SYMBIOSIS
CENTRE FOR INFORMATION TECHNOLOGY

Guest Lecture Committee

Cordially invites you

on the

4th Annual Conclave

Integrity and Ethics

on

Rethinking Development: Act Responsible, Think Sustainable

on

29th January, 2020 at **9.45 am** in **SIC Auditorium**

Emmanuel David

(Director, TataManagement Training Center, Pune)

Murzaban Jal

(Director , Centre for Educational Studies, IIE, Pune)

Dr. Shruti Tambe

(Professor and HOD of Sociology Dept, Pune University, Pune)

Niranjan Upasani

(Director of Sustainable Living Integrated Solutions Pvt. Ltd., Pune)

Mohan Nair

(Managing Director of Esquire Health Care & Logistics Pvt. Ltd)

Looking forward for your presence...

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CENTRE FOR INFORMATION TECHNOLOGY

2020

4th Annual Conclave

Integrity and Ethics

Rethinking Development:
Act Responsible Think Sustainable

29th January 2020

Director's Desk

Be Futuristic by upholding sustainable development goals and initiatives

World is moving towards modernization and urbanization and there are collective efforts from various societal forces and organizations to speed up the development with due importance given for sustainability. Sustainability is not just about protecting the resources, but is the holistic development of the mankind and environment.In this era of fast paced development, every such developmental initiative consumes more resources and a thoughtful utilization with a futuristic perspective of protecting the resources for the next generations to meet their need is a necessity.

Dr. Dhanya Pramod
Director, SCIT

United nations has taken a global step towards achieving the 17 Sustainable Development Goals and nations across continents have joined this great step towards creating a prosperous and better future for all. India as a country at national level and state level has taken conscious and well planned efforts in promoting and achieving these goals. The governmental efforts with NITI Ayog as a think tank for involving the experts, state governments and young citizens to contribute in this purposeful initiative is able to reach out to every corner of the country. Though we talk a lot about the SDG's in recent years due to government interventions, to me it's a fundamental need for each one of us and we have been fighting for them since centuries. If we browse through the Indian history, literature and epics, we will be able to find manyThe sustainability practices are very much there in our culture and we should continue upholding it our families and neighbourhood.

The sustainability lessons in schools and colleges should be promoted extensively and encourage them to participate actively in activities for achieving sustainability is the way forward. Though there are initiatives from various organizations , I believe that individuals have a great role in achieving sustainability and one should take efforts to protect the environment and establish a mindset for change.

At Symbiosis Centre for Information Technology, we do teach sustainability lessons to our students and spread the importance of integrity and ethics which enable our students to become the future leaders of sustainable organizations. I am sure we are on the right track of development by promoting inclusion, equality, integrity and sensitivity to society and look forward to a highly connected world of sensible humans who can create the sustainable society and bright future .

CONTENTS

About SCIT

SCIT is a premier IT Business School nurturing genuine IT talent.

Symbiosis Centre for Information Technology, a constituent of Symbiosis International University has been a pioneer and a leader in imparting education in the niche area of Information Technology Business Management in India for more than a decade. SCIT nurture genuine IT talent to become future leaders in Information Technology arena. SCIT welcomes those, who are willing to take on challenges and transform themselves into proactive professionals. The institute supports their transformation with innovative teaching-learning methodology, state-of-the-art computer labs, platform for peer learning and opportunities To learn management in real time. The success of our alumni is a proof To claim that - SCIT ensures overall professional development of students, who are transformed into industry-ready IT professionals.

About Guest lecture Committee

Guest lecture Committee was started with the establishment of SCIT. The goal of this committee is to provide the industrial aspect and to carry on this legacy onto the future while enlightening the students and honouring the college with valuable and asset Guest Lecturers. This prestigious committee helps the students on getting the Industrial aspect of being a future leader and managers. The purpose of this committee is to invite the influencers, leaders and managers from the industry to share their knowledge and work with the SCIT students so that they can understand the real scenario in the companies and the market. The committee has a total number of 13 members consisting of 1st and 2nd year student. Utsav Dattani and Priya Pandey are among the senior spocs of this committee who has a major role in managing and organizing all the guest lecture and the committee members. The committee has held a lot of guest lecture on variety of topics and aspects of industry. The guests are from the prestigious companies holding top position. Various trending topics on IT security, Data Science, Marketing, Entrepreneurship, Artificial Intelligence, Environmental and Social Responsibilities are among the variety of topics which the committee focus on. Some of the prestigious lectures which were held were when the speakers like Mr Rajiv Ghera, Dr.Kozaburo Hachimura who enlightened the students quite positively.

About The conclave

Symbiosis Centre for Information Technology (SCIT) is honored to host the 4th edition of Ethics and Integrity Conclave 2020. SCIT, Pune is counted among the premium IT business schools in India, producing future IT leaders and managers for the last two decades. We offer MBA in Information Technology Business Management and Data Science and Data Analytics. The campus is situated in Hinjewadi, the IT hub of Pune.

This year the theme of the conclave is "Rethinking Development –Act Responsible, Think Sustainable". As India is a developing country, the theme highlights the need for a holistic development in a sustainable way to build a self-sufficient and functioning nation. Various needs and requirements for our nation's development will be highlighted during this conclave hence giving our future leaders an opportunity to acknowledge the importance of sustainability. The previous editions of the conclave featured many speakers from the companies like IBM, TATA Group, Siemens and many more.

The four themes we have identified not only helps us focus on these goals.

- **Improvised lifestyle** draws our attention to aspects such as poverty, hunger, good health and quality education that define the lifestyle of many Indians. Ways to improve these areas in a quick and efficient way is what we are on a journey to find out.
- **Organisational M-Powerment** where M stands for Mankind. Mankind is a gift of mother earth s/he seems to be the cause of its suffering. By reducing inequality, and building peace and justice and strong institutions is the way forward. How to implement them efficiently is to be figured out.
- **Sustain-ability**. As we are developing and building new structures of progress development seems to have created problems that are unsustainable. To counter this trend there is a need to foster partnership to achieve a common goal, responsible consumption and production, sustainable cities, economic growth and improvement in industry and infrastructure.
- **Bio Network**. Our ecosystem has a very complex and stable network. And species living on earth are a part of this network. Network needs a strong will to keep it running, for all living beings to survive, clean water and sanitation is required, For humans affordable and clean energy is the need of the hour, focus on life on both land and water and considerable action towards improving our climate.

Sustainable Development Goals

Improvised Lifestyle

Goal : No poverty

"End poverty in all its forms everywhere."

Extreme poverty has been cut by more than half since 1990. Still, around 1 in 10 people live on less than the target figure of international-$1.25 per day. A very low poverty threshold is justified by highlighting the need of those people who are worst off. SDG 1 is to end extreme poverty globally by 2030.

That target may not be adequate for human subsistence and basic needs, however. It is for this reason that changes relative to higher poverty lines are also commonly tracked. Poverty is more than the lack of income or resources: People live in poverty if they lack basic services such as healthcare, security, and education. They also experience hunger, social discrimination, and exclusion from decision-making processes. One possible alternative metric is the Multidimensional Poverty Index.

Children make up the majority – more than half – of those living in extreme poverty. In 2013, an estimated 385 million children lived on less than US$1.90 per day. Still, these figures are unreliable due to huge gaps in data on the status of children worldwide. On average, 97 percent of countries have insufficient data to determine the state of impoverished children and make projections towards SDG Goal 1, and 63 percent of countries have no data on child poverty at all.

Women face potentially life-threatening risks from early pregnancy and frequent pregnancies. This can result in lost hope for an education and for a better income. Poverty affects age groups differently, with the most devastating effects experienced by children. It affects their education, health, nutrition, and security, impacting emotional and spiritual development.

Achieving Goal 1 is hampered by lack of economic growth in the poorest countries of the world, growing inequality, increasingly fragile statehood, and the impacts of climate change.

Goal: Zero hunger

"End hunger, achieve food security and improved nutrition, and promote sustainable agriculture."

Goal 2 states that by 2030 we should end hunger and all forms of malnutrition. This would be accomplished by doubling agricultural productivity and incomes of small-scale food producers (especially women and indigenous peoples), by ensuring sustainable food production systems, and by progressively improving land and soil quality. Agriculture is the single largest employer in the world, providing livelihoods for 40% of the global population. It is the largest source of income for poor rural households. Women make up about 43% of the agricultural labor force in developing countries, and over 50% in parts of Asia and Africa. However, women own only 20% of the land.

Other targets deal with maintaining genetic diversity of seeds, increasing access to land, preventing trade restriction and distortions in world agricultural markets to limit extreme food price volatility, eliminating waste with help from the International Food Waste Coalition, and ending malnutrition and undernutrition of children.

Globally, 1 in 9 people are undernourished, the vast majority of whom live in developing countries. Undernutrition causes wasting or severe wasting of 52 million children worldwide, and contributes to nearly half (45%) of deaths in children under five – 3.1 million children per year. Chronic malnutrition, which affects an estimated 155 million children worldwide, also stunts children's brain and physical development and puts them at further risk of death, disease, and lack of success as adults. As of 2017, only 26 of 202 UN member countries are on track to meet the SDG target to eliminate undernourishment and malnourishment, while 20 percent have made no progress at all and nearly 70 percent have no or insufficient data to determine their progress.

A report by the International Food Policy Research Institute (IFPRI) of 2013 stated that the emphasis of the SDGs should not be on ending poverty by 2030, but on eliminating hunger and under-nutrition by 2025. The assertion is based on an analysis of experiences in China, Vietnam, Brazil, and Thailand. Three pathways to achieve this were identified: 1) agriculture-led; 2) social protection- and nutrition- intervention-led; or 3) a combination of both of these approaches.

A study published in Nature concluded that it is unlikely there will be an end to malnutrition by 2030.

Goal: Good health and well-being for people

"Ensure healthy lives and promote well-being for all at all ages."

Significant strides have been made in increasing life expectancy and reducing some of the common killers associated with child and maternal mortality. Between 2000 and 2016, the worldwide under-five mortality rate decreased by 47 percent (from 78 deaths per 1,000 live births to 41 deaths per 1,000 live births). Still, the number of children dying under age five is extremely high: 5.6 million in 2016 alone. Newborns account for a growing number of these deaths, and poorer children are at the greatest risk of under-5 mortality due to a number of factors. SDG Goal 3 aims to reduce under-five mortality to at least as low as 25 per 1,000 live births. But if current trends continue, more than 60 countries will miss the SDG neonatal mortality target for 2030. About half of these countries would not reach the target even by 2050.

Goal 3 also aims to reduce maternal mortality to less than 70 deaths per 100,000 live births. Though the maternal mortality ratio declined by 37 percent between 2000 and 2015, there were approximately 303,000 maternal deaths worldwide in 2015, most from preventable causes. In 2015, maternal health conditions were also the leading cause of death among girls aged 15–19. Data for girls of greatest concern – those aged between 10-14 - is currently unavailable. Key strategies for meeting SDG Goal 3 will be to reduce adolescent pregnancy (which is strongly linked to gender equality), provide better data for all women and girls, and achieve universal coverage of skilled birth attendants.

Similarly, progress has been made on increasing access to clean water and sanitation and on reducing malaria, tuberculosis, polio, and the spread of HIV/AIDS. From 2000-2016, new HIV

infections declined by 66 percent for children under 15 and by 45 percent among adolescents aged 15–19. However, current trends mean that 1 out of 4 countries still won't meet the SDG target to end AIDS among children under 5, and 3 out of 4 will not meet the target to end AIDS among adolescents. Additionally, only half of women in developing countries have received the health care they need, and the need for family planning is increasing exponentially as the population grows. While needs are being addressed gradually, more than 225 million women have an unmet need for contraception.

Goal 3 aims to achieve universal health coverage, including access to essential medicines and vaccines. It proposes to end the preventable death of new born and children under 5 and to end epidemics such as AIDS, tuberculosis, malaria, and water-borne diseases, for example. 2016 rates for the third dose of the pertussis vaccine (DTP3) and the first dose of the measles vaccine (MCV1) reached 86 percent and 85 percent, respectively. Yet about 20 million children did not receive DTP3 and about 21 million did not receive MCV1. Around 2 in 5 countries will need to accelerate progress in order to reach SDG targets for immunization.

Attention to health and well-being also includes targets related to the prevention and treatment of substance abuse, deaths and injuries from traffic accidents and from hazardous chemicals and air, water and soil pollution and contamination.

Goal : Quality education

"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all."

Major progress has been made in access to education, specifically at the primary school level, for both boys and girls. The number of out-of-school children has almost halved from 112 million in 1997 to 60 million in 2014. Still, at least 22 million children in 43 countries will miss out on pre-primary education unless the rate of progress doubles.

Access does not always mean quality of education or completion of primary school. 103 million youth worldwide still lack basic literacy skills, and more than 60 percent of those are women. In one out of four countries, more than half of children failed to meet minimum math proficiency standards at the end of primary school, and at the lower secondary level, the rate was 1 in 3 countries. Target 1 of Goal 4 is to ensure that, by 2030, all girls and boys complete free, equitable, and quality primary and secondary education.

Additionally, progress is difficult to track: 75 percent of countries have no or insufficient data to track progress towards SDG Goal 4 targets for learning outcomes (target 1), early childhood education (target 2), and effective learning environments. Data on learning outcomes and pre-primary school are particularly scarce; 70 percent and 40 percent of countries lack adequate data for these targets, respectively. This makes it hard to analyze and identify the children at greatest risk of being left behind. A 2019 study used computer modeling to estimate educational attainment for men and women from 2000-2017, mapping the results for each country to help identify areas lagging behind.

Organisational M-powerment

Goal : Gender equality

"Achieve gender equality and empower all women and girls."

According to the UN, "gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world." Providing women and girls with equal access to education, health care, decent work, and representation in political and economic decision-making processes will nurture sustainable economies and benefit societies and humanity at large. A record 143 countries guaranteed equality between men and women in their constitutions as of 2014. However, another 52 had not taken this step. In many nations, gender discrimination is still woven into the fabric of legal systems and social norms. Even though SDG5 is a stand-alone goal, other SDGs can only be achieved if the needs of women receive the same attention as the needs of men. Issues unique to women and girls include traditional practices against all women and girls in the public and private spheres, such as female genital mutilation.

Child marriage has declined over the past decades, yet there is no region that is currently on track to eliminate the practice and reach SDG targets by 2030. If current trends continue, between 2017 and 2030, 150 million girls will be married before they turn 18. Though child marriages are four times higher among the poorest than the wealthiest in the world, most countries need to accelerate progress among both groups in order to reach the SDG Goal 5 target to eliminate child marriage by 2030.

Achieving gender equality will require enforceable legislation that promotes empowerment of all women and girls and requires secondary education for all girls. The targets call for an end to gender discrimination and for empowering women and girls through technology Some have advocated for "listening to girls". The assertion is that the SDGs can deliver transformative change for girls only if girls are consulted. Their priorities and needs must be taken into account. Girls should be viewed not as beneficiaries of change, but as agents of change. Engaging women and girls in the implementation of the SDGs is crucial.

The World Pensions Council (WPC) has insisted on the transformational role gender-diverse that boards can play in that regard, predicting that 2018 could be a pivotal year, as "more than ever before, many UK and European Union pension trustees speak enthusiastically about flexing their fiduciary muscles for the UN's Sustainable Development Goals, including SDG5, and to achieve gender equality and empower all women and girls."

Goal : Peace, justice and strong institutions

Main article: Sustainable Development Goal 16

"Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels."

Reducing violent crime, sex trafficking, forced labor, and child abuse are clear global goals. The International Community values peace and justice and calls for stronger judicial systems that will enforce laws and work toward a more peaceful and just society. By 2017, the UN could report progress on detecting victims of trafficking. More women and girls than men and boys

were victimized, yet the share of women and girls has slowly declined (see also violence against women). In 2004, 84 percent of victims were females and by 2014 that number had dropped to 71 percent. Sexual exploitation numbers have declined, but forced labor has increased.

One target is to see the end to sex trafficking, forced labor, and all forms of violence against and torture of children. However, reliance on the indicator of "crimes reported" makes monitoring and achieving this goal challenging. For instance, 84 percent of countries have no or insufficient data on violent punishment of children. Of the data available, it is clear that violence against children by their caregivers remains pervasive: Nearly 8 in 10 children aged 1 to 14 are subjected to violent discipline on a regular basis (regardless of income), and no country is on track to eliminate violent discipline by 2030.

SDG 16 also targets universal legal identity and birth registration, ensuring the right to a name and nationality, civil rights, recognition before the law, and access to justice and social services. With more than a quarter of children under 5 unregistered worldwide as of 2015, about 1 in 5 countries will need to accelerate progress to achieve universal birth registration by 2030.

Goal : Reducing inequalities

"Reduce income inequality within and among countries."

Target 10.1 is to "sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average". This goal, known as 'shared prosperity', is complementing SDG 1, the eradication of extreme poverty, and it is relevant for all countries in the world.

Target 10.3 is to reduce the transaction costs for migrant remittances to below 3 percent. The target of 3 percent was established as the cost that international migrant workers would pay to send money home (known as remittances). However, post offices and money transfer companies currently charge 6 percent of the amount remitted. Worse, commercial banks charge 11 percent. Prepaid cards and mobile money companies charge 2 to 4 percent, but those services were not widely available as of 2017 in typical "remittance corridors."

Sustainability

Goal : Partnerships for the goals

"Strengthen the means of implementation and revitalize the global partnership for sustainable development."

Increasing international cooperation is seen as vital to achieving each of the 16 previous goals. Goal 17 is included to assure that countries and organizations cooperate instead of compete. Developing multi-stakeholder partnerships to share knowledge, expertise, technology, and financial support is seen as critical to overall success of the SDGs. The goal encompasses improving North-South and South-South cooperation, and public-private partnerships which involve civil societies are specifically mentioned.

Goal : Responsible consumption and production

"Ensure sustainable consumption and production patterns."

Further information: Sustainable products.The targets of Goal 12 include using eco-friendly production methods and reducing the amount of waste. By 2030, national recycling rates should increase, as measured in tons of material recycled. Further, companies should adopt sustainable practices and publish sustainability reports.

Target 12.1 calls for the implementation of the 10-Year Framework of Programmes on Sustainable Consumption and Production. This framework, adopted by member states at the United Nations Conference on Sustainable Development, is a global commitment to accelerate the shift to sustainable consumption and production in developed and developing countries. In order to generate the collective impact necessary for such a shift, programs such as the One Planet Network have formed different implementation methods to help achieve Goal 12.

Goal: Sustainable cities and communities

"Make cities and human settlements inclusive, safe, resilient, and sustainable."

The target for 2030 is to ensure access to safe and affordable housing. The indicator named to measure progress toward this target is the proportion of urban population living in slums or informal settlements. Between 2000 and 2014, the proportion fell from 39 percent to 30 percent. However, the absolute number of people living in slums went from 792 million in 2000 to an estimated 880 million in 2014. Movement from rural to urban areas has accelerated as the population has grown and better housing alternatives are available.

Goal: Decent work and economic growth

"Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all."

World Pensions Council (WPC) development economists have argued that the twin considerations of long-term economic growth and infrastructure investment were not prioritized enough. The fact they were designated as the number 8 and number 9 objective respectively was considered a rather "mediocre ranking defies common sense".

For the least developed countries, the economic target is to attain at least a 7 percent annual growth in gross domestic product (GDP). Achieving higher productivity will require diversification and upgraded technology along with innovation, entrepreneurship, and the growth of small- and medium-sized enterprises (SMEs). Some targets are for 2030; others are for 2020. The target for 2020 is to reduce youth unemployment and operationalize a global strategy for youth employment. Implementing the Global Jobs Pact of the International Labour Organization is also mentioned.

By 2030, the target is to establish policies for sustainable tourism that will create jobs. Strengthening domestic financial institutions and increasing Aid for Trade support for developing countries is considered essential to economic development. The Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries is mentioned as a method for achieving sustainable economic development.

Goal: Industry, Innovation, and Infrastructure

"Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation."

Further information: Resilience (engineering and construction) and Urban resilience

Manufacturing is a major source of employment. In 2016, the least developed countries had less "manufacturing value added per capita". The figure for Europe and North America amounted to US$4,621, compared to about $100 in the least developed countries. The manufacturing of high products contributes 80 percent to total manufacturing output in industrialized economies but barely 10 percent in the least developed countries.

Mobile-cellular signal coverage has improved a great deal. In previously "unconnected" areas of the globe, 85 percent of people now live in covered areas. Planet-wide, 95 percent of the population is covered.

Bio-network

Goal: Clean water and sanitation

Example of sanitation for all: School toilet (IPH school and college, Mohakhali, Dhaka, Bangladesh)

Unimproved sanitation example: pit latrine without slab in Lusaka, Zambia

"Ensure availability and sustainable management of water and sanitation for all."

Main article: Sustainable Development Goal 6

The Sustainable Development Goal Number 6 (SDG6) has eight targets and 11 indicators that will be used to monitor progress toward the targets. Most are to be achieved by the year 2030. One is targeted for 2020.

The first three targets relate to drinking water supply and sanitation. Worldwide, 6 out of 10 people lack safely managed sanitation services, and 3 out of 10 lack safely managed water services. Safe drinking water and hygienic toilets protect people from disease and enable societies to be more productive economically. Attending school and work without disruption is critical to successful education and successful employment. Therefore, toilets in schools and work places are specifically mentioned as a target to measure. "Equitable sanitation" calls for addressing the specific needs of women and girls and those in vulnerable situations, such as the elderly or people with disabilities. Water sources are better preserved if open defecation is ended and sustainable sanitation systems are implemented.

Ending open defecation will require provision of toilets and sanitation for 2.6 billion people as well as behavior change of the users. This will require cooperation between governments, civil society, and the private sector.

The main indicator for the sanitation target is the "Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water". However,

as of 2017, two-thirds of countries lacked baseline estimates for SDG indicators on hand washing, safely managed drinking water, and sanitation services. From those that were available, the Joint Monitoring Programme (JMP) found that 4.5 billion people currently do not have safely managed sanitation. To meet SDG targets for sanitation by 2030, nearly one-third of countries will need to accelerate progress to end open defecation, including Brazil, China, Ethiopia, India, Indonesia, Nigeria, and Pakistan.

The Sustainable Sanitation Alliance (SuSanA) has made it its mission to achieve SDG6. SuSanA's position is that the SDGs are highly interdependent. Therefore, the provision of clean water and sanitation for all is a precursor to achieving many of the other SDGs.

Goal: Affordable and clean energy

"Ensure access to affordable, reliable, sustainable and modern energy for all."

Targets for 2030 include access to affordable and reliable energy while increasing the share of renewable energy in the global energy mix. This would involve improving energy efficiency and enhancing international cooperation to facilitate more open access to clean energy technology and more investment in clean energy infrastructure. Plans call for particular attention to infrastructure support for the least developed countries, small islands and land-locked developing countries.

As of 2017, only 57 percent of the global population relies primarily on clean fuels and technology for cooking, falling short of the 95 percent target.

Goal: Climate action

"Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy."

The UN discussions and negotiations identified the links between the post-2015 SDG process and the Financing for Development process that concluded in Addis Ababa in July 2015 and the COP 21 Climate Change conference in Paris in December 2015.

In May 2015, a report concluded that only a very ambitious climate deal in Paris in 2015 could enable countries to reach the sustainable development goals and targets. The report also states that tackling climate change will only be possible if the SDGs are met. Further, economic development and climate change are inextricably linked, particularly around poverty, gender equality, and energy. The UN encourages the public sector to take initiative in this effort to minimize negative impacts on the environment.

This renewed emphasis on climate change mitigation was made possible by the partial Sino-American convergence that developed in 2015-2016, notably at the UN COP21 summit (Paris) and ensuing G20 conference (Hangzhou).

At a 2017 UN Press Briefing, Global CEO Alliance (GCEOA) Chairman James Donovan described the Asia-Pacific region, which is a region particularly vulnerable to the effects of climate change, as needing more public-private partnerships (PPPs) to successfully implement its sustainable development initiatives.

In 2018, the International Panel of Climate Change (IPCC), the United Nations body for assessing the science related to climate change, published a special report "Global Warming of 1.5°C". It outlined the impacts of a 1.5 °C global temperature rise above pre-industrial levels and related global greenhouse gas emission pathways, and highlighted the possibility of avoiding a number of such impacts by limiting global warming to 1.5 °C compared to 2 °C, or more. The report mentioned that this would require global net human-caused emissions of carbon dioxide (CO2) to fall by about 45% from 2010 levels by 2030, reaching "net zero" around 2050, through “rapid and far-reaching” transitions in land, energy, industry, buildings, transport, and cities. This special report was subsequently discussed at COP 24. Despite being requested by countries at the COP 21, the report was not accepted by four countries – the US, Saudi Arabia, Russia and Kuwait, which only wanted to "note" it, thereby postponing the resolution to the next SBSTA session in 2019.

Goal: Life below water

Further information: Marine protected area § International efforts

"Conserve and sustainably use the oceans, seas and marine resources for sustainable development."

Sustainable Development Goal 14 aims “to conserve and sustainably use the oceans, seas and marine resources for sustainable development.” Effective strategies to mitigate adverse effects of increased ocean acidification are needed to advance the sustainable use of oceans. As areas of protected marine biodiversity expand, there has been an increase in ocean science funding, essential for preserving marine resources. The deterioration of coastal waters has become a global occurrence, due to pollution and coastal eutrophication (overflow of nutrients in water), where similar contributing factors to climate change can affect oceans and negatively impact marine biodiversity. “Without concerted efforts, coastal eutrophication is expected to increase in 20 per cent of large marine ecosystems by 2050.”

The Preparatory Meeting to the UN Ocean Conference convened in New York, US, in February 2017, to discuss the implementation of Sustainable Development Goal 14. International law, as reflected in the UN Convention on the Law of the Sea (UNCLOS), stressed the need to include governance instruments to consider “anthropogenic activities taking place outside of the ocean”. Concerns regarding ocean health in destructive fishing practices and marine pollution were discussed, in looking at the role of local communities of small island developing States (SIDS) and least developed countries (LDCs) to not forget that oceans are a large part of their economies. The targets include preventing and reducing marine pollution and acidification, protecting marine and coastal ecosystems, and regulating fishing. The targets also call for an increase in scientific knowledge of the oceans.

Although many participating United Nations legislative bodies comes together to discuss the issues around marine environments and SDG 14, such as at the United Nations Ocean Conference, it is important to consider how SDG 14 is implemented across different Multilateral Environmental Agreements, respectively. As climate, biodiversity and land degradation are major parts of the issues surrounding the deterioration of marine environments and oceans, it is important to know how each Rio Convention implements this SDG.

Oceans cover 71 percent of the Earth's surface. They are essential for making the planet livable. Rainwater, drinking water and climate are all regulated by ocean temperatures and currents.

Over 3 billion people depend on marine life for their livelihood. Oceans absorb 30 percent of all carbon dioxide produced by humans. The oceans contain more than 200,000 identified species, and there might be thousands of species that are yet to be discovered. Oceans are the world's largest sources of protein. However, there has been a 26 percent increase in acidification since the industrial revolution. A full 30 percent of marine habitats have been destroyed, and 30 percent of the world's fish stocks are over-exploited. Marine pollution has reached shocking levels; each minute, 15 tons of plastic are released into the oceans. 20 percent of all coral reefs have been destroyed irreversibly, and another 24 percent are in immediate risk of collapse. Approximately 1 million sea birds, 100 000 marine mammals, and an unknown number of fish are harmed or die annually due to marine pollution caused by humans. It has been found that 95 percent of fulmars in Norway have plastic parts in their guts. Microplastics are another form of marine pollution.

Individuals can help the oceans by reducing their energy consumption and their use of plastics. Nations can also take action. In Norway, for instance, citizens, working through a web page called finn.no, can earn money for picking up plastic on the beach. Several countries, including Kenya and Tanzania, have banned the use of plastic bags for retail purchases. Improving the oceans contributes to poverty reduction, as it gives low-income families a source of income and healthy food. Keeping beaches and ocean water clean in less developed countries can attract tourism, as stated in Goal 8, and reduce poverty by providing more employment.

Characterized by extinctions, invasions, hybridizations and reductions in the abundance of species, marine biodiversity is currently in global decline. “Over the past decades, there has been an exponential increase in human activates in and near oceans, resulting in negative consequences to our marine environment.” Made evident by the degradation of habitats and changes in ecosystem processes, the declining health of the oceans has a negative effect on people, their livelihoods and entire economies, with local communities which rely on ocean resources being the most affected. Poor decisions in resource management can compromise conservation, local livelihood, and resource sustainability goals. “The sustainable management of our oceans relies on the ability to influence and guide human use of the marine environment.” As conservation of marine resources is critical to the well-being of local fishing communities and their livelihoods, related management actions may lead to changes in human behavior to support conservation programs to achieve their goals. Ultimately, governments and international agencies act as gatekeepers, interfering with needed stakeholder participation in decision making. The way to best safeguard life in oceans is to implement effective management strategies around marine environments.

Climate action is used as a way of protecting the world's oceans. Oceans cover three quarters of the Earth's surface and impact global climate systems through functions of carbon dioxide absorption from the atmosphere and oxygen generation. The increase in levels of greenhouse gases leading to changes in climate negatively affects the world's oceans and marine coastal communities. The resulting impacts of rising sea levels by 20 centimeters since the start of the 20th century and the increase of ocean acidity by 30% since the Industrial Revolution has contributed to the melting of ice sheets through the thermal expansion of sea water.

Sustainable Development Goal 14 has been incorporated into the Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC), and the United Nations Convention to Combat Desertification (UNCCD).

Goal: Life on land

"Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss."

This goal articulates targets for preserving biodiversity of forest, desert, and mountain ecosystems, as a percentage of total land mass. Achieving a "land degradation-neutral world" can be reached by restoring degraded forests and land lost to drought and flood. Goal 15 calls for more attention to preventing invasion of introduced species and more protection of endangered species. Forests have a prominent role to play in the success of Agenda 2030, notably in terms of ecosystem services, livelihoods, and the green economy; but this will require clear priorities to address key tradeoffs and mobilize synergies with other SDGs.

The Mountain Green Cover Index monitors progress toward target 15.4, which focuses on preserving mountain ecosystems. The index is named as the indicator for target 15.4. Similarly, the Red Index (Red List Index or RLI) will fill the monitoring function for biodiversity goals by documenting the trajectory of endangered species. Animal extinction is a growing problem.

Conclave Speakers

Emmanuel David

Director, TATA Management Training Centre, Pune

Emmanuel has held responsible positions in multi-sector companies such as Automobile, Hospitality, Infrastructure, Financial Services, and Oil & Gas. His experiences span businesses such as family-owned entities, JVs and MNCs, where he witnessed the complete life cycle of an organization right from start-up, growth, downsizing, and turnaround. This wealth of real-life experience of over three decades has furnished him with rich insights into the interplay between culture, strategy and decision making.

Emmanuel is presently the Director of the Tata Management Training Centre (TMTC). TMTC is the learning arm of the Tata Group's Human Resources Founded in 1959 by JRD Tata. with its strong internal faculty, research and support team and linkages with renowned institutions like Ross School of Business (University of Michigan), the faculty of Harvard Business School, TMTC takes pride in facilitating the development of not only Tata leaders with contemporary management insights but also participates in nation-building by equipping the civil servants. He has introduced changes in the pedagogy to facilitate informal and unconventional learning. His sessions on Understanding Self, Conflict Management, Negotiation, and Ethics are received very well.

His Leadership in the Relief & Rehabilitation efforts during the Surat Floods in 2006. This has become a Case-Study at IIM, Ahmedabad on the Leadership role of HR in times of crisis. And he was honoured with the "British Gas Chairman's Safety Award" for Social Impact.

He has successfully resolved legacy industrial disputes in several companies like Shriram Honda, British Gas, and Voltas. He has been able to inspire and introduce best practices in culture and human resources in Greenfield ventures like Volvo and Oberoi Hotels, Bangalore and raised Employer-Employee relations to new levels.

As a certified Belbin Team Role Facilitator (UK) and an Advanced Hogan Coach (USA), Emmanuel has inspired several corporate leaders and civil servants in their leadership journey. An Alumnus of XLRI, Emmanuel has also equipped himself with an Advanced Management Program of AIMA on Strategic Profitability Management.

Emmanuel makes time for community activities. He serves on the Board of St. Peter's High School, Panchgani and Under the Mango Tree (UTMT), a social enterprise that promotes beekeeping to increase agricultural productivity, enhance incomes and improve the livelihoods of marginal farmers in India.
Emmanuel is also an avid blogger, writer, photographer, and experimental chef.

Murzaban Jal

Director Centre for Educational Studies, Indian Institute of Education, Pune

Murzaban Jal is Professor and Director at the Centre for Educational Studies, Indian Institute of Education, Pune. He did his PhD from the Department of Philosophy, Panjab University on Marx's theory of fetishism and consequently worked at the Centre for Civilizations, New Delhi. He was Fellow at the Indian Institute of Advanced Studies, Shimla and an Indian Council of Social Science Research (ICSSR) Senior Fellow where he worked on the ethnography of the makings of a minority community in India. He is author of The Seductions of Karl Marx (2010), Zoroastrianism: from Antiquity to the Modern Period (2012), The New Militants (2014), Why We Are Not Hindus (2015), What Ails the Indian Muslims (2016) and Challenges for the Indian Left (2016). He is presently concluding his books Marxism and Science and The Importance of being Enlightened. He has also published more than eighty research papers in national and international journals.

Shruti Tambe

Professor and Head at the Department of Sociology, Savitribai Phule Pune University, Pune

Shruti Tambe is currently working as Professor and Head at the Department of Sociology, Savitribai Phule Pune University, Pune, where she also serves as Director, Euroculture Programme sponsored by Erasmus Mundus.

Shruti Tambe has been involved in a number of collaborative international research projects including one sponsored by SSHRC, Canada and the other funded by Toyota Foundation, Japan. At present she is working on a research project funded by ICSSR and an International Research Project on the Health of Waste pickers with colleagues from Penn State University, U. S. A. Also working on Pune Smart City Project funded by RUSA.

She has a number of research-based articles, book chapters published in journals like Current Sociology, Interventions-Journal of Post-Colonial Studies, Economic and Political Weekly, SEPHIS e-journal, Arthbodh and Sociological Bulletin. She has edited 'Urban Poverty in the context of JNNURM' (2008) for the UNDP-GOI UPRC, YASHADA. She has contributed to the already vibrant regional Sociological discourse as Member, Editorial Committee of reputed journals like *Samaj Prabodhan Patrika* and Sociology section of *Samaj Vijnyan Kosha* (Social Science Encyclopedia).

Her latest book is titled “High Tech- Low Wage” published by OUP, New York. Her Other publications are “Urban Poverty in the context of JNNURM”, “वेध शहरांचा”, “स्त्रीवाद”, “लिंगभाव समजून घेताना”, “अस्तित्वसंघर्ष आणि सार्वभौमत्व” and “पुरोगामित्व म्हणजे काय?”

From 2000 she is an active member of International Sociological Association and especially an active member of RC 47 and RC 32. At present she is Secretory and Treasure of RC 47. She is also an elected Managing Committee Member of Indian Sociological Society from 2018-2022. At the regional Association level, she has served as a Member, Managing Committee of the Marathi Samajshastra Parishad in Maharashtra and she has also served as Editor, Marathi Samajshastra Sanshodhan Patrika for three years.

She has been Visiting Professor at OISE, University of Toronto, Canada, and at Middlesex University, U.K. She delivered Invited Lectures at Minnesota University, University of Tampere, Finland, FRIAS, and Germany and participated in various International Workshops and Conferences across the globe.

Niranjan Upasani

Director,Sustainable Living Integrated Solutions Pvt. Ltd

Niranjan Upasani is a Sustainable Lifestyle Coach and Consultant. He is the Founder Director of Sustainable Living Integrated Solutions Pvt. Ltd., a Pune-based company that provides products, services, and concepts that help people live a sustainable urban life and enrich the natural environment.Niranjan, a former Japanese language specialist with a reputed US-based MNC, completed his environmental studies from Ecological Society of India, BNHS, and ELA Foundation. He is the founder director and promoter of the NGO "Jeevitnadi - Living River Foundation" Pune. The initiative is about parents commitment to their children for clean rivers.

Mr. Mohan Nair

Managing Director of Esquire Health Care & Logistics Pvt. Ltd

Mr. Mohan Nair is Managing Director of Esquire Health Care & Logistics Pvt. Ltd, a 3PL service provider to Kimberly Clark Pvt. Ltd. and Director of Ensigns Software & Communications Pvt. Ltd, a management consultancy firm.

Mohan is an entrepreneur and institution builder par excellence. His core strength is building humane relationships with each of his team members and carrying them along, morphed into a high performance team.

In terms of relationships, high engagement levels, high dependability from senior and next gen leaders, very low attrition rate in his team at Esquire, and excellent long term rapport with captains of industry are but a few of the landmarks showcasing Mohan's capability building and sustaining strong relationships across levels of people in industry.

Mohan has spent 35 years closely mentoring CEOs and board members of several top companies.

He is a turn-around management expert and is reputed for positively and gainfully transforming small and medium enterprises through partnering by re-visioning, restructuring and reengineering business units & entities.

He has contributed immensely in the field of Supply Chain Management across India. Mr. Nair has coached more than 10,000 professionals till date. His energetic, interactive and unique teaching style has been admired in top management schools across India

Faculty Insights

Dr. Kanchan Patil

Deputy Director,SCIT

SDGs are developed after a n extensive consultative process between Open Working Groups, Civil Society Organizations, country consultations, public participation and online and offline meetings and door to door survey. SDGs have 17 goals and 169 targets to end poverty, hunger, promote health and wellbeing, quality education, inclusivity in society, gender equality, provide basic needs like water and sanitation, safety, provide basic infrastructure like energy, information and technology, sustainable consumption and production, overcome climate fluctuations, conserve the oceans, seas, and forests, and establish the global partnership. Energy policy, environmental planning and economic development play a key role in sustainable development. There shall be no differences on the basis of class, gender, or religion. Citizen well-being and satisfaction will be ensured, eliminating the vulnerabilities faced by children, youth, and elderly citizen.

To achieve SDGs, effective leadership, partnerships, investments, measurement indices, policy changes, laws and regulation, and effective governance in the country are important. Maintaining public awareness, resource mobilization, and progressing continuously towards 17 SDGs and 169 targets is a challenge adopted by the governments, business, and societies across world.

Dr S. Vijayakumar Bharathi

Moving towards the Sustainability Balanced Scorecard……

Professor,SCIT

Profit maximization and shareholders' wealth maximization are the two critical goals of any business organization, which is the profound reason for management to focus their efforts to excel in performance measures such as profitability and market share. Until a few decades ago, several corporations viewed sustainability as only a supplement to financial reporting. Rapid market changes, contextual decision changes, increasing awareness about social and environmental impact have all contributed to moving sustainability from the periphery to the center-stage. Moreover, there is a growing strategic significance to relate and integrate environmental, social, and ethical issues to corporate performance measures (Figge et al., 2002). In other words, the aspect of sustainability is gaining visibility among organizations worldwide. In this context, it has become imperative for managers to augment quality investment decisions with adequate knowledge about sustainability information to accomplish environmental and social goals that realize stakeholders' expectations (Hansen and Schaltegger, 2016). This had resulted in the emergence of enterprise performance measurement tools such as the Sustainability Balanced Scorecard (SBSC) (Figure 1).

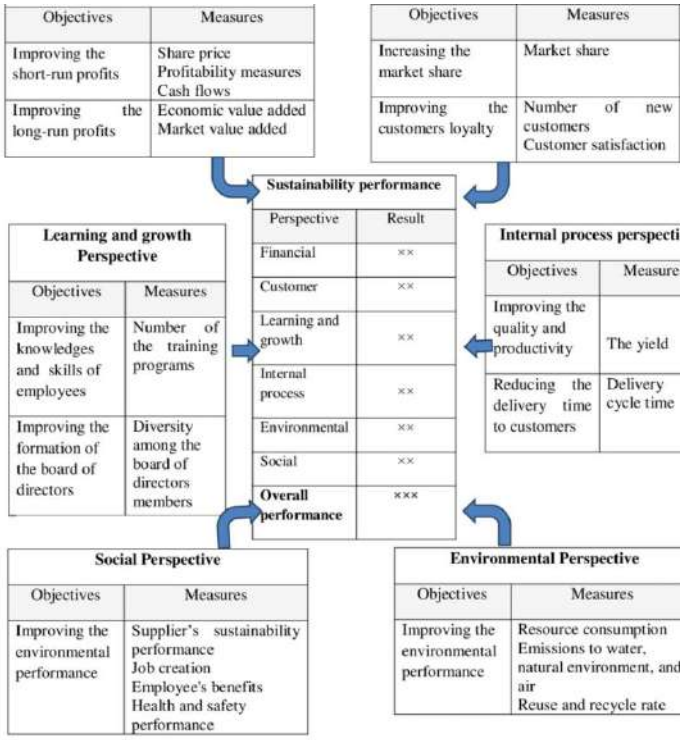

Figure 1: SBSC (Abdelrazek, 2019)

SBSC attempts to integrate the environmental, social dimensions into the traditional Balanced Scorecard (Kaplan and Norton, 1996) comprising *financial, internal business process, learning and growth*, and *customer* dimensions. Research works have focused on balancing both financial and non-financial measurements from a long term as well as short term perspectives. However, organizations find it complex to implement and integrate sustainability strategy into their mainstream strategies of business performance.

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Dr. Mandaar B. Pande

Professor,SCIT

Water is one of the most important natural resources which was never in abundance. After air, this is the second most important resource without which every living organism on earth will perish. However, increasing industrialization, movement of people to cities in search of a better living, improved medical care and an ever increasing population has led to rapid depletion of this critical resource. The situation has been further aggravated due to wasteful use of water by humans, due to sheer carelessness as well as a lack of proper awareness of the fact that this is a resource that is limited in the world. Going forward, sustainable development cannot happen without including the proper usage and awareness of water for all humanity.

Ms. Angelina L. Gokhale

Assistant Professor,SCIT

In the light of organizational M-powerment, I wish to share my views on the emerging field of "Women in Information Security". When I first heard about this initiative receiving popularity across various information security firms (more so recently), it made me wonder about the premise behind this initiative. Are women looked as "bad car drivers" even in information security? or "bad coders" as seen on the major technological front? After listening to the experiences of various technically strong female information security experts, it was upsetting to get to know this (names are not disclosed for reasons of confidentiality). Despite experiencing a silent or verbal opposition of this kind, these women have soared to great heights and are amongst the top speakers at various international conferences. They have truly earned their well deserved respect. It is utmost important to provide an equal platform for upcoming women in niche fields of information security. But when I mention this, it also makes me wonder at the evolving trend of such an initiative. Isolating women does not meet the demands of gender equality. It is important to coexist with other genders. It is not about feminism but "gender neutrality" when we perceive the idea of "gender equality". I would like to acknowledge all my friends and mentors from the field of information security (not at all limited to women!) who always motivate, encourage and help me broaden my perspective.

Dr. Pradnya Purandare

Assistant Professor

With technology booming and everything being available to us on our fingertips-life has indeed become easy, but do we have a negate side to this ? with high involvement of tech usage there has been a decline on effective of family time spent together. Emotional connect as well as face to face communication has taken a toll. Physical activities like walks, playing outdoor sports has lessened and redirected to indoor comfort. Talking about education, originality of ideas is replaced with content already available, plagiarism has increased. Time spent on reading good books and gain meaningful insights have also reduced.

Prof Apoorva Vikrant Kulkarni

Assistant Professor,SCIT

Sustain the Sustainability – SDG a macro level view!

Sustainable development basically means that the process of development needs to be sustained or the development of a region should be planned in such a manner that it should go on for a quite long time.

The United Nations developed SDG is a topic that is interdisciplinary in nature also known as Global Goals. Various SDGs focus on different sectors of quality improvement and development in areas which are lifeline to a lot of developing and third world countries like clean drinking water, dealing with pollution, gender equality, dealing with climate change etc.

Countries across the globe are working towards integrating SDG into their agenda through policy making and different initiatives that are being undertaken by the respective governments. The social sectors like i.e. poverty eradication, policies to promote employment and decent work and social inclusion, basic healthcare, safe drinking water, sanitation are being brought into broader perspectives and more complex policy-making processes, and vice versa, incorporating economic and environmental perspectives into social policy-making.

It has become the need of the hour to involve as much as strategies not only at the planning level but executing them at an operational level and even enforcing a few in order to implement the activities to achieve SDG.

The 17 goals seem to be interrelated and also seem to be correlating to each other. Various stakeholder group are a part of the successful execution of the SDGs in order to achieve the 2030 accomplishment for the UN agenda. A point to note is that the success of such a mass and huge level schema being executed at a grass root level not only involves planning and strategy at the top level, but also involves a positive mindset amongst all the stakeholders involved at each level from the top to the bottom.

It been 5 years now that the world is witnessing the step by step journey of the goals to be accomplished and we still have a long way to go.

What interests me more each time I read across about SDG goals accomplishment is that we as direct or indirect elements are learning from the journey or the process more than the end result we are yet to achieve!

From Team Reflections

"We have not inherited this Earth from our forefathers, but we have borrowed it from our children" This line specifically quotes that we must be careful and accountable for what we leave behind for the future generations not because we are duty bound but we equally love the world. The United Nations beautifully came up with the idea of putting forward 17 Sustainable Development Goals to transform the world into a better place based on the principle of "leaving no one behind". We aim at being the stewards of the mentioned Sustainable Development to bring a change and awareness among the masses because we believe that pen is mightier than the sword and one must be the change that one wishes to see in the world. We have identified four domains which captures the integrity of the SDG Goals to bring in "The 2030 Agenda for Sustainable Development"; to gain focus for peace and prosperity for people and the planet, now and into the future.

The first domain Improvised Lifestyle touches upon the poverty, hunger, good health and quality education which are specified under the first four SDG Goals. If we look closely then all these are interrelated and impact each other in certain ways. The decline of global extreme poverty continues but has slowed down which makes it difficult to achieve the target of less than 3% poverty in the world by the year 2030 so as to end poverty in all its forms everywhere whereas hunger continues to impact millions of children worldwide making them malnourished. When we compromise on both these stated aspects, life expectancy itself goes down keeping good health at stake and also on the other hand despite of continuous efforts over the past years to improve availability of proficient education, we lack quality and capacity of learning environments.

The second domain Organizational M-powerment explains Gender Equality, Peace, Justice and Strong Institutions, Reduced Inequality to be discussed in the direction of empowering citizens and providing access to justice and accountable institutions at all levels irrespective of their colour, cast or creed.

The third domain Sustainability involves Partnerships to achieve the Goal, Responsible Consumption and Production, Sustainable Cities and Communities, Decent Work and Economic Growth, Industry, Innovation and Infrastructure to fight in the light of sustainable development. The SDGs are designed to be inclusive of a safe and resilient future for us where we can foster innovation and strengthen the relationships at a global level. It is said appropriately, "The Earth is a finite resource. You can not have an economy on a dead planet."

The fourth domain Bionetwork talks about Clean Water and Sanitation, Affordable and Clean Energy, Climate Action, Life Below Water and Life on Land. It brings in the urgency to protect, conserve and restore our valuable resources, make them reliable, affordable and available to the people. Recently, like every year when bushfires occurred in Australia resulting in the death of millions of animals whereas billions of them effected by it, has grew more intense and destructive in the recent years, a problem that has been exacerbated by climate change is a peek through of the devastated future we might have if we do not take a step today We at Reflections strongly believe that one should start where they are, use what they have and do what they can. What we are creating today is truly a climate crisis and we must fix it through the awareness and taking lead in the sustainable direction because presently climate change is the fight we need to be fighting right now. We firmly stand with the stability and resilience not through just words but our actions in order to build a holistic sustainable future in every nook and corner of the world.

From Guest Lecture Committee SPOCS

Gaurav Gupta

"*It is easier to build strong children than to repair broken men*."– *Frederick Douglas*

Education is one of the most important elements for a quality life to live. It is one of the most important aspects after the basic necessities. We have come up with instances where children are eager to learn but they are financially weak to study. The very important Sustainability goal is the Quality education as it is truly said that "Children are the future of any country" as well as it is said, "Padhe ga India tabhi to badhega India". Education is both the means as well as the end to a better life. It is a movement from darkness to light. Without education, people get caught in the inter-generational cycles of poverty and backwardness. Seven decades have passed after independence but still, India struggles to achieve a literacy rate of over 90 per cent. Providing quality education to all children of India should be the top priority of both the State and Central governments. And thus, the different departments of the Government of India often support charities to bring more and more children under the ambit of their education initiatives.

The value of spreading knowledge through teaching has been imbibed in me since my college days. I was an active member of 'Uddeshhya' (College social Responsibility group)'.After joining TCS I joined their Corporate social Responsibility group. My passion for teaching under privileged students is still continuing by being part of ISR teach . . One of my reasons for becoming a volunteer as a teacher is to contribute to the community in a meaningful way. Teaching is one of the most direct ways to make an impact, and if you are driven by the desire to help those around you, being a teacher is an invaluable contribution.

We always complain that we don't have time to teach children as we are busy with our schedules, but we fail to understand that we waste a lot of quality time on social media platforms which can result into negative emotions of anger ,anxiety etc. but when you invest that time in teaching someone what you get is , satisfaction and lots of happiness. Teaching children removes negative emotions in you , increases your mind productivity as you deal with the curiosity of children.

With every new year we take resolutions which break in one or days because either they are not feasible enough or there is not much discipline or motivation behind them .But a resolution to teach a child will imbibe lots of motivation and will also help to inculcate a sense of responsibility.

Archita Das Gupta

Futurology: Managing Business in the Age of Technological Disruptions

We are living in an era of continuous discontinuity where change is the only constant. Technology is continuously developing and shaping our lives. Since the beginning of the 20th century, we have seen continuous disruptions where one organization is dismantling another organization by launching a better product or providing advance and inexpensive services using the latest technology. Eg. Reliance Jio, Facebook, etc. Technological disruptions can be defined as the changes which occur in the organizations business process or existing technology to make the work done more efficient which will increase the profit margins. According to a survey conducted, only 44% of the total organizations can face disruptions in the existing market. To manage the business in the phase of technological disruptions and sustain itself in the market an organization need to perform the following tasks:

- Proactively ride on the wave of the existing and upcoming technology
- To sustain itself, an organization need to follow the principle of continuous learn the new technology and unlearn the old technology
- Need to overcome the organization inertia for a prosperous future
- Each employee of every level need to think exponentially for an incremental outcome

Technology disruptions are bringing hope to many new organizations around the world. These disruptions are expeditiously changing the way we work, design of our workplace, SLA's (Service level agreements), the way we sell products and the way we interact with the customers. Therefore, it is necessary to guide future decision-makers so that they are in the position to identify the potential of emerging technologies and how they can craft the path to adopt the latest products and services.

Abstracts from Participants

- **The Water Energy Nexus: What would mankind choose? (*Pritha Karforma, Vaibhav Kumar - NTPC School of Business (NTPCSB), Noida)***

Research purpose

The abstract highlights the global analysis of the impact of shale oil and gas extraction on water resources, particularly on irrigated crop production & drinking water wells. Using a water balance analysis, we find that large areas probable to have shale reserves are either already affected by water stress or would become water stressed in the event that the local water resources would be depleted for the extraction. The contamination of groundwater is of major concern for those who live near drilling operations and rely on drinking water wells. Moreover, the contamination of watersheds that provide drinking water for millions of people in cities hundreds of miles away from any natural gas drilling sites poses a significant threat as well.

Objectives

Hydraulic fracturing, or fracking, is a multistep extraction process in which fossil fuel-bearing rock formations are drilled and fractured using huge amounts of water. Oil and gas reserves that were at one time considered inaccessible are now available to be exploited. While the fracking process has expanded oil and gas development, it has also expanded risks to water resources.

Methodology

Water used for shale gas and oil extraction is taken either from surface water bodies or from groundwater resources. But, the recharge and recovery of groundwater reserves occur at much longer time scales, these resources can be more vulnerable to depletion under prolonged rates of withdrawals. With this in mind, we will analyze the world shale reserves and their possible extraction impacts on freshwater aquifer stocks contained in global major groundwater basins and how can we mitigate this issue keeping in mind of our necessity of consumption of shale oil or gas.

Findings

What is Hydraulic Fracturing or Fracking?

Hydraulic fracturing, or fracking, describes a multistep oil and natural gas extraction process, in which the fossil fuel- bearing rock formations are directionally drilled both vertically and horizontally. Once the well is drilled, a charge is detonated to blast fissures open, then a proprietary mix of water, chemicals and prop-pants (like sand, these are designed to keep the fissure open) are injected into underground rock layers at high pressure in order to further fracture the rock. Once the production well is fully open, some “produced” wastewater flows back to the surface, and finally, the oil and natural gas is extracted.

Vital to the fracking process are the millions of gallons of fracking fluid for each well, a fluid made up of over 90% water. While each company’s formula is closely guarded secret, review of the recognized 1,021 chemicals in these various proprietary mixes reveal that it contained toxic substances like carcinogens.

Water trace of Fracking

Recent studies from Duke University assessed the water footprint of each step of the fracking process. Researchers found that shale-gas water use ranged from 390,000 to 6.27 million gallons per well, while shale-oil use ranged from 70,000 to 2 million gallons of water per well. We have more than 6000 shale gas and oil reserves around the world. Now, we can easily calculate the amount of water that is depleted for each reserve and the amount of wastewater generated.

Conclusion

The development of unconventional oil and gas from shale in water stressed areas of the world would need to overcome water scarcity challenges and would likely enhance competition for water in agriculturally important areas.

- **SUSTAIN-ABILITY: Small steps to a bigger tomorrow (*Arunima Ghosh, Ayush Kumar Verma – Symbiosis Centre For Information Technology)***

Over the last few decades, our environment and subsequently our ecology have become an area of concern for us. This has exponentially led us to contemplate, innovate and employ alternative methods and smaller initiatives to save our ecology. One such initiative is sustainable farming. With the advent of civilization, open field or soil-based agriculture is facing some major challenges; most importantly decrease in per capita land availability. In 1960 with 3 billion population over the world, per capita land was 0.5 hectare but presently, with 6 billion people it is only 0.25 hectare and by 2050, it will reach at 0.16 hectare.
Due to rapid urbanization and industrialization leading to melting of icebergs, the arable land under cultivation is further going to decrease. Also, soil fertility status has attained a saturation level, and productivity is not increasing with increased level of fertilizer application. Apart from this, poor soil fertility in various cultivable areas, less chance of natural soil fertility build-up by microbes because of continuous cultivation, unpredictability of climate and weather patterns and frequent drought conditions, river pollution, wastage of huge amount of water and poor water management, decline in ground water level are some of the causes of threatening food production under conventional soil-based agriculture.
Soon, under such circumstances, it will become impossible to feed the entire population using open field system of agricultural production only. For more agricultural production, inorganic manure is used which in turn would affect the soil fertility. Therefore, the purpose of this research is to find an alternative system that covers the current and future demand with less cost and minimum consumption of natural resources in an organic manner. Naturally, soil-less culture where plants are raised without soil is becoming more relevant in the present scenario, to cope-up with these challenges. Soil-less culture with improved space and water conserving methods of food production have shown some promising results all over the planet. The technology proposed by us is Hydroponics which is a biotechnology of soil-less cultivation of various herbs which is carried out in controlled culture conditions, in an artificial media but doesn't oppose to customary methods of intensive agriculture. The objective is to quantify productivity and characterize the growth and development of varied herbs grown in various techniques like nutrient film technique (NFT) and deep flow technique (DFT) hydroponic systems. Not all types of plants are cultivated soil-less, hence we are utilizing this technique

for the ones which can be cultivated in water so that soil can be in used for those plants which cannot grow in soil-less conditions.
As every coin has two sides to it, Hydroponics has some limitations as well. Firstly, application on a commercial scale requires a great deal of technical knowledge and high initial investment, although returns are high. Secondly, great care is required with respect to plant health control, also energy inputs are necessary to run the system as well. But, as the industry is expected to grow exponentially in future, leading to conditions of soil growing becoming very difficult, especially, for a country like India, with increased urban concrete conglomerate each day, there is no option but adopting soil-less culture to help improve the yield and quality of the produce so that we can ensure food security of our country.

- **ORGANISATION EMPOWERMENT (*Shreya Kumar – Symbiosis Centre For Information Technology)***

Flat structures have been adopted by both business and education over the past decade and their impact on higher and lower authorities is well understood. Flatter companies are offering a new range of management actions; more collaboration, less red tape, better communication, incentives for professional development and greater job satisfaction. The success of this transition is highly dependent on the attitudes and expectations of people working in flattering organisations. Should they accept this cultural change as well as organizational change? Were staffs becoming more empowered? This informative study of the views of staff working in flatter organizations focuses on: environment, job importance, communication, work intensity and personal motivation.
The study will also comprise of the effect of women empowerment in an organisation and how the policy of whistle blower can be improved through this empowerment process. The methodology used for this study is secondary one based on the analysis done on the topic previously. The findings are that old habits remain and an effort in changing the culture is required to increase employee satisfaction in new structures. Also, this case compares family corporate governance structure with the taller structure of an organization. In case of Indian society, this case study also compares the ill practices followed in an Indian society with that of the differentiation of power in an organization. At last, through this study we would be able to conclude that how empowerment of employees can benefit the organisation, financially, in terms of increasing productivity and satisfaction of their clients. Also, how it can help in retention of the employees and help to build a healthy relationship between management and employees.

- **Sustainability: the only option (*Rishav Kumar - Birla Institute of Technology (BIT), Mesra, Ranchi*)**

Stating in terms of economics, when a company's debt to income ratio clamps up to a point where it can no longer claims to be financially liable, it ends up declaring bankruptcy. End of story. Sustainability simply talks about the future and how our actions can pave its way to have a global impact.
In ideal conditions, the idea of sustainability drafts out heaven like resolutions believing on the idea that the world would without conditions start to utilize the current resources optimally to allow nature absorb the shock and have enough time to revive itself and the cycle may continue.

But in reality, we have to deal with the compounded growth in the energy sector which stresses the global powers to stick to the old proven methods.
However humanity has survived due to its flexible thinking and innovative actions. Despite the tremendous pressure on the energy sector, there was one such event when the world joined its hands together to find the root reason of depleting ozone layer that might have caused over exposure driving the earth towards an end. It was the "MONTREAL PROTOCOL".
Adopted in 1989,its aim was to check the production and consumption of more than hundred man-made chemicals that caused the unimaginable threat of disturbing the equilibrium of life. This act helped us evade the possible threat of further disaster by promoting alternative ways of achieving the task without the consumption of the red tagged chemicals through awareness and research and development on industry level world wide.

- **Gamification of Energy Solutions in Smart Cities for Sustainable (*Shubhanjali Sharma – Symbiosis Centre for Information Technology)***

The advancements in technology and the increased use of internet, digital business models and Internet of things (IoT) have paved a way for s ustainable and inclusive cities that provide their citizens a clean and sustainable environment. Smart solutions of the smart cities focus on making the life of its citizens comfortable but they fail to make their everyday activities motivated in becoming sustainable. This case proposes a gamification application that aims to facilitate achieving greater energy efficiency in smart cities. By using game in such a non-game context helps in keeping the fun element of the game intact while achieving the specified learning objective. The proposed application aims at identifying energy wastages and motivates behavioural changes of the player combining team play, virtual rewards and life simulation. The case explains various concepts of gamification and differentiates it from game-based learning. It proposes the gamification strategy, game mechanics drivers and motivators, game engine, game architecture, financial rewards and a detailed set of rules for the proposed gamification application. The application targets at promoting awareness and involvement of the players in managing their own resources, choices and behavior for a sustainable development. The case aims at motivating the citizens and changing their behavior in a desired way.

- **Adopting Healthy and Sustainable Habits (*Shabiya Khatoon Ansari, Suryakant Trivedi - Indian Institute Of Management (IIM) Lucknow)***

Purpose
The purpose of our research is to analyze and understand what are the barriers in adopting healthy and sustainable habits in the daily routine of general public in India and to provide ways to address those barriers.
Areas of focus:

- Why people in Indian metro cities are not adopting bicycles as one of the ways to commute as we see in many of the European countries?
- Why the government has not been able to curb the cases of drink & drive or road accidents in India?
- Why people (Specially kids) are getting addicted to the use to smart phone and how to stop it?
- Why new generation people are living a stressed life and how to address this?
- How can we leverage the design concepts of nature and to imitate it to produce sustainable design or processes?

Methodology

We will be using the concept of system thinking and behavioral Nudge to study them and find solutions for them. These solutions would be viable in term of economic cost and will have multifold impacts.

Findings for our first case _Why people in Indian metro cities are not adopting bicycles as one of the ways to commute as we see in many of the European countries?

Recommendations

Proposed change in existing system

1) Bicycle umbrellas- Safeguard from heat/rain/pollution- The construction of a bicycle corridor with green shade although the ways of that corridor. 2) Separate bicycle stands- People should be able to park their cycles at their convenience
comfortably without trouble.

3) Incentivizing the app aggregators who are in the business of renting bicycles – Make the cycle rental business tax free. It is worth spending as a healthy population is worth more than that.

One major challenge in this course of action is how to change the mind set of people to use all these resources of cycles.

We will address this through Nudge

1) Devising a reward system- Corporates should provide one component of bonus based on the distance covered by a particular employee in a year. 2) Painted roads for the bicycle corridor- The roads where the cycles would run should be
painted in beautiful colors.

- **Integrating Sustainability: A Case of Cement Sector in India** (***Alankrita Srivastava, Anamaya Chaturvedi - Xavier School of Sustainability (XSoS), Bhubaneswar***)

There's been a growing consensus on the corporate action and its responsibility towards Sustainability in recent years, and the companies have identified pathways that enable them to follow sustainable practices and have a positive impact on the planet. Every sector has a different process flow and manufacturing functions, which require extensive research and R&D to enable them to implement sustainability in a diversified nature of business. With the recent mandates on Corporate Social Responsibility, organizations have now realized new ways in which they can benefit the community and meet the guidelines stated in the Act. This Case Study tries to throw light upon the sustainability practices in the Cement Sector of India. Being a water-stressed country with an exponential increase in the use of raw materials to meet the demands, the cement sector has been under tremendous pressure to develop mechanisms aligning with sustainability. They are not only thinking sustainably but also acting responsibly. This benefits the employee, the local communities, the country and the planet as a whole, which is a core principle of sustainability, to generate value for all stakeholders involved. The case analyses various frameworks that have helped in responsible consumption and production patterns, providing decent work to the local communities through CSR and engage in innovation and infrastructure. The case further takes into account the steps, the scope, the objective and the status of these mechanisms and steps undertaken in this sector. The case exhibits instances from the dominant players in the Indian cement sector which include Ambuja Cements, UltraTech Cements, Lafarge and Dalmia have been stressed upon. The case goes on to elaborates some of the ways in which the organisations have not only generated value for

the stakeholders, but also quantified it through various assessment methods like Ambuja Cement's True Value Methodology for assessing the true value of their impact, both positive and negative on the environment as well as the society. The cement sector has been in focus largely because of the significant amount of GHG emissions the sector is responsible for. According to a Chatham House report, the cement sector emits roughly 8% of global CO2 emissions. If the cement industry were a country, it would be the third largest emitter in the world - behind China and the US. It contributes more CO2 than aviation fuel (2.5%) and is not far behind the global agriculture business (12%).1 The case elaborates on how cement companies in India are dealing with the sustainability challenges while embedding the Sustainable Development Goals in their strategy to demonstrate the companies as a change agent and a force for good.

- **Thermoelectic Jacket (*Shivam Yadav – Pandit Deendayal Petroleum University)***

The main purpose of this is to create a Thermoelectic jacket or a
system which can help to create cooling without damaging the enviornment or without emiting C.F.C. Thermoelectric cooler is a solid-state heat pump that uses the Peltier effect to move heat. Thermoelectric elements are so small and light that they have been used in many fields. There are headgears refrigerated by thermoelectric modules. But unfortunately there is no cooling jacket refrigerated by thermoelectric modules. But there are many cooling jackets with different methods for cool them. The design of a heat sink suitable for the efficient operation of the thermoelectric module is necessary. During the operation heat will be continuously rejected at the hot end. Thus there will be a chance for accumulation of heat at the hot end.
Thus, due to the accumulation of heat at the hot end the temperature difference between the cold end and the hot end will be more, so to operate the thermoelectric module more efficiently there must be a heat sink at the hot end. Heat sink should be selected considering its weight and size, which would be more suitable for our use in our jacket.

OBJECTIVE
With the rapid technological advancement human has accepted the challenges
of working in increasingly hostile and adverse conditions. Despite the growth of technology, the places still exist where we have to work in hot or humid conditions. Two stress generators act simultaneously in such cases, work load and hot environmental condition. Examples of such work areas include aerospace, firefighting, chemical warfare conditions, working in foundry and mines, working in desert regions, etc.
Exposure to high temperature during working is a potentially fatal occupational hazard. Personnel who work in such harmful conditions are prone to suffer from heat strain or even heat stroke in extreme cases. To prevent the personnel from such physiological disorders, mostly a two-step approach is adapted. Firstly, a heat protective suit is worn by the worker which can act as a shield against the incoming radiative heat from the hot environment outside. Unfortunately, such types of protective clothing impede dissipation of metabolic heat generated due to work. To remove this metabolic heat, cooling garments have proved to be a powerful tool. Cooling garments play an important role in alleviating the discomfort experienced by the individuals working in hot environmental conditions.
The operating principle of such cooling garments is to create a cooler microclimate to facilitate the removal of metabolic heat and block heat exchange between the user and the environment. The cooling garments can be broadly classified in two groups based on their working principle, namely active and passive cooling garments.

Principle

The operating principle of active cooling garments is to circulate cold air or liquids through tubing networked inside the garment. The mode of heat transfer is mainly conduction and convection. Passive cooling garment uses either phase change materials like ice-pack, polymer gels, paraffin waxes or chemically frozen gels or evaporation of cooling liquids.

Conclusion

A jacket for safe guarding a person from hot atmosphere is the objective of this project. The thermoelectric refrigeration is the method adopted here. The thermoelectric modules which work on the principle of Peltier effect are selected for the cooling jacket for refrigerating effect. To order to operate the thermoelectric module efficiently, the heat accumulates at the hot end must be dissipated. A heat sink with a water reservoir is designed and fabricated for this purpose. It will help as a substitute of A.C which throw CFC.

Some real life encounters with sustainability..

Years ago I visited a village in Jharkhand. It was inside a forest then. Ten years later I went back to the same village. This time I went there to spend a longer time with them. I went there as a teacher in their school. The forest had vanished. We had to walk a few kilometers to reach the forest. The Adivasi or tribal community there were depended on the forest for their livelihood. They collected firewood from the forest. They collected mahua flower and tendu leaves from the forest which was the basis of their economy. As the forest started moving away from the villages now they have to walk longer to collect firewood. Longer times is spent on collecting tendu leaves. Even for hunting animals it was becoming difficult as forests started depleting. Most affected in all these were women as it was their responsibility to manage household. Men often do not work or are taken by contractors to work in the far off brick kilns in West Bengal.

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They were farmers as well as hunting gathering community. Most of them do not own land and they would go to the fields of the landlords after the harvesting is done. They would be digging the rat holes in the fields. These rat holes would be full of grains which they take and manage. They have to live their entire year on this rice. The land lords would leave these to the tribal families. And it has become the custom of the region for tribal families to do the digging after the harvesting season. Man is fighting with animals for their survival.

During most of the year adult men were absent from the village. Later it was told that they are gone to work for contractors. Now these contractors take the villagers the Bengal brick kilns and would not allow them to return home for family functions. Once inside the camp they are treated as bonded labourers. It is very easy to defraud the illiterate and socially deprived tribalas of this region.

The arrangement of a village is also very interesting to note. Most villages structures in a linear fashion. There will be a road that goes down. Those families that live near the main roads are always of upper caste families. Then comes business class Hindu families. After them you find a tribal village. It is after the tribal families the Muslim families are found. This structure is a common phenomenon and reveals the social, economic standing of communities in those regions.

Once I was invited by one family in the village to a marriage. To my surprise, I realized that the bride was one of my own 9th standard students. One of the rituals was very funny was well as thought provoking. The bride was made to sit in the middle and every woman in the family would jump over her. Someone told me that this is a tradition to prepare the girls for all the struggles in the in-law's family.

I had a student who would take a bath three times a day. And after each bath he would apply a nice coat of Fair and Lovely. Most of the nontribal students in the school were of upper caste and were of fair skinned. And tribal students with their darker skin often felt discriminated.

These are some of my observations. I do not want at this point theorize these observations.

I leave it to you to think and reflect on these and find answers.

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