

ANKUR

e-NEWS LETTER

Volume I Issue I November 2013

Gujarat University Botanicals Society (GUBS)



Department of Botany
Gujarat University
Ahmedabad - 380009. India



ANKUR

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EDITORS

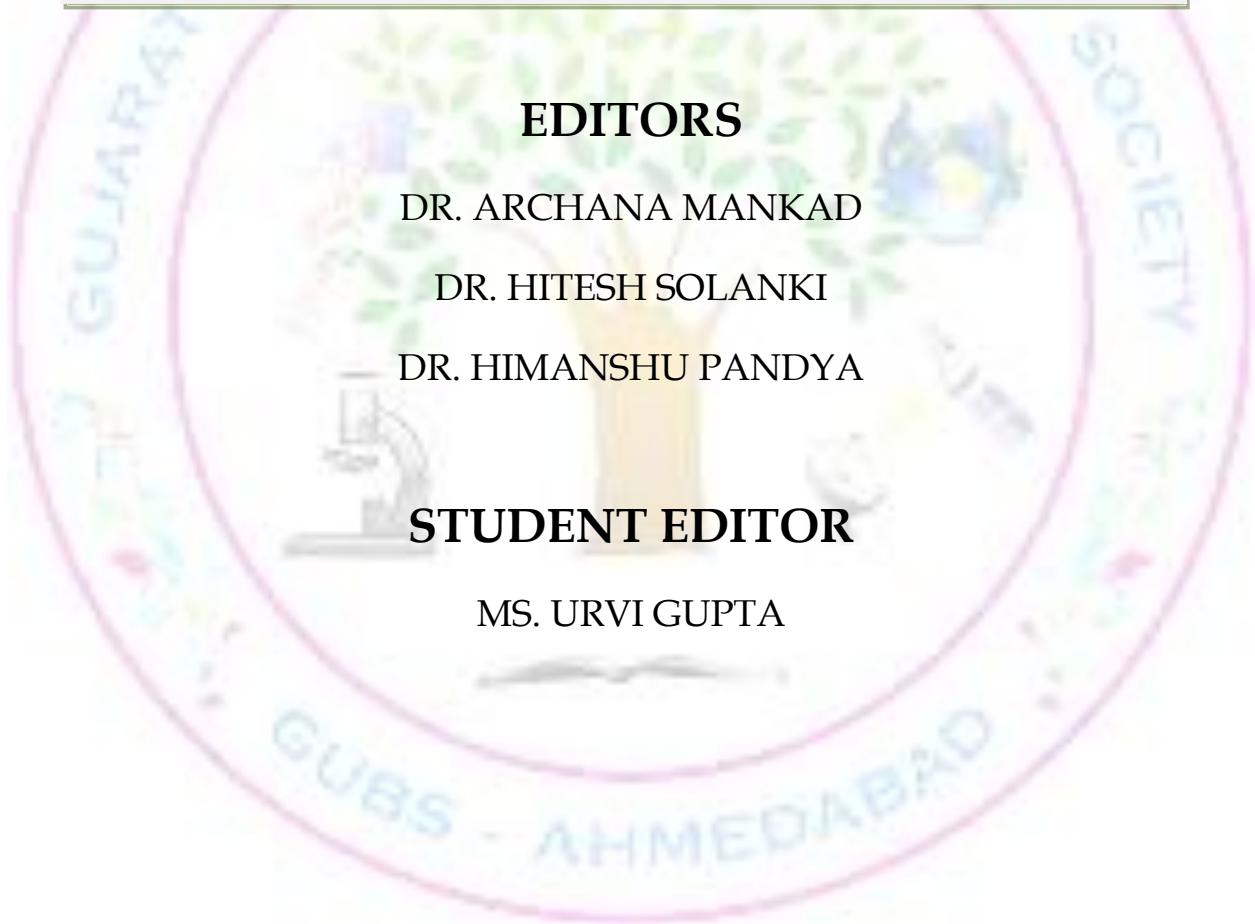
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ANKUR

.....Sprouting of thoughts

Ankur is symbol of new beginning towards growth. And Ankur is here to introduce budding writers. It would represent interesting articles in Botany, Bioinformatics and Climate Change Impacts Management. Each seed has the innate potential to grow - blossom, and display its magnificence after its dormancy has been broken. Same way this news letter would provide a platform to young researchers to share news and views, promote awareness about the subjects and generate interest in related issues. Ankur would be taken care of by a team of dedicated Student Editors who would select and edit articles for online publication.

We wish Team Ankur all the best for this endeavour.

Editorial Team

Dr.Archana Mankad

Dr.Hitesh Solanki

Dr.Himanshu Pandya

Ms.Urvi Gupta



Patron's Message

One of the most spectacular phenomenon in the life of a plant is the production of beautiful blossoms. Blooms symbolize continuity of generations by producing the much valued seeds. Plants not only spend a lot of energy in producing the seeds but also use energy to disperse them. Seed germination like an idea would have to be nurtured so as to allow for its growth and establishment.

Plants teach us that we should learn to let go.. because holding on is not always profitable and sustainable. Plants also teach us to overcome obstacles and establish. Plants show us that sometimes a small sapling can become grand like the majestic trees in the forest. What is more important is that we break the silence of Dormancy.

Ankur will allow germination of ideas.. it will allow growth of ideas and above all, it would establish firmly. I wish TEAM ANKUR all the best for a grand success.

Dr. Archana Mankad
Patron-GUBS
Head, Department of Botany
Gujarat University
Ahmedabad 380 009



Message from Professor-In-Charge

Welcome to the first issue of Ankur, an E-Newsletter from Gujarat University Botanicals Society (GUBS). It's the beginning of endless journey in scientific research writing. Budding researchers will have excellent opportunities to express their views in the form of articles. Self-expression is as vital to living as breathing and this medium will support new writers to grow with healthy breath. A team of researchers was actively involved behind the successful launch of this issue. I would like to express my great appreciation to all authors of the articles in this first issue of Ankur. These contributions required immense time and efforts. It is the willingness to make the effort to share knowledge, concern and special insights with GUBS and Ankur at large that has made this issue possible. Thank you all!!!

Dr. Hitesh Solanki
Professor-In-Charge, GUBS
Associate Professor,
Department of Botany
Gujarat University
Ahmedabad 380 009



Message from President

Ankur welcomes you all who are interested in scientific article writing and reading. As we all know that science involves something more than the just gaining of knowledge. It consists of formulations and testing of hypotheses based on observational evidences. We observe many things and also discuss them with our friends and teachers. Many times observations end with discussions only. Have we ever tried to shape these discussions? No??? Then let's try now... Shape your thoughts, observations and discussions in the form of articles. Ankur provides us a great platform for this. Let's write and read and join this never-ending journey of Ankur- from a seedling towards a tree.....

Ms. Urvi Gupta
President- GUBS
Department of Botany
Gujarat University
Ahmedabad 380 009



WHAT WE HAVE LEARNT?

Rahul Rajan

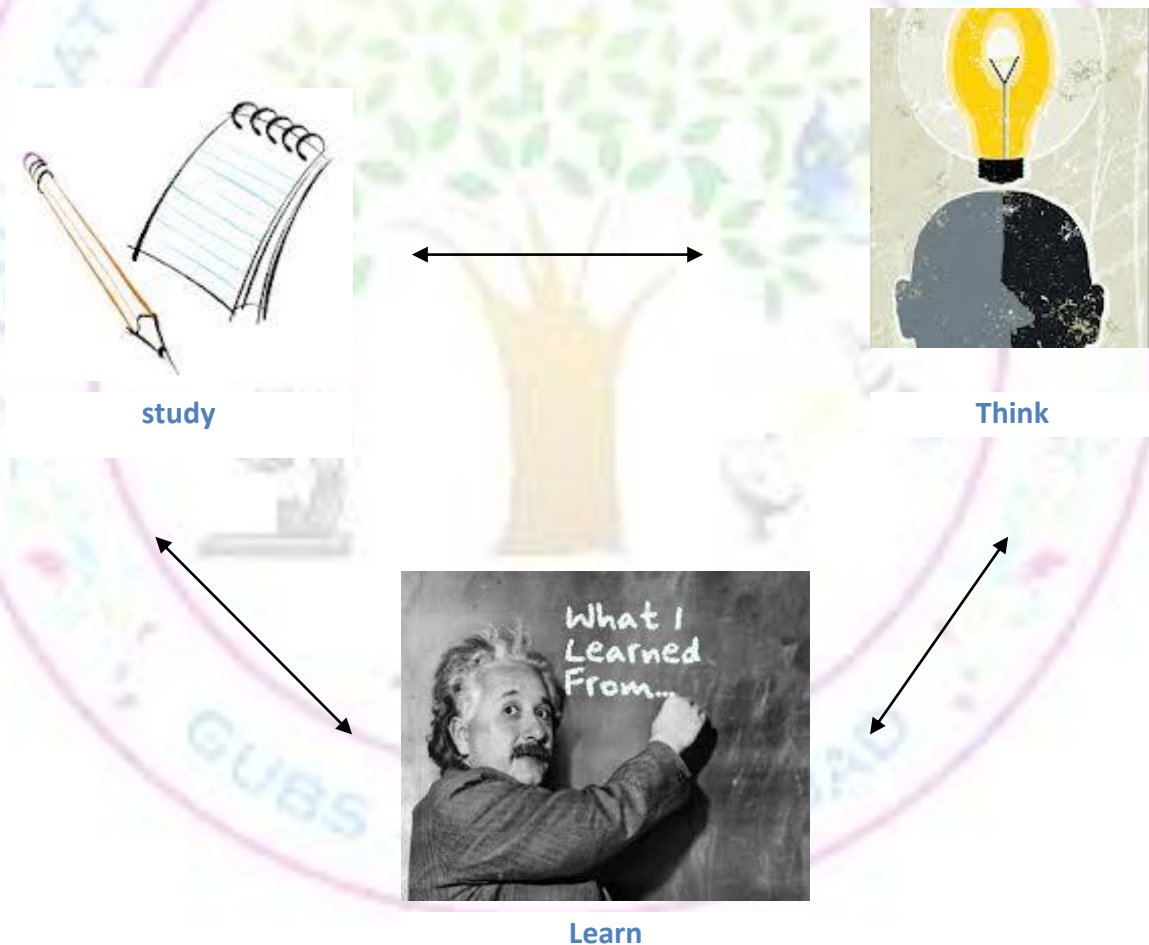
Science is a part of human individuality and society, knowingly or unknowingly, ever since their consciousness-of-self has developed. The ability to think and judge made them evolve into the smartest organism of the planet. Logical interventions into situations led them to success. Our world poses complex situations to tackle. With scientific progress, the human desire to live in more favorable world, caused large scale alteration of natural world and emergence of largely modified Anthroposphere. Here natural refers to the earth system which is not largely affected by the human's technological, industrial and other such endeavors. Enhanced human livelihood and a conducive environment resulted into enormous human population growth. The cumulative effect of a smart organism reproducing at *unprecedented* rate and dominating the world has proved to be dangerous for the planet and its inhabitants including humans themselves.

It is appropriate to ask, if we, as a part of earth's biosphere, have this authority to modify the system to such an extent that it becomes specialized for one organism. Consequences are clear. Our earth is more or less a closed system (except occasional meteorite falls and likes) with respect to matter. The cycling of matter, using mostly solar energy between biosphere, hydrosphere, lithosphere and atmosphere is balanced in a way to provide vital environmental conditions on earth. Right amount of energy input to different earth system processes are the key to the sustenance of such complex system of matter recycling. Until recently, when our scientific understanding went on increasing during late eighteenth century, we started interfering the natural energy balance of the earth system.

One of the important aspects of human ability which helped in development of science to its current complexity, is the ability to acquired knowledge through learning and retaining it. In the present context, we have learnt from our experiences and scientific investigations, that the importance of maintaining the energy balance and flow of matter is most important for the sustenance of life on earth. So the most selfish thought will lead to the conclusion of not modifying the earth into a specialized environment.

A Science scholar in the contemporary world tries to find out answers to the questions of our world. We are studying numerous scientific sub-streams, each

focused on some specific routine. Owing to the magnitude and level of information available, many of these now evolving into multi-format. But, most of these studies see earth's resources as an opportunities for human growth and progress. The basic ideology is biased in the favors of one of the million species dominating the earth. Our Scientific values are based on the same ideology. Ankur's e-platform can be used to discuss the issues of current state of our environment, the possible solutions to our present world problems and our scientific approach, the value system and questions like that. It is appropriate to see the world as a system that sustains life including humans, and to recognize the delicate balance of earth system processes. It is wise to be a manager first than an engineer!!!



**Climate Change and Its Impacts on Natural Resources, Bio-diversity,
Human Health, Eco-systems, Agriculture & Forests**

Dhara Bhavsar

A well known saying goes as following “Nothing is permanent but change.” Earth’s climate is bound to change with time (various factors like; Earth’s position with respect to Sun, sunspot cycle are responsible for this) however the rate at which Earth’s Climate is changing in the past and in this century is alarming.

Climate change is a direct result of emissions of greenhouse gases. Rampant industrialization, increased consumption of fossil fuel, unsustainable lifestyles, and poor management of waste has led to increased emissions of greenhouse gases and this in turn has altered the magnitude and rate of change of our planet’s climate. Climate Change has various impacts on ecology, society and economy. These impacts are severe and often irreversible. Natural resources, eco-systems, Earth’s bio-diversity, human health, and sectors like agriculture & forest face the impacts of climate change.

Increasing surface mean temperature due to global warming is making it impossible for many plant and animal species to survive. Human activities like expansion of residential areas, cities, development of infrastructure and natural barricades makes it impossible for such endangered species to migrate to higher altitudes where temperature is suitable for survival and thus brought them close to extinction. As species get extinct the food web and food cycles of ecosystems are disturbed this in turn affects the other species of the ecosystems and the functioning of that ecosystem. Often the ecosystems collapse when the key stone species of that ecosystem is endangered or becomes extinct. Since glaciers are receding the ecosystems of those areas are vanishing and getting replaced by ecosystems of warmer climates.

Tropical and sub-tropical regions have seen a rise in vector borne diseases (like malaria) as the temperature in these areas has increased. Also cases of heat strokes have gone up in the past years in many countries of this area. The weather has a direct impact on our health. If the overall climate becomes warmer, there will be an increase in health problems. Extreme climate events like cyclones, floods, droughts, thunderstorms have increased both in magnitude as well as in frequency and have severe impacts on human life & property. Also if we observe we’ll see that the difference between maximum and minimum temperatures have increased although the average has remained same, this suggests that the minimum temperatures during winters has plunged further and the maximum temperatures during summers have risen making it difficult for humans during extreme temperatures.

Agriculture sector is flimsy too; most of the crops are highly temperature sensitive, even a slight shift in average temperature would result in crop failure or low yield. The IPCC Third Assessment Report, published in 2001, concluded that the poorest countries would be hardest hit, with reductions in crop yields in most tropical and sub-tropical regions due to decreased water availability, and new or changed insect pest incidence. To add to this precipitation has developed strange patterns like; irregular rainfall, intense rains over short period of time etc. this would also have negative impacts on agriculture. Intense rain over short period of time causes soil erosion and huge amount of surface runoff and very little absorption of water by the ground this deteriorates crop production. Although there will be gains in some crops in some regions of the world, the overall impacts of climate change on agriculture are expected to be negative, threatening global food security.

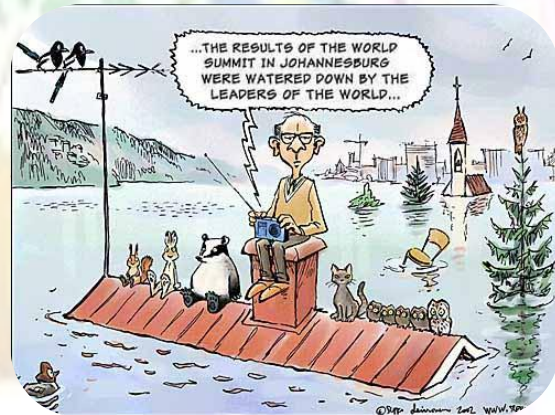
Increase in temperatures also acts as precursors to forest fires and increases pest attacks on forests. The Intergovernmental Panel on Climate Change (IPCC, 2007) concluded that there may be significant regional transitions associated with shifts in forest location and composition due to climate change. Climate change is likely to alter the geographic distribution forests. Climate change effects on forests are likely to include changes in forest health and productivity and changes in the geographic range of certain tree species. These effects can in turn alter timber production, outdoor recreational activities, water quality, wildlife and rates of carbon storage.

Sea level rise is another downbeat outcome of climate change. Various coastal and marine ecosystems like; mangroves, coral reefs are endangered due to sea level rise. Salinity ingress has disrupted agriculture, ecosystems and human health of coastal areas. Many small island nations (like Maldives) and coastal areas are under the threat of getting submerged, this would give rise to climate refugees. Displacement and resettlement of climate refugees is a concerning issue in itself. Nations which would accommodate these climate refugees will see their natural resources getting further stressed.

Climate change will have a significant impact on the sustainability of water supplies in the coming decades. Freshwater availability projected to decrease in Central, South, East and Southeast Asia by the 2050s; coastal areas will be at risk due to increased flooding; death rate from disease associated with floods and droughts expected to rise in some regions.

To sum up the above discussion we would say that global climate change would have its impact on everything present on the surface of Earth. Glaciers have shrunk, ice on

rivers and lakes is breaking up earlier, plant and animal ranges have shifted and trees are flowering sooner. Effects that scientists had predicted in the past would result from global climate change are now occurring: loss of sea ice, accelerated sea level rise and longer more intense heat waves. The idea of 'Let nature take care of itself' is not sufficient, for it has become fragile due to various harmful anthropogenic activities. Sustainable development i.e. integrating environment with economic & social development is the need of the hour. Shifting to low carbon economies, promoting technology transfers, involving local communities for management of ecosystems, making environment education more pronounced are some of the ways to answer the current climate crises.



***Aloe barbadensis* Mill (*Aloe vera* L) Family: Liliaceae**

Vilas R Parmar

Uniqueness of *Aloe vera*:

Aloe barbadensis Mill (*Aloe vera* L) is the most useful medicinal plant. All over the world, *Aloe barbadensis* Mill in bulk as well as extracts is widely used in food, cosmetics, healthcare, skin care and medical industries. Juice from the leaves of different species yields a medicinal substance called the drug-*Aloe*. The drug contains anthracene derivatives occurring either free or in the form of glycosides, usually glucose. *Aloe barbadensis* Mill has a number of biological activities such as antiseptic (saponins and anthraquinones), anti-tumoral (muco-polysaccharides), anti-inflammatory (steroids and salicylic acid), anti-oxidant (vitamins) and immuno-



regulator (gluco-mannans) effects. It is also an active ingredient for extra therapeutic, hygienically, rejuvenating, health enhances effectiveness.

Part used: Whole plant, dried juice of leaves, pulp and roots.

Medicinal Uses:

- Heals wounds
- Widely used in cosmetics
- Minimizes frostbite
- Protects from Lung-cancer

- Reduces Blood sugar in diabetes
- Screens out radiation in treatment of jaundice, loss of appetite, Leucorrhoea, piles, rectal fissure, burns and scalds, arthritis, asthma, gas trouble in stomach, leaver psoriasis, kidney stone, paralysis, memory power, hair problems, TB, hyper thyroid, allergy, cancer.
- It soothes a variety of skin ailments such as mild cuts, insect stings, bruises, poison and eczema.
- The washing of eyes with *Aloe* may protect eyes from ultraviolet rays coming from sun.
- Useful to digestive tract irritation such as colitis and peptic ulcers.
- In treatment of coughs and colds.

Cultivation method:

| | |
|-----------------------------|---|
| Propagation method | Through root suckers or rooted plantlets (side tillers) |
| Type of soil and climate | Grown in all types of soil. Generally it requires a well-drained soils and a very sunny position. |
| Time of plantation | After rainy season in June - July |
| Distance between two plants | 60 × 60 cm |
| Number of suckers | 12000 suckers per hectare. Use fresh suckers for plantation |
| Irrigation | As required |
| Harvest | Leaves can be harvested after 1 year of plantation and suckers can be harvested after 3 years of plantation. The plants can be harvested in every 6 to 8 weeks by removing 3 to 4 lower leaves per plant. |
| Yield | Almost 10 - 12 tones of whole plant for 12 to 15 months per hectare. |

“PLANT DIVERSITY OF GUJARAT UNIVERSITY CAMPUS”

Yogesh B. Patel

Introduction

The variety of life on Earth and its biological diversity is commonly referred to as biodiversity. The number of species of plants, animals and microorganisms, the enormous diversity of genes in these species; the different ecosystems on the planet such as deserts, rainforests and coral reefs are all part of a biologically diverse Earth. Biological diversity means the variability among all living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and biological diversity within a species and of ecosystems.

The great variety of life on earth has provided for man's needs over thousands of years. This diversity of living creatures forms a support system which has been used by each civilization for its growth and envelopment. Those that used this “bounty of nature” carefully and sustainably, survived. Those that were used or misused it, disintegrated.

Science has attempted to classify and categorize the variability in nature for over a century. This has led to an understanding of its organization into communities of plants. This information has helped in utilizing the earth's biological wealth for the benefit of humanity and has been integral to the process of 'development'. This includes better health care, better crops and the use of these life forms as raw material for industrial growth which has led to a higher standard of living for the developed world. However this has also produced the modern consumerist society, which has had a negative effect on the diversity of biological resources upon which it is based. The diversity of life on earth is so great that if we use it sustainably we can go on developing new products from biodiversity for many generations. This can only happen if we manage biodiversity as a precious resource and prevent the extinction of species

Definition

'Biological diversity' or biodiversity is that part of nature which includes the differences in genes among the individuals of a species, the variety and richness of all the plant and animal species at different scales in space, locally, in a region, in the country and the world, and various types of ecosystems, both terrestrial and aquatic, within a defined area.

Value of Biodiversity

Environmental services from species and ecosystems are essential at global, regional and local levels. Productions of oxygen, reducing carbon dioxide, maintaining the

water cycle, protecting soil are important services. The world now acknowledges that the loss of biodiversity contributes to global climatic changes. Forests are the main mechanism for the conversion of carbon dioxide into carbon and oxygen. The loss of forest cover, coupled with the increasing release of carbon dioxide and other gases through industrialization contributes to the 'greenhouse effect'. Global warming is melting ice caps, resulting in a rise in the sea level which will submerge the low lying areas in the world. It is causing major atmospheric changes, leading to increased temperatures, serious droughts in some areas and unexpected floods in other areas.

| Living Organisms | Number of Species | | | |
|------------------|-------------------|--------------|---------------|-----------------|
| | Guj. Uni. | Gujarat | India | World |
| Viruses | - | - | - | 4,000 |
| Bacteria | - | - | 850 | 4,000 |
| Algae | 12 | 1,933 | 6,500 | 40,000 |
| Fungi | - | 164 | 16,500 | 89,000 |
| Bryophytes | 3 | 8 | 2,850 | 16,000 |
| Pteridophytes | 3 | 16 | 1,100 | 13,000 |
| Gymnosperms | 6 | 1 | 64 | 750 |
| Angiosperms | 425 | 2,198 | 17,500 | 2,50,000 |
| Total | 449 | 4,320 | 26,286 | 4,16,750 |

Number of plant species in Gujarat University

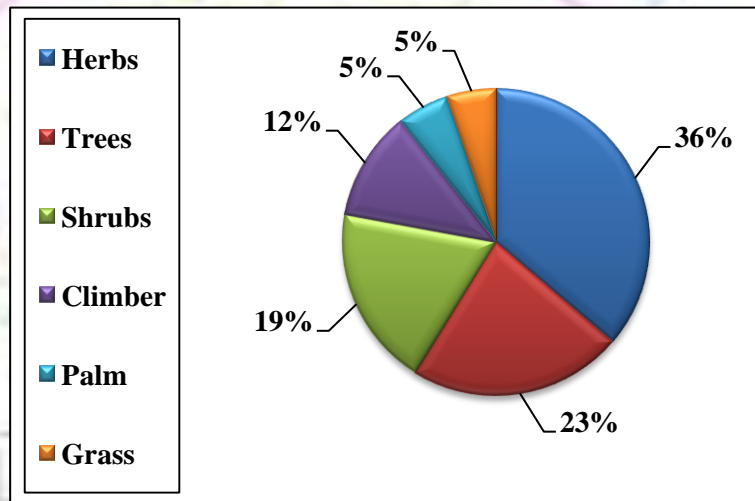
| Taxon | Number of species | Percentage |
|---------------|-------------------|------------|
| Algae | 12 | 3 |
| Bryophytes | 3 | 1 |
| Pteridophytes | 3 | 1 |
| Gymnosperms | 6 | 1 |
| Angiosperms | 425 | 94 |
| Total | 449 | 100 |

Amongst the various families plants in Gujarat University, the dominant are Arecaceae (23), Poaceae (22), Papilionaceae (22), Euphorbiaceae (18), Asteraceae (18), Caesalpiniaceae (16), Malvaceae (15), Mimosaceae (14), Convolvulaceae (12), Acanthaceae (12), and Apocynaceae (12).

| Living Organisms | Total number | Family | Genus | Species |
|------------------|--------------|--------|-------|---------|
| Algae | 12 | 12 | 11 | 12 |
| Bryophytes | 3 | 3 | 3 | 3 |
| Pteridophytes | 3 | 3 | 3 | 3 |
| Gymnosperms | 6 | 4 | 4 | 6 |
| Angiosperms | | | | |

| | | | | |
|---------|------------|------------|------------|------------|
| Trees | 96 | 36 | 73 | 96 |
| Shrubs | 81 | 31 | 63 | 81 |
| Herbs | 154 | 50 | 115 | 154 |
| Grass | 22 | 1 | 17 | 22 |
| Climber | 49 | 24 | 42 | 49 |
| Palm | 23 | 1 | 19 | 23 |
| | 449 | 165 | 350 | 449 |

The recorded floristic species in Gujarat University are adding up to 449 including Algae (12), Bryophytes (3), Pteridophytes (3), Gymnosperms (6), and Angiosperms (425). There are 425 species of Angiosperms belonging to 165 families, Genus 350 and Species 449 of floristic diversity of Gujarat University.



Biodiversity
It's Your Life, Protect it

GARDENING WITHOUT SOIL

Urvi Gupta

What do you think when you hear the word garden? A place of tilled soil filled with beautiful flowers and vegetables? Can a garden establishment is possible without soil? No.....????? Think again!!!! Seems crazy but it is possible to grow plants above the ground without any soil at all. The key of plant growth is a variety of mineral nutrients, including nitrogen, phosphorus and potassium. If these necessary mineral nutrients can be added into plant's water supply in a medium that can hold plant's roots, soil is no longer required for plant to grow. Variety of things can be used as medium which can hold the roots such as gravel, coconut husks, mosses or perlite. These non-soil materials can provide greater support for the plant's root system.

Long Fiber Sphagnum Moss



Long fiber sphagnum moss is simply dried sphagnum. It is a growing medium with very less nutrient value so it is recommended to use with a complete and balanced plant food for the best result. It is a light and fluffy material with low pH. It is one of the most suitable media because it retains a fair amount of water (keeping roots moist) and also allows a fair amount of air to penetrate up to roots (reducing rot and improving plant growth). Unfortunately, use of peat moss in gardening is controversial, because many people say its harvesting is not sustainable and causes irreparable damage to peat bogs, a specialized plant habitat.

Horticultural Perlite



Perlite is a unique volcanic mineral and made from hydrated obsidian. It expands from four to twenty times its original volume when it is quickly heated to a temperature of approximately 1600-1700 degrees F. With expansion, each snow white granule becomes sterile with a neutral pH and contains many tiny, closed bubbles. Many tiny cavities provide an extremely large surface area to each particle and these surfaces hold moisture and nutrients and make them available to plant roots. It is a versatile substance, lightweight, and holds water well. In addition, because of the physical shape of each particle, air passages are formed which provide optimum aeration and drainage. As perlite becomes sterile on heating, it is free of diseases and insects. Perlite has been used for many years throughout the world for soil conditioning and as a component of growing mixes with materials such as peat moss or bark.

Horticultural Vermiculite



Vermiculite is a member of the phyllosilicate group of minerals, resembling mica in appearance. Vermiculite has the remarkable ability to expand to many times its original volume when heated (a property known as exfoliation). Horticultural Vermiculite improves soil aeration, retain the moisture and nutrients. It is also clean, odourless, nontoxic and sterile like perlite. The pH of vermiculite is essentially neutral. Vermiculite possesses cation exchange properties, thus it can hold ammonium, potassium, calcium and magnesium and make available to the growing plant. As vermiculite is very light and easy to handle, it easily mixes with soil, peat, composted pine bark and other composted organic materials.

Coir Fiber Coco Peat



Cocopeat is the coir dust produces as a bi-product of processed husk. It produced from entirely renewable organic resources with features like increased water use efficiency, superior air capacity and work well with organic and inorganic plant nutrients. Around more than 135 years ago this was first introduced into English horticulture as a growing medium. Cocopeat is a multi-purpose soil conditioner having consistency and uniformity in texture. It is a completely homogenous material composed of millions of capillary micro-sponges, which absorb and hold up to eight times their own weight in water. The natural pH is generally between 5.5 and 6.5 combined with a 30 to 70 percent air to water ratio that assures coir will hold and release nutrients in solution over extended periods with reduced watering. Coir can also be used to grow geophytes in terracotta pots in warm and dry place.

Stonewool Rockwool



The raw material for stonewool, commonly known as rockwool is basalt rocks and chalk. The lava is melted at 1600 °C and after that, blown into spinning chamber which pulls the lava into fibers, much like 'cotton candy'. These fibers are packed into a mat and cut into various sized growing slabs, blocks and the new mini cubes that are suitable for container gardening applications. Stonewool have an excellent quality of holding 1:1 ratio of air and water which is very helpful for oxygenation to the root system. They are very easy to mix with and completely

compatible with other potting mix. Special advantages are achieved by mixing the cubes in with LECA fired clay pellets. Stonewool container cubes are very light weight, weighing approximately a mere 1/10 of the weight of a bag of ordinary potting soil by volume. It has the useful combination of high water retention and high air porosity, so it drains quickly but holds onto water. Being an inert material made from rock instead of organic matter, it does not break down. Rock wool mainly used to grow orchids.

Fired Clay Pebbles



Fired clay pebbles are considered an ecologically sustainable medium as it is derived from a renewable and plentiful source, common clay. They are light in weight, completely reusable and also possess the qualities of being completely inert with neutral pH. The pebbles drain freely and do not hold any excessive water, because of this they provide good oxygen levels around the roots and is the reason they are particularly suited for flood and drain soil-free plant growing systems. Majorly they are used to rose cultivation in green house. In drip irrigation systems the pellets can be mixed with a medium with better capillary action, such as coco peat, so that the nutrients are more evenly dissipated. A complete and balanced plant food is recommended for better results.

Silica Stone



Silica stone's composition is silicon dioxide, which results in the media slowly releasing silica to the plant, it is particularly important to cell growth. It does not break down like other media, and can be used to successfully cultivate plants from seedling to specimen. They are also reusable after a thorough cleansing and its porosity will not clog over time. Highly porous, typical silica stone is capable of absorbing up to 150% of its own weight in water.

Limitations: Plant cultivation without soil is not much widespread application as expected earlier. Main two factors have limited soilless methods of production: First, economic considerations and second, commercial growers' unfamiliarity with the management of growing without soil. Growing plants without soil is costly and needs expert supervision. The initial cost is very high. Sanitation measures to prevent disease and insect infestation are essential. To establish an installation for growing plants without soil, the same knowledge is required as is needed for successful crop production in soils.



LESSONS FROM NATURE

Dr. Archana Mankad

“There was this magnificent tree in our garden which we loved and admired. It was a constant in our lives and when it began to die we were devastated. We did everything to keep it alive but the day came when it had to be cut down. When it was removed we felt it was an end of an era and nothing would be the same again. And of course it wasn't - but to our surprise, with this huge tree gone, our garden was full of sunlight. Other plants and flowers flourished and we found ourselves with a whole new perspective. We have photos and happy memories of our tree and learnt a lesson as much as we fear change, it can often bring surprises in its wake”.

It is the same with our life..let us accept change in whatever form, in whatever dimension, in whatever extent, in whatever way..because not all change is for the worse.

One change that has affected us all was the Voluntary Retirement of our then Head of the Department, Professor Yogesh T. Jasrai. Just when we had begun basking in the success of our combined achievements, our plant of hope was faced with this terrible stress of his leaving us. His legacy and ideology has been our guiding force as we learn to accept this change gracefully.

Seasons come and seasons go,

Everything would change as we all know,

But, there will be something as fresh as dew,

And that is the determination of success and happiness, I have for you.



GUJARAT UNIVERSITY BOTANICALS SOCIETY (GUBS)

June 2013 –November 2013 : A recap of activities

Gujarat University Botanicals Society (GUBS) is a society of Staff and Students of Botany, Department of Botany Staff and Students of Bioinformatics and Climate Change Impacts Management of the Applied Botany Centre, Department of Botany. The members participate in various curricular, co-curricular and extra-curricular activities all year round under the guidance of the staff-in-charge. A new **Team GUBS** is selected every year. The office bearers for 2013-2014 are as follows:

| | |
|-----------------|--|
| Patron | Dr.Archana U. Mankad, Head of Department |
| Staff-in-charge | Dr.Hitesh A. Solanki |
| President | Ms.Urvi Gupta Ph.D. |
| VicePresident | Ms.Ancy Fernandez M Sc.SEM III Botany |
| Secretary | Ms.Monica Sachdev M Sc.SEM I Botany |
| Joint Secretary | Ms.Shayoni Sheth M Sc.SEM III Bioinformatics |
| Joint Secretary | Ms.Janki Shah M Sc.SEM III CCIM |
| Treasurer | Mr. Sandip Gamit M.Phil. |

Prof. Yogesh T. Jasrai-Farewell function :The Members of GUBS arranged a get-together for the Head of the Department, Prof. Yogesh T. Jasrai, to bid him farewell owing to his VRS on Saturday, 27th April 2013. Jasrai sir's students and friends not only from Gujarat University but also from MSU, Baroda, Forest Department and other Research Institutes were invited for the function. The programme was referred to as a get-together and was organized by the staff and students of the department. The main attraction of the programme was the **videoshow**, wherein, best wishes messages from friends and colleagues of Prof. Yogesh T. Jasrai, not only from Gujarat University but also from MSU, Baroda, Forest Department and other Research Institutes were recorded as video clips, edited as a one and a half hour movie, appropriately titled as **Yaadon ka Safar** and was shown to Jasrai sir during the function as a surprise. His photos were also compiled as another video, titled as **Some memorable moments** and was shown as a clip during thanksgiving. As nostalgia filled the air, everyone wished him a healthy and happy retirement that is full of contentment and peace. Jasrai Sir's family was also invited and they expressed a lot of appreciation for the staff and students to have made the day memorable for them. The guests enjoyed a nice warm sumptuous meal after the function. Prof. Jasrai planted saplings of sandalwood in the Botanical Garden as live memories for all of us.

Workshop on ENTREPRENEURSHIP - 2013 (WE-2013): Career Planning & Entrepreneurship as Career Choice on Saturday, 27th July - 2013. Dr. Baldev V. Patel, Then Dean, Faculty of Science, Gujarat University was the President for the function. Dr. Rajiv Joshi, Entrepreneurship Development Institute of India, Ahmedabad was the Guest of Honour and the Resource person. The day started with a brief Inaugural function. Dr. B. V. Patel blessed the gathering with his words of wisdom and congratulated the staff and students for the endeavour. A certificate of appreciation was presented to Dr. Rajiv Joshi as a token of appreciation for his efforts.

Dr. Rajiv Joshi gave a quick overview of the workshop to all the participants. The participants (more than 150) were students of Botany, Bioinformatics, Climate Change Impacts management from the Department of Botany, Food and Nutrition from the Department of Life Science, others from the Department of Chemistry, Biotechnology and Zoology. The first Technical session was centred on career planning. The group was divided into six subgroups they were asked to give their group a name and identify their leader. Then they were asked to ponder over and prioritize Education/ knowledge/ skill/attitude for employment. The session witnessed a very enthusiastic discussion which allowed the participants in spelling out their career plans. The second Technical session focused on entrepreneurship as a career choice. The challenges and the risks of being an entrepreneur were illustrated in a very interactive manner. Dr. Rajiv Joshi could successfully emphasize the need to identify long term and short term goals.

University School of Sciences celebrated Teacher's Day on Thursday, 5th September-2013 with a lot of enthusiasm. The function started with a quick Inaugural Ceremony at the Senate Hall. The dignitaries on the dias included Hon. Vice Chancellor, Dr. Mukul Shah, President of the function, Shri Bhalabhai Patel, Trustee, Lions Club, Chief Guest, Prof. Rajshri Bhatt, Head, Statistics Department and Guest of Honour, Dr. Jashwant Thakkar, Member, Executive Council and Guest of Honour, Prof. Nisha Shah, Head, Chemistry Department and Dean Faculty of Science, Prof. S. R. Dave, Head, Microbiology Department and Director, University School of Sciences, Dr. Archana Mankad, Head, Department of Botany and Coordinator EC-2013. Prof. Nisha Shah introduced and formally welcomed the guests. Prof. S. R. Dave highlighted the essentials of the elocution contest that was to follow during the day as part of the celebrations. He rightly suggested that it was not just a contest..infact, it was a reason for the teachers to listen to their students point of view on the various themes. Dr. Mukul Shah, during his Presidential address, very effectively demonstrated the need to "Think out of the Box". Shri Bhalabhai Patel blessed the students and motivated them to perform better inspite of difficulties. Prof. Rajshri Bhatt and Prof. Jashwant Thakkar also blessed the students.

The Prizes for the contest were sponsored by Lion's Club, Ahmedabad (Courtesy, Prof. Rajshri Bhatt, President, Lion's Club, Ahmedabad). Dr. Archana Mankad delivered the formal vote of thanks and further coordinated the **ELOCUTION COMPETITION- 2013 (EC-2013)**. One student from each department of the University School of Sciences participated in the competition. The themes were -

1. *Learn to earn Vs Earn to learn*
2. *Social networking- a boon or a bane*
3. *Vision and mission of the Youth today*
4. *Science education-Challenges ahead*
5. *Social responsibilities of the students*

Prof. B. V. Patel, Microbiology Department, Prof P. N. Gajjar, Head, Physics Department and Dr. Hyacinth Highland, Zoology Department were invited as Judges for the competition. The First Prize of Rs.1000/- was given to Mr. Halvadiya Jaydip R. from Department of Computer Science. There were two second prizes of Rs.500/-each and were given to Mr. Sodhan Harsh S. from Department of Physics & space science & electronics and Ms.Vidhi Vyas from Department of Biotechnology The third prize of Rs.300/- was given to Ms.Kruti Shah from Department of Microbiology. All participants received a certificate of participation.

GUJARAT UNIVERSITY BOTANICAL SOCIETY organized a competition based on **TREES FOR LIFE 2013 (TL - 2013)** for the students of University School of Sciences. The theme was to be represented as a poster / collage / poem / story / model / painting / sketching / slogan / reuse idea / or anything creative to create awareness towards Trees. Prizes were sponsored by **Prof. Rajshri G. Bhatt, President, Lion's Club, Ahmedabad and Head of the Department, Statistics Department, USSC, Gujarat University**. All the entries would be showcased as an exhibition "AWARENESS THROUGH CREATIVITY".

ANKUR:

First Issue of Ankur- the E News letter of Gujarat University Botanicals Society (GUBS) is published in November 2013. Ankur will be published in each semester.. so, two issues in an academic year. The first issue with articles exclusively by Research Scholars is published in November. The next issue would be published in May 2014.

UPCOMING EVENTS:

The much awaited Science Excellence 2014 (SCIXL 2014) will be held on Saturday, January 4th-2014.

Minaxi Lalit Science Award Test is scheduled on Sunday, January 19th-2014.

