Special Issue

on

REALIZING SDGs THROUGH HIGHER EDUCATION INSTITUTIONS
FOR ENSURING INCLUSIVE AND EQUITABLE QUALITY EDUCATION

on the occasion of

AIU SOUTH ZONE VICE CHANCELLORS' MEET—2022

at

Bharathiar University, Coimbatore

(March 11-12, 2022)

#Let'sBeatCoronaTogether

Fatorda Salesian Society's
DON BOSCO COLLEGE OF ENGINEERING
Fatorda, Margao, Goa-403 602
(Approved by DTE, Govt of Goa, AICTE, New Delhi &
Affiliated to Goa University)

A Society which is committed to holistic development of the students to become full-fledged engineers after completing the courses, invites applications for filling the following Teaching and Non-teaching posts on Regular/Contract/Visiting basis.

Sr. No.	Department	Designation	No of Posts	Regular/Contract/Visiting
1.	Mechanical Engg	Associate Professor	01	Regular
		Assistant Professor	03	Contract
2.	Computer Engg	Professor	01	Regular
		Associate Professor	01	Regular
		Assistant Professor	02	Contract
3.	Civil Engg	Professor	01	Regular
		Associate Professor	01	Regular
		Assistant Professor	01	Contract
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➢ Knowledge of Konkani.

➢ Knowledge of Marathi shall be desirable.

➢ **For Professor and Associate Professor positions:**

   Application form must be accompanied by duly-filled PBAS proforma for calculating API scores for Category III-Research and Academic Contributions (refer to **www.aicte-india.org**).

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For position at Sr. No.1 to 4 qualifications are strictly as per AICTE norms. For further details kindly visit **www.aicte-india.org.**

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The candidates are requested to download the application form, API based Performance Based Appraisal System (PBAS) format from the college **website: www.dbcegoa.ac.in** (Applicable for the Post of Professor and Associate Professor).

Interested candidates are requested to send their application in prescribed format along with copies of all relevant certificates to the "The Director" so as to reach the Institute Office **on/or before 19th March, 2022.**

The envelope containing the application in prescribed format should be clearly **superscribed** with the Post applied for. Incomplete applications and applications received after closing date and time will not be entertained.

Dr. Neena Panandikar **Principal**	**Fr. Kinley D'Cruz, sdb** **Director**

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EDITORIAL

We all dream of a world that is a beautiful place to live but the ground reality is something different. The greed of man to accumulate material possessions is leading to a decrease in moral values and an increase in incidents of crime, delinquency, drug abuse, corruption, discrimination based on caste, creed and other dimensions, etc., that are affecting our peaceful living. The greed of man is also leading to phenomena like global warming, melting of arctic zone, destruction of the ozone layer, acid rain, energy shortage, air pollution, etc., which are impacting the survival of the planet itself. Evidently, environmental depletion is the manifestation of the deteriorating moral values of human beings. With more and more people falling trapped in these ills, the dream of a pleasant life on earth is shattering.

It is common knowledge that Education is a panacea for all ills of the society. It is a great weapon for bringing positive change. We can use education to create awareness and motivation to cease the deterioration being caused to the society vis a vis the planet. But the questions are: how does one work on social and behaviour change, which is so essential for required transformation. How can one build the receptivity of the people across the world towards environmental concerns? How does one improve their quality of life in a sustainable manner? Possible solutions for these problems are provided in Sustainable Development Goal-4 of United Nations Agenda 2030. Goal 4 sets the target of ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all by 2030. The specific targets for this goal are:

4.1. By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and preprimary education so that they are ready for primary education.

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

4.5. By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

Apart from these targets, there are three sub-targets.

a) Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all

b) By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African

countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

c) By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states

Persistent, consistent, and committed efforts are required to meet such a mammoth goal. The most challenging task is to transform the mindset of the people working in the field of education and to create a collective consciousness towards the protection of the environment. If education, is effective, there would be a great boost to inculcating and instilling moral values and scientific temper in the people. This would ensure that people take positive means to earn livelihoods and resist the temptation of accumulating material possessions at the cost of depleting environment. Such a paradigm, not only would improve the quality of life but would ensure sustainable wellbeing.

The need of the hour therefore now, is to set new goals for education in consonance with environmental requirements. There should also be a new global curriculum that could be adopted transversally throughout the globe in this regard. The curriculum should be interdisciplinary and should promote divergent and convergent thinking. The ethical and quality standards should also be at global level in this regard.

Here, I am tempted to quote the words of Swami Vivekananda, "*Blessed are we that we are given the privilege of working for Him, not of helping Him. You cannot help anyone, you can only serve; serve the children of the Lord, serve the Lord Himself, if you have the privilege. If the Lord grants that you can help any one of His children, blessed you are; do not think too much of yourselves. Blessed you are that, that privilege was given to you when others had it not. Do it only as a worship.*"

If the knowledge workers, particularly the higher education community follow these words of Swami Vivekananda and consider this task of environmental protection as worship we can, of course, realise the dream of making this world a safe and beautiful place to live.

Sistla Rama Devi Pani

Conceptualizing the South Zone Vice Chancellors' Meet on Realizing Sustainable Development Goals through Higher Education Institutions for Actualizing Inclusive and Equitable Quality Education

Pankaj Mittal* and Sistla Rama Devi Pani**

Higher Education Institutions (HEIs) play one of the most important roles in shaping society. They are vital and inevitable for a progressive society. A strong system of higher education is a significant contributor to the country's ability to compete in the global marketplace and is critical to economic strength, social well-being, and position as a world leader. being the enablers of change in society, HEIs are under increasing pressure to show their societal relevance. Emphasis is rightly placed on how higher education can better serve society, foster economic development of nations, promote cultural diversity, political democracy, and trade and international cooperation. External pressures manifest themselves in a variety of forms, among them, shifts in the economy and the nature of the labor market, demographic trends and the demands and expectations of interest groups, and an instrument for reaching certain societal agendas.

Looking at the potential of the HEIs, UNESCO, as well as the Governments of the country, are also emphasizing on seeking support from HEIs for attainment of all the 17 SDGs. On the request of the United Nations to the higher education institutions to support it in this cause, the universities across the world are aligning themselves for it. Higher Education is prominently mentioned in target 4.3 which states, 'By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university. Apart from 4.3, higher education is closely linked to 4.4, 4.5, 4.7, 4.b and 4.c. SDG–4.4 & 4.5 emphasise on Ensuring Skills, Employment and Entrepreneurship and Remove Inequalities. 'SDG-4.b & 4.c – Enhance Global Partnerships and Ensure Supply of Qualified Teachers through International Cooperation. SDG-4.7 is Education for Sustainable Development and

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Promoting Culture of Peace, Nonviolence and Global Citizenship.

Due to their unique position in the society, the HEIs have immense scope and potential to contribute towards achieving all the 17 SDGs and thereby accomplishing 2030 agenda. Rather, realizing the SDGs without the involvement of higher education sector is quite an impossible task. In India, there is a lot of tacit contribution of HEIs towards realizing SDGs but there is no data on classified efforts of HEIs on the same. In the impact ranking of Times Higher Education which assesses universities with reference to their contribution in realizing UN SDGs, only 2 public universities and 9 private universities could find place. This compels us to think whether the Indian Higher Education Institutions are responsible enough in their approach towards sustainability in delivering education. Most importantly, it makes us ponder why we are not able to tap the potential of HEIs in achieving SDGs. To apprise the Indian HEIs about their role, and to reinforce them to take up the task of accomplishing SDGs as their prime responsibility, AIU as a representative body of HEIs in India, has set-out to organize all the Zonal and National Vice Chancellors Conferences in 2021-22 on the theme '*Realising Sustainable Development Goals through Higher Education Institutions'*.

HEIs in India have displayed their potential during the COVID-19 crisis and demonstrated why their expertise and involvement matters in solving the crucial challenges. We are left with one decade only to accomplish 2030 Agenda. It is therefore, a crucial step at an apt time, to gear the HEIs to dedicate themselves to contribute significantly in achieving those goals. Accordingly, in the Annual Meet, all the 17 SDGs will be taken up for discussion. In zonal meets a set of 4 closely related SDGs will be deliberated in each of the 4 Zonal Vice Chancellors Meets i.e., East, West, Central, and North. The present Meet is the South Zone Vice Chancellors' Meet. The theme for this Meet is *Realizing SDGs through HEIs for Actualizing Inclusive & Equitable Quality Education'* based on SDG-4. This goal aims to ensure inclusive

and equitable access to (and completion of) quality education. This goal promotes the acquisition of the knowledge, skills and values needed to function well and contribute to society. The targets of this goal range from ensuring universal youth literacy and numeracy, expanding the global number of scholarships available to developing countries, and ensuring equal access for all to affordable and quality technical, vocational and tertiary education. The discussions will primarily address the role of HEIs in the perspective of their contribution. Besides, there will be stocktaking of global progress towards achieving these goals; share knowledge, success stories and good practices; identify particular areas of concern and main challenges; and suggest ways forward in terms of action points for HEIs, government, and other stakeholders. Action points for HEIs will be for all the three dimensions of HEIs i.e., Teaching, Research and Community Development. The two-day event will include following 4 sessions:

Session--1: Contribution of HEIs in Actualizing Inclusive and Quality Early Childhood Care, Primary and Secondary Education

Session-2: Contribution of HEIs in Actualizing Inclusive and Quality Technical and Vocational Education

Session-3: Contribution of HEIs in Ensuring Access and Equity in Higher Education

Session-4: Contribution of HEIs in Promoting Quality and Excellence in Higher Education

The Sessions will be of 1 Hour and 30 Minutes each. In each Session there will be experts from United Nations, NITI Aayog, Line Ministries in India and academicians. Presentations will be followed by interaction and Q and A. On the basis of deliberations, a commitment statement will be framed for the universities to further the cause of achieving in the SDG. In addition to academic deliberation, capacity development initiative will be taken by forming a group of Vice Chancellors who will work on various dimensions of realizing the SDG through HEIs.

Questions that the Sessions Seek to Address

Each speaker of session will address these four fundamental questions pertaining to the related Goal:

1. What is the status of realization of the concerned SDG in India?

2. What are the reasons for not being able to achieve the concerned SDG to its fullest potential?

3. What are the strategies which HEIs can adopt to contribute in realizing the concerned SDG?

4. Recommendations for the Government for speedy implementation of SDGs.

Apart from these fundamental questions, the following questions are proposed to guide the discussions during the conference:

Questions Pertaining to International Experts

1. What is the assessment of international agencies on India's performance on this Goal, and likely cooperation available from other countries to the HEIs in India for addressing the issues involved in achieving this goal?

2. What are the Best Practices and Bottlenecks of HEIs in other countries which have performed well in achieving this goal? What are the takeaways for Indian HEIs from them?

3. What is the cause and effect of accomplishing this SDG in India on achievement of SDGs in global context? How Indian HEIs can support HEIs of other countries in achieving this goal?

4. How can Indian HEIs contribute substantially towards achievement of this SDG?

Questions Pertaining to Government and Policy Makers

1. What is the progress of India in the global context in achieving this SDG? What are the various social, financial, administrative, governance and other dimensions of addressing the problems involved in achieving this SDG?

2. What are various challenges and bottlenecks for the country in achieving this goal and what are the specific ways through which HEIs can support the Government in accomplishing this SDG?

3. What are the administrative, financial and other ways of support that the government can provide to HEIs in their process of achieving this SDG?

4. How can the Government facilitate national and international collaborations among HEIs to accomplish this Goal?

Questions Pertaining to Academics and Practitioners

1. What are the specific ways through which HEIs can support the Indian Government and the United Nations in accomplishing this SDG? Are there any exemplary cases?

2. What are the various social, financial, administrative, governance and other dimensions of addressing the problems involved in achieving this SDG? What are the structural barriers/ challenges for HEIs in achieving this SDG?

3. How can HEIs mainstream this SDG in all key strategies, policies, curriculum, governance, operational and administrative aspects in the HEIs and embed sustainable development component in teaching, research and community engagement?

4. In what ways can HEIs create capacity, generate skills and produce suitable manpower required to achieve this goal?

5. How can HEIs create quality and resilient systems which can sustain crisis situations like COVID-19?

6. What are the areas of common interests of different universities which can lead to linkages and collaborations and how can the HEIs engage stakeholders and form partnerships with local authorities, private players, civil society and philanthropic organizations, among others, for strengthening the efforts towards achieving this SDG?

7. What is the support which HEIs need from Government and international organizations, particularly, the United Nations to accomplish this goal?

Session Details

Session-1: Contribution of HEIs in Actualizing Inclusive and Quality Early Childhood Care, Primary and Secondary Education

Pre-Primary education is the first place where the child builds his/her self-esteem. It is the child's foundation for lifelong progress. The skills and knowledge that the child develops in the Pre School have a great impact on self-confidence and adds to the personality development of the child. SDG 4.2 implies that a provision of at least one year of free and compulsory quality pre-primary education is to be delivered by well-trained educators, as well as that of early childhood development and care. Primary school is the fundamental place where a child can gain knowledge and imbibe life skills from their childhood. Primary education has a great impact in enhancing the mental growth of children. Secondary education plays a fundamental role in preparing the youth to become the pillars of knowledge society as

well as the labor market. It also serves as a means to potentially empower the youth and raise a person's economic status. The link between secondary education and economic growth evidence suggests that having a critical mass of people with secondary education is key to shifting the basis of economic growth from a labor-intensive to a more knowledge-centric activity. SDG.4.1 implies the provision of 12 years of free, publicly-funded, inclusive, equitable, quality primary and secondary education–of which at least nine years are compulsory, leading to relevant learning outcomes–should be ensured for all, without discrimination. In this Session there will be deliberations on strategies for HEIs to realize SDG 4.1 & 4.2 ie ensure access to inclusive and equitable quality preprimary, primary and secondary education and promote lifelong learning opportunities for all through Open, Distance and Online Learning.

Session-2: Technical and Vocational Education.

High and persistent levels of unemployment together with job vacancies that remain unfilled are often attributed to mismatches between jobs and skills. So far, in India, Skill Education and Vocational Education & Training (VET) could not seek the deserved respect in the market, particularly in the eyes of the youngsters. Biggest challenges in India for VET include low job prospects, lower salary packages, lack of quality of trainers, infrastructure and latest technology in the institutes, and most importantly, lack of deserved respect and dignity of labour for the pass outs from vocational streams. Moreover, all these days, VET pathways were not well defined but in the New National Education Policy well-defined pathways for VET are proposed. SDG 4.4 & 4.5 imply that equitable access to TVET needs to be expanded while quality is ensured. Technical Education in India suffers from regulatory gaps, poor infrastructure, lack of qualified faculty and the non-existent industry linkage that contributed to the abysmal employability of graduates. In this Session there will be deliberations on **tools and technology to support 21st century skills in Technical and Vocational Education and their linkages with skill development programmes;** action points for HEIs and other stakeholders; strategies to be adopted by HEIs to realize the recommendations of NEP 2020 on skill education vis a vis SDG 4.4 and 4.5.

Session -3: Promoting Access and Equity in Higher Education

Realizing SDG 4.A implies addressing the need of adequate physical infrastructure and safe, inclusive

environments that nurture learning for all, regardless of background or disability status. Globally, the education is said to be equitable, when educational practices, policies, curricula, resources are representative of all students, such that each student has access to, can participate in and make progress in high quality learning experiences, regardless of socio-economic status, gender, ability, religion, national origin and linguistic diversity. Enhancing equity in education leads to improved economic, social and individual outcomes. But addressing equity at an initial level of access only is insufficient to declare equitable character of the education system in a country like India where there is a lot of diversity and stratification. To realise SDG-4, it is essential to focus on equity, inclusion and quality, scholarships should be transparently targeted at young people from disadvantaged backgrounds. Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all. In this Session, there will be deliberations on ways to ensure social justice and fairness, equity in terms of equitable access to resources, equitable participation and equitable outcomes of the learners in higher education.

Session-4: Promoting Quality and Excellence in Higher Education.

Higher education and knowledge are simultaneously global, national and local with tremendous capacity to influence the economies and societies across the world. With development of knowledge economy, the impact of higher education is crossing the regional and national borders and percolating to global societies and therefore the cross-border or global dimension of higher education is growing. Indian higher education on one hand strives for excellence and on the other it has to ensure inclusion. The Government of India has recently come out with the new National Education Policy–2020 to rejuvenate the education system and make it. In this Session, there will be deliberations on promoting quality and excellence in teaching-learning and research in higher education to make it befitting and sustainable to the present and future needs; building resilient higher education system which can continue seamlessly in the crises situation like COVID-19. There will also be discussions on role of Indian higher education in realizing 2030 Agenda of United Nations.

Participation and Organization

Vice Chancellors of Indian Universities, Experts from United Nations System, Line Ministries in Government of India, Apex Bodies of Higher Education, and Academia will be speakers and Session Chairs. Experts from the UN system and other international organizations will also be invited to contribute. Discussions will be conducted in English. Sessions will be through blended mode. The speakers, chairs and participants need to inform in advance about the mode through which they would attend the Meet.

Conclusion

An adequate framework is needed for adequate implementation of SDGs through HEIs. Successful implementation of SDGs needs individuals and organizations with the relevant sustainability skills, knowledge, capacity, values, and motivation to respond to the complex challenges of the society. HEIs can play a significant role in spreading knowledge and creating awareness in the society to adequately achieve the UN global agenda of sustainable development by 2030. There is a need to identify roles which HEIs can play during the process of implementation of each of the SDG. Additionally, the challenges for HEIs in order to achieve these SDGs need to be identified. Lastly, major transition in curriculum and pedagogy of HEIs is required around the globe to achieve global sustainability agenda 2030.

Note: The material for preparing this Paper has been collected from various websites of The United Nations, Government of India, NITI Aayog, and various other sources. The Authors duly acknowledge all the sources, particularly the websites of United Nations, Government of India, NITI Aayog.

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Bharathiar University, Coimbatore: A Profile

Bharathiar University, Coimbatore is hosting the South Zone Vice Chancellors' Meet 2021-22 of the Association of Indian Universities (AIU), New Delhi on March 11-12, 2022.

Bharathiar University (BU) was established by the Government of Tamil Nadu in February, 1982 under the provisions of the Bharathiar University Act 1981. Bharathiar University, named after the great visionary and the revolutionary national poet Subramania Bharathi, functioning with the motto of "Educate to Elevate," has emerged as one of the strong pillars of higher education in this region. The University has 39 Departments under 13 schools. Through these departments, 3 undergraduate programmes, 58 Postgraduate and postgraduate diploma programmes, and M.Phil. and Ph.D. programmes are being offered. There are nearly 2902 students and 1067 research scholars. This University is endowed with 134 affiliated colleges - of them, 14 are Government colleges, 3 are constituent colleges, 16 are aided colleges, 1 air force administrative college and the remaining 100 are self-financing colleges; and 33 research institutions.

The National Assessment and Accreditation Council (NAAC), an autonomous body of the University Grants Commission, has assessed the performances of the University in all respects and accredited Bharathiar University with an 'A' Grade consecutively in the third cycle of assessment. Bharathiar University has to its credit many notable achievements and it keeps on improving its standards to attain international acclaim. For the past four years, Bharathiar University has remained one of the top 50 Universities in India. Bharathiar University has been ranked 14th under the Universities category by the National Institutional Ranking Framework, Ministry of Education, Government of India, in 2020. Furthermore, the University is ranked 22nd in the overall category. Bharathiar University is at 19th Rank among Indian Universities and 801 to 1000 in the World University Ranking by Times Higher Education (THE) World University Ranking. Through Shangai Ranking, Bharathiar University's country rank is in the range of 10-15 and world rank is in the range of 901-1000. The University has been ranked as 538th World's Most Sustainable University and 19th rank at National level in 2020 by UI Green Metric World University Rankings which proves the green environment on the campus. Based on University Ranking by Academic Performance (URAP), University has obtained a rank of 982 at the global level and 19th at the Indian level.

Bharathiar University excels in its research domain. Bharathiar University is the Winner of the most prestigious Clarivate Analytics India Research Excellence – Citation Awards 2019, powered by Web of Science in the category "State University" in their 7th edition of this award for citations, high quality, and high impact publications. Every year, more than 900 high-quality research articles have been published by the faculty members in SCI journals. According to the SCOPUS database, Bharathiar University has 9,609 publications with 1,14,484 citations and an 'h' index of 115 as of December 10, 2020. Bharathiar University has signed MoU with ICMR – Vector Control Research Centre (VCRC), Pondicherry for research collaboration. The University has 275 dedicated teachers on roll with vast experience in teaching and research, many of whom are internationally recognized and won awards and laurels. The state-of-art research infrastructure available for faculty members and scholars nurtures a culture of research in cutting edge areas. 14 faculty members of Bharathiar University are listed in the subject-wise ranking of top scientists based on their publications by Stanford University in the current year.

Industry 4.0 & 5.0 have been successfully incorporated in the Syllabi of UG and PG programmes of Affiliated Colleges and University Departments of Bharathiar University. DBT of Government of India has sanctioned the fully sponsored M.Sc. Medical Biotechnology programme. Industry collaborated M.Sc. Cyber Security programme has been started during the academic year 2020-2021.

Bharathiar University has been awarded Rs. 3.64 crores to work on Solar Energy by UGC-Centre with Potential for Excellence in Particular Area (CPEPA). It has also been awarded Rs. 9

Crores by the DST-PURSE programme during the first phase and Rs.17.25 Crore during the second phase, for creating state-of-art sophisticated research instruments, based on the cumulative 'h'-index score by SCOPUS. Similarly, 12 departments of the University have been supported by UGC-SAP and 10 departments have been sponsored by DST-FIST with mammoth funding of Rs. 19.81 Crores. In RUSA – Phase I, Infrastructure development and installation of State-of-art equipments were carried out utilising Rs. 20 Crores. University encourages entrepreneurship, innovators, and start-ups. The Ministry of Education (MoE) has sanctioned Rs. 50 crores under RUSA – Phase II for innovative research wherein Rs. 15 crores is allotted to establish Bharathiar Entrepreneurship, Innovation and Career Hub and Rs. 35 crores to establish Bharathiar Cancer Theranostics Research Centre under Research Innovation Scheme.

Bharathiar University campus also houses a research facility named DRDO–BU Centre for Life Sciences, a joint venture by DRDO, Ministry of Defence, Government of India, Bharathiar University, and the Government of Tamil Nadu at Bharathiar University campus, which is an autonomous research institute pursuing both basic and applied research. This Centre has already completed two phases of research projects with a financial outlay of ~Rs.14.5 Crore (I Phase) and ~Rs.27 Crore (II Phase). It connects more than 25 DRDO laboratories all over India with this University. MoE has sanctioned Thirty Six fellowships for Bharathiar University – DRDO collaboration for Futuristic Technology Research (FTR) sponsored by MoE to work on a Ph.D. in collaboration with the DRDO labs and centres.

Bharathiar University has a UGC - Human Resource Development Center for the professional development of faculty, staff and scholars; an Intellectual Property Rights Cell; International Relations Centre to cater to the needs of the overseas students from South Africa, Mauritius, Tanzania, Kenya, Namibia, Gambia, Bangladesh and Afghanistan in Bharathiar University. University has collaborations with Federal University of Mato Grosso, Brazil; University of Johannesburg, South Africa; St. George's University of London, London; University of Guelph, Canada; University of Evora, Evora Portugal; Uipath Academic Alliance Program,.

Romania; University of Melbourne, Australia; and California State University, USA. Bharathiar University has become a member of the Shastri Indo-Canadian Institute (SICI) that facilitates joint academic and cultural pursuits between Indian and Canadian Institutes. A State-of-Art training cum coaching swimming pool on par with international standards has been inaugurated in the University Campus at a cost of Rs. 8 crores.

University has established a Centre for Research and Technology Development (CRTD) to effectively handle all the administrative logistics of the extramural sponsored research projects, training and consultancy projects as one-stop solution. Bharathiar University Centre for University-Industry Collaboration (BU-CUIC) has been set up for developing Industry Institute Collaboration for curriculum preparation, training, placement, industrial collaboration, Skill development, and Career readiness for the students of Bharathiar University and its affiliated colleges. Faculty have been trained by the industries in the form of ToT. The centre has signed MoUs with TCS, UTL Tech Bangalore, Infosys, HCL, MESC, NASSCOM, ESSI New Delhi, etc.

A roadmap for Bharathiar University to achieve its Vision 2030 has been prepared in detail to achieve teaching, learning and research, student, faculty excellence, infrastructure, and action plan for achieving. The tuition fee is fully waived for SC/ST students and SC/ST welfare cell is functioning to redress their grievances. Three per cent of the seats are reserved for differently-abled students in all the courses. The visually challenged students are provided with special learning materials including CDs and scribes during preparation and writing examinations. The post metric scholarships are available for BC/MBC/DNC candidates of Tamil Nadu. The University encourages research by engaging DST-Fast Track fellows, DST-WOS, UGC-Kothari fellows, UGC SC/ST Postdoctoral fellows and CSIR Research Associates and by awarding University Research Fellowships for meritorious scholars. Meritorious candidates who are economically deprived are admitted under a free education scheme where the student is exempted from the payment of tuition fees and mess fees throughout the study. The public has also contributed to setting up 29 endowments for the benefit of meritorious students.   ❑

University Engagement towards SDG 4 through Teaching, Curriculum and Research

P Kaliraj*, F X Lovelina Little Flower** and M Ashitha Varghese***

The Sustainable Development Goals or Global Goals were at the heart of the 2030 Agenda for Sustainable Development adopted by all UN Nation member States in 2015. It includes 17 integrated goals which is an urgent call for actions to end poverty, protect the planet and to ensure peace and prosperity for the world by 2030. As a result of identifying that action in one sphere affects the others, the 17 goals are considered integrated to balance the spheres of society, economic welfare and environmental sustainability. The Goals aim at transforming the world- at ending poverty, reducing inequalities and tackling climate change. The 17 SDGs are no poverty, zero hunger, good health and well- being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace, justice and strong institutions, partnership for the goals (ESDG).

SDG 4 - Quality Education

Education enables high socio-economic mobility and is an integral part of escaping poverty. The SDG 4 includes multiple dimensions of education, training, and development from birth to death, or can be called lifelong learning. It is made up of 10 goals. The Educational system must be adequate to ensure that people acquire the skills and knowledge they need to participate in the community and make a better life for themselves. Apparently, a quality education is the crux of Sustainable Development and as an Intervention by itself, Education is the most powerful and thriving force that would transform the socio-economic variables of the livelihood and society.

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SDG Goal 4 in the National Framework

In India, for the past several years, significant measures have been taken for the Universalisation of Primary and Secondary Education. Interestingly, the enrolment ratio of boys and girls in primary education was at hundred percent and the literacy rate of youth was at ninety four percent for males and ninety two percent for females. The numerous approaches adopted to conceptualise Sustainable Development Goals has apparently paved the way for the formulation of New Education Policy and its effect on attaining Quality Education, as targeted by SDG 4. Nevertheless, various programmes introduced in India focusing on Quality and Inclusive Learning were already in practice, even prior to the goal of SDG 4. Right of Children for Free and Compulsory Education (RTE) for children in the age group of six to fourteen years was a path breaking initiative by the Ministry of Human Resource Development through Departments of School Education. The Government has also undertaken several initiatives intended for the inclusive education of all vulnerable sections of the society, including both the genders, communities of Scheduled Caste and Scheduled Tribes, minorities, migrants and learners with special needs.

India's New Education Policy to Reach the UN Sustainable Development Goals—A Post Pandemic Perspective

The decade of 2020 having been announced as the 'decade for action', paradoxically it started as the period of resilience as the whole world got struck by an unprecedented Pandemic. Amidst massive closures, brief openings and reopening of educational institutions, the Government has released the bold and metamorphic statement by articulating loud the New Education Policy. From the time of introduction of Draft Education Policy in Kasturirangan committee in 2019, and with the new paradigm shift due to COVID-19, there have been a long call for changes in the educational space. Focusing majorly on the pre-school years, the numeracy and literacy are reconsidered in the policy and formulated in the reforms of curricula and pedagogies. The policy has laid much needed

emphasis on the Social indicators of education, and incorporated the impact of Multilingualism, thereby focusing on the power of language teaching and learning in the Education. Despite having been practicing an educational hierarchy that was so rigid and conventional, NEP signals the feasibility of multiple exit points, offering the students an employment readiness.

The New Education Policy reforms intersect with the Sustainable Development Goal, SDG 4 indicators at the point of Blended learning. Integrating technology and virtual tools with the Teacher led activities creates ease and flexibility to the instruction. Blended learning is undoubtedly the finest transition that has driven the educational scenario. The pandemic crisis has opened up an awareness of the importance of education in the overall well-being of society. The interruptions and school closures faced by the student community all over the world is listed by UNESCO as one of the major adverse consequences of COVID-19. Apparently India has also been subjected to the huge learning gaps with a large number of students without virtual access. At a time where Schools and Colleges in the Country are opening up slowly, it is important to prioritise and target a system that can weather any disaster and keep the students occupied in their learning, no matter however the circumstances. Hence it is significant that any new policy should lay emphasis on connectivity, access and bridging the technological divide for providing equal learning opportunities to all the learners.

ICT can create uninterrupted educational services, leaving no student behind and effectively delivering the resources. A blended model of learning is the most appropriate way to reach every learner. Providing the remarkable evolution of ICT and technology and the need of leveraging it at all levels from school to higher education, the NEP 2020 calls for blended models of learning. The policy states that promoting ICT enabled instruction, in-person learning is wholly recognized. In a blended learning context, teachers have more opportunities for personal interaction with students as online transfer of instructional materials saves classroom transaction of teaching hours that could be better carried out for interaction, activities and mentoring. In higher education, reaching out to as many students as possible holds significance. It not only provides knowledge transfer but also larger access to learning resources, updated information and better learning outcomes.

SDG 4 through Teaching, Curriculum and Research

Although the SDGs are not based on Higher Education, the attainment of these require the unified working of all parts of society, and it looks forward to all sections working together in order to pool in terms of finance, knowledge and expertise. As we know, education is the most powerful tool to create awareness and to bring about change in any society and HEIs assist the progress of environmental, social and economic development. As Higher Education institutes educate, prepare and create decision makers and future generations, they play a crucial role towards achieving SDGs through teaching, learning and research. It is necessary to integrate education into the SDGs as without it, progress can never be sustainable. This makes it essential for the Higher Education sector to understand and realise their role in achieving the SDGs. HEIs thus must move toward the holistic integration of SDGs across their curriculum, campus, research, administration and activities.

Prevailing inequality in access to higher education, the need for better quality and the absence of practical learning through MOOCs, lack of adequate academic guidance and financial support for underprivileged student communities are the major challenges faced in achieving equity in the higher education sector. Universities can educate the next generation with high quality learning by adopting diversity and inclusion strategies with regular evaluation. The introduction of Multi and Inter-disciplinary Departments and teaching programmes, constant revision/ renewal of curriculum, teacher training for ICT usage, introduction of pedagogies and assessment systems that are effective, ways for faculty to utilize multiple pedagogical approaches and promoting well enabled learning ecosystems all contribute to creating globally excellent teaching and learning processes. Be it cultural, social or economic, in each and every sector of a Nation's development, the role of ICT is integral.

ICT has changed the whole scenario of education in the post-pandemic context. From empowering both Teachers and Students, accessing numerous resources, to creating value in Higher

Education, ICT has created sustainability to the core of its objectives. With the most anticipated Education 4.0, the Universities have established it's interconnect with the emerging Industrial Revolution. The introduction of cyber-physical systems in the Universities prepares students to approach the altering requirements of learning skill sets in Higher Education. This means teaching students about this technology as part of the curriculum, changing the methodologies of instruction and adopting digital resources to better enhance the university experience.

Apart from including references to SDGs in curriculum, allotting Research topics into Sustainable Development must also be encouraged. Working with the complex and uncertain challenges of present times require Universities to produce knowledge that addresses these issues objectively and also those that generate solutions. Rigorous, ethical and action-oriented research that can tackle societal challenges must be initiated and supported. This however requires interdisciplinary knowledge, learning methods and also research that produces such knowledge. As research aids the decision- making processes of policy making, to choose approaches that are inclusive, objective and applicable becomes indispensable. Thus, interdisciplinarity becomes one of the most relevant practical approaches towards advancing education and learning for realising the SDGs.

The opportunity to pursue higher education not only lifts a particular individual from cycles of oppression and disadvantage, but also uplifts his/ her community and society. It is thus necessary to look into equity in the higher education sector and also the characteristic exclusions, or perhaps the exclusions that recur in higher education.

Implications Promoting Equity and Inclusiveness

The following section lists the strategies and initiatives that direct higher education institutes towards expanding access and promoting equity in the sphere.

An equal pay scale and a regular advocacy for it along with assuring senior positions for both genders help bring equity in the work and teaching sphere. It is critical to measure individuals on their cerebral capacities, and to eradicate discrimination based on gender. Flexible working hours, supportive maternity, paternity policies and also activities and education that brings in awareness about gender discrimination are other few steps institutes can take up to eliminate gender inequalities in the sphere. Stringent HR policies about gender discrimination also empower both individuals and the work space.

Throughout these years, scholarships and fellowship opportunities along with reservations have encouraged socio- economically disadvantaged students to pursue higher education. Curriculum and admission processes must also be more inclusive. High application fee in itself renders the under privileged to have access towards education. Sensitization of faculty, staff, students on gender- identity issue and its inclusion in both the academia and curriculum is also essential. Equal recruitment policies and opportunities for both students and staff along with an inclusive environment that accepts and respects individuals of LGBTQ+ communities and minority sections induce a positive social impact. This reduces inequalities and also builds a potential environment to learn and understand from the different sections of society. It also empowers individuals to educate and empower their communities. Schools and colleges must also have disabled-friendly and wheelchair-accessible buildings and facilities.

Setting up hostels in geographically underserved areas, promoting online learning and imparting employable skills by undertaking Bridge Course helps enhance access to vulnerable communities. Through using vocationalisation as a method to enhance learning rates and employability and by broadening access to higher education through MOOCs, access to geographically underserved areas can also be increased. Courses offered in multiple languages and the up gradation of the ICT infrastructure of IGNOU together improves the Gross Enrolment Ratio.

Increased employability potential of higher education, more degree courses taught in Indian languages and bilingually, emotional support through counselling, suitable mentoring programmes also helps achieve the SDGs. The enforcement of strict no- discrimination and no- harassment rules and the development of "Institutional Development Plans that contain specific plans for action on increasing participation from SEDGs, including but not limited to the above items" (*National Education Policy*) must also be introduced or put to practice.

The UN has identified climate change as the biggest threat that humans have ever faced and to install education and shape a curriculum that creates awareness in the youth and make the urgency of Climate Change action its focal point as a means to achieve SDGs in higher education. Research opportunities including multi and interdisciplinary projects must be stimulated and inspired.

Bharathiar University Model towards SDG 4

Bharathiar University to its credits has many notable acclaims and recognitions at National and Global level. With a strong commitment towards SDG 4-Quality Education, the University has devised numerous initiatives, reaffirming its social impact by means of Collaborations, MOU's, Community engagements, Consultancies, Teaching, Research and other social processing. Bharathiar University has a long-standing database of promoting inclusive and equitable quality education, as well as lifelong learning opportunities for all. With a Vision 2030, the University has designed a comprehensive road map envisaging action plans for Teaching, Learning, Student, Faculty excellence and Research. The framework includes adoption of Outcome Based Education (OBE), implementing state-of-art Industry 4.0 aligned curriculum, introducing new PG programmes, Internationalisation, Gender neutralisation and MOU's.

With demands to meet the changing needs of 21st Century learners, Bharathiar University has been pioneering the revision of curriculum in every academic year discarding the outdated methodologies and narrowing down the ineffectual strategies in Arts and Humanities, Social Sciences, Commerce and Management and other Science faculties. Outcome based Education model is implemented in curriculum, focusing on s student-centric teaching and learning methodology. The Outcome based Education model maps and frameworks are devised to measure students' performance at every step.

Industrial Revolution 4.0 (IR4.0) has significantly influenced the diverse aspects of education. Moreover, at a time period where Universities and Higher Educational Institutions are challenged to weigh the knowledge dissemination in order to get updated to the present and future generation Z. Based on cyber-physical systems, coping up to the shifting trends, it has become essential to adapt to the new knowledge hierarchies and tech-nological expertise. From Artificial Intelligence and Machine Learning, Automation and Robotics, Big Data, Internet of Things and Augmented Reality and Virtual Reality and Creativity being identified as the tools of Industry 4, the digital transformation was a key proposal in the Board of Studies 2020. With new guidelines formulated for Curriculum 4.0 and revising syllabi for all subjects integrating Indus-try 4.0 and 5.0 components onto all the disciplines, digital modes of learning have been prioritised, thereby ensuring greater access, learning outcomes and equal opportunities to all the learners.

The fourth wave of digital technology soon going to be in the advanced version of 5.0, Industry infusion is considered to be the most significant need of the curriculum shift. The experts of the Board of Studies included members of Industry, Corporate managers, Research and Development managers, Publishers and Product developers. Nearly 142 industry experts were introduced to the Boards of UG and PG programmes of University.

Bharathiar University being one of the eminent Higher Education Institutions of Tamil Nadu, located at the foothills of Western Ghats in the city of Coimbatore, the efforts were initiated towards the rural development processes, aiming to connect both rural and urban. The mission is to interlink knowledge institutions in the social and economic development of locales through adoption of village clusters.

Targeting the Sustainable Development Growth under the Unnat Bharat Abhiyan, the University has adopted five villages from two blocks of the City. With elaborate field studies, and other activities of engagement with the local communities, Interventions were also provided at the school level focusing on the Primary and Pre-primary. The major activities carried out include Skill Development and Training and Digital programs conducted for the village women to promote their small scale industries and selling under the scheme of Unnat Bharat Abhiyan. Collaborative activities were ventured with District Rural Development Agency, Coimbatore District and District Collectorate, Coimbatore to give awareness for the members on COVID-19 and the relaxations of Lock down. The University continues to engage in the process and deliver inputs to the localities in coping up with their day-to-day chores, livelihoods, energy conservation, environment sustainability and better equipping other living amenities.

Conclusion

It is the undeniable fact that Higher Education Institutes create conscious learners for the world and the challenges ahead that marks its importance and major role in contributing to achieving the SDGs. Thus, integrating the SDGs into higher education institutes, both Universities and Colleges is necessary and extremely beneficial. As a major step towards improving the higher education system, higher education institutes and universities must undergo a constant revision of their curriculum, methods and environment and also renew policies when required. As we have seen, equity and inclusiveness not only helps attain SDGs but also help education move towards directions of quality, objectivity and action-oriented research that produces interdisciplinary knowledge and learning that is context specific.

Universities can make a considerable contribution to the SDGs through research. From undertaking keyword search of their previous research, to collaborating with groups and associations working towards Sustainability, Universities can track their progress towards SDG's. Economic prosperity and environmental protection are necessary prerequisites for sustainable development. Only through high-quality education, research, and innovation will this be possible. Thus, the educational sector is the only way to achieve sustainable development goals. Universities are viewed as critical to the achievement of the objectives. Thus, by safeguarding the environment and involving all stakeholders in the industry, there is a chance of achieving economic growth by 2030—with universities playing a critical role in this process through their teaching of practical activities and education. We thus need to undertake an active practice of introducing, supporting and practicing sustainable means in the learning and teaching pedagogy, research and administration to realise SDGs through education and to move towards an academic ecosystem of equity.

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Higher Education Institutions as Protagonist towards Attaining Sustainable Development Goals: Mapping Stratagems towards Feat

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Recent social and ecological pressures faced by the universe provoked the term sustainable development which received larger prominence since it emphasized on an arrangement of expansion that ponder the wants of the existing generation uncompromising on capability of coming generation's need. Meanwhile, a substantial volume of conservational educational, social legislature and a set of global agreements, along with the planning of ecological variations, has sturdily determined global policy modification in framework. Sustainable Development Plan 2030 cliques out 17 Sustainable Development Goals (SDGs) intended towards refining life in all scopes, covering all segments, with a specific emphasis on education. Although all agents of change are significant in transformation but the role of Higher education intuition is one of the key expanses towards attaining SDGs promoted by UNO. One of the goals of SDG 4—demands for equal access to tertiary education, counting college, as fragment of the elevation of lasting knowledge for all. This was very significant change as higher education was absent from the global development program as demonstrated by preceding sets of expansion goals— the Millennium Development Goals and Education for All. As rightly been quoted by Nelson Mandela, "Education is our most powerful weapon to change the world." And talking about higher education intuitions, the role of universities become more crucial as it deals with the people who develop and manages society and universities perform as a protagonist towards accomplishment of complete set of goals, through their role in knowledge production, human creation, and novelty. Hence, higher education institute bear deep responsibilities to raise cognizance, knowledge, skills, tools and technologies to create a workable and sustaining future. This announcement was therefore the first endorsed document through universities exhibiting the promise to teach and research in the setting of sustainable development (Figueiró, 2015).

University as a foundation of education has an extensive past, originally started as an educational institute, later exploring the role of information generating (research) role and recently the role of (engagement). In greatest frameworks, colleges remained for the elite group, refining them for sacred, religious, skilled or directorial purposes but, with the progress in higher education partaking, universities developed a larger potential and contributed towards societal development. We everyday witness that Teachers, doctors, engineers, among other experts, acquire advanced level of academic education to exercise their professions and sustenance of society. Additionally, universities shoulder important essential and functional research in sciences, people and civilization to develop our thoughts on life.

Various examples exist which displays innovative engagement of universities with the transnational challenges, for example the University of Pretoria's (South Africa) planned approach and used research in addressing social difficulties transversely the land, with an emphasis on food security. One such case is the instance of the Ahfad University for Women (Sudan) where they delivered a complete understanding through academic path, research, on-the-job training and communal allowance actions to back women as agent of transformation and impending leaders. 15 other universities along with these universities, have been chosen as SDG Centres for their pledge towards addressing Sustainable development goals and humanizing coming generations about the complete challenges (United Nations, 2018). The formation of the SDG Centres inside higher education institutions is a sign of timely firming our observed and theoretical considerate of the ways how the goals under Sustainable development plan can be accomplished via higher education. One additional validation is a recent effort made to grade universities' feat in carrying the SDGs by The Times Higher Education. (THE) University global performance Impact Rankings, initiated in

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2019 to quantity institutes' societal and fiscal effect, identified more than 700 universities worldwide for their work on undertaking the biggest global tasks; these includes the University of Auckland (New Zealand) towards their contribution in research on the sustainable practice of terrestrial ecosystems, the Tongji University (China) for their contribution towards reasonable and clean energy, and similarly the University of São Paulo (Brazil) for their toil on poverty culmination , amongst other institutions." (THE, 2020).

Although, wide-ranging initiatives taken and growing number of universities are aligning their activities with the SDGs, still a notable breach in knowledge and evidence is realized. There is a high necessity to document a wide range of actions pertinent to sustainable development being presumed by the universities, predominantly in middle- and low-income countries, and to evaluate the harmoniousness between activities of research and teaching, communal engagement and campus dealings. Additionally, backbreaking examination is mandatory to device the outcome in practice of these activities on society. There are number of unrequited queries with regard to the institutional provisions and practices that can fuel at its best towards achieving SDGs. This is very important mainly in context of the recent report of United Nation report displaying that the percentage of growth in several areas of SDG is sluggish to meet the goals by 2030.

So, what way need to be adopted to make our journey stronger enough to achieve what we desire for. Actually, there are many ways to look into it. If going with the literature so far we jump into may conclusions. Each author, researcher has their own facts, figures explanations But the to justify. but we cannot ignore the fundamental fact that what is good s a policy in India cannot be implemented in U.S. due to different economic, social and physical structures and standards. According to human capital theory, (e.g., Schultz, 1961; Becker, 1993; and Mincer, 1974) "There is a contributory connection amid growth and investment in education. This association is usually demonstrated through econometric methods that calculates rates of return on investment in education. Many studies indicates that higher education enhances the skills and knowledge base, through research and teaching, and hence it directs to economic development." (Vij, 2009; (Bloom, 2014; and Teixeira, 2016).

The contribution of higher education towards development, needs an appropriate extensive visualization and a deeper thought that integrates the abilities, skills, aptitude rights-based and unconventional approaches towards progress. Once applied in education, the rights-based method understands it as a universal human right and it should be guaranteed to all, whereas the abilities tactic stresses on how higher education develops persons' autonomies to follow what they feel worth and what value them. (Boni and Walker 2016; and McCowan, 2013). According to these methodologies, higher education is not only a means to attain knowledge, skills, and credentials it is far above it. Universities permit and provide freedoms to individuals to follow the path that they rate and value and that they have rights to trail, and advance their agency freedom, regardless of societal class, culture and gender, guiding ultimately towards their holistic human development. The liberation method (Freire 1972) is yet other way that interpretate the role of higher education in development, is associated closely with human abilities and competencies Therefore, growth and development can be observed in ways diverse from accepting extensive opinion that express higher education in a diverse light—as an influential place which can aid people capture their human rights and proficiencies to follow liberties that they value, to liberate their minds and bodies, leading to the deliverance of whole civilization. The role of higher education for progress and development require to go beyond the conventional development and advance extra nuanced and comprehensive understanding of university edification, research and engagement.

Although The Sustainable development goals offer an outline that permits the global development civic to encourage and fund initiatives to attain sustainable development. But it does not completely echo locally appreciated, indigenous senses linked to the challenges and the ways of dealing these, in diverse global settings. Hence, it becomes essential to link knowledges of locals with the international framework to eventually assume an alternative investigation of changing outlooks that is observing the international from the viewpoint of the local and looking the local from the viewpoint of the international.

The world currently has more information knowledge and statistics than ever before, nevertheless everyone cannot be benefited out of it. Worldwide, nations have made prime efforts in cumulating access to education at all stages and

rising enrolments in schools, resultant to which elementary literacy enhanced enormously. Literacy rate globally showed improvement among youth between 15-24 years of age, amid 1990 and 2016, growing from 83.2% to 91.4%. Most of the countries in the world price the higher education role in promoting enduring education and appreciates it's importance. But then again, higher education sector is multifaceted with a variety of programmes, methods of delivery and partnership provisions. Moreover, mixing sustainability in higher education entails an extensive variety of skills inclusive but not restricted to pedagogics and learning, academic research, and campus management (Décamps, 2017). Such intricacies and progress data present within them prospects along with challenges for guaranteeing inclusive and unbiased quality education and encouraging enduring learning prospects for all, henceforth works towards attaining the Sustainable Development Goals. As a policy interference, edification is an advantage and act as a multiplier which permits autonomy, increases economic progress through skills enhancement, and develops people's lives by providing opportunities for improved living. Noteworthy Progress has been registered in India by Universalization of primary education, which not only resulted in improvement towards the enrolment but also in completion rates of girls in both primary and elementary education.

So, what actually is needed? Since higher education institute helps towards attaining sustainable development goals we should have a clear unambiguous understanding about sustainable development, its meaning and the role HEIs can play in achieving it. This will assist and offer a exclusive outlook for participants inside and outside of HEIs to team up and plan network in developing it.

- "Interpreting the UNESCO Institute for Statistics (2019) report, globally the requirement of teachers has increased particularly for preliminary education or say primary education." (UNESCO Institute for Statistics (2019)) Higher education institutes consequently require to adopt strategies and inventive approaches for cumulating the quantity of qualified and proficient teachers. This might include structuring partnerships framing links across boundaries; creating association amid advance and underdeveloped nations to help towards skills enhancement in both the nations. The role of teachers is substantial in building SDG

related values. attitudes and skills among students hence increasing teacher's training provisions in the area will benefit enormously. Once teachers are well informed and conversant about theses goals of sustainable development, they can inspire their students and students can in turn inspire their communities. Ferreira, (2007) stated, "teachers are key to bring about the revolution in schools" (p. 225), "A jet also underlined by (Brandt, 2019)." Ferguson (2008) specified that educator is directly tangled towards formation and dissemination of environmental and education for sustainable development, underlining the serious part that they perform in the teaching space and during their interface with scholars." According to (Hordatt Gentles (2018),"With reference to the necessity of teachers education reorientation concerning sustainability, it argues that "tutors and teacher or educators can be influential mediators of transformation if they are sufficiently empowered to do so" (p. 150). She stipulates further that divulging teachers (current and approaching) to education for sustainable development essentials will grow concern inside them towards the world, globe and society and it will involve teacher and educators to gain understanding and passion for safeguarding the endurance of the planet.

Prerequisite is not only increasing the quantity of teachers, but the need is to provide access of training and education to all adults. To meet this requirement, we need the mix of formal, alternative. unconventional and blended approaches of training and learning to reach every nook and corner. Investigation and research thus desired to determine the finest methods for rising adult involvement. The administration in higher education intuitions should be open minded and flexible in their approach so that they can operate differently in different situations as per the need exists. Since sector of higher education plays a critical role in building problem-solving attitude and generating transformation such intuitions must utilize these opportunities.

Alternatively for the attainment of goals of sustainable development higher education sector, particularly in developing nation can look for collaboration with stakeholders in developed nations. This can help them in gaining funds for infrastructure and facility development. Such collaborations in knowledge building, training,

teaching and research are very practical and accurate ways to move towards and achieve SDG 4. Therefore, such collaboration is needed in the form of sharing information, knowledge, observed evidences and suggestions from research and these can be utilized to influence policy decision and actions. In the view of this student's mobility in higher educational institutions is perceived as a strength in capacity building of students. Though these recommended prospects may be prevailing in some universities, but its augmentation is required to be more embattled towards sustainability principles.

Proposed Outline for Attaining SDG 4 Outcomes

Following are the thoughtful actions being suggested by Ferguson T. a., (2020). This framework do not suggest any steps rather it suggests thoughtful and cautious actions that are required for higher educational institutions to perform in order to achieve SDG 4. Although these suggested elements are based on the case study being conducted in the university of west indies (UWI) School of education (SOE), Mona campus in Jamaica but, these guide us towards realistic and significant way to achieve SDG4 (fig 1).

The elements stated above are not anticipated to be a remedy but will definitely bring significant actions to drive strategy and consciously realize SDG 4 goals. It is prearranged to support, to help higher educational institutions to make quicker growth towards realizing SDG 4-related results particularly in relative to co-operative and collaborative actions. But this needs alternation or adding up some important aspects that will be case and country specific. As in the case of India for observance of such standards further needs attention of policy makers towards economic and social security of teachers, in recent years, the situation and social status of Teachers in India is getting worse. Non-uniform appointment and selection process, Uneven Payment structure, Untimely Payment, Engaging in Non – Academic work, this is the worst reason I think for the deterioration of the Education System in India. Teachers working in Government schools are allotted non-academic works by the government itself. And they are bound to do such work leaving aside their primary job to teach the students and these situations are nastiest in private schools and colleges so we need to rethink and determine first the fact that the fundamental pillar for getting things into force in this respect is teacher, so if he /she is attached in other works either due to burden of non-academic performances or due to finding ways to earn more to support his family as the salary he is drawing is not enough to support. Then how these outcomes can be expected

Fig 1: Outline for Attaining SDG 4 Outcomes
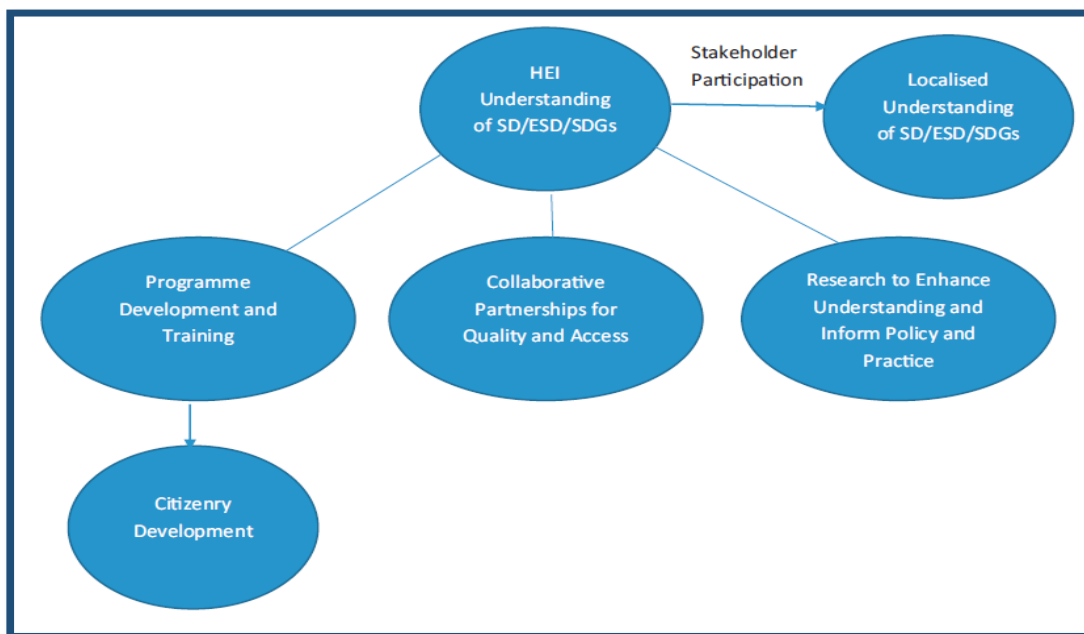
Source: Ferguson, T. and Roofe, C.G. (2020), "SDG 4 in higher education: challenges and opportunities", International Journal of Sustainability in Higher Education, Vol. 21 No. 5, pp. 959-975.

Conclusion

The role of higher education institutions is very significant in bringing about change in the society and achieve SDG 4. For the purpose of attaining these goals a coordinated, deliberate and collaborative efforts are requires by all the stakeholders to aid policy and exercise control towards its realization. The goals of Sustainable development are very significant for every one to be achieved enabling future generation to enjoy the world as it appears to us. HEI must aid to shape the world. The proposed outline in the paper provides essential dimension's need to be covered by any HEI enabling to attain sustainability. Principally these elements are required by all countries of the world to be covered however the local status and situations prevailing in that nations are to be considered while framing country specific approach..

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Sustainable Development Goal 4 and Creating Future-Ready Universities

S A Kori*

There is a resurgence of interest in education throughout the world. The Universal Declaration on Human Rights, adopted at the United Nations General Assembly in 1948, proclaims in Article 26: "Everyone has the right to education." The International Commission on Education for the Twenty-first Century, chaired by Jacques Delors, in its report, *Learning: The Treasure Within*, submitted to the UNESCO in 1996 also emphasizes the fact that education must result in the overall development of the human personality: "a deeper and more harmonious form of human development" (p. 11). As Swami Vivekananda said, "Education is not the amount of information that is put into your brain and runs riot there, undigested, all your life. We must have life-building, man-making, character-making assimilation of ideas." And, as Newman observes, a university "is a place of teaching universal knowledge" (Newman, 1852,p. ix).

At the historic UN General Assembly Summit in September 2015, the 2030 Agenda for Sustainable Development was adopted by the UN's 193 member states. The seventeen Sustainable Development Goals (SDGs) and their 169 targets are part of this agenda. Sustainable Development Goal 4 is about quality education. It aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." b4.3 aims to "ensure [by 2030] equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university," and 4.4 to "substantially increase [by 2030] the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship." A famous statement of Swami Vivekananda's attracts our attention in this context: "A nation is advanced in proportion to education and intelligence spread among the masses." Universities of the twenty-first century, while producing knowledgeable and skilled graduates with an excellent

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value system, must ensure that they contribute to the social, cultural, and economic development of the country while moving towards achieving the 17 Sustainable Development Goals set by the United Nations.

A glance at the emerging trends in HEIs in India clearly indicates that the future world will be technology dominated, interconnected, and, perhaps, stressed for natural resources. The challenge for us today is to create future ready universities to take care of our upcoming generations and reap the benefits of its current rich demographic dividend, which, however, may not last forever. As we all know, the four major pillars of education are 1. learning to know, which involves acquiring a body of knowledge and learning how to learn, so as to benefit from the opportunities education provides throughout life; 2. learning to do, which involves acquiring not only an occupational skill, but also the competence to deal with different situations and work in teams, along with a package of skills that enables one to deal with the various challenges of working life; 3. learning to live together, which involves developing an understanding of other people and an appreciation of interdependence and a spirit of respect for the values of pluralism, mutual understanding, and peace; and 4. learning to be, which involves developing one's personality and being able to act with autonomy, judgement, and personal responsibility, while ensuring that education does not disregard any aspect of the potential of a person, which could be memory, reasoning, aesthetic sense, physical capacities, and communication skills.

Ancient India, which climbed the highest pedestal to become *vishwaguru*, has left a time-tested heritage of the teaching-learning system for us. The main objective of education was to equip the students with excellent quality education. Education mostly focused on the enrichment of culture, character and personality development, and cultivation of noble ideals. The objective was to help the students enhance their mental, physical, and intellectual personality and become future-ready and be able to survive in

any situation. We need to preserve this rich heritage for posterity, while concentrating on the development according to the demands of time. We have to reconceptualize Indian higher education from this perspective.

Today, in the technology-driven higher education space, abundant resources are available in the form of OERs (Open Education Resources) and MOOCs (Massive Open Online Courses), with QRCs (Quick Response Codes) providing pointers to many a learning resource. In the twenty-first century, teachers are facilitators of student learning and creators of productive classroom environments in which students can develop the skills they mightneed at present or in future.A teacher today is one who creates a safe and engaging learning environment where learning can occur. The teacher, therefore, needs to be trained to be enthusiastic, innovative, experimental, and well-equipped for teaching with an innovative approach while adopting technology. Universities need to create a well-developed infrastructure and online resources with sufficient facilities for greater accessibility. For promoting relevance, the connectivity between "world of work" and higher education needs to be strengthened.Inparticular,"industry-institute-society" tie-ups need to be increased. Inculcating dignity of labour in the students as well as society is another important aspect for increasing the contribution of higher education to society. This is possible only when all kinds of the jobs– blue collared, white collared, pink collared, gold collared, etc. – are treated with same respect and dignity. Relevance can also be enhanced by creating multi-faculty universities where subjects like agriculture, community engagement, value education, sports and skill-development, etc. are included along with main courses to address the needs of society and the country as well. Long-term and short-term objectives need to be defined. Short-term objectives may cater to employment, entrepreneurship, etc. whereas long-term objectives may include inculcation of responsible citizenship, social sensitivity, inclusivity, cultural inclusion, etc. In India universities have the privilege to celebrate the multilingual and multicultural diversities and create vibrant campuses while creating bridges between different cultures.

Some of the areas which need special attention of Indian HEIs in this regard are initiating reforms in governance, enhancing access and equity, ensuring best global teaching-learning processes, promoting innovation and research, increasing employability and entrepreneurship, and internationalizing higher education.

Governance Reforms

In so far as reforms in governance are concerned, autonomy, accountability, flexibility, effective communication, trust, and transparency within the system at different levels of operation must be ensured to progress towards decentralized governance. The issues concerning sectoral governance are lack of autonomy to the higher education institutions; over-centralization and micro-management of universities by government and regulatory bodies; minimal role of State Councils of Higher Education as buffer institutions; weak quality assurance mechanisms; funding not linked to the performance of the institutions; absence of uniform transparent mechanism for appointment of vice chancellors; establishment of universities for populist reasons; and the overlapping role of regulatory bodies such as UGC (University Grants Commission), AICTE (All India Council for Technical Education), and various other statutory professional councils. Many of these councils seem to be not playing their role properly in connecting Central Government, State Governments, State Universities, and Colleges in the States to ensure smooth and seamless functioning. The number of colleges affiliated to certain universities is as high as one thousand, which makes it very difficult to manage and regulatethem. To tackle this issue, either the affiliation system should be phased out as proposed in the National Education Policy-2020(p. 36) or there should be a cap of 100-200 on the number of colleges that can be affiliated to any university.

There is an urgent need to reform internal governance of universities. Indian higher education institutions need to do away with traditional university administration, which is run with nineteenth century tools, and adopt modern professional approaches of governance. Educational administrators in the Indian higher education institutions include vice chancellors/directors, registrars, deputy registrars, assistant registrars, and other secretarial staff, for whom there is no provision for professional and administrative training as of now. For effective management of our higher education system, we need to shift the

focus from "Management of Higher Education" to "Professional Management of Higher Education." For vice chancellors, there should be compulsory leadership programmes; for other administrative staff, there should be compulsory formal training programmes in university administration; and for academic staff, there should be compulsory faculty development programmes. To ensure efficient governance, universities may be encouraged to establish Human Resource Management Departments as service departments to take care of the human resource, both academic and administrative. Like in most foreign universities, the HR department should be responsible for academic planning, recruitment methodologies including recruiting, retention strategies, staff development and training, personal and professional counselling, and gracious exit on superannuation and need-based re-employment. An effective grievance redressal system also needs to be there in place to address the problems of students and employees of the HEIs in the areas of safety, security, facilities, etc., so that they can focus on quality teaching, research, and learning without any distractions.

There is also an immediate need to conceive and concretize the e-governance programmes and develop an ERP (Enterprise Resource Planning) Centre for the universities to provide a smooth flow of information between the university administration, and the students, the staff and the public so as to enhance the speed and quality of internal functioning as well as to provide a user-friendly access to outsiders. Extensive use of ICT-enabled tools would improve productivity, efficiency and customer satisfaction with measurable results in terms of a substantial reduction in the use and movement of paper, time taken to provide information, reduced delays, cost savings as well as environmental conservation.

Enhancing Access and Equity

In 2018-19, there were 993 universities / deemed universities and 39,931 colleges catering to approximately 374 lakh students (DST, 2020, p. 40). Although this is a huge expansion as compared to the 0.2 million students and 20 universities in 1950-51, the Gross Enrolment Ratio of Higher Education remains slightly low at 26.3 as compared to the world average of 29 and substantially low as compared to the developed countries such as USA (88.2), Germany (70.3), and UK (60.0). It is low even in comparison with other emerging economies such as Brazil (51.3)and China (49.1) (Pankaj Mittal and Bhushan Patwardhan, 2021). There are many reasons for the low GER in India but the primary one is that a large population of students in the relevant age group, i.e., 18-23, is simply not eligible to enroll in higher education as they have not successfully completed their higher secondary education. The Eligible Enrolment Ratio (EER) based on eligible population may therefore be considered a more appropriate indicator to measure the access to or the level of participation in higher education in developing countries like India. In a country like India where population is diverse and huge, it is imperative to adopt technology-based learning system, including open and distance learning, online programmes, and MOOCs (Massive Open Online Courses) to reach the masses. Higher education institutions must take utmost advantage of these platforms to enhance access.

Promoting Effective Pedagogies and Assessment Practices

The pedagogical practices in most HEIs continue to remain centred around rote learning and lecture methods with little opportunity for participative and collaborative learning methods that promote critical thinking, analysis, and application. The syllabi and structures of programmes/courses of study remain rigid and narrow, and lack a comprehensive approach to knowledge and skills acquisition, which in the contemporary times ought to be multi-disciplinary, inter-disciplinary and cross-disciplinary. Over-emphasis on the external assessment of students with inadequate formative assessments is an issue which prominently figured during the COVID-19 crisis. There is a mismatch between the academic degrees and the competencies assessed leading to a crisis of legitimacy of the examination/qualification systems. Learning takes place when learning opportunities with clear goals are created for the students and when the teacher and the taught are fully involved in exploring their subject of study. Social media such as Google and WhatsApp can be used in the regular teaching-learning to shift from "centralized learning" to "learning centric" system, which will help not only the students but also the teachers.

Continuous Professional Development of Faculty

The opportunity for induction training for initial professional preparation of newly recruited assistant professors and continuous professional development of incumbent faculty is limited in Indian universities. Consequently, adequate opportunities are not there to improve their performance in the core areas of teaching, research, and scholarship; to learn about new fields/frontiers; to apply new pedagogies and instructional delivery models and use technologies to enhance learning; and to achieve excellence in research and scholarship. A conducive academic and learning environment needs to be created and maintained in our universities and colleges for building capacities of the faculty members. For this, a proper policy should be framed and implemented. The policy should focus on the breakup of workload and time required for teaching, research, extension as well as in-service continuous professional development of teachers. Government should set up a "Higher Education Research and Development Centre" to provide solutions for all the teaching-related problems in the universities and to identify and create technology-enabled solutions for the teachers to integrate technology in the teaching-learning process.

Creating Technology-enabled Learning Ecosystems

Creating a technology-enabled learning ecosystem in our universities is a must for up-scaling our universities to global standards, especially in the post-COVID-19 context. A smart phone has become an essential part of a student's life and we can promote use of videos, movie clips, TV clips, animations, MOODLE, LMS, online attendance system, etc. to improve the teaching-learning process.

Promoting Research, Innovation and Excellence

India has to be at the forefront of knowledge creation, research and innovation, as it aspires to progress through sustainable development and be a world leader. India's young demography must be made an effective dividend in this mission. For achieving this, it is necessary to focus on three aspects: First, we need to produce high-quality human-resources -- comparable to the global best -- with a good understanding of research and innovation methods, trained in critical-thinking, and having the ability to take out-of-the-box initiatives. Second, there is a need to create substantial numbers of interconnected centers of global excellence as drivers of research and innovation, with deep connections to society and the economy. Third, there is a need to shift the focus of funding for research and innovation from the fundamental to the applied in all areas while focusing on areas of national importance. India needs to invest in R & I to emerge as a front runner in knowledge creation if it aspires to progress through sustainable development while making use of its demographic dividend.

Creating a Research and Innovation Ecosystem

In 2017, India spent 0.7 per cent of its GDP on Research and Innovation as compared to 2.8 per cent by the USA, 2.1 per cent by China, 4.5 per cent by Israel, and 4.6 per cent by Republic of Korea (DST, 2020, p. 65). As a direct consequence, India lags behind in the number of patents and publications produced. India's share of scientific publications was 5.4 per cent in 2016 as compared to 21.8 per cent of the USA and 18.7 per cent of China (DST, 2020, p. 117). The number of researchers per million of the total population is only 255 in India as compared to 1225 in China, 4245 in the United States, and 8342 in Israel (DST, 2020, p. 114). According to the World Intellectual Property Organization (WIPO), in 2017, China made a total of as many as 1381594 patent applications and the USA made 606956 patent applications while India made only46582 applications (DST, 2020, p. 52). Considering our emphasis on promoting R&I activities of global standards in our HEIs, a more comprehensive approach needs to be taken for transforming the quality and quantity of research in India. The universities need to create an ecosystem for research and innovation by including the structure and functions of the innovation and ideation cells in its research policy. The concept of undergraduate research in groups should be introduced in universities and colleges in India as they form the feeder line for conducting research at higher levels. To promote innovation, universities and institutions should adopt and implement the National Innovation and Startup Policy launched by the Government of India in 2019, and accordingly provide opportunities for incubation cells and share the cost of filing of patents. Students' inventions supported by faculty members while making use of university infrastructure should be patented by the university. Faculty should be incentivized for excellent quality research and patents through fast-track career

advancements. Faculty-friendly governance policies need to be adopted and financial freedom given to the faculty. Innovation centers in universities should act as an interface between "problem space" and "solution space" in identifying problems for industry, government, society and universities, and presenting them to faculty and students for research and/or consultancy. Universities should collaborate with industries and a policy of at least one industry for every university should be adopted. Basic minimum scientific infrastructure must be created in all the state universities and more research fellowships should be allocated. For increasing publications in high-end international journals, universities need to enhance collaboration with institutes and universities in India and abroad. Multi-disciplinary research activities need to be encouraged with collaboration among HEIs. International collaboration in good quality research needs to be encouraged.

Promoting Excellence and Improving International Rankings

India at present does not fare well in international rankings. In the QS rankings of 2020, there was no Indian institution in the top one hundred; there are three in top 200; eight in top 500; and 21 in top 1000, which speaks volumes about our international standing. India needs to adopt a multipronged strategy to boost its higher education system in order to ensure that it is ranked among the global best. To improve excellence in higher education, Government of India has taken several steps. These include *Rashtriya Uchchtar Shiksha Abhiyaan* (RUSA), Global Initiative of Academic Network (GIAN), National Institutional Ranking Framework (NIRF), Impact Research Innovation and Technology (IMPRINT), Scheme for promotion of Academic Research Collaboration (SPARC), *Uchchtar Avishkar Yojana* (UAY), Study-in-India, Prime Minister's Research Fellows (PMRF), Institutions of Eminence, etc. To complement the programmes initiated by Government of India, HEIs need to focus on 1. academic reputation by enhancing quality of teaching, quality of research, institutional income, research income, international collaboration, and awards, honours, and prizes; 2. employer reputation, with focus on producing effective and innovative graduates for the employment market and linkage with industry; 3. faculty-student ratio and try to bring it to 1:10; 4. attracting more and more number of international students; 5. attracting international faculty; and 6.innovation and entrepreneurship with focused funding for innovation and entrepreneurship.

There is a need to hire thinkers and innovators with enhanced skills on par with international standards. There is a strong need for branding and marketing of Indian institutions through various means including social media. Faculty and student exchange programmes within the country and internationally need to be encouraged to forge collaborations. For improving the rankings, mapping of skills and industry expectations is required to ensure that students are adequately equipped for employability and entrepreneurship. The research outputs in terms of publications in high impact factor journals are most important.

Developing Future Skills

Universities of the twenty-first century, while producing knowledgeable and skilled graduates with a good value system, must ensure that they contribute to the social, cultural, and economic development of the country at large while moving towards achieving seventeen sustainable development goals set by the United Nations. Universities and institutions of higher education need to prepare students for the future world, which, as mentioned earlier, will be technology dominated, interconnected and stressed for natural resources. Hence, technology-enabled, student-centric educational paradigm with due emphasis on employability needs to be created as the base of future higher education. Students of the twenty-first century will require flexibility in teaching-learning systems with multiple entry and exit paths. Keeping in mind the dynamism of the environment and the ever-changing landscape, universities need to focus on a blended approach of teaching-learning where students will have the liberty to design their own learning path and learn at their own pace. Students need to be introduced to creativity and design thinking to prepare them for complex problem solving.

Learning from International Models

Vocational Education and Training (VET) models adopted by many countries like China, Germany, and Switzerland need to be adopted to promote vocationalization of higher education. A provision needs to be created for external exposure of students and faculty at various stages to incorporate international experience in the

training of students/scholars. International events can be arranged in universities to give international exposure to the students on various aspects covering not only academics and research but also areas like culture, habits, customs, geographies, climatic conditions, linguistics, culinary, dressing, etc. of different countries. In a nutshell, Indian universities should learn, adapt and integrate best practices from international academic experiences.

To conclude, higher education is not a medium to get a degree for a job but a tool for the manifestation of one's potential. Education channelizes an individual towards critical thinking, as well as to acquire skills like problem solving, reasoning, rationalization, visualization, design thinking, innovativeness, etc. The core objective of higher education is to create the best minds according to the demands of time, society, and the future. It is high time India introspected and created a teaching-learning and research ecosystem for higher education in tune with the needs of society with the capacity to respond to real-time situations and future challenges.

Finally, a *subhashita* from the *Mahabharata* which sums up how one learns and grows:

ācāryātpādamādattepādaṃśiṣyaḥsvamedhayā
kālenapādamādattepādaṃsabrahmacāribhiḥ

From the teacher is learned a quarter, a quarter from the student's own intelligence, a quarter with the passage of time, and a quarter from fellow students.

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We Congratulate…..

Prof Bhushan Patwardhan for taking over as Chairman, Executive Board, National Assessment and Accreditation Council

Bhushan Patwardhan took over as Chairman, Executive Board, National Assessment and Accreditation Council. He is a biomedical scientist and Fellow of National Academy of Sciences (India) and National Academy of Medical Sciences (India). Earlier, he served as Vice Chairman of University Grants Commission, India. He also served as Professor and Director, Interdisciplinary School of Health Sciences at Savitribai Phule Pune University, Pune. He has worked on several policy making bodies including Taskforces of National Knowledge Commission, Planning Commission, etc. He has to his credit 8 Indian patents, 2 US Patents, over 120 research publications and 7200 citations. He is a recipient of many orations and awards including Sir Ram Nath Chopra Oration, Waldemar Haffkine Oration, Dr C Dwarkanath Oration, Dr P K Devi Oration, KLE University Oration, and VK Joag Best Teacher Award.

AIU Congratulates him and wishes him success.

Inclusive and Equitable Quality Education in Higher Education Institutions

Y S Siddegowda*

It is impertinent for us to change our perspective, the glasses that we normally use to see reality and exchange that with a perspective that allow us to really be inclusive. The importance of a formalised system of education for the development of a fair and just society has been the call since ancient times, as it recognises the valuable benefaction of a society providing an appropriate education to its citizens and the noted influence it has in determining the direction one's life would take. In this refrain, the proclamation, everyone has the right to education in article 26 of the Universal Declaration of Human Rights (1948), education systems worldwide, have made significant strides to make education accessible to their citizens. Through 'Education for All', international agenda, countries are adopting inclusive education. It has committed to achieving sustainable development goal number 4 which states, "Ensure inclusive and equitable quality education, and promote lifelong learning". However, it is generally agreed that the road to achieving inclusive education is long and varied, with challenges and opportunities. "Inclusive education", refers to the notion of a quality education for all, with the aim of advancing more equitable societies and improving the life chances of millions of vulnerable and marginalized people worldwide. Increasingly around the world, emerging policies for 'inclusive education, while containing regional variations, can be seen to collectively support long-standing education philosophical ideas around the need for educators to provide all learners access to rich, meaningful learning experiences. International bodies and national educational policies support the principle of inclusive, equitable, and quality education for all learners. Inclusive education is still seen by many as simply the physical placement of students with additional or special needs in mainstream classrooms. Such a limited view falls far short of the notion of opening educational opportunities for all. It is possible to create communities where students feel heard, meaning that their whole being, presence,

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and contributions matter and can bring something uniquely important to the community. Here, we have moved toward establishing a more concrete idea of what feeling heard might mean for students and why it is an important educational criterion for defining what counts as an educational relationship.

Higher levels of education are associated with almost every positive life outcome, not only improved employment and earnings, but also health, longevity, successful parenting, civic participation and social cohesion. Education can help ensure a safer, healthier, more prosperous and environmentally sound world, while simultaneously contributing to social, economic, and cultural progress, tolerance, and international cooperation. Education systems have a responsibility to promote social justice through the equitable distribution of quality education to a system based on fairness and inclusion known as inclusive education

Inclusiveness through Quality Education

While inclusive education can be understood in various ways, in prominent and influential UN documents, the 2015 Incheon Declaration, the 2018 Brussels Declaration, and the 2019 Cali Commitment refers to the notion of a quality education for all, with the aim of advancing more equitable societies and improving the life chances of millions of vulnerable and marginalized people worldwide. Increasingly around the world, emerging policies for inclusive education, while containing regional variations, can be seen to collectively support long-standing education, philosophical ideas around the need for educators to provide all learners access to rich, meaningful learning experiences. The imperativeness of quality education as a driver for the sustainable development goals SDGs 2030 agenda of the United Nations and examined relationship between quality education and the sustainable development goals 2030, it was discovered that quality education will help in the achievement of the goals. Quality education is the vehicle that can drive the actualization of SDGs 2030 and it is that for the SDGs to be achieved, quality

education must be used to top the agenda. Adoption of quality education that is innovative, technical, and scientific driven and ICT compliant are essential as they make quality education meaningful. Acquiring quality education is the basis for building sustainable development. Enhancing the quality of life, through creating the right to an all-inclusive education that can assist and furnish citizens with the skills needed to build and develop new solutions to the world's biggest challenges is imperative. The aims and objectives of goal 4 are clearly stated in the UN charter that education, by the year 2030 guarantees equal rights for both adult men and women to an inexpensive, equality technical, vocational and tertiary education. The noble pursuits are by 2030, there should be substantial increase in the number of youths with technical, vocational and ICT skills that will make them eligible for decent jobs and entrepreneurship, zero tolerance for gender differences in educational opportunities and equal right to education for all people including those with disabilities, all youths, should have acquired reading and mathematical skills and that all learners should ensure the acquisition of knowledge, skills and attitudes to achieve the agenda for SDGs 2030. It also emphasizes the development and upgradement of all educational infrastructures that are fit for disabled people and gender responsive, provision of a safe learning environment. Education policy makers should be encouraged to build curriculum innovations that are transformative, scientific, and technical and integrated into education for sustainable development. On the other hand quality education can help to reduce inequalities such as those created by disabilities, differences and race, because education brings people from different background together and enlightenment about our similarities and oneness. Quality education replete with innovative, proactive, technical, scientific and ICT driven will have a bearing on the needs and issues of people in society.

Equity and Inclusion in Higher Education

Equity and inclusion are essential and important ingredients to delivering on diversity's promise to higher education. Inclusion, often referenced in relationship to diversity, is vital for all members of a campus community, but is particularly important to historically underrepresented and marginalized populations. Inclusion is the intentional, on-going, active institutional efforts to reap the educational benefits of diversity. On a campus, inclusion means having a valued voice, seeing others like you represented around you and in the curriculum, and knowing that you belong and matter based on how you experience the environment and your interactions with others. Equity encompasses achieving parity in student educational outcomes, regardless of race or ethnicity, particularly, given the marginalization of some socially and economically backward groups in education. Institutionalizing equity on our campuses can be achieved as we understand and adopt "equity-mindedness," which is a mode of thinking that calls attention to patterns of inequity in student outcomes, resulting in individual and institutional transformation. An increased awareness of the rights of those who are considered 'disabled' to have a say in their own lives, alongside changes brought about in education systems, where many had been segregated for too long should be the crux of inclusiveness.

Higher education can achieve its mission and deliver on the promise of access for all if we institutionalize and embrace equity-minded approaches in our approach, only then will colleges and universities be better positioned to effectively withstand and overcome the inevitable threats of crisis and help their most vulnerable students to overcome obstacles. Higher education sector in India has experienced an unprecedented expansion in the recent decades. It is thus necessary to address the benefits accruing from the massive expansion in higher education, as to whether it has been shared among different social groups. Achievements in ensuring equity in access are further over-shadowed by the unfavourable conditions associated with the academic progress and success experienced by students from the disadvantaged groups inside the higher education institutions and campuses. The prevalence of a non-inclusive campus culture and the relative ineffectiveness of institutional mechanisms to address diversity result in inconsistent performances, and poor academic achievement and labour market outcomes for students from the disadvantaged groups. It is argued that favourable public policies and institutional strategies can help equalise opportunities for pursuing higher education and promote equity in student learning and labour market outcomes. We need to emphasise at the institutional level on the need for devising strategies to address diversity and consequently develop socially inclusive higher education campuses**.** The idea of inclusive growth

is based on the notion of equality of opportunity. Equality of opportunity demands that deserving students from all social groups are provided sufficient opportunities for self-development. The main bases of exclusion are region, religion, caste, gender, economic disparities, and disabilities. Therefore, strategies for achieving inclusive growth necessarily needs to include affirmative policies targeting the socially disadvantaged, and marginalised, economically poor, and people with disabilities. The progress made in any society needs to be assessed on the basis of the distribution of benefits among different social groups for assessing the inclusiveness of growth and development

We have made considerable progress in reducing poverty and improving standard of living. The turn of this century was characterised by growth in our economy. Access to higher education has improved across all segments of the population thanks to progressive state policies of affirmative actions. However, it was less recognized that this positive economic growth was accompanied by widening economic and social inequalities. Studies have shown that human capital is the single most important factor contributing to faster economic growth. Inthe current context, the unequal distribution of opportunities for developing human capital can be an important source of inequalities. Therefore, promoting faster growth of higher education among the disadvantaged sections of the population is a necessary condition for ensuring equity in the future. The expansion of the education system is expected to lead to greater inclusion as compared to a corresponding system that is not inclusive and not growing. For example, expansion may be accompanied by widening inequalities when the benefits of expansion are shared by the rich. When expansion is accompanied by no change in inequality indicators, both the rich and the poor benefit, when expansion is accompanied by a reduction in inequality indicators, the poor benefit more than the rich. On the basis of these situations, it can be argued that in an unequal society, there is need for a higher rate of progression for the disadvantaged classes in order to neutralise the existing inequalities in access to higher education. The policies to improve access need to focus on achieving an accelerated rate of growth of higher education for the disadvantaged groups. Inequalities in higher education are influenced by inequalities in the preceding levels of education. In a country where basic and secondary education facilities are not equally distributed, it is very difficult to ensure equality of opportunity in higher education. Higher education is offered only to those who have completed the secondary level of education, and the existing inequalities in secondary education may be reflected in the higher education sector too. Social inequalities continue to persist in the context of the expansion and massification of higher education. Unlike regional inequalities, social inequalities in access to higher education have not widened, though they continue to be high. Apart from social disparities, inequalities in access to higher education are also seen by income levels that economic status continues to have a significant bearing on the likelihood of gaining access to higher education.

Another form of inequality reflected in access to higher education is by gender inequality. At the national level, access to higher education still favours men with a gender parity index of 1.01, in the year 2019-2020.Women among the lower-caste group suffer more acutely in terms of access to higher education. Women remain under-represented in certain fields, such as STEM subjects like sciences, technology, engineering, management and chartered accountancy and overrepresented in other subject areas such as medicine and education. The lower probability of students studying STEM subjects in government institutions compared to private institutions explains why students from the poor households have a lower probability of accessing STEM subjects with those from the rich households. Private institutions have contributed to the disciplinary divide across economic classes with access to the most selective programmes of study being restricted to those from the most privileged backgrounds. Thus, inequalities in access to prestigious programmes continue to reflect the inherited social privileges and contribute to the persistence of social inequalities. In this way, the elite institutions and STEM subject areas continue to be the exclusive domain of the privileged. The State should make greater investment in establishing new institutions for imparting teaching in STEM while also ensuring the provision of STEM subjects in the existing colleges and universities

Given the lack of knowledge about higher education among the socially disadvantaged groups and first-generation learners, it is crucial to organise orientation and induction programmes for the disadvantaged students during the early days of their

admission. Equity in outcome in higher education has two dimensions, the attainment of outcomes in terms of the grades or successful completion of courses, and transition from educational institutions to the labour market. Equity can be fully realised only when those who enter the system are able to successfully complete their respective study programmes within the prescribed duration while also gaining access to decent employment commensurate with the academic degrees they have acquired. The medium of instruction and interactions is another fact that constrains academic integration among all categories of students. Since a major share of the disadvantaged, including first-generation higher education learners are more likely to have studied in schools with regional languages as the medium of instruction, the transition to English as a medium of instruction in HEIs poses a major academic challenge

The expansion of the system has been accompanied by the widening of regional inequalities and persistence of social inequalities. Inequalities in opportunities of access to higher education continue to persist for poor students, and those from the socially excluded groups and from rural areas. It can be mentioned that a strict implementation of reservation policies has helped enhance the participation of members of the disadvantaged groups in higher education. Various incentive schemes being offered by the Government have also attracted students to join HEIs while also helping to retain them in the institutions until the completion of their studies.

The extension of reservation in the private sector could be another option. There is also a need for intervention on the demand side. Since a majority of the non-traditional learners in higher education have studied in government school located in rural and remote areas, often with the mother tongue as the language of instruction, there is a case for exploring school-based interventions to promote access. This necessitates the formulation of policies based on robust research and perspectives. Secondly, more institutional interventions are required to equalise educational opportunities and outcomes. State support should, of course, be continued, but expansion demands more pro-active interventions from institutions to make higher education inclusive. There is scope for devising better strategies for social integration and developing inclusive higher education

campuses in India. The issues of equity and inclusion in the expanding system can be assessed based on the extent to which HEIs succeed in producing equitable outcomes for students from diverse backgrounds.

Inclusion of Indigenious Students

Another crucial aspect is the experiences of discrimination based on one's ethnic identity, considered to be native or tribal. Difficulties with the language of learning because the language used in the institution was different from what was used at home and in the community. The inconsistency of languages used hindered the development of learning skills and comprehension of topics being discussed. Comprehension difficulties arise because social and cultural contexts of the lessons differed very much from the realities of the indigenous students' communities and Cognitive dissonance and personal tensions that became tensions in the family and community because their identity and the way of life practiced at home and in the community were negated or considered primitive and backward. We should provide equal access to various cultural opportunities for indigenous cultural communities and indigenous peoples through our educational system, public or private cultural entities, scholarships, grants and other incentives without prejudice to their right to establish and control their educational systems and institutions by providing education in their own language, in a manner appropriate to their cultural methods of teaching and learning

Equity and Inclusion in NEP-2020

NEP-2020 is a landmark policy that is set to bring about a paradigm shift in Higher Education. The very basis of the Policy is strongly laid on the five pillars of Access Equity Quality Affordability and Accountability. This strongly reflects the mission of the policy to make education Equitable and inclusive. The aim of equity and inclusion is now at the heart of new NEP. In the fields of higher education, inclusion involves restructuring the whole system with the aim of ensuring the wide range of educational opportunities. This includes curriculum, pedagogy and recreational opportunities, etc. The policy is designed to avoid segregation and isolation of ethnic and linguistic minorities, those with disabilities and also those who face learning difficulties due to language barriers and are at the risk of educational exclusion.

Quality higher education can open a vast array of possibilities that can lift both individuals as well as communities out of the cycles of disadvantage. For this reason, making quality higher education opportunities available to all individuals must be among the highest priorities. This Policy envisions ensuring equitable access to quality education to all students, with a special emphasis on Socially and Economically Disadvantaged Groups (SEDGs). The dynamics and also many of the reasons for exclusion of SEDGs from the education system are common across higher education sectors. Therefore, the approach to equity and inclusion must be common across higher education. Furthermore, there must be continuity across the stages to ensure sustainable reform. Thus, the policy initiatives required meeting the goals of equity and inclusion in higher education must be read in conjunction with those for school education.

There are certain facets of exclusion that are particular to or substantially more intense in higher education. These must be addressed specifically, and include lack of knowledge of higher education opportunities, economic opportunity cost of pursuing higher education, financial constraints, admission processes, geographical and language barriers, poor employability potential of many higher education programmes, and lack of appropriate student support mechanisms. For this purpose, additional actions that are specific to higher education should be adopted by all Governments and HEIs:

Steps to be Taken by Governments

The government should earmark suitable funds for the education of Socially and Economically Disadvantaged Groups and set clear targets for higher Gross Enrolment Ratio for SEDGs. It should enhance gender balance in admissions to HEIs and access by establishing more high-quality HEIs in aspirational districts and Special Education Zones containing larger numbers of SEDGs. Govt. should provide more financial assistance and scholarships to SEDGs in both public and private HEIs. It should conduct outreach programmes on higher education opportunities and scholarships among SEDGs and develop and support technology tools for better participation and learning outcomes.

Steps to be Taken by all HEIs

Higher Education Institutes should have eligibility criteria to admit students with special needs because having a disability alone does not guarantee special education service. Teaching Faculty should have to prepare individualized educational plan for students with special needs to become real inclusive because the real essence of teaching students with diverse educational needs is addressing the unique needs of each student. The educational Institutes should ensure the availability of special materials and equipment by allocating special budget and the library and the resource room should be equipped with the necessary materials to provide the service needed for students with special needs. Particular attention should be offered to students with special needs in the procedures of testing and examination. As the first measure, extra time should be allotted. The item should also be modified and the number of items has to be reduced. Further practical training should be given for teachers to update their knowledge especially on the area of sign language and Braille as Inclusive education is a process of strengthening the capacity of the education system to reach out to all learners. It should mitigate opportunity costs and fees for pursuing higher education. Provision of more financial assistance and scholarships to socio-economically disadvantaged students and conduct outreach on higher education opportunities and scholarships should be provided.

Admissions processes and curriculum should be more inclusive and curriculum. More degree courses should be developed and taught in Indian languages and bilingually and should ensure all buildings and facilities are wheelchair-accessible and disabled-friendly. Bridge courses for students that come from disadvantaged educational backgrounds and socio-emotional, academic support and mentoring for all such students through suitable counselling and mentoring programmes should be mandatory. Ensuring sensitization of faculty, counsellor, and students on gender-identity issue and its inclusion in all aspects of the HEI, including curricula alongside strict enforcement of no-discrimination and anti-harassment rules should be strictly adhered to. Clearly, creating the sort of educational relationships that support young people such that they "feel heard" and are able to struggle productively takes a great deal of time, patience, and care, particularly in the case of learners who have been frequently let down or rejected. In order to build such relationships,

teachers themselves need support from within the education institution, from the local community, and, indeed, from the wider society. Teachers need to feel heard as well. It is not just attitudes and deficit perspectives that must change, but also the manner in which teaching is approached. This calls not only for a pedagogy that is inclusive and recognizes the perfectibility of all learners, but also for a flexible approach to curriculum that allows for teachers to listen and be responsive to diverse students, to provide space for all learners to become part of the community, and to foster rich situations for the experience of challenge and productive struggle.

Pandemic and Inequity

An almost universal response to college closures has been the creation of online learning platforms to support teachers, students and their families. However, not all students have the same access to information and communication technologies, which also varies greatly across regions. Most of the vulnerable students had no access to digital learning resources highlighting the need for equitable and inclusive solutions to provide access to digital learning resources and effective distance education. The pandemic, which revealed inequities in higher education, has prompted a clarion call for more

effective strategies that will result in more equitable outcomes for underrepresented populations by placing inclusiveness and diversity at the core of our institutional practice. The 2020 transition to remote learning and work models exposed inequities among our students, faculty, and employees and illuminated the importance of addressing the different needs across these populations, adopting an equity-minded approach to leadership, and facilitating greater inclusion, we can ensure that our institutions can deliver on the nation's promise of higher education for all students.

To conclude, education or lack of it impacts the economic growth of nations, individual incomes, and the social well-being of all the citizens of a country. The attainment of education provides an opportunity for all to grow and improve their life chances. Given this crucial role of education, it is important to provide everybody an equal opportunity to pursue education. Providing equal opportunities for accessing higher education is a necessary condition for achieving inclusive growth and a fair and inclusive society free from discrimination. Ensuring equality of opportunities to everyone for pursuing higher education is a necessity to be addressed with integrity by promoting the importance of a diverse campus. ❑

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Ensuring Inclusive and Equitable Quality Education in India: The Way Out

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The 17 Sustainable Development Goals (SDGs) mooted by UN to be achieved by 2030 are ambitious in scope both in terms of their breadth and the target time of eight years. But the plausible reason behind setting up a limited time frame (eight years from now) for realizing the17 goals is all the goals are interdependent and can be classified under three broad headings- economic, environmental, and social. The final objective is to fulfill every individual's right to social progress and equality (economic), clean environment (environmental) and conservation of world resources for future generations to utilize (social). The listed goals are: (1) No Poverty, (2) Zero Hunger, (3) Good Health and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (9) Industry, Innovation and Infrastructure, (10) Reduced Inequality, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life On Land, (16) Peace, Justice, and Strong Institutions, (17) Partnerships for the Goals.

It may sound naïve and ingenuous to relate all the 17goals to goal number 4-'Quality Education'. The fact of the matter is Quality education is the hub from which the spokes of all the other sixteen goals radiate and it provides the essential knowledge, awareness and sensitivity to the pressing issues that impede sustainability and development. Education is the single web that threads through all the listed goals. Knowledge creation and dissemination are crucial if these goals have to be realized. Colleges and universities are central to this enterprise as without their contribution to spreading awareness these goals may just remain a distant dream.

Higher Education is going through an identity crisis. This is not a 21stC phenomenon; nor is it unique to India. It is a worldwide happening as the entire world is witnessing a transformation to digital society where technology has become a part of our lives and every activity including learning is mediated by a screen. History of civilization documents all the changes that have taken place-change from the agrarian to the industrial and then to the technological that has led the way to the present digital society. Technology has played a significant role in different ways to each one of these changes.

The key characteristic of the agrarian society between the 18th and the 19th Century was it primarily centred economy, wealth and society on agriculture. The farmers and all those hired to till the land had no need for higher education, as all that was required was human and animal labor. Even today despite the availability of advanced farming technology, farmers prefer to get trained through hands-on experience and through working with experienced farmers. The need for a college degree for the farming community was never felt. A 2015 survey shows that for a lot of farmer families, education in the past was a big luxury, though today the younger generation from the farming group are keen to go to college more in search of fun and excitement than solid learning. This is also true of a large number of post- school students who look at 3-5years in college as a period of a carefree student life before they turn to a life of responsibility and employment. Industrial revolution of the second half of the 19th C changed *society* because more people could be educated better and the entire country could be more advanced and developed. Industrial society demanded skilled manpower needed for industrialization. Hence vocational training programs after high school were started to produce the skilled power needed for industrialization. Higher education had its first climb down from academic studies to vocational training to post-school students to meet the required skilled manpower.

Technology today has changed education in a big way. Access to education is much easier than

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before as the students do not have to go in search of a college/university. Technology has come to the aid of a very large number of students through online degree programmes given by Open Universities. Audiobooks, video lectures, telecasts and podcasts, MOOCs (Massive Open Online Courses) have come as a substitute for classroom learning. The latest announcement allowing private autonomous colleges to offer degrees through online classes will open up Higher Education to a vast number of students besides online degree programmes given by existing Open Universities. . Books have been replaced by tablets, laptops and electronic devices. Teachers are slowly getting displaced by internet. Today with the help of the internet and with a press of a button, anyone can access higher education. This has resulted in an incredibly large number of students seeking higher education outside of the traditional classroom.

While technology is a great boon to teachers and learners in consonance with the changed teaching-learning mode, it does not necessarily ensure quality education and contribute to the social, emotional, mental, physical, and cognitive development of each student. The binary between quality and quantity has become pronounced and as is often the case, it is in inverse proportion with quantity outstripping quality. It has also brought to the fore a second binary related to the fundamental question about educational ends- whether higher education is towards the pursuit of academic learning or skill training? Academic education which has learning as its primary purpose differs from Vocational education which has its primary focus on preparing students to perform in a workplace. But Academic education has been closer to life education with a focus on preparing young students to adjust to a changed society where there is an increasing demand for technology such as robots or employment of Artificial Intelligence to perform tasks commonly associated with human intelligence. Thus it has become imperative to focus on quality education factoring in the expanding number of learners at the tertiary level and making higher education enable them to achieve their potential as human beings and members of society. In this respect, quality education has become one of the most basic public services rather than being a utility service to provide avenues of promotion. Let us understand the dynamics of the two binaries that relate to quantity in contention with quality and academic pursuit in competition with skill training.

Let us look at the first binary between quality and quantity. India, like all developed and developing nations is rapidly moving into a digital society. Digital innovations are reshaping our society, economy and industries with a scale and speed like never before. We are fortunate to have the highest demographic dividend globally. It is estimated that presently, an average Indian today is 29 years old only as compared to 37 in China and 48 in Japan. We should attempt to reap major demographic dividends by harnessing the young population to become a source of economic growth This can be achieved only by providing quality education geared to employment opportunities. The right step is restructuring our undergraduate curriculum and introducing courses on new technology in B.A and B.com courses and not limit them to IITs and Technical institutions. Among the emerging technologies, we have:

1. Artificial Intelligence and Machine Learning.
2. Robotic Process Automation (RPA).
3. Edge Computing.
4. Quantum Computing.
5. Virtual Reality and Augmented Reality.
6. Blockchain.
7. Internet of Things (IoT).
8. 5G.
9. Cyber Security.

Universities have to introduce courses on all these new technologies that have the potential in the job market which demands Apps developers, Robot monitoring professionals, Data scientists, Automation specialists, and Content curators etc Quantum computing will help developing applications for banking and finance sectors besides, checking fraud detection of loans-that have in recent times caused banks colossal loss. All the above listed new technologies demand skilled professionals. The colleges and universities have to develop degree courses on these emerging technologies that combine theoretical studies and practical training. A new timetable must be drawn whereby student devotes the first half of the day in college for academic learning and the second half in industries, banks,

financial organizations, markets, hospitals and other manufacturing units where there is demand for data scientists language programmers, OOPS (*Object Oriented programming)* with device and design knowledge for the use of new technologies.

What is missing in our University undergraduate programmes is not just the absence of structure robust technological education but of the fundamental question about the idea of education in the 21st Century. This is the second binary which raises the basic issue of the aims of Higher education-as means to knowledge or means to employment. We need both but must not privilege one over the other.

The generation born after 1996 known as GenZ (1997-2012) and Gen Alpha (2013-2025) is a generation of self-learners absorbing knowledge online. These are the new digital natives who are glued to the screen all through their waking hours and their need for a higher degree or diploma is only towards enhancing their employability. They are pragmatic, less idealistic, value individual identity and seek jobs where they are the masters of their time. Many youngsters prefer gig jobs-that is having temporary jobs or doing separate pieces of work, each paid separately rather than working full-time for an employer. *Work, Earn, Spend* is the new mantra where young people zoom in and out of work and earn money that also zooms in and out of their pockets. The change is perceptible as companies also prefer to pay for contractual jobs instead of paying full-time employees. A gig economy has come to replace the traditional economy of full-time workers of the earlier period who focused on their career development. Academic studies have got relegated in this quest for money and job.

The paradox is the present digital society seeks adoption of advanced information and communication technologies to be of service in all aspects of life-be it home or workplace or educational institutions, judiciary, politics, medicine and entertainment. Digital innovations have changed our perspective on economy and industries. Unless the present generation is well versed in the use of advanced technologies, these innovations will result in lopsided economic development, skewed in favour of the haves as against the have-nots. But if universities fail to create knowledge and focus only on skilling, digitizing society may prove harmful in the future. It could bring about a new form of illiteracy among the majority as no transformational ideas and innovations that are required for quality improvement of the mind would emanate from the Universities. Academic pursuit and research are crucial for generation of ideas that have a bearing on society to enhance social inclusion, active citizenship and individual development.

While technological education is of great importance, undergraduate programmes in Humanities and Social sciences have to be redrawn to make students understand what is digital revolution and its impact on today's society, culture and politics. A few leading American and European universities have designed new courses in Sociology for students who may or may not have a background in Technology, Internet Studies or Media Studies. These courses are intended to serve as a foundational introduction to the sociological study of digital technology and its effects on social life and cultural developments. They are meant both as an introduction to key texts in the field of Digital Sociology, while serving as classic texts in technology studies, cultural studies, and internet research. The concepts to be studied relate to our present networked society - a society with an overload of information and thereby explore the ways in which our social spaces, relationships and activities are mediated by and through digital technologies. The new courses will have to pay special attention to the social, economic, and political conditions of modern times that demand digital technologies and data infrastructures for economic and social development. This is the new inter-disciplinary course that encompasses economic, social, political, administrative studies fused with technological knowledge.

Before we jump to a conclusion that such courses are purely theoretical and have no use for job creation and job accession, it is essential to identify the new age jobs. A degree in Sociology will have the following possible openings:

- Administrative services.
- Local and central government.
- Social and market research jobs.
- Not for profit and voluntary organisations.

- Public relations, journalism and communications
- Media and marketing.

On a personal experience, let me add that a few years back, as a visiting faculty I was asked to deliver a series of lectures in a post graduate Media Institution. I was given the freedom to devise my course. I thought that a media professional should have knowledge beyond current affairs and must have an awareness of Literature, Arts, History, Economics, Science, Social Sciences, Politics, Environment, Entertainment….. I started a lecture series -the Great Book Series- These weekly lectures focused on one seminal book on each of the disciplines and showed the inter-connectivity among different disciplines- what can be best summed up as the Web of knowledge that runs through multi-disciplines. Universities and Cluster Colleges should offer similar lecture series to Undergraduate students to give them a holistic perspective. The lectures can be delivered by scholars and experts on different fields and open the minds of students to ideas and concepts beyond what the stand-alone disciplines impart. Even as it may seem treading on vainglory, I affirm that the lecture series was satisfying both for me as a teacher and for the prospective media professionals as it unravelled to them new vistas of knowledge. The added benefit was it made them take to reading which is unfortunately not a priority for even the educated class.

Similarly Humanities Courses must be re-drawn to focus on Digital Humanities. The attempt is to merge humanity's cultural legacy with modern technology. What characterizes Digital Humanities is the simultaneous two-way relationship between the humanities and the digital: to employ technology for humanities research and employ humanistic questioning and interrogation to technology. Digital Humanities may sound like an Oxymoron where literary, artistic and basically concept oriented human expression and humanistic activity- from music to the theater, from design and painting to phonetics, to the discourse of written texts- employ technological and computational methods for the purposes of decoding and research. Experts in technology and traditional humanities disciplines that include rhetoric, history, philosophy, linguistics, literature, art, archaeology, music, new Media studies, information Science and cultural studies should map out new courses and introduce Digital Humanities Projects. These should be an extension of traditional knowledge skills and methods, not a replacement for them. Its distinctive contributions do not obliterate the insights of the past, but add and supplement the humanities "long-standing commitment to scholarly interpretation, informed research, structured argument, and dialogue within communities of practice".[1]

The emerging Digital society calls for a new approach to Higher Education that factors in the change in society in terms of its behavior and expectation so that it contributes significantly to develop societal efficiency. When we see this in terms of the Sustainable Development Goals, the role of Higher education is of decisive importance for their realization. A decade back, in 2012, the then-UN Secretary-General Ban Ki-Moon said: "Education is about more than literacy and numeracy – it is also about citizenry. Education must fully assume its central role in helping people to forge more just, peaceful and tolerant societies." Universities and colleges are fertile ground for new ideas, innovation and research that shape society in terms of equity, equality, sustainability and for promoting the power of humanity that fuses the strength of individual commitment with the force of collective action

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National Education Policy-2020 and A Roadmap for Social Inclusivity

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National Education Policy—2020 (NEP-2020) has opened its heart for more and more social inclusion and to provide education to all the diverse groups of India. In India, there is no need to make an effort to have diversity. India itself is the most diverse country in the world. But it is said that inclusion is a state of mind. It becomes essential to make diverse people feel included at all levels; be it in an education system, in an organizational system, or political system.

According to the Minister of Maharashtra State for Education, Mr. Sanjay Dhotre, "National Education Policy (NEP) 2020, envisages equitable and inclusive education for all, with special focus on children and youth, especially girls, from socially and economically disadvantaged groups who are more at risk of being left behind."

There are five pillars of NEP–2020 which strengthen the quality and equity education in India e.g. accessibility, equity, quality, affordability and accountability.

Need and Importance of Equitable and Inclusive Education

According to UNICEF (2021), inclusive education is the most significant way to give access to all children a barrier-free education to learn and develop the skills they need to thrive. There are 240 million children are struggling with some physical or mental disabilities. They need to realize their full potential like a common child.

A survey report conducted by IIM Ahmedabad, BCG (Boston Consulting Group), and Pride circle foundation of 1700 college students across India indicated that equitable and inclusive education can provide a better representation of LGBTQs in higher education (Education World, 2021). By providing a fair and inclusive educational environment students from these communities can

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feel belonged and safe at college campuses.

NEP–2020 has included almost all the aspects of inclusivity (gender inclusion, community inclusion, inclusion of regional languages, inclusion of minorities, disability inclusion, new pedagogical system, inclusion of new skill courses, inclusive universities, and inclusion in ranking in higher education) which is discussed further:

Gender Inclusion

NEP has addressed all the issues which cause inequality in the education system and briefly is disparity, inequality in opportunities to have higher education, marginalization, vulnerability, inability to access the education of girls. Though there is outstanding progress in girls' education in the country and there are programs such as "Beti Bachao Beti Padhao", "Sukanya and Balika Samridhi Yojana" run by the Government but still there is a room for girls' education development.

This time NEP's has put all the efforts to bring gender sensitivity as an integral part of the curriculum and gender inclusion covers widely socio-economically disadvantaged groups and also the trans genders (Anuja, 2020). The Government has also initiated the "Gender I Inclusion Fund" to support deprived girl children in education.

Community Inclusion

As the major points of inclusion of NEP indicate there is a wide range of inclusivity in education this time e.g. inclusion of minorities, girls, youth, skill courses, pedagogical courses, the inclusion of disability, local and regional languages, etc. This will minimize the exclusion on every basis and will provide sensitivity for diversity among educationalists and the children who will get to know more about diversity and inclusion. It fosters community inclusion at all levels.
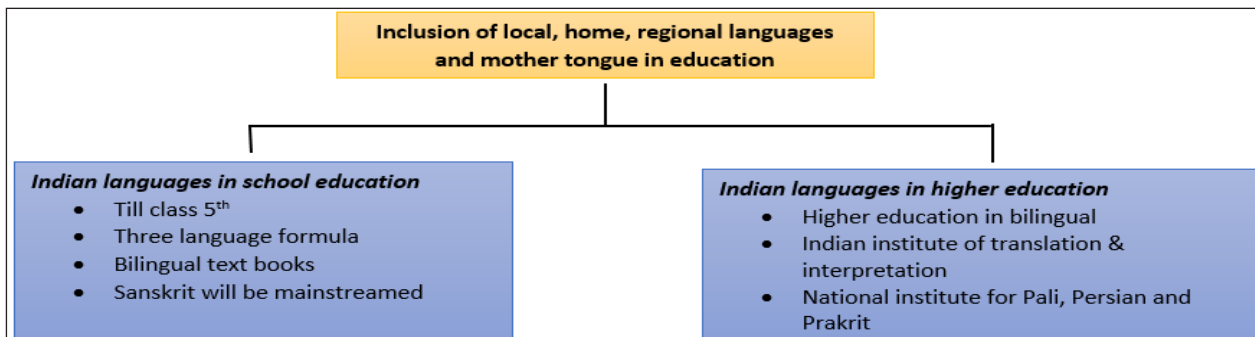
Inclusion of Regional Languages

NEP–2020 has provided a roadmap to linguistic minorities as they can get an access to have education in their mother tongues and regional languages. NEP has taken a significant step by providing the medium of instructions in home languages and mother tongue atleast till 5th grade. It will help the children who only

Figure 1: NEP-2020 and its Pillars

Figure 2: Inclusion of Languages in School and Higher Education

knows the regional language can get access to the primary education.

The policy also suggests the hiring of outstanding local artists, writers, crafts-persons, and other experts as master instructors; accurate inclusion of traditional Indian knowledge including tribal and other local knowledge throughout into the curriculum, across humanities, sciences, arts, crafts, and sports etc. Strong departments and programmes in Indian languages, comparative literature, creative writing, arts, music, philosophy, etc. will be launched and developed across the country, and degrees including 4-year B.Ed. dual degrees will be developed in these subjects (The Hindustan Times, 2022).

Inclusion of Minorities

Everything which is inculcated in NEP-2020 is a paradigm shift in Indian education. This is path breaking policy which will initiate minority school and colleges, though the Government has been providing scholarship to the minorities' communities form a very long time to uphold their level and to make an educated inclusive society. There will be an establishment of "Socio-economic deprived groups (SEDG's)".

Disability Inclusion

By considering the fact that disabled people are not different from the integral part of the society, the final NEP policy has recommended several disability organizations.

NEP-2020 has resolved some issues of disability for which RTE (Right to education) Act, and RPWD (Right of person with disabilities) Act have no clear answer. This is a social inclusion towards a charitable model of social isolation. The above flow chart is a summary of how disabled children will get a barrier-free access to the education. There will be school choice for these children where they can opt for the nearest or neighbourhood school. There will be many special schools to fulfil the educational environmental requirement and there will be home based schools. There is also an emphasize to include every type of disability e.g. Cognitive (autism), intellectual or physical (Divyang) children (Sarkar, 2020).

New Pedagogical System Inclusion

The Government has decided to divide Pedagogical system to provide early childcare education to every under privileged children. As an inclusive education this step will help to every children of the society to get an easy access to the primary education. In the view of (Anuja, 2020) new pedagogical and curriculum structure of school's education has been developed with flexible, multi-level, play-based, activity based and inquiry based learning for all.

Figure 3: Disability Inclusion
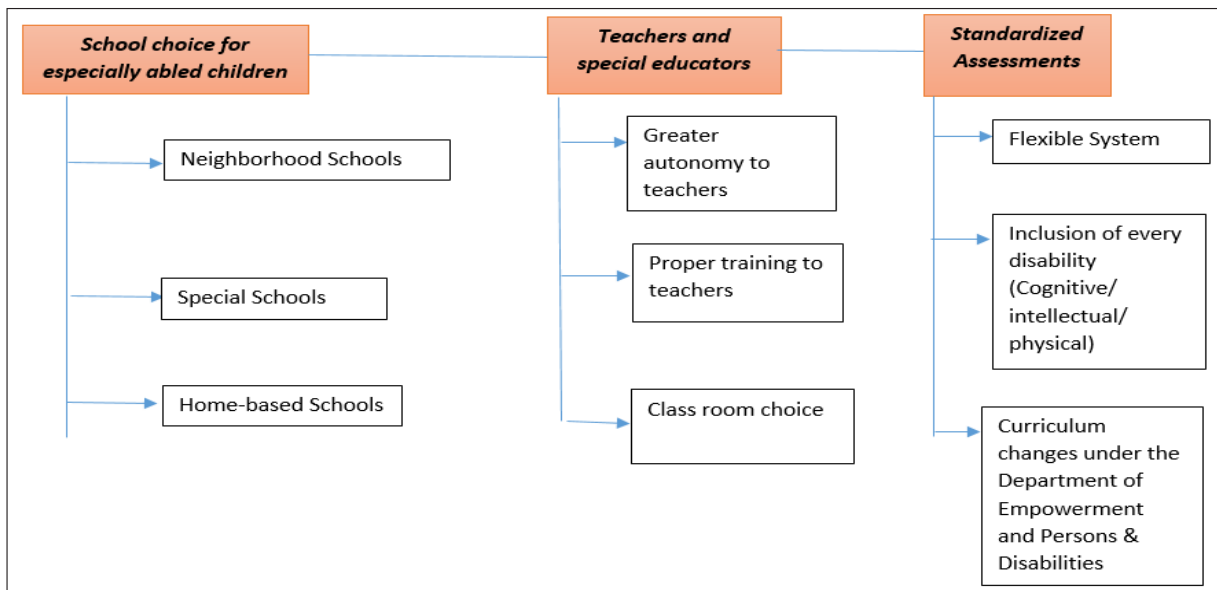
Inclusion of Skill Courses and Graduation Research

To make youth self-reliant NEP has introduced some life skill courses by including contemporary subjects, vocational courses and extra curriculum activities. The Government will support to establish *Bal Bhavan* to inculcate art related skills, career related and games related activities.

Inclusive Universities

It is predicted that enrolments in universities will increase because of greater geographical mobility, demand for new skills, OBC reservations, and growing aspirations etc (Trivedi, 2018).It will provide equal learning opportunities to all the students regardless their community, languages or background.

Inclusivity in Ranking of the Universities

National Institutional Ranking Framework (NIRF) has 5 parameters to give ranking to the universities out of which on parameter includes Outreach and Inclusivity (OI). OI has again different parameters that inculcate a definite percentage of women, percentage of students from other states, economically and socially challenged students and universities which provide facilities to physically challenged students. Apart from OI there are different criteria e.g. TLR (Teaching and Learning Resources), RP (Research Professional Practices), GO (Graduation Outcome), and PR (perception) (NIRF, 2021).

Future Roadmap

After 34 years of last education policy; NEP–2020 has ushered a remarkable step for quality, equal, inclusive and accountable education. To implement it in a smooth way it would require active participation from all the level. NEP is liberal in its own way by providing multiple exit options, by choosing diverse subjects at the same time and by inclusion of regional languages in school and higher education. The emphasize is gaining knowledge not running after the degrees. It will definitely foster innovative though process, research oriented education, market skills, etc. There will be an establishment of quality universities and colleges by introducing a new and forward looking vision for India's higher education. There will be Continuous Professional Development (CPD), Career Management and Progression (CMP) and professional standards for teachers.

UGC has also introduced UNESCO's Global Citizenship Education (GCE) framework to enable the learners to go global and to make more secure, inclusive, tolerant, sustainable and peaceful societies (News 18, 2021).

Conclusion

Education is the single greatest tool for achieving social justice and equality. Inclusive and equitable education-while indeed an essential goal in its own right - is also critical to achieving an inclusive and equitable society in which every citizen has the opportunity to dream, thrive, and contribute to the nation (NEP–2020).
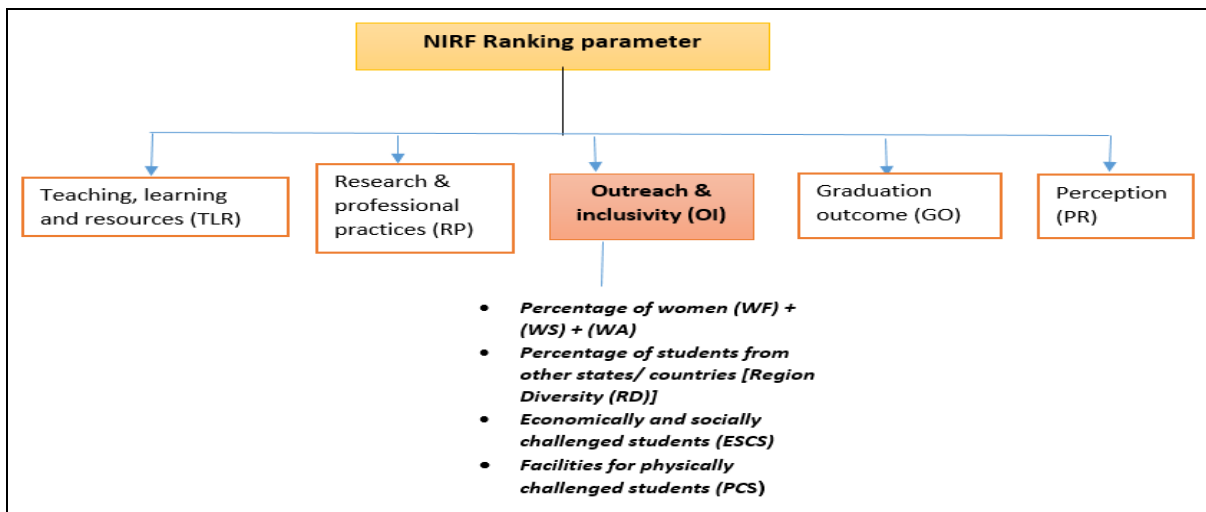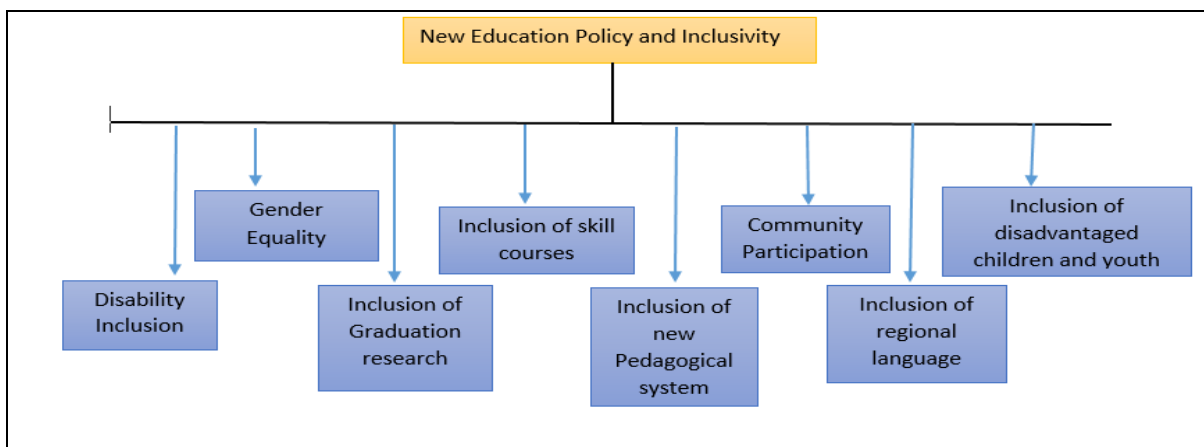
Figure 4: NIRF Ranking Parameter

Figure 5: Synthesis of NEP–2020 as a concept of inclusivity

It is indeed an equal and inclusive system for all where every community is included, there is an inclusion of disability, gender inclusion, inclusion of unprivileged and deprived group of society, regional languages etc. Not only the NEP 2020 but UGC and NIRF have also included the concept of inclusivity in higher education.

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Sustainable Development Goal 4–Quality Education: A Comparative Study of States/Union Territories[#]

Inchara P M Gowda* and J Madegowda**

It is an established truth that education plays an important role in the human resource development which in turn contributes substantially for the developments in all sectors of the economy and country. This is true even in the case of India and therefore, the governments, both the central and state governments, have taken many initiatives to establish educational institutions such as primary and secondary schools, colleges, universities, research centres, etc. Besides, they have also encouraged the private players to establish and run the educational institutions. As a result of these initiatives and efforts, there has been a remarkable increase in the number of educational institutions, students, teachers, etc., during the post-Independence era. This is commendable if one considers the constrictions in which the country is functioning. Of course, these achievements are not adequate if one considers the demand for educational services.

Quality of Education

However, with regard to the provision of 'quality education', the opinions of stakeholders of education differ ranging from 'very poor' to 'very good'. The opinion also differs from one discipline (of education) to others (such as Science, Commerce, Arts, Engineering, Medicine, Chartered Accountancy, etc), from one level of education to others (primary education, secondary education, Degree colleges, post-graduate departments, etc), from one region to others (urban vs rural), from one ownership group of educational institutions to others (private vs government), etc. But what is certain is, quality of education in the country needs further improvement.

Further, quality of education is very difficult to define, measure and quantify as the term 'quality' has no specific/concrete meaning. It is interpreted differently as superiority, fitness for the purpose, non-inferiority, etc., by different stakeholders. One of the reasons for diverse interpretations of the term 'quality' is because, it (i.e., quality) is perceptual, conditional and to some extent, it is a subjective attribute. Quality is a 'perception' which is personal to an individual about the features, utility, value, worth, etc., of education to stakeholders more particularly to students/parents.

Agencies for Assessment of Quality

In spite of difficulties in quantifying the quality of education, many agencies/ authorities have been making attempts to measure it as a part of comprehensive/ holistic evaluation of educational institutions and programmes. National Assessment and Accreditation Council (NAAC), National Board of Accreditation (NBA), National Institutional Ranking Framework (NIRF), Local Inspection Committees of (affiliate-type) universities, etc., are some of the examples of agencies making attempts to assess the quality of education. However, the scope of these assessments confines to the institutional assessment and ranking/accreditation such as colleges, universities, etc. Of course, in the case of NBA, department-wise assessment and accreditation is done such as Department of Civil Engineering, Department of Mechanical Engineering, etc., of engineering colleges.

Now, the NITI Aayog (National Institute for Transforming India) is making an endeavour to evaluate and rank not the educational institutions/ departments but the states and union territories (UTs) based on their performance against a set of goals including those pertaining to quality education.

Sustainable Development Goals

The world leaders have realized that the benefits of growth were not equally distributed. They also realized that the improvement in the economic welfare was considerably less than the growth in the incomes besides the side-effects of growth such as environmental degradation, depletion of natural resources, etc. Therefore, based on a series of brain-storming global conferences, 193 member-states adopted '2030 Agenda for Sustainable Development' at the historic United Nations General Assembly

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Summit in September, 2015 for transforming the world which was given effect from 01 January, 2016. This Agenda comprises 17 Sustainable Development Goals (SDGs) and 168 targets ranging from poverty eradication, human health and sanitation to urban settlements and to safeguarding the global ecosystem on which humanity depends for its survival. India played a prominent role in the formulation of SDGs and much of the country's National Development Agenda is reflected in the SDGs.

India (NITI Aayog), in collaboration with the United Nations (in India), developed the 'SDG India Index' and launched in December, 2018. This Index has become the principal tool for monitoring the progress of the country and also that of the states/UTs on the SDGs. Simultaneously, it is also fostering healthy/constructive competition among states and UTs by ranking them on the basis of their performance on these SDGs. The Index measures the progress, both at the national and sub-national levels, in the country's journey towards addressing/meeting the global goals/targets.

Recently, on 3rd June, 2021, the NITI Aayog released the third edition of the SDG India Index, 2020-21 tracking the progress of the states and UTs towards achieving SDGs. It may be noted here that 'SDG India Index, 2020-21' is more comprehensive than the first two editions (2018-19 and 2019-20) due to wider coverage of indicators (115) and targets (70) with greater alignment with the National Indictor Framework (NIF) of the Ministry of Statistics and Programme Implementation of the Government of

India (see, Table–1 for the list of 17 SDGs). It may be noted here that the indicators assess the performance of states, UTs and the country from the points of view of poverty eradication, end of hunger, health, gender equality, economic growth, etc.

SDG 4: Quality Education – Indicators and Targets

One of the SDGs is 'SDG 4: Quality Education' which is an important and integral part of SDGs from the beginning of this exercise i.e., from the first edition of SDG India Index, 2018-19. It may be noted here that, 'education' lays a strong foundation for the country and for its overall growth including economic growth. Education plays a crucial role in improving economic growth as it enhances the skills of people/students and opens up remunerative opportunities for them for their sustainable livelihoods. And most importantly, it enables the people to lead a life of dignity.

In this backdrop, SDG 4 aims at measuring the performance of States and UTs in providing and/or ensuring equitable and quality education (including technical and vocational training) for all to achieve substantial improvement in adult literacy and numeracy. Besides, this Goal aims at evaluating the performance of States and UTs in building and upgrading educational facilities that are child, disability and gender sensitive. It may be noted here that the infrastructural facilities are essential to create conducive academic environment so that all learners acquire knowledge and skills needed to promote sustainable development.

Table 1: List of SDGs in SDG India Index—2020-21

SDG No.	Sustainable Development Goal	SDG No.	Sustainable Development Goal
(1)	No Poverty	(9)	Industry, Innovation and Infrastructure
(2)	Zero Hunger	(10)	Reduced Inequality
(3)	Good Health and Well-Being	(11)	Sustainable Cities and Communities
(4)	**Quality Education**	(12)	Responsible Consumption and Production
(5)	Gender Equality	(13)	Climate Action
(6)	Clean Water and Sanitation	(14)	Life below Water
(7)	Affordable and Clean Energy	(15)	Life on Land
(8)	Decent Work and Economic Growth	(16)	Peace, Justice and Strong Institutions

Note: SDG 17: Partnership for the Goals is a qualitative analysis strengthening the means of implementation and revitalize the global partnership for sustainable development.

Source: The table was compiled on the bases of the material retrieved from https://pib.gov.in/Press Relese Detailm. aspx?PRID=1723952 on 05 June, 2021.

Further, comparison of indicators used in each of these three years shows that, during 2020-21, the year governed and ruled by Corona virus, NITI Aayog made some changes in the indicators in the form of deletion, addition and refinement. However, for the year 2020-21, NITI Aayog used 11 indicators for the purpose of

Table 2: SDG 4 – Indicators and Targets

Indicator Number	Indicator	Target	Justification
(1)	Adjusted Net Enrolment Ratio (ANER) in Elementary Education, Class 1 – 8	100	This target corresponds to the global SDG Target 4.1 which aims at ensuring complete free, equitable and quality primary and secondary education to all girls and boys. Even the National Education Policy (NEP), 2020 aims at ensuring universal access and afford opportunity to all children to obtain quality holistic education (including vocational education) from pre-school to Grade 12.
(2)	Average Annual Dropout Rate at Secondary Level, Class 9 - 10	8.8	This target corresponds to the global SDG Target 4.1 and the NEP, 2020 which aims at reducing the drop-out rates and to achieve 100% GER in pre-school to secondary level by 2030.
(3)	Gross Enrolment Ratio (GER) in Higher Secondary, Class 11 - 12	100	The NEP, 2020 aims to ensure that all students have universal, free and compulsory access to high-quality and equitable schooling from early child-hood care and education (age 3 onwards) through higher secondary education until Class 12.
(4)	Percentage of Students in Grade – VIII achieving at least a minimum proficiency level in terms of nationally defined learning outcomes to be attained by the pupils at the end of the Grade	100	This target corresponds to the global SDG Target 4.1 which aims to ensure that all girls and boys complete free, equitable and quality primary and secondary education with relevant and effective learning outcomes.
(5)	GER in Higher Education (18 - 23 years)	50	The NEP, 2020 aims for GER in higher education to reach 50% by 2035.
(6)	Percentage of Persons with Disability who have completed at least Secondary Education (15 years and above)	100	This target corresponds to the global SDG Target 4.5 which aims at ensuring equal access to all levels of education for the vulnerable including persons with disabilities by 2030.
(7)	Gender Parity Index (GPI) for Higher Education (18 – 23 years)	1	This target is aligned with the global SDG Target 4.5 which aims at eliminating gender disparities in education.
(8)	Percentage of Persons who are Literate (15 years and above)	100	This target is aligned with the global SDG Target 4.6 aiming at ensuring that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy by 2030.
(9)	Percentage of Schools with access to basic Infrastructure (electricity and drinking water)	100	The NEP, 2020 requires the provision of effective and sufficient infrastructure so that all students have access to safe and engaging school education at all levels from pre-primary school to Grade 12. It aims to take special care to ensure that no school remains deficient on infrastructure support.
(10)	Percentage of Trained Teachers at Secondary Level, Class 9 – 10	100	This target is aligned with the global SDG 4.c which aims at substantially increasing the supply of qualified teachers.
(11)	Pupil-Teacher Ratio (PTR) at Secondary Level, Class 9 -10)	30	The NEP, 2020 proposes to ensure a pupil-teacher ratio of under 30:1 at each level of school education.

Source: Compiled the table based on the details retrieved from, https://niti.gov.in.

evaluating performance of states and UTs from the point of view of 'quality education' (Table 2).

Taking into consideration the performance of States and UTs with regard to all 11 indicators, SDG 4 Index Score is computed and this Index becomes the base for the categorisation of States and UTs into four categories as presented in Table-3.

Table 3: Categorisation of States

Sl. No.	Index Score	Category
(1)	0 - 49	Aspirant
(2)	50 - 64	Performer
(3)	65 - 99	Front Runner
(4)	100	Achiever

Based on the performance of all states and UTs, performance of the country against each indicator/target is assessed and Index Score for the country is computed. Although the country maintained SDG 4 Index Score of 58 (against 100) in the first two years, 2018-19 and 2019-20, the Score declined marginally to 57 in 2020-21 – the year which saw devastation of all sectors/sections of the country by corona virus. The achievement of the country in the area of quality education is commendable in the light of uncertainty prevailed during 2020-21 about the reopening of off-line classes, panic about the pandemic, problems associated with online classes including internet problem, etc.

SDG 4: Quality Education – Comparison of Performance of States/UTs

In the above backdrop, an attempt is made here to compare the performance of different States and UTs from the point of view of different indicators of quality education and also against the targets. Details about the indicator-wise and state/UT-wise performance statistics are presented in table 4. A close observation of the content of table 4 provides a greater insight into the performance of different states and UTs from the point of view of each of the indicators and the overall SDG 4 Index Score.

Out of 11 indicators, the country has already achieved target in two indicators viz., Indicator 7: Gender Parity Index (GPI) for Higher Education i.e., 18 – 23 years (GPI of '1' against target of '1'), and Indicator 11: Pupil-Teacher Ratio at Secondary Level (21:1 against target of 30:1). In all other cases, the country's performance is lower than the targets set. Of course, in some cases, the country has time (up to 2030) to reach the targets. However, it is desirable and essential to achieve the targets at the earliest. Similarly, none of the States/UTs has achieved the targets in the case of five indicators (Indicators – 3, 4, 6, 8 and 10). In the remaining six indicators, some States/UTs have reached the targets and others are progressing towards the targets. As a result, none of the States/UTs has achieved the overall target for SDG 4 (i.e., SDG 4 Index Score of 100).

However, based on the overall performance of States and UTs in terms of SDG 4 as presented in table 4, they (i.e., States/UTs) are classified as in Table 4 and 5.

It is evident from the above that none of the States/UTs is in the 'Achiever' category as no State/UT has scored 100 Index Score in SDG 4. And majority of the States and UTs (17/18) are in 'Performer' category by scoring 50-64 Index Score. Out of the remaining, 11 States and UTs are in 'Aspirant' category with Index Score of 49 or less (against 100). And the remaining eight States/UTs are in 'Front Runner' category with Index Score of 65-99.

It is also obvious from both table 2 and table 3 that Kerala State tops the list of States and UTs with Index Score of 80 followed by Chandigarh with 79 Index Score and Delhi with Index Score of 75. On the other hand, Bihar State is the poor performer from the point of view of quality education (SDG 4) with Index Score of only 29 followed by Nagaland (39) and Arunachal Pradesh (41). The range in Index Score between the top performer (Kerala, 80) and poor performer (Bihar, 29) is very wide which works out to 51 (i.e., 80, Kerala – 29, Bihar). This shows wide regional imbalances in terms of quality education which should be a matter of concern for all stakeholders including the governments, both the state and central governments.

It is also apparent from the content of table 2 and table 3 that 18 States/Uts have scored higher SDG 4 Index Score each than the national average of 57 (against 100). Another 17/18 States/Uts have secured Index Score of less than the national average of 57, and the remaining UT, Andaman and Nicobar Islands, scored Index Score of 57 which is just equivalent to the national average.

Table 4: Performance of States and UTs on Indicators of SDG 4

Sl. No.	States/UTs	Indicators (Description for each Indicator Number is presented in Table 1 e.g., Indicator – 1: Adjusted Net Enrolment Ratio in Elementary Education, and so on)											SDG 4 Index Score
		1	2	3	4	5	6	7	8	9	10	11	
(1)	Andhra Pradesh	87.98	16.37	46.84	80.2	32.4	15.4	0.81	65.6	91.26	75.18	16	50
(2)	Arunachal Pradesh	80.98	35.98	38.48	60.0	29.7	10.3	0.99	79.9	50.94	79.04	14	41
(3)	Assam	96.36	31.47	30.94	79.6	18.7	16.8	0.95	84.9	59.51	29.29	11	43
(4)	Bihar	86.54	28.46	26.39	78.3	13.6	18.5	0.79	64.7	88.66	78.44	58	29
(5)	Chhattisgarh	89.25	18.29	52.08	68.9	18.6	17.2	1.06	74.1	90.04	78.03	18	55
(6)	Goa	88.26	9.40	71.95	71.7	30.1	32.4	1.33	88.9	99.97	85.70	11	71
(7)	Gujarat	85.38	23.84	41.20	81.1	20.4	22.8	0.85	80.7	99.95	91.80	33	52
(8)	Haryana	89.31	14.79	56.05	71.6	29.2	25.1	1.23	77.3	98.82	89.10	15	64
(9)	Himachal Pradesh	97.82	7.81	81.79	72.8	39.6	25.6	1.30	84.2	97.59	79.55	9	74
(10)	Jharkhand	89.15	22.26	38.89	84.0	19.1	16.9	0.96	67.3	84.75	80.12	51	45
(11)	Karnataka	100.00	23.43	44.40	83.5	28.8	20.9	1.04	75.7	93.80	92.13	15	64
(12)	Kerala	92.07	9.14	80.26	86.8	37.0	24.3	1.40	94.6	99.24	94.53	16	80
(13)	Madhya Pradesh	81.19	24.85	43.73	70.5	21.5	17.2	0.97	70.5	75.34	81.19	36	45
(14)	Maharashtra	90.92	13.29	68.93	76.3	32.0	25.7	0.90	80.3	92.74	93.82	22	64
(15)	Manipur	100.00	13.03	54.82	72.3	33.7	28.9	1.01	85.6	68.92	55.50	10	63
(16)	Meghalaya	97.43	19.47	41.64	64.5	25.8	12.3	1.17	91.4	28.39	43.63	12	48
(17)	Mizoram	90.08	10.64	51.87	68.3	25.7	17.4	0.94	98.5	83.76	61.33	10	60
(18)	Nagaland	67.38	24.08	33.92	61.0	18.7	11.9	1.11	93.8	63.26	36.03	11	39
(19)	Odisha	71.57	9.52	65.86	71.9	22.1	13.8	0.82	72.5	68.71	75.82	22	45
(20)	Punjab	71.50	11.52	68.14	61.6	29.5	23.4	1.35	79.4	99.93	86.85	13	60
(21)	Rajasthan	83.29	12.69	56.51	88.1	23.0	14.9	1.00	67.1	83.23	92.23	12	60
(22)	Sikkim	72.91	23.67	58.22	64.4	53.9	20.4	1.00	86.2	99.15	63.92	13	58
(23)	Tamil Nadu	85.49	13.02	72.32	71.3	49.0	19.1	0.97	80.7	96.08	93.31	18	69
(24)	Telangana	93.69	13.47	56.49	69.8	36.2	20.8	1.02	67.4	91.52	90.96	11	63
(25)	Tripura	100.00	29.55	38.62	71.3	19.2	13.4	0.83	89.9	57.12	45.80	18	42
(26)	Uttar Pradesh	84.54	15.51	46.12	67.4	25.8	17.8	1.14	68.2	81.48	73.86	34	51
(27)	Uttarakhand	96.38	10.95	66.20	75.0	39.1	24.7	1.00	79.0	87.72	89.78	15	70
(28)	West Bengal	93.21	19.49	51.73	70.6	19.3	16.6	0.94	79.0	92.62	81.14	36	54
(29)	Andaman & Nicobar Islands	74.10	22.22	56.44	65.5	23.2	28.5	1.29	88.3	96.01	85.05	10	57
(30)	Chandigarh	85.78	4.52	83.43	81.6	50.6	37.4	1.54	89.1	100.00	89.49	12	79
(31)	Dadra and Nagar Haveli	88.75	20.52	53.46	79.2	9.3	12.2	1.70	77.7	100.00	89.34	28	56
(32)	Daman and Diu	79.13	21.66	33.21	65.5	5.5	37.4	2.34	88.3	100.00	83.84	15	
(33)	Delhi	100.00	14.93	70.07	67.4	46.3	41.0	1.16	86.4	100.00	89.33	29	75
(34)	J&K	67.88	17.81	42.31	59.8	30.9	19.7	1.09	76.4	80.14	80.09	12	49
(35)	Ladakh	67.88	17.81	42.31	59.8	30.9	19.7	1.09	76.4	80.14	80.09	12	49
(36)	Lakshadweep	75.27	4.56	73.50	65.3	7.4	18.0	3.40	95.7	100.00	86.21	7	62
(37)	Puducherry	84.15	12.73	69.78	61.3	46.4	28.6	1.24	89.5	99.93	92.57	11	70
	India	87.26	17.87	50.14	71.9	26.3	19.3	1	74.6	84.76	82.62	21	57
	Target	100	8.8	100	100	50	100	1	100	100	100	30	100

Source: The table was compiled the table bases on the material retrieved from, https://niti.gov.in.

Table 5: SDG 4 - Performance-based Categorisation of States

Sl. No.	Category	Number and Names of States/UTs with SDG 4 Index Score	
(1)	Aspirant (0 – 49)	11	[Bihar (29), Nagaland (39), Arunachal Pradesh (41), Tripura (42), Assam (43), Jharkhand, Madhya Pradesh and Odisha (45), Meghalaya (48), and Jammu and Kashmir, and Ladakh (49)].
(2)	Performer (50 – 64)	17	[Andhra Pradesh (50), Uttar Pradesh (51), Gujarat (52), West Bengal (54), Chhattisgarh (55), Dadra and Nagar Haveli, and Daman and Diu (56), Andaman and Nicobar Islands (57), Sikkim (58), Mizoram, Punjab and Rajasthan (60), Lakshadweep (62), Manipur and Telangana (63), and Haryana, Karnataka and Maharashtra (64)].
(3)	Front Runner (65 –99)	8	[Tamil Nadu (69), Uttarakhand and Puducherry (70), Goa (71), Himachal Pradesh (74), Delhi (75), Chandigarh (79), and Kerala (80)].
(4)	Achiever (100)	0	-

Changes in the Category

It is necessary for the States and Uts to maintain/sustain and improve their performance on a continuous basis year after year. This is necessary for the purpose of moving from lower performer category to higher performer category. For example, Delhi was in 'Performer' category in the first two editions of SDG India Index (i.e., in 2018-19 and 2019-20) but improved its performance in 2020-21 and moved to 'Front Runner' category in 2020-21. On the other hand, Gujarat was in 'Front Runner' category in 2018-19 with 67 Index Score but its performance in 2019-20 declined to 47 Index Score and moved downward to 'Aspirant' category. Again, Gujarat improved its performance in 2020-21 to 52 Index Score to move upwardly to 'Performer' category. A few more details presented in Table 6 provide more insight into this aspect.

Table 6 : Category-wise Number of States/Uts

Performance Category	Number of States/Uts		
	2018-19	2019-20	2020-21
Aspirant	8	8	11
Performer	11	16	17
Front Runner	17	12	8
Achiever	0	0	0
Total	36	36	36

It is unequivocal from the above that the number of States/Uts in the lower performer categories (viz., 'Aspirant' and 'Performer') either remained constant (States/ Uts in 'Aspirant' category between 2018-19 and 2019-20) or increased from one year to another continuously which is not desirable. Consequently, the number of States/Uts in 'Front Runner' category registered reduction perennially which is not desirable. This is because of the reason that 10 States/Uts (such as Karnataka, Maharashtra, Rajasthan, Gujarat, Telangana, Haryana, Manipur, etc) which were in the 'Front Runner' category in 2018-19 moved down to the lower category in 2020-21. It is, therefore, necessary for the States/Uts to try to reverse this pattern by improving their performance consistently and moving upward in the performance category.

Another important dimension is that the Index Scores of States/Uts have also moved in both the directions during this three-year period. For example, in the case of Kerala, the Index Score declined from 87 in 2018-19 to 74 in 2019-20 but improved in 2020-21 to 80. Similarly, in the case of Bihar, for these years, the Index Scores were 36, 19 and 29 respectively. This brings the point to the fore that the States/UTs should try to improve their Index Scores on an incessant basis year after year.

Conclusion

The attempt of NITI Aayog is in the right direction as this exercise enables to supervise the adoption and monitoring of SDGs by the States/UTs, and also promote competitive and co-operative federalism among States/UTs. However, it is desirable to make a few modifications/improvements to the approach on the following lines.

As already presented, the States/UTs are classified into four categories as Aspirants (0 – 49 Index Scores), Performers (50 – 64 Index Scores), Front Runners (65 – 99 Index Scores) and Achievers (100 Index Scores). But the difficulty is in the case of Index Score of a State between 49 and 50 or 64 and 65 or between 99 and 100 such as 49.5, 64.2 or 99.8, etc. Here, the difficulty is, whether the State/UT with Index Score of 49.5 qualifies for 'Aspirant' or 'Performer' category. Therefore, the following revision is suggested.

Table 7: Categorisation of States Revision Suggested

Sl. No.	Suggested Index Score	Category
(1)	< 50	Aspirant
(2)	≥ 50 < 65	Performer
(3)	≥ 65 < 100	Front Runner
(4)	100	Achiever

The indicators focus more on primary and secondary education but less importance is given to higher education. There are only two indicators pertaining to higher education viz., Indicator 5: GER in Higher Education, and Indicator 7: Gender Parity Index for Higher Education. It is, therefore, necessary to include a few more parameters/indicators pertaining to higher education such as student-teacher ratio, academic progression, publications per teacher per year (more particularly in the case of universities as the teachers in colleges are required to give more importance to teaching), adequacy of infrastructural facilities in higher educational institutions, etc.

On the lines of the above, the NITI Aayog may consider a few more indicators with the objective of assessing the performance of States/UTs from the point of view of quality of education and to encourage them to improve their performance on a consistent basis which in turn contributes to the improvements in the performance of the States/UTs in other areas such as reduction in inequalities (SDG 10), decent work and economic growth (SDG 8), gender equality (SDG 5), etc.

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Innovation and Enterprising Mindset with Integral Education

Mahua Bhattacharjee*

In his talk, Sri Aurobindo on 24th January, 1939, gave a clear pathway for education for sustainable development through following words: "What is the use of feeding people one day when they have to go without sufficient food all the year round? Those who feed them satisfy their own conscience, I suppose. If you could find out the cause of poverty and try to remove it, that would do some real work. I don't think it is so insoluble a problem as all that. If you give people education – I mean proper education, not the current type – then the problem can be solved." The building of the ecosystem in higher education for innovative thought process needs to integrate education so that sustainable outcome can be realised. By exploring the world within, as guided and instructed in Integral education, it is possible to achieve the target of SDGs which are all linked within each other.

An enterprising and innovative mind set, indispensably requires strengthening of positive qualities and mastery on regulating the negative tendencies. The higher education process which encourages reflection, self-observation and introspection directly leads to creative solution of the problems. Theses are the principle which are founded around the concept of 'Free Progress Education' coined by The Mother in Sri Aurobindo Ashram in Pondicherry.

But while creating innovative and enterprising spirit within it need to ensure that modern science while creating ideas and tendencies tries to exaggerate the egoistic and vitality which in turn restricts the realisation of Sustainable Development Goals. With the objective of full enjoyment, human thought revolves around the idea to take full advantage of environment only for self-preservation and self-fulfilment. So far, it is only understood by the human race that the objective of the survival is to become strong, powerful and to dominate the environment.

The various eras and paradigms of development were reviewed by Paul van Schail, International Development Consultant for UNICEF who comments on how development has moved through several eras since the 1950s, in its own form of development or evolution. 1950s are explained as the era of Disease Campaigns where importance was given on individual material needs. With time as the political and socio economic conditions were understood, the needs of individual was studied in complex framework. Gradually the role of functions started to become a significant determinant. Therefore, in 1960s the Decade of Development has started where the importance was given both to the individual and collective material needs. Development interventions were more under the "functional fit". With the arrival of Mathematical school and Marginal school of thought, the complication and unpredictable nature got started in analysing the development.

Gradually, we entered the period of 70's where development was again bounded largely within quantitative and in physical addition. From 80s the importance to Gender equity and Child Survival are found quite evident which is followed by the Decade of Children's Rights. Literature indicates that the 2000s have to became the Era of the integral Approach, in which the sustainable process of change is seen from an integrative point of view – a view that treats each past perspective as part but not sufficient in itself, and one that explores more deeply the perspectives that include interiority. This approach integrates a broad scope of disciplines and methodologies, and perceives individual and systems as wholes within greater wholes. (Paul van Schail, UNICEF)

It is written on our ancient scriptures and reassured by Sri Aurobindo in the Human Cycle that human race cannot attain anything profound and deep rooted by brutally and mechanically. There is Divine reality in men and potentiality to find, develop and work out in something which comes from within. No state or institution can give a perfect pattern rigorously through mechanical process. An individual is only traveller of cycles and is road forward.

With the enhancement of freedom as Amartya Sen expressed in 'Development as Freedom' people can lead lives that they have reason to live. Development can be attained by capability where poverty is described as a 'capability deprivation'

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which actually limits the achievable 'functioning and combinations of livelihoods'. With reference to the experience of South Asia and Sub Saharan Africa he stated that poverty is in the form of below subsistence farming and high infant mortality, for being poor in capability. Capability of an individual cannot be limited by any of the groupings as artists, cultivators or merchants. It also cannot be limited by any regions like Marwari, Assamese, Marathi etc. or by nations. An individual always has a tendency to get tied up within limitation which actually works under the influence of environment and groups from which one belong. In the post Covid scenario when the web world has opened the flood gate of information it has become indispensable to know 'Oneself" with the clarity and to think on Purpose of Life. For the sustainable development the first condition is development of free individual.

The question is whether Agenda 21 or goals of sustainable development will remain only an exercise at the mental level for academic purpose or it will be a part of life for every individual. The answer to the question lies in integrating the two limits given in traditional scriptures - ' know thyself' and 'educate thyself'. General education only recognises the mind whereas for sustainable development human capital needs to be trained to integrate the life and body which works as a vehicle for higher level of satisfaction. It is essential to attain this realisation so that human being who is expected to be human capital don't turn themselves to barbarism where entire physical and economic existence revolves only around self-satisfaction. Mind is always ready with its justification of barbaric thought process.

To enhance our capability first step as required is to be Conscious so that human capital can trace the origin of the movement. Swami Vivekanand in ' Development of Personality' very clearly asserted that ideal of education and training should be man making. He added that instead of doing that we are polishing individual from outside. He questions what the use of the polishing up, from outside when there is no inside. The end game of all; training must be to make man grow. One can do anything and everything what he like when the man is ready.

For achieving the sustainable Development Goal the world needs individual who are armoured with such personality from within. On such kind of expected outcome immediate suggested pathway which comes out is 'Yoga'. But the term Yoga is so overshadowed by different ideas and practices that in present situation its essential to free Yoga from many misconceptions. Kireet Joshi in Yoga, Science, Man stated that there is a crowd of confusion which are even dangerous, so it is necessary to clearly define the various system of Yoga and provide an atmosphere for a fresh research in a new systematic Yoga that may be suitable to the demands of modern times. In the present situation it has become essential to clear the misconception and resulting deception of popular mind. It was clearly predicted by Kireet Joshi that when this task will be accomplished then there will be established the true condition for Yoga to shine in its real light.

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Sustainable Development: In Education and Application

Sheetal Tiwari*

If we take a look at various SDGs, we may think whether its actually possible for us to achieve them till 2030. And most likely how are we going to spread awareness about these issues that are covered in a nation like India, where most of the people go for higher education to become capable enough to earn a handsome amount of capital for their survival. This approach of the students has to be addressed first when it comes to higher education and how are we going to use it sustainably for the overall development of all the people of the nation. Many researchers have pointed out how these goals are unattainable because somehow, they are linked to the essentialist orthodoxy methods of capitalism. Reduction of poverty, overall development of health and the type of higher education followed in this modern world doesn't actually go together with the goals, that is one of the biggest problems. Along with that the education that the students receive, the system through which they get admission, the dropout rate, lack of interest of the student in the chosen field, lack of opportunities due to increase in population all of them play a major role in the development of a nation.

Lack of Awareness among the General Population

This is understandable in a country like India where many people don't have access to basic education and around 28 per cent of the population is living below poverty line. 45 per cent of the national income of the country remains in the hand of 1 per cent population of country. This economic disparity along with the downfall of India from position 72 to 118 as measured by HDI in 2020 for gender inequality gap shows that there is lack of awareness among the people. And one way to help with the awareness is to take care of it while educating. In India the institute that has been given the responsibility of meeting these goals is NITI Aayog (National Institution for Transforming India) and they provided with various measures to cope with various problems that are there in the nation but we see in all the reports how the

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development of a particular program is evaluated is not available to us and is also not very clear.

Role of Education

If we will go back to 1950 when our constitution was under preparation by the planning committee with its head as B. R. Ambedkar, from there we have realized that all the humans are equal and all of them deserve almost every opportunity to learn about themselves and their surroundings and something that plays the major role in this education increases the self-awareness of the student that s/he is an individual being. It is from here that our journey starts after a point of time we also realize that it is our individuality when it is immixed with others individuality gives birth to something called society in a larger frame where all the human beings are residing. Students should know that to certain extent their self is responsible for various things that happens in their surroundings, this can only be done with the help of proper education and training of the student from the very beginning.

Higher Education

In India, we have 54 central universities in which the highest number of applications and admissions are taking place in University of Delhi. The reason for this is manifold, first the application forms are available at a low cost and online. And as Delhi is a capital of the nation many people prefer it. And if I will compare some other universities (central) to the infrastructure and colleges that come under University of Delhi we will see that most of the central universities are located in remote places far away from city where people from other city or state cannot adjust.

Moreover, the cutoffs of University of Delhi are highest and this time because of the pandemic the number of students is more, in fact they were more but this time its much more than before. So, the university has to admit students and provide them with everything that their infrastructure is not capable. After this the problem is that many students in India prefer higher education because they want to get good job on the basis of that education. Whether this is happening or not, to some extent no. So, we should

think of adopting French Academic System where the student is supposed to attend classes for one year and on the basis of that exam is taken so students who score better continue with academics whereas others go for vocational careers. Here, one problem that is faced by the youngsters of our nation is the increasing population. It is not only increasing the competition but also it doesn't allow equal nourishment to all the people of the nation. That is one of the concern of SDGs.

Higher Education in Sustainable Development (HSED)

When we talk about higher education and the number of students who are aspiring to go for higher education, it seems understandable that higher education can inspire students to follow sustainable ways to lead their life. As many young people want to get that they will realize the importance of higher education they will understand why it is focusing on the sustainable ways. There are also measures where the performance of the university is evaluated on the basis of how it has followed sustainable ways and how it has spread the awareness regarding the same. Higher Education can help the society:

i. Preparing Youngsters for the sustainable ways of living.

ii. Making the students realize why sustainable development is the only option.

iii. Equal distribution of students in various universities so that all the students get best.

iv. Making students find a middle way to integrate technology with sustainable development.

v. Taking major steps on checking the development of the students.

Dayalbagh Educational Institute

This university promotes overall development of a student. The philosophy of the university is the spiritual upliftment of the student that will give the student the clear understanding of what they want to do in their lives. The university has released reports of how they have performed and we see from their reports that Good Health and Well being is something that has been the top priority of the university and they have kept it like that even during COVID-19 lockdown. This university has a very rich vegetation and is surrounded by it from all the areas.

Higher Access of Higher Education

If we look at the number of students who took admissions in higher education, 38.5 million students have taken admission for higher education, in that 19.6 million are male and 18.9 million are female students, it means that one of the best ways to educate students about sustainable development is that higher education should inculcate it in its syllabi.

Spreading Consciousness among the Students

There are some regulations that can help students to follow and understand things in a more practical and comprehensible way;

i. Plastic free campus; if we make our students understand this and follow this on small basis after a point of time, we will be able to achieve this target of reducing the use of one-time plastic.

ii. Seminars on gender equality: this is something that is really important all the colleges should have a women development cell that helps the students to understand what is happening at present and can mark the development and achievements that are made by NITI Aayog in terms of gender development.

iii. Programs where people can represent their ideas for sustainable development in integration with technology.

iv. Education that is itself sustainable and can be carried for longer periods.

v. Various vocational courses should be made available to the students that will allow all of them to grow.

Effective Evaluation methods

There are a lot of things that are done by various institutions at their level but who is evaluating that. A proper record should be made of everything that is done and along with that government should be involved about it. In fact, government is helping and should help people who are taking various steps towards the realization of the SDGs. How does exactly the evaluation is done is still not very clear. The yojnas that are passed by the government under the umbrella of NITI Aayog is something that is directly related to the SDGs, whereas role of higher education for the realization of SDGs is still not very clear.

Sustainable Growth and Contribution towards it by NAAC

National Assessment and Accreditation Council is the committee that has been given this role to assess the work of a particular university and the colleges and they give grades that the college or university uses to show the students that they are certified institute and are good at providing education and opportunity to students. NAAC has a lot of premises on the basis of which it assesses the performance of any institution, if NAAC will focus more on SDGs no doubt many institutes will start following them and we may see some visible difference towards the realization of the SDGs.

Role of Journals, Magazines and Other Medias

Students follow these medias we have many journals that are totally devoted to SDGs and their realization and magazines are generally know for covering the current issues. Here something that is very easily accessible to the students is print media and news channels and these medias should also take their role seriously as they have good influence over many students who are pursuing higher education. The sorry state of our nation is that the news channels don't realize their influence and they do things that are actually not necessary they are most interested in showing how the two political parties are fighting then talking about something like Sustainable Development. This is also one of the most important reasons why the youth of India is not much into Sustainable Development and all the work has to be done by the institutions in which these students are taking admissions.

Improvement in the Role of Higher Education in SDGs

It has been seen by many researchers that in the last decade there was a considerable amount of increase in the contribution of Higher Education for Sustainable Development (HSED). As studies by Wu and Shen shows that there are various measures that are taken by the universities and they are working on all the methods that will help them to attain their target of contributing in the sustainable goal. They have shown how from the year 2005 to 2014 there were various concept that were taught with a particular curriculum. For example; If the concept that I am supposed to teach is that of the new policies adopted by the government to reduce the waste done by the factories. I will design the whole curriculum for it and the students will enroll for the program and study it as the waste management for preservation of environment. These two also talked about how many universities have opted for researches as the medium to teach and inform the students about various issues that are taking place all around.

Realization of What Should be the Priority of Our Nation

When it comes to sustainable development, we should also focus that how many people actually think that sustainable development is really important, if we cannot create an environment where a layman think that it is necessary for us to reduce the use of plastic, or use better methods to grow crops, giving equal opportunities and nourishment to the girls of the society. If we are making the students realize the importance of sustainable development, they can actually work on the ground level and help the lay man what is necessary for all of us. In fact, there are many universities which are giving field work in which the students have to go and educate a particular section of the society and spread the awareness regarding the importance of sustainable development.

Higher Education: Gender Ratio

If we look at the number of students who are admitted to higher education it is 38.5 million out of it male students are 19.6 and female students are 18.9 in the year 2019-2020, whereas in the year the total number was 37.4 million out of it 19.2 millions were male students and 18.2 millions were female students. Now this data has made it clear that number of female students have increased more in comparison to the male students. The National Family Health Survey (NHFS) in the year 2019-2020 has conducted a survey in which we saw that the number of the females per 1000 males is now 1020. This data is not overwhelming but it shows that some work is definitely in process that has made this possible, NITI Aayog has taken various steps such as *Beti Bachao Beti Padhao* on of the main concepts that are promoted by them. Also, there are various scholarships for students who are single female child of the parents. So, people now are motivated to understand the importance of female development along with the development of the male child.

General Awareness Program

If we look at the programs that are ran by the government there are various of them this program of *Made in India* (supporting goods and products from

Higher Education Institutions as Learning Institutions : Way towards Sustainable Education

G John*

The term 'quality' has multiple meanings and is fluid in nature. As there are diversities in views, there will be diversities in measurement of qualities. No two educationists would concur as to its meaning and assessment. What is considered as 'quality' may mean different things to different people who therefore may demand different quality outcomes and methods of measuring the same. Taking a subjective concept called 'quality' and measuring. education institutions in order to assess them is like counting the grains of sand. But there needs to be some ways and means of assessing the same so that quality is measured and assessed. The ultimate objective should be enhancement of quality which can also be achieved when HEIs become 'Learning Organisations'.

Quality – A Subjective Construct

The term 'quality' is not only relative but also subjective in nature. Oftentimes, it is highly personal. In fact, the same person may conceptualise the concept of quality differently at different moments. What is considered as quality at a certain moment in time, need not be the same at another point of time as it has several reference points like: who decides the definition of quality; with what intention is it measured; what is the purpose of measuring it; what are the intended and unintended outcomes; what is the hidden agenda; what is the scale or instrument used; who is measuring; at what time the measurement is undertaken or data is collected; and so on. Another fact is that there are a variety of stakeholders in HEIs including students, employers, teaching and non-teaching staff, accrediting and funding agencies, and the government. Each of these stakeholders have a different view on quality, influenced by her or his own interest and personal experience in higher education. All of them will try to put their best foot forward and quantify HEIs' quality in absolute terms. Whatever be the agency, and whatever be the scale used to measure the quality, the outcome of any stock taking should be future oriented rather than finding 'what was not there'.

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The Cobra Effect – 'Pseudo Quality' Bubble

The 'cobra effect' is in its fullest manifestation in Indian Higher Education system. The cobra effect says that the results are often quite different from what is envisaged or intended. To tackle the menace of a large number of cobras roaming the city of Delhi, the then wise British Government announced monetary incentive to everyone who brought a cobra skin to the state. This worked very well and the cobra population roaming the streets of Delhi came down to a greater extent but then this gave rise to a new profession of cobra farming. Indians started breeding cobras and slaughtered them and brought the skin to government offices to claim the prize. The frustrated government, on seeing such a practice, abruptly abandoned the scheme whereupon the disappointed cobra farmers let loose their homegrown cobras on the streets of Delhi, thus turning the solution into a problem. This is exactly the problem with the quality of HE in India.

Administrators of the Indian Higher Education System, like AICTE, UGC, NAAC, NIRF, MHRD etc, envisage to improve quality by prescribing a set of parameters known as Performance Indicators (PIs) to measure and assess HEIs, but they often become stumbling block for achieving quality as everyone tries to manipulate and create records to comply with requirements. For instance, colleges enter into clandestine agreements with hiring agencies that come for 'campus recruitment' and students are given placement offers. The college proudly prepares a list of students who got placed with various companies, and often a flux is erected with photos and other details for the consumption of general public. As per record, their placement is 'fantastic', supported by documentary evidences. After receiving placement offers, students are made to wait in 'benches' endlessly without any assurance as to when they would be placed in jobs. As the waiting time stretches into months, students usually opt out taking up some other jobs on their own or end up pursuing higher studies. Practices like these are quite rampant. If placement record is a criterion for quality, what the college has achieved is 'pseudo quality', which goes

unchecked by the system. When this type of 'pseudo quality' builds up over a period, the country will be ruined and we will reach a point of no return. By the time this 'pseudo quality' bubble bursts, the damage would have already been done, as was in the case of Ramalinga Raju of Sathyam.

Application of Organisation Learning (OL) Theory in HEIs

Senge, P. M. (1990)in his seminal book, *The Fifth Discipline* states that "as the world becomes more interconnected and business becomes more complex and dynamic, work must become more 'learningful' … The ability to learn faster than your competitors may be the only sustainable competitive advantage". Educational institutions that will truly excel in the future will be those that will learn to tap its teachers' commitment and ensure the capacity to learn at all levels (teaching and non-teaching) in an institution.

'Organisational Learning' is a process of developing, retaining, and transferring knowledge within an organisation. OL occurs as a result of experience and an organisation is said to have learnt from an experience when there is a change in the organisation' sbehaviour, performance or the way they have been doing things. Learning occurs when an organisation learns from its mistakes through a process of detecting and correcting errors. For this to happen, there should be a continuous interaction with fellow colleagues. Interaction depends on two sets of behaviour: the first set relates to formal rules, policies and procedures of the organisation. This is known as *Espoused theory*: the way things are ought to be done. The second one relates to how things are actually done, known as *Theory in use*. Both should be encouraged - not pitted one against another- to achieve Organisation Learning, often giving more emphasis for theory in use. The same could be applied in the context of Higher Education Institutions (HEIs).

A Learning Institution (LI) creates structures and systems where "teachers continually expand their capacity to create the results they truly desire; where new and expansive patterns of thinking are nurtured; where collective aspiration is set free; and where teachers are continually learning how to learn together. Learning Institutions are able to weave a continuous and enhanced ability to learn, adapt, and change into their culture." The whole system of Higher Education should enable and provide a conducive environment to become 'Learning Institutions'. The institutional values, rules, regulations, policies, practices, structure and support system of an educational institution should be woven with the ultimate aim of making an institution a 'Learning Institution'.

Units of Learning in a 'Learning Institution'

a) *Individual Teacher (Individual Learning)*

An individual teacher in a college learns new skills, concepts, methods and theories relating to teaching-learning-evaluation. This paves the way for keeping oneself abreast of new developments happening in the core area of one's specialisation.

b) *Department (Group Learning)*

This is the next largest level at which learnings can occur. Group learning occurs when individuals within a department acquire, share, and combine knowledge through experience with one another. Creating an atmosphere where members of a departments work as a team paves the way for sharing of knowledge with other members.

c) *Institution/College*

Institutional Learning occurs when a college creates and organizes for sharing of knowledge and expertise at college level. The objective of Institutional Learning is to prepare the teachers to adapt to changing environments, to cope with uncertainties and to increase teaching-learning-evaluation efficiency. This could be used to increase the efficiency of every system and sub-system of the college.

d) *Inter-Institutional Learning*

Inter-institutional Learning takes place when different colleges form an alliance to collaborate, share knowledge and learn from each other. There are a lot of best practices unique to each institution that could be replicated by other colleges. An institution can grow and improve its system and process by integrating insights and experience form other institutions. Learning from another institution may mean either applying the same ideas used by that institution or modifying these ideas, thereby creating innovation.

Five Principles of Learning Institution/ Organisation (Senge, 1990)

Lifelong Learning – Personal Mastery

Personal mastery is process of special proficiency in one's chosen area of specialisation and

this proficiency is lifelong. The focus is on practical skills and knowledge they can apply in real-world situations. Individuals must display commitment and dedication to personal goals, as well as institution's learning objectives. It is a discipline "As a series of practices and principles that must be applied to be useful." It encapsulates two main ideas: 1) continually clarifying what is important including personal vision; and 2) how to see current reality more clearly and work towards the vision.

Mental Models

It is concerned with how we see the world, how we understand our position, and shape how we act. Teachers and administrators of HEIs must reflect on their mental models and understand other's mental models that are present in the college/institution and alter their ways of thinking to ensure shared understanding of goals and vision of the college/institution.

Shared Vision

It is imperative to have forward thinking administrators and leaders in academic institutions. The enthusiasm and dedication starts from the top. Administrators and leaders in academic institutions should have a 'shared vision', which percolates down the line and in turn provides the focus and energy for learning by individual members. Leaders must challenge assumptions, encourage self-reflection, and set an example for their team members.

Team Learning

Team Learning is the process of creating and felicitating collective learning. It starts with dialogues and ensures people are thinking together. It helps to discover insights. It is a process of aligning and developing of a group of people to function as one, or as a whole. The ultimate objective is to the have the intelligence of the team that exceeds the intelligence of individuals in the team and to develop extraordinary capacities for the coordinated action.

System Thinking

System thinking is the unifying concept that encompasses all the other four principles to enable a learning institution to be actualised. It is the understanding of cause and effect, being able to see the big picture and patterns in a college/institution. According to the system thinking principle, organisations are made up of smaller units, much like the pieces of a puzzle. Individuals learners must understand the system as a whole, as well as each individual component that's involved. Every individual is honoured, and but they also play a vital role in the overall framework. Individual learners should respect and honour the ideas of their peers.

Conclusion

One way to enhance quality of HEIs in India is to instill and practice the theory of Learning Organisation thereby facilitating learning of its members. Colleges and HEIs should create a climate whereby learning takes place at all four levels. Individual leaning should be harnessed to achieve institutional learning. By doing this, HEIs can ensure quality on their own without any need to be measured by some outside agency. There should be a system in place to maximize human potential that it has at its disposal and this can be assured by establishing a culture of learning and continuous progress.

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Inclusive Education: Policy Provisions and Challenges Ahead[#]

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The present paper is part of a research study conducted in the field of elementary education with its focus on the education of Children with Special Needs (CWSN) getting education in inclusive settings in general mainstream schools. The study was exploratory with one of the objectives as studying policies & provisions supporting the education of CWSN in general mainstream schools. The data was collected using primary and secondary sources through field visits to govt. offices and schools, observations, semi-structured interviews and electronic mode.

The concept of inclusion is based on the idea of providing equal opportunities to 'all' children. Regarding equalisation of opportunities, the Framework for Action on Salamanca Statement says 'inclusion and participation are essential to human dignity and to the enjoyment and exercise of human rights.' In the field of education this is reflected in bringing about a 'genuine equalisation of opportunity.' Special needs education incorporates proven methods of teaching from which all children can benefit; it assumes human differences are normal and that learning must be adapted to the needs of the child, rather than the child fitted to the process. The fundamental principle of the inclusive school, it adds, is that all children should learn together, where possible, and that ordinary schools must recognise and respond to the diverse needs of their students, while also having a continuum of support and services to match these needs. (UNESCO, 1994)

Conceptualizing Inclusive Education

Inclusion in education is an approach which takes into account the needs of all the learners in classroom irrespective of any differences in their abilities. Inclusive Education, as an approach, seeks to address the learning needs of all children, youth and adults with a specific focus on those who are vulnerable to marginalization and exclusion. In Inclusive Education, all children, regardless of their ability level, are taught as equals in the least

restrictive environment (LRE), the teachers are expected to adjust their curriculum and teaching methodologies so that all students get benefitted. It envisions a continuum of support and services to match the continuum of special needs encountered in every school. In this sense it is about reforming schools and many of the principles that underpin school reform are identical to those that provide the foundation for inclusion (Fisher et al., 2002).

Thus, an inclusive classroom is one in which all students, regardless of ability, are welcomed, and their diverse learning needs are addressed in a meaningful and responsive learning environment. Beyond enrolment ensuring full participation of children with disabilities, requires a paradigm shift in teachers' beliefs and attitudes towards students with disabilities. Further, many teachers report being under-skilled to meet the demands of an increasingly diverse classroom especially with respect to children with disabilities and special needs. They feel lack of specialised training and skills which they believe a special teacher would have.

The Inclusive school system is the most effective system of education as it embraces diversity and promotes cooperative learning and many other humane values like empathy, sense of belongingness and helping attitude among the learners. The importance of regular mainstream schools for inclusion has been highlighted in the Salamanca Statement as "Regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all; moreover, they provide an effective education to the majority of children and improve the efficiency and ultimately the cost-effectiveness of the entire education system." (Article 2, Salamanca Statement)

In the past, for over a century, only the special schools offered education to children with disabilities and special needs because of the widespread belief that children with special needs could not be educated alongside other normal children. Consequently, only a small number of children had access to education but did not help these children to enter the mainstream community even after completing their education. Several initiatives by governments at the international and national level have helped to some extent in

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improving the plight of CWSN by bringing them into the schools but this could impact only a small percentage of out of school children.

However, the Sixth All-India Educational Survey (NCERT, 1998) reported that of India's 200 million school-aged children (6-14 years), 20 million required special needs education. UNICEF's Report on the Status of Disability in India (2000) stated that there are around 30 million children in India suffering from some form of disability. While the national average for gross enrolment in schools is over 90 per cent but less than five per cent of children with disabilities are in schools. The majority of these children remain outside mainstream education. (UNICEF, 2003)

The govt. of India, in line with the UN Declaration of Human Rights (1948) and other international mandates supporting the cause 'education for all' and also to fulfil its own constitutional commitments, amended the Constitution of India under 86th Amendment Act in 2002, to make education a fundamental right. Consequently, the right to education commonly known as RTE (The Right to Free and Compulsory Education Act, 2009) was passed by the Indian Parliament on 26th August 2009 and came into force with effect from 1st April, 2010. The right to education is a universal and fundamental right of every individual. Therefore, no one can be denied this right on the basis of any discrimination of caste, creed, sex, ethnicity, capabilities, physical or mental make-up or any handicap. India is committed to protect this right of its citizens, partly because of its constitutional provisions and partly because of its being part and signatory to many International mandates. The landmark International mandates that helped India and provided impetus to shaping inclusive policy on education for children with disabilities and special needs were - United Nations Rights of the Child, United Nations Standard Rules on the Equalization of Opportunities, the Jomtein Declaration on Education for all and the Salamanca Statement and Framework for Action. These International mandates strongly support the inclusion and education of children with special needs and disabilities in mainstream schools and had impacted the other countries of the world as well. India also ratified landmark mandates to support education of all children, including children with special needs.

Inclusive education as a strategy for facilitating inclusion rejects the idea of segregated education. It believes in the principles of diversity and richness of experiences, sense of belongingness, team-teaching and collaboration. Therefore, in the twenty-first century, inclusive education is the only way out to provide equitable education to all in terms of access and quality and non-discriminatory ways, which the entire world has been striving for. Nevertheless teachers do have concerns about inclusion and many surveys have found that teachers' attitudes towards inclusion are not particularly positive (Ellins & Porter, 2005). Further, they express concerns about their lack of preparation for inclusion and for teaching all learners (Forlin, 2001). Therefore, for inclusive education to succeed, it is vitally important that teachers, principals and other education stakeholders maintain a positive attitude towards inclusion. They must be firmly convinced of the benefits that inclusive practices bring to all children. Even if inclusive education is mandated by law, it will never succeed without the enthusiastic support of its practitioners. Obtaining such support involves behaviour and attitudinal change which can be effected only through professional development of teachers. The teacher training programmes need to focus on sensitising teachers towards inclusive policies and inclusive strategies keeping in with the various legislations and other mandates passed by the govt. of India.

Policy Provisions and Legislative Framework Supporting Education of Children with Disabilities and Special Needs

The concern for the 'right of education for all' originated from the Universal Declaration of Human rights 1948, adopted by the United Nations general Assembly. The right of every child to education is proclaimed in this declaration and the same was strongly reaffirmed by the Jomtein World Declaration of Education for all (1990). Furthermore, the Standard Rules on the Equalisation of Opportunities for Persons with Disabilities (1993) was an important initiative to improve the educational interests of persons with disabilities. All these international mandates had great implications for Indian scenario, as well. Infact an analysis of various International Mandates and Policy frameworks clearly suggests that these had a great impact on the policy framework and legislation of the other signatory nations of the World, including India. Thus India, being a signatory to many international mandates, ratified the following three landmark Acts, besides CRPD:

– The Rehabilitation Council of India Act, 1992 (RCI Act, 1992),

–   The Persons Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (PWD Act, 1995) and

–   The National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999.

The above three legislations along with RTE (2009) Act and the Rights of Persons with Disabilities Act, 2016, are the great landmarks in the evolution of a well defined policy and legislative framework for the education of CWSN in India.

The review of literature, policies and legislations shows that educational landscape for children with disabilities in India as well as overseas has seen a shift from segregation in terms of special education, towards integration and more recently to inclusion. The education of children with 'disabilities' has in fact developed from 'Residential schools' in segregation to 'Inclusive Education' in 'Regular schools', gradually over the time. Foremost in the development were the 'Residential schools' followed by integration of students into 'mainstream schools'. The movement of 'Inclusion' had gained popularity and impetus about three decades ago after the adoption of Salamanca Statement and Framework for Action in 1994 by the member nations. This initiative further provided impetus to equitable access of learning opportunities to all students to pursue their educational goals. Although, in India, the first school for the visually impaired was established by a missionary, Miss Annie Sharp in 1887 in Amritsar, which was later shifted to Dehradun during 1903 and is now called the Sharp Memorial School for the Blind. This was followed by setting up of number of schools being opened in different parts of the country.

The Indian Education Commission Report (1964-66) recommended placement of children with disabilities as far as possible in ordinary schools. The commission emphasised that the education of children with disabilities should be 'an inseparable part of the general education system and has to be organised not merely on humanitarian grounds but also on the grounds of utility'. This was followed by many itinerant models of integration.

The Central Scheme of Integrated Education for the Disabled Children was evolved in 1974 and was revised in 1987.This was followed by the National Policy of Education 1982. NPE, 1986 and POA in 1992 (NPE (1986-92). The contributions of NCERT with launching of Integrated Education of the Disabled under the UNESCO "Project Integrated Education for the Disabled (PIED: 1987) led to the realization that integrated education was a cost effective approach, and with this the enrolment rate of children went up to 91 percent. The retention rate of such children was higher than their non-disabled counterparts. The achievement of the children with disabilities was at par with the non- disabled children. Since then, the general education system has started accepting children with disabilities in the general schools. The scheme after final revision in 1992 (POA of NPE 1986) made provisions for educating children with disabilities in general schools and facilitating their retention. The scheme further emphasised on mobilizing the special schools for providing 'resource support', so that the children with disability or special needs could be integrated into the mainstream.

The legislative framework for education of children with disabilities and special needs actually emerged from UN Declaration of Human Rights (1948). At International level, the UN Convention on the Rights of the Child (UNCR) in 1989 offered a reaffirmation of the above. In Article 2, it makes it obligatory for the state to protect children from any form of discrimination and also urges to take positive action to promote their rights. Article 23 talks about the rights of disabled children, achieving the greatest degree of self-reliance as well as social integration. The movement towards inclusive schooling gained momentum with the World Declaration of Education for All (1990) at Jomtein, Thailand, wherein it was emphasised that the learning needs of the disabled demand special attention within the Framework of Education for All. Thus, the Jomtein Declaration on Education with its slogan of 'Education For All' by the year2000 marked the beginning of a global movement for the provision of basic education to all.

The Salamanca Statement and Framework for Action on Special Needs Education (1994), was a landmark in the journey of evolution of Inclusive education. In 1994 at the World Conference at Salamanca, a Framework for Action was adopted to promote integration and participation of persons with disabilities in general education and to combat exclusion. It further established inclusion as a strategy for achieving education for all in the international community and endorsed the importance of inclusive education firmly. The Articles '2 and 8' are relevant in this case to substantiate the said claim.

Furthering the agenda of the Jomtein Declaration, the Dakar Framework for Action (2000), set 2015 as

the goal for achieving education for all including marginalised groups within the mainstream. But the goal has not been hit. As still the goal of education for all, has not been achieved. It must be noted that India is a signatory to above said international mandates and therefore, these mandates had a great significance in shaping educational policies for education of CWSN in India. Thus, India ratified the three landmark legislative Acts, besides CRPD: The RCI Act, 1992, The PWD Act, 1995 and The NT Act, 1999. In the Indian context, The PWD (1995) Act, was a comprehensive legislation providing for the prevention and early detection of disabilities, education, employment, non-discrimination, research and manpower development and social security of the persons with disabilities, free education to children with a disability in an appropriate environment till he attains the age of 18 years. There were many other provisions for the children with disabilities like adaptation of curriculum, integration of students with disabilities in mainstream schools etc. This act has been subjected to discussion and criticism and subsequent amendments. A new law was demanded in place of PWD ACT (1995). This has been necessitated by India's ratification of the UN Convention on Rights of Persons with Disabilities (2007), which marked a shift from the medical model to the social model of disability. This perspective is not adequately recognized in this Act and was modified & replaced with a new Act later.

The next major national initiative was the Sarva Shiksha Abhiyan (SSA), 2000. Its goal was providing eight years of elementary education to all children from six to fourteen years of age by 2010. Inclusive education priorities under the SSA included identification, functional and formal assessment, appropriate educational placement, and preparation of Individualised Education Plans, provision of aids, teacher training and removal of architectural barriers. SSA has a zero rejection policy in terms of admission. SSA has now been transformed into a sort of via media for implementing the provisions of RTE (2009) Act.

Thus, there has been much legislation to support the education of CWSN, and the most recent one 'The Rights of Persons with Disabilities (RPWD) Act, (2016), chapter iii, clause 16, impresses that all the educational institutions are bound to provide inclusive education to children with disabilities as far as possible. The Rights of Persons with Disabilities Act, (2016), is an Act to give effect to the United Nations Convention on the Rights of Persons with Disabilities. (RPWD Act, 2016)

Implementation and Evaluation of Inclusive Education Practices

An analysis of the literature on implementation aspect reveals that in India, different models of inclusion are being practiced. The selection of the inclusion model infact is based on the resources available in a particular region. In the want of the resources and proper support in all the schools, full inclusion is rarely practiced in educational institutions. Generally, resource models with variations from residential to itinerant models are being practiced in different parts of the country. The replication of a model in other areas usually depends upon its success and feasibility in a particular geographical region. Generally the success of an Inclusive education programme is determined by the rate of enrolment and retention of students with disabilities in the general schools. It has been reported by the implementing institutions that the dropout rate has been reduced among the children with disabilities. But, to assess the success of an inclusive education programme merely on the basis of the enrolment and retention is not appropriate. Because the target is not physical inclusion but their welfare and education, therefore, the focus must be on learning outcome as well. The feasibility of inclusion varies with degree of disability. Minor adaptations and modifications in the curriculum and teaching strategies might facilitate inclusion of children with physical and mild to moderate sensory impairments. But, the children with intellectual Impairments like mentally retarded, autism, etc. are not benefitted much because their inclusion requires major alterations and adaptations in all the academic programmes. In India, all the schools do not have special individualised programmes and support to promote social inclusion of such children as it has been particularly observed during field visit to majority of the schools in rural areas.

Further, It has been found that the general education system is yet to be fully sensitised to the educational needs of children with disabilities and therefore the general system needs the assistance of specialist teachers for occasional help to make inclusive education work. The concept of dual teaching model' is synonymously used as inclusive education, in many schools today, which does not amount for total inclusion of all children. (Mani, 2000)

A Quick Glance Over the International and National Mandates Policies and Legislative

Framework that Support the Educational Rights of Children with Disabilities and Special Needs:

International Mandates and Policy Framework

- The UN Universal Declaration of Human rights, adopted by the United Nations general Assembly

- 1975: The Declaration of Rights of Disabled Persons adopted by the United Nations general Assembly

- 1981: The UN General Assembly's Declaration of 1981 as the International Year of Disabled Persons.

- 1983-1992:Proclamation of the period 1983-1992 as the Decade of the Disabled by UN followed by the UNESCAP Decade of the disabled Persons from 1993-2002

- 1989: The Adoption of Convention on the Rights of Child

- 1990: World summit for Children/ The World Declaration on Education for All & its Framework for Action to meet Basic Learning Needs (Article 3, clause 5, states "the learning needs of disabled demand special attention; steps need to be taken to provide equal access to education to every category of Disabled Persons as an integral part of the Education System")

- 1993:Standard Rules on the Equalisation of Opportunities for Persons with Disabilities (1993) was an important resolution to improve the educational condition of persons with disabilities

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- 1994: The Salamanca Statement and Framework for Action on Special Needs Education adopted by 'the World Conference on Special Needs Education. It upheld the aim of 'Education For All' by suggesting some changes in Programmes & Policies of Nations.

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- 1999: United Nations Economic & Social Commission for Asia Pacific Report, 1999 (UNESCAP Report on Education for Children & Youth with Disabilities into 21st Century, 1999) 2006: United Nations Convention on Rights of Persons with Disabilities, 2006 (UNCRPD, 2006) All these International Mandates & Initiatives have played an important role in bringing the educational concerns for people with disabilities at centre stage of the world.

National Mandates, Policies and Legislative Framework Supporting Education of CWSN

At national level the educational commitments have been reflected through various educational commissions and constitutional Articles, Acts, Amendments, and Policies from time to time as shown below, briefly:

1964-66 Indian Education Commission

Indian Education Commission (IEC, 1964-66) was the first statutory body by the govt. of India to emphasise that the education of children with disabilities should be an inseparable part of the

general education system. It clearly shows that hint is towards inclusive education.

1974–IEDC (Integrated Education for Disabled Children)

Integrated Education for Disabled Children (IEDC, 1974) :The Ministry of Social Justice and Employment, govt. of India, initiated IEDC programme to promote the integration of children with mild to moderate disabilities into regular schools.

1986-92 – National Policy of Education, (NPE 1986 & POA 1992)

National Policy of Education (NPE, 1986 & POA 1992) was formulated by the govt. of India for all govt. schools and it reaffirmed the dual approach to education. The section IV of the NPE entitled 'Education for Equality' states that "where feasible children with motor handicaps & other mild handicaps will be educated with others in regular schools, while severely handicapped children will be provided for in special residential schools" (MHRD, 1986: 6). The Policy also emphasised the need to restructure teacher training programmes to deal with the difficulties of children with disabilities.

1987 –Project Integrated Education for the Disabled (PIED, 1987)

In 1987, the Ministry of human Resource Development (MHRD) in association with UNICEF and NCERT undertook the Project Integrated Education for the Disabled (PIED, 1987). The aim of the project was to strengthen implementation of the 'Integrated Education for Disabled Children' (IEDC) Scheme, launched by the Ministry of Social Justice and Employment, govt. of India in 1974.

The Rehabilitation Council of India Act, 1992 (RCI Act)

The Rehabilitation Council of India Act, 1992 (RCI Act, 1992), was mainly concerned with Manpower Development for the Rehabilitation of Persons with Disabilities. The Act also emphasises that the children with disabilities and special needs should be educated by the trained teachers.

1994: District Primary Education Programme (DPEP, 1994)

The centrally sponsored scheme of District Primary Education Programme (DPEP) was launched in 1994 as a major initiative to revitalise the primary education system and to achieve the objective of universalisation of primary education (UEE). The program aimed to reduce the overall dropout rate of all students enrolled in primary classes, to raise their achievements levels and to provide primary education for all children, including children with disabilities. The foremost objective of this project was to provide all children access to primary education through either the formal or non-formal stream. DPEP adopts a holistic approach to universalize access, retention and improve learning achievement and to reduce disparities among social groups.

The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (PWD Act, 1995)

The PWD Act (1995) also known as 'The Indian 'Equal Opportunities and Rights of Persons with Disabilities ACT' 1995, contains 14 chapters. It is a significant endeavour to empower persons with disabilities and promotes their equality and participation by eliminating discrimination of all kinds. The rule 26 of the Act, speaks about the "education of children with disabilities up to the age of 18 years in an appropriate environment". It also emphasises the need to prepare a comprehensive education scheme that will make various provisions for persons with disabilities including the provisions of facilities such as transport, free books, uniforms, removal of architectural barriers, scholarships, and other support material as well as modification of examination system, restructuring of curriculum, and setting up of appropriate forum for the redressal of grievances.

1999: The National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999 (NT Act, 1999)

The National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999 (NT Act, 1999) is an Act to provide for the constitution of a body at the National level for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities and for matters connected therewith or incidental thereto It aims at providing total care to persons with mental retardation and cerebral palsy and also manages the other duties related to the properties bequeathed to the Trust. The National Trust is a statutory body of the Ministry of Social Justice and Empowerment, Government of India.

2002: 86th Amendment of the Constitution

The Govt. of India made 86th Amendment to Indian constitution in 2002, to make education a

fundamental right. This 86th Amendment Act has made three insertions in the Constitution viz- a) The insertion of Article 21A- which provides that the State shall provide free & compulsory education to all children between 6-14 years of age in such manner as the State may, by law, determine. b) An Amendment to Article 45, that is the provision for early childhood care and education to children below 6 years c) in Article 51-A, after clause j, the following clause 'k' has been inserted: "a parent or Guardian shall provide opportunities for education to his children between the ages of 6-14years (that is, it shall be the obligation of the parents to provide opportunities for education to their children).

2009: RTE, 2009 Act which became operational in 2010

The right to education commonly known as RTE was passed by the Indian Parliament on 26th August 2009 and came into force from 1st April, 2010. This shifted education from Part IV of the Constitution i.e. Directive Principles of State Policy to Part III i.e. Fundamental rights. Besides, making education as a fundamental right, It is the first legislation in the World that puts the responsibility of ensuring enrolment, attendance and completion of Elementary Education on the Government.

2016: Rights of Persons with Disabilities Act, 2016

Rights of Persons with Disabilities Act, 2016, the latest legislation for the persons with disabilities have enhanced the overall empowerment of persons with disability by safeguarding all their rights. The Act, with respect to education, impresses that all the educational institutions are bound to provide inclusive education to children with disabilities as far as possible. The Chapter III of the Act, titled 'Education', Clause 16, states that "The appropriate Government and the local authorities shall endeavour that all educational institutions funded or recognised by them provide inclusive education to the children with disabilities and towards that end shall— i) Admit them without discrimination and provide education and opportunities for sports and recreation activities equally with others; ii) Make building, campus and various facilities accessible; iii) Provide reasonable accommodation according to the individual's requirements; iv) Provide necessary support individualised or otherwise in environments that maximise academic and social development consistent with the goal of full inclusion; v) Ensure that the education to persons who are blind or deaf or both is imparted in the most appropriate languages and modes and means of communication; vi) Detect specific learning disabilities in children at the earliest and take suitable pedagogical and other measures to overcome them; vii) Monitor participation, progress in terms of attainment levels and completion of education for every student with disability; viii) Provide transportation facilities to the children with disabilities and attendants having high support needs.

All these above legislations and policy frameworks have contributed a lot in the evolution of well defined and effective polices and legal framework for the education of the children with special needs in India. Because of all the above initiatives of the govt. to facilitate the inclusive education for CWSN, there has been considerable improvement in the enrolment of CWSN in the schools. The past one decade has seen consistent movement towards adopting an Inclusive Education approach, and moving away from the segregation of children with disabilities in schools across India. This movement was propelled forward by the Sarva Shiksha Abhiyan, a flagship scheme by the HRD Ministry. Govt. of India, aimed to universalize elementary education as envisioned by the RTE (2009) Act. Under above initiative over 21 lakh learners with disabilities have been enrolled in SSA schools. This wide scale inclusion has challenged general teachers to change their perceptions of children with disabilities, their expectations, and their roles in an inclusive classroom, as they learn to teach an increasingly diverse student population. The success of inclusive learning schools largely depends on the school teachers, who are instrumental players in creating inclusive classrooms.

But, inspite of having such strong theoretical and legislative framework in our country, the desired goal has not been achieved so far. This clearly points out to certain barriers/ challenges that need immediate addressal if inclusive education for CWSN is to become a successful system. Research evidence shows that general school teachers' attitude towards education of children with special needs is not always positive and supportive. Most mainstream teachers do not believe that that they have the skills and knowledge to do this kind of work and that there is an army of 'experts' out there to deal with these students on a one-to one basis or in small more manageable groups. Nevertheless teachers do have concerns about inclusion and many surveys have found that teachers' attitudes towards inclusion are not particularly positive (Ellins & Porter, 2005). Further, they express concerns about their lack of preparation for inclusion and for teaching all learners. (Forlin, 2001)

Challenges Ahead / Barriers to Inclusive Education

There are certain challenges to Inclusive Education which need immediate addressal. Because of the initiatives of the govt. to facilitate the inclusive education for the Children with special needs (CWSN), there has been considerable improvement in the enrolment of CWSN in the schools during last one decade. This wide scale inclusion has challenged general teachers to change their perceptions of children with disabilities, their expectations, and their roles in an inclusive classroom, as they will have to teach an increasingly diverse student population. This has put the teachers under pressure and everything related to schools in a state of reconstruction. Some of the challenges are discussed below:

Poor Infrastructure

This is also one of the challenge and barrier to successful inclusive education, during visits of the investigator to various govt. schools in rural areas and also in general, many surveys and reports have shown that there are several issues in the elementary education in the rural areas of some of the states in India. Most of the schools in rural villages lack proper infrastructural facilities and in some schools even students are made to sit on the floor due to non-availability of furniture. Majority of the govt schools lack basic infrastructure like proper toilets, washrooms, playgrounds, furniture, libraries etc. it has been found that at some places, the school buildings lacked proper doors and boundary walls and even had no safe drinking water. Lack of provisions like electricity and power back-up system further worsen the situation especially in unfavourable weather conditions. Although govt. through SSA, RMSA, etc. has been trying to overcome these short comings and barriers by constructing buildings and toilets, yet there are many limitations that need to be properly addressed.

Ineffective Teaching Strategies

As teachers feel unprepared to teach CWSN and such huge diversity, their claim and excuse is that they do not have requisite knowledge, skills and suitable strategies to deal effectively with children with severe disabilities and specific needs. They need to be given orientation and training about suitable teaching skills and various accommodation needed in the inclusive rooms.

Lack of Proper Awareness

Lack of awareness among various stakeholders is also a big barrier to inclusion. Provision of awareness to teachers, parents, community members about the rights and provisions and schemes available for the education and welfare of children with disabilities and special needs will also help. It will help in developing positive attitude and beliefs among them and they will also become aware of rights and duties.

A Cursory Glance at Some Basic Provisions and Medium of Execution

The main channel for implementation of various government policies and provisions; promoting inclusive education was SSA,. Later on from 2017, RMSA and SSA clubbed on certain aspects and jointly worked to facilitate inclusive education for all. On procedural level, promotion of education CWSN in inclusive settings, followed broad procedure/ as stated below:

- Screening of children to establish their disability, done through camps which are school based and can also be Home-bound.
- Identification of nature and magnitude of disability for proper redressal & support.
- Need Assessment is done in collaboration with Medical Department and Artificial Limbs Manufacturing Corporation of India (ALIMCO).
- Distribution of Aids & Appliances and Parental Counselling
- Teacher –Training Programmes are held by specialized Resource Teachers.
- Visits to schools & neighbouring areas are also held by the Resource Teachers.
- Scholarships by the District Social Welfare Department as well.
- Access to Primary School within 1Km Radius & an Upper-Primary School within 3 Km radius .
- Provisions for out of School children such as Bridge Courses of Level-1, Level-2, Level-3 etc for at the most 3 years before mainstreaming.
- Season Centres for Migrant Population, who migrated from militancy, hit areas to other safer areas.
- Courses of 4-6 months for children belonging to upper reaches of the States as in case of J&K.
- Provision of feasible Infrastructure, upgradation of old as well as provision for new where ever required.
- Yearly grant for Primary Rs 5000/- & Upper Primary Rs 7000/- and Maintenance of this grant on regular basis.

- Grant of Rs 500/Annum to every Teacher for Teaching-Learning Material (TLM) and Teacher training Programme for all teachers in phase wise manner.

- Provision of Resource Centres for all districts of the State.

- Identification of new & more CWSN & their Need Assessment.

- All Educational Schemes were sponsored by MHRD, Govt. of India as a major funding agency. It provides centre's share through SSA, in the ratio of 65% to 35% i.e., Centre's share is 65% and that of State is 35%. But in case of special status to the state of J&K, the funding for that matter, was in the ratio of 90: 10, i.e. 90% funding was by the Centre Govt. and 10% by the State.

Conclusion

Inclusive education as strategy for facilitating inclusion rejects the idea of segregated education. There are many well defined policies, provisions and legislations that support and facilitate the education of children with special needs. A lot has been achieved but yet more needs to be done in terms of execution of these policies and legislations in sync with the ground realities. The barriers or challenges need to be addressed to make inclusive education more effective .Because, it is in response to the challenges, that inclusive education poses - to the schools structures, teachers, curriculum and pedagogy that the state education authorities will have to find out some effective ways and means to implement strategies of inclusion and other collaborated Schemes in a fruitful manner. The dedicated and whole hearted efforts of the teachers, principals, administrators, well informed & sensitised communities; and their coordinated efforts will further help in making inclusive education more meaningful and effective at the school or micro-level. Because, keeping in view the limited resources and huge number of children who are still out of the ambit of education, (not only CWSN but children from any marginalised or vulnerable sections of society) inclusive education is the only way out to provide equitable education to all in terms of access and quality and non-discriminatory ways, which the entire world has been advocating and striving for since so long.

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Business Schools in India: Principles of Responsible Management Education and Radical Transformational Leadership to Realize United Nations SDGs

Mercia Selva Malar*

Education is the most powerful weapon which you can use to change the world.

Nelson Mandela

The Sustainable Development Goals are a global call to action to end poverty, protect the earth's environment and climate, and ensure that people everywhere can enjoy peace and prosperity. Achieving the United Nations Sustainable Development Goals (UN SDGs) by 2030 is crucial for the nations to achieve a holistic development in their economies. UN SDGs are designed with the motive of 'leaving none behind'. For a peaceful and prosperous world, to begin with we at least need to focus on 'leaving none behind'. When all the 193 nations who has signed for the UN SDGs achieve the UN SDGs the world definitely would be a better place for people to live in.

Business Schools are higher education institutions offering Post Graduate programs in Business Management or Business Administration. Business Schools are called by various names Department of Management Studies, Management School, School of Management, School of Business Administration, etc. Business Schools work towards transforming graduates from various disciplines into managers who can manage the affairs of business – small and large, local and national, service oriented, trade or manufacturing oriented, public or private, start-ups or established, etc. Harvard rolled out the MBA program in 1908 and by 1930 there were 1070 students who had enrolled with Harvard, indicating the success of the program.

Xavier's Labour Relations Institute (XLRI) founded in Jamshedpur in 1949 is the oldest management institute in India, though it did not offer an MBA program at the time. The Indian Institute of Social Welfare & Business Management established

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in Kolkata (erstwhile Calcutta) in 1953 was the first institute to offer an MBA degree in India. According to AICTE India is home to more than 6,000 business schools offering PGDM & MBA. A noteworthy number of these Business Schools claim to offer a great quality of management education and placements. According to AIMS about three lakhs plus students graduate from the Business Schools of India currently every year.

UN Principles of Responsible Management Education (PRME)

There are over 16,000 business and management programs worldwide. B Schools and Management education institutions that join PRME express their conviction that higher education institutions integrating universal values into curriculum and research can contribute to a more sustainable and inclusive global economy, and help build more prosperous societies. PRME is the largest voluntary engagement platform for academic institutions to transform their teaching, research, and thought leadership in support of universal values of sustainability, responsibility, and ethics. PRME thus provides the opportunity for institutions to distinguish themselves as leaders of responsible management education, and gain recognition for their efforts to address United Nations-supported values. PRME signatories have unlimited access to dynamic local and global learning communities that collaborate on projects and events addressing the complex challenges facing business and society in the 21st century. B School students who are sensitized to the global values and UN SDGs are in great demand among prominent international businesses and other organization. B Schools have the opportunity to share globally their achievements on UN SDGs and the progress they are part of.

PRME Champions can contribute to the thought and action leadership on responsible management education in the context of the United Nations sustainable development agenda. PRME enables B Schools to commit to work collaborative, serve the

broader PRME community and contribute to broader UN goals and issues.

Radical Transformational Leadership (RTL)

"There is something about human beings that when we awaken the root of our being, then we can make a lot of change." Dr. Monica Sharma While B Schools are well equipped to lead the attainment of UN SDGs, they have not had a thought or effort towards this great global mandate. Radical Transformational Leadership introduce by Dr. Monica Sharma can be a means through which B Schools can dream, plan and promote UN SDGs attainment. Radical Transformational Leadership (RTL) is all about bringing changes from the root not in the external or periphery. RTL has a great potential to help B Schools attain the mandate of achieving UN SDGs as it enables individuals to attain their full potential and helps individuals draw out the full potential of others. The concept and practice of RTL is based on the universal values of compassion, equity and wisdom. RTL also provides some tools and techniques that are proven across the globe in the projects of UN. RTL has the potential to scale up any project that is designed based on the principles and concepts of RTL. B Schools can deploy the tools like Conscious Full Spectrum Response Model (CFSR Model), CFSR Model has been deployed in projects like saving the giant sequoias, saving and conserving water, the grand Canyon, Bull trout reintroduction project, etc. Realize and Respond (R & R) is yet another tool made use by RTL. The two phases of RTL are: Be the shift and Be a principled pattern maker. As part of Phase 1: Be the shift in RTL, individuals are encouraged and enabled to discover themselves as leaders, learn how to see and shift systems, develop an action plan for the project. In Phase 2: Be a principled pattern maker, individuals are encouraged to transform the way they work, build in sustainability, deliver action plan and design for impact.

The Role of Business Schools

The role of Business Schools have been evolving over the decades since 1953, in India and all across the globe since 1900. The focus of B Schools have been to serve the needs of the industry and the economies at large. Today, with need for economies to become more sustainable and achieve UN SDGs it is important that B Schools start their contribution towards this. In fact, this has started in India. In the article titled "How Business Schools In India Are Embracing Sustainability" (2022) the interest of B School students and faculty in climate change, resource efficiency, and poverty has been clearly discussed. Some of the various B Schools from India who have embraced sustainability are: IIM Lucknow offering an MBA in Sustainable Management, Amity Business School providing a course in Natural Resources and Sustainability, BITS school of Management has set a target to become zero-carbon campus, IIM Indore has curriculum on sustainability and exposes its students to real life sustainability (10% of its energy requirement is met by solar power), Xavier School of Management, Jamshedpur has its 30 percent energy supplied by solar power. Many other business schools have set a target to become carbon neutral in next three to five years.

All the sustainability initiatives of B Schools are happening in the context of corporates across the globe committing themselves to sustainability through UN Global Compact and voluntarily publishing their sustainability report. Global Compact Network India (GCNI), the Indian Local Network of the United Nations Global Compact (UNGC), New York is the first Local Network globally to be established with full legal recognition. As the UNGC local arm, GCNI has been acting as a country level platform in providing a robust platform for Indian businesses, academic institutions and civil society organizations to join hands for strengthening responsible business practices. Our '10 Principles in areas of Human Rights, Labour, Environment and Anti-corruption' provide a common ethical and practical Framework for Corporate Responsibility - and the 17 'Sustainable Development Goals (SDGs)' adopted in September 2015, by all 195 Member States of the United Nations including India in order to end extreme poverty, fight inequality and injustice, and protect our planet- understood and interpreted by businesses around the world , regardless of size , complexity or location.

Corporates have started focusing on Environment, Social and Governance (ESG) investments and financial institutions are focusing on ESG financing and funding. ESG Bonds, Green Bonds, Impact Investment, etc. are key words and buzz words in the corporate world across the globe. The corporate need for ESG specialists, impact investment specialists, green financing specialists, sustainability specialists, etc. are obvious. The immediate requirements and future jobs for MBAs could be in these areas. When technology evolved,

changed and interrupted businesses B Schools were willing to adopt and incorporate technology based knowledge into the curriculum. Today, as the threat of climate change, global warming, environmental degradation is starring at businesses across the globe, sustainability needs to be a focus for B Schools. Therefore B Schools today have a high calling and unescapable responsibility to contribute and work toward the achievement of the UN SDGs. B Schools have to understand and incorporate UN SDGs as a part of their course, training, practice and as a real competitive advantage.

How B Schools can get Involved?

There are two broad ways that B Schools can be engaged in this clarion call. First, relevant curriculum improving knowledge and skills relating to sustainability must be designed by B Schools. Second, rigorous engagement of students and faculty in sustainability and UN SDGs initiatives must be part of the B School daily activities. The curriculum that is available today for B School students are to a certain extent covering courses on Ethics, Corporate Social Responsibility, Governance, Leadership, etc. The shift required in the curriculum is to make these courses rigorous and aligned to UN SDGs. Each of the course with scope for alignment to UN SDGs can be a great way B Schools can help the nation achieve UN SDGs by 2030. Both curriculum and practical daily involvement must be intertwined to make this possible. One without the other will not make it possible, rather would end up in failure.

The curriculum for Corporate Social Responsibility can be designed covering the existing CSR initiatives of Indian corporates and MNCs. Learning their CSR initiatives critically to intervene and suggest possible additional value added CSR initiatives. Further, students of B Schools can be engaged in the orientation of Indian and MNC employees on the need for attaining UN SDGs and the contribution each one can make to realize UN SDGs. These orientation sessions can be the practical daily involvement of students and faculty members in integrating UN SDGs achievement to regular curriculum and rigorous engagement in UN SDGs through the curriculum for CSR.

The curriculum for Ethics in Business can be designed covering the ethical responsibilities of business in achieving the UN SDGs and how various functional areas of management can help attain UN SDGs. Further, it can include how technology can be used by corporates and communities in attaining UN SDGs. The curriculum must be integrated with practical activities like students working out internship with corporates in implementing UN SDGs as part of their CSR or their ethical responsibility. In India CSR is a mandatory requirement only for select corporates. Ethically, all corporates that draw their resources from the society have a responsibility to serve the society. This attitude and mindset must be embedded in the corporate culture. B School students as Ethical Ambassadors can influence corporates or connect with corporates to initiate UN SDGs attainment.

Leadership is yet another course where the curriculum can be designed and integrated with rigorous practical activities focused on UN SDGs. Leadership can be defined as influence for good on the society. Leadership as a course must be designed to influence the corporates, MSMEs and entrepreneurs to initiate UN SDGs. Students of B Schools must be given capstone course on leadership that will help them engage with corporate leaders, MSME owners and entrepreneurs in influencing them to launch UN SDGs attainment programs in a large scale.

Entrepreneurship is yet another course that B Schools all across the nation offers. The curriculum must be redesigned to incorporate social entrepreneurship based on UN SDGs. The course must be made more rigorous and experiential with students engaging in launching enterprises fully focused on UN SDGs achievement. This course alone can be a solution for the employment opportunities missing in the nation. Entrepreneurs focused on UN SDGs can be developed, nurtured and incubated through the course. The course if aligned and launched in B Schools with UN SDGs as the focus, will have a great potential to remove unemployment, reap rich rewards on demographic dividend and attain UN SDGs by 2030.

The above said four courses can be fully focused on UN SDGs as far as possible. Apart from these courses every course can be designed to devote a part to UN SDGs understanding and implementation through corporates. For example, Financial Accounting and Reporting can focus on how Triple Bottom Line and Sustainability Reporting can be great ideas to be learnt and implemented in corporates. Usually, these concepts are either ignored or neglected. Today these concepts need primary attention. Further, the cases that are being discussed can be those that are

based on ESG investment and impact investment. B School curriculum must be designed and directed towards green and circular economy, lean operations and minimalism, carbon neutral operation, zero carbon emission, etc. While there is so much hype about Industry 4.0, B Schools seems to be ignorant and negligent towards the UN SDGs. This is a self-destructive attitude, as no business can thrive, when people and planet does not thrive.

Being signatory to PRME give the commitment in B Schools to continuously fulfill the PRME. All the courses in B Schools can be integrated with RTL concepts, RTL tools and techniques. RTL will enable students to draw their inner potential and will enable them to draw the potential from others. B Schools can take advantage of RTL to draw the full potential of the students, faculty members, corporate that connect with B Schools and

Why Business Schools?

While B Schools may try to distance themselves from UN SDGs, they must realize that the business of B Schools today is to solve the problems of the society through the graduates and the corporates they will work for. There is no value in training people who would not add value to the society. Already as there are about 93 percent unemployable in the corporates, they can be further trained and utilized for the achievement of UN SDGs. India's demographic dividend can be utilized in achieving the UN SDGs. Further, B Schools can even think of designing a short course for Engineering graduates and other graduates who are not finding employment in other sectors, but can be oriented, trained and engaged in UN SDGs achievement projects. B Schools can even think of entrepreneurial curriculum and ventures that would be directed and designed in achieving UN SDGs. The entrepreneurship program can be focused on incubating social ventures that can attain the UN SDGs with great zeal and vigor.

B Schools have the knowledge, skills and the resources to make the UN SDGs a reality through various training programs, especially through the entrepreneurship orientation and training. B Schools are well equipped with sound curriculum to transform lives, make youngsters productive and purpose oriented, mold youth to be self-driven and achievement-oriented. Management is a rich pool of knowledge that can address and answer any question pertaining to setting goals and achieving them. The faculty teams available in B Schools have the theoretical and practical knowledge in Management, along with research and consultancy experiences. Thus, B Schools have a rich pool of knowledge, skills, aptitude, attitude and expertise to make UN SDGs a reality through B Schools

Model Initiatives and B Schools

In this process, B Schools can provide employment and economic development for the underprivileged. Entrepreneurship programs focused on indigenous and local products and processes can be a great way to strengthen the achievement of UN SDGs. One good example that can be turned into a venture for UN SDGs achievement is Palmyra Palm entrepreneurship initiatives. Palmyra Palm is said to be a source of excellent food products, nourishment products, medicinal products, art products, daily utility products, etc. Palmyra Palm is found in almost all the states of Tamil Nadu. Entrepreneurship ventures based on Palmyra Palm products can be generating food, employment and income for the local communities who revolve their lives around the Palmyra Palm. This one initiative can resolve several problems and help achievement of the goals like, no poverty, zero hunger, good health and wellbeing, decent employment, responsible consumption and production, life above earth, etc. Palmyra Palm provides food in all seasons in the form of Palmyra juice, Palmyra root, Palmyra fruit, Ice Apple, etc. All the food products from Palmyra Palm are highly nutritious and can be improving the health and wellbeing of communities who base their life on Palmyra Palm products. If the Palmyra Palm products are given the due importance then the Palmyra Climbers and Palmyra Palm Leaf artisans can have decent work, decent income and no poverty in their lives. The Palmyra Palm leaf handcrafted home products and craft products are eco-friendly and are of high utility value. These products can be earning good foreign exchange if the products are marketed and transported the right way. Thus, one tree and the livelihood around the tree can be a great entrepreneurial training ground for the unemployed and unemployable graduates.

Apart from Palmyra Palm based entrepreneurship ventures, India needs Apiary based, Bamboo based, Social Forestry based entrepreneurship ventures, etc. Honey Bees across the globe are dwindling in population. They are essential for food secu-

rity and bio-diversity. Ensuring apiary thrives for the benefit of mankind is yet another social enterprise initiative that B Schools can engage with. Bamboos have the advantage of improving the ground water with their fibrous roots. They are rich in providing the basic raw material for several handicraft items and for paper pulp. This again can be a focus of B Schools for entrepreneurial training. Social forestry with fruit and nut trees to make use of waste lands, improve birds' and animals' source of food and home would be yet another entrepreneurship venture that can improve bio diversity, strengthen life above earth, provide food, oxygen and better climate and rain, retention of rain water in the land etc. Entrepreneurship initiatives on cleaning and safeguarding ponds, canals, streams and rivers, or safeguarding and developing wetlands, creating and protecting butterfly gardens, etc. can be other social entrepreneurship ventures that can bring about multiple UN SDGs to be attained.

Indian B Schools Focusing on UN SDGs

Goa Institute of Management has been reported as the first B School of India to have recorded its UN SDGs best practices in the International Dashboard developed by Erivan K. Haub School of Business at Saint Joseph's University, USA. As known a Dashboard is a new reporting and data analytics tool which allows Business Schools to showcase their SDG-related best practices and mainstreaming of SDG in all their activities. During October 2021 JGU released the first-of-its-kind implementing the Sustainable Development Goals: Role of Universities and Civil Society in Protecting the Environment Report, mapping its compliance towards the 17 Sustainable Development Goals (SDGs) set by the United Nations. JGU has become the first Indian University to report of its commitment and implementation of UN SDGs in campus. In September 2021 Universal Business School published its ESG report, citing 70 percent of its power generated from green, renewable source of solar. Universal Business School also claims itself to be a Green Business School.

Compelling Reasons for Indian B Schools to Embrace UN SDGs

'SDG rankings: Lessons for Indian higher education institutes' by Antara Sengupta (2019) speaks of Times Higher Education (THE), a UK-based world university ranking agency, that released the first-ever University Impact Rankings 2019 by

Sustainable Development Goals (SDG). The report ranked the global universities based on eleven highly relevant UN SDGs out of the seventeen. The report ranked Japan was ranked as the most relevant nation. United States and Russia followed closer. The report has a very disappointing news for India and reflects a negligent and ignorant B Schools community of UN SDGs, as it far fell below the 100th rank of the report. India's most popular institutions as IITs and IIMs even don't find a place in the THE University Impact Rankings. What is more disappointing is that Higher Education Institutions (HEIs) have not found a space in the NITI Aayog's report as to their contribution to Goal 4 that focuses on quality education. In the 2021 ranking by THE three Indian universities made it to top 200 list of overall performance on UN SDGs parameters. Tamil Nadu-based Amrita Vishwa Vidyapeetham was placed at 81st rank globally in overall performance. Karnataka-based JSS Academy of Higher Education and Research and Punjab-based Lovely Professional University are other two in the list with a place in the 100-200 grouping, with no specific ranking.

Globally HEIs have been the key drivers of UN SDGs across the nations contributing to innovation and critical thinking, as they are the hubs of these traditionally. Higher Level Political Forum on Sustainable Development displayed the initiative of members of UN GCN PRME of premier institutions like he Monash University, the Massachusetts Institute of Technology and the Stanford University. These institutions have integrated the UN SDGs into their curricula across various domains and they run multi-sectoral programs and projects focused on the UN SDGs. HEIs have the future leaders, influencers and managers along with experts who have the solutions and ideas to move towards the achievement of UN SDGs through deliberations, discussions, research and action-oriented projects. HEIs can also be powerful influencers of the community by imparting the right knowledge, skills and attitude to the community and help them to adhere to the UN SDGs in the campuses and outside the campuses. Thus it becomes important for Indian B Schools to take the lead to adapt UN SDGs in their campuses and guide the Indian HEIs to give prime importance to UN SDGs achievement.

UN SDG Action Awards has been a recognition given to initiatives which Mobilize, Inspire and Connect, three categories that can help spur citizen

engagement and affect positive change. B Schools can aspire for this award and can contribute to global UN SDGs achievement. 'Weighing up business schools' work on sustainability' by Andrew Jack (2020) wrote extensively how B Schools have been ignoring to research and write on UN SDGs. Millennial have a greater sense of social justice and hence B Schools can definitely find solutions to the social problems.

Pandemic has pushed B Schools across the globe to look at UN SDGs with greater focus and commitment. According to Jennifer Lewington (2021) pandemic has pushed B Schools to ask themselves of the uncomfortable question on how they can strengthen their teaching and research on sustainability. Griffith Business School of Australia reviewed and redesigned its already sustainability rich curriculum. The review and redesign process was probing as to what was missing in the curriculum specific to UN SDGs. The result was a major revamp of courses with UN SDGs integrated into all courses. For example the Accounting course was rechristened as 'Accounting for Accountability', which along with enabling students to read and interpret the financial statements also taught them to be responsible and accountable for the natural resources and environment, including soil, air and water consumption and conservation. The School collaborated with other disciplines to find solutions for global issues beyond the boundaries of Management. During 2020 the School also doubled its publications on UN SDGs and ESG compared to earlier year. York University's Schulich School of Business that has been offering Sustainability electives and specializations since 1990s has elevated Sustainability as one of the core areas among the eight in 2022. University of Vermont's Grossman School of Business, offers Sustainable Innovation MBA (SIMBA). The three B Schools are part of the world's top 10 B Schools. AACSB identifies social impact in four of the nine accreditation criterion. Switzerland's University of St. Gallen has spent past two years incorporating corporate social responsibility and UN SDGs into the courses of the MBA program. The Netherlands' Maastricht University School of Business and Economics identifies sustainability as one of three research priorities through 2025, with modest incentives (funding to host a conference or reduced teaching loads) for professors who look beyond their discipline. There are two sustainability schools integrated into the B School recently.

Researchers across the globe and across disciplines have been emphasizing the need for and importance of HEIs in taking initiatives in the achievement of UN SDGs. QS World University Ranking has added a new layer in ranking universities across the globe based on their research contribution to UN SDGs under two categories – research on reducing inequality and protecting environment. Amsterdam Business School was among the top 10 B Schools that focused on UN SDGs research with focus on five key goals viz. decent work and economic growth (29%), industry, innovation and infrastructure (18%), good health and wellbeing (14%), reduced inequalities (11%) and responsible consumption and production (11%). Miotto, et al (2020) analyzed the social responsibility reports of top 50 business schools and found that these schools focus on the 17 goals as social responsibility strategies mainly to define the professional standards to train future leaders qualified to manage organizations with a social, economic and environmental positive impact for all the stakeholders and capable to shape the better future world.

Conclusion

As can be understood from the preceding paragraphs B Schools have a great potential to impact the community and the nation, in making UN SDGs realistic for India. Committing to PRME membership totally and integrating RTL to all the courses and domains of B Schools will help B Schools to make UN SDGs realistic for the nation. B Schools across the globe have started several years ago, probably decades back since the days of UN MDGs have instituted the responsible management education principles and have integrated sustainability into their curriculum. According to the Blueprint for SDG integration into curriculum, research and partnerships, the simplest answer to the question 'why B schools are important for UN SDGs and vice versa?' UN SDGs represent the greatest social, economic and environmental challenges facing current and future leaders and managers in all sectors, particularly in business. As the number of businesses, NGOs and policy makers embrace the UN SDGs and incorporate them into their decisions as the framework for their strategies and policies; it becomes important for B Schools to integrate UN SDGs into the curriculum as theory and practice. The purpose and relevance of B Schools will be highly dependent on their alignment and integration with UN SDGs.

Indian B Schools must realize and recognize this opportunity to contribute to the national wellbeing by tuning themselves to the UN SDGs in teaching, research, consultancy and extension activities. India to become a super power and a developed nation is a long cherished dream of all Indians since two decades. The dream can come true when we give the prime importance the UN SDGs need in our HEIs, especially the B Schools where our graduates can be trained to turn UN SDGs a reality by 2030 so that no one is left behind. India having 22 percent below poverty line with less than $1.9 per day as income, more than 25 crores of Indians go to bed without food every night, 25 lakhs Indians die out of poverty every year, while 1 percent Indians hold 20 percent of the wealth of the nation is a real paradox. If B Schools cannot identify a simple solution to the UN SDGs achievement it will be nothing less than a proof of our lack of creativity and innovation mindset. It can also establish the fact that Indian B Schools are ignorant, negligent and unconcerned about the global mandate to which India is a signatory. It would be at the best interest of the nation and its citizens that B Schools work hard with fullest commitment to the achievement of UN SDGs in the next five years.

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Realizing Sustainable Development Goals through Quality Indicator Framework

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The speed with which Homo sapiens are rushing towards destruction is alarming. The journey of Man from Homo sapiens towards Homo Deus is terrifying. (Harai, 2017) We are on the verge of Second Coming; before ruination, it is the universal duty of every nation and every citizen to think and act like a global citizen and be an altruist. Anthropocentric approach is not a novel thing, but it is high time to think seriously and critically about its limits. If everybody thinks that my personal problems are far greater than the universal problems, then it must be born in mind that it is already late to save the world even for the philanthropists and cosmopolitan leaders. Every citizen must take collective responsibility to heal the mayhem caused by them to mother earth and humanity. Till today, man remained responsible for every act of damage to the ecosystem; it is high time to be a cause to repair it otherwise, for the devastation of the earth, human beings will be responsible. It is high time realize that man is the least important part of the ecosystem and not the master of the ecosystem.

The 2030 Agenda

In 2015 the Member States of United Nations adopted the 2030 Agenda for Sustainable Development. It has provided a blueprint for peace and prosperity for the people and the planet for now and into the future. "At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth–all while tackling climate change and working to preserve our oceans and forests," (United Nations).

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Sustainable Development Goals (SDGs)

The 17 Sustainable Development Goals (SDGs) are: 1) No Poverty, (2) Zero Hunger, (3) Good Health and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (9) Industry, Innovation and Infrastructure, (10) Reduced Inequality, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life On Land, (16) Peace, Justice, and Strong Institutions, (17) Partnerships for the Goals. (UN)

Quality Indicator Framework and SDGs

Educated and those who went away from the main stream of education can contribute to achieve these SDGs. But it is important to note, in future, that all these goals can be achieved through quality education to all; though quality education is one of these 17 SDGs. It is true that schools are the feeders of Higher Education Institutions (HEIs), but the real growth of the learners is found at HEIs. The textbooks at schools make the learners well informed, but the reference books at HEIs start their journey towards a knowledgeable person. The real journey of the polymaths and subject wizards starts from HEIs. Any HEI with a good ecosystem for research and innovation and with good academic and administrative culture transforms a common academician into a domain expert of a particular subject or distinguished professor of a subject and vice versa.

Over last 20 years HEIs have been taking some quality initiatives to upgrade themselves, if not transform, with the help of Quality Indicator Framework (QIF) prepared by National Assessment and Accreditation Council (NAAC). In fact, all seven criteria of QIF are interrelated and form one organic whole. The cumulative effect of all the seven criteria is a step ahead in quality in higher education. In fact, the vision of NAAC is: "To make quality the defining element of higher education in India through

a combination of self and external quality evaluation, promotion and sustenance initiatives," (NAAC).

The revised University Manual provided by NAAC has the same, with little changes, QIF as it was earlier. Here study is not made to understand the changes, but to understand the alignment of QIF with the SDGs. All the Metrics, from Key Indicator 1 to 7 are equally significant from SDGs point of view, but there are some Metrics which directly focus on one or other SDGs.

Metric No. 1.3.1, qualitative in nature, with 5 weightages reads as: Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum.

Metric No. 1.3.2, quantitative in nature, with 10 weightages reads as: Number of value-added courses for imparting transferable and life skills offered during last five years.

Metric No. 1.3.3, quantitative in nature, with 10 weightages correlates to Metric No. 1.3.2.

Metric No. 3.1.5, quantitative in nature, with 3 weightages reads as: Institution has the following facilities to support research:

1. Central Instrumentation Centre 2. Animal House/Green House 3. Museum 4.Media laboratory/Studios 5. Business Lab 6. Research/Statistical Databases 7. Mootcourt 8. Theatre 9. Art Gallery.

Metric No. 3.4.1, quantitative in nature, with 5 weightages reads as: The institution ensures implementation of its stated Code of Ethics for research.

Metric No. 3.6.3, quantitative in nature, with 12 weightages reads as: Number of extension and outreach programs conducted by the institution including those through NSS/NCC/Red cross/YRC during the last five years (including Government initiated programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. and those organised in collaboration with industry, community and NGOs).

Metric No. 5.1.3, quantitative in nature, with 5 weightages reads as: Following Capacity development and skills enhancement initiatives are taken by the institution.

1. Soft skills 2.Language and communication skills 3. Life skills (Yoga, physical fitness, health and hygiene)

Criterion VII–Institutional Values and Best Practices which is of 100 weightages. The entire criterion is an attempt to create a sense of an altruist. Metric No. 7.1.1 is about gender equality. Metric No. 7.1.2 is about environmental consciousness and sustainability. Metric No. 7.1.3 is about waste management. Metric No. 7.1.4 is about water conservation. Metric No. 7.1.5 is about green campus. Metric No. 7.1.6 is about environmental audit. Metric No. 7.1.8 is about efforts taken by the HEI for an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities. Metric No. 7.1.9 is about sensitizing human values, rights, duties and responsibilities of citizens amongst the students. (NAAC).

More than 150 weightages are given to SDGs like (3) Good Health and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (13) Climate Action and (14) Life Below Water through different metrics in QIF. The HEIs can play vital role in actualizing some of the SDGs, if not all. The impact of any activity run by the HEIs is far greater than the activities run by any government or private agencies. The reason behind this fact is that everyone looks towards that activity as a part of educating both mind and heart and a type of their own duty or responsibility. On the other hand, if the same activity is run by any other government or private agency; it is considered as Government's duty and citizen's right. So the activities run by National Service Scheme (NSS) have deep impact on the students who participate in it; and people from society also take active part in the captivities for their own satisfaction and without any economic expectations. If the HEIs take initiatives to achieve upper grade by implementing anything regarding above metrics in its true sense and with altruistic intention, then they can play big role in realizing some of the SDGs.

Summing Up

From the above analysis it becomes clear that efforts were already taken in realization of SDGs through HEIs in India, but still there is much scope to actualize these things. Initiatives are taken from macro to micro level, but yet there is need to improvise them

on one hand; and it must be borne in mind that it is a continuous process. The experienced senior generation must guide the youngsters; and they should leave a tradition to be adopted by the next generation for the betterment of everyone and everything in the nature. New understanding of morality is the need of the hour. In this regard it is worth to quote Harari: "Morality doesn't mean 'following divine commands'. It means 'reducing suffering'. Hence in order to act morally, you don't need to believe in any myth or story. You just need to develop appreciation of suffering. If you really understand how an action causes unnecessary suffering to yourself or to others, you will naturally abstain from it." (Harari, 2018) It is high time to pledge to leave the world as a better place to live for the next generation.

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our own nation), *Swatchbharat Abhiyan* (maintaining the level of cleanliness and sanitization around us) and many other programs are actually started by NITI Aayog under the umbrella od SDGs realization. What I didn't understand from this is there is very less information in the media regarding this that all these programs are taking place because of the sustainable development. What should be done immediately is that students should know what is sustainable development and how it should be followed and why it is extremely necessary.

Integrating Economic Development with Sustainable Development

There are many companies who are coming up with various substitute for eco friendly products that will definitely help in long run. Business students should be given the exposure to such companies. They should be educated as they will be the future of business in our nation. The head of UNO also said that these students are our future and we should do everything that is under our power to educate them and ready them for the future that can be sustained. So, inculcating awareness among these young students who are going to do business in future.

Curriculum for the Study of Sustainable Development

This is something that can be done, in most of the under-graduation courses we have environmental studies as one compulsory subject it should be made a

bit broader and its syllabus should also be changed and updated time to time. These methods when they will be applied, they will create a lot of awareness among the students about what should they do and why they should.

Conclusion

All these points discussed above are just some arguments that may and should help the students, students are not only influenced by the academics but also by the environment that they are raised in. There are various things that are important when it comes to influence so we should use those platforms to spread the general awareness regarding the things that a student should do and what Higher Education can provide them.

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Inclusive Education: Promoting Inclusion and Equity of Under Represented Groups[#]

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The social justice and equality in any society can be achieved through education which can provide every citizen the opportunity to contribute in the development of nation according to their own competencies. But the enduring problem is that majority of citizens remains deprived from the equal opportunities of education as they face discrimination that might be on the basis of caste, gender, social and economic background. This draws them back in contributing in the progress of nation. Such individuals were defined as underrepresented groups in NPE, 2019. They are categorized on the basis of gender identities, socio-cultural identities, special needs and socio-economic conditions. The decline in enrolment of students belonging to these underrepresented groups has been reported. There is a need to identify the barriers faced by these underrepresented groups in order to promote their inclusive and equal participation at all levels of education, so that they can contribute in the growth of the nation. This needs as inclusive education system to promote inclusion and equity among these underrepresented groups. The term inclusion refers to an approach towards educating children with different abilities and background within the same roof. The duty of the nation is to shape the education system in such a way so that all children get equal opportunity to learn and develop their full potentials without letting their circumstances of birth and background to intervene. The present article will focus concept of inclusive education, Special Education Zones (SEZs), barriers face by these underrepresented groups, measures to promote their inclusion and equity in education, vision 2030 for inclusive education, preparation of teachers as significant promoters of equity and inclusion followed by the conclusion.

The term inclusion refers to an approach where students with special need spend most of their time

with non-disabled students. Inclusive classrooms might contain several students with special needs who are mainstreamed full time into the general classroom, or one or two students who spend time each day in a special education classroom as well as a general classroom. As Yell (2010) clarified that the terms least restrictive environment, inclusion, and mainstreaming are often used interchangeably. They are not, however, synonymous concepts. Least restrictive environment refers to the IDEA's (1990, 2004) mandate that students with disabilities should be educated to the maximum extent appropriate with peers without disabilities. The Least Restrictive Environment mandate ensures that schools educate students with disabilities in integrated settings, alongside students without disabilities, to the maximum extent. Least restrictive environment is not a particular setting (Yell, 2010). The general population in India is still struggling with the awareness on the needs and services of students with disabilities. Adding to the legacy of colonialism, 80% of India's population lives on less than about Rs. 100, or two dollars a day.

Even when adjusting for purchasing power parity, this amount puts hundreds of millions of people below the global poverty line. Then, people with disabilities need to account for the conversion handicap; a term coined by Amartya Sen. The 'conversion handicap' is when people with disabilities derive a lower level of welfare from a given level of income than the rest of the population, due to additional costs incurred in converting income into well-being. In India, services for individual with special needs are still provided in segregated settings, i.e., special schools, special programs by Non-government Organization (NGO) etc. Educators, researchers, and even movie makers are attempting to develop a public awareness concerning the spectrum of services for students with special needs. In India, with an understanding of the importance of including children with disabilities in mainstream society, individual with disabilities can achieve more functional independence that can promote productive living. According to Balasubramanian (2012), the awareness on inclusive education in schools throughout the country is still at an infancy stage, educational institutions are

somewhat skeptical about having both normal and special children studying in the same classroom. And in circumstances, where a former excluded child is given admission into a mainstream classroom, the outcome of the action is questionable .Currently, many children with disabilities are instructed in separate educational settings, but professionals and parents are calling for more equitable inclusive education for these students. It is imperative that inclusion in schools (including students with disabilities with non-disabled peers in educational settings) takes place to promote equity of students with disabilities in society's settings. To this end, Indian schools should work collaboratively with parents and other community leaders to prepare productive citizens. This can generate an understanding of an inclusive society that can support the social value of equity and to minimize the stigma of disability for students who are served in separate special schools. Since school is one of the main contributors to the society, it is important to develop a knowledge, and understanding of the existence of the term ―Inclusion or inclusive education in Indian society.

Concept of Inclusive Education

The principle of inclusive education was adopted at the "World Conference on Special Needs Education: Access and Quality" (Salamanca Statement, Spain 1994) and was restated at the World Education Forum (Dakar, Senegal 2000). The Statement solicits governments to give the highest priority to making education systems inclusive and adopt the principle of inclusive education as a matter of policy. The idea of inclusion is further supported by the United Nation's Standard Rules on Equalization of Opportunities for Person with Disability Proclaiming Participation and equality for all. Inclusive Education is defined as a process of addressing the diverse needs of all learners by reducing barriers to and within the learning environment. It means attending the age appropriate class of the child's local school, with individually tailored support (UNICEF 2007). Inclusive education is a process of strengthening the capacity of the education system to reach out to all learners. At the Jometin World Conference (1990) in Thailand, the goals for 'Education for All' were set and it was proclaimed that every person (child, youth and adult) shall be able to benefit from educational opportunities which would meet their basic learning needs. Inclusion is an educational approach and philosophy that provides all students greater opportunities for academic and social achievement. This includes opportunities to participate in the full range of social, recreational, arts, sports, music, day care and after school care, extra-curricular, faith based, and all other activities.

In India, National Council of Educational Research and Training (NCERT) joined hands with UNICEF and launched 'Project Integrated Education for Disabled Children' (PIED) in the year 1987, to strengthen the integration of learners with disabilities into regular schools. In recent years, the concept of inclusive education has been broadened to encompass not only students with disabilities, but also all students who may be disadvantaged. This broader understanding of curriculum has paved the way for developing the National Curriculum Framework (NCF, 2005) that reiterates the importance of including and retaining all children in school through a programme that reaffirms the value of each child and enables all children to experience dignity and the confidence to learn.

Need and Importance of Inclusive Education

There have been efforts internationally to include children with disabilities in the educational mainstream. In order to achieve truly inclusive education, we need to think about and incorporate children with special needs into regular schools. Especially, because these kids face some sort of barriers to learning and participation in the classroom. As general education classrooms include more and more diverse students, teachers realize the value of accepting each student as unique. In effective inclusive programs, teachers adapt activities to include all the students, even though their individual goals may be different. We have learned that inclusive education is a better way to help all students succeed. Researches show that most students learn and perform better when exposed to the richness of the general education curriculum. The growing body of research has shown that children do better academically when in inclusive settings and inclusion provides opportunities to develop relationships. Some of the benefits include: friendships, social skills, personal principles, comfort level with people who have special needs, and caring classroom environments.

The most important function of friendships is to make people feel cared for, loved, and safe. In an inclusive educational setting, low-achieving students are able to get extra help even though they did not qualify for special education. Classmates of students with disabilities also experience growth in social cognition, often can become more aware of the needs

of others in inclusive classrooms. An interesting side effect is that these parents report that they also feel more comfortable with people with special needs because of their children's experiences. Students with disabilities can create long-lasting friendships that would not be otherwise possible, and these friendships can give them the skills to navigate social relationships later on in life.

Figure 1: Benefits of an Inclusive approach to Teaching, Learning, and Assessment

Inclusive Education for Whole of India

As per the Census 2011, out of over 120 crore people, 2.2 per cent in India are disabled. In absolute terms, this implies that over 2.68 crore people live with one form of disability or another. It is significant to note that out of these people, 66 lakh children are in the age group 5-19 years. These numbers are most likely much higher, it is generally accepted that surveys all over the world grossly undercount the actual number of disabled people. The World Report on Disability jointly produced by the World Health Organization and the World Bank in 2011 estimated that about 15 percent of the global populations live with disability. Whatever the actual number of the disabled, they constitute a significant resource that can and should contribute to the social, economic and political life of the nation. Children with or without disabilities have the right to a quality education, no matter what special needs they might have. Education is the prime tool that equips a child to meet the challenges of life. Children with

disabilities need this even more to supplement their different talents. Indeed, disability need not be an impediment to achievement.

Inclusive education is a model of education in which children with disabilities spend all or most of their time in school with children without special needs. Fully inclusive schools do not separate 'general education' and 'special education' programmes. Such schools are structured so that all students learn and grow together. Disability exacerbates existing vulnerabilities arising from social and economic inequities such as poverty and gender, lack of access to services, social stigma and so on. Universal access to inclusive education has the potential to shift society towards a more just and equitable future.

Inclusive education allows children with disabilities to develop friendships with peers and feel less isolated. Children who are placed in standard classroom environment generally have higher self-esteem than children who are isolated in special needs programmes. Policy-makers and civil society need to recognize that no school has the right to deny high quality education to children and families who want the best for their child simply because he/she has a disability. A common misconception that needs to be dispelled is that the presence of disabled children in classrooms impedes the learning of non-special needs children. In fact, children without disabilities in inclusive schools get an opportunity to receive their own education in a non-discriminatory environment and develop a more accepting and wholesome perspective.

Although much progress has been made in the education sector, India faces immense challenges in addressing educational needs of children with disabilities. In the age group 5 to 19 years, 28 per cent disabled girls have never attended an educational institution. The figure for boys at 26 per cent is only marginally better. Only 16 per cent of the disabled male population and nine per cent of the disabled female population has matrix/secondary education. Not surprisingly, only nine per cent of males and three per cent of females with disability are graduates.

A mission approach is needed to make the provisions for inclusive education in the Right to Education Act 2009 and Rights of Persons with Disabilities Act 2016 universally available in all educational institutions - public as well as private. Educational institutions in the private and NGO sector have made a beginning in introducing inclusive education. However, most of these schools are in

urban settings. The need of the hour is to learn from these pioneering efforts to make inclusive education a reality in public sector institutions at scale. As the country strengthens the education sector further, the universalisation of inclusive education in the public and private sectors must become a foundational principle of the nation's education sector.

Objective of Equitable and Inclusive Education: A Vision of 2030

The main objective of this vision is *to achieve an inclusive and equitable education system so that all children have equal opportunity to learn and thrive, and so that participation and learning outcomes are equalized across all genders and social categories by 2030.* Education is the single greatest tool for achieving social justice and equality. Inclusive and equitable education - while indeed an essential goal in its own right - is also critical to achieving an inclusive and equitable society in which every citizen has the opportunity to dream, thrive, and contribute to the nation. Unfortunately, prejudice and bias, based on gender, social and economic status, and special needs, among other factors, often affect people's capacity to benefit from the education system, compounding social cleavages that hold the nation back from growth, innovation, and progress. This Policy aims to shape an education system that benefits all of India's children so that no child loses any opportunity to learn and excel because of the circumstances of birth or background. The Indian education system and successive government policies have made steady progress towards bridging gender and social category gaps in all levels of school education. However, large disparities still remain, especially at the secondary level, particularly for groups that have been historically underrepresented in education. Underrepresented Group(s) URGs in education can be broadly categorized into those given gender identities (including women and transgender individuals), socio-cultural identities (such as SC, ST, OBCs, Muslims, migrant communities), special needs (such as learning disabilities), and socio-economic conditions (such as the urban poor). While overall enrolments in schools decline steadily from Grade 1 to Grade 12 - a problem which must be addressed across the country this decline in enrolments is considerably more pronounced for many of these URG. According to Unified District Information System for Education (U-DISE 2016-17) data, about 19.6% of students belong to SC at the primary school level, but this fraction falls to 17.3% at the higher secondary level.

These enrolment drop-offs are even more severe for ST students (10.6% to 6.8%), Muslim students (15% to 7.9%), and differently-abled children (1.1% to 0.25%), with even greater declines for female students within each of these URG. The declines in URGs enrolment in higher education are even steeper. These statistics make it clear that inequities affect children already in primary school. Actions must be taken urgently to understand the barriers students face and to implement proactive measures ensuring inclusive and equitable participation of children from URGs across all levels of school education, beginning in a child's early years. This will, in particular, also help ensure that all children will be a part of an inclusive and equitable society when they grow up, which in turn will raise the peace, harmony, and productivity of the nation.

Causes of Exclusion and Discrimination in Education

A first basic cause for the exclusion of URGs from the education system is that children from URGs often suffer from a lack of access to schools, especially quality schools. Despite the dramatic leap in access to schooling over the past decade, there remain very serious barriers to access to early childhood and secondary education - especially for areas with large populations from educationally underrepresented groups. However, the problem does not end at access. Even when a child from a URGs does succeed in accessing and entering a quality school, a number of other factors often come into play that create barriers to learning, which in turn lead to low attendance, poor learning outcomes, and higher rates of dropping out. Indeed, there is a complex web of discriminatory and exclusionary practices and realities, due to various economic, social, political, and historical factors, that often lead to such barriers.

Poverty plays a major role in both exclusion and discrimination. Poor families struggle to send their children to school even when there is access, and to provide support for their schooling when they do. Children from poorer homes often also suffer nutritional deficiencies that have a direct impact on learning. The lack of quality infrastructure, functional and secure toilets, and safe drinking water in schools in poorer areas represents a severe form of discrimination in education for children from socio-economically disadvantaged communities. The lack of good libraries, laboratories, and learning supplies at school hits children from disadvantaged communities the hardest, as generally, they will not have as many educational resources at home. Social mores and biases

also contribute in a serious way to discriminatory practices; for example, many communities believe that girls need not go through formal schooling. Historical discrimination against various groups in our society has had a strong corresponding harmful impact on the practice of education as well, e.g. differential classroom seating based on caste, or only girls doing domestic chores in school. A longer-term consequence of this kind of systemic bias and discrimination that children witness in school is that many of these groups then remain underrepresented and discriminated against when they grow up and join the professional education community as teachers, school leaders, and educational functionaries, creating a vicious cycle of discrimination.

Finally, school curriculum and textbooks often also play a role. For some communities, the connection between formal schooling and their own lives is unclear, e.g. in cases of exclusionary curricula that do not refer to what is familiar, valuable, or relatable to them. Indeed, any analysis of the existing curricula, pedagogy or textbooks exhibits a biased picture of life where the view of the "powerful" prevails: for example, the earning member of a family is almost always male in our textbooks; names of children in stories might not reflect all communities; there are almost no references to people that are differently-abled. Thus many of our classroom processes do not welcome or encourage children from disadvantaged or underrepresented communities.

Work Needed to be Done to Attain Full Equity and Inclusion in Schools

The critical problems and Policy actions regarding early childhood education, foundational literacy/numeracy, and access/enrolment/attendance respectively, are well-established to be particularly relevant and important for underrepresented and disadvantaged groups; In addition, there have been various successful policies and schemes implemented over the past several years (such as targeted scholarships, conditional cash transfers to incentivize parents to send their children to school, providing bicycles for transport, etc.) that have significantly increased participation of URGs in the schooling system in certain areas. These successful policies and schemes of past years must be renewed and significantly strengthened for URGs across the country.

It will also be essential to take into account research that ascertains which measures are particularly effective for certain URGs. For example,

providing bicycles and organizing cycling and walking groups to provide access to school have been shown to be particularly powerful methods in increasing participation of female students - even at lesser distances - because of the safety benefits and comfort to parents that they also provide. One-on-one tutors and open schooling can be particularly effective for certain CWSN. Schools having quality ECCE reap the greatest dividends for children who come from families that are socially or economically disadvantaged. Meanwhile, the hiring of social workers and counsellors that work with and connect students, parents, schools, and teachers in order to improve attendance and learning outcomes have been found to be especially effective for children in urban poor areas.

Data shows that certain geographical areas contain significantly larger proportions of URG. Thus, this Policy states that certain regions of the country with large populations from URGs should be declared Special Education Zones (SEZs), where all the above schemes and policies are implemented to the maximum through additional concerted efforts and funding from the Centre and States in order to truly change the educational landscape of these Zones.

It must be noted that women cut across all URG, making up about one half of all other URGs - unfortunately, the exclusion and inequity that URGs face are only amplified for women. The Policy additionally recognizes the special and critical role that women play in society and in shaping social mores - not only in their own generation but in the next one; therefore, providing a quality education to girls in URGs is the best way to increase the education levels in these URGs not just in the present but also in future generations. The Policy thus states that the policies and schemes designed to uplift students from URGs should be especially targeted towards the girls in these URGs.

All the above policies and measures are absolutely critical to attaining full inclusion and equity for all URGs - but they are not sufficient. What will also be required is a change in school culture. All participants in the school education system, including teachers, principals, administrators, social workers, counselors, and students, will need to be sensitized to the requirements of all students, the notions of inclusion and equity, and the respect and dignity of all persons. Such an educational culture will be the best tool to help students become empowered individuals who, in turn, will enable society to transform into

one that is responsible towards its most vulnerable citizens. Inclusion and equity will become a key aspect of teacher education (and training for all leadership, administrative, and other positions in schools); efforts will be made to recruit more high quality teachers and leaders from URGs in order to bring in excellent role models for all students.

Finally, students will be sensitized through this new school culture brought in by teachers and other school workers (such as social workers and counselors), and also by corresponding changes in the school curriculum. The school curriculum will include material on human values such as respect for all persons, empathy, tolerance, inclusion, and equity early on; any biases in school curriculum will be removed, and more material will be included that is relevant and relatable to all communities, and which develops these human values.

Figure 2: Major Interventions for Inclusive Education (IE)

Source: https://ssa.assam.gov.in/portlet-innerpage/inclusive-education-0
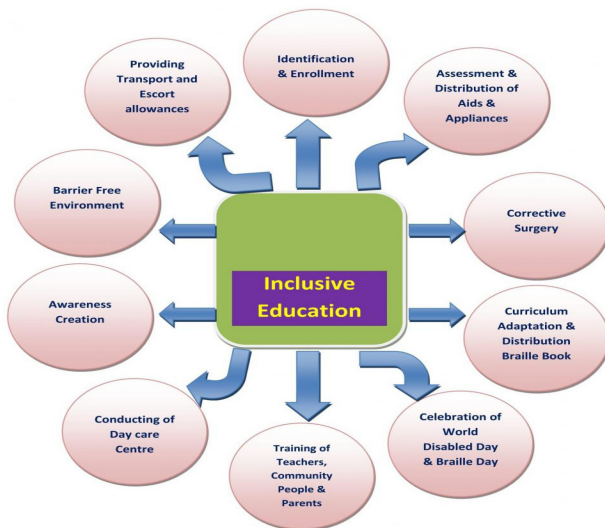
Areas of Equitable and Inclusive Education

- Upliftment of underrepresented groups in education
- Education of girls as a cross-cutting theme
- Education of children belonging to Scheduled Caste Communities and Other Backward Classes
- Education of children from educationally underrepresented groups within minority communities
- Education of children from urban poor families
- Education of transgender children

- Education of children with special needs

Suggestions for Equitable and Inclusive Education

Specific additional policy initiatives to ensure that every CWSN is provided meaningful and quality education will include the following:

- Inclusion of children with special needs in regular schools
- Financial support for initiatives for educating children with special needs
- Physical access to schools for children with special needs
- Inclusion of children with special needs
- Provisions for home-based education
- Availability of open schooling for hearing-impaired students
- Special educators and therapists with cross-disability training
- Scholarships for differently-abled students.

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The Importance of a Mindfulness and Compassionate Curriculum in India's Educational System

Surjit Singha* and Ranjit Singha**

The water footprint of raising vegetables and livestock is enormous; additionally, livestock causes greenhouse emissions; the methane produced by livestock is massive; and when held in captivity, rearing takes place in an organized manner in one specific area. The carbon footprint of livestock is a problem that necessitates further research. Water use, carbon footprint, and grass feed all contribute to the problem of raising livestock. A compassionate curriculum in education could be a way to bring the new generation to practise kindness.

In India, animals are released into the open ground. They graze, pick their food from the fields, and return home at night. The same methods are used for chickens, sparrows, cows, goats, and ducks, making it more profitable for the farmer in terms of profit or cutting down on operational costs. It was a sustainable way for each family to meet their protein needs. Organizing livestock for commercial consumption has become more common over time in India. In India, commercial business entities outsource the rearing in villages, collect the livestock after 45 days, and pay the farmer around 30,000 INR to raise approximately 1500 chickens. The company provides feed and medicine for the chickens, while the farmer is responsible for providing shelter. Raising livestock for meat consumption by humans is not sustainable; it will increase substantial greenhouse emissions and cause massive pollution in the villages of India. The compensation paid to raise 1500 chickens for 45 days is less than 1000 INR per day. The company took over the space and the entire family's work further; it will increase pollution and health issues. For sustenance, protein is essential; however, raising livestock is not sustainable; consequently, a global vegan population may not altogether substitute for solving greenhouse gas emissions from the livestock. The corporation associated with livestock, for milk,

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or meat, is expanded and challenging to stop. It has taken a community approach, in which they source their product from the local community. As a result, they have community support. It is impossible to stop since it is associated with livelihood and politics. Even raising such awareness in the community will be difficult. Food safety, food for people, global warming, greenhouse issues, food scarcity all can be solved by educating people about compassion.

As per Naqvi, S M K, and Sejian, V (2011), agriculture emits around 25.5 per cent of global radiative forcing. It represents almost 60% of all anthropogenic sources of GHG (Green House Gas). Animal farming accounts for 18% of GHG emissions. In terms of global warming, CH_4(Methane) is the second most abundant anthropogenic GHG after carbon dioxide (CO_2). As a result, the Indian livestock system contributes significantly to GHG emissions and thus leads to global warming. Each year methane emission from enteric fermentation from Indian livestock ranges between 7.26 to 10.4 MT. Large ruminants like cattle and buffalo account for over 90% of enteric fermentation methane emissions in India. The rests are ruminants and other animals. Management and dietary techniques are two popular ways to reduce CH_4 emissions.

As per Iyer, A, Bestwick, C. S., Duncan, S. H., and Russell, W. R. (2021), agriculture is under increasing pressure to meet global food demand, as well as economic and environmental concerns. It has led to new protein research prospects. Live stocks are utilized to manage non-food producing land. This saves land but adds significantly to global greenhouse gas emissions.

Mindfulness

Being conscious of oneself, one's condition and surroundings is mindfulness. Our mind is similar to a monkey; it constantly jumps from one thought to the next, and perhaps from one activity to the next, and we are rarely focused on a single task. As the monkey enjoys bananas, the mind must enjoy thinking; and it cannot remain ideal.

Mindfulness is a method that enables people to train themselves to focus. It begins with focusing on breathing and accepting the thoughts that flow while remaining non judgmental and non biased. Subsequently, it progresses to mindfully smelling, testing, observing, walking, standing, seating and eventually becomes an integral part of one's daily activities. It's true, though, that this is part of the process of being mindful in all areas of your life; to be mindful, you need time and space.

It can help people recover from addictions such as tobacco and other substances. It can promote a more collaborative environment by boosting diversity management and generating a more positive organizational climate. It can increase creativity, productivity, and, as a result, higher profitability. Mindfulness may help students manage stress and anxiety, which benefits their educational process and daily life.

Mindful Eating

Overconsumption of food is a disaster, whether it is vegetable or non-vegetarian. On average, if a person consumes 100 grams more food per day in India, the total requirement of additional food is approximately 13800000000 kg per day, which is potential food for about 13800000000 people in India. Mindful eating will save food, and it will assist in the conservation of water. Various parts of India have water scarcity; there are states in India where people are unable to produce plants due to dry soil, lack of water, and a decrease in rainfall or no rain at all. The entire process of mindfulness is not automatic; it must be taught methodically and in a conducive setting. While this may have been a natural process for many in ancient times when such ecosystems existed, for modern India, such ecosystems must be built and included in the educational curriculum. Suppose the future generation can be transformed into mindful beings by integrating mindfulness into the educational system as a whole. In that case, there is a possibility that humanity may see another revolution in India, similar to those of the early days.

Self Compassion

To love others, you must first love yourself, and to love yourself, you must first forgive yourself, and then can you forgive others. The sooner you forgive, the better off you will be. Forgiveness does not imply that you will not take action; there are two types of forgiveness: inner forgiveness and outer forgiveness. One must forgive a person from the inside out, but if action is required, they must take it, which will eventually help change the person or the world. Self-compassion is loving yourself unconditionally.

Compassion towards Others

Compassion must be shown to others, including fellow beings, plants, and animals. There is a boundary in any role or responsibility, and setting those boundaries is critical for the smooth operation of any role or responsibility. That is where the job role and responsibilities come in at the start of any job, and those responsibilities and roles eventually grow with time.

Compassion for others is possible if a person has an association with others. Today, in an ideal scenario, we do not live amid the natural settings of flora and fauna, and students visit the zoo or a picnic in a natural environment once in a blue moon.

Considering that some institutes keep pets and plants, but students do not have the opportunity to grow and nurture them, today's students are burdened with so many assignments and homework that they do not have time to nurture plants and pets at institutions or in the home.

The moment of reflection is missing in the entire Indian education system. Still, some institutions have been initiating this process, at least until standard 8, but once they are promoted into standard 9, 10, and beyond, students ideally get more involved in academics. Compassion towards fellow beings and love unconditionally requires practice and time. Compassion for others is probably possible for close friends and family, but it may be difficult for distant objects, things, or beings. Thus, bonding with plants and animals is necessary for human growth, and it has to be cultivated and nurtured, which requires time, space, practice and a mentor.

Mindfulness and Compassion Curriculum

Curriculums emphasizing mindfulness and compassion are required at all levels of education. At present, no curriculum in India has officially prescribed mindfulness and compassion as a part

of the integrated curriculum and education process. Oxford University, Stanford University, University of California, and San Diego are just a few universities that teach Mindfulness and Compassion. Indeed, those universities have mindfulness centres on their campus. Numerous world-class organizations have successfully introduced mindfulness programmes for their employees. It is the general well-being of all. India can integrate mindfulness and compassion into its educational system; it has already implemented yoga in most of its schools and government offices. It has further launched an app called Fit India. It formed the Yoga Certification Board to provide certification in yoga-related subjects. Integrating mindfulness and compassion into the process would be the next steps. Hatha yoga is prevalent within the yoga tradition, but mindfulness and compassion can be incorporated into it.

Conclusion

Mindfulness and compassion are essential components of humanity's general well-being; they have the potential to catalyze a revolution toward more mindfulness and compassion for other beings. Compassion for oneself, compassion for others, and mindfulness are critical components of a society that can help minimize crime and addiction. Integrating mindfulness and compassion into the educational curriculum benefits students, corporates, the community, and the nation's overall well-being. Such measures can help increase gross national happiness, but there is no such concept of gross national happiness in India. Eventually, perhaps in India, the idea of gross national happiness would be attainable by integrating such instruments of compassion and mindfulness. Mindfulness and compassion can bring a positive organizational climate, and it will foster diversity management in various organizations, institutions, including in the banks of India.

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Decade of Action: Taking Sustainable Development Goal 4 from Global to Local

In India, NITI Aayog is the nodal agency to oversee the adoption and monitoring the implementation and progress of Sustainable Development Goals (SDGs) in the country. There is a Verticalin NITI Aayog dedicated for this task. It works in collaboration with Union Ministries and States/UTs. Through the approach of cooperative and competitive federalism, the Vertical works towards accelerated adoption, implementation, and monitoring of the SDG framework and related initiatives at the national and sub-national levels. The Vertical works closely with key stakeholders—including the Government, civil society, private sector, academia, think tanks, research organisations, and multilateral organisations—to fast-track the achievement of SDGs in the country. Time to time the NITI Aayog releases reports indicating the progress in achieving the SDGs. 'Decade of Action Taking SDGs from Local to Global' is the second Voluntary National Review(VNR), presented by NITI Aayog to United Nations High Level Political Forum on Sustainable Development. The VNR Report presents valuable insights which can help all those who are working towards realizing the SDGs. In view of this, and also for wider dissemination of information, the portion of VNR Report relevant to the theme of South Zone Vice Chancellors' Meet i.e. 'Quality Education: Ensure Inclusive and Equitable Quality Education and Promote Lifelong Learning Opportunities for All'(SDG 4) is being reproduced verbatim. AIU duly acknowledges NITI Aayog for the Report.

The conviction that quality education is the foundation for improving the lives of its 1.3 billion citizens forms the sheet anchor of India's education policy. Since leaving no one behind requires improving human capital to make informed decisions in all walks of life, the emphasis has been to ensure the completion of secondary education by all children, guaranteeing equal access to quality and affordable technical and vocational education, while eliminating gender, caste, regional and income disparities and to achieve universal access to quality higher education. India's sizeable youth population, which is 28 per cent of the total population, has made a global imprint in competitiveness, primarily due to the enabling environment in the country to acquire quality higher education-especially in STEM and the competencies necessary for adapting to global challenges, modern technologies and the changing demands of the global labour market.

India has seen remarkable improvement in the number of schools, enrolment and retention of children in primary and secondary education and gender parity in access to education. With such strides in the growth of physical infrastructure and enrolment rates, the focus has moved to improving the educational outcomes, which continues to remain a challenging area in the public education sector.

Early Childhood Care, Development and Education

The National Early Childhood Care and Education Policy, effective since 2013, details out a comprehensive approach for ensuring child survival, growth and development with focus on care and early learning for every child. Further, the draft National Education Policy 2019, strengthens the space and priority for early childhood or pre-primary education and makes it an integral part of school education.

The Integrated Child Development Services (ICDS) Scheme is an omnibus programme covering all aspects of early childhood care, education and development in India. It caters to children aged less than six years through a network of 1.38 million *Anganwadi* Centers (AWCs) across the country. The comprehensive services include immunization, growth monitoring, supplementary nutrition, health check-up, referral services and pre-primary education. It offered pre-primary education to about 28.5 million children in 2019, which substantially contributed to higher enrolment and retention at the primary level.

Elementary and Secondary Education

India had made free and compulsory education up to the age of 14 years a fundamental right of

citizens and detailed it in the Right of Children to Free and Compulsory Education (RTE) Act, 2009. Gross Enrolment Ratio at elementary and secondary levels was at 91.64 per cent and 79.6 per cent, respectively in 2018-19. The dropout rates reduced to 2.72 per cent and 9.74 per cent respectively at elementary and secondary levels in 2018-19. GER at secondary and higher secondary levels has increased from 76.91 per cent to 79.6 per cent and 52.54 per cent to 58.6 per cent, respectively, between 2014-15 and 2018-19. However, Net Enrolment Ratio (NER) still remains low at the secondary and higher education levels at 51.77 per cent and 30.95 per cent as of 2016-17, indicating issues of dropout.

Both at policy and programmes levels, there is a clear focus on improving the quality of educational outcomes. India's New Education Policy sets out to meet the changing dynamics of the needs of the population with regard to quality education, innovation and research, aiming to make India a knowledge superpower by equipping its students with relevant skills and knowledge. *Samagra Shiksha*, the overarching programme for the school education sector extending from pre-school to class 12, aims at improving school effectiveness measured in terms of equal opportunities for schooling and equitable learning outcomes. To provide quality education to girls from disadvantaged groups, *Kasturba Gandhi Balika Vidyalayas*, residential schools are operationalised in educationally backward blocks under the *Samagra Shiksha*. Nutritional status of children in schools has been strengthened by providing free wholesome cooked meals.

Gender parity has appreciably improved with the Gender Parity Index rising to 1.06 at elementary and 1.04 at secondary level. With various scholarships to female students and gender-sensitive physical infrastructure, retention rates among girl students have increased from 68.14 per cent to 71.38 per cent at elementary level between 2014-15 and 2016-17. Special attention (e.g. through scholarships; improved teaching learning process; aids, appliances and assistive devices, special educators and their capacity building, etc.) has been given to improve educational access and attainment among specific social groups, such as, Scheduled Caste/ Tribe communities, minority communities as well as children with disabilities/ children with special needs.

Given the importance of digitalisation in the education system, internet access in schools is fast expanding: more than 80 per cent of the teachers have been formally trained. School infrastructure is continuously upgraded through provision of electricity, drinking water and separate toilets. Access to electricity for schools increased from 60.01 per cent in 2014-15 to 76.71 per cent in 2018-19; elementary schools with separate toilets for girls increased from 87.16 per cent in 2013-14 to 98.38 per cent in 2017-18.

Improved Educational Outcome at Primary and Secondary Levels

Improving the learning outcomes at the primary and secondary levels across communities and bridging the urban-rural divide have necessitated defining the competencies in numeracy and literacy for different grades and their periodic assessment through the comprehensive National Achievement Survey. The modernisation of education has introduced updated content, with emphasis on functional literacy and numeracy, critical thinking and cognitive skills. Through broad-based programmes of induction and in-service training of teachers, prescribing strict criteria for teachers' eligibilities, learning enhancement programmes, improving teacher-pupil ratio, intensive use of modern ICT in education, revision of curricula, provision of libraries, etc, there has been a marked improvement in learning levels in the country.

Between 2015-16 and 2017-18, the proportion of trained teachers increased from 75.49 per cent to 77. 85 per cent and 78.52 per cent to 83.69 per cent in primary and secondary levels, respectively. Percentage of schools with pupil-teacher ratio less than or equal to 30, which is the prescribed benchmark, increased from 65.91 per cent in 2014-15 to 70.43 per cent in 2016-17, recording a rise of 7 per cent. 90 per cent of students in grade III, 83 per cent of students in grade V and 72 per cent of students in grade VIII achieved the minimum proficiency level in language and mathematics in terms of nationally defined learning outcomes in the National Achievement Survey, 2017-18.

Higher Education

Consistent efforts have been made to expand the formal base of higher education, with special focus on including technical, professional and vocational education. India has 993 universities, 39,931 colleges and 10,725 stand-alone institutions, with the private sector accounting for 38.7 per cent of universities and over 75 per cent of the other two. The number of

university level institutions has grown by about 37 per cent and the number of colleges by about nine per cent over the last five years. Gross Enrolment Ratio (GER) in Higher education, calculated for 18-23 years of age group, is 26.3 per cent. Gender Parity Index for Higher education increased from 0.92 in 2014-15 to one in 2018-19 reflecting an improvement in women's access to learning opportunities.

Skill Development and Vocational Education

The youth in the country make up 27 to 28 per cent of the population. Thus, vocational education starting at higher levels to enhance their employability, through skill development, is a viable alternative path for the youth. Integrating skills-based training into the academic cycle of the universities aims to bridge the industry-academia gap. A strong network of Industrial Training Institutes provide long term skill development training to youth, while focusing on women. Under the Skill India mission and the *Pradhan Mantri Kaushal Vikas Yojana* (PMKVY), the youth are given skill training to inculcate industry relevant skills to secure a better livelihood. Under PMKVY, 8.7 million candidates have been trained till date.

Conducive Education Facilities that are Child, Disability and Gender Sensitive

'Leave no one behind' is the guiding principle in India's education policy, which enabled focused interventions through enrolment drives, nutritious meals, scholarships and provision of supplementary learning material to encourage education of girls, children with disabilities and special needs, children from SC/ST and other communities in situations of vulnerability. *Beti Bachao, Beti Padhao* (Save and Educate the Girl Child) campaign has spread awareness on the importance of gender parity in education on a pan-India scale.

Educational facilities that are sensitive to the needs of children with disabilities have ensured an inclusive learning environment for all. With *Swachh Vidyalaya*, separate toilet facilities for girls have helped to arrest female dropout to a considerable extent. GER for girls is 94.3 per cent and 81.3 per cent, and hence, the Gender Parity Index stands at 1.06 and 1.04 at the elementary and secondary level, respectively. By 2019, almost all primary and secondary schools had created the necessary conditions for inclusive education. These schools are equipped with ramps, special hygiene rooms and

required teaching materials. Further, nation-wide efforts to make schools disabled-friendly have led to an increase in the school attendance of children with disabilities, from 50.5 per cent in 2001 to 61.1 per cent in 2011.

Monitoring Progress at the National and Sub-national Levels

While measuring the country's performance on the SDG India Index and Dashboard, for SDG 4 and its disaggregated nine national indicators, the overall Index Score for the country is 58, and ranges between 19 and 81 for the States, and between 43 and 80 for the UTs, on a scale of 0-100. This indicates that the distance to target covered so far by India in quality education remains 58, with a significant variation among the sub-national units.

Challenges and Way Forward

Despite various efforts and significant progress achieved in the education sector in different dimensions, several challenges need to be addressed.

- Despite significant improvements in maternal and infant health owing to increased awareness, challenges lie in ensuring cognitive development of children through Early Childhood Care and Education (ECCE). The National Policy on Education aims to strengthen and expand *Anganwadi* system to include a robust educational component with ECCE curriculum and pedagogy which will be implemented by the ministries of Health, Women and Child Development, and Education.

- Various learning assessments point at the regional disparity in literacy and numeracy skills among children in primary schools. Data also suggest that a sizable proportion of children still need to meet the level of learning outcomes prescribed for their respective class. Tackling these challenges requires a focus on curriculum development, training of teachers, greater use of technology and active community participation.

- The perceptive bias against public sector primary education requires consistent nation-wide efforts. Despite increasing access, enrolment in public primary schools has declined by 23.1 million in absolute numbers from 2007-08 to 2015-16, while enrolment in private primary schools has increased by 14.5 million over the same period.

- Gearing the education system towards learning outcomes is a major focus area in the country. To shift the emphasis from quantity to quality in the education sector, while addressing equity and inclusion, several reforms are underway to rationalise the public school structure for optimum utilisation of limited financial and human resources, such as, designing the curriculum on a skill/competency based continuum, continuous training of teachers, system improvement for comprehensive and continuous evaluation of teachers and students to achieve the defined teaching standards and learning outcomes, and intensive use of modern technology in the entire process.

- Higher education in India, despite all its advantages of affordability, access and high quality, still has a low Gross Enrolment Ratio of 26.3 per cent as of 2018-19, and hence needs to be made more inclusive with stronger incentives for enabling the research and innovation ecosystem. Further, relatively lower enrolment of women in STEM, particularly in engineering and technology, which currently stands at 18 per cent in IITs, calls for more incentives. Among the 620 Institutes and Universities including IITs, NITs, ISRO and DRDO, only 20 per cent women were on the scientific and administrative staff, 27.8 per cent were Post–Doctoral Fellows and 33.5 per cent Ph.D. scholars. The *Rashtriya Uchchatar Shiksha Abhiyan* (RUSA), seeks to improve access, equity and quality in state higher education institutions through graded autonomy, reforms-based approach and linking funding to performance. Focus on quality and excellence has also been driven by making accreditation of higher education institutions mandatory, with transparency and periodic assessment on multiple parameters.

While India has made commendable progress in modernisation of the higher education system, the positions of the country's universities in major global university rankings, such as the QR World University Rankings or Times Higher Education Rankings, still fall short of the desirable. The recent reforms of graded autonomy, performance linkage of grants and incentives, governance reforms, greater managerial and academic freedom, and stronger push for research and innovation, will undoubtedly pave the way for greater institutional excellence. Coupled with this, the emphasis on providing the youth, especially women, affordable, inclusive, and industry relevant vocational and technical education, holds the key to building the research-innovation-entrepreneurship ecosystem, and unlocking the development potential of the Indian society and economy. ❑

COMMUNICATION

Decoding the Comprehensiveness and Relevance of Academic Hypothesis of Prof. Bhushan Patwardhan

S C Sharma*

Connecting the dots from the past and observing the present Higher Education scenario in India from a unique vantage point, it can be clearly seen that for over several decades Prof. Bhushan Patwardhan has been immensely contributing to restructuring and revamping the state of affairs of Higher Education in India. His contributions have changed the dynamics of the knowledge society in India. His dynamic and visionary approach has accelerated the process of transformation in the university system and has taken away several volatilities, social ferments, and conflictive tendencies in the Higher Education System.

Though the university education system is consecrated for teaching and research-oriented activities, Prof. Bhushan Patwardhan expanded its scope by underlining the essence of transmission of knowledge in a spirit of rationalism. More than that he emphasizes its responsibility in converging the traditional and ancient wisdom, proliferating the heritage, ethos, regional customs, cultural identities which sustain the spirit of nationalism and at the same time its steadfastness in furtherance of societal aspirations of ultra-technocratic society. Prof. Patwardhan thoughtfully mentions that it is the onus of the society to be aware that an environment that is intellectually arid and dormant would encounter the clashes transpired from views imposed from the cultures which are not indigenous.

Prof. Patwardhan, postulates that the academic vibrancy of a university is reflected in the intellectual vitality of a society, which eradicates any stagnation of ideas or impact made by conservativeness, liberates from the dogmatic notions, and carries a civilization beyond its geographical limits, and harvests universal acceptance. His perseverance and spontaneity in carrying his vision and pragmatic approach reminds me of a Sanskrit adage from **'***Sookti Sudha'* which is pertinent to mention here:

सर्वागमानां आचारः प्रथमं परिकल्प्यते ।
आचारः परमो धर्मः नृणां श्रेयस्करो महान्
                                              –सूक्तिसुधा

Meaning: *Practicability of Knowledge acquired has great prominence in all schools of thought. Therefore, the essence of practicability has the enormous eternal and inherent nature of reality which brings prosperity to a person.*

During his tenure as Vice Chairman, UGC, Prof. Patwardhan, has endeavored for the interests of the students' research aspirations, paved ways for setting employment trends that absorb graduates from the HEIs/Universities, worked for the prevention of exploitative practices, facilitated the creation of a student-friendly atmosphere in the university campuses, and promoted the implementation of technology-based academic administration.

Prof. Patwardhan opines that Higher Education regulatory system should be enabled to identify and correct the lacunae that exist in the system, create a flexible ambiance that purports the objectives of both industry and academia. In a global gloom with the fissiparous situation of the post-pandemic era, which questions the credentials and credibility of the Universities and HEIs**,** Prof. Patwardhan exuberates confidence that the phase-wise implementation of National Education Policy–2020 will definitely establish an environment that shall facilitate Higher Education to thrive and act as a catalytic component in synthesizing its exponential development in next two decades. He strongly advocates that the academic leaders and policymakers shall grasp the exigencies of the changes guided by the pandemic

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period and it is imperative for them to shift to the new landscape of Higher Education by focusing on the innovativeness of technology-era models which are presently dominant as 'New Normalcy'. He identifies this 'New Normalcy' as a phenomenal evolution in understanding the Higher Education with renewed perspectives which will saturate inequalities in curricular practices and translate to multi-dimensional alternate Higher Education Learning system in the long run. In this backdrop, Prof. Patwardhan has emerged as a strong proponent of competency-based education with a scientifically programmed curriculum which has also been emphasised in NEP–2020. The below stated Sanskrit verse that is taken from '*Panchatantra*' aptly highlights the correlation of enthusiasm and success in the implementation of revolutionary plans:

यत्रोत्साह समारंभो यत्रालस्य विहीनता ।
नय विक्रम संयोगः तत्र श्रीः अचला धुर्वं ॥
–पंचतंत्र

Meaning: *Eternal prosperity will flourish where the enthusiastic deeds will happen and where adventure with ethics and propriety will converge.*

Note: This article is dedicated to Prof. Bhushan Patwardhan on the occasion of his taking over as Chairman, Executive Committee of National Assessment and Accreditation Council (NAAC) and thus welcoming him to the NAAC family.
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Learning from Experience is Sustainable Progress

Sartaj Gill, Global Director, Crew Culture and Competence and Head, Global Assessment (Recruitment and Promotion)- Global Cadet Programme and Organisation Culture delivered the Convocation Address at the 11th Convocation Ceremony of the Academy of Maritime Education and Training (AMET) University, Chennai on January 24, 2022. He said, "Today, a journey has ended, but a new Voyage is just about to begin. There is a vast world of new faces, new experiences, and new goals to be conquered. Think of the opportunities that await. Think of everyone that depends on you. Think of the bright future that your family deserves to have. Think of who you want to be. But there will always be challenges to hinder you throughout the way. Treat it as a chance to prove to yourself and to others that you have become a better person than you were yesterday and the day before that. Continue to strive for excellence. You are the future of this industry and leaders of tomorrow." Excerpts

It's a great pleasure and a great privilege to be addressing all of you Graduates today. I am truly humbled. It would have been more powerful in a face-to-face setting, but these are unprecedented times, so I will try my best to make this message as sticky as possible for each one of you.

Today is a proud moment not only for *All* of you 1344 graduates but also your parents and the faculty who have mentored you along the way.

Who Were You 5 Years Ago? Most of you would be thinking along the line: What should my chosen career be? Where should I go next? How do I see myself in the future? What lies ahead for me? Will it ever be easy? Scores and scores of questions and doubts for a teenager to handle. For those of you who chose the MBA program and other higher disciplines, perhaps the questions would have been only slightly different. Then you made the million-dollar decision. You chose to join AMET and become a Maritime professional. The largest cohort chose to become a seafarer!

Now, five years have passed, a whole lifetime it seems, and here you are. Beaming with pride and honor for finishing an important milestone in life. A milestone that will greatly define your future and, probably, that of your family. Achieved from years of hardship, sacrifice, and camaraderie. The road was rough and never easy. Sweat and tears were shed but you never gave up. And so I say this to you with high esteem: Kudos. A job well done! Let's hear a round of applause from everyone.

'Congratulations' is also deserved, by your family, who never failed to back you up every single step of the way. For the mentors, who molded and guided you on the field of seafaring. For your friends, for the shared memories and times that made this milestone worthwhile. Without every single one of them, your success today would be far from reach. That is why they, also, merit a pat on the back and the sincerest appreciation.

My exciting Maritime journey / my *Voyage* began 27 years ago, when, I stepped into the AMET Saligramam campus in September of 1994 as a student of HND Nautical Studies. Yes, I am a proud graduate from the 1st Nautical batch of AMET. I was a young teenager like many of you still not sure of what to expect from my career and what the future had in store for me.

My batch comprised of only 16 deck and 8 engine cadets who had signed up for the HND Programme. All of us are still in touch until today. Allow me to share with you some of my life lessons acquired during this journey.

1. From the first day on at AMET, we were required to wake up at 05.00 hrs and make our beds - Corners square, cover pulled tight, pillow neatly set under the headboard. Simple task but we were required to perform this to perfection every morning. At that time we were unable to comprehend the importance of this simple task as we were preparing to be sailors..! But the wisdom of this simple act has been proven to me many times over. If you make the bed every morning, you would have accomplished the first task of the day. It gives you a small sense of pride and will encourage you to do another task and another. Making your bed will also reinforce the fact that little things in life matter. If you can't do the little things right, you'll never be able to do the BIG things right.

2. **Charles Schulz Philosophy.** We care. Here's a quiz - Do you remember the names of the five wealthiest people in the world, Name the last 5 winners of Miss India pageant, name 5 people who have won the Nobel prize, name last 5 winners of film fare award? So how did you do? The point is none of us remember the headliners of yesterday. They were all the best in their business, but awards tarnish and achievements are forgotten. Here's another quiz. List a few teachers who aided your journey through school and AMET, name 3 friends who have helped you during your difficult times, think of few people who have made you feel appreciated. I guess this was easier right? The people who make a difference in your life are not the ones with the most credentials, money or awards. They simply are the ones who care the most. So I remember Dr Ramachandran for being a great Mentor, Rajesh Ramachandran for being a close friend, Mr Seyedu my teacher, Capt Vivekanand our Director for being a stylish personality and instilling discipline in me and off course my buddies from the batch of 1994. So be compassionate and show empathy to everyone.

3. **Dream BIG and be Resilient**– go after your passion and don't be afraid to fail big. I know this is not a regular convocation message but believe me the experience that you acquire from failures far exceeds those from the successes. "Aim high and miss, but don't aim lowThink outside of the box. Do you remember the 9 dot game where you are required to join all the 9 dots without lifting the pen by making 4 straight lines? The only way you could complete the task is by going outside of the box. You must make multiple attempts at this task and only after many failed attempts when you think outside of the box, do you complete the task. Be resilient. When you fail, learn from your experience. Learning from experience is progress. I remember when I set out to establish a Ship Management company in Singapore along with some investors. We started with a bang but failed. I was without a job for 10 months. During this period, I reflected on what went wrong and what went right. I kept the learnings from that experience close to my heart. It made me stronger. So have dreams but set goals to reach their – set life goals / yearly goals / daily goals.

Then measure against them consistently. Don't loose sight of the end goal.*"To get something your never had, you have to do something you never did"*. So keep growing, keep moving, keep learning.

4. **Strive for Excellence and Success will Follow.** My 1st vessel as a cadet was a PCTC (Pure Car & Truck Carrier). I joined the vessel at Singapore OPL. I was greeted by my 1st Chief Officer Jagdish Gunjal – my mentor. For the first 2 months, I woke up at 04.00hrs to keep bridge lookout with the mate. Then at 06.00hrs, I swept and mopped the whole bridge, cleaned the coffee mugs. From 08.00hrs till 17.00 hrs, I teamed up with the Filipino crew members and swept and mopped the car decks. Mind you this vessel had 11 car decks, each the size of a football field. Steel decks, 40° C temperatures and all we did for the next 7 days was the sweep and mop the decks prior arrival Japan. By this time, I was thinking, what did I get myself into..!Is this what being a seafarer all about? Well as time progressed, my mentor asked me if I had been able to figure out why he was making be clean the decks. What was the learning in it for me? Well it was simple - If you do a job, do it well. Be the best that you can be. Good enough is not good enough if it can be better and better is not good enough if it can be best. *Aristotle said "you are what you repeatedly do"* therefore excellence ought to be a habit and not a one off act – don't ever forget that. The other learning was that only when you have yourself mastered a task, will you be able to lead and guide a team well. You know how much time and effort it takes for that task to be completed. So you will always be reasonable.

5. **Discipline, Commitment and Consistency**. To achieve your goals, you must commit, apply discipline and be consistent. We were required to parade and muster for flag hoisting at a designated time every day and lower the flag every evening at a designated time. Even on a Sunday. This was preparing us to commit, be disciplined and take responsibility. We learnt that *it's better to be an hour early then to be a minute late*. So, discipline you already have from AMET. Now you must learn to consistently apply that in your work life. Everyday and not just on a Monday. Greatness is achieved by consistent performance. You don't achieve a

6pack physique by going to the gym once a week. It requires hitting the gym consistently. *Without commitment you will never start and more importantly without consistently you will never finish*.

6. **Be a Curious Learner**. Have you seen a child? They want to touch everything, explore everything have a zillion question. They are curious about learning and experiencing. Experience is the best teacher. Be a curious learner when you are out their. Continue to learn, not just from your experience but others as well and from their mistakes and failures. Ask questions, explore things, challenge the status quo. *Confucius a Chinese philosopher said "a wise man learns from his mistakes, but a wiser man learns from other's mistakes"* so be smart.

7. **Embrace Teamwork and Collaboration**. Understand your colleagues in the workplace – whether onboard a vessel or in a shore organization. Many of you will have the opportunity to work with many different nationalities. Understand and respect the cultural nuances. None of us is as good as ALL of US. Involve people, share ideas, collaborate with everyone to achieve success. At V.Group we employ over 40 nationalities. So you can imagine how important this attribute is.

8. **Take Ownership**. *Responsibility is one such thing that cannot be given. It's always taken*. (*Zimedaari*). As social animals we are accountable to others – wife, kids, parents, friends, and colleagues. You don't want to let them down, so you take accountability for your actions. You feel responsible to anyone who believes in you, who places their trust in you. So never be shy in taking accountability even when things go wrong. This is the hallmark of a true leader.

9. **Be a Leader**. Be competent in whatever you do. Become the go to person in your team. Become the specialist. Then gather the courage and confidence to speak up. Stop a job if you feel there is risk. Competence without the courage is of no value. You need to be able to communicate effectively as a leader. So hon your communication skills. Always keep your head on your shoulder. *Ego is the anesthesia that deadens the pain of stupidity. Pride is a burden of a stupid person.* Always be humble and grounded. Jhon Maxwell said "*People won't go along with you if they don't get along with you*"

10. **Adjust your Compas and Course**. Make small alterations to your goals. Life and career voyage is not a straight line. You must alter your course. Sometimes marginally sometimes substantially. You need to be aware of the situation and the changing environment. Pick up the signals. *Your attitude in life will determine your altitude in life*

So what will happen next? Today, a journey has ended, but a new Voyage is just about to begin. There is a vast world of new faces, new experiences, and new goals to be conquered. Think of the opportunities that await. Think of everyone that depends on you. Think of the bright future that your family deserves to have. Think of who you want to be. But there will always be challenges to hinder you throughout the way. Treat it as a chance to prove to yourself and to others that you have become a better person than you were yesterday and the day before that. Continue to strive for excellence. You are the future of this industry and leaders of tomorrow.

I started this message with a question, let me finish it with another question: *Who will you be 5 years from now*? *Your career is in your own hands – it will become what you make of it*.

I hope you will reflect on the attributes mentioned by me which will be a true affiliation of an accomplished graduate from this esteemed university.

I thank once again Dr. J.Ramachndran, Founder and Chancellor, AMET University who is the pioneer in giving Maritime Education in India and who is instrumental in shaping my career and thousand others.

Wishing you *All* purposeful, exciting, and enjoyable career. I hope that I get an opportunity to work with some of you.

All the best and be safe! ❑

CAMPUS NEWS

NAAC Conference on Quality Sustenance in Higher Education through Accreditation

A two-day Virtual National Conference on 'A Paradigm Shift for Quality Sustenance in Higher Education through Accreditation' was organized by the Internal Quality Assurance Cell and Department of Civil Engineering, K D K College of Engineering, Nagpur in collaboration with Government College of Engineering, Nagpur, Institution of Engineers (I), Nagpur Local Center, Indian Concrete Institution, Nagpur Center, and Indian Water Works Association, Nagpur Chapter, recently. The event was sponsored by the National Assessment and Accreditation Council (NAAC). About 250 participants across the country participated in the conference.

The Chief Guest of the Inaugural Function was Dr Pramod Pabrekar, Senior Consultant, *Rashtriya Uchhatar Shiksha Abhiyaan* (RUSA), Government of Maharashtra. During the function, Dr D P Singh, Principal, K D K College of Engineering welcomed the gathering. Conference Chair, Dr Avinash Badar, in his opening remarks acknowledged the National Assessment and Accreditation Council (NAAC) for financial assistance to the college to organize the event. The Convener of the event, Dr Valsson Varghese placed a brief note of the conference. He informed the gathering about how the conference was conceptualized, the Chief Guest and the Guest of Honors, the schedule for the two-day conduction of the conference, the presence of luminaries of the academic field for the keynote addresses, etc. All the dignitaries were welcomed with virtual bouquets.

Dr Pramod Pabrekar, in his deliberation on 'Quality Sustenance in Higher Education through Accreditation' narrated the fact that how it is important to face the NAAC peer team visit. He informed the gathering that without accreditation any institution cannot nominate its faculty members on the Board of Studies, Academic and Management Council. Even the disbursal of scholarship has been linked to accreditation. Therefore, the accreditation inculcates the quality culture in HEI. For the sustenance of quality in HEI, Dr Pabrekar, based on his rich experience in academics and as a consultant of RUSA suggested that teacher's training, vibrant IQAC, Research culture and collaboration, academic and other audits in the institution, structured feedback and strong students' support system are the key parameters to achieve quality and its sustainability in HEI.

Dr Leena Gahane, in her keynote address on 'A Paradigm Shift for Quality Sustenance in Higher Education through Accreditation' threw light on quality sustenance in Higher Education Institutions (HEIs) and opined that institutional policies, a framework for quality evaluation and its benchmarking, skill development, collaborative learning, syllabus up-gradation, audits of infrastructure including ICT facilitation, academic audits, research and innovations, and vibrant IQAC are the backbones. The institution must comply with the entire desired requirement to bring quality culture and strive for its sustenance. She also stressed that getting accreditation is the first step and maintaining its standards upwardly is the key to achieving quality.

Dr Indrani Bhaduri, during her deliberation on 'Quality Sustenance in HEI : A Stakeholder's Perspective' attracted everyone's attention towards the stakeholders' perspective in quality sustenance in HEI. She spelled out a few provisions of the National Education Policy of India, NEP-2020 concerning HEI that the multidisciplinary universities will enable students to have holistic growth and all-around development. Dr Bhaduri informed that research-intensive, teaching-intensive and degree-granting autonomous colleges are the three categories of the institutes recommended by the NEP-2020.

Dr Preeti Bajaj focused on structured data management for accreditation. She elaborated how the data in big universities and institutions can be assimilated, managed and produced for accreditation purposes. She emphasized on how the data pertaining to the students, faculties and support staff should be collected through back-office system and repository to be maintained. Right from the entry of students or staff in the university or institute till they leave the campus, the data to be entered in one format in the ERP and can be retrieved as and when required. Later, the documents needs to be certified by the concerned Dean of In-charge of the respective section.

Dr. Kavitha Kartikeyan, Associate Professors, Prince Shri Venkateshwara Padmavathy Engineering College, Ponmar, Chennai presented her research article on 'Culture of Quality through IQAC: A Case Study

on Accelerating Growth and Performance in PSVP Engineering College' and adjudged as the best paper by the Session Chair, Dr S M Malode and Session Co-Chair, Prof. M N Umare. Similarly, the article presented by Mr Ashay Shende, Research Scholar, Lovely Professional University, Jalandhar, Punjab on 'Going to New Classroom (Online): Challenges and Opportunities in Developing Countries' was adjudged as Second Best Paper.

The Valedictory Function was conducted after the paper presentation session. Dr Sachin Solanki Assistant Director, Directorate of Technical Education, Nagpur was the Chief Guest, while Dr Preeti Bajaj, Vice Chancellor, Galgotia University, Greater Noida was the Guest of Honor. Dr Solanki appreciated the efforts taken by KDK College of Engineering by arranging very apt topic on Quality Education. The opportunity given by NAAC to the college have been precisely utilised in the organisation of the event. The function ended with warm note of arranging similar events in future.

Impact Analysis

The participants understood the need for quality and its sustenance, especially, in higher education. They also had an opportunity to understand the intricacies of the accreditation process and its importance in quality achievement and its sustenance. The delegates acquired the knowledge of all stakeholders' perspectives about the quality, policies and procedures needed in quality approach, data assimilation, management, production, etc. in the process of accreditation through which an institution can achieve the best grade in accreditation.

International Conference on Innovations in Modern/Traditional Health Sciences and Medical Technology

A two-day Paramedicon International Conference on 'Innovations in Modern/Traditional Health Sciences and Medical Technology' is being organized by Pharmacy (Ay.) Course, Faculty of Ayurveda, Institute of Medical Sciences and Medical Laboratory Technology Course, Ddu, Kaushal Kendra, Rajiv Gandhi South Campus, Barkachha, Mirzapur, Banaras Hindu University, Varanasi, Uttar Pradesh to celebrate the World Health Day on April 07-08, 2022 through hybrid mode. The primary goal of Paramedicon is to promote research and developmental activities in Medical Technology, Health Sciences, Biological and Pharmaceutical Sciences. The academicians, scientists, researchers, small entrepreneurs

and students of undergraduate and postgraduate may participate in the event to discuss critical issues and concerns to advanced and innovative technologies applied in Medical Technology, Health Sciences, Biological and Pharmaceutical Sciences.

Health Care Sector mainly depends on two segments. Segment first is Medical Technology that occupies a large proportion applied to diagnose, cure, treat or prevent disease. Segment second is Pharmaceutical which develops drugs. Pharmaceutical organizations that produce generic and branded drugs are subjected to various laws and regulations dealing with patenting, testing, safety, efficacy, and marketing.

Growth in Health Care Sector market is mainly driven by the rising prevalence of chronic diseases, growth in the biologics market, technological advancements and new product launches. In addition, due to the Corona virus outbreak globally, there is a sudden rise in the demand for pharmaceutical drugs, primarily in infectious application with the enhancement of Medical Technology and engineered instruments, novel diagnostic methods and health care procedures.

Medical Laboratory Technology and Pharmacy (Ay) are considered together with paramedical science. Paramedical science is an interdisciplinary medical subject that is becoming enormously important in health care systems. In recent years, there has been a growing need for qualified and well trained paramedical personnel. To meet the great demand for qualified trained paramedical, it is necessary to impart the training to the eligible and interested candidates. The areas of discussion are:

Pharmacy

- Research in New Drug Delivery: Pharmaceutical nanotechnology, biopharmaceutical drug discovery and development, novel drug delivery systems, drug targeting and design, targeted drug delivery system, gene therapy and tissue engineering, major challenges in drug delivery and formulation developed by traditional methods.

- Research in natural products and Ayurveda: Preclinical and clinical studies on new natural products and ayurvedic formulation, quality control and standardization of crude drugs, nutraceuticals and ayurvedic formulations, Isolation and structural elucidation of natural moiety. Cultivation, conservation and sustainable use of medicinal plants.

- Newer therapeutic approaches in metabolic disorders and neurodegenerative diseases.

- Scope and challenges in pharmaceutical industry: Pharmaceutical regulatory affairs and IPR, marketing and management of pharmaceutical and medicinal plants, impact of biomedical and pharmaceutical waste on environment

Medical Technology

- Research in advances in medical sciences, diagnostic methods based on biosensor, biomarkers, histodiagnostics, immunodiagnostics, molecular diagnostics.

- Research in health statistics and implication in diagnostics and health education.

- Research in epigenetic of various diseases, advance therapy and health care, phage therapy and its implication, gene, genomics prospects of health, therapy for infectious and microbial problem, method based on biotechnology and its application.

- Research in biomedical engineering, biomaterials, bioinstrumentation, medical informatics, biological system analysis and control, bio-transport process, biomedical signal and image processing, effects of radiation and biomedical applications of radiation.

For further details, contact Conference Secretariat, Coordinator office, Pharmacy (Ay.), Administrative Building, Rajiv Gandhi South Campus, Barkachha, Banaras Hindu University, Varanasi-221005 (Uttar Pradesh), mobile Numbers: 07376356174; 07379427311; 09415447658; 09793758564; and 08318322379, E-mail: *parmedicon@gmail.com*. For updates log on to: *www.bhu.ac.in*.

National Workshop on Research Methodology

A ten-day National e-Workshop on 'Basic to Advance: Hands-on Training of SPSS in Research Methodology' is being organized by the A K Dasgupta Centre for Planning and Development, Visva-Bharati, Shantiniketan, West Bengal on May 10-19, 2022. The faculties, consultant and administrators engaged in Higher Education Institute, industry training professionals, research scholars, students, extension specialists in agriculture, public health and rural development practitioners, consultant in development sector, etc. may participate in the event. The lectures of this workshop will be delivered by experienced analysts who will provide basic to advance knowledge on all aspects of SPSS, with topics ranging from use of different statistical techniques for analysis of data, time series analysis, data mining and predictive analysis. The event will explain the theories of different statistical tools which are required to analyze a field data and thus, there will be enough practical learning opportunities via online which will enable the participants to practice what have been taught in the workshop. The Course Outlines are:

- Introduction to IBM SPSS.

- Entering and Editing of Data.

- Reading Data, Manipulating Data, Saving of Data.

- Variable, Relationships, Visualizations of data. Coding of data.

- Exploratory Data Analysis: Correlations, Regression.

- Z-test, T-test, Chi-square test, Inferential Statistics.

- Analyzing Categorical Variables.

- Cluster analysis, Factor analysis, Log linear Models Discriminant.

- Analysis, logistic regression, and other Multivariate Analysis Techniques Analysis of data with Repeated Measures.

- ANOVA.

For further details, contact Mr. Daya Shankar Kushwaha, A K Dasgupta Centre for Planning and Development, Visva-Bharati, Shantiniketan-731253, West Bengal, Mobile Number: 09474644413/09475983934, E-mail: *vbplanning46@gmail.com*. For updates, log on to: *www.akdcentrevisvabharati.org*.

National Workshop on Applications of Statistical Tools in Data Analysis

A five-day Online National Workshop on 'Applications of Statistical Tools in Data Analysis' is being organized by the Department of Statistics, Central University of Haryana, Mahendergarh (Haryana) under the Aegis of *Azadi Ka Amrit Mahotsav* on March 21-25, 2022. The faculty members, research scholars, postgraduate and undergraduate students from all disciplines may participate in the event.

The statistical tools play an important role in the field of life sciences, engineering, management, humanities and allied sciences. Recent advancement in application-oriented sciences is compelling the researchers and users for learning and understanding the statistical tools for modeling and analysis of the data arising from their experiments. The event aims to give lectures and training on statistical topics like exploratory data analysis, linear regression modeling, design of experiments, etc. The participants will be exposed to the statistical basics, background and fundamentals behind the tools. They will also be trained and taught, how to do such analysis through Statistical Software R and how to interpret the outcomes. The Major Topics of the event are:

- Introduction to R and R Studio.
- Different Data Types in R.
- Data Import and Export in R.
- Introduction to basic programming and working with functions in R.
- Statistical distribution in R.
- Data Visualization (Exploratory Data Analysis) in R.
- Parametric Testing of Hypothesis.
- Non-Parametric Testing of Hypothesis.
- Analysis of Variance and Covariance.
- Simple Linear Regression Analysis.
- Multiple Linear Regression Analysis.
- Logistic Regression Analysis.
- Principal Component Analysis.
- Factor Analysis.

For further details, contact Organizing Secretary, Dr. Kapil Kumar, Department of Statistics, Central University of Haryana, Mahendergarh-123031(Haryana), Mobile number: +91-9990561525, E-mail: *astda2022@cuh.ac.in.* For updates, log on to: *www.cuh.ac.in/events/.*

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We Congratulate…….

Prof. Mamidala Jagadesh Kumar for taking over as Chairman, University Grants Commission

Prof. Mamidala Jagadesh Kumar took over as Chairman of University Grants Commission. A renowned academic and technocrat, Prof. Kumar obtained his MS(EE) and PhD(EE) degrees from the Department of Electrical Engineering, Indian Institute of Technology, Madras. He did his post-doctoral research at the Department of Electrical and Computer Engineering, University of Waterloo, Waterloo, Ontario, Canada

Earlier, he was serving as Vice Chancellor of Jawaharlal Nehru University, New Delhi. He also served as Professor of Electrical Engineering at IIT Delhi. He held the NXP (Philips) Chair Professor established at IIT Delhi by Philips Semiconductors, Netherlands. He received the 2013 Award for Excellence in Teaching (in the large class category) from IIT Delhi. He works in the area of Nanoelectronic Devices, Nanoscale Device modeling and simulation, Innovative Device Design, and Power semiconductor devices. He has published extensively in the above areas with three books, four book chapters, and more than 250 publications in refereed journals and conferences. Several patent applications have been filed based on his research. He is on the editorial board several international journals including IEEE Journal of the Electron Devices Society and is Editor-in-Chief of IETE Technical Review. He was an Editor of IEEE Transactions on Electron Devices for nine years.

He is a Fellow of Indian National Academy of Engineering, The National Academy of Sciences, India, and The Institution of Electronics and Telecommunication Engineers, India. He has been awarded the 29th IETE Ram Lal Wadhwa Gold Medal for distinguished contribution in the field of Semiconductor device design and modeling. He also received the first-ever ISA-VSI Techno Mentor Award given by the India Electronics & Semiconductor Association to recognize a distinguished Indian academician and researcher for playing a significant role as a mentor and researcher. He is a recipient of 2008 IBM Faculty award in recognition of professional achievements.

He is the Chairman of the Governing Body of National Council of Science Museums, Ministry of Culture, Government of India. He is also the President, General Council, National Assessment and Accreditation Council, (NAAC). He was a member (PT) of Telecom Regulatory Authority of India (TRAI).

AIU congratulates him and wishes him the best for his success.

THESES OF THE MONTH

SCIENCE & TECHNOLOGY
A List of doctoral theses accepted by Indian Universities
(Notifications received in AIU during the month of December 2021-January 2022)

BIOLOGICAL SCIENCES

Life Science

1. Arpitha, H S. **A molecular mechanistic approach on the protective role of lutein against hyperglycemia- mediated oxidative stress In Retinal Pigment Epithelial (RPE) cells**. (Dr. P Ganesan), Faculty of Life Science, Academy of Scientific and Innovative Research, Ghaziabad.

2. Bhandari, Purva Deepak. **Functional characterization of conserved patatin domain containing proteins from *Mycobacterium tuberculosis* and *M. smegmotis*.** (Dr. Sheetal Gandotra), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

3. Bhowmick, Rupa. **Deciphering the complexities in oncogenesis: An integrative approach to understand its adaptive phenotypes**. (Dr. Ram Rup Sarkar), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

4. Bomzan, Dikki Pedelna. **Decoding the role of genes related to geranylgeranylation in the modulation of alkaloid biosynthesis in Catharanthus roseus**. (Dr. Dinesh A Nagegowda), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

5. Burse, Shaunak Anil Kumar. **Understanding the role of Myg1 exonuclease in nucleo-mitochondrial crosstalk and melanocyte homeostasis**. (Dr. Vivek T Natarajan), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

6. Das, Himadri. **Study on sustainable eco-friendly extraction processes natural fibres for industrial application**. (Dr. Dipul Kalita), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

7. Dubey, Raghvendra. **Physiological behavior of stomata toward exogenous and endogenous stimuli in cotton**. (Dr. P A Shirke), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

8. Gupta, Swati. **Unravel the mechanism(s) of PGPR mediated drought stress amelioration in *Cicer* *arietinum* L. by proteomics approach**. (Dr. Puneet S. Chauhan), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

9. Hazeena, S H. **Improved bioprocess for the production of 2,3-Butanediol from agricultural and industrial residues**. (Dr. Binod P), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

10. Khullar, Mowkashi. **The bioactivity of colebrookea oppositifolia extract and its bioactive constituent, particularly against alcoholic hepatitis.**. (Dr. Zabeer Ahmed), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

11. Latha, M. **Functional characterization of plant acylhydrolases and its significance in oil accumulation**. (Dr. P Vijayaraj), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

12. Mahapatra, Anindita. **Biophysical investigations of the aggregation pathway of alpha-synuclein and Its modulations by novel and repurposed molecules**. (Dr. Krishnananda), Faculty of Life Science, Academy of Scientific and Innovative Research, Ghaziabad.

13. Mahesh, Survi. **Understanding meiosis and its regulation in Arabidopsis thaliana: A novel DNA binding domain of DYAD gene is essential for Arabidopsis meiosis**. (Dr. lmran Siddiqi), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

14. Rai, Aakansha. **Role of Cystathionine-Beta Synthase (CBS) deficiency induced hyperhomocysteinemia in hypopigmentation**. (Dr. Soumya Sinha Roy), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

15. Raja, R. **Molecular cloning and studies on the isoprenoids pathway genes and gene regulatory components from *Azadirachta* and *Artemisia annua*.** (Dr. Vikrant Gupta), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

16. Rodrigues, Vereena. **Biotechnological interventions for conservation and modulation of 2-Hydroxy-4- methoxybenzaldehyde biosynthesis in**

Decalepis salicifolia, **a RET plant**. (Dr. V Sundaresan), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

17. Srinivas, Puttapaka. **Role of nitazoxanide and spautin-1in the regulation of mitochondrial bioenergetics and Nurr1 activation: Implications for Parkinson's disease**. (Dr. Shasi Vardhan Kalivendi), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

18. Vishal Das. **Role of Epithelial-Mesenchymal Transition (EMT) promoting transcription factors in ovarian cancer stem cells differentiation**. (Dr. C Chikkaputtaiah), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

EARTH SYSTEM SCIENCES

Environmental Science

1. Bherwani, Hemant. **Integrated assessment and modelling of urban microclimate parameters for sustainable urban design**. (Dr. Rakesh Kumar), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

2. Dhote, Lekha. **Sustainable utilization of distillery sludge as a low- grade fuel for energy generation**. (Dr. Sunil Kumar), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

3. Soni Kumari. **Phosphorus recovery from nutrient-rich wastewater through struvite crystallization**. (Prof. Sheeja Jagadevan), Department of Environmental Science & Engineering, Indian Institute of Technology, Dhanbad.

ENGINEERING SCIENCES

Aerospace Engineering

1. Charles, Promio. **Aeroservoelastic system modelling with active control applications using experimental and theoretical methods**. (Dr. S Raja), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

2. Guggari, Shrishail. **Analytical and computational investigation of thermal performance metrics: Application to CPU cooling in HPC servers**. (Dr. Shrishail Guggari), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

Chemical Engineering

1. Das, Pallabi. **Membrane integrated crystallization: Sustainable technology development towards process intensification**. (Prof. Suman Dutta

and Dr. Krishnakant Kumar), Department of Chemical Engineering, Indian Institute of Technology, Dhanbad.

Civil Engineering

1. Nimodiya, Pareshkumar N. **Study and development of self compacting concrete using particle packing approach**. (Dr. Harshvadan S Patel), Department of Civil Engineering, Gujarat Technological University, Ahmedabad.

Computer Science & Engineering

1. Agasthian, A. **Hybrid data mining techniques for performance monitoring of wind turbine systems**. (Prof. Rajendra Pamula and Prof. LA. Kumaraswamidhas), Department of Computer Science & Engineering, Indian Institute of Technology, Dhanbad.

2. Bhatt, Tejaskumar Pravinchandra. **A Security Model for emerging smart systems in distributed environment**. (Dr. Chetan D. Kotwal and Dr. Nirbhaykumar Chaubey), Department of Computer IT Engineering, Gujarat Technological University, Ahmedabad.

3. Manmohan Singh. **Novel outlier detection techniques for data streams**. (Prof. Rajendra Pamula), Department of Computer Science & Engineering, Indian Institute of Technology, Dhanbad.

4. Tank, Darshan Mansukhbhai. **Enhancement of security mechanism in virtualization environment**. (Dr. Akshai Aggarwal and Dr. Nirbhay Chaubey), Department of Computer IT Engineering, Gujarat Technological University, Ahmedabad.

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The advertisement is approved subject to the final decision in the Writ Petition No.12051/2015.

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Application with full details should reach the **PRESIDENT, ANJUMAN-I-ISLAM, 92, D. N. Road, Mumbai - 400 001** within 15 days from the date of publication of this advertisement.

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