastics.

Degradation of the chemical links between the monomers in these plastics is brought about by microorganisms or by water. Bioplastics can be both bio based and biodegradable. Benefits can include: reduction of fossil fuel usage, reduction of carbon footprint, reduction of global warming potential (GWP). Bioplastics have the potential to reduce the petroleum consumption.

Yet, bioplastics have their flip sides too. Conventional plastics are more versatile in comparison to bioplastics for high performance applications. Prime factors that limit the scope of bioplastics as main stream commodities include the high cost of raw materials and the processing technology. Bioplastics are derived from plant sources that are genetically modified which are energy intensive operations and require chemical pesticides, which in turn could pose a risk of food source contamination. Although bioplastics are emerged in India almost 15 years ago, it is still considered as a nascent market due to low levels of adoption and penetration. Bioplastics are already quite popular in the developed economies in Europe and North America. The cost factor and availability of cheaper alternatives are some of the key issues affecting the growth of bioplastics in India. Even when it comes to giving up plastics, other cheaper renewable options are being accepted by environmentally conscious customers in India, such as reusable jute or cloth bags in favour of disposable plastics bags. Clearly, keeping aside the higher expenses and certain risks that bioplastics pose, they are environmentally more beneficial and safer than synthetic plastics.



World Environment Day

An appeal

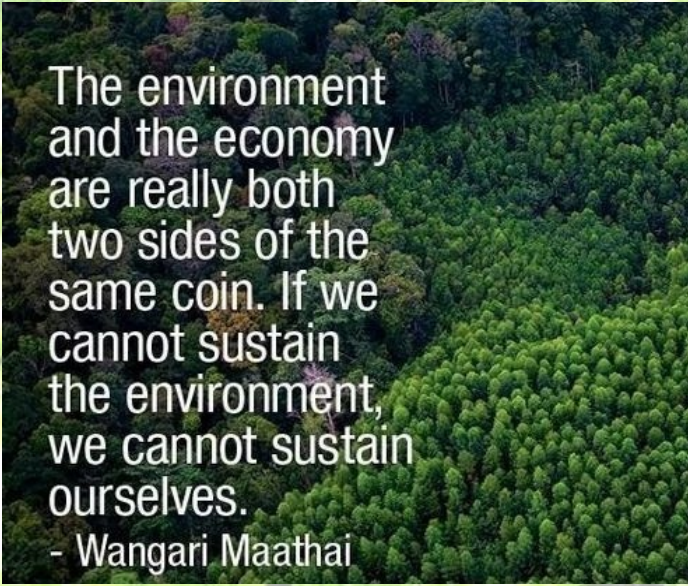
G.Geetha
BZC III Yr, AMSASCW

June 5th of every year marks an importance as Environment Day. Every year a conference will be held represented and hosted by different nations. The first conference on the environment was held by United Nations on June 5, 1972. Environment day has been celebrated on June 5th every year since 1974. This year Theme for environment day is **Ecosystem Restoration**. We depend on environment for air, water and food. The trees, weeds, rocks mounds, hills, air, water and sky are all part of the environment. But coming into greed we have been and are cutting down forests in the name of development. We are killing animals. We are polluting the air, water, and soil. The consequence of this is the environmental crisis.

The plastic we are using is pushing the environment into a deep crisis. Due to air pollution respiratory diseases are transmitted to humans. Many people with weakened immune system are infected with Corona. We are witnessing the situation where people are in trouble. To provide quality life for the people there is a need to recognize the need for a quality environment to provide.

Depletion of the ozone layer, global warming, the extinction of many species, the Outbreak of various diseases and the pollution of the air, soil and water are all effects of

the various actions we human have taken over the past 300 years. They cannot be erased overnight, it is a misery created by the whole of Mankind, we must all work together to rectify it. There is no other way than that.



The environment and the economy are really both two sides of the same coin. If we cannot sustain the environment, we cannot sustain ourselves.

- Wangari Maathai

Humans are also a part of Nature, so let's take care of those around us. Let us provide our conscious help and services to those in need. If those around us are happy and healthy, it will automatically benefit the environment. Let's make it a habit to do good each other as a part of Environmental Protection. Recognizing the seriousness of the problem the United Nation has declared this decade (2020-30) as the "Decade of Environmental Renewal".

Its main objective is to prevent environmental destruction, and to sustain and restore the environment. Environmental recovery is not an immediate process. Efforts need to be fair to increase public participation in environmental sustainability. We all have a responsibility to pressure government at various levels to take action.

Easy steps to follow Environmental Protection practices

1. Use water sparingly
2. Use day light as much as possible.
3. Prioritize to walk for short distances
4. Use paper sparingly
5. Do not use plastic covers



ECO CANVAS

Portraying the Nature



A sketch by M.Bharath Kumar, CSC student at CVSR Engg. College. He is a self taught and an innovative artist. For more, visit his instagram page [art_from_my_attic](#)



Art by M. Sreeja BZC III Yr, AMSASCW. A soulful artist who brings down the liveliness of nature onto her paper. This is a picture depicting the rain.



This is an oil pastel drawing by Himaja Mothikar from Nizamabad district. She is an intermediate second year student and seeks interest in sketching the beauty of different animals. She feels that every living creature deserves appreciation for their uniqueness and her pictures reflect her heart.



An edifying illustration by S.Rama devi who is pursuing her masters in Zoology. She is an enthusiastic pantherophilic. Her nimble participation in nature protection always amuses people around her. Here is one of her works with the caption "Don't Let Mother Nature Fall"



Gandagi Muket Bharath



राष्ट्रीय स्वच्छता केंद्र RASHTRIYA SWACHHATA KENDRA



The Department of Drinking Water and Sanitation (DDWS) is organised a week-long behaviour change campaign called 'Gandagi Muket Bharat' (GMB) from 8th to 15th August 2020. As the name implies, the campaign aims to reaffirm commitment towards building a cleaner and healthier future. States and UTs were expected to actively participate in the programme as they mobilise communities at District, Block and Village levels to engage in cleaning, plantation, promotion of behaviour change, shramdaan and other swachhata related activities. The highlight of the week-long campaign is the inauguration of the Rashtriya Swachhata Kendra (RSK) on 8th August. A tribute to Mahatma Gandhi, the RSK was first announced by the Hon'ble Prime Minister on 10th April 2017 at the centenary celebrations of Gandhiji's indigo agitation, the Champaran Satyagraha. The RSK has been established at the Gandhi Smriti and Darshan Samiti at Rajghat in New Delhi – a dynamic experience centre to actively engage with citizens to impart information, awareness, and education around Swachhata in an interactive format with a balanced mix

of digital and outdoor installations. The awareness programmer them proper waste segregation and disposal methods. The overall campaign was initiated to create awareness among people. The main aim of this campaign is to clean all cities and regions of rural and urban areas.

GANDAGI MUKT BHARAT
(8th August - 15th August 2020)

A week dedicated to Swachhata

ACTIVITIES PLANNED

<p>8th August, 2020 Inauguration of Rashtriya Swachhata Kendra; E-Ratri Chaupals by districts</p>	<p>9th August, 2020 Collection, and segregation of plastic waste</p>	<p>10th August, 2020 Launch of Swachh Bharat mobile academy</p>	<p>11th August, 2020 All India wall painting activities</p>
<p>12th August, 2020 Shramdaan and tree plantation across villages</p>	<p>13th August, 2020 Virtual tour of Rashtriya Swachhata Kendra; Online painting and essay competition</p>	<p>14th August, 2020 Cleanliness and sanitation drives</p>	<p>15th August, 2020 Independence day celebration, ODF Plus declarations at gram sabhas</p>

www.rsk.ddws.gov.in

Gandagi Muket Bharat is also a kind of awareness to the people of proper sanitation and hygiene. The use of plastics shouldn't be done anymore as it is non-biodegradable. It does not break down and mix into soil. As we all know that mosquitoes and other insects feed and breed on garbage and then, they spread lethal diseases such as malaria, dengue etc. So, we all should unite and go on a further step in making India a developed country.

The campaign is to aware people to keep clean the place where they live. The road, street, and surroundings also must clean. The government pays peoples to clean roads and streets. People should call the sweeper and get it clean at the spot, they should not ignore for others.

Gandagi Muket Bharat Mission is a step closer toward a cleaner, safer and greener India and this drive is possible if all the citizens could participate in this drive. We the Eco Club members at Andhra Mahila Sabha Arts and Science College for Women extended our efforts in regard to this campaign. As responsible citizens we thought of putting forward a step to raise awareness about the campaign and its motto. We participated in plantation activities at various areas following the COVID norms and protocols. Amidst this pandemic we could do our best to enhance the environment protection activities for a healthier and brighter India. After all as the saying goes... Nature saves us, if we save it!



Made as at

THE ECO CLUB @ AMS



VISION

To build youth to become a better person, more disciplined and socially aware, however difficult it may be that helps to protect the environment

MISSION

Eco-club is a college level, voluntary, student's initiative programme to educate youth about the importance of Environment

Eco Club Activities :

- ◆ World Environment Day
- ◆ Maintaining Botanical Garden
- ◆ Plantation programme
- ◆ Effective Land Use
- ◆ Team leaders educating on environmental awareness
- ◆ Plastic free zone in the college campus
- ◆ Guest lectures on Environmental awareness
- ◆ Making and distribution of Eco-friendly Ganesh idols
- ◆ Telangana ku Haritha haaram (2015-2020)
- ◆ Energy Save
- ◆ Water Use
- ◆ Campus cleaning

Eco Captures



ECO CLUB REPORT 2020-2021

- * The Eco Club, Department of Botany organized an online quiz to promote awareness on Environment of 5 th June' 2020. This quiz was organized in connection with World Environment Day. This was a successful initiative amidst lockdown to generate interest among the students.
- * In connection with the World Environment Day, on 5 th June' 2020, the Eco Club, Department of Botany organized clean and green programme in the Botanical garden of the college campus. The supporting staff of the college participated in this, making the college premises clean and green.
- * The Eco Club, organized an online intercollegiate competition Poster making and slogan writing competition. The topic for the competition was "Impact of COVID-19 on Environment". This online competition was from 14 th to 18 th June' 2020. Many students made attractive posters and illustrations on how the pandemic affected the Environment.
- * The Eco Club, Department of Botany organized an online quiz to promote awareness on Biodiversity on 22 nd May' 2021. This quiz was organized in connection with International Biodiversity Day.

STREAM	STUDENT TEAM LEADER
Promotion of Plantation, Bio-Diversity and survival Monitoring.	Navyatha Madhuri
Promoting Clean and Safe Drinking Water	Sushma Ramani
Energy-Save	Usha Chandana
Effective Land Use	Geetha Pranitha
Promoting Effective Waste Management	Prasanna Pravallika

Sub Committee Members of Different streams in Eco Club

1. Promotion of Plantation, Bio-Diversity and survival Monitoring. - Dr.A.Pramila
- 2 .Promoting Clean and Safe Drinking Water -Mrs.K.Pallavi
- 3.Energy-Save - Mrs P.Sandhya
- 4.Effective Land Use - Mrs.A.Swapna
- 5 Promoting Effective Waste Management - Dr.K.Kiranmai



Student organization of Eco club

PRESIDENT : Navyatha
VICE-PRESIDENT : Harika
SECRETARY : Geetha
TRESURER : Prasanna
 Over all Student Representative from the College : Sreeja



Editorial committee

Dr .A .Pramila (Editor)
 Sri Vaishnavi



Contact

Dr.A.Pramila
 Eco Club Convenor
 AMS Arts & Science College for Women
 Autonomous, NAAC Re-Accredited
 O.U. Campus Road, Hyd – 07
 Ph: 9491140329



Views and Suggestions

We welcome, encourage and value all your suggestions If any suggestions or ideas to be implemented or articles related to *Ankura* you are most welcome to send us through mail. Please mail it to us on ecoclub18ams@gmail.com

Thanks

We are herewith one more edition of our Eco club News letter - *Ankura* this year. We have been striving to put our steps forward in fulfilling our vision and mission of Eco club. Acknowledging the kind support and encouragement from our Chairperson, Hon.Secretary and Correspondent, Principal , we would like to thank each and every person who helped us in bringing out this news letter.

Thank You!

- Editorial committee