



O.P. JINDAL GLOBAL UNIVERSITY

JINDAL CENTRE FOR THE GLOBAL SOUTH



JINDAL CENTRE FOR
THE GLOBAL SOUTH

JCGS' SPECIAL WEBINAR SESSIONS ON JUNE 5TH & 6TH 2020



WORLD ENVIRONMENT DAY



Jindal Centre for the Global South
O.P. Jindal Global University, Haryana - India

E-mail: jcgs@jgu.edu.in

<http://www.jsia.edu.in/jindal-centre-for-the-global-south/>

https://twitter.com/JCGS_JSIA

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SCAN ME

World Environment Day Report

JCGS Webinar Sessions, 5th & 6th of June 2020

SUMMARY

Jindal Centre for the Global South (JCGS) is a research centre affiliated to the School of International Affairs – O.P. Jindal Global University (JGU), Haryana-India. Our research Centre conducts policy-oriented studies, dialogue and training into the social, economic and political key issues across countries of the Global South with a special emphasis on South-South Cooperation and its underpinning development challenges and opportunities. The Centre aims to promote the unity of the South in achieving the SDGs while recognizing the diversity of national interests and priorities.

On the occasion of World Environment Day, Jindal Centre for the Global South (JCGS), organized a series of webinars. Two sessions were conducted on 5th June and two on 6th June. The theme of these webinar series was to understand and discuss the state of environment today, reaction from the geopolitics, problems occurring due to the COVID-19 and how should policy makers frame solutions to address this crisis.

Jindal Centre for the Global South has invited national and international experts in the field of environmental sustainability. On the first day, the centre invited Ms. Megan Fallone, CEO Barefoot College International and Prof. Carlos R. S. Milani Associate Professor and Vice-Director Institute for Social and Political Sciences Rio de Janeiro State University. On the second day, our guest speakers were Prof. (Dr.) Omar El-Nady, Assistant professor of environmental Engineering, CIC & AUC - Egypt, and Prof. Amit Lahiri, Chief Sustainability Officer, O.P. Jindal Global University (JGU) Associate Professor, International Institute for Higher Education Research & Capacity Building (IIHEd).

In this report, we are presenting for readers a briefing of the presentations that our guest speakers have given and the summary of the Q&A section of each session.

Wishing you a happy reading!

Prof. (Dr.) Hebatullah Adam



Assistant Professor of Economics
Executive Director of Jindal Centre of the Global South (JCGS)
School of International Affairs (JSIA)
O.P. Jindal Global University (JGU)
Haryana, India





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World Environment Day Report

JCGS Webinar Sessions, 5th & 6th of June 2020

REPORT TEAM

Reporters

Aneedrisha Hazarika, JCGS research intern

Aru Bhardwa, JCGS research intern

Ashima Singh, JCGS research intern

Sharmishtha Singh, JCGS research intern

Sirat Bhalla, JCGS research intern





World Environment Day

INTRODUCTION

World Environment Day is observed on June 5 every year to promote awareness on the importance of preserving our biodiversity, the need to identify problems related to the environment and ways to take corrective action.

It was on this day in the year 1972 that the United Nations Conference on the Human Environment was formed. First celebrated in 1973, World Environment Day, also popularly known as Environment Day.

It is a yearly global call to tackle environmental challenges that include climate change, global warming, disasters and conflicts, harmful substances, environmental governance, ecosystem management and resource efficiency.



JCGS WEBINAR SESSIONS ON THE OCCASION OF WORLD ENVIRONMENT DAY



JINDAL CENTRE FOR
THE GLOBAL SOUTH

DAY 1

Friday, June 5, 2:30pm-4:00pm IST



MS. MEAGAN FALLONE

CEO Barefoot College International, India

Barefoot College Experience: Empowering Rural Women for Sustainable Development



PROF. (DR.) CARLOS R. S. MILANI

Associate Professor and Vice-Director Institute for Social and Political Sciences Rio de Janeiro State University, Brazil

Climate Change and Global Human Security

DAY 2

Friday, June 5, 2:30pm-4:00pm IST



PROF. (DR.) OMAR EL-NADY

**Assistant professor of environmental Engineering,
CIC & AUC - Egypt**

Sustainable Solutions to the global water crisis: The Egyptian Case



PROF. AMIT LAHIRI

**Chief Sustainability Officer, O.P. Jindal Global University (JGU)
Associate Professor, International Institute for Higher Education Research & Capacity Building (IIHEd), India**

Ecologies, Communities and Markets



World Environment Day

JCGS Webinar Sessions, 5th June 2020

Session 1: Barefoot College Experience: Empowering Rural Women for Sustainable Development

Guest Speaker: Ms. Meagan Fallone

Ms Meagan Fallon is the CEO of Barefoot College International. She is an entrepreneur, a designer, and leads an award winning international social enterprise. During the webinar, she shared her experience working with the Barefoot College and her expert opinion on empowering rural women with the know-how they require to become independent.

Barefoot College is a hybrid social enterprise. It is an advocacy agent with sound management, a systems change approach and the aim to help local communities. It functions on the Gandhian values of working with the skills present in communities that need structural assistance - taking into account their voices, elevating their voices and showing them the power of their abilities. It works hand-in-hand with the government, having one foot in the community and one foot in the systems that need change. It works as an innovation catalyst for the government.

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn", she began her lecture quoting the famous American futuristic writer, Alvin Toffler. For the creation of self-dependent communities knowledge acts as a catalyst and helps in stabilizing the future of the communities in the long-run. The creation of such communities through empowering them with the knowledge and training is what Barefoot College believes in and working on, for years. It works as an advocate to those who have no voice to raise in making a stable future, and is "tangibly the power of their ability to innovate their solutions and to get that seen on the global stage". It works with the governments' hand-in-hand and helps them in finding solutions to the problems which communities face daily, and jeopardize the prosperity opportunities of the nations.

She said, "I think has been at the heart of why we have been able to have one foot in the community and one foot in changing the systems that don't serve us". Certainly, any change comes from the minor (or bigger) changes in the systems. The system which is not helping the lives of the poorest of the poor to make progress deserves to be amended. First, Barefoot College helps in understanding the problems communities face on ground zero and then they approach governments to draw the institutional changes necessary.





Session 1: Barefoot College Experience: Empowering Rural Women for Sustainable Development

Guest Speaker: Ms. Meagan Fallone

Women are considered as the center of families. Even in the highly conservative societies, the successes of families are somewhere related to the efforts put by the women in the family. Illiteracy, lack of information, and freedom could be considered as the barriers for women, but it is not limited to them only. Their first program was about education; where they addressed the problem of education faced by the rural children in India, especially the girls who are left behind. Bringing those girls to the schools was the cornerstone of this program. Innovation in the system and putting some flexibility led to the formation of 'night schools', which were operational from 6:30 pm to 9:30 pm. The teachers in these schools were volunteers trained by the College.

Further, the curriculum was also made addressing the need of present. For instance, a 'rural curriculum' was designed for the rural children. This curriculum included the topics of life skills, coping skills, and highlighting the abilities of children that they already had. Energy in these schools was supplied through the self-installed solar plants, by the Barefoot College. Interestingly, they have a children parliament running, operating for more than twenty years, and they also have roles of Prime Minister, Minister of Education, and Minister of Energy, and so on. Such initiatives gave the children a chance to understand the role and functioning of democracy and how they can use the advantage of democratic setup in becoming a changemaker.

In 2006, Barefoot College started giving the children the knowledge to get access to the 'digital tools', to make them understand how they can use these tools for their benefits and enhance the productivity. She shared stories where they, along with Apple, developed a mobile application for helping the rural children, with not much training of reading and writing, for providing them training to perform numerous productive tasks. To quote her, "{this application} allowed us to stop giving poor people poor technology; it allowed us to think about what were the possibilities for the poorest of the poor and most remote communities when we had at our disposal quality technology and some of the finest design thinking on the planet". The solar power projector, named 'edge box', developed with apple, having embedded Apple TV in it. Due to the size and design of the edge box, it can be stored and transported from one place to another very easily.

In this era, people are looking towards modern technology for the solution to the problems of poverty, environment, accessibility, knowledge, gender equality etc. She shared, the women across the Global South are seen using their mobile phones, and getting help from symbols, to understand the numbers, doesn't matter whether she is literate, semi-literate or illiterate.





Session 1: Barefoot College Experience: Empowering Rural Women for Sustainable Development

Guest Speaker: Ms. Meagan Fallone

It is the easy use of technology which is helping the communities to come closer and get better access to knowledge.

The story of Katerina, from Guatemala, who farmed chickens, wove cloths and, also, grew coffee. She became a solar engineer, today. The movement was named as 'solar mama', which trains the 'solar mamas'. Experiences in working with these women tell that many of them are interested in building micro-enterprises for expanding their income base. "Women is the powerhouse", she said, whose progress benefits the entire family in making a stable and prosperous future. For preparing them for future, Barefoot College developed a curriculum named 'enrich', which focused on five key areas: (1) digital skills and digital literacy, (2) financial inclusion, (3) their basic rights and responsibilities, (4) environmental stewardship, (5) micro-entrepreneurial skill and women health and wellness. The major focus of these programs is to introduce women with the experiential opportunities for women to encourage the formula of learning by doing.

Training in the micro-entrepreneurial activities is benefiting the women the most. With the help of the skills learned, they can start their businesses from home and earn a better living for the families. Barefoot College supported them to start their businesses; they started with honey and, today, also, expanded their activities to establishing coffee businesses. They guarantee the women entrepreneurs to buy their products and take it to market and help them in getting the best possible price. The motive of these programs is to help them to create sustained earnings.

Ms. Fallone's talk was concentrated on the empowerment of the rural girl child, through education, training, and providing them access to modern technologies. She talked on numerous themes for empowering the marginalized, from the technology to sustainable development. She eloquently presented the view on how women can be a change maker. Her entire talk consisted of many examples and experiences she, and Barefoot colleges' researchers/volunteers, had gathered. Throughout the discussion, numerous topics from different fields were discussed. Her presentation covered evidences and real-life examples. In the Q&A session more topics including microfinance, abuse towards women and children, problems occurring due to Covid-19, and so on, were discussed.

She ended her talk saying, "there are no boundaries to human accomplishment except the ones we construct in the mediocrity of our thinking"





Session 1: Barefoot College Experience: Empowering Rural Women for Sustainable Development

Guest Speaker: Ms. Meagan Fallon

Following Ms Fallon's talk, there was a Question/Answer session.

Dr. Hebatallah Adam, the Executive Director Jindal Centre for the Global South, who was also the moderator for the session, asked Ms Fallon about the countries of origin of the women at Barefoot College. In her response Ms Fallon said that via its partnership with the Development Partnerships Programme of the Ministry of External Affairs, Barefoot College can bring 80 women from any developing country to India. It trains up to 350 women in India every year, funded under India's Corporate Social Responsibility (CSR) rules.

In responding to a question on environmental concerns and addressing them, Ms Fallon gave the example of the Pacific islands where over 67% women face some sort of gender based violence and where livelihoods of men have been severely eroded due to climate change. She said that the solar programme is a resilience initiative as, for instance, a solar device can be taken off and then reinstalled in case of a cyclone.

To a question about the role of micro finance in the women's empowerment movement and lack of training by the government to a scheme's beneficiaries, Ms Fallon clarified that Barefoot College is an NGO that works in the gaps where the government may not work. This is precisely where the Enriched curriculum becomes effective - it specifically addresses the gap between knowledge and skills and helps women understand financial terms and tools like credit to help them make sound financial decisions. She said that there is a disproportionate impact on women, in talking about the effects of Covid-19 on rural women and its alleviation. She said that women are more likely to be fired, gain increased care responsibilities at home and face violence. Barefoot College is supplying PPEs and essentials like food to its ground partners and sending what they require, like grants, by communicating through a virtual assistant chatbot that contacts via mobile phones. Barefoot College in Zanzibar has distributed 8000 reusable masks while in Burkina Faso it has distributed seeds. In response to a question on community backlash over night schools, she said the benefit of working with an entire community is that once you have the parents and leaders on your side, the community as a whole aims to convince the few that push back.

Similarly responding to a question on family reactions to solar mamas, she said that not a single woman selected by Barefoot College has ever refused to participate and that many husbands object because they think they are supposed to. She gave the example of a Burkina Faso woman who chose to leave her husband, because she preferred to learn to be financially independent.





Session 2: Climate Change and the Global Human Security

Guest Speaker: Prof. (Dr.) Carlos R. S. Milani

Prof. Carlos Milani is an Associate Professor at Rio de Janeiro State University's Institute for Social and Political Studies, and Vice-Director of the Institute (IESP-UERJ). He is an affiliated researcher with the Center for Latin American Studies at the University of California - Berkeley. His recent book titled, "Revitalizing Global Partnerships for Sustainable Development: Challenges in the Implementation of SDG 17 through South-south and Trilateral Cooperation in Brazil, China, India, Mexico, South Africa, and Turkey", published in 2019. His recent research paper, "Covid-19 between Global Human Security and Ramping Authoritarian Nationalisms", appeared in the Geopolítica(s) Revista de estudios sobre espacio y poder.

In his talk, he mentioned about the numerous problems which the world could face, and is facing, due to COVID-19. Foremost, this pandemic has given the authoritarian classes around the world, a chance to tighten their clutches for retaining the power. The utopia based on the rigid borders and the neo-liberalism has, today, confronted the threats to the security of states, populations, and the biosphere. COVID-19 worked as a catalyst in broadening the 'legitimacy to global human security as a policy concept'. The idea of the entire talk was based on the three parts: nature of the transnational threat (coming from the climate change and COVID-19), geopolitical tensions, and the idea about the post-pandemic scenario.

According to Prof. Milani, COVID-19 pandemic, like the other transnational threats, has given stronger reasons to consider the concept of the 'Global Human Security' very seriously in the policy realm. The United States and China, together, produced 43 percent of CO₂ emissions, in 2016. Whereas the countries in Africa and Latin America produce a very minute level of emission. Europe, if we look together, is also a major contributor to CO₂ emissions. Even India has a significant contribution to it. We talk about the responsibility of states, he said, "much seldom we talk about the responsibility of the transnational corporations", out of the top hundred largest economies of the worlds, at least, 51 are the corporations. And, today, the top corporations control the two-third of the world trade. The discussion on the global human security must consider the 'negative spillover effects' of interstate working and also how the global capitalism is organized.





Session 2: Climate Change and the Global Human Security

Guest Speaker: Prof. (Dr.) Carlos R. S. Milani

Last year, in Brazil, about 3.8 million acres of primary humid topical farming land was destroyed, as per the statistic by the Global Forest Watch. In the same year, it accounted for one-third of the global deforestation. This gives the evidence of how the sovereign state's negligence and incompetency are becoming the reason for the destruction of a public good which is relevant, both, nationally and globally. Environment is a public good which is demanding protection to protect the humans in return. Destruction of forests, fossil & fuels, and an increase in the rapid industrialization without addressing the need for pollution control is becoming a threat to global human security.

Today, governments around the globe are advising of 'stay home, stay safe', but what about if the homes are prone to violence and such an environment is giving rise to domestic crimes? There is perhaps no one today who can give a guarantee of safety at home and give assurance of minimum economic operations. These days, access to soap and water is important for being safe from getting affected by the virus. But, in some communities, in Brazil, he told, has no access to water and soap, which makes them deprived of taking the minimum precautionary measures of hygiene. He further explained that not even the media outlets or the neoliberal governments able to deny that the COVID-19 "has uncovered the crude reality of social and economic inequalities".

Coronavirus is different from climate change "where access to information, climate data modeling, and data interpretation plays a pivotal role in the actual projection of anthropogenic climate change as a political problem. Covid-19 is an individual and subjective experience that occurs without too much mediation and too many intervening agents, climate change appeals to the long term social representation of sustainable life and livelihoods on the planet. Whereas, COVID-19 has engaged governments, health workers, and international organizations with a more direct understanding of emergency".

He noted two geopolitical tensions due to COVID-19. First, between the global and transnational dissemination and the principles of sovereignty, as a locus of political responsibility. Second, today's need to act due to the emergency and lack of operational capabilities of the multilateral trading system. This pandemic has shown the efficiencies the governments in acting appropriately in fighting against the problem of global human insecurities. Policymakers should be prepared to act with a diversified and broad understanding of the topics which could benefit in dealing with these insecurities on the ground of policy. He said, the "global human security includes the security of states, but also the security of the populations and, also, the security of the biosphere as a life-supporting system".





Session 2: Climate Change and the Global Human Security

Guest Speaker: Prof. (Dr.) Carlos R. S. Milani

The major challenge climate change and health threats posed is how "we are going to act collectively", as the solutions to these problems could only come from the global cooperation, not from individuals' decisions. Climate change and this pandemic has shown how the local solutions vary across the countries in regions, which has unpleasant effects on the other players. Lack of operational and mandatory capacity is another concern today. UN Secretary General's statement, he stated, showed "how the UN Security Council is unable or not willing to act in the field of the global pandemic.

In the other part, he discussed how climate change will become a threat to humanity. There are chances that the small island nations can be destroyed and the nationals of these nations will be forced to migrate towards other countries. "Focusing on the health threats and climate change as a global human security issue may give rise to new metrics for screening and monitoring national and international public policies", he stated. Today, global human security is the most important concept for the framers of public policies, to consider.

The global political scenario, he argued, probably would be full of conflicts between China and the United States. In the domestic polity of countries, the health system and food security will emerge as one of the major issues. The pandemic has shown, even the western economies are not self-sufficient in terms of food security. He said, "Washington depends on many other countries, but also on China", its biggest economic and political rival today, for numerous goods including pharmaceuticals, machinery, and other inputs for finished goods. Possibly, in the post-pandemic order, there will be "ramping authoritarian nationalism" in many states of North and South. He reflected the emergence of nationalism is instigating the conflicts within the regions. He said, "fighting an enemy may justify the democratic states going beyond the normal game of its political nature, the pandemic may give the authoritarian leaders the 'perfect' excuses to try moving much beyond the rule of law, freedom of expression and respect to human diversity".

In the Q&A session, further, numerous topics related to the climate change refugee, authoritarian behavior of states, effects of climate change and pandemic, and so on were discussed.



World Environment Day

JCGS Webinar Sessions, 6th June 2020

Session 3: Sustainable Solutions to the Global Water Crisis

The Egyptian Case

Guest Speaker: Prof. (Dr.) Omar El-Nady

Professor Omar El-Nady is assistant professor of Environmental Engineering at Canadian International College and American University in Cairo. He is a guest lecturer in Oslo University and the Director of the Summer School for Sustainable Development, Egypt. He is a design engineer with the Water and Environment group at the Engineering Consultations Office. He also has more than 10 years of experience as a Senior Engineer who worked in many projects in the fields of Life Cycle Assessment and EIA using (GREET, BEES, and Athena), Infrastructure, water, wastewater networks and roads planning, water and wastewater treatment, plumping and fire fighting, development projects like Trinex WEF NEXUS -EndPolio - UNESCO Climate change- Horizon 2020.

Professor Omar commenced the session by preluding to the topic. He mentioned about what global water crisis is and its political, social, economic and environmental aspects. Professor also told the audience he would be comprehensively discussing the case studies of India, Egypt Libya, Sudan, Jordan, Ethiopia and MENA. Further, he added he would be talking about the advantages and disadvantages of various techniques and propose solutions for the world to adopt.

He began the presentation with a brief explanation of water availability; there's only 2.5% of water which is not saline out of which barely 1% is fresh water and available for consumption. He listed various water problems such as population growth in comparison to stable or declining water resources, inequality of water distribution and inequality in the water available to common men. He stated a staggering fact that if everyone were to be given access to clean water, 2 million lives could be saved per year.

Professor moved on to give laconic case studies of different regions of the world. The first was the case of Sudan wherein he pointed out the problem as lack of proper technology. His second case study was of India, through which he enlightened the assemblage about the rate of water-borne diseases in the country; it was 20% and he affixed the cause to the rampant population growth. The next case study was an astonishing one: Libya is a country with no surface water resource and is facing the problem of water scarcity.





Session 3: Sustainable Solutions to the Global Water Crisis

The Egyptian Case

Guest Speaker: Prof. (Dr.) Omar El-Nady

Professor Omar informed the audience that before Arab Spring, the country initiated a project called as Great Rivers Project which today is halted due to its unsustainability as it entails large capital, large consumption of ephemeral ground water supply and also encroaches on other countries' ground water resources. The case of Jordan too was very surprising, the country adopted a political solution in the form of a water policy which regulated the supply of water for agricultural purposes and increased the supply for domestic use. This policy rendered the agricultural sector worse off, engendering a mini food crisis where certain crops were unavailable and unemployment was unbridled. MENA is a region in the Middle East where the population growth rate is rising progressively. Professor Omar discussed how the country's problem isn't merely declining water resources but also salt-water intrusion. The last case study which was brought up was of Ethiopia. This country is responsible for 70% of Nile River's flow and manoeuvred building 13 mega dams to curb the flow of this vital resource to other dependent countries. This plan today stands paused and because of its incapability to involve other stakeholders, other countries, will remain unsuccessful.

The speaker later distinguished between the two types of water scarcity: economic and physical. He elaborated that physical scarcity is one where there is dearth of or absence of water, and economic scarcity is one where the water is available but the technology to procure it or the capital needed to invest in its accessibility is missing. He further explained these two types with examples: India's western and southern regions face physical scarcity while its north eastern region faces economic scarcity, and Egypt faces physical scarcity. The solutions for such an incapacitating crisis were numbered by Professor Omar as follows:- (1). Wastewater Treatment Reuse: Usage of grey water for dowsing fire by firefighters, to dulcify drought prone areas, to irrigate some green patches and to some extent in irrigating non-food crops. Example: 500 feddans in Egypt were reclaimed by utilising grey water. (2). Ground Water Recharge: This technique requires the injection of water back to the ground. The three types for this technique are: Recharge Basin, Vadose Zone Injection Well and Direct Injection Well. Example: USA's California and Florida are utilizing this technique. (3). Virtual Water: It is the hidden or the indirect water flow in the chain of consumption of products. Virtual Water Trade is the trade of this virtual water that the exporting countries may not be cognisant of that is causing the depletion of their water reservoir. (4). Desalination: Though is infamous for being unsustainable, is not always so. This process in some unique cases can be a better option. There are two types of desalination: Thermal Desalination and Membrane Desalination. Both these types are not affordable as both require high supply of energy which is costly. Therefore, two cheaper desalination techniques are: Forward Osmosis and Desalination Using Algae.





Session 3: Sustainable Solutions to the Global Water Crisis

The Egyptian Case

Guest Speaker: Prof. (Dr.) Omar El-Nady

According to Professor Omar sustainable solutions are possible if we combine economic, social and environmental disciplines. Professor shed light on the failing case of SDGs and stated that they might end up like MDGs because of their unmeasurable Key Performance Indicators (KPIs). Thus, such non-progressive international initiatives need to be backed by local ones, one such example given by him was of Egypt Vision 2030. He warned not to just look at one aspect of the problem which is water but to also take other related problems into consideration. Such an inconsiderate step of only paying attention to a facet leads to mismanagement of resources. He highlighted the correlation between water, energy and food, forming Water-Energy-Food Nexus.

The speaker concluded the presentation by recommending what needs to be done:-
(1).Adoption of holistic sustainable Water-Energy-Food Nexus strategy,
(2).Collaboration of all disciplines, and (3).Formulation of sustainable and realistic Key Performance Indicators (KPIs).

Q/A section: The ensuing interaction was a lively and well-focussed one

Question: How can Egypt decrease its water consumption?

Answer: Spreading awareness alone is insufficient. Direct and indirect precepts are required to regulate the water consumption. This can be done by increasing the price after a stipulated quantity of water has been consumed or by raising the tax on water and this has to be done in tandem with population control policies.

Question: In light of current pandemic, what will be the future of SDGs in European countries?

Answer: SDGs are for all the member countries of UN. They were never going in the right direction, especially in the last two years we can see their performance has deteriorated. So, even before the COVID-19 hit the world, they were not progressing much. The reason of this ineffective outcome is that they do not have any realistic measurements and they might end up like MDGs. Such mistakes have been taking place and we need to change this pattern of mistakes by making realistic KPIs.

Question: How can the engineers sensitise politicians about sustainable water management?

Answer: The main problem is culture. The engineers first need to change themselves, they need to accept that they require help of other disciplines. They should be humble and understand that they need politicians to implement their plans. Educators too need to stop lionising the profession. What Dr. Adam is doing today is a great job, we require such meetings where people from different disciplines can have a dialogue.





Session 3: Sustainable Solutions to the Global Water Crisis

The Egyptian Case

Guest Speaker: Prof. (Dr.) Omar El-Nady

Question: What different roles do civil societies play to bring transparency in corporates' and governments' actions?

Answer: Since the last decade many civil societies have taken up momentous steps and their efforts are discernible by the small changes we see today. However, these societies work individually and not in a collaborative way, thus these societies need to work together with the government to maximise the benefits. Just imagine what they all can do together, what big changes can be brought to the nation! They need to rise above and work with others, they must stop being concerned about the titles. Often due to such temptations they tend to forget the bigger objective.

Question: How can one spread the use of such sustainable solutions at the grass root level assuming that awareness and feasibility are required?

Answer: Illiteracy is not just about a language, it is about many other things, for example environmental illiteracy. To tackle such a problem webinar or posting on social media are not enough. All disciplines need to come together to educate each other on various subjects and work collaboratively. In the summer school students of different disciplines join and are taught to work together. The youngsters need to be taught that alone they cannot achieve anything and to create such a generation it's going to take a lot of time.

Question: From an engineer's perspective, what alternatives are in front of Egypt to solve its water problem with Ethiopia in the coming years and will those be enough?

Answer: The Egyptian government is working on the alternatives because if the dams are laid, it will create a havoc in the country. The alternatives on which the government is working are:-(1). Increase of wastewater plants to recycle waste water according to the Egyptian policy codes. (2). Gather rain water and utilize that. (3). Adopting cheap desalination techniques by investing in renewable energy.





Session 4: Ecologies, Communities and Markets

Guest Speaker: Prof. Amit Lahiri

Professor Amit Lahiri is an associate professor at the International Institute for Higher Education Research and Capacity Building (IIHEd). He is also the Chief Sustainability Officer at O.P. Jindal Global University, India.

Professor Amit informed the attendees that he chose the World Environment Day to share his research with them because it was a very appropriate time. His research entailed the connection between ecologies, communities and markets. Professor also highlighted how his research was related to the pandemic the world is facing, COVID-19. He further elucidated when the ecosystems get interrupted, they become critical ecosystems called as Biodiversity Hotspots and the result of this phenomenon is displacement of several animal species which then adapt in different ways and transmit viruses. However, his case study was of Western Ghats in which he emanated the knowledge to the ones present: how ecological disruption affect human communities that later due to markets intrusion get involved into illegal trade. Prof. Lahiri gave examples of certain responsible market systems and recommended the same.

Professor Amir is an ardent believer of lab-based, experiential, interdisciplinary and ground level-based research. He started the presentation by giving a succinct introduction to the challenges he encountered. The first challenge was of Mewato district in Haryana. With the support of Sehgal Foundation, he had started interaction with the villagers to get the data for his research on water and primary education crises. He explained how community-based participative research is important to tackle such problems. He discussed how it is important to frame the question of one's research after getting involved with the community. Professor also mentioned how important it is to disseminate one's knowledge to others and for that he converted this research into an academic course where he takes the students to the field site to interact with the villagers and come out with their own solutions. Thus, he harped how there is a need of education for sustainable development in the world. The students need to develop skills in the cognitive, socio-emotional and behavioural domains. Additionally, Professor stated that for each SDG, indicative topics and pedagogical approaches need to be outlined.





Session 4: Ecologies, Communities and Markets

Guest Speaker: Prof. Amit Lahiri

Professor Amit then moved to his second challenge which was understanding the problem of critical ecosystems/biodiversity hotspots in Western Ghats, Maharashtra, India. He cleared in the beginning that biodiversity hotspots are critical ecosystems and there are such 34 systems in the world. These biodiversity hotspots are endangered ecosystems that comprise of 2.4% of the earth's surface and have 43% of the endemic plant, reptilian and mammalian species. These species if lost, can't be retrieved as they took millions of years to evolve. He specifically talked about Western Ghats and told they are one of the 36 biodiversity hotspots and make up about 2% of the earth's biodiversity. This area is home to 5,000 flowering plants and 600 species of birds. Professor linked these ecosystems with communities: the communities that inhabit these critical ecosystems are completely dependent on them but due to their loss, these ecosystems cannot suffice their needs. So, these communities become ecosystem refugees who turn to illegal markets to meet their needs. Professor explained that it is where markets play a role, they encroach and disrupt the ecosystems by industrialisation. Questions that needs to be asked is - how does a participation-based CSO leverage and build livelihood capacities of ecosystem-dependent communities by developing sustainable linkages with responsible market systems to conserve critical ecosystems such as the North-Western Ghats?

Professor enlightened everyone that there are 6 provinces in the Western Ghats that are critical ecosystems (Conservation International). He conducted his research in the major Northern Maharashtrian region where various endangered species, that are essential for herbal medicine, Ayurveda and native communities, are found. He stated that this region is one of the global 200 ecoregions. His research was a district level based one where conservation projects were carried out in communities occupied private areas. Professor, in the course of his field work, noticed that the region was prone to habitat fragmentation. This is a process during which a large expanse of habitat transformed into a number of smaller patches of smaller total area isolated from each other by a matrix of habitats unlike original (Fahrig, 2003). The result of this fragmentation was seen as:- (1). Expanse of barren land in the region, (2). Great Hornbill's population depletion as they nest only in certain endemic trees, (3).Highways that fragment the forest area, (4). Species crossing over the highways and getting exposed to new environment, (5). Increment of illegal trade and wet markets. Professor Lahiri listed three ecosystem services that are available from the ecosystems:- (1). Provisioning: goods produced or provided by ecosystems, (2). Regulating: benefits obtained from regulation of ecosystem processes (3). Cultural: non-material benefits from ecosystems.





Session 4: Ecologies, Communities and Markets

Guest Speaker: Prof. Amit Lahiri

Cultural ecosystem service, according to Professor Amit, is at the heart where ecologies and communities meet. He gave one example of sacred groves – the phenomenon where communities worship nature. These cultural agencies of natural capital attract innumerable tourists from around the world which poses a risk of their disruption. India has many sacred groves, 2778 alone in the Western Ghats and Konkan region, that need to be conserved; their diversity needs to be protected from degradation.

Finally, the professor concluded the presentation with an example of responsible market system. The case given was of Applied Environmental Research Foundation (AERF), Pune, India. The ecosystem refugees due to losing their supply of daily need products from forests become poachers, thus to curb this transformation, a source of livelihood based on community model is required. AERF takes the responsibility of forging such a market for these refugees where they can participate. The organic products so made by these individuals are sold to big multinational companies and the fund generated is used for conservation. This model revives the community links and bolster conservation process. Professor sincerely uses the theoretical framework of holding, environment justice, driving and understanding. He focused more on driving the compact between ecologies, communities and markets.

Q&A Section: The ensuing discussion was informative and thought-provoking.

Dr. Hebatallah Adam started the Q&A section by asking two questions to Prof. Lahiri:

Question: There is a need for integrating experiential learning with environment studies, why is that so important and also what challenged you faced in integrating the two?

Answer: Combining the two is very crucial. After my masters in Live Sciences I joined an organisation where HIV and Hepatitis tests were developed in France. In those days I was tasked to take care of installation of diagnostic systems in blood banks and hospitals. HIV was a very contained disease and prevalent mostly in sex workers who were marginalised. That is when I realised the need for interaction between commercialised science and technology and accessibility to healthcare. Affordable healthcare services are very much required. Through this experience my interest in experiential research was born. I firmly believe that young people must be exposed to community-based learning in local sites.





Session 4: Ecologies, Communities and Markets

Guest Speaker: Prof. Amit Lahiri

Question: What is the effect of COVID-19 on the relation between ecologies, communities and markets?

Answer: It is arguably being accepted by many that the virus originated from Wuhan's wet market where many endangered animals were sold. This is an animal-to-human transmitted virus. Zoonotic viruses are not naturally present in human bodies and this particular virus targets RNA and we have to use certain enzyme to reverse transcribe in order to detect it. Pangolins and bats are endemic species, when highways fragmenting forest area are formed, they become vulnerable to illegal trade. The marginalised ecosystem refugees become agents of these wet markets. When virus moves from one species to another, antibodies are absent in the new host thus the immune system gets overwhelmed and causes organ failure. This is the link between human health and ecosystem.

Then the discussion has been opened to the attendees who have asked the following questions:

Question: Do you recommend any strategies for sustainable start-ups in the Indian context?

Answer: There are many community-based enterprises that are good examples of such start-ups. There are many socio-economic and environmental challenges in India and the solution could be using the market system rather than trying to eliminate it. AERF is such an organisation where communities are integrated to multinational companies therefore ensuring livelihood through the flow of revenue and sustainable market system.

Question: How far do you think the Rio Conference and Agenda 21 have been successful in finding solutions for the ecological challenges?

Answer: Rio Conference was held in Brazil which is now a site of industrial activities in the amidst of pristine Amazonian biodiversity, thus what an irony. Sadly, the latest UN report has shown that there has been an incremental growth in disruption of biodiversity due to lack of humanity's effort to conserve them. There's enough science of conservation, enough theoretical framework for conservation and some laws in place, but do they ever connect? Legal architecture can be used to connect evidence-based science and evidence-based policies.





Session 4: Ecologies, Communities and Markets

Guest Speaker: Prof. Amit Lahiri

Question: What could be the best possible alternative policies to accommodate better environment projects with the socio-cultural fabric of the society?

Answer: I am still in the process of learning, don't know yet what is the best solution. However, novel form of education is required which transcends theories to lab-based education even in the Social Sciences field. One such example is of Poverty Action Lab and such labs must be developed in an integrated way with science and engineering labs. Maybe we can even call them Sustainable Labs. In addition, rapid radical changes are required to transform theoretical learning to learning from field sites, and with policy makers to give innovative policy recommendations.

Question: What support was given from bureaucrats in your research?

Answer: That's a huge challenge actually. It was a problematic arena as the work done by me addressed the drawbacks of the state and bureaucrats obviously would want to save their images. It is always difficult to garner support from people who wield power that's why civil societies are big saviours, they have developed trust with government, research institutes and communities, therefore it becomes easier to forge partnership with the assistance of civil societies.

Question: In this age of market driven society, how can we conserve the important medicinal plant species belonging to biodiversity hotspots such as Western Ghats?

Answer: There is a problem with market driven world but markets cannot be eliminated therefore markets need to be involved and evolved. The new evolved market systems must be cautious of allocation of resources and be responsible. The market system that we have today is unregulated and thus cause a lot destruction to biodiversity and natural capital. Dow Jones Sustainability Indices evaluates sustainability performance of thousands of companies and is in dire need of foreign funds. Similarly, Norwegian Pension Fund has sustainability written as part of their DNA and thus can be held accountable for the same. These MNCs do so to build their reputation and therefore are viable to follow their rules. In case they violate any, they can be held accountable by the consumers.

Lastly, as his closing remarks Prof. Amit emphasised that pandemic is laying bare the inequitable environments that we live in. The starker of this was the tragic movements of the migrant communities and the inadequacies in the public health systems amongst others. He signalled that it is fallacious to believe in the merit of a pure market led system without any checks and balances. He ended by highlighting that even as we speak the destruction of environment is going on rampant and this should be a clear signal to take action.

In the end he thanked JCGS for organising such an important seminar in the context of the global pandemic that all of us are collectively facing.

