



CENTRE FOR EXCELLENCE IN
**SUSTAINABLE
DEVELOPMENT**



SUSTAINABILITY HORIZON

Quarterly Newsletter of
Centre for Excellence in Sustainable Development, Goa Institute of Management
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Prof. Ajit Parulekar

Director
Goa Institute of Management

It is with great pleasure and pride that I introduce to you the inaugural issue of our newsletter on environmental sustainability.

At GIM, we have always been very conscious of our impact on the environment. But over the last few years, with new programmes being launched and the number of students on campus increasing, we have taken this commitment to the next level. We have made many changes in the way we use the natural resources and manage our waste. Installation of waterless toilets, plans to install solar panels for generation of electricity, trying to trace our waste are some of the examples of this. Various collaborations with a number of international and international universities have been undertaken to pursue multiple initiatives in the area of sustainability.

We want each and every student at GIM to be a champion of sustainable practices and every employee to be a part of this journey. With this in mind, we are launching 'Sustainability Horizon' our quarterly newsletter on environmental sustainability. Through this newsletter, we hope to be able to collate innovative ideas, thoughts and best practices and make a significant contribution to the literature and awareness in the field.

My best wishes to the CESD team to take this forward successfully. I sincerely hope that you enjoy reading the fruits of their efforts and help us in taking our commitment to sustainability forward.

Environmental degradation is destroying the present and future ecosystems on planet earth endangering the life of all living beings on it. Over the last several decades as the human race has focussed on economic growth, with the availability of limited natural resources, this has come at a cost to the environment. It is high time that we all do our bit to reduce this erosion and in fact, help reverse some of the negative impacts on the nature.

The **Centre for Excellence in Sustainable Development (CESD)** at GIM was created in July 2018 with the purpose of taking the agenda of environmentally sustainable growth and development forward. In the last one and a half years, the centre has worked hard to make this happen. In the process, CESD has undertaken multiple initiatives: sustainability hackathon for sustainable campus development at GIM, a research study to understand the sustainable campus development of several national level institutes in the country, sustainable rural development for select villages in Goa. All these activities were well received by our various stakeholders and helped us in taking sustainability at GIM and its surrounding communities forward.

'Sustainability Horizon', quarterly newsletter from the centre, is one more step towards this goal. Through this newsletter we hope to reach out to various stakeholders at GIM and make them a part of our journey towards sustainability. This newsletter showcases the latest international issues and practices in the field of environmental sustainability. It also summarises the recent research in the field specifically in the sub-themes for every issue. With contributions from practitioners and academicians working in the domain of environmental sustainability, we hope to enrich our readers in an area of utmost relevance for the human race on the planet earth. Contributions from our students make the newsletter vibrant and dynamic.

In the coming years, as we move forward to contribute to Goa's and India's journey towards sustainability, this newsletter will play a role in helping us share our experiences and learning from experts in the field.



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Sunshine is a form of energy, wind and sea currents are manifestations of this energy. Do we make use of them? Oh No! We burn forests and coal, like tenants burning down our front door for heating. We live like wild settlers and not as though these resources belong to us.
– Thomas Alva Edison, 1916

Achieving sustainability has always been a global developmental challenge, and given the economic growth trajectory of the nations around the globe, the criticality of environmental sustainability is being recognized again and again. This pertaining issue traces back to the classic debate on the “Trade-off between Growth and Development”. Prominence of this issue in the larger international fora has given birth to the Sustainable Development Goals (SDGs), which are aimed at restoring the economic, ecological, and social balance in the world by 2030. However, even after the SDGs came into existence, the nations are struggling to achieve the objectives of these SDGs, and realigning the existing policies for ensuring environmental sustainability has been a major problem for them. For encountering this issue, the academic and policy research are joining hands in pursuit of a solution. As a result, the world of research has seen a surge in the studies on environmental sustainability in various contexts. By virtue of building a discourse of arguments and counter-arguments, intuitions and counter-intuitions, and adopting competing methodological applications, researchers are trying to unveil several facades of the issue of environmental sustainability, while bringing multidimensional aspects to the solutions.

‘Sustainability Horizon’, the quarterly newsletter from the [Centre for Excellence in Sustainable Development](#), aims at adding value to this discourse, while locating the emerging issues in the arena of environmental sustainability. For each volume of the newsletter, we will focus at a specific issue on environmental sustainability, and we will try to dig deeper into that issue. The contributions from the researchers from academia, government, and industry are expected to enrich the quality of the newsletter, so that it can make a significant impact in the global sustainability research domain.

While you are reading this, the world has come to a screeching halt due to the outbreak of COVID-19. While it is being considered as a curse to the humanity, it is a blessing for the environmental sustainability, as slowdown in production, transportation, and other anthropogenic activities has resulted in the betterment in environmental quality. From this perspective, theme of this volume has been chosen as “**COVID-19 AND ENVIRONMENTAL SUSTAINABILITY AT CROSSROADS: ARE WE LOOKING BEYOND THE OBVIOUS?**” While researchers from academia and industry have contributed towards this theme, the postgraduate students of Goa Institute of Management have also contributed significantly. We believe that the perspective of the budding managers can bring forth certain insights, which might add significantly towards solving this burning global issue.

TRENDS IN SUSTAINABILITY RESEARCH

Over the last few decades, the trend in the sustainability research has been undergoing a rapid transformation. One of the recent trends in this domain is the eco-innovation. Though the concept is not new, the work by Rennings [1] has sparked the debate among the energy and environmental economists about the possible impacts of eco-innovation for ascertaining environmental sustainability. Díaz-García et al. [2] has given a detailed account of this debate, while pointing out the future directions of this debate. Once the discussion on eco-innovation comes, automatically comes the discussion on energy innovation. A recent article by Sinha et al. [3] has initiated a debate by focusing of how energy innovation can bring forth a trade-off between environmental and social sustainability. This study has posed a question before the researchers, “Should we really innovate? Or not?” Researchers from developing countries have started building on this idea. A new dimension to this debate has been added by Chen et al. [4], when they introduced the concept of “Shadow Economy” in the debate of environmental sustainability. Introduction of this aspect has led the researchers to rethink about the diffusion pattern of energy innovation. From the perspective of innovations, these three trends are expected to dominate the world of sustainability research in the coming decades.

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FUN CORNER

How many of these keywords from the Sustainable Development Goals (SDGs) can you find in this maze?

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KEYWORDS

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| NO POVERTY | SANITATION | 11FEONLAND |
| ZERO HUNGER | CLEAN ENERGY | INNOVATION |
| GOOD HEALTH | CLEAN WATER | DECENT WORK |
| EDUCATION | SUSTAINABLE | |

WASTE MANAGEMENT CHALLENGES AND RECOMMENDATIONS UNDER THE INFLUENCE OF COVID-19 PANDEMIC



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The fast spread of the COVID-19 pandemic since the month of February 2020 has raised new challenges in waste management sector. In addition, limitations on commercial activities, mobility and manufacturing sectors have significantly affected the waste management systems. During the COVID-19 pandemic, issues of Waste management have become very critical to human development and community health [1]. The conventional waste collection chain has come to stand still for quite some time. The invaluable service provided by competent bodies like Panchayats and Municipalities to collect, segregate, dispose and manage the waste has crashed down. This has culminated into unusual heaps of waste that pose community health risks and have helped to intensify the spread of COVID-19. Studies have tried to evaluate and measure the impact of the COVID-19 pandemic on waste management owing to lockdown and social distancing measures [2,6]. From secondary data and research articles published during this time, it is found that the quantity of waste generated increased across countries observing the social distancing measure of staying at home [9]. Other factors like the intensification of single-use products and panic buying have increased production and consumption, hence thwarting efforts towards reducing plastic usage and subsequently increasing pollution.



The crisis brought upon by the COVID-19 pandemic has necessitated special attention as dynamism of waste management has been at task. Policymakers and practitioners have been forced to dynamically respond to unexpected fluctuations in waste composition and quantity [4,7]. Efforts have been made to understand the challenges faced by waste management systems during the COVID-19 pandemic and also to enlist the opportunities to identify and address the loopholes in the system. Studies based on secondary data, with respect to specific cases of biomedical waste, plastic waste, and food waste management - all of which have been a sustained cause of anxiety during this crisis - indicate the following:

1. It is predicted that household food waste generation will reduce as people will become conscious and will prefer buying non-perishable items during lockdown.[8]
2. Due to lockdown and supply shortage, there will more consumption of home-made food items [1, 3].

On the contrary, an increased amount of food is likely to be wasted owing to disrupted supply chains, restrictions on transportation of food due to changed vehicular movement norms, lack of manpower for managing food warehouses, etc. [8,4]. These considerations necessitate the creation of resilient, localized supply chains so that any such pandemic or unforeseen situations can be countered in the future.

For addressing the existing waste management challenges in light of the COVID-19 pandemic, some key strategies that policymakers can focus upon are as follows:

1. Providing the citizens with a more frequent and regular waste collection mechanism.
2. Promoting waste segregation at source
3. Incentivizing good waste management practices
4. Special training and sensitization-drives around waste management must be initiated.
5. Promotion of the use of information and communication technology (ICT) for waste management
6. Development of applications on mobiles and similar devices and strategically motivating the public at large to use the same

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SHOULD SUPPLY CHAINS BOTHER ABOUT ENVIRONMENTAL IMPACTS DURING COVID-19?

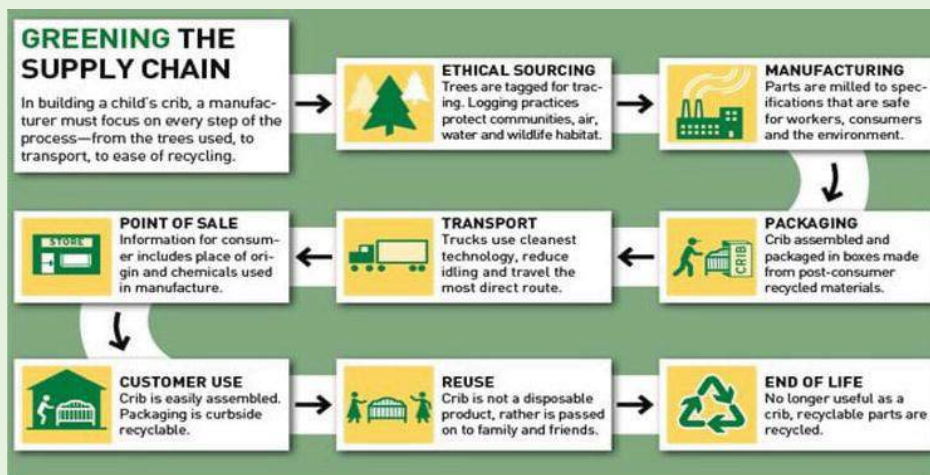


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Much of the discussion, in the wake of global pandemic, has been to understand the impact of medical waste and potential carbon footprint of materials such as test kits, PPE's, sterilization, sanitizers, waste disposal etc. [1] and whether working from homes is a sustainable option [3]. However, policy makers should concentrate on supply chains that are severely impacted by the global pandemic especially in countries such as India where quite often we find either "poor as suppliers" (agriculture, textiles, handicrafts) and "poor as consumers" (access to drinking water, healthcare, technology) as critical stakeholders in the supply chain.

Given COVID-19, environmental sustainability efforts are meant to take a back seat because of crisis rebound effect [2], in which societies, supply chains will exclusively focus on economic and social outcomes as primary goals while moving towards recovery. Thus, the so-called decrease in emissions due to slower economic activity should not be taken for granted and reversal of trend can be worrisome especially to planetary policy makers.



Source: Khan, S.A.R. (Ed.), (2018), Green Practices and Strategies in Supply Chain Management, Intechopen.

The question remains that how do we evaluate the option between environmentally conscious supply chains that involves economically disadvantaged stakeholders versus environmentally conscious supply chains, which are desperate to rebound financially post pandemic? What happens to supply chains in sectors such as agriculture, handicraft, textiles that involve economically disadvantaged actors and at the same time are desperate to revive earning levels to pre-pandemic times? Should we disregard environment and accommodate social responsibility and economic viability in business? Or should we compromise both economic viability and social responsibility and protect Mother Earth to the best of our abilities? This opens the old debate that should we

leave such decisions to corporate leaders or should India as a country lay down strict environmental laws, regulations and audits irrespective of supply chain designs and accept the opportunity loss for economically disadvantaged stakeholders in the supply chains for adhering to environmental regulations even in tough times such as these?

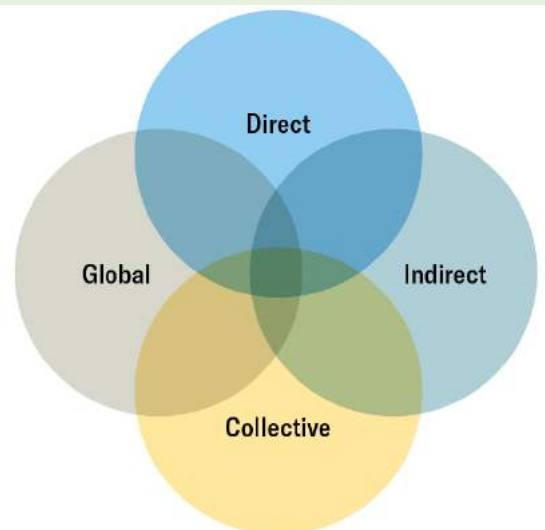
The only solution that I can think of is to promote supply chain resilience. This can be possible with effective restructuring of supply chains, careful collection of data through disruptive technologies such as digitization, IoT, Blockchain, AI and most importantly the ability of supply chains to adapt to future pandemics by reducing the information asymmetry in the supply chains and make provisions accordingly.

If resilience is achieved, then governments can concentrate on environmental sustainability in Indian context without worrying on the social responsibility as the resilient supply chain should be able to absorb the economic uncertainty arising due to emergency situations such as COVID-19.

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Source: Villena, V. H., & Gioia, D. A. (2020). A more sustainable supply chain companies tend to focus on their top-tier suppliers, but the real risks come lower down. *Harvard Business Review*, 98(2), 84-93.



THE PANDEMIC AND THE UK GREEN RECOVERY

INTRODUCTION

The United Nations Environmental Programme (UN Environment, 2020) wrote that the pandemic is part of the global crises and highlighted the urgent nature of addressing these crises and needing 20 trillion dollars to help with recovery. It made the case for a global financial system that would enhance natural capital and mitigate the risk of biodiversity losses.

The economic impact of the pandemic means a shrinking economy and job losses. As part of the recovery process in the EU and UK, more than 50 banks and other financial institutions signed on to the 'green recovery alliance' in the European Parliament, supporting a post-pandemic stimulus plan to transition to a green economy.

UK BANKING/FINANCE SECTOR RESPONSE

While most of the UK high street banks are signatories of the UNEP Financial Initiative (UNEP FI) Principles for Responsible Banking and started the process of the Task Force on Climate-related Financial Disclosures (TCFD) reporting in 2019, the pandemic has pushed green financing up a gear.

Besides signing the 'green recovery alliance', UK banks have been proactive in committing to low-carbon targets. Five banks, including Barclays, have committed to financing the transition to net zero in the UK in July (Volans, 2020) and Barclays announced its own ambition to be a net zero bank by 2050 and published its climate dashboard in December. Lloyds Banking Group announced in January that it was reducing its financed emissions by 50% by 2030.



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Source: Yiu, S. (2020). HKMA, SFC team up with government agencies as Hong Kong sets sights on becoming green financing hub. South China Morning Post

NECESSARY TOOLS

To deliver on their targets, the banks need tools in order to measure their climate risk exposures, financed emissions and set proper targets. To that end, several UK banks are involved with the UNEP FI TCFD Phase 2 programme which seeks to enhance their climate risk analysis and reporting capabilities. Then there is the Partnership for Carbon Accounting Financials (PCAF) methodology to calculate financed emissions and Science Based Targets Initiative (SBTi) methodologies to set emissions related targets in accordance to climate pathways. As for capital allocation, Natixis led the way with their green weighting factor (Natixis, 2020).

A particular challenge facing most banks is data, be it internal bank data or externally verified data on company emissions and asset location. Here too, several providers such as S&P Trucost and MSCI are stepping up to the plate.

CONCLUSION

As the methodologies and data for the building blocks of green finance develop and mature and governmental policies for a green economy are set in place, more banks will adapt their financial framework and place green finance at the heart of their future strategy.

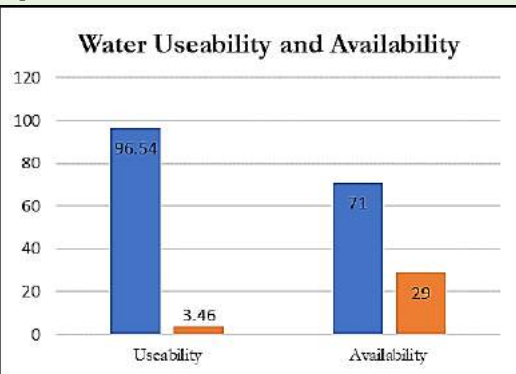
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CAN COVID-19 & SDG6 BE AT CROSSROADS?

Earth is a water planet, about 71% of the earth's surface is covered with water. But the main question is how much of this water is useable? From the water available, 96.54% of it comes under the oceanic surface which means it is saline and is therefore non-useable and the rest 3.46%, comes in different forms of freshwater which is the useable water. The water available for usage indicates that it is a scarce resource and may not suffice for all the generations of mankind if not used prudently.

Moreover, there is an associated problem with useable water and i.e., its level of cleanliness. Third-world countries with high population density face the problem of non-availability of clean water. Eventually it also harms the livelihood of their population resulting in a low immune system towards waterborne diseases.



The year 2020 has been an eventful year especially due to the spread of COVID-19 pandemic. It has forced people to give up their old habits of unhealthy living to strive for a healthy life. Governments across countries are in a vulnerable situation due to the spread of the pandemic and are ramping up their sanitization services. The goal of SDG6, i.e., to ensure availability and sustainable management of water and sanitation for all, may go for a toss. The stronger and wealthier the nation, the more influence it shall have on scarce resources.

Countries like India which have overcrowded metropolitan cities like Mumbai, Delhi, etc. are facing extreme difficulties in managing hygiene factors. Dharavi in Mumbai, the largest slum of Asia, had become a COVID-19 hotspot and could have brought the entire city down. It was difficult to inculcate hygiene and sanitization due to various constraints. 80% of the population (1million) are dependent on community toilets (450) and making clean water available to everyone was must. With constant individual efforts, it was possible to flatten the curve. This goes on to reflect that a slum-like Dharavi, has taught people the importance of clean water and sanitization, and why they should strive to achieve the same.

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<https://www.un.org/sustainabledevelopment/water-and-sanitation/>



Nidhi Nare
PGDM-BIFS, 2021-22

BEHAVIOURAL CHANGES: THE PATHWAY TO ACHIEVE SUSTAINABLE DEVELOPMENT GOALS



Nikhil Jain
PGDM-BIFS, 2021-22

The COVID-19 pandemic marks a new beginning for the world we live in. It has shown that advances made to tackle poverty, hunger, good health, and well-being can face serious setbacks. Until these environmental threats, which have the capability to significantly harm the systems are curbed, it will hinder the humanity as well as the planet to grow and flourish. Brown finance, lifestyle decisions, etc are continuing unsustainable development and consumption, and these activities have contributed to natural resource degradation, environmental destruction, as well as an increase in health concerns and diseases.

The pandemic has also taught that, if we are to achieve environmental goals, the obligations for acting need to be extended from the government to communities and individuals. The behavioural changes worldwide have been forced by closed states, minimum supply of goods and staying indoors, which is challenging to be maintained after restrictions are removed.

RECOMMENDED IMPROVEMENTS

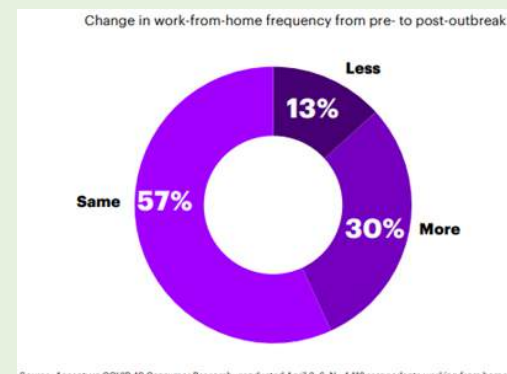
According to Accenture COVID-19 Consumer Research, the pandemic has contributed to a rise in consumer concern about 'ethical consumption. Some of the remarkable developments that promote responsible consumption are:

- Working online
- Purchasing local food items

Due to the pandemic, individuals are switching to online mode which consequently reduces consumption. They are also transitioning towards alternative ways of working to realize more responsible consumption and production (SDG12). Research on more than 3,000 consumers in 15 countries across five continents showed that 64% of respondents concentrate more on minimizing food waste. The other half focuses on health-conscious shopping for groceries and are likely to continue to do so. Intensifying activities as responsible people of this global community, will likely aid in progressing in a relevant and crucial manner. Thus, a better future can only be created when people are ready to make a difference with respect to their anomalies.

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https://www.accenture.com/_acnmedia/PDF-123/Accenture-COVID19-Pulse-Survey-Research-PoV.pdf#zoom=40



Source: Accenture COVID-19 Consumer Research, conducted April 2-6, N = 1,118 respondents working from home

SUSTAINABILITY: A VISION BEYOND SURVIVAL

COVID-19 has indeed created global uncertainty and has disrupted the economies at large. The bigger question in these unprecedented times remains whether to “simply exist” or to “make efforts to exist constantly”. Owing to the pandemic, a looming question that has left its imprints in the minds of most of us is either to survive or to survive for future generations. With this evoking thought in mind, the importance of environmental sustainability is put forward. At a 2018 WHO conference, a professional group of researchers warned about a ‘Disease X’, that they described as follows:

[It] would likely result from a virus originating in animals and would emerge somewhere on the planet where economic development drives people and wildlife together. Disease X...would spread quickly and silently; exploiting networks of human travel and trade, it would reach multiple countries and thwart containment. Disease X would have a mortality rate higher than a seasonal flu (Daszak 2020). [1]



With more than 20 million active cases [2], the idea of survival is essential. According to SDG6 (Clean Water and Sanitation), 3 billion people worldwide lack basic handwashing facilities, which is one of the most effective ways for COVID-19 prevention. Owing to the current looming crisis, UN-Habitat is working with partners to facilitate access to water and handwashing in informal settlements. COVID-19 has made it essential to incorporate other SDGs in daily lives. SDG7 (Affordable and Clean Energy) focuses on ensuring affordable, reliable, sustainable, and modern energy for all. However, the ongoing circumstances have made us realize the fact that only 28 percent of health facilities have access to reliable electricity, which is a prerequisite to the prevention of disease and fighting pandemics. We as a society are now sensitized towards the fact that in order to overcome this pandemic, we need to acknowledge the idea of sustainability. It is not a one-

time crucial decision to be made but we need to thrive towards it.

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Shubhangi Agarwal
PGDM-BIFS, 2021-22

HAVE SUSTAINABLE CITIES AND COMMUNITIES GONE FOR A TOSS DUE TO COVID-19? FIND OUT

Around 3% of the Earth's land is occupied by cities and they account for as high as 80% of energy consumption. Additionally, they also are responsible for 75% of carbon emissions. All these have assimilated in exerting tremendous pressure on the environment. However, with the outbreak of COVID-19, the scenario has changed.

Altogether, demand for building sustainable cities based on SDG11 has been aggravated and felt across the globe. COVID-19 is thus regarded as a blessing in disguise to create a long-run impact.



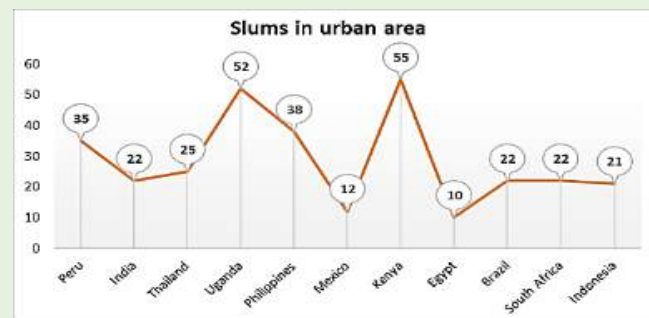
Jeenia Bhadra
PGDM-BIFS, 2021-22

The unorganised sprawl has been the most hit due to this pandemic, through loss of jobs and suspension of daily activities. Kenya, with the highest number of slum dwellers in urban areas in the world has been hit by a 12-year low GDP due to pandemic [1]. Cities equipped with necessary prerequisites and treatment centres are responding well to the coronavirus outbreak. Hence, creating sustainable cities would have to greatly focus on provisioning an area with connectivity and adequate infrastructure. Some probable arrangements are:

- Encouraging extension of city premises instead of focusing on a limited area
- Developing compact settlement areas along city edges
- Building on satellite cities, revamping water supply and arable areas
- Empowering communities to self-garner required potential

Cities like, Navi Mumbai in India (2011), Hempstead in New York (2016), Sagami-hara in Tokyo (2017), Puente Alto in Santiago (2020), have invested in green public spaces, and hence, they have successfully met the SDG11 by reducing unwanted congestion, which controlled the spread of pandemic.

Our response today will pave the way for tomorrow. The urban population is expected to grow by 57% [2]. It is time to revisit SDG11 by building sustainable cities to enhance responsiveness to such crises. Further, presence of adequate resources must be ensured as a response to such emergencies in future. It will also help in reverting to the normalcy faster.



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[2] <https://www.downtoearth.org.in/blog/urbanisation/what-covid-19-can-mean-for-sdg-11-sustainable-cities-and-communities-in-india-72987>

ABOUT THE CENTRE

GIM has always been conscious about the impact of its decisions on the ecosystem around it and has continuously strived to reduce its carbon footprint. Along with measures like rain water harvesting, solar-powered street lamps, treatment of water for reuse, tree plantation drives and many more, the institute has expressed its commitment to this philosophy also through its mission statement which talks about sustainable business and an inclusive society for India and the world. In line with this commitment, the [Centre for Excellence in Sustainable Development](#) was officially formed in July 2018 to contribute to GIM's quest for sustainability. The centre started working with three core objectives in mind:

1. KNOWLEDGE CREATION

- To develop a model institute for green campus in India and transform GIM community into a more sustainable community. At the same time, use these processes for action research in the field of sustainable development.
- To help develop knowledge through research in the aforesaid field.

2. KNOWLEDGE DISSEMINATION

- To increase awareness about green living and sustainable development in the community around us and carry out activities to try to reduce the carbon footprint of the state of Coa and India as a whole.

3. KNOWLEDGE APPLICATION

- To develop a resource centre for sustainable development at GIM for imparting training, providing consultancy and participating in policy making.
- To contribute to the development of start-ups and ventures for sustainable development at the grassroots level.

Over the next few years, centre plans to contribute towards the following five sustainable development goals adopted by United Nations member states in 2015:

| | | | |
|-------|------------------------------------|-------|--|
| SDG6 | Clean Water and Sanitation | SDG12 | Responsible Consumption and Production |
| SDG7 | Affordable and Clean Energy | SDG13 | Climate action |
| SDG11 | Sustainable Cities and Communities | | |

This centre for excellence believes that every graduate of GIM should be a sustainability ambassador and every employee should be a part of GIM's journey towards environmental sustainability.

Some of the current projects and activities of the centre include:

- A study of the sustainable campus development initiatives of national level institutions in India
- Development of a Biodiversity Register of the GIM Campus
- Development of a Sustainability Report for GIM
- Webinars and trainings about energy conservation, energy policy, sustainable finance, etc.

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FUN CORNER

SOLUTION

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GOOD READ

Title of Book: The Uninhabitable Earth: A Story of the Future

Author: David Wallace-Wells

Year of publication: 2019

This book contains essays that speak about landscaping global warming. It is a classic and referred to as one of the highly influential books in the domain of environmental sustainability.

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