EARTH

NEEDS TO HEAL

Parya varnam

ISSUE #1

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I extend my best wishes to the editorial team of PARYAVARNAM for their endeavor for spreading environmental awareness at the most important stage of human life. I am happy that my students are doing such great work for the environment and I'm sure this Newsletter will contain all the necessary information to spread awareness to the people who are clueless.

Chaos, clamor, confusion, misinformation, fear, helplessness are a few words to describe the leitmotif running through the year 2020, with the never seen before pandemic affecting billions worldwide, optimism levels drastically dropped. But, there was one positive ability that we did not let go of, courage; courage to move in the direction of our goals, fighting all odds. And we at DTU instilled confidence and hope in our students to never give up.

2020 also marked unprecedented efforts made by various organizations to study the anthropogenic emissions of various pollutants, which couldn't have been possible without the lockdown. Some of them had collaboration with DTU and to foster a culture of research we encouraged students to make persistent strides in that direction and as this would help us understand the impact of a myriad of pollutants discharged, ranging from vehicular emissions, forest fires to modern-day industries around us.

After a comprehensive analysis on various environmental related issues, it is our moral responsibility to inform every one of the results of our research for the betterment of society as a whole. This serves two purposes; one is to encourage people to take measures that ensure nature remains pristine and the second is to motivate more students to get involved in the research domain on issues related to the environment after all a conducive "environment" is a precursor to a great civilization.

Let's make this world a better place to live. I'm waiting for the first edition to come. It's a proud moment for DTU.

Prof. Yogesh Singh
Vice Chancellor, DTU

The year, 2020 was one that was by no means an easy one to endure, but despite all the miseries it conjured, it also gave us the time to contemplate the true values and roots of the relationship that we have fostered with nature. The reports of drastic reductions in pollution levels and the cleaner appearance of rivers came into limelight during the lockdown, which bears testimony to the fact that "we" are the real problem. Thus, it is our prime imperative to move towards the solution together. In these troubling times, the bright minds discuss the issues while the brightest discuss the possible solutions.

The Department of Environmental Engineering at DTU organizes multiple events annually to contribute towards solving the grand environmental crisis. Moreover, the faculty and the students do their own bit to contribute individually.

It is also important to apprise the general public of the latest developments in the environmental domain to bring out the best in everyone and to enable them to contribute their bit towards nature and society. This newsletter helps us achieve this as a little by the masses is always more than the most by few.

I would like to congratulate the entire editorial team for bringing out the inaugural issue of the newsletter, 'PARYAVARNAM' and would like to wish them immense success for their future editions.

Prof. SK Singh
HOD, ENE Deptt.

As rightly said by Albert Szent Gyorgyi, “Research is to see what everybody else has seen, and think what nobody has thought”, we at the Department of Environmental Engineering, D.T.U abide by the quote by finding new avenues of research in the environmental field to help mitigate the crisis brought in by challenges like the climate change and its offshoots like the global warming.

As we continue to educate ourselves on the dire impact of global environmental issues, it’s necessary that we raise awareness on the same. This would prompt students to truly understand the gravity of the situation and make lifestyle changes which would help them practice a sustainable lifestyle.

Finally, It gives me immense pleasure to be the faculty advisor of the first official newsletter of the department of environmental engineering, PARYAVARNAM. And, I would also like to wish the entire team immense success for their future editions.

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Faculty Advisor

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PARYAVARNAM
PODCASTS

Watch the exclusive interview on scope of Environmental Branch in DTU with HOD of Environmental Department. (Click on the picture above)

Preparing for UPSC with Kumar Vivek

What are you currently doing in life as IRS? So my name is Kumar Vivek. Currently, I'm in the Internal Revenue Service. I qualified for this examination in 2013, so I passed out in 2012. In 2013 I paid for the examination I qualified it, and in 2014, December I joined. After that, I worked in the field formation. I was looking after one GST division and gurugram. And after that, I moved to the Ministry of Finance in the bond set, and currently, I'm in the goods and services tax net. So that is essentially its backbone of the entire GST in India. So I am there for the past 18 months.

Secatibe runtum earum sincilla velenimus auta

How to become IAS – Which one is good self-study or coaching?

A lot of factors. Coaching can give you a sense of direction, what exactly you have to study. And it also gives you kind of a timeline that you have to follow. But he has the right self-studies does it ultimately has to rely on yourself. You have to read the books, even in the coaching institutes. So they're in the duration of two and a half hours. You know, it's very difficult to compress all the information that is required, not for the preparation of Civil Services. So when you come back from the coaching, you have to study yourself.

While preparing, we feel lonely. Many people choose not to do any fun, not to meet friends. Just keep sitting. What do you say?

You know there's a different perception about preparing for an examination. Society will tell you that you have to isolate yourself. You know, for example, people would say, if you want to crack up, you have to completely cut off from society. So you don't have to meet your friends, you don't have to watch movies, you don't have to interact with others. But that is not the case.

PREPARING FOR UPSC WITH KUMAR VIVEK, IRS

A still from the home of Kumar Vivek, IRS Officer

The world has changed. The more you interact with people. The more you are active in the social and I'm not saying that you become so active in your social life that you don't have time for studies, but ultimately learning will come from different directions. Okay. And the more you interact with people. The more you watch movies. Okay. The more you know about social media, you know, the more you interact with your friends, with your family, with everything. It is going to help you in the preparation. I mean, I have seen many of my friends who could not qualify UPC because, you know, they isolated themselves. When you isolate yourself, what happens, you know, you create a kind of a chamber around you. Okay, and everything, equals, then your views become so pervasive that it becomes fossilized. You know socially. When you interact with other people. When you scroll on social media feeds, then you also understandwhat is the opposing view. What is the opposite? You know, you get different perspectives on the same issue. And apart from that. It also ensures, when you are interacting with people that we're not lonely. I mean, ultimately it is going to be your struggle. But if there is someone along with you, then you share the same boat. Then you can share your journey, you can share experiences, and this entire thing becomes very, the kind of strain that you experience it lessons, okay and that's why when I was preparing I had a very close circle. I mean, I had two, three, or four friends. They're all preparing for Civil Services. Okay. And they also qualified for Civil Services. So my journey started.

Some mocks tests are really shitty. We get low marks and think we are not

Some mocks tests are really shitty. We get low marks and think we are not capable. How did you face this problem?

I think if we understand the why of our journey. The walk in the halls will take care of themselves. I mean, when I prepared for when I was preparing for Civil Services, I knew that I am pursuing this journey because I have to qualify the Civil Services and maybe after that, we'll be able to contribute in a much better manner, you know towards nation-building and towards the society as a whole. So when this thing is clear, then all these roadblocks, for example, you're right, you know, maybe in one of the Test series you are in the bottom 20% of the population. Okay. That will definitely discourage you. Okay. And if you're able to overcome that feeling. See, it's perfectly fine to be sad if you're scoring fewer marks in a Test series if you're scoring less than your, you know examinations, and you feel sad about it is perfectly fine, but is not fine, is that if you, you know, kind of let it linger for more than two days, three days, four days five days, that should not be the case.

When did this thing become clear in you, that you will go for civil services?

See, my dad also appeared for similar services. Unfortunately, he gave two attempts he could not qualify. Since childhood, he used to tell me that. Civil Services is the job for you. You must turn or try. Luckily, what happened to me that clicked with me. Okay. It's not like my father wanted something different I wanted something different. I also liked Civil Services. When I was a kid, I was quite infatuated by, you know, by the job profile for civil servants, so I obviously always wanted to practice Civil Services. And when I entered my career.

Also, I knew that one day I had to no appeal at this examination. I pursued engineering because as a Bihari person you always want job security in life, Civil Services, after all, is not easy. You know, each year you have five lakh students preparing for the examination and hardly 800 900 maximums and 1000 people qualified for this. So I knew that it is going to be tough. And that's why I needed a backup, so I pursued engineering. But yes, this thing, it was, since my early childhood.

When you achieve something, like clearing civil service, how does the world change for you?

Afterlife changes. From the struggling phase, you enter into the working phase. Training start with the head and see the first thing is the moment to qualify, in other people's perception about your changes, and I will be very frank about it, I won't talk about relatives they are very supportive. Because, since childhood, they knew that, okay this is my dream and they knew that I'm going to pursue it. But, society as a whole will see you differently. Okay, because until you qualify, whatever hard work and whatever label you are putting into that is immaterial. Okay, I've seen many of my friends who qualify, who did not qualify for this examination, and they've worked really hard. I mean maybe 10 times harder than me, but will society appreciate that will their relatives or will their friend. No. thing, society would appreciate these things, but the moment you qualify, people, even if they don't know you. They will say, Yeah I was sure he would do it. He had the thing and all those comments.

Now they genuinely respect you.

LIFE OF AN ENVIRONMENTALIST, AMRITA KAUR

Life of an environmentalist with Amrita

How was your experience so far as an environmentalist? (Tell us about yourself and more on what you do professionally). I'll answer this question on a lighter note, whenever I refer to myself as an environmentalist to my friends or acquaintances, they're all like, aren't you the same person whose job is to plant trees and stop people from from using plastic straws? And they have plenty of such preconceived notions that are deeply ingrained in many people. This presumption makes our job challenging to explain to the general public and a slightly jocular one. It happens because a career in India related to environmental science is mostly in the EIA sector and a little bit on the remediation side. I work mostly on groundwater remediation, which means I need to figure out sources of contamination in groundwater by Oil and Gas company/ Chemical company using various methods and subsequently analyse its flow and take inference from multiple parameters.

Secondly, what I've seen elsewhere in the world is the approach of product stewardship. I'll elucidate this with an example, let's say Johnson & Johnson or Unilever wants to sell a bottle of shampoo in a particular country, then the first step before getting statutory approvals would be to get the ingredients of the shampoo checked, so that they abide by the local rules and regulations, thereby meeting all safety standards. Solving this conundrum is where our role comes into play as a consultant, where we facilitate the entire operation and ensure that it is a seamless process for MNCs.

Is it that hard to find a job in the Environmental field?

Honestly speaking, it's on the tougher side to get a job in the core sector of Environmental Science because companies tend to neglect this area and more often than not, they look upon this as a burden that puts a dent on their earnings; it's ironical because the situation gets aggravated over time and they have to spend a more significant sum of money than what they had to do in the first place, making this a perfect example of the feedback loop. Now, coming back to the question of jobs, one may find many opportunities under the ETP, WTP or EHS domains, that are pretty much related to the core environmental science stream, but it also involves a bit of Civil engineering. So, one should be optimistic regarding jobs and grab one under any domain to have a great head start.

It's the vox populi that there are ample opportunities in the Environmental field abroad? What's your take on this?

When I was about to pursue my masters this was what I had heard precisely, and I won't deny this fact, but I think of myself as an evangelist who touts the idea of staying and working in your own country. But personal views apart, jobs in the environmental sector are mostly the field ones, and one should not expect to get a desk job right from the beginning. This question also reminds me of my former colleague who works at the north pole for nine months in a year at sub-zero temperatures and happens to be an environmental engineer. So, working abroad requires extreme dedication and determination. But then, working for the environment gives you immense satisfaction and internal happiness.

What would you say to students who compare EN and CS branches only in monetary terms?

Students from CS background should benchmark themselves within their field because comparing themselves with EN field is like comparing apples and oranges; job satisfaction is much higher in the EN dept. after a period of over 5 to 7 years, and they also get to roam around and collect samples rather than sitting in front of a computer for hours.

How about colleges and courses abroad (in Environmental Engineering)?

Well, students should not be vying to pursue MS specifically in the USA. Like Switzerland, many other countries have universities offering excellent courses. There, one should pay attention to specialisations like hydrogeology, water system designs, soil profiling, etc. because there aren't courses that encompass a myriad of disciplines.

PLACEMENT GUIDANCE

Abhishek Sharma
Placement Coordinator, ENE Department

Well, most of us already know you as the president of SCEE and the TnP head of the Environmental engineering branch, so instead, we would love to know what your personality is like.

I am originally an introverted person, but after being at the receiving end of various opportunities in SCEE and the Training and Placement department, I have become an extrovert and have started interacting with different people.

Is there a particular skill set one needs to have in order to catch the recruiters' attention?

After interacting with HRs of several accomplished and reputed companies, I have realised that in prestigious colleges such as ours, almost all students have a similar portfolio, and in the end, it's about choosing the best from the best.

Things that may give an edge to one over the other, I believe, is how much they have done and accomplished aside from their academics. This involves research work and roles in different societies and organisations.

The recruiters don't want to just hire engineers, they believe in hiring future CEO's and CFO's. They're ready to invest in you, and hence look for something that stands out in you during the time that you spend with them.

How does one negotiate with the recruiters on matters such as salary?

I believe it's a very bad habit to negotiate with the recruiter, in most interviews the recruiters mainly study your analytical skills. This includes what part, and what role you can play in their company. Moreover, life is very unpredictable and money will come and eventually go. So it's necessary one focuses more on building their experience and abilities rather than focusing on money, and the brand value of top notch companies. It's important that you work where their passion lies. You must identify your abilities, qualities and apply for those posts and companies which are looking for a similar portfolio and share similar principles.

> "I BELIEVE ITS HOW MUCH THEY HAVE DONE AND ACCOMPLISHED ASIDE FROM THEIR STUDIES AND CURRICULUM"

Could you shed some light on the art of resume building?

Well the best part of college is the exposure one can get. Everyone must indulge in lots of activities and try out new and different societies. Trying out new things, helps one realise their strong and weak points. For example I personally didn't have any interest in programming languages and hence knew not to apply for such job roles. Prepare your portfolio according to your strong points, and their interrelation to the specific role of the company you are planning to apply to.

How should one apply for off-campus internships?

One thing that you should absolutely avoid doing is making a LinkedIn profile and keep sending recruiters your resume through it. In such cases one ends up disturbing the recruiter, and is often ignored. The best thing you can however do is, establish a close relation with the recruiter or the HR of the company you're interested to work with and then work towards the role.

Is it important for a first year student, or for someone who's in college, to join a society? Is this particular criteria helpful when it comes to the prospect of placements?

From the perspective of placements, it is not mandatory for one to be a specific part of a society. Societies aren't only for enhancing your resume, they provide you a platform to develop your personality and realise your passions. So for the first year, I would suggest that instead of focusing on getting a POR, they should focus on the exposure.

A piece of advice to Abhishek Sharma from 4 years ago, sitting at the orientation.

I have no regrets with respect to my college life. All I would want to say to my past self is that you're going to embark on a journey of making very good friends, exposure, self-growth whilst making memories and meeting amazing people.

> "ITS NECESSARY ONE FOCUSES MORE ON BUILDING THEIR EXPERIENCE AND ABILITIES RATHER FOCUSING ON MONEY."

STUDENT BLOG

5 TOP HIGH-PAYING PROFESSIONS FOR ENVIRONMENTAL ENGINEERS

It's not your fault if you think environmental engineers don't get paid much because the world has spoken a lot of lies.

Then let's ignore this one too.

Countries are getting more conscious about the environment. Now we are not in a position to destroy the resources we are left with. So who's gonna benefit from these "green-eco friendly" dreams? You.

That's a wrongful conviction.

By doing a little bit of effort and smart work, you will be getting a handsome package with a reputed title.

The positions or titles given here are not confined to a particular country (Yeah, they might not be available in India).

You have to put your foot outside for some of the titles, but it's worth it.

After all, you will be a "planet-saving-hero".

Ready?

1. Geoscientist

You must have a master's or a doctoral degree to choose this profession. Yeah, this is one of the top-paying positions so they want you to be a pro in geology, earth science, and geoscience.

As a Geoscientist, you will do a range of investigations in seismic surveying, satellite imagery, and many more.

You would be mainly working for the oil and gas industry as they really need a geoscientist at their plant.

The average median salary for a Geoscientist is $92,040 and the top recruiters (the big fishes) in the world are Conoco-Phillips, Langan Engineering, and Environmental Sciences.

2. Hydrologist

One of the reputed titles for an environmental engineer.

Again, a master's or a doctoral degree is appreciated for this title because a good hydrologist takes a lot of money from the firms.

You will research how water is circulated and distributed. You will be responsible for Conducting storm and watershed water studies, installing water quality instrumentation, preparing maps of hydrogeology data, and the list is on and on and on.

But for that, you will be getting $81,270 (average median salary).

3. LEED-accredited design professional

It stands for Leadership in Energy and Environmental Design and again a very high paying profession.

This title is somewhat different because you will need some architect skills in this job, but yeah, it's a different path for an environmental engineer if $56,000 to $118,000 sounds impressive to you.

4. Environmental Engineer

Now, don't think an environmental engineer doesn't have a good package.

You just have to look for big fish.

Some of the companies which really pay well (Yeah, they are not in India) are AECOM Technology Corporation, HDR inc, Jacob Engineering group, and Bechtel.

The average median salary you will get in this profession (if you take smart decisions and look for top companies) is $88,860 per year.

5. Chief Sustainability Officer

Now, this is a new title in this industry and the highest paying as compared to all the other options given above.

In this role, you will be responsible for an organization's objectives and initiatives relating to sustainability.

It is the top position in environmental engineering and only a few companies offer this title, but it is expanding day-by-day.

For CSO, the average median salary is $200,140. Although the data varies from site to site and country to country.

If you are someone who wants something big for himself and is really interested in Environmental Engineering then you can earn a lot while saving the planet.

SUSTAINABLE STARTUPS

-Thinking Green

Seutus Waste Management Pvt. Ltd.

What is your startup about and when was it started? Seutus Waste Management Pvt. Ltd. is a waste management startup and e-commerce platform for waste management solutions and technology. Seutus was started in the year 2018 and incubated in DTU-IIF. Seutus is also involved in waste management compliances and offering various waste management solutions which are already existing in the market. Using its e-commerce platform, it allows various sellers to list their technology on the website. Moreover, Seutus is also engaged in providing new eco-friendly alternatives to various household products. The organization is working to develop an advanced technology, which is a smart bin. It is an artificially trained model which can segregate waste into organic and inorganic using artificial intelligence and the biodegradable waste will be further degraded into compost.

How did you manage your time whilst starting up a new venture and studies?

Devoting the time to academics with parallel involvement in a startup is challenging but manageable. Since my startup was incubated in the DTU-IIF, we had office space on the DTU premises so, after my college classes, I went there to do the startup work. Usually, we spend our weekends and holidays on this but I believe it is an investment. DTU IIF is 24x7 open so during my weekends, I stayed there to complete the work even during the night.

How is DTU helping their students with start-up ideas?

DTU has an incubation centre to promote startup culture in the college. DTU IIF helps college students in many ways to stimulate the growth of their startup inside the college during academics as they provide office space, expert guidance, a startup ecosystem, and also provide a chance to get seed funding.

Is it a tough process of applying for incubation?

> “SMART BIN: AI POWERED BIN THAT CAN SEGREGATE WASTE INTO ORGANIC AND INORGANIC”

EFFECTIVE WASTE MANAGEMENT RIGHT AT THE SOURCE WITH BEING CUSTOMER CENTRIC AND CONSTANTLY INNOVATING.

- SEUTUS

Applying for DTU incubation is a simple process. The interested students can take a form from DTU-IIF in which they are supposed to give all the details regarding the startup like the idea, inauguration details if inaugurated, team members details, market size, etc. The shortlisted startup gets a call for an interview in front of the committee where they are supposed to pitch the idea, progress, prototype, or POC if developed, etc. Following this, the committee would finalize the startup.

In these unprecedented and trying times would you suggest students to start a startup knowing the ins and outs of the whole process?

Any economic crisis would definitely be a challenging phase for the startup but if you have the intent to overcome the situation, you can continue at a slow pace and not stop completely. Our team has faced many such ups and downs but we were involved in part-time or small jobs to cope up with the financial falls. I would recommend startups to always try to get into the real market with your product or service even if only the prototype is developed because it helps you in understand the flaws, demands of consumers, gives a good idea of competitors, etc. Another thing to do is to avoid your startup from registration (Pvt. Ltd.) during the initial phases to save money as this process requires a lot of funds and you can instead invest funds in the product, service development or execution.

> “DTU IIF: PROVIDES OFFICE SPACE, EXPERT GUIDANCE, STARTUP ECOSYSTEM AND A CHANCE TO GET SEED FUNDING.”

Paryavarnam: The Environmental Newsletter

#paryavarnam

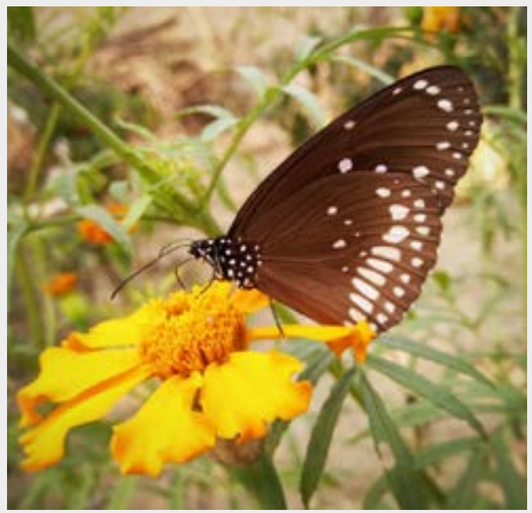
TO GET FEATURED

@frame.bliss

1. "NO STRINGS ATTACHED"

@frame.bliss

2. "SPOTLIGHT"



@realistic_moment

3. "THE BUTTERFLY EFFECT"

4. "SPIDER FAR FROM WEB"

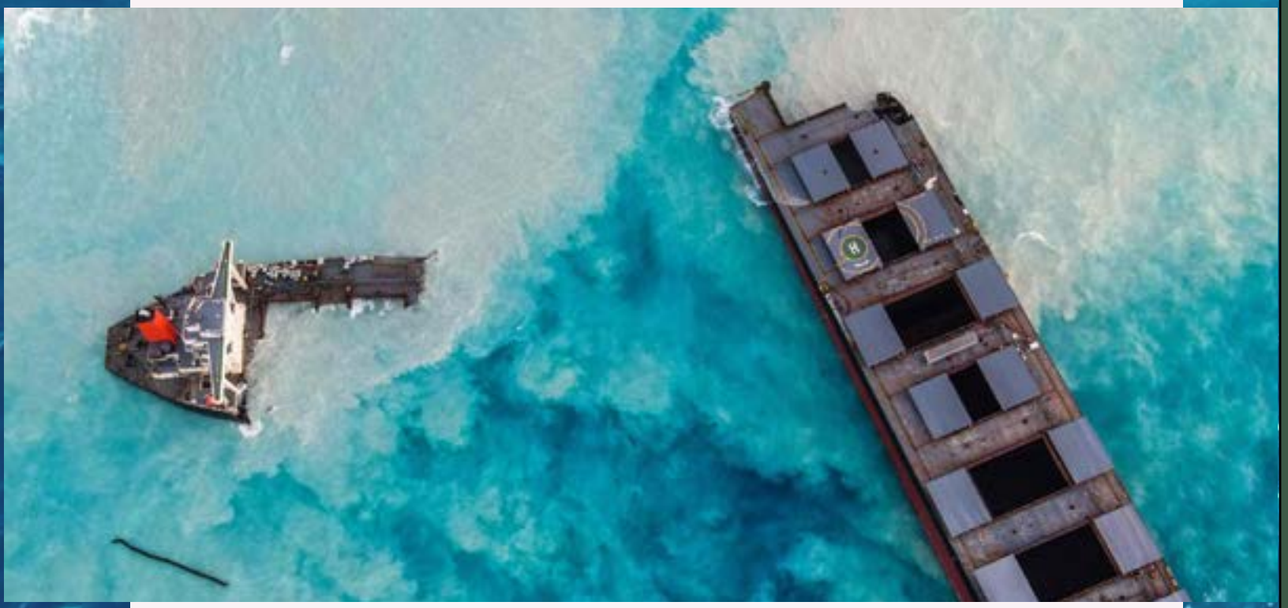
@realistic_moment

LAYERS OF DEATH AND DESTRUCTION

(An in-depth analysis of Mauritius' oil spill)

Mauritius' already fragile economy received the final nail in the coffin after yet another disaster struck its coasts. Although, there had been several oil spills in the past, but never had anyone seen one of such magnitude. An estimated 1200 tonnes of oil was spilt directly into the open waters when the ship's hull cracked open. Such was the 'pandemonium', caused by MV Wakashio that ran aground on the shallow reefs off Mauritius' south-east coast in July that scientists were left wondering whether the true extent of its consequences could ever be calculated or tamed. Our estimates assert that this is an imminent, catastrophic ecological disaster with effects that will last for decades.

It is important to discuss its effects because only an exiguous number of areas with such rich biodiversity are left on the planet. The Mauritian marine environment is home to 1,700 different species, including around 800 types of fish, 17 kinds of marine mammals, and two species of turtles. Coral reefs, seagrasses and mangroves make Mauritian waters extraordinarily rich in biodiversity which famously houses several endemic species like the Mauritian Parakeet and the Pink Pigeon.



Source: New York Times

The short-term impact of oil spills on Marine Ecosystem is well known and includes fish and turtles' deaths in huge numbers. The sea-faring birds would face a strong blow too as they would lose their ability to fly as their wings succumb under the heavy oil. As the oil covers the surface of the coasts of Mauritius's pristine waters, it curtails the amount of sunlight and oxygen passing into the water.

This, in turn, suffocates marine life and causes it to enter a dangerous state that experts term as "heat coma". Also, the oil spillage adversely affects the entire marine food chain, starting with plankton, down to the bigger fishes and reefs. The microscopic organisms like planktons or marine drifters that live in ocean depths will now be deprived of the sunlight necessary to make food, and hence, they will eventually die. The death of planktons unnaturally would mean a lack of producers, thus shaking the very foundations of the pyramid of energy flow.

After skimming the shallow ponds of the short term effects, now we enter the deep blue sea of disastrous incubated effects on the Mauritian Marine environment. As the spilt oil settles down on the sea bed or gets washed ashore, it would start mixing up with the soil. This would ensure that the pollutants find a way in the food chain and begin causing long term impacts after teaming up with biological magnification. Another way the oil spill affects over longer periods is by causing forced evolution. As the oil spill permanently alters the Mauritian waters' ecosystem, several endemic local species will have to evolve forcefully. Those that manage to do so will survive as the others will live on as names in the books of natural history.

Several other issues will arise as the pollutants begin entering the eggs and begin affecting embryos of turtles, birds and frogs in and around the area. Therefore, the oviparous species will witness unprecedented numbers of birth defects and health issues as their numbers continue to dwindle. Also, the reef might never recover entirely and reach its days of health and prosperity again, thereby making the area lose its identity gradually as a renowned biodiversity hotspot.

The cleaning process had to get underway as soon as possible, to cover up the mess, and the responsible authorities didn't disappoint. It is truly stated that time is of the greatest importance while cleaning up any mess, especially ones caused by an oil spill. All the world needs to do now is, speed up the cleanup and ensure complete monitoring of the area. Also, the oil logistics and transportation division needs to take longer and faster strides in this domain. Time is indeed the best healer but what is worth mentioning is that, while time does heal cuts and bruises, no amount of time could ever heal a severed head.

Source: Climate Home News

By Hritwik Anshu, Hrithik Vats

THE WAVE OF SHOCK

(An in-depth analysis of the Beirut explosion)

It was a seemingly ordinary day, by 2020's standards, when a small fire began near a couple of warehouses by the port in Beirut. Little did the authorities remember that 2700 tonnes of ammonium nitrate and other combustible materials were stored with no fire safety measures in place, in quite an optimistic manner several years ago. As legend has it, those who celebrate the glass being half-full for too long, often spill it completely.

The fire expectedly spread to the warehouse triggering an explosion of great magnitude. The video quickly went viral, but it failed to capture the tangible on-ground impact, intensity and the effects of the explosion. According to Greenpeace, it can't be stated with assurance that what else exploded along with the significant amount of ammonium nitrate. Although damage to life and property was huge, this article will focus mainly on the long term impacts for the environment due to the blast. It is still not a cakewalk when we plan on estimating what environmental damages the city will have to bear due to this menacing explosion. The obvious challenge that the city faces is the disposal and recycling of 800,000 tonnes of waste generated by the explosion. This article tries its best to cover every other issue created by the explosion apart from the obvious.

Source: New York Times

The chemical reaction that triggered the blast also forms byproducts, mainly oxides of nitrogen and ammonia gas. Although these gases are harmless when released in lower concentrations, however in such huge volumes, they pose a challenge, especially when they are mixed with the alarmingly high levels of destruction dust and glass particulates. All this together, have caused the levels of PM 2.5 to shoot past the safety limit by 150%.

Respiratory disorders, for one, have become very frequent after the tragedy, not only in humans but also animals. The plantation also seems to be negatively affected by the aftermath. The deaths and diseases are the short term impacts; the bigger picture of the blast reveals that it has allowed concrete and glass microparticles to enter the food chain. Now, biological magnification will ensure that humans are affected the most in the long run as such foreign particulates assimilate, with no resistance, in our body. The hazardous effects on health have thus only begun.

The shockwave that followed the blast destroyed underground roots, burrows and compromised several other little essential constituents of the ecosystems that throng this planet. Even after all this has happened, humans with their fighting spirit aided by hope will continue on their quest to rebuild the city, as the animals that are now homeless and hungry will look for a new home. Those animals that choose to stay will have to improvise and adapt to overcome or eventually perish in the very place that once sustained their lives.

The open sources of water and food are compromised too until studies are complete. Over the course of time, water quality has decreased dramatically in the area around the explosion due to repeated acid rains. All this is coming at a time when everything was hanging off fragile strings of positivity and hope in the middle of the pandemic. But, always remind yourself that hope is a good thing, maybe the best of things. And no good thing ever dies.

Source: BBC

By Hritwik Anshu, Hrithik Vats, Lakshya Sethi

THE FIERY HELL "DOWN-UNDER"

(An in-depth analysis of the Australian Bushfires)

Calling the year that was 2020 an eventful one, would be nothing short of an understatement. Signs were clear that disaster was lurking around when we entered the year with the Australian bushfires blazing past everything in its way. A fire of immense magnitude, spewing 400 million tons of carbon dioxide into the atmosphere; just to put the numbers into perspective, Australia's average annual emission is 540 million tons. Several articles, blogs, and magazines highlighted these fires' direct impact economically, environmentally and ecologically in that order.

This article, on the other hand, would not focus on the obvious, popular and well-studied effects of the fire; instead, this would highlight the impact that went unnoticed because they posed no immediate threat, but have immense potential to transform into menacing challenges for the future. Apart from the damaging effects on wildlife, the economy and the atmosphere, the fires created a multitude of other diverse problems including- Soot assimilation and Food Web transformation.

Source: New York Times

Soot Assimilation has various impacts, of both types, incubated and immediate. Immediate effects like the soot raining down on water bodies are detrimental and can cause a sharp increase in the levels of contaminants in freshwater bodies, rendering them unfit for consumption due to the resultant algal blooms. Several water bodies in and around Australia and New Zealand had to undergo deep cleaning to preserve aquatic life and protect the region's already scarce freshwater sources. Another alarming target of the soot materialised in the form of the glaciers in New Zealand.

As a consequence, a considerably large number of animals were brought into New Zealand unnaturally, by human means. This has now altered the food chain, for instance, the predators now have a brand new easy target in the form of the slow Koalas, and the eucalyptus trees now have new inhabitants. Also, the remaining predators and the prey in Australia has to resort to newer creative ways of seeking food. As the quest for food becomes difficult, many animals have resorted to unnatural diet and habits to sustain themselves, causing a permanent change to the structured food web. Although this does not seem like a significant issue, this will prove to be remarkably destructive when through permutations and combinations, one species separates itself from its identity as someone's prey and begins to feed and breed exponentially in newer ways. Like the instance of the Cane Toad, that was introduced in Australia as a solution to the pesky pests, but itself became a leading ecological concern causing the extinction of several species trying to find a place in the food web of a new ecosystem.

This article in itself is just the tip of the massive iceberg, or perhaps gas cloud would be more apt, of the global and lasting impacts of the bushfires. On a personal note, I feel it is better to be aware enough to react effectively in the future than to be oblivious and move on in the pursuit of "futile materialistic progress."

Source: New York Times

By Hritwik Anshu

FACULTY NEWS

Dr. RK Mishra

ODD EVEN 1.0 CUT POLLUTION: DTU STUDY

According to Vice Chancellor of Delhi Technological University Prof. Yogesh Singh, a special team of DTU headed by Dr. RK Mishra. did a special study on roadside pollution during Lock Down. The Vice Chancellor said that this research proved that the answers of nano particles which have a worse effect on the human body.

Releasing the report of the study of the Delhi report, it said that like January 2016, in November 2019 also implemented by the Delhi government and the Odd-Even scheme has recorded a decrease of air pollution. In this time DTU Vice Chancellor Professor Yogesh Singh said that efforts to reduce air pollution caused by means of transport in Delhi were implemented last year by the Delhi government in the last month of November and Dr. Rajeev and his team on various schemes has also studied this time.

Hindustan Times - Odd-Even 1.0 cut pollution: DTU Study.

Manish Sisodia (Deputy Chief Minister of Delhi), Dr. RK Mishra, Arvind Kejriwal (Chief Minister of Delhi)

According to study, the first phase of the odd-even vehicle rationing scheme in January 2016 brought down the level of particulate matter (PM) in the city's air by 4.7 to 5.7 %, a study by the Delhi Technological University has found.

Dilli Jagran - Delhi has studied, there's a decrease in PM from 2.5 to 5.73 % in just 15 days of trial of odd-even rule by Delhi Government.

DEPARTMENTAL EVENTS

PLANTATION DRIVE, NSS

SUSTAINABLE MENSTRUATION WORKSHOP, GIRLUP

PROJECT MILAN, ENACTUS

ENVIRONMEN-TALLY-FRIENDLY DRONES, UAS

FIT INDIA PLOGGING RUN

NSS DTU

GIVEN THE INCREASED FELLING OF TREES, A COLLEGE-WIDE PLANTATION DRIVE WAS HELD ON 27TH AUGUST 2019 IN AN ATTEMPT TO CONTRIBUTE TO A GREENER CAMPUS. LED BY DR. PRAVIN KUMAR AND OTHER FACULTY MEMBERS, OVER 50 SAPLINGS WERE PLANTED.COMMEMORATING 5 YEARS OF THE SWACHH

THE WORKSHOP WAS ORGANIZED BY GIRLUP-DTU IN COLLABORATION WITH GREENSPHERE IGDTUW ON 31ST OCTOBER 2020. IT WAS A HIGHLY INTERACTIVE ONLINE WORKSHOP ON SUSTAINABLE MENSTRUATION WHICH HIGHLIGHTED HOW SANITARY NAPKINS AND OTHER SANITARY PRODUCTS ARE HARMFUL TO THE ENVIRONMENT AND SUGGESTED BETTER ENVIRONMENT-FRIENDLY ALTERNATIVES FOR THEM.

girl up

enactus

THE END GOAL OF PROJECT MILAN IS TO COME UP WITH AN EASILY DEPLOYABLE AQUAPONIC SETUP, THAT WILL NOT JUST BE CHEAPER AND MORE FEASIBLE FOR THE FARMERS TO SWITCH TO AND ADOPT, BUT ALSO SIGNIFICANTLY REDUCE THE CARBON FOOTPRINT AND ENVIRONMENTAL TOLL OF SUCH AN INDUSTRIAL UNIT. AS OF TODAY, PROJECT MILAN IS WORKING TOWARDS MAKING THIS MODEL A REALITY ON THE DTU CAMPUS.

UAS DTU IS STARTING A PROJECT IN WHICH DRONES CAN BE EMPLOYED TO BE BENEFICIAL TO THE ENVIRONMENT AS WELL AS MAKE THE STRUCTURE OF DRONES ECO-FRIENDLY. THEY ARE WORKING TO DEVELOP DRONE TECHNOLOGIES WHICH CAN MAP AGRICULTURAL LANDS AND REDUCE CHANCES OF PEST OUTBREAKS; FIND OUT LAND SUITABLE FOR VEGETATION; TRACK ILLEGAL LOGGING, INDUSTRIAL DEFORESTATION, ILLEGAL HUNTING AND POACHING; DISASTER RELIEF IN AREAS WHERE HUMAN INTERVENTION IS NOT POSSIBLE.

UAS DTU

NSS DTU

BHARAT MISSION, A PLOGGING ACTIVITY WAS ORGANIZED ON THE OCCASION OF GANDHI JAYANTI. PLOGGING IS A COMBINATION OF JOGGING AND PICKING UP LITTER ON THE WAY. THE EVENT FOCUSED ON THE ELIMINATION OF SINGLE-USE PLASTICS. MORE THAN 60 PEOPLE PARTICIPATED IN THE 2KM RUN AROUND CAMPUS COLLECTING PLASTIC WASTE.

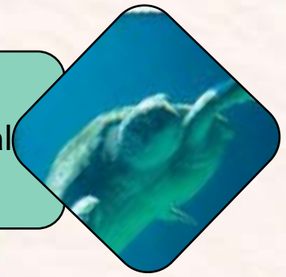
Paryavarnam: The Environmental Newsletter

TOP 10 FACTS

1 Recycling one aluminum can save enough energy to run a TV for three hours.

2 Around 25,000 trees are cut down each day just to produce toilet paper.

3 Approximately five million tons of oil produced in the world each year ends up in the ocean.



4 Seventy-eight per cent of marine mammals are threatened by accidental deaths, such as getting. caught in fishing nets.

5 On average, one supermarket goes through 60 million paper bags each year. Scores of plastic bags are used as well.

6 A glass bottle can take 4,000 years to decompose.

7 Rainforests are being cut down at a rate of 100 acres per minute.

8 The United States is the No. 1 trash-producing country in the world.

9 Ford Motor Company has said that 75 per cent of every vehicle is recyclable.

10 If the entire world lived like the average Indian, we'd need five planets to provide enough resources.

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