

APRIL & MAY '20 | ISSUE 2

VASUNDHARA

ALL ABOUT EIA 2020

DECONSTRUCTION
OF THE DRAFT BY
**LAKSHMI
RAGHUPATHY**

SPECIAL INTERVIEW
KANCHI KOHLI

OPINION
OF THE TERI SAS
COMMUNITY

**& WHY
YOU NEED
TO CARE**



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Editor's Note

After an overwhelming response to our first issue, the Eco Club presents an immodest proposal. Anthropogenic impacts on the environment are already well-documented, and to reproduce data on how grim the situation is would be a futile task. What draws our attention is the global shift towards (or at least the call for) sustainable economics, progressive ethics, green culture and innovation; or simply, the need to restructure existing systems, and to evolve. As the youth of one of the fastest growing economies in the world and as students of nature, what is our power to negotiate within this system? Can we contribute to the narrative at all?

In this *Ecorenaissance*, we seek to answer these questions through Vasundhara. Our aim is to pause and reflect on environmental policies, to understand 'what works', and to emphasize upon the need for us students to become active participants in this global movement. We aim to break, as Žižek points out, our roles as mere 'passive observers sitting and watching what our fate will be'.

“*Renaissance*”, the period between 14th and 17th centuries, is considered as the 'rebirth' of learning in Europe, a revival of ancient arts, science, and philosophy blended with humanism and realism. The word surely rings a bell for humanity. In pre-industrial era, humans took a balanced approach to development and lived in harmony with nature. Today, materialism, consumerism and corporate greed has resulted in rising ecocide. To make things worse, we have anthropogenic climate change, the elephant in the room. Transformation is no longer a choice; it is a necessity. A responsible government, enabling policies, proactive and aware citizens, ethical businessmen, and vigilant and accountable bureaucracy is the need of the hour.

Dr. Fawzia Tarannum

Asst Professor and Programme Coordinator
Coca-Cola Department of Regional Water Studies

The EIA system is hailed as one of the panaceas for environmental management and, in March, a massive overhaul was suggested to its existing checks and processes. However, a steady movement has emerged in protest of such a move, where the draft has been called out for the intoxicating vanity it so promotes. In this issue, we deconstruct the draft and what led to such developments - for which we bring you Dr. Lakshmi Raghupathy, who has played a monumental role in the issuance of the existing EIA Notification itself, and as a special guest, Ms. Kanchi Kohli, one of the strongest proponents for environmental justice in India. We also present the views of the faculty, scholars and students of TERI SAS, to show you how the EIA is more than a regulatory tool; it is a fight for a better future.

More often than not, moral obliviousness is a product of lack of awareness, misunderstanding or misinformation, which may lead us to not take notice of key policy changes at the right time. We hope to shed light on some of the critical issues before the draft itself sees light of day, and encourage your views, opinions and participation in this call to action.

Pooja Chandran



EIA 2020: Explained

Dr. Lakshmi Raghupathy

Former Director, MoEF&CC

Visiting Faculty, TERI SAS

The Environment Impact Assessment (EIA) is a process under the Environment (Protection) Act, 1986, which prevents industrial and infrastructural projects from being approved without proper oversight. Every project is supposed to go through the EIA process for obtaining prior environmental clearance, to assess their potential impact on the environment. EIA covers projects such as mining of coal or other minerals, infrastructure development, thermal, nuclear and hydropower projects, real estate and other industrial projects. Based on the assessments and environmental viability, they are granted or denied clearance by a panel of experts.

The regulatory framework for the EIA process was introduced in the form of an EIA Notification in 1994, under Environment (Protection) Act, 1986 to prevent adverse environmental and social impacts. This notification was amended several times and was replaced with the EIA Notification of 2006 after 11 years. The EIA Notification dated 14 September 2006 was notified for imposing certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts or in accordance with the objectives of National Environment Policy 2006. The system established by EIA notification 2006 was being adopted for over the last 14 years, though there have been issues with respect to EIA reports, procedural lapses during public hearings, monitoring and compliances but was largely acceptable. Despite all this, the EIA 2006 notification has been a popular legislation used by the project authorities, NGOs, and others to reduce the social and environmental costs of projects. This notification has also undergone changes over the years.

POINTS OF DISPUTE

The Ministry of Environment, Forest and Climate Change (MoEF&CC) published the draft EIA Notification, 2020 on its website for public comments in March 2020.

- It shortens the period of public consultation hearings to a maximum of 40 days.
- It reduces from 30 to 20 days the time provided for the public to submit their responses during a public hearing for any application seeking environmental clearance.
- The draft allows post-facto clearance, which means that even if a project has come up without environment safeguards or requisite clearances, it could carry out its operation.
- It allows the declaration of some areas as “economically sensitive areas” without a public hearing or environmental clearance, and several “red” and “orange” classified toxic industries can operate as close as 0.5 km from a Protected Area.
- The validity of the environment clearances will be increased for mining projects (50 years versus 30 years currently) and river valley projects (15 years versus 10 years currently).

THE BASIS

We need strong laws to protect the environment and to ensure that natural resources are available to the poorest whose lives mainly depend on the state of the environment. Any drastic changes in EIA will have a direct impact on the living and working conditions of these people, apart from



the ecology itself. The laws should consider all environmental, economic and social factors.

EIA notifications must uphold the demands of good science of ecology and build on social impact assessment into it to uphold citizen's fundamental rights guaranteed under the Constitution. It must also uphold the well-established principles of environmental jurisprudence, including doctrine of non-regression; polluter pays principle; principle of intergenerational equity, etc.

EIA is an important tool through which the impacts of land-use change, water extraction, tree felling, pollution, waste and effluent management for industrial and infrastructure projects are to be studied and used in developmental decision-making. The long-term public health, social and economic impacts of this global pandemic are also yet to be ascertained.

KEY OBJECTIONS

- The draft EIA 2020 proposed by GOI dilutes the provisions of the 2006 notification, weakening environmental regulatory norms and suppresses the affected communities which is contrary to the Environment (Protection) Act, 1986 and the rules made thereunder.
- It is regressive from the 2006 Notification and is contrary to the Principle of Non-Regression, as it significantly weakens the existing environment laws.
- This goes against the Precautionary Principle, and violates the principles of natural justice and the fundamental right to life guaranteed under Article 21 of the Constitution of India, to protect the environment under the Public Trust Doctrine, and the standards set out in international conventions.
- The proposed safeguards of penalties and compensations are inadequate to counter the inevitable and irreversible ecological destruction.

- The relaxation of the monitoring frequency to once a year from six months may lead to gap in time to flout the norms and will create a lot of room for discrepancies. The monitoring frequency should be as per the requirements of the activity and decided on case by case basis to include the frequency in the conditions and also include surprise checks.
- The draft seems to favour the industries, neglecting the balance between sustainable development and environment protection. The Union government, on the contrary, argues that the new draft will reinforce transparency and expedite the process. However, fragile ecosystems are under threat and will be subject to exploitation.

"It is unethical to notify this when the country is under lockdown and there is no opportunity for public consultation, especially for the affected communities who may not have internet access and may not be able to follow English/Hindi."

- The draft EIA grossly neglects consultation with the affected communities and means to silence voices that are barely heard otherwise.
- Post-facto clearance without adequate public participation is also a point of contention. It is disastrous as we already have several projects that are running without EIA clearances. A case in point is the recent styrene gas leak at LG Polymer Plant in Vishakhapatnam, where the plant had been running for over two decades without clearances. A similar incident involved Oil India Limited in Tinsukia, Assam led to a blowout where the plant had been operating for over 15 years without prior consent.
- At a time when the global community is faced with climate emergency and increasingly intense natural disasters, environmental safeguards should be strengthened and not diluted.

The EIA 2020 has been criticized by environmentalists, ex-bureaucrats and citizens alike. In your opinion, what critical issues within the draft have brought them all together?

The critiques rely on an understanding that an imperfect EIA process is better than not having one at all. It is also based on an understanding that prior assessments using a precautionary approach and public participation should not go missing in any democracy, including India. Therefore, you see submissions which demand withdrawing the notification and reissuing it at a time when more people can participate; seek no further reading down by including exemptions and restricting scrutiny, suggest ways of strengthening regulatory oversight or disallowing with post-facto assessments. All this comes from a growing concerns related to air pollution, water shortages, forest or livelihood loss on the one hand and the global climate crisis on the other.

But why care at all? What is it about the EIA that requires our urgent attention, especially when a health crisis and an economic recession looms over us?

Environment is intrinsic to good health and a good economy. It is not just about trees, birds or rivers but safeguards good security in a lived environment and ecological stability. One of the biggest mistakes we can make is thinking of environment regulations like EIA as a hindrance to economic growth. In the time of economic recessions, we have to be even more careful that businesses don't cut back on safeguards and mitigation measures that lead to toxic breaches or gas leaks. That's neither good for business or for the environment.

Can we find a workaround? What changes would you propose to the current draft to give it more teeth?

As discussed earlier, there have been many suggestions that have been made to strengthen the law and not allow it to be further diluted in purpose. As my colleague Manju Menon and I have learnt through our work and tried to communicate in *The Wire* in June 2020 is that "EIA decisions have broken the links between the rural economy and ecology. Successive governments have wielded India's EIA notification as a weapon against communities surviving on land and forests." The entire EIA regime needs a relook so that it can regain its strength and build in mechanisms to deal with newer challenges like Climate Change. We need the government to have intent, many good suggestions will be reiterated and new ones will follow.

Why the future is ours to mold

in conversation with

KANCHI KOHLI



"As a generation which is and will be the future, your consistent articulation and communication to the government is critical."



What motivated you to take this cause up personally?

I suppose it is the energy of many young people that one sees around. Many of us who have been trying to work with the EIA regime for a while now find it important only if there is public buy-in and demands just as it is happening currently. The history can give us lessons, but the way youth groups, social movements and citizen's collectives have led the campaigns demanding accountability is remarkable and energising.

What are the biggest challenges you have faced and continue to face in this fight? Has the lockdown affected you in any manner?

The lockdown has affected all of us, and most of all those who have faced the impacts of it the maximum. The migrants who walked back home, labourers who lost their jobs, small and medium enterprises who are struggling to cope and communities living around mines, industries or construction sites who are facing the brunt of increased pollution and other crises. But the lockdown has also shown us that it is critical to rethink how the economy is structured, how we treat fellow human beings and how the habitats can heal if given a chance.

What role do you think students play in this ordeal, beyond sending emails to the Ministry or signing online petitions?

Students are the people government would like to speak to. Large infrastructure project and economic growth with high socio-ecological impact are justified for jobs and in the name of the future. As a generation which is and will be the future, your consistent articulation and communication to the government is critical. Individual and peer review of one's own social and environmental footprint is and can be an ongoing endeavor for each one of us.

as told to Pooja Chandran

Kanchi Kohli is Senior Researcher at the Centre for Policy Research, focusing on environment, forest and biodiversity governance in India. Her work explores the links between law, industrialization and environment justice.

Kaleidoscope

by the TERI SAS community



Dr. Manish Kumar Shrivastava

Asst. Professor and Program Coordinator (CSP)
Dept. of Energy and Environment

EIA is the backbone of balancing the imperatives of economic development and environmental protection. It needs to be complemented by social impact assessment for it to be consistent with the broad idea of sustainable development. The increasing emphasis on sustainability, as articulated by the 17 Sustainable Development Goals, necessitates closer scrutiny of any environmental, economic, and social regulation. The proposed draft of the new EIA is being subjected to such scrutiny.

Commentators have raised a number of concerns with the current draft. In my view, two important, and interrelated, points are the blanket exclusion of certain economic activities and the ambiguity about public participation. Exclusions, or rather exceptions, are not new to governance design. In fact, it is a common practice. However, a transparent justification and acceptance of any exceptions by technical experts and the public at

*"Transparency
and public
legitimacy will
hold the key."*

large are absolutely necessary for the credibility of the entire governance architecture. A blanket exclusion is justified only if it is technically proven that the concerned activities have negligible or permissible negative impacts on the environment and people, or if they are absolutely necessary and there exist no alternatives. While the extent of negative impacts and the availability of alternatives is a matter of rigorous technical analysis and justification, absolute necessity is a matter of public legitimacy. The current draft appears to be ambiguous on both accounts. The ongoing public consultation on the draft is a step towards public legitimacy. Hence, it would be absolutely necessary that the concerns raised during this process are taken very seriously and addressed with full transparency. Overall, ensuring that the EIA clearance under the new rules would be a fully transparent process is necessary for enhancing its public legitimacy and effectiveness.

Dr. Arun Kansal

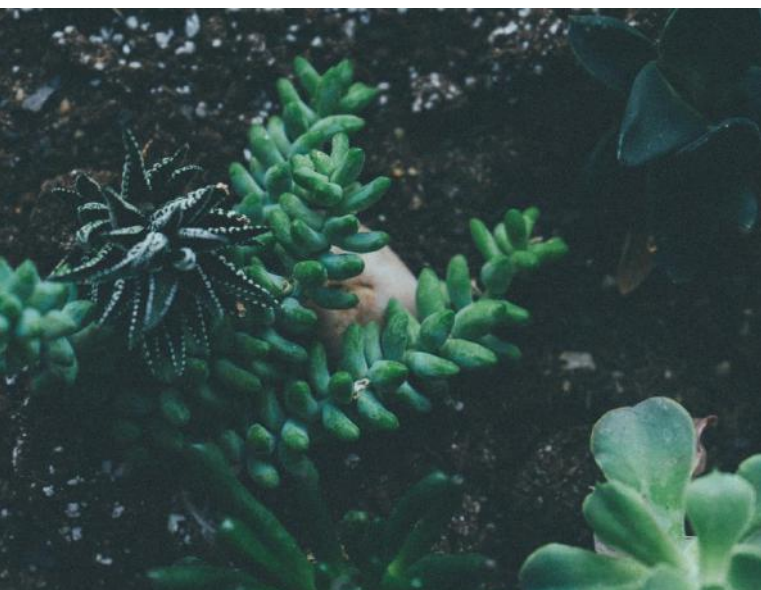
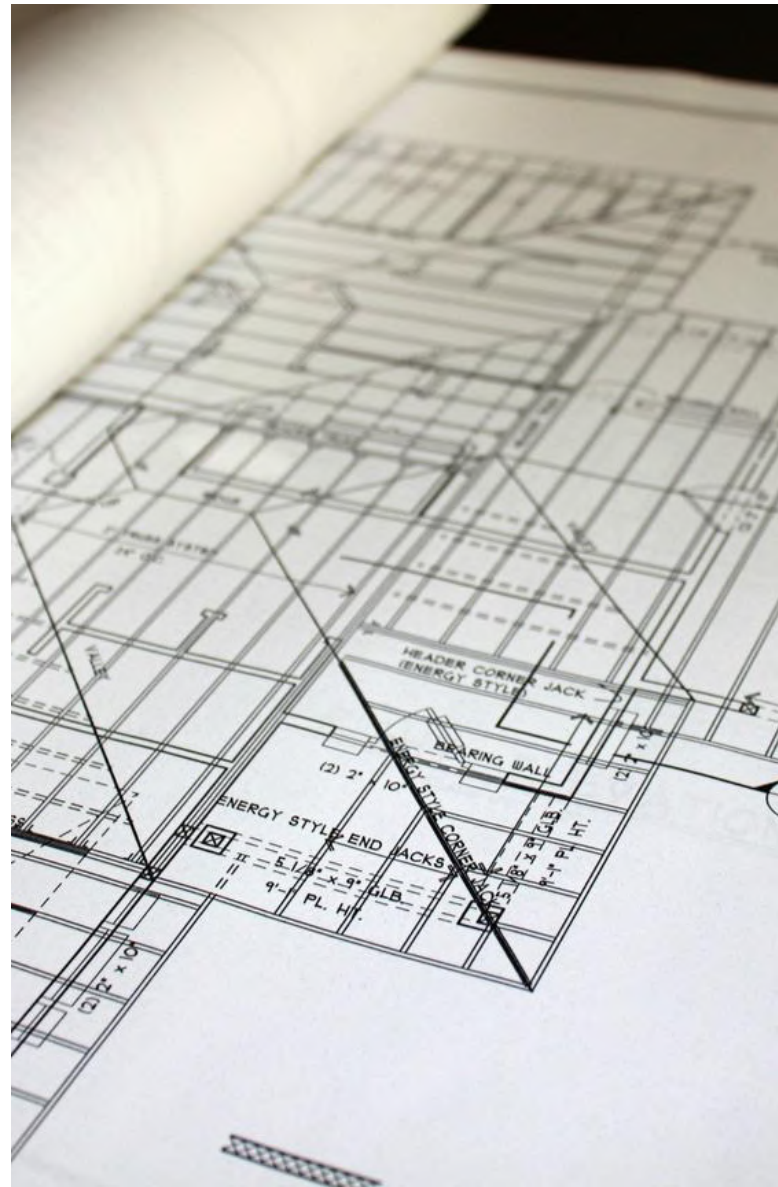
Dean (Research and Relationships)

Professor and Head, Dept. of Regional Water Studies

EIAs are being conducted at an advanced stage of the project when all technical and location parameters have been finalised. The costs of potential delays in securing clearances are often very heavy on industries.

Consultants helping industries to prepare their EIA reports face problems of using poor quality data. Making assumptions to create scenarios and using mathematical models to predict is thus an inevitable part of EIA reports. Often, these assumptions and limitations of mathematical models are used to favour the objective of getting requisite approvals. Many industries thus view EIA as inconvenient legal formality. EIAs are being performed more in 'form' and less in 'content', though some industries have made an attempt for detailed EIAs, despite higher cost involved.

Going ahead, Environmental monitoring plan (an important component of EIA should receive more attention and be used strictly during implementation of the project itself. This will help to make adjustments in the project design to mitigate negative impacts. Government should financially support NGOs as they can ensure credible public hearings and participate in tracking implementation of EIA commitments.



Dr. Chubamenla Jamir

Asst. Professor

Dept. of Energy and Environment

There are several areas of concern in the proposed Draft EIA 2020. Two key concerns are;

1. Increase in the validity period of various projects such as mining, irrigation etc. With the rapid changes in developmental activities and the increasing rate in environmental degradation and unprecedented climate change, there is an ever-increasing need for frequent appraisals of the existing systems.
2. The exemption of requirement of EIA for a number of modernisation projects.



Dr. Shruti Rana Sharma

Asst. Professor

Dept. of Business and Sustainability

EIA is an important process for evaluating the likely environmental impact of a proposed project. Streamlining the EIA process and bringing it in line with recent judgments are the reasons given by the government for latest notification. But the Draft EIA Notification disables it, shrinks its scope and removes what teeth it did have. The most devastating blow to the EIA regime is the creation of an ex-post-facto clearance route.

On a positive note, the 2020 draft notification has a clause dedicated to definitions to several terms related to EIA. It may be beneficial in the sense that it consolidates the EIA rules and has the potential of alleviating some ambiguity in the present law. Environmental regulation must balance damage to the environment with sustainable development and possible benefits but the new notification lays more emphasis on the benefits and so must be reconsidered.

Muneer Ahmad

Ph.D Scholar

School of Life & Env. Sciences,
Faculty of Sci Eng & Built Env,
Deakin University, Australia

The EIA in its original arrangement comprehended the pre-facto appraisal of environmental impacts that could lead a balance after execution of the project. On the contrary, the draft 2020 EIA provides for post-facto clearance; this is a catastrophe in making. We have specimens of 2013 Uttarakhand floods, the recent gas leakage incident in Andhra, Assam gas blast incident. Also, after 2006 the protocols have been flouted, there has been a unceasing dilution of scientific scrutiny.

The 2020 EIA draft was made public during the COVID pandemic and various projects have been cleared without following the scientific and structured norms. This was done during the pandemic behind draperies by MOEF, the public participation has been done away with, notice period reduced to 20 days: all this voices itself vis-à-vis the intentions of the govt which only is a string-pulling towards the capitalist and industrialists keeping the environment and nature on edge.





Source: CNN

Jaya's House: A True Story

Bhawna Vij

PhD Scholar

Dept. of Business and Sustainability

If you travel to Kolkata and take the “Ma” flyover towards the airport, at the eastern bypass, you would see monolithic buildings under construction; the most impressive being the Trump Towers boasting of luxurious apartments with a terrace pool; or “The Atmosphere” with a sky walk connecting two buildings. These are meant to be an aspirational dwelling place for the top 1% of Kolkata’s movers and shakers.

But not everyone is as lucky or with resources to aspire the Trump Towers or Atmosphere address. For them, a single storey pucca house in a remote village is the pinnacle of achievement.

Jaya is the quintessential migrant worker, who had stepped out from her village in Sunderbans for better life and prospects in Delhi. She and her husband worked day and weekends to build a corpus of money, “to build our house in the village”.

Last summer, she took leave to visit her village to build a pucca house, with all her savings. This summer, it was no more. The Amphan supercyclone had ripped it apart and levelled it to Earth.

Sunderbans is not a piece of land. It is a river. Its depositions form the many islands within the delta as the river meets the Bay of Bengal. Within this ecosystem

lies Jaya’s village, fortified by dykes, so that it is not engulfed by the bay. “The dam has broken and the river is flowing into the village.” said Jaya.

She had not been able to connect to her mother in the last two days as the cyclone ravaged the coast. “I heard that my school building has been ripped apart by the strong winds. Our prawn farm has gone.” She sobbed over the telephone. “I wish I had completed my studies and took a job at Haldia (refinery) like other girls.” she ended. With the torture of the lockdown in place and broken communication network, she could only pray for her family.

When a disaster strikes, we rush to save what we can, moving who we can and once its struck, rehabilitating those affected. But we also start a blame game. Who was responsible? Were the local authorities not working with the centre? Who’s responsibility is it to rehabilitate the affected? Isn’t it climate change? A few organisations and activists would pip in an “I told you so”. Some others would start a campaign for helping the needy, sometimes not knowing exactly what was needed.

Or was Jaya’s decision in building a pucca house on the fragile coastal land, a bad decision altogether?

Students

Shubhangi Singh

MSc, PBT
2019-21

The impact of recent COVID-19 pandemic has shown the effects of human activities on climate & environment altogether and the importance of taking measures to protect our environment instead of giving a green light towards its destruction. The draft must be withdrawn!



Akansha Sharma

MSc, ESRM
2019-21

Environment will not spare us if we don't protect Mother Nature! Coronavirus is the best example for this. Our house is already on fire. Giving industries right to pollute more is just going to make things worse! Government should listen to our voices. They cannot ignore us and our future.



Anshula Singh

MSc, PBT
2019-21

Draft EIA 2020 is the new virus with corporations as its host and we need to stop it from spreading as there is no vaccine available to cure it. Once legitimised, it will do more harm to the environment than the COVID-19. Us biotech students understand the essence and value of Nature.



Kasvi Singh

MSc, Economics
2019-21

The EIA has ensured enough loopholes for political and bureaucratic stronghold to persist in development projects. Ill-defined concepts used for an already complex subject matter provide enough leeway for industries and powerhouses to achieve their goals, with complete disregard to the real aim of environment protection.



Gauri Menon

MTech, WREM
2018-20

At a time when we need laws that ensure a clean environment, the EIA 2020 fundamentally dismantles environmental safeguards for ease of doing business. The new draft limits public participation and also provides post facto clearances. Community participation is essential in safeguarding the environment. Only money cannot feed us.

Ilma Afzal

MSc, CSP
2019-21

Most Indians are dependant on news channels to update them about the current affairs. What numbs me the most is that there are people who are still not yet even aware of the dilution of EIA taking place in 2020. It maybe because the Indian news channels fail to display matters of the environment which could be resolved if all of its citizens become aware and unite as one.

Aishwarya Kulkarni

MA, SDP
2018-20

No requirement of new appraisal process for expansion /modernization in existing production. Irrigation projects which are known to be disastrous for river ecology and even its existence have been put in a category wherein detailed EIA will not be required. These and other important points need to be debated through public and expert participation and revised or dropped entirely.

Haripriya Eswaran

MSc, ESRM
2019-21

2020 draft is a clean hit to destroy the environment legally, with consent from MoEFCC. The reduced time for public consultation, ex post facto clause feels like the govt. has lost interest in protecting the environment. It is these testing times when we all must raise our voice and fight for our rights. This could be another turning point in Indian history for environment protection. Hope to see light at the end of tunnel.

Megha Kapoor

MSc, Economics
2018-20

As an economics student, I understand the importance of resources which are exploited in the name of so-called development which is hijacked by cronies. This is against the basic principle of equitable distribution which is enshrined in our Constitution. This Draft legitimises environmental violations, undermines public hearings and exempts industries from the EIA process. We need to stop this menace.



Aishani Goswami

MTech, WREM
2018-20

In times when impacts of climate change on life, health, resource security, livelihood and ecosystem are becoming more and more evident, dilution of EIA can be disastrous and the proposed changes can cause irreversible damage. It is time that especially we, who have chosen to work in the field of sustainability, educate others around us and collectively send our concerns and comments to the government authorities



Manjaut Saluja

MTech, WREM
2018-20

History has witnessed our country being pro-active in saving the environment. But often in the name of development, all the ruling govts have exploited the ecology and disturbed its balance. Pollution levels have been so high that we needed a new measurement technique; drought and flood conditions are witnessed in regions which were least susceptible. India requires stricter policies which aim to reinforce the ecology and not dilute their regulations on the industrial sector.



Tarun Mehta

MSc, Economics
2019-21

We have seen weak enforcement before but what's happening this time is an attempt to weaken the legislation itself. Behind the veil of promoting "ease of doing business", what is actually being promoted is wholesale sale of our environment in the name of economic growth. In the end, the same old story is going to repeat itself: Industrialists will degrade the environment; govt will declare the over-exploited zone as a protected area and poor and helpless people will be the ones displaced from their homes as if they were responsible for it in the first place.



Dharvi Mahajan

MSc, ESRM
2019-21

India is amongst the top 5 countries vulnerable to climate change. An example of the disastrous impact of this notification is the lakhs of forests getting cleared - be it Dibang Valley in Arunachal Pradesh or Mollem in Goa. Not to mention the impact on biodiversity and loss of species. Several marginalised communities also lose their houses and livelihoods because of their land being taken away from them.

Aman Yadav

MBA, BS
2019-21

The govt should look towards development but also take care of the people and our environment. There are holes in this draft like increase in government's discretion power, limiting public engagement. Also, there is no public complaint if the violation is taking place. This is not fair! If the public faces problems, they have the right to go against the violation and the govt. must consider it.

Shikhita Gupta

MSc, CSP
2018-20

Year 2020, humans are locked up inside and it almost looks as if we are paying the price for thinking of ourselves as above nature. Living in the time of this pandemic, the sheer ignorance and lack of accountability in the EIA notification 2020 scares me and makes me question the direction of development that we want for our country, because this notification surely looks like a Wrong Turn.

Abhay Krishna

LLM
2019-20

The 2020 Draft is brought to streamline the process and bring more transparency, but it is violating the principle of sustainable development and the public trust doctrine. Post facto clearance is contrary to well-established principles, and is like unlocking the house for thieves to work easily. Certain 'strategic' projects do need to be excluded from EIA to strengthen border security, but it should not be purely discretionary for the govt to bring any project as a 'strategic project' as per their wishes and whims.

CLIMATE CHANGE

PETERSBERG CLIMATE DIALOGUE

The 11th session of PCD was held via video conferences for the first time due to COVID-19. It is an informal annual meeting of the high-level ministers and representatives of various countries to enable constructive exchanges on the issues of international climate actions. The Dialogue was launched in 2010 by Germany after failed negotiations at the 2009 Copenhagen Summit.

Following themes were underlined:

- Economic recovery plans post COVID-19 need to be aligned with Paris Agreement and SDGs.
- Stressed for multilateralism, international cooperation & support for developing countries for fulfilment of the 100bn USD climate finance mobilisation goal by 2020.
- Development of enhanced NDCs and long-term strategies under the Paris Agreement should not be postponed.

This edition saw participation from around 30 countries, including India. India stressed the need to have Climate Technology as open source and at an affordable cost, as the world is unitedly engaged in finding a vaccine for COVID-19. The PCD was co-chaired by Germany and the UK (the incoming Presidency of 26th Conference of Parties to UNFCCC (COP 26). The COP26 was scheduled to be held in Glasgow, Scotland in Nov. 2020, and has now been postponed to 2021, due to COVID-19. This conference was set to be the first "global stocktake", as outlined in the Paris Agreement.



COAL

FLY ASH DYKE COLLAPSE

While 20 districts of Madhya Pradesh battled against the killer onslaught of COVID-19, its Singrauli district has been hit by a tragedy. The Reliance Power's Ultra Mega Power Project (UMPP) in Sasan area of Singrauli fly ash dyke collapsed recently. The flood of the toxic ash slurry from the dyke washed away six persons (3 kids, 1 woman and 2 men) living in the adjoining villages. Fly ash is a coal combustion product composed of the particulates that are driven out of coal-fired boilers together with the flue gases. The presence of heavy metals (such as nickel, cadmium, chromium, lead, etc) can accumulate in the respiratory tract and can cause gradual poisoning, apart from ecological degradation through air and water pollution. The destruction of mangroves, drastic reduction in crop yields, and the pollution of groundwater in the Rann of Kutch from the ash sludge of adjoining coal power plants has been well-documented. For an equal amount of electricity generated, fly ash contains a hundred times more radiation than nuclear waste secured via dry cask or water storage.



CLIMATE CHANGE

ANTARCTICA'S FIRST HEAT WAVE

Scientists recorded Antarctica's first documented heat wave, during the 2019-2020 southern hemisphere summer. Heatwaves are classified as 3 consecutive days with extreme minimum and maximum temperatures, which in the case of this wave was 0 degrees and 7.5 degrees Celcius respectively, recorded between Jan 23 and 26, 2020. This is important because Antarctica drives the global ocean conveyor belt, and its melting ice sheet adds to global sea level rise. Based on experiences from previous anomalous hot summers in Antarctica, multitudes of biological impacts can be expected in coming years.

What caused it?

Ozone depletion & related lack of heating cool the stratosphere, which strengthens the stratospheric westerly winds in the Southern Hemisphere. It promotes a "positive" state of the Southern Annular Mode in summer, causing a seasonal "shield" that reduces the transfer of warm air from the temperate regions to Antarctica. However, during 2019, warming of the stratosphere over Antarctica significantly reduced the size of the ozone hole. It led to a more "negative" state of the Southern Annular Mode and weakened the shield.

WASTE

NGT ON BIO-MEDICAL WASTE DISPOSAL

The National Green Tribunal has urged the State Pollution Control Board and Pollution Control Committee to mitigate possible risk of unscientific disposal of the bio-medical waste arising out of the handling of the COVID-19 disease. The Tribunal also observed the need to revise the guidelines for 'Handling, Treatment and Disposal of Waste Generated during Treatment, Diagnosis, Quarantine of COVID-19 Patients' issued by the Central Pollution Control Board (CPCB) recently.

At present, only 1.1 lakh out of 2.7 lakh healthcare facilities are authorised under the Bio-medical Waste Management Rules, 2016. It is necessary that the disposal of used Personal Protection Equipment (PPE), used bags, gloves, goggles, also does not get mixed with other municipal solid waste causing contamination. Additionally, there is a need to implement effective monitoring mechanisms, train the personnel as well as create awareness among local bodies, health departments and sanitation workers.



AIR POLLUTION

ANTI-SMOG GUNS

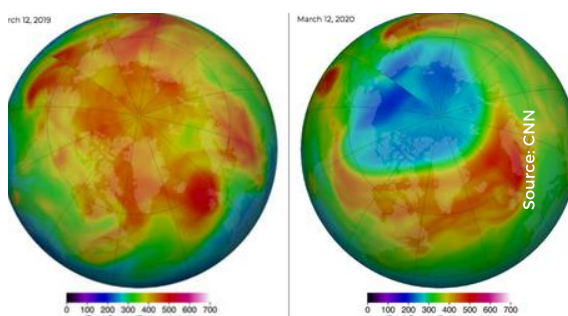
To counter the notorious air pollution in Delhi, anti-smog guns were installed at 14 large project sites. This device sprays nebulised water droplets into the atmosphere, and is connected to a water tank and mounted on a vehicle, the device could be taken across the city to spray water (upto 50 metres) to settle dust and other suspended particles. On January 13, the Supreme Court had directed such anti-smog guns to be made mandatory in projects that require environmental clearance from the State or Centre, and have a built-up area of over 20,000 square metres. As per this criteria, 47 large projects in Delhi had to have these guns installed. However, the efficacy of such guns is debatable, as it was reported to have failed the pollution control test.

CLIMATE

ARCTIC OZONE HOLE

A rare hole - about the size of Greenland - had opened up in the ozone layer above the Arctic in 2020, which has now been closed. A major reason for the hole is that polar vortex during winter was "incredibly strong and persistent" this year, the reason for the same being yet unknown. An analysis of satellite observations show that ozone levels reached their lowest point on March 12 at 205 Dobson units, which on an average remains around 240 Dobson units during March. Later, Polar Vortex split due to rising temperature with onset of summer, allowing ozone-rich air into the Arctic led to healing of the ozone hole.

While such low ozone levels are rare in the Arctic, they are not unprecedented. Similar low ozone levels occurred in the upper atmosphere, or stratosphere, in 1997 and 2011.



DISASTERS

NAMING OF TROPICAL CYCLONES

India Meteorological Department (IMD) released a list of 169 new names for tropical cyclones in the north Indian Ocean region. IMD is one of the 6 Regional Specialised Meteorological Centres (RSMCs), and is mandated to issue advisories and name tropical cyclones developing over the north Indian Ocean including the Bay of Bengal and the Arabian Sea.

The new names were submitted by 13 member countries WMO/ESCAP panel on tropical cyclones (PTC). The names submitted by India are Gati, Tej, Murasu, Aag, Vyom, Jhar, Probaho, Neer, Prabhanjan, Churni, Ambud, Jaladhi and Vega. Naming of cyclone in North Indian Ocean takes place whenever a tropical storm in the north Indian Ocean region surpasses a wind speed of 62 km/hr. The WMO/ESCAP Panel on Tropical Cyclones is an inter-governmental regional body jointly established by the World Meteorological Organisation (WMO) and the United Nations Economic and Social Commission for Asia-Pacific (ESCAP) in 1972 that aims at assisting Members in monitoring and forecasting tropical cyclones to reduce disaster-related losses of life and infrastructure.

AIR POLLUTION

QUOTA ALLOCATION PROCEDURE FOR PET COKE

Directorate General of Foreign Trade has laid out a procedure for allocation of quota for import of calcined pet coke (CPC) for Aluminium industry and raw petcoke for CPC manufacturing industry for the financial year 2020-21. Pet coke is a by-product of the oil refinery process, mainly "the bottom of the barrel." It is characterised as a high grade fuel with high calorific value and low ash content. Due to high carbon, it releases up to 10% more CO₂ than normal coal and is a huge contributor of GHG. High amounts of sulfur are found in low grade pet coke, which results in release of sulphur oxides during combustion that may cause air pollution and acid rain.

In 2017, the Environment Pollution Control Authority had recommended that the distribution and use of petcoke be strictly banned in the Delhi NCR because of high sulphur content. Following this, the Supreme Court banned the use of pet coke in New Delhi and neighbouring states of Haryana, Uttar Pradesh and Rajasthan, after Delhi's air pollution level reached hazardous levels. This was followed by a nationwide ban on use of petcoke as fuel in 2018, and its import was allowed for only cement, lime kiln, calcium carbide, gasification industries, etc. Later, however, the Government permitted imports of a certain quantity of pet coke for fuel purposes and within the aluminium industry.

Before its import ban, India was the world's largest CPC consumer. Due to excess cess levied on coal, market distortion has occurred in favour of petcoke. Absence of statistical data on its production and consumption also leads to regulation challenges.

WATER

SUJALAM SUFALAM JAL SANCHAY ABHIYAN

The Gujarat government has given the nod for the third edition "Sujalam Sufalam Jal Sanchay Abhiyan", a conservation plan to deepen water bodies in the state before monsoon. The scheme, which will continue till June 10, will see the deepening of lakes, check dams and rivers by removing silt, and it will be done with people's participation as well as under MNREGA.

The scheme was started in 2018 after a weak monsoon, and till date, the state's water storage capacity has increased by 23,000 lakh cubic feet due to deepening of lakes, check-dams, rivers and reservoirs. It involves cleaning and desilting of riverfronts, sprucing up of Irrigation canals. It also involves deepening of lakes, tanks and reservoirs. The drive runs on a Public Private Partnership mode and contribution from the government shall remain 60% of the expenditure of the work while 40% share will be from people's contribution.

GREEN FINANCE

SBI LISTS GREEN BONDS WORTH \$100MN

The State Bank of India has listed Green Bonds worth \$100 million on India INX's Global Securities Market Platform. Green bonds are debt instruments issued by financial, non-financial or public entities where the proceeds are 'ear-marked' to finance 'green' projects. India's first Green Bond was issued by Yes Bank Ltd in 2015. In 2016, India became second country (after China) to provide national level guidelines for Green bonds, issued by SEBI.



Advantages of Green Bonds

- To bring investment in renewable energy (India needs to invest \$4.5 trillion over the next ten years to meet its targets)
- Due to rising non-performing loans and liquidity crisis facing NBFCs, alternative sources of green finance are needed.
- There is global momentum building around mobilising green finance, especially Interest of foreign equity investors. Previous issuances were oversubscribed by two-three times.
- Meeting Climate Change Objectives: For eg., Renewable Energy & Energy Efficiency and Clean Transportation made up 66% of all Green Bond commitments by World Bank.
- Companies and government entities can also enhance their reputation by being innovative and sustainable.

Challenges to Green Bond Market in India

Corporate bond market in India is underdeveloped, India's corporate bond market is a mere 16% of GDP – compared with 46% in Malaysia, and 73% in South Korea. There are structural barriers to manage foreign exchange risk in a cost-effective way in international transactions. Small size of certain projects also makes it difficult to raise required capital. Lack of information, policy clarity, lack of historical performance data and a limited understanding of the risks at various stages of the investment cycle, makes issuers and investors hesitant about green bonds. Moreover, there is minimal policy and regulatory incentives for borrowers to certify their projects as green and raise finance.

FORESTS

STATE OF THE WORLD'S FORESTS REPORT 2020

The UNEP and FAO jointly released a report titled The State of the World's Forests. It examines the contributions of forests and its relationship with people. It assesses progress made in meeting global targets relating to forest biodiversity, and describes the effectiveness of policies, actions and approaches for conservation and sustainable development.

Key Findings:

- Forests are crucial habitats; they supply water and mitigate climate change.
- They provide more than 86mn green jobs and support approx. 880mn livelihoods worldwide, mostly for women.
- Forests cover 31% of the global lands. More than half of the world's forests are found in only 5 countries - Brazil, Canada, China, Russia and US
- Deforestation and resultant biodiversity loss continue to take place at alarming rates, even though the rate has decreased as compared to the 1990s. Agricultural expansion and forest fires are key drivers.

Suggestions:

- Transform food systems; embrace healthier diets and reduce food wastage. Discourage inappropriate agricultural practices that drive large-scale conversion of forests.
- Effective governance of land-tenure security, respect for the rights and knowledge of indigenous peoples.
- Ensure positive outcomes for both biodiversity and people by realistically balancing conservation goals and social justice

DISASTERS

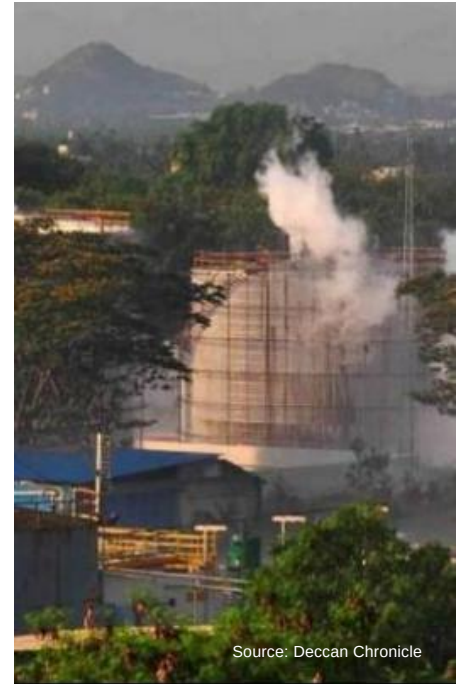
VIZAG GAS LEAK

Styrene gas leaked from Vishakhapatnam based LG Polymers India Pvt Ltd. factory. As per the National Disaster Response Force, the death toll was 11 and more than 1,000 people were sick after exposure.

Styrene is an organic compound manufactured in petrochemical refineries & used to produce polymers and plastics. It is a colourless liquid that can react with oxygen in the air to mutate into styrene dioxide which is more lethal. Acute exposure to styrene results in mucous membrane and eye irritation, gastrointestinal effects, etc. Chronic exposure results in impacts on the central nervous system, leading to headaches, fatigue. If the amount of styrene goes beyond 800 ppm, the person may go into a coma. According to the Hazardous

Chemicals Rules 1989, styrene is a 'hazardous and toxic chemical' and needs to be stored and handled carefully. This incident brought the issue of industrial disasters and their prevention/ management again to the foreground in India, which continues to witness such disasters even after the tragic case of Bhopal gas leak. According to the Labour and Employment Ministry, in three years (2014-2016), 3,562 workers lost their lives while 51,124 were injured in accidents that occurred in factories.

In such cases, the Court applies the Doctrine of 'Absolute Liability', evolved in India after the case of M.C Mehta vs Union of India (1986). According to this doctrine, the enterprise owes an absolute, non-delegable duty to the community to ensure that no harm results to anyone on account of the hazardous or dangerous activity which it has undertaken. Until this doctrine was developed, the rule of strict liability was applied where an accident or 'act of God' exempted the party from paying compensation. Interestingly, the NGT initially invoked the principle of Strict Liability to impose a fine on LG Polymers for the gas leak, which was deemed to be a contravention of the principle of Absolute Liability. NGT later held that LG Polymers India has absolute liability for the harm caused.



Source: Deccan Chronicle

WILDLIFE

TIGER NO. GO UP IN SUNDARBANS

The number of Royal Bengal Tigers in West Bengal's Sundarbans has risen to 96, up by 8, as per the latest census. This is the highest annual jump reported from the Sundarbans. The Forest Department has taken various steps to increase the mangrove cover in the Sundarbans region to improve the tiger habitat's condition. Home to the Bengal

Tiger and several other critical species, Sundarbans comprises of hundreds of islands & a network of rivers and tributaries in the delta of Ganga and Brahmaputra. It constitutes over 60% of the country's total mangrove forests. It is listed as a Ramsar Site, a UNESCO world heritage site and is the largest protected wetland in the country.

BIODIVERSITY

SUPER YEAR FOR BIODIVERSITY

The year 2020 is the “Super Year For Biodiversity”, as the Strategic Plan for Biodiversity under the CBD adopted in 2010 ends in 2020. This Strategic Plan was adopted during COP10 in 2010 in Nagoya, Japan, with the purpose of inspiring broad-based action in support of biodiversity over the next decade by all countries and stakeholders. The Plan is comprised of a shared vision, a mission and 20 targets organized under 5 strategic goals, collectively known as the Aichi Biodiversity Targets (ABTs). The parties agreed to update their national biodiversity strategies and action plans (NBSAPs) in line with the SPB 2011-2020 and develop national targets taking into account national priorities and capabilities.

India's “National Policy and Macro Level Action Strategy on Biodiversity” of 1999 was updated into NBAP 2008. India developed 12 National Biodiversity

Targets that cover all the 20 ABTs. As per the 6th National Report, India is on track to achieve 9 out of its 12 NBTs and exceed 1 of them (NBT 6), but is moving towards 2 of the targets (NBT 4 and 12) at an insufficient rate.



THE 'CARE' PROJECT

CLIMATE CHANGE

The World Bank approved a \$39.5 million Climate Adaptation and Resilience (CARE) Project for South Asia to bolster climate action. Between 1990 and 2019, more than 1,000 climate-induced disasters in South Asia affected 1.7 billion people and caused more than \$127 billion in damages, demonstrating the high vulnerability of the region to the socio-economic impacts of climate-related hazards. The World Bank estimates 62 mn people in the region to be driven into extreme poverty due to the same. The CARE Project will build resilience to climate threats by sharing knowledge, by developing regional standards and guidelines for infrastructure, and promoting climate-resilient policies and investments. It will help develop a public platform to inform climate planning and fund technology to support resilience in South Asia.

INDIA'S FIRST DOLPHIN OBSERVATORY

WILDLIFE

The Bihar government is setting up India's first observatory for the Gangetic dolphins in the Vikramshila Gangetic Dolphin Sanctuary, Bhagalpur. The observatory aims to promote eco-tourism for India's National Aquatic Animal. Gangetic Dolphins have 'endangered' status in the IUCN's list, for whom the Conservation Action Plan for the Gangetic Dolphin (2010-2020) identifies the major threats as increase in river traffic, irrigation canals and depletion of prey-base, apart from overfishing and water pollution.

DISASTERS

CYCLONE MANAGEMENT IN THE WAKE OF AMPHAN

Recently, Cyclone 'Amphan' wreaked havoc in the eastern coastal states - West Bengal and Odisha - of India. The storm is only the second super cyclone to form in the Bay of Bengal since 1999. A super cyclone, as per the Indian Meteorological Department (IMD), is a tropical cyclone with wind speed more than 222 km/hr (highest in Classification). The rapid intensification of Amphan is an indication of warming of Bay of Bengal which registered maximum surface temperatures of 32.4°C - and is a consequence of anthropogenic global warming.

Cyclone Management in India

- Institutional Framework: National Disaster Management Authority is the apex body for disaster management, headed by the Prime Minister. It is responsible for the formulation of the National Guidelines for Management of Cyclones. The IMD is the nodal agency for providing cyclone warning services and communicate them to communities.
- National Guidelines for the Management of Cyclones were evolved due to paradigm shift from earlier rescue and relief centric approach to holistic approach. They demarcate,
 - structural measures (such as ensuring adequate shelter, linking roads, etc.) and
 - nonstructural measures (such as early warning systems, communication and dissemination systems, proper planning and management of Coastal Zones, etc.)

Need of the hour: To establish a comprehensive Cyclone Disaster Management Information System covering all phases of disaster management and to promote Community Based Disaster Management, to assess their vulnerabilities and build their capacities.



FORESTS

GLOBAL FOREST RESOURCES ASSESSMENT 2020

Global Forest Resources Assessment 2020 has been released by the FAO. The FRA 2020 examined the status of, and trends in, more than 60 forest-related variables in 236 countries and territories for the period 1990–2020.

Key findings:

- Forest area has declined all across the world in the past 3 decades. The world lost 178 mha of forest since 1990, an area the size of Libya. However, the rate of forest loss declined due to the growth of sustainable management, from 12mn hectares in 2010–2015 to 10mn hectares in 2015–2020.
- The area of naturally regenerating forests worldwide decreased since 1990, but the area of planted forests increased by 123 mha.
- Africa had the largest annual rate of net forest loss in 2010–2020, followed by South America. On the other hand, Asia had the highest net gain of forest area in 2010–2020, followed by Oceania and Europe.
- The world's total forest area was 4.06 billion hectares, which was 31% of the total land area, equivalent to 0.52 ha per person.



WILDLIFE

TIGER MONITORING IN TADOBA

A new prey and predator estimation in Tadoba Andhari Tiger Reserve (TATR) in Chandrapur has found the presence of 115 tigers and 151 leopards inside the 1,727 sq km of the core and buffer areas in 2019. The estimation was done as part of the 'Long-term monitoring of tigers, co-predators and prey species in TATR'. Although the tiger numbers appear to be up as compared to 2018, the population density shows a decline from 5.51 to 5.23 per 100 sq km. This is because of coverage of more area this year. The overall tiger count in Chandrapur district alone is more than 200, which is about two-third of the total number of tigers in the state. Created in 1995, TATR is Maharashtra's oldest and largest national park.

AGRICULTURE

LOCUST ATTACK

Recently, swarms of desert locusts invaded vast swathes of land in various Indian states, after entering via Pakistan's Sindh province. The Government issued a warning to 12 states including Rajasthan, Punjab, Haryana, Gujarat, Maharashtra, for what is said to be the worst desert locust attack in 26 years. The UN has also warned that armies of locusts swarming across continents pose a "severe risk" to India's agriculture this year. Apart from crop damage and threats to food security, locusts aggravate allergies, threaten air travel and may destroy forests and urban vegetation if they are unable to find crops to feed. The use of harmful pesticides to control the attack may also also impact soil fertility by altering the ecological balance.

Reasons for recent locust attacks: Most locust attacks since 1993 have been localised to Rajasthan, but changing weather conditions have facilitated locusts' travel to several other states. Rising temperatures due to global warming have amplified the Indian Ocean dipole and made the western Indian Ocean particularly warm. Heavy rain triggers the growth of vegetation in arid areas where they can grow and breed. Moreover, the cyclonic storms Mekunu and Luban that struck Oman and Yemen respectively transformed the empty desert tracts into large lakes providing damp soils where the locust swarms breed. The low-pressure area created by Cyclone Amphan in the Bay of Bengal also strengthened the westerly winds, aiding the movement of the locusts into South Asia.



Source: The Weather Channel

ENVIRONMENT

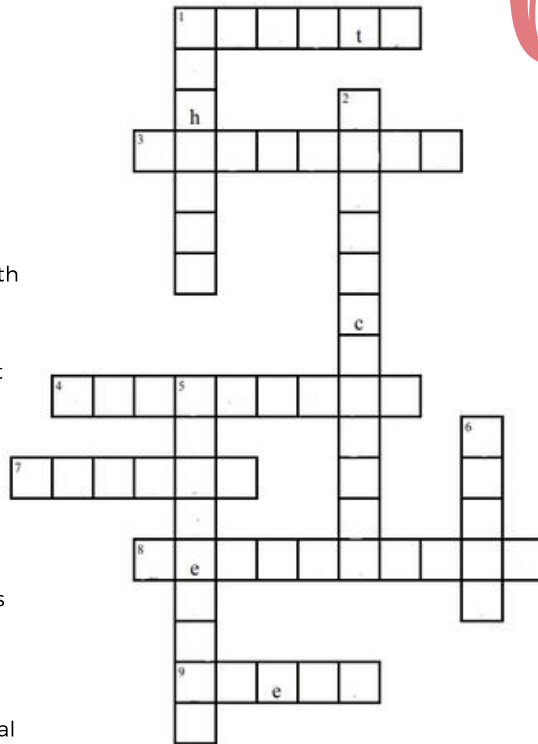
UN DECADE ON ECOSYSTEM RESTORATION

The UN General Assembly proclaimed 2021–2030 as the Decade on Ecosystem Restoration. The aim is to massively scale up the restoration of degraded and destroyed ecosystems as a proven measure to fight the climate crisis and enhance food security, water supply and biodiversity. On land, restoration of at least 350 million hectares of degraded landscapes by 2030 is targeted, while a target for coasts and oceans is yet to be set. Some decades ending in 2020 are the United Nations Decade on Biodiversity, Decade of Action for Road Safety and the United Nations Decade for Deserts and the Fight against Desertification.

fair ZONE

Across:

- 1. Addressing the needs of the marginalized members of the community
- 3. Energy derived from living matter, such as waste animal and plant matter
- 4. Energy derived from natural resources: the sun, wind, rain, tides, heat in the interior of the Earth
- 7. The chemical element emitted due to the consumption of fossil fuels
- 8. Energy created by the heat stored in the interior of the Earth
- 9. Practice of using processes that are environmentally responsible & resource-efficient throughout a building's life



Down:

- 1. Type of consumerism of items considered fair-trade, cruelty-free, vegan, recycled, locally-made or organic
- 2. The development of agricultural ecosystems intended to be sustainable and self-sufficient
- 5. Design strategy that considers the environmental impact of a product during its lifecycle
- 6. Power obtained by utilizing the energy of the Sun



Illustration by Alexandre Magnin - Sustainabilityillustrated.com



Illustration by Alexandre Magnin - Sustainabilityillustrated.com

"What is the use of a house if you haven't got a tolerable planet to put it on?"

HENRY DAVID THOREAU



To know how you can get involved, contact Eco Club.

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