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#Let'sBeatCoronaTogether

Reinventing Higher Education Post Pandemic: New Realities and Vision

Suresh Garg*

COVID-19 has infected more than 5 Million people and caused about 1.3 Million casualties globally so far. These numbers continue to increase as there is no reliable treatment (medicine/vaccine) available so far. (If press reports are to be relied, a vaccine should become available in 1-3 months. In our country, the logistics of distribution are going to be quite challenging.) But one thing is clear: due to intense global collaborations among medical/health care researchers/professionals, a lot is known about corona. Corona is a microscopic virus (it is not clear till now whether the virus is a living entity or non living) and we need the most powerful microscopes to view its structure; it cannot travel more than a few feet at a time by itself but has reached all countries on the globe and felled the mightiest that can change the face of the earth in a matter of minutes. COVID-19 locked down cities, overwhelmed health systems, put tourism in tatters, and academic/political conferences as well as sporting events were either cancelled or moved to e-mode, wherever feasible. The world faced unprecedented social and economic crisis due to migration of labour and substantial decline in demand, trade and manufacturing. In fact, COVID-19 induced events made us believe that fleeting things are very potent and human mind finds a way out of adversity through disruptive innovations.

COVID-19 has affected education extremely harsh. This article seeks to examine need for reinventing higher education post pandemic. When corona first reached our shores and began to infect, everyone—from political leadership to academic administrators—was highly confused for the direction to take to provide education. After considerable discussion, e-mode was considered the most suited option for teaching-learning to save loss of academic semester as well as human lives. As such, this change posed unique challenges to teachers as well as students. Teachers showed resilience and adapted with incredible speed to the challenge of digital transformation; they overcame camera inhibition overnight and forego privacy for the sake of their students, who, in spite of inconvenience, travelled without travelling through new technologies.

This brings us to the use of technology, which is on the centre stage of all human activities—education, sports, agriculture, aviation, banking, security, governance—as never before. The entry of technology in classroom was heralded by the Open University of UK in 1968. It facilitated a paradigm shift in the role of a teacher; the focus shifted from teacher to learner and teaching to self-learning. Moreover, it marked the beginning of the transition of education from art to craft to technology. However, COVID-19 made us to believe that post pandemic, future of teaching-learning would be in hybrid; a mix of word of mouth for face to face (F2F) interaction and online digital education supported by multiple media (study materials). For students, this mode is new

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and demands access to fast and reliable internet with necessary wherewithal at all times. However, to the poor, digital divide has terrible consequences; COVID-19 made existing inequalities more explicit. Therefore, to reinvent higher education with e-mode as the post pandemic normal, all learners should be supported by the central/state governments or private providers in terms of data plans and laptop etc. Moreover, teachers would have to be trained in the design of online curricula because of vast difference in the pedagogies of on-line and F2F teaching-learning.

It is widely accepted that e-mode is cost-effective, safe and convenient. It can be practiced using Google-group, Zoom Meeting Platform, Learning Management System (LMS), etc. Globally, webinars emerged as a useful tool to impart e-education. In India, webinars were also used to discuss details of National Education Policy (GoI, 2020) accepted by the Government of India in July, 2020 and the challenges faced by various stakeholders of higher education due to COVID-19. NEP-2020 supported technology (via blended learning) as an important intermediary of teaching-learning post-pandemic, depending on the creativity and entrepreneurship of teachers and student entrepreneurs. (The technology-mediated education is termed as Education 4.0; the other three being teacher-disciple model, classroom model and self-learning model.)

Webinar, by definition, is web based seminar/lecture/workshop conducted over the internet. It is an engaging online (virtual) event and allows the participants, in different locations to gain knowledge, raise questions and share experiences/observations. The resource person(s), who is (are) invariably (an) acknowledged expert(s), could be located anywhere on the globe and share their knowledge/ideas/updates through PowerPoint slides, videos, web pages, video conferencing or such other multi/multiple media content and interact with participants to create awareness about current issue(s) of interest influencing the society. The audience participates by submitting questions while registering for the event. Webinars are being used by:

- educational institutions to highlight essentials of NEP-2020, its implementation to transform education system for good and raise quality of graduates;
- educational administrators to devise strategy for containing the effect of COVID-19 while opening the economy as well as educational institutions;
- Corporate and educational service providers as part of their marketing strategy to discuss ways

of increasing availability of technological tools (software and hardware) for online education and enhance student enrollment; and

- health service providers to discuss issues related to societal impact of COVID-19 on health and how to improve safety till such time that reliable medicine/vaccine becomes available and psychic anxiety is overcome.

Online Education and Webinars

It is said that one innovates in adversity. This expression proved particularly worthy for emergence of webinars as an effective tool for imparting education online. Webinars have also been used successfully to create societal awareness about issues related to COVID-19, which began to challenge its existence. In fact, by blending technology with the word of mouth, it became possible to transcend physical national boundaries and offer education in A-3 paradigm. These also helped individuals/institutions to stay connected and learn from each other, forge cultural synergies and made up for lack of acknowledged human capital.

Online education is learning using the capabilities of the Internet; that is, it is web based. It can be synchronous like online chatting, zoom or go to webinar conferencing, networked teleconferencing as well as asynchronous like email. It means that to learn, an individual is not required to be physically present within the four walls of the school/college/university. As the corona induced emergency began to unfold, every educational institution closed down for F2F teaching-learning and repositioned its offerings with abundant caution. Online/digital education marked a paradigm shift in teaching-learning. But strictly speaking, online education was not practiced seriously by most institutions; they merely shifted the teacher from Blackboard to computer screen without developing reliable online practices and shift toward blended learning in all domains of student support services (Rao, 2020 quoted in Gupta and Garg, 2020).

Online education is a specialized task as it combines learning psychology, behavioral analytics, content delivery and assessment to measure learners' progress. Therefore, as post-COVID normal, every institution must unlearn existing practices, relearn new pedagogy to accommodate new realities and re-invent higher education. An institution practicing online education should:

- provide quality e-content (print and e-materials) to the learners;

- build e-tutorials, web resources and self-assessment techniques into the curriculum to raise quality of transaction;
- forge partnerships with other similar institutions to resolve various issues and as a way forward become a part of a consortium of public and private universities for developing quality materials and reducing cost;
- undertake capacity building of teachers in digital pedagogies/online teaching-learning methods either by associating digital experts or organizing continuous professional development programme of at least three week duration in the art and science of using digital media; and
- create e-resources (digital library) and provide access to learners.

In the US, webinars have been used to impart education at all levels—from K to post graduate students—and in all fields—from skill development, design and entrepreneurship to liberal education, management and computer science. It is heartening that webinar based online education could also be used to meet the requirements of students with special needs. The software can be developed by the academics of knowledge providers (Universities) as well as business houses like Pearson and McGraw Hill. Technology giants like Face book and Google are seeking collaborations with leading universities. Such partnerships meet quality benchmarks.

In India, due to resource crunch and limited human capital having mastery over domain knowledge as well as technical skills, it would be difficult for any educational institution by itself, howsoever reputed, to meet the requirement of webinar based education. Therefore, it would be advisable to forge partnerships with or form consortia of various universities under the guidance of a Task Force comprising members from all partnering institutions. In this perspective, a weeklong webinar based FDP conducted in June 2020 jointly by Usha Martin University, Ranchi, Mangalayatan University, Aligarh, Himalayan University, Itanagar and Sikkim Professional University, Gangtok was particularly note worthy. Senior faculty members from within these institutions made presentations on online education and interacted with the participants on issues related to online delivery. That is, webinar was used to impart competencies to teachers without them having to take leave from work or causing any disruption in institutional schedules. When such initiatives are replicated widely and collaboratively without any hindrance all over the country with (or

without) the support of international agencies like Commonwealth of Learning, Vancouver and/or International Council of Distance Education, Paris, we would be able to practice online education in true sense.

A webinar has many advantages over face-to-face (F2F) instructional mode of teaching-learning. Particular mention can be made of:

- **Flexibility:** Webinars facilitate teaching-learning in A-3 mode, i.e., anyone can access learning anywhere on the globe and at any time. That is, there can be inter-continental classes. This is particularly exciting for those who either do not have time to attend classes physically or stay far away from the institution. Webinars have made it possible for students to exercise flexi times between classes; a facility not afforded by the rigid on-campus class routines.
- **Cultural Synergies:** Webinars help forge cultural synergies and overcome issues arising out of non-availability of quality resources (physical infrastructure, human capital and finance). That is to say, webinars enable students to get access to competitive education and broader skills/understanding in their chosen field of interest respective while staying in their locations/study rooms and overcoming geographical spatial constraints. Moreover, students learning on-line (through webinars) can exercise wider subject choices and complete even those degree programmes that are not offered in their location (village/city/country).
- **Cost-effective:** Webinars offer a cost-effective option to the host institution as well as participants (students) since travel/rental/hostel costs needed for F2F interaction are completely eliminated. Moreover, buildings, books and other learning materials that are mandatory in F2F teaching-learning are not necessary in case of webinar based online education.
- **Ease of Interactivity:** Experience shows that as compared to F2F interaction, students feel more comfortable in interacting with teachers through chats and group discussions. That is, teachers are more approachable online. This is further refined by the creativity of the teacher and the learner.
- **Convenience:** Webinars are more convenient for both hosts and participants, as Internet facilitates reach till one's study room. Therefore, time lost in transit is saved and travel hassles are completely eliminated since you do not have to go anywhere.

Moreover, the time saved can be more meaningfully used. Also, it facilitates real-time interaction.

- **Better Understanding of Content:** A study conducted in the U.S. showed that, on an average, students taking online classes performed slightly better than those receiving F2F instruction. This however may not be true in case of Indian situation because of lack of reliable Internet, electricity and expertise in rural and geographically remote areas. Other powerful features like live recording for playback for slow learners, screen sharing and free sign up make webinars an attractive option for teaching-learning.
- **Inculcating Values:** In learning via webinar, individual's discipline and punctuality determine success of an autonomous learner driven by time consciousness. Such attributes help inculcate values much needed in present day consumerist society.

Since availability (of technology) does not necessarily imply its accessibility to all, our experience with the students in the geographically remote areas shows that they are highly inconvenienced and many a times miss content due to unnecessary interruptions. As a result, their attitude towards technology based teaching-learning has not been adorable. Recent surveys (Bhusan, 2020) have shown that majority of public and private higher education institutions lack technological infrastructure and with Covid impacted economy, the central government would not find it easy to fund all institutions, even if it so desires. Notwithstanding this, it is not surprising that webinars are being used successfully in technologically advanced and rich countries as a new form of online education.

In post-Covid normal, learners would have to be supported psychologically as well as financially. Every educational institution would be required to continue dialogue with learners as well as their families about stress management, mental health and social implications of the disease. Moreover, the provincial and federal governments as also private providers/Corporate would have to finance learners through scholarships/bank loans.

With the changing paradigms in teaching-learning, we have witnessed a change in the role of teachers and learners. With Internet as a powerful enabler of Academic processes in the twenty-first century education systems, a learner is the pivot of the teaching-learning process. With education gearing up to meet the expectations of the fourth industrial age revolution, a learner has to play dynamic role in not only the learning, but also in peer assessment of

learning. Making provisions for reflective exercises, collaborative projects, semantic mapping, or portfolio development could be promoted through online technology for creating collaborative and socially inclusive instructional interventions.

Use of ICT in any form (simple to complex) has impacted all modes of educational delivery. Popularity of flipped classrooms and other avenues of learning such as Khan academy, MOOCs, OER etc. have empowered learners to switch from one mode to another or going trans-model. The transformation from industrial society to digital society and increasing internationalization of education, globalization and mobility of learners has created a need for anywhere anytime learning and working. The pedagogy of the digital society has to be collaborative and constructivist in nature with its focus on transforming learners as creators of knowledge.

Innovations in technological applications have enabled teaching-learning designers to re-engineer course design practices. Adaptive learning, simulation technologies, social learning, mobile learning, cybernetics, gamification and augmented and virtual reality are some significant trends, which call for designing learning activities using new types of pedagogies, such as collaborative, problem-based learning, learning communities, virtual learning spaces, and more. Thus we need to think how devices, applications and platforms will talk to each other for delivering instruction effectively. These developments (in technology, needs of students, emergence of new modes of education like MOOCs or flipped classrooms etc) have led to a refreshing change in approach to teaching-learning. Integrating ICTs with face-to-face teaching and going blended are the ultimate solution.

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Theoretical Framework of Collaboration between MSME and Private Engineering Colleges to Co-exist during COVID-19[#]

Seema Singh*

In December 2019, a Novel Coronavirus (SARS-CoV-2) emerged in Wuhan, China which became a global pandemic within months (Bouey, 2020). The virus has spread to more than 215 countries with 7.8 million infected and has caused 429,782 deaths. As a preventive measure, Indian Government has imposed a complete lockdown, barring emergency services. This has played havoc on the life and livelihood of a large number of people, more on those who have little reserves to spend. The medical crisis has profound economic and social effects. The Micro, Small and Medium enterprises (MSMEs) are a significant part of India's economic landscape as in many other countries of the globe. The MSMEs generate revenue, enhance employment and provide access to commodities for remote communities (World Bank, 2004; Wiklund, 2005; Satpathy and Rani, 2017). As per the Report of the Working Group on Micro, Small and Medium Enterprises (MSMEs) growth for 12th Five Year Plan (2012–17), the sector accounts for 45 per cent of the manufacturing output and 40 per cent of the total exports of India. Further, it accounted for 30.74 per cent of GDP in the year 2014–15. As per the registration between October 2015 to December 2019, the micro sector (88.6 per cent) is the largest component of the MSME than the other two, small (10.9 per cent) and medium (0.42 per cent) sectors and provides employment to 61.5 per cent of the workforce against 32.2 per cent and 6.3 per cent in case of small and medium enterprises respectively (GoI, 2020). However, the micro sector has remained comparatively under-researched (Cristian, 2016). Add to this, Indian engineering education system has registered an exponential growth during the last twenty-five years due to enhanced global demand for English-language speaking engineers, who are equally competent, but at lower wages. Moreover, the unaided private sector is a significant component of the whole spectrum of engineering education systems in

India. What is the effect of lockdown on the micro sector as per the anecdotal evidence available? The hundreds of thousands of stranded migrant workers across the country, suggests that MSMEs have been the worst casualty of COVID-19 induced lockdown (Mishra, 2020). Higher education in general and engineering education in particular has also been adversely affected by the pandemic and they are still in search of an alternative sustainable model. In this background, the study tries to investigate whether a collaboration between these two sectors will be a win-win situation for both. The second section of the paper provides relevant literature review. Objective and methodology have been discussed in the third section of the paper. Fourth section provides an analysis. A model has also been developed for cooperation between these two sectors Last section concludes the discussion and provides suggestions.

Literature Review

The literature review has been done in the four groups as i. The Micro Sector and Impact of COVID-19 on it; ii. Private Engineering Education in India and impact of COVID-19 on it; iii. University and Firms collaboration:

The Micro Sector and Impact of COVID-19

MSMEs are perceived as the backbone of the economy and 'an engine of growth' not only in India (Satpathy and Rani, 2017) but in other parts of globe (European Commission, 2016; Audretsch, 2009; Tesfayohannes, 1998). They also have a high export propensity (Claudiu Cicea, Ion Popa, Corina Marinescu & Simona Cătălina Ștefan, 2019), Huang T.X. Nguyen & Viet Le (2019)). However, it needs to be kept in mind that the small firms are not homogenous. They all are unique in nature and not like miniature corporate firms. So, any theory developed for corporate firms cannot be replicated to them (Beaver and Prince, 2004). In spite of being so important a segment of the economy, they have very poor technological endowment and their up-gradation is essential for the economic wellbeing of the nation (Venkatesh and Muthiah, 2012). Their output may

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be high in quantitative terms, but is very low in quality which can be up-graded by technological up-gradation of the sector. The author further view that advanced technology enables the small firms to create quality employment improving remuneration, duration, and skills (Bhavani T.A.2011; Singh et al. 2012). However, the study conducted by Bargal et.al. regarding performance of small scale industries (SSIs) during the period of nineties vis-à-vis the pre-reform years the annual average growth rate of different parameters have concluded that they have declined during post-liberalisation period (Bargal et al., 2009). According to Lawson and Samson (2001), a firm which is able to link the technological strategy with its business and innovation strategy, are capable of bringing innovation in the firms. Experts as Yang (2012), Martín-de Castro et al. (2013) and Gupta and Nanda (2015) have also highlighted the importance of technological adaptation for enhancing competitiveness. There is consensus among scholars that small firms should concentrate on developing market reach (Wheelen & Hunger, 1999). However, they are unable to raise finances to invest in cost-reducing technology for the firm (Beaver and Prince, 2004).

During COVID-19, countries have taken unprecedented and drastic measures to contain the spread of the virus by closing towns, cities, and national borders, disrupting not only the big corporations but also millions of SMEs around the world (SMEFF, 2020). Though it is too early to assess its full impact on MSME, but given that the COVID-19 is a pandemic has affected humanity, MSMEs would not be immune from it. The world economy is expected to face a very serious crisis besides on the social and political sphere. Over a period of fewer than two weeks, since it was officially declared a pandemic by WHO, COVID-19 has disrupted lives and economies around the globe. According to a briefing issued by the United Nations Department of Economic and Social Affairs, the COVID-19 pandemic will likely shrink the global GDP by almost one per cent in 2020. In such a brief period, many international organizations have analysed, assessed, the impact of the COVID-19 pandemic, and formulated scenarios for world economic growth in 2020. According to Citi Research (published April 7, 2020), the world economy will decline by -2.3 per cent in 2020 (compared to 2.6 per cent in 2019, more than -1.7 per cent in 2009). In particular, China's GDP growth was only about 2.4 per cent (compared to 6.1 per cent in 2019), United

States -2.6 per cent (compared to 2.3 per cent in 2019), Japan -1.9 per cent (compared with an increase of 0.7 per cent in 2019), while the Eurozone has regressed -8.4 per cent (compared to 1.2 per cent in 2019) (Dung, Thi Bich and Tho Trần Bá, 2020). About 9-18 million formal jobs may be lost and 100 mn informal jobs vulnerable to income loss in Sub Saharan Africa (McKinsey, 2020). Even studies have been done on the impact in India show that about 30 to 40 percent of the micro sector firms will not be able to survive. However, the impact will be differential depending on the activity of the firm. (ISLE-ILO, 2020).

The pandemic cannot be compared with any other natural disaster due to its magnitude. But, in absence of any other event similar to COVID-19, a comparison to flood can be made. Aruzzir (2018) in her study in Malaysia for another natural calamity, flood, has found that the effect of any natural disaster on SMEs is very severe (Auzzir, 2018). Bouey (2020) has done the immediate impact analysis on the Chinese SME sector. China is the second-largest economy with international trade with almost all countries of the world which ranges from mineral and food products to highly sophisticated electronic gadgets and automobile parts. So, certainly, it will affect the world's economy (Bouey Jennifer' 2020). With fears of a new recession and financial collapse, Nicola et. al. (2020) have suggested that these times call for resilient and strong leadership in business and government along with wider society. Immediate relief measures need to be implemented and adjusted for those that may fall through the cracks. A broad socio-economic development plan including sector-by-sector plans need to be created, and along with it an ecosystem that encourages entrepreneurship so that those with robust and sustainable business models can be allowed to flourish. COVID-19 will put many small businesses on life support (Nicola et. al. 2020). Karen G. Mills has suggested policymakers on aid options, offers guidance to owners on the brink of ruin (Kost, 2020), and organizations need to develop a trust-based culture with their employees (Beer, 2020). Samuel in a study of 300 randomly sampled SME-Owners in Ghana has discussed the importance of financial literacy for the SME growth (Samuel, 2018).

According to the extant literature, MSMEs are more vulnerable to natural hazards than large firms due to the fact that MSMEs: tend to operate in sub-optimal locations; are smaller and financially weaker; have a more limited, usually local market; tend to

implement less DRR measures and be more excluded from recovery programs (Zhang et. al. 2004; Battisti, Martina, and David Deakins, 2012). According to the US Institute for Business and Home Safety, many businesses do not reach the post-disaster stage (Institute of Business and Home safety).

Private Engineering Colleges in India and Impact of COVID-19

History of Engineering Education in India can be traced back to 1794, when the School of Survey was established at Guindy, Tamil Nadu on the recommendation of Michael Topping to train Indians on construction of roads, bridges, docks, etc. With the involvement of British in the Second World War and the first Indian war of independence, mechanical engineering was added with civil engineering to train the lower grade technicians to manage equipment used for the army, navy and other technical establishments for maintenance of British Empire. (Shaha S., 2011). Private higher education institutions are established by philanthropic, private business establishments, religious and for-profit organizations. In 1970, India had a total of 139 engineering institutions, and only four of them were private. (Singh and Singh, 2018).

After Globalisation and use of Information and Communication Technology in the production process, producers have the opportunity to shift a part of the production process to far off places, where it can be done with required quality at low cost. Many large and multinational corporations came to India to use its English-speaking engineers besides many other resources (Singh, 2005). With the country counting on its demographic dividend, the increase in the number of students seeking engineering degrees put up pressure on the higher education sector to expand. Limitation of the government funding in engineering education which was not sufficient to meet the growing demand, led to the historic decision of privatisation. The Private Universities (Establishment and Regulation) Bill was introduced in 1995 in the Parliament. Passing the bill gave a boost to the opening of many private engineering colleges. By the end of 2000, number of engineering institutions rose to nearly 1,400 out of which about 200 only belonged to the government (Singh and Singh, 2014).

As per the Table-1, private engineering colleges were established across India but number was quite impressive in southern states. This is necessary for higher education institutions (especially private

Table 1. Regional Presence of Engineering Institutions

Region	State/ Union Territory	Government Aided	Private Unaided	University Managed
North	Chandigarh	6	1	2
	Delhi	18	18	1
	Haryana	46	288	5
	Himachal Pradesh	17	36	1
	Nammu & Kashmir	9	18	1
	Punjab	34	186	6
East	Arunachal Pradesh	2	1	NIL
	Assam	15	5	2
	Jharkhand	16	16	1
	Maniour	2	NIL	NIL
	Meghalaya	3	1	NIL
	Orissa	23	172	2
	Sikkim	2	NIL	1
	Tripura	2	NIL	NIL
	West Bengal	59	93	3
	West	Goa	7	3
Maharashtra		71	660	8
South	Andaman and Nicobar	1	NIL	NIL
	Karnataka	158	239	3
	Kerala	90	95	13
	Andhra Pradesh	132	763	5
	Pondicherry	8	13	NIL
	Tamil Nadu	78	852	4
	Daman & Diu	1	NIL	NIL
	Goa	7	3	NIL
Central	Chattisgarh	25	47	3
	Gujarat	49	128	3
	Madhya Pradesh	66	213	6

Source: AICTE website, Singh & Singh 2018.

engineering institutions) to collaborate or develop partnership with any reputed organization or elite institutions both nationally and internationally rather than depending on students pass out rate and

placement only to attract students amidst the fierce competition (Singh & Singh 2018).

University and Institute Collaboration

The Higher Educational Institutions are indulging in market-like behaviour for revenue generation. They are collaborating with business firms for technology transfer all over the world for raising funds. On the basis of the 2008-10 data from National Research Foundation of Korea, Ministry of Education and Technology and Korea Foundation for Promotion of Private Schools, Han and Heshmati (2013) have analysed the financial rewards from university-industry research cooperation. As per the findings, participation of engineering faculty, patent approvals, the volume of research funds, and firms in incubators within universities turn out to be significant contributors to externally sourced university revenues. They have given an exhaustive list of study conducted on the same issue (Table-2) which shows positive result out of their collaboration.

It appears that industry-university cooperation foundation programs are likely to play a significant role in private university finances.

In this background, the paper discusses the possibility of collaboration of private engineering colleges and micro sector to overcome the setback from the COVID-19 pandemic. Whether it will be a win-win situation. The discussion has been made on the basis of secondary sources and small studies done by individual researchers and organisations.

Analysis

Recently, the government of India has tried to remove the ambiguity and clearly define these sectors as discussed in the Table-3. Along with investment, turnover criteria has also been added. The rand has also been increased. However, keeping micro and medium enterprise in one group is akin to comparing cheese and chalk. While the medium sector is qualified and have resources to hire experts and technology to improve their productivity and efficiency, take lone from the bank, the micro sector is not the perspective or if they have, they are not able to develop sufficient resources to accomplish the task.

Coronavirus and following nationwide lockdowns have put the economic future in jeopardy. However, it is a question of survival for micro sector As per various studies about 30 to 40 percent of the micro sector firms will not be able to revive

again (ISLE-ILO, 2020). At the same time, many of them are working in such areas that if they become part of a network or ammelgoration, their return on investment will increase which needs strategic planning and technological upardation along with finances. So, in the light of government financial package for revival and mudra loan, micro firms need an institutional support for assist in strategic planning and technological upgradation.

As per AICTE dashboard, in 2018-19, there were 2,678 private unaided engineering institutions in India with 6,09,090 enrolments and 3,14,840 faculty. The intake capacity was 13,20,573. Its means more than fifty percent seats remained vacant during 2018-19. Now, in the post COVID-19 academic session 2020-21, loss of parent's job or cut in salary or delayed payment of salary may have cascading effect on the demand for seats in such engineering colleges. Universities across the world are expecting shrink in sources of income and as an alternative, many world class universities have started offering on-line degrees. A representative list has been discussed in the Table 4.

These efforts may further bleak the future for unaided private engineering colleges in India. However, they have human capital, in the form of qualified faculty, laboratory assistants and young energetic students. Not to forget, the role of higher education institutions (HEIs) towards the development of their surrounding regions is not a new phenomenon. This has been illustrated by the establishment (in the late 1800s) of land-grant colleges in North America and technical and civic universities in Germany and England, respectively (Editorial, 2017). As Borrel-Domial et.al. (2010) have discussed that generally Ph.D. is pursued for following teaching profession but now, about 50 per cent are pursuing for a wide range of careers. On the basis of the experiences reported by stakeholders, the paper suggests working practices and supporting policy measures that can address the (potentially conflicting) requirements for a high quality of education, sound research and adequate preparation for diverse career with participation of private sector firms (Borrel-Domial et.al., 2010). Maya Ziswiler of the UBS Optimus Foundation (UBSOF) has discussed innovative ways the education sector is using both blended finance and outcome-based financing. For example, UBSOF's investment in education social enterprises with

Table 2: Study on University - Firm Collaboration

Researcher and Sample	Findings
Joshua and Patricia (2003) on the basis of study of 108 universities in the USA	Age of Technology Transfer Office, the number of outstanding engineering faculty members and research fund received by external organisations have a positive relation with performance respectively.
Thursby and Thursby (2002) on the basis of 64 universities in USA	Performance is related to the number of experts, faculty members, and persons working at the Technology Transfer office and their relationship with external firms
Jenson and Thursby (2003) Interview and Regression (2003	Reward system through technology transfer is directly related with performance
Sigel et al. (2003a) Interview and Regression for 98 people who are directly related to TTO in US	Reward systems for interested persons have effects on performance
Power (2003) Interview and Regression for 66 enterprises and 312 university researchers.	Research funds including both public and private have a positive correlation with patent products. But this is not related to revenue through the licensing. The more distinguished faculty member a university has, the more patents and licensing a university has.
Kim and Lee (2007) Regression 61 universities in Korea	Research competency such as the number of SCIE papers and the number of patent registrations were significant, but managerial competency such as the scale of technology transfer organizations and the number of specialists was not statistically significant
Kwon and Han (2009) Regression for 169 universities in Korea, Explorative	<ul style="list-style-type: none"> Public universities have higher performances than those of private universities in terms of the number of technology transfers and the amount of technology licensing fees. The characteristics of university such as age, size, number of departments, faculty members, students, and experts, the number of SCIE papers are not statistically related to performances. Regional universities have higher performance than universities in urban areas in terms of technology transfer.
Seo et al. (2005) descriptive	University's own firms based on university's own technology and holding companies are related with revenue through industry-university collaboration.
Sapsalis et al. (2006) Regression for 89 universities in United States.	Scientific competency, the number of papers, and patents have a positive effect on revenue through industry-university collaboration.
Kim (2005) Survey for 54 universities and 79 firms in Korea	<ul style="list-style-type: none"> Level of education of experts working at technology transfer office has a positive effect on revenue through industry-university collaboration The number of patents has an effect on revenue through industry-university collaboration
Friedman and Silberman (2003), Jaffe et al. (1993) regression with 12 firms	<ul style="list-style-type: none"> The degree of proximity of high-tech firms near school has positive effects on technology transfer. Geographical location of universities has positive relation with knowledge spill over.
Foltz et al. (2000) Survey for bio-agricultural firms in United States	Research funds received from federal government and university have positive effects on revenue, while research funds received from industries have no relation with performance.
O'Shea et al. (2005) Byun (2004) survey 107 universities in Korea	It shows that university scale, age of professional institutions, and incentive systems for technology developers have positive effects on revenue through industry-university collaboration.

Source: Han Junghee and Heshmati Almas (2013), p.19-20

Table 3: MSMEs Classification in India

Existing Criteria	Investment in Plant & Machinery or Equipment		
	Micro	Small	Medium
Manufacturing Entreprises	Investment < 25 Lac	Investment < 5 Crore	Investment < 10 crore
Service Entreprises	Investment < 10 Lac	Investment < 2 Crore	Investment < 5 crore
Revised Criteria	Composite Criteria - Investment and Annual Turnover		
Manufacturing & Services	Investment < 1 crore and Turnover < 5 crore	Investment < 10 crore and Turnover < 50 crore	Investment < 20 crore and Turnover < 250 crore

Source: Rao Harshitha, 2020

Table 4: List of On-line Courses

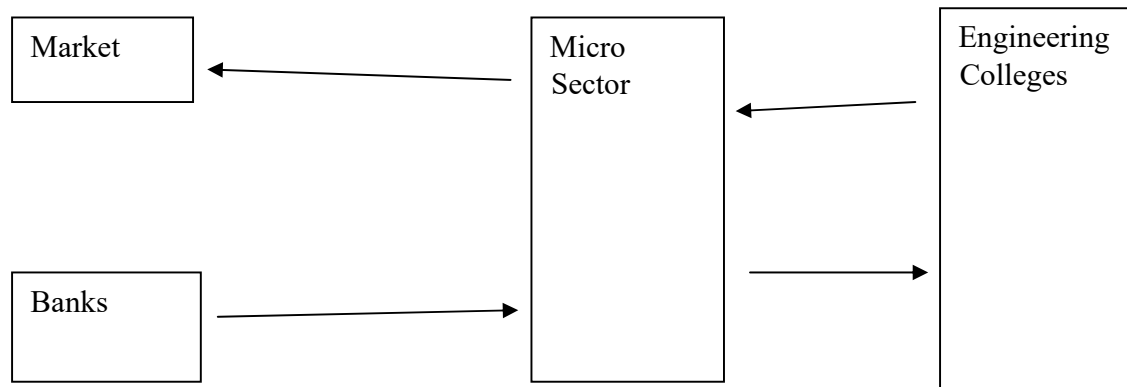
SN	Course	Offered by
1	MS in Computer Science	Arizona State University
2	Data Science for Engineers	IIT, Madras, July 20-Sept. 11, 2020
3.	Industry Ready Master Classes for Civil Engineering Students	contact@protrainy.com +91 7978817062, +91 8617833413 programme starting from June 7' 2020
4.	Basic Electrical Circuits	IIT Madras [July 20 to Oct 9' 2020
5.	M.Sc in Computer science	Liverpool John Moores University
6.	Master of Computer and Information Technology	University of Pennsylvania [16-40 Months, Fully Online]: Apply by Aug 1
7.	From 0 to N: Architecting on Alibaba Cloud	Alibaba Cloud Academy [Online, 5 Months] Gustafsson-Wright Emily (292

Source: Compiled by author

Acumen in East Africa provides loans and equity investments coupled with a grant for pre- and post-investment support and an outcome-based incentive for both the investment manager and the investees if outcome targets are reached. Another example mentioned for supporting education social enterprises was impact loans, where the interest rate fluctuates based on the outcomes achieved. social and development impact of bonds (SIBs and DIBs), a form of outcome-based financing where investors provide up-front capital to service providers with the opportunity for a return if agreed-upon outcomes are achieved (Gustafsson- Wright Emily, 2020). In India, firms are collaborating with engineering institutions but they are generally large firms or government organisations. It is not common for the medium sector, and almost absent in case of micro-sector. However, looking at their capacity to contribute towards the GDP and create employment and for enhanced use of ICT after COVID-19 in the production process, they need use of technology which can be provided by the Private engineering

colleges and along with helping them in strategic planning. At present, there is no such platform. It is up to colleges, Industry bodies as CII or FICCI etc. which may work in that area. At Delhi Technological University, B.Tech. students visit slum to assess how knowledge of their branch of engineering can be used to improve life at slum since the academic year 2011-12. (Singh, 2013). The process has been integrated with the examination system as marks is given out of internal marks (Singh, 2016). Similar procedure can be adopted for associating with micro sector. The Unnat Bharat Abhiyan² of the Ministry of HRD is similar programme for rural development since 2014. Funds for Awareness, survey, visits etc @₹ 10000/- per village • Technical Intervention ₹ 1.0 lakh per technology for implementation in the village • Customization of Technology ₹ 50000/- per solution for villages. In the Fig-1, a Model for collaboration between Micro sector and Private engineering colleges (unaided) has been represented to achieve a win-win situation for both.

Fig 1: Model of Engineering Institutions and Micro Sector.



From the financial help under COVID-19 revival package of the government or Mudra loan, the Micro sector can approach engineering institutions for technological help or assistance in strategic planning. The enabled Micro Sector with the help from engineering colleges may go to market alone or may be as part of Cartel. They can become member of a production network for value addition also. This is the time to float loan to Micro Sector and knowledge input from engineering colleges to see the practical implication of the model. Professor ERichard Thaler and legal scholar Cass Sunstein have discussed about NUDGES in their New York Times best seller book entitled Nudge: Improving Decision about Health, Wealth and Happiness. It is crucial to get the necessary response from the beneficiaries, Micro sector firms and Private engineering colleges (unaided) to determine the success or failure of the model. NUDGES stand for incentives, Understand mappings, Defaults, Give feedback, Expect error, Structure complex choices. Through NUDGES, the model will improve further and become sustainable over a period of time.

Conclusion

The lockdown as a preventive measure during COVID-19 has disastrous impact on the micro sector which has employment potential and which contributes significantly to the GDP and exports. Though the government has provided a revival package, but *sans* competitive technological assistance or sustainable business model, survival will be difficult post-lockdown. On the other hand, Private engineering colleges will also have pressure of generating finances to survive. The paper concludes that more empirical research is needed to develop a more unified approach to MSMEs success factors,

which informs thinking on this critical matter, to both policy makers and business owners (Lampadarios Evripidis; Kyriakidou Niki; Smith Gordon (2017) and engineering institutions. The paper has real implication for today's world situation which has never been experienced earlier. The model may be used as a win-win situation for both. A secondary source of financing for private engineering colleges and a hand-holder for micro sector.

Notes

1. On 13th May 2020, Finance Minister Nirmala Sitharaman added the additional principle of turnover along with the investment. The Union Cabinet had approved the amendment to change the criteria to classify MSMEs from "investment in plant and machinery" to "annual turnover."
2. Unnat Bharat Abhiyan 2.0, an extension of the programme with improved feature has been stated in 2018.

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Agripreneurship Development Programmes for Graduates: Striding towards *Atmanirbhar Bharat Abhiyan*

Surya Rathore*, S K Soam** and Rupan Raghuvanshi***

Today's agriculture faces numerous challenges like globalization, market liberalization, crises of food price, climate change, paradigm change in food production and consumption patterns, changes in demography, etc. These challenges have directly or indirectly led to changing agricultural markets, thus creating opportunities as well as risks for farmers. Recognizing the importance of smallholder agriculture in enhancing the economic growth and development of rural livelihoods in quite a good number of developing countries, there is a prominence of market oriented agriculture on the agenda. Agripreneurship is the only viable solution in this regard. When we talk about the agriculture education system in the country, it is a well-known fact that there is a mismatch between the number of agricultural graduates passing out each year to the availability of jobs in the sector. According to the Higher Education Survey (2019), the total number of agricultural graduates passing out in the year 2018-19 were 45,280 but at the same time, manpower availability in agriculture sector indicted that more than 12,000 agricultural graduates passed out from State Agricultural Universities all over the country, out of which only 2000 find jobs in private and public sector, leaving a huge number of graduates unemployed (Mahra *et. al.*, 2017).

To make the budding agricultural graduates job providers rather than job - seekers; entrepreneurship is the only way out. To be a successful entrepreneur, one has to have a new idea. India being one of the top populated countries of the world with majority of its population dependent on Agriculture, there is a need for innovation in Agriculture sector. In social and economic development, innovation is a major instrument specially; agriculture-friendly

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innovations stimulate not only production but an efficient use of natural resources as well. Traditionally Agriculture is seen as an old technology industry which needs to be reinvented in innovative ways. Being innovative is an important quality for a business/enterprise, especially when it faces strong competition or operates in a rapidly changing market. With the changing paradigm, skills of the agricultural graduates must also change and develop to meet the management demands of the enterprise.

Concept of Agripreneurship

Agripreneurship means entrepreneurship in agriculture sector. Entrepreneurship is a concept that encompasses transforming an idea or vision into a “new business venture”, or the expansion of an existing business by an individual, a team of individuals, or an established business” (Reynolds *et.al.*, 1999). Entrepreneurs are often creative, take opportunities and bear risks, and can quickly change business strategies to adapt to changing environments. They are innovators (Kahan, 2012). An Agripreneur is an entrepreneur whose main area of venture is agriculture or allied sectors. While usually being innovative and creative, farmers often lack access to services, finance, markets and skills to have realistic chances to succeed as entrepreneurs (Wongtschowski *et. al.*, 2013). In addition, agripreneurs are influenced by external, systemic factors, such as economic and social barriers, policies and regulations (Kahan, 2012).

Government of India is playing a major role in providing multifarious schemes and programmes for agricultural students and farmers to move up in the path of agripreneurship. All these programmes and schemes update the knowledge and skill and provide them access to various institutions and organisations, markets and financial services and facilitate them to be trained in the required managerial and functional skills. Government of India has also created an agripreneurial ecosystem through the inclusion of policies and regulations to thus reducing barriers, or bring about change in the prevailing values of the societies.

India's *Atmanirbhar Bharat Abhiyan* (ABA)

Atmanirbhar means 'self-reliant' which is the vision of the Prime Minister of India; Shri Narendra Modi of making India a self-reliant nation and came in the form of the '*Atmanirbhar Bharat Abhiyan*' or 'Self-Reliant India Mission' on May 12, 2020. This announcement was made during the new normal post country wide lockdown as a result of COVID-19 pandemic which included a special economic and comprehensive allowance of INR 20 lakh crores. Many government decisions like changing the very definition of Micro Small and Medium Enterprises (MSMEs), boosting the role of private sectors in agriculture, marketing reforms *etc.* were a part of the decisions. The five main components of India's self-reliance are boosting the economy, improving infrastructure, technology driven systems, demand and a vibrant demography. The mission behind *Atmanirbhar Bharat Abhiyan* is to give importance to local products and thus aim at made in India initiative which includes the agriculture sector as well. This programme focuses on development of skill and in turn making efforts for mapping employment opportunities to the skill sets of potential employees/workers. An endeavour of this nature is incomplete without having a complete overhauling of the syllabus and the curriculum and making it job oriented. This could be the only solution to solve the problem of unemployment. There is great need to provide skill-based training which would certainly ensure entrepreneurship. Thus, to encourage entrepreneurship in agriculture; there is a need to create an ecosystem that promotes people to be a part of '*Atmanirbhar Bharat*' and agricultural graduates are no exception.

To involve agricultural students of the country in agripreneurship, we need to aware them, educate them about the agripreneurship opportunities and risks, provide efficient resources and the collective strength. This calls for an insight into the potential, importance of agripreneurship knowledge and awareness among the students of agricultural universities. In this direction, education system in India under the world bank funded National Agricultural Higher Education Project has started working on promoting agricultural entrepreneurship that can be the best solution for unemployment of Agri graduates in the country.

Sensitization of Agricultural Students in India

The very first step in this direction was taken by Indian Council of Agriculture Research (ICAR) – National Academy of Agricultural Research Management (NAARM), Hyderabad under the aegis of National Agricultural Higher Education Project (NAHEP) wherein 20 workshops were conducted in 19 State Agricultural Universities of the country covering 1997 Agri-graduates to sensitize them on agripreneurship, for the creation of awareness related to soft skills, innovativeness and entrepreneurship. The National Agricultural Higher Education Project, a World Bank Funded Project, addresses quality and relevance of Agricultural Education through technically sound and verifiable investments that increase faculty performance, attract better students to these Agricultural Universities (AUs), improve student learning outcomes and raise their prospects for future employability.

Participatory training methodologies were involved wherein learners were facilitated by the trainers to understand new perspectives and imbibe a behaviour towards the soft skill generation of Agri- graduates. In an educational process, learners form the core and it is through their needs and their reflection, analysis and questioning that carries forward the whole process. For this, a Training of Trainers' (TOT) workshop was organized at ICAR – NAARM, Hyderabad during September 17-18, 2019 in which 34 faculty members from 23 State Agricultural Universities of the country were trained as Master Trainers, who in turn organised one-day workshops on "Development of Soft skills for Entrepreneurship among Agri Graduates" at their respective universities under the guidance of faculty members from ICAR – NAARM, Hyderabad and covered roughly 100 undergraduate students in various disciplines of Agricultural Sciences *viz*: Agriculture, Horticulture, Forestry, Community Science, Veterinary, Dairy Technology and Agricultural Engineering. All needed support was provided by ICAR – NAARM to the Master Trainers including the programme module, training manual entitled, "Creating Jobs: A training Manual for Prospective Agripreneurs" specially developed for the budding Agri-graduates. Each passing out Agri-graduate under this programme was provided with a copy of the manual which would act as a

handbook for future reference to stride towards the path of agripreneurship or to face a job interview.

The content of this training programme covered basics of entrepreneurship, opportunities and challenges in agriculture sector, development of business plans, start-ups *etc.* The agri-graduates were also exposed to the success stories of Agri-graduates turned into successful entrepreneurs by means of videos developed by ICAR – NAARM as well as live interaction with successful entrepreneurs; preferably who have graduated from the respective State Agricultural University (SAU). Soft skills such as communication skills, interview skills, group discussion, team work, leadership skills, *etc.* formed the core modules. The following methods were used for soft skill awareness generation among Agri graduates:

- **Experiential Learning:** The fundamental source of learning of this type is through one's own experiences or through other's experiences. It has been proved that adults learn best through their own experience. So, first the experience was provided and then the concept explained.
- **Role plays:** This was done through re-enactment of the past experiences.
- **Simulations and Structured Exercises:** Simulation games and exercises were introduced which were then debriefed to derive broader insights about entrepreneurship development in agriculture.
- **Case Studies:** Shared success stories through videos and some cases which provided opportunities to look at the experiences of other entrepreneurs empathetically and learn from them.
- **Real Life Examples :** Shared real life examples of agripreneurs, their experiences and also facilitate discussions to address students' queries.

Total students participated in the programme were 1997 including 57.63 per cent boys and 42.36 per cent girl students. Students belonged to age group of 21 to 25 years, studying in B. Sc. Agriculture (57.93 per cent), B.Sc. Horticulture (18.52 per cent), Bachelor of Veterinary Sciences & Animal

Husbandry, (6.86 per cent), B.Sc. Community Sciences (5.50 per cent), Agricultural Engineering (5.80 per cent), Forestry (1.85 per cent) and others (3.50 per cent) from different states of the country. "Others" category included the students from B.Sc. Biochemistry, Masters and Ph.D. students. Majority of the students (66.24 per cent) trained were in the IV year of their study followed by 19.12 per cent which were in the III year of study.

Outcome of the Programme

- More aware students on importance of soft skills for entrepreneurship development and starting practicing the skills necessary to increase their confidence level, improve their communication skills; both verbal, non-verbal, thinking, listening and writing. The workshops improved their self-efficacy and self-advocacy skills and problem-solving skills along with control on strong impulses and feelings.
- Students became aware about the Government initiatives and support for Entrepreneurship among Agri-graduates.
- Students possess the ability to make business plans, can organise and implement an innovation or new project which would aim at bringing novelty in the agricultural products and services available in the market.
- Students have improved their interpersonal and collaborative skills.

Way Forward

India is an agriculture dependent country and most of the population directly or indirectly dependent on agriculture sector for their survival. Even in the outbreak of COVID-19 pandemic in the world during 2020, only Gross Domestic Product (GDP) of agriculture sector was growing and remained positive as compared to other sectors. So, Agriculture sector has a great potential and opportunities for entrepreneurship development. In this regard, the landmark initiative in the history of agricultural education to create awareness regarding innovativeness and entrepreneurship in agricultural sector among agricultural graduates and to develop soft skills among the undergraduate students of Agricultural Universities was taken. This programme has sown the seed for future generation of agripreneurs in the history of agricultural

education. The whole training module revolved around three major areas, namely; Innovations, Entrepreneurship and Soft Skills. Training of 1997 agricultural students on agripreneurship, scope of agripreneurship, soft skills need for agripreneurship and innovations in agriculture was an indeed a big step towards 'Atmanirbhar Bharat'. Now, if the trainees are further interested in being an agripreneur, they can avail this opportunity by contacting ICAR – NAARM, Hyderabad who has the facilities and potential to nurture their innovative ideas. With the help of different government schemes for youth promotion in agribusiness like Skill India, Make in India, Start-Up India, Stand-Up India, Agri-graduates can become successful agripreneurs if they want, and help India attain the goal of 'Atmanirbhar Bharat'. This can be a great step in making India self-reliant and self-dependent. Generating Agripreneurs can be the solution for the problem of unemployment in the country and it can also contribute to the 'Make in India' movement.

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HANDBOOK ON ENGINEERING EDUCATION (2016)

The 12th Edition of "Handbook on Engineering Education" is primarily meant for students seeking admission to Engineering/Technology/Architecture programmes at the undergraduate and postgraduate levels. It contains State-wise information on 1050 colleges/institutes/ university departments in the country. The information of Institutions in the Handbook includes: Year of establishment of Institute/ Department/ name of its Principal/ Director; probable date of Notification/last date of application; Number of seats available in each Engineering/ Technology branch; seats for NRIs/Foreign students; Eligibility; Application procedure; State-wise Common Entrance Test Rules for B.E/B.Tech/B.Arch courses; Fees; Hostel facilities, etc. Also given is 'Faculty strength', commencement of Academic Session, and System of Examination. Brief details of Post-graduate courses are also included.

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Need to Embrace Holistic Education

M Venkaiah Naidu, Hon'ble Vice President of India delivered the Convocation Address at the 28th Convocation of Pondicherry University in Puducherry on February 26, 2020. He said, “Degrees are a badge of recognition. A recognition that you have successfully completed a course of studies. A recognition that you have acquired new knowledge, new skills that equip you for the world of work as well as for further learning. But remember, this is merely a stepping stone, a mere ‘enabler’ for you to pursue your academic, professional and personal dreams. You have a whole exciting world to explore, to understand, to contribute to. To function effectively in this ever changing scenario, you need to be agile. You should be able to absorb new inputs. You should be able to adapt global good practices to your own context. You should try to aim for excellence. You should be pro-active, forward looking and aim for greater heights. And you must work systematically to achieve your goals.” Excerpts

It gives me immense pleasure to participate in the 28th Convocation of Pondicherry University.

I am glad that, over the last 35 years since its establishment in 1985, Pondicherry University, a Central University has been providing instructional and research facilities and has emerged as a world-class university with an incredible increase not only in students' intake every year but also in ranking and performance.

I am happy to learn that in addition to the conventional courses, the university has also started 'add-on courses' during evening hours to help the scholars, students and the employed youth to go in pursuit of higher advanced studies. This is in consonance with the over-all approach of lifelong learning that the rapidly changing world of work demands.

It is heartening to learn that 6557 students are studying in various university departments and that nearly half of them are girls. I am happy to note that students from different parts of the country studying at this university are contributing to the rich diversity in the academic environment. In order to provide a good learning environment for the students, the University has not only a world class Library with a collection of 4.67 lakhs books including print and digital material but also has a 100 per cent wi-fi enabled campus.

I am indeed happy to learn that the Lt. Governor of Puducherry and Chief Rector of Pondicherry University, Dr. Kiran Bedi has launched the President of India's new Project, "From Corporate Social Responsibility to University Social Responsibility" in July, 2018.

The inauguration of Community Services such as blood donation, organ donation, eye-

checkup, photo exhibition and health check-up in Pondicherry University Community College are some of the remarkable achievements. I am glad that the university wishes to be the first university to implement Swachh Bharat in the campus. I hope you will be integrating UGC's sustainability principles into campus operations for achieving green and sustainable campus environment.

Universities cannot and should not remain the proverbial 'ivory towers'. They are institutions that expand the universe of knowledge. They are 'Vishwa Vidyalayas' which create, connect and transmit knowledge across generations, across geographies. The knowledge is not fragmented but composite, integrated and connected with life. They must be intimately connected with the social life of the people. Academics must be rooted in the socio-economic context but must flower and spread the fragrance of knowledge across the globe. This connection will result in a great synergy and unleash the untapped energy of our people. I am very pleased to know that over 103 villages have been adopted by the varsity and its affiliated colleges in and around its campus and that the university is aiming to make these villages as 'Model Villages'.

I understand that the Community College, which is a part of University, is of immense help to the rural youth. The motto of Pondicherry University Community College is "Education for Employment through Skills Formation". The educational activities are designed in line with the needs and demands of the local community. More specifically, the main objective of this College is "to offer job-oriented courses based on the perceived community demand for specific manpower". In short, Community College is "for" the Community and "of" the Community.

Any university that aims at academic and research excellence must keep itself in the forefront of the knowledge revolution. This is possible only if the university keeps its doors and windows open to new trends and innovative ideas from across the globe.

It is heartening to learn that Pondicherry University has signed MoUs with prestigious institutions like National Chin-Yi University, Taiwan, National Chung Cheng University, Taiwan, Chungbuk National University, Korea, University of Toulon, France, Zhaw Zurich University of Applied Sciences, Switzerland and University of East Paris, France.

I also very much appreciate the faculty members, who have won recognition by getting prestigious International/National awards and Prizes. The focus on research and publication is evident from the 150 research projects that they have been working on during the last five years and the number of publications which have gone up to 781 this academic year. I urge you to take advantage of UGC's scheme for Trans-Disciplinary Research for India's developing economy called STRIDE under which you can take up innovative research projects that are socially relevant, locally need-based, nationally important and globally significant.

The South Zone Vice Chancellors' Conference held in the varsity in December 2018 was yet another important event. It was excellent occasion for learning about the best practices in the universities in South India. I understand that the meet was organized jointly by Pondicherry University and Association of Indian Universities (AIU) and was attended by about 70 Vice Chancellors from the southern region.

Not only in academics but also in the field of sports, the university has been taking excellent initiatives. I am happy to learn that the varsity has conducted "The South Zone Inter-University Football Tournament for Men" at the Rajiv Gandhi Sports Stadium in Pondicherry University in December 2018.

I congratulate all students graduating today. I am happy to note that 335 Ph.D., 26 M. Phil., 3498 PG, 11048 UG, 113 Diploma, and 4269 students through Distance Education are obtaining their degrees and that 189 candidates are going to receive the Gold Medals in this convocation.

Let me congratulate each one of you, dear students, for getting the degrees you rightly deserve.

Degrees are a badge of recognition. A recognition that you have successfully completed a course of studies. A recognition that you have acquired new knowledge, new skills that equip you for the world of work as well as for further learning.

But remember, this is merely a stepping stone, a mere 'enabler' for you to pursue your academic, professional and personal dreams. You have a whole exciting world to explore, to understand, to contribute to.

You are graduating at a time when the world of work is changing very fast. New ways of working, new ways of collaborating, new ways of measuring success are emerging. In this world of rapid transformation, you cannot afford to be complacent with what you have accomplished.

To function effectively in this ever changing scenario, you need to be agile. You should be able to absorb new inputs. You should be able to adapt global good practices to your own context. You should try to aim for excellence. You should be proactive, forward looking and aim for greater heights. And you must work systematically to achieve your goals.

Your university is located in Puducherry which has seen a confluence of cultures, the French and the Indian traditions. It has 'newness' (pudu) in its name. It is a place where great poet Subrahmanya Bharati spent ten years in exile. It is also a place that has given a new vision of integral education to the world expounded by Sri Aurobindo and the Mother. It is good to remind ourselves of what Sri Aurobindo had said about living education: He had said, "... that alone will be a true and living education which helps to bring out to full advantage, makes ready for the full purpose and scope of human life all that is in the individual man..." He has laid out a big canvas for human excellence. He has emphasized that education has to be holistic. It has to be enlightening and empowering. It should not be merely for employment.

Regarding the role of the teacher, Sri Aurobindo's vision was that teachers are primarily helpers and guides, not merely instructors or task masters. He had said, "His business is to suggest and not to impose. He does not actually train the pupil's mind, he only shows him how to perfect his

instruments of knowledge and helps and encourages him in the process. He does not impart knowledge to him, he shows him how to acquire knowledge for himself.” We should see how teachers can move away from mere lecturing to become facilitators and mentors, guides and friendly role models. We need to internalize these principles and integrate them in our system. We should think as to how we can make education a more holistic process, a process that refines human beings and expands not only the intellect and skills but also the essential human qualities like empathy, compassion, respect, tolerance and positive thinking.

The curriculum and the mastery of the subjects that are taught is the most important aspect of any educational process.

But we need to go beyond it.

We must emphasize the crucial aspect of what is commonly called, “emotional intelligence”, the ability to be a good human being, a balanced, rational and sensitive person who uses knowledge for the common good of humanity.

We must give equal importance to all the four pillars of learning suggested by UNESCO. Learning to know, learning to do, learning to be and learning to live together are equally important. In the present global context, the fourth dimension – learning to live together – is perhaps the most important.

In this learning process, the faculty members have a great responsibility. Their intellect and personal conduct can facilitate and enrich learning across all the four dimensions. Only they can ensure that education becomes truly comprehensive covering head, hand and heart and becomes more socially relevant contributing to the improvement in the quality of living standards.

In this regard, I would like to draw your attention to UGC’s guidelines “Mulya Pravah – Inculcation of Human Values and Professional ethics in Higher Educational Institutions”. As these guidelines indicate, you should strive to create the following five systems:

The learning process for holistic development
Impeccable governance
Effective institutional management
Well laid system of rewards and chastisement
Institutional climate where ‘rights’ enjoy and ‘wrongs’ are discouraged. I do hope all of you, the faculty members, the administration and the students will continue your efforts, under the able leadership of the Vice Chancellor to bring great laurels to this institution in the years to come. I look forward to greater achievements through setting new ambitious benchmarks and making excellence your watchword, collaboration your modality and continuous improvement your way of life. I wish you all the very best.

Thank you
Jai Hind

Weekly E- Essay Series of Scholarly Articles on Reimagining Indian Universities

A ‘Weekly E-Essay Series of Scholarly Articles on ‘Reimagining Indian Universities’ was launched on AIU Website on 15th May, 2020 as a part of the change which AIU seeks to bring about in the academics in this day and age of COVID-19. The essays scheduled for release in this series are in a broad range of fields covering a variety of topics pertinent to ‘Reimagining Indian Universities’ received from distinguished experts and authorities in the area of Indian higher education included in the Book ‘Reimagining Indian Universities’ edited by Dr. Ms.Pankaj Mittal and Dr Sistla Rama Devi Pani. In the series, every week one scholarly article written by an erudite scholar of Indian academia is being released on the AIU Website. The series was initiated with the essay of Prof Bhushan Patwardhan, Vice Chairman, University Grants Commission, India on 15th May, 2020.

The essays are unique, enlightening and inspirational. Those who are interested in reading these essays may browse AIU Website: www.aiu.ac.in. □

BOOK REVIEW

An Incredible Asset

Salek Chand*

Kaushik, Prabodh Chandra (2019), *Aarogya Sansaar*, Gaziabad, Satya Sandhaan Prakashan, 464 p, Rs 1100/-

Ayurveda, the science of life, is of divine origin. The practice of Ayurveda as a holistic system of medicine is old as the Hindu religion itself and as old as the Indian civilization. In fact there was never a time in India, when Ayurveda was NOT there as a part of everyday life of human being for well-being. Ayurveda therefore is based on first principles, that are accepted as fundamental truths and their application restores good health and promotes long life of each and every one. Even after thousands of years, Ayurveda has survived and continues to thrive, which is Darwinian proof of Ayurveda's importance in our life today.

Aarogya Sansaar (Hindi Edition) clearly explains the principles and practical applications of Ayurveda, the oldest healing system in the world. This beautifully illustrated text thoroughly explains history & philosophy, basic principles, diagnostic techniques, treatment, diet, medicinal usage of kitchen herbs & spices, first aid, food aid, food antidotes and much more.

The content dictated it, really. The book consists of four parts—part 1: Ayurveda Introduction, part 2: preventive methods, part 3-Introduction of Yoga and part 4: Vedic philosophy. 'Ayurveda introduction' in the first section explains Ayurveda very deeply, while in the second section, 'preventive methods' refer to all the methods through which we can keep our body, senses and mind easily healthy. In the same sequence, in the 'introduction of Yoga' in the third section, we get to know about the yoga which has established its importance in the world, so the fourth step is helpful in paving the way of spirituality and salvation through 'Vedic philosophy'. The book proceeds chronologically, and to examine the early roots of

yoga, you have no choice but to delve into the history of ancient India and get to grips with a very different society that had a very different way of seeing the world than we do have today. Much of the specific evidence comes from a handful of highly esoteric Sanskrit texts, such as the Upanishads and Patanjali's Yogasutra, that deal with the nuances of altered and uncommon states of consciousness brought about by prolonged meditation.

The author of the book, Prabodh Chandra Kaushik has contributed to the system through multiple inputs. *Aarogya Sansaar* is an unprecedented, meticulously crafted catalogue of yoga poses and modifications. It is also a gorgeous work of art, showcasing the beauty and athleticism of the human form. Each photograph features an expert yogi performing the pose to perfection. The aesthetic is clean and modern. Every pose is accompanied by the name of the pose in Hindi, a description of the modification, the *Drishti* point (eye gaze), the chakras affected and its benefits.

Under this, compilation and articles on Ayurveda introduction, alternative preventive methods, Yoga, Vedic philosophy and various activities of the medical world have been beautifully incorporated. Through this, the working class, employees, officers and educated class will all be benefited by Yoga, Energy Science. Special assistance will be provided in the development of enlightened and inspiring personality along with public interest, public welfare and world welfare.

The book would be an incredible asset of the persons who believe in Ayurveda and Yoga. The edition is available in Hindi language. □

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National Webinar on National Education Policy-2020

A five-day National Webinar on 'National Education Policy-2020' was organised by the School of Pedagogical Sciences, Mahatma Gandhi University, Kottayam, Kerala during November 02-06, 2020. Vice Chancellor, Mahatma Gandhi University, Prof. Sabu Thomas inaugurated the webinar and mentioned some of the recommendations of NEP-2020 that make drastic changes in the education sector. He observed that NEP-2020 have a great impact on Gross Enrolment Ratio (GER), academic reforms, credit transfer and establishment of National Research Foundation (NRF). He said that 4-years Bachelor's Programme having a lots of research elements embedded into it. The four years UG programme will provide many opportunities for the students' horizontal and vertical growth as western model. Another positive aspect of NEP is credit banks it provides chances for credit transfer, he added. Further, Higher Educational Institutions need to be transformed into multidisciplinary institutions. He also appreciated the proposed appointment of Senior Professors as mentors. He added that these changes will lead to further channelization of funds.

In the Keynote Address on 'NEP 2020: Broader Linking Issues Related to Governance' by Prof. NV Varghese, Vice Chancellor, National Institute of Educational Planning and Administration (NIEPA), New Delhi gave a detailed explanation about the different dimensions of the NEP-2020 like massification and difference in condition of states with respect to previous policies, multidisciplinary approach and new approach to internationalization. Prof. Varghese commented about Universalisation of higher education. The keynote address wave light into as third educational policy and the first policy that we feel that a policy talking about an expanding higher education system. The earlier policies were not so much keen about expansion of higher education system, he elaborated. In fact, 1986 policy talked about the jobs which were indirectly an indication that we have expanded too much. Therefore, we should consolidate and reduce the rush to students to come to higher education and enrol that is not the case in this policy, he further added. The NEP-2020 puts a target of expansion which would continue later. He said that the earlier policies were framed at a time when

State was under dominant forces both in directing, managing and financing the higher education in the country. But that is not the case now. From the turn of the century that trend back very significantly in India is that the fast expansion of the sector is new to private institutions in India for example in the century. We started with low enrolment ratio of around 0.2 or 0.3 and around 8.4 million students in these universities and colleges and we find that it was the expansion that taken place more than 50 years, he observed. Further, however, in 17 years, the expansion was much faster. It was on exponential rate at two-digit levels beginning the total enrolment to 37 and gross enrolment ratio 26 and this is a great achievement but this achievement is possible mostly because of the proliferations of private higher educations. So, this was not a situation that we were talking about, he concluded.

Prof. Vasudha Kamat, Member, NEP-2020 Draft Committee, and Former Vice Chancellor, SNDT Women's University, in her invited lecture focused mainly on the instilling of values, skills, respecting constitution, making a global citizen, transformation of HEI, multidisciplinary institution, phasing out of affiliation system and change in the assessment pattern. Prof. Kamat said that we all know that 21st Century learners have very different aspirations and are special generation and it is a happy situation that the policy addresses the aspirations of young generation. The NEP-2020 develops a deep sense of respect towards the fundamental rights, duties and constitutional values, bonding with one's country and a conscious awareness of one's role and responsibilities in a changing world. What am I doing for my country is also important? It has a foundation of access, equity, quality, affordability and accountability the five pillars of national education policy, she said. The policy instils skills, values and dispositions that support responsible commitment to human rights, sustainable development and living and global wellbeing, thereby reflecting a truly global citizen. She further added that key principles of NEP-2020 are emphasised on conceptual understanding, critical thinking and creativity, fostering the unique capabilities of each student, respect for diversity and local context, equity and inclusion, continuous review, community participation, extensive use of technology.

Special Lecture on 'NEP-2020: Proposed Curricular, Pedagogical and Assessment Reforms' was delivered by Prof. Ramachandran, Advisor, India-Africa Institute of Educational Planning and Administration (IAIEPA). Prof. Ramachandran spoke about the need for holistic development, development of complex problem-solving skills, other skill such as secretive thinking, team spirit, skilled communication, and cognitive flexibility. Prof. Ramachandran started his session by sharing the experience and happiness of working as a member of two educational policy, NEP, 1986 and NEP, 2020 and remarked that the situations and government are different indifferent policy making. Prof. Ramachandran observed that NEP-2020 is the transformative nature that is transform all under graduate institutions into multidisciplinary institution. All undergraduate programmes are aimed at holistic development that is development of intellectual, aesthetic, physical, social, moral, ethical and soon and all must be done in an integrated manner. He remarked that the *kalamandalam* in Kerala and *kalashethra* are prominently dealing art education. Those who are achieved 64 art forms are said to be holistically developed. So, the idea of holistic development is not from other countries it is from our own country. He said that multidisciplinary education is for providing development of all human capacity to all students. He shared an interesting story of a mechanic in America who solved the problem of machine by hitting with a hammer in proper place with proper manner. In such a way every student must be able to diagnose problem and make solutions to the problem.

Prof. P K Sahoo, Former Vice Chancellor, University of Allahabad and Dean, Faculty of Arts, University of Allahabad presented detailed description about technological context and application in education, curricular reforms, holistic development, development of cognitive process, value development and assessment. Prof. Sahoo observed that when we are considering technological context focus is mainly on curricular reformat schools at higher secondary education. Improvement in teaching, learning process and learning outcome are essential at different stages of education. He said that the exact essence of education is in holistic development which includes cognitive progress, skill and value development. We would be emphasising play and activity-based learning. Multidisciplinary subjects would gain attention apart from isolated studies. *Padsaala* like technological advancements would be a boon. He added that the technology plays a crucial role by emphasising

frequent formative assessment. Assessments for learning can be in these levels-self-evaluations. Pee-revaluation, tutor evaluation and evaluation by experts. In each stage there would be provision for improvements. Guidance shall be in individual and group level, he added. Every stage of assessment is characterised by individual task. The curricular goals are to develop whole potentials of individuals with 21st Century skills to make space for critical thinking and more. Holistic, discussion based, analysis-based learning are key features. Regarding integration of technology and multilingualism, NEP-2020 suggests 3 language formulas with more projection on mother tongue education. The regional languages are to be with due palace. National language, classical language is to be followed. In the higher secondary level, introduction of foreign language is also entertained. Indigenous knowledge and science lay more vivid areas. Contemporary knowledge and skills may be encouraged to peep into wide horizon of educational growth. The 21st century visions need of the hour is artificial intelligence.

Prof. Chandra Bushan Sharma, School of Education, IGNOU, New Delhi delivered Special Lecture on 'Making of NEP-2020'. Prof. Sharma spoke about comparison of previous policies and NEP-2020 consideration for less privileged and disabled, private participation in education, importance of mother tongue, transformation of pre-schools and teacher education. Prof. Sharma observed that in education no decision is taken in a hurry. Every decision has long term irreversible impact. On a critical view, we can say that in fact there was no facility in school. So, children could not join. But act said that you have to be in school (Especially, from weaker session). Prof. Sharma added that private participation in education is the backbone of India. India, if you look as a nation we spent as much as any other countries. Education is completely free. Invariably we have different types of school system. Regarding mother tongue, there are 55 mother tongues and just think about the quantum of commitment needed for making text books and materials, he said. Prof. Sharma observed that teacher education will face a drastic change with the launch of 4-year integrated B.Ed. programme and more over teacher education will not be provided in isolation.

Prof. M A Sudhir, UGC Emeritus Professor, Gandhigram Rural Institute-Deemed to be University made a special lecture on 'NEP 2020, Reflections on Teacher Education'. Prof. Sudhir presented clear

understanding about the teacher education programme on the basis of NEP-2020 especially about reforms at school education and teacher education. He gave detailed description about four-year integrated B.Ed. programme, multidisciplinary institutions, academic autonomy, career advancement programmes for teachers, NHERC and NPST 2022. When Prof. Sudhir entered the topic, it was told that NEP-2020 is a landmark in Indian Education and it took a long span of 34 years for next NEP and needs next two decades for next transformation. And it envisions India to become a global superpower. Policy is holistic, comprehensive, futuristic and learner centric and transforms school level, higher education institutes, teacher education sectors, etc. Coming to reforms in teacher education, the quality, competency and characters of teachers are most important. Crucial role of teachers has also highlighted. An empowered teacher with high competent, deeply resourceful, highly energised and encouraged for teaching and research is to be moulded out. He said that teacher education programme needs to be organised and equipped. We need transformation in four levels of Teaching-Foundation, Preparatory, Middle and Secondary. At the foundation stage teacher education progresses are much unorganised now. This is kinaesthetic stage of learning, the stage where tremendous growth takes place otherwise detrimental for natural development of children. The extension of parental care and need of basic skills are projected out.

Prof. Jasim Ahmed, IASE, Jamia Millia Islamia, New Delhi delivered a special Lecture on 'School Education and NEP-2020'. The main points of the invited lecture were long lasting changes in education according to NEP-2020, educational issues and concerns, changes that will brought by NEP-2020, ECCE, foundational literacy and numeracy, curtailing drop outs and developing skills. The first concern was given to Programme for International Student Assessment (PISA) and it was pathetic that when India took participation, it was ranked second from bottom among 73 countries. So country is in urgent need of up gradation of school education quality. Further, ASER report was also analysed graphically. Graphical representation of comparing school education from rural and urban at gender basis was discussed. Boys were lagging behind. And the Prof. Ahmed appreciated the country to come up with NEP-2020 on this context. Prof. Ahmed reflected on his own childhood memories in which his father and

team involved in renovation of their school building. Multiculturalism, power of language and textbooks are matter of concern in NEP-2020. The medium of instruction can be regional languages, bilingual text books would be encouraged, preservation and development of foreign languages meanwhile offering foreign languages at secondary languages. He mentioned importance of Arabic too as many Indians are working in West Asian countries. Introduction of contemporary subjects, talk on mathematical conceptual thinking, doing what's right and children's literature towards value development, NCFSE in every 5-10 years, text books with local content and flavour, challenging task and possible measures were also discussed in detail.

Prof. C T Aravindakumar, Pro Vice Chancellor, Mahatma Gandhi University, Kottayam, Kerala delivered valedictory address after the special lecture of Prof. Jasim Ahmed. In the Valedictory Address, Prof. C T Aravindakumar remarked about the need of understanding the policy before implementation, need of enhancement GER, accessibility of technology for online education of financially backward students, states right after NEP-2020 and quality control of education system. Prof C T Aravindakumar in his valedictory address observed that any policy which can bring up the socially and economically backward communities in our country it should be welcomed. The success of education policy in our country which is diversified society in many respects lies in the upliftment of all sections of the society. He further added that we are trying to make a radical shift in our education policy after 1986. This involves both school education and higher education. We are in 2020 where technology is advanced to a new horizon. The online education is very popular in the world. How accessible this for large population of people in our country like India, in remote places including the tribal areas, this is another side of it, he added. He concluded that NEP-2020 need to be addressed these dimensions too. The participants expressed their observations and feed back in the valedictory session. Finally, Prof. C T Aravindakumar released the report the webinar.

International Conference on Big Data, Machine Learning and Their Applications

A three-day International Conference on 'Big Data, Machine Learning and Their Applications' is being organised by Motilal Nehru National Institute of Technology (MNNIT), Allahabad during May 28-30, 2021. The event may provide a forum for academics,

researchers and practitioners from academia and industries to exchange ideas and share recent developments in the field of Big Data and Machine Learning and their Applications. It will provide a platform for researchers to get recognition for their research innovations and provide wider publicity to the Institute as well as industries. The event focuses on both theory and applications in the broad areas of Big Data and Machine Learning and its Applications in various areas. The Tracks of the event are:

- **Track I: Big Data**
- **Track-II: Machine Learning**
- **Track III: Bio Inspired Algorithms**
- **Track IV: Artificial Intelligence**
- **Track V: Applications of Big Data, Machine Learning and Bio Inspired Algorithms in**

For further details, contact Dr. Niraj Kumar Choudhary/Dr. Navjot Singh, Department of Electrical Engineering/Department of Computer Science and Engineering, MNNIT Allahabad-211004 (Uttar Pradesh), Phone: 09455691568 / 9650506400, E-mail: icbma2021@gmail.com. For updates, log on to: www.mnnit.ac.in/

Workshop on Advanced Functional Analysis and its Applications-2020

A nine-day Workshop on ‘Advanced Functional Analysis and its Applications-2020’ is being organised by the Indian Institute of Technology, Hyderabad in collaboration with Department of Mathematics, National Institute of Science Education and Research (NISER) Bhubaneswar, Odisha during December 16-24, 2020. Research scholars perusing research in various fields of Functional Analysis are encouraged to register for this workshop. Aim of the event is to bring together all researchers working in this field from India and abroad. People from various parts of the world are invited to deliver talks in the event. A special attention is paid to the area ‘Analysis on Banach Spaces’. The prime objective is to cover some advanced topics in Functional Analysis at its introductory level. Apart from the application viewpoints, the subject Functional Analysis can be studied in its own interests. From the time of Fourier to the present day the subject evolved and expanded in many directions. The central theme of the event is to offer some advanced topics in *Functional Analysis with special emphasis on Analysis on Banach spaces*.

From the time of Stephan Banach to till date the theory has long heritage and culture. The richness of this theory attracted many people to work in it. The *Handbook of Geometry of Banach Spaces* (I & II) encounter the developments of the literature in last few decades. The following online platform would be used for this Workshop.

- Google Classroom for the recorded lectures.
- Microsoft Teams for sending queries to the instructors.

For further details, contact Organising Secretary, Indian Institute of Technology Hyderabad, Kandi, Sangareddy, Telangana- 502205. E-mail: afaa20.application@gmail.com. For updates, log on to: www.iith.ac.in

AIAER and IFORE International Virtual Lecture Series on Reforms in Teacher Education and Higher Education around the World

Institute of Professional Education, Gwalior in collaboration with All India Association for Educational Research and International Forum of Researchers in Education is organising an international webinar lecture series on ‘Reforms in Teacher Education and Higher Education around the World on December 9-12, 2020 from 5.00 to 8.00 PM daily. The speakers are:

December 9: 1. Dr. Briju Thankachan, United States; 2. Mrs. Sue Cronin and Dr. (Ms.) Namrata Rao, United Kingdom; and 3. Prof. (Mrs) Basanti Dey Chakraborty, United States;

December 10: 1. Dr. Ms. Sylvia Christine Almeida, Australia; 2. Prof. (Ms.) Roza Valeeva, Russia; and 3. Prof. (Ms) G. Dayalatha Lekamge, Sri Lanka

December 11 -1. Dr.(Ms) Liu Woon Chia, Singapore; 2. Prof. Chris Reddy, South Africa; and 3. Dr. Sunil Behari Mohanty, India

December 12 -1. Ms. Ene-Silvia Sarv, Estonia; 2. Dr. (Mrs.) Ramadevi Pani, India; and 3. Prof. (Ms.) Rosemary Papa, United States.

Researchers interested to get a link for joining this webinar may contact Dr. (Ms.) Rama Tyagi, Principal, Institute of Professional Education, Gwalior, Tel: +919425757659(M), E-mail: r30tyagi@gmail.com □

THESES OF THE MONTH

SOCIAL SCIENCES

A List of doctoral theses accepted by Indian Universities (Notifications received in AIU during the month of September-October, 2020)

Anthropology

1. Gogoi, Shyamalee. **Megalithic traditions in Arunachal Pradesh.** (Dr. Dhritiman Sarma), Department of Anthropology, Rajiv Gandhi University, Itanagar.
2. Singh, Naorem Naokhomba. **Religious practices among the Meitei's of Manipur: An anthropological study.** (Prof. Geetika Ranjan), Department of Anthropology, North Eastern Hill University, Shillong.

Business Administration

1. Chaturvedi, Mudit. **Business environment for MSME (Micro, Small & Medium Enterprises) in India.** (Prof. N K Bishnoi), Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar.
2. Garg, Radha. **Adoption of internet banking: A study of Haryana and national and National Capital Region (NCR).** (Dr. Sanjeev Kumar), Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar.
3. Maan, Savita. **Profile of Indian online shoppers: A study of their perception, motives and decision making styles.** (Prof. Sanjeev Kumar), Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar.
4. Muwal, Sandeep. **A study of marketing practices of milk in India.** (Prof. Vinod Kumar Bishnoi), Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar.
5. Neelam Rani. **Promotional strategies of organized retail: A study of National Capital Region.** (Dr. Tilak Sethi), Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar.
6. Pooja. **Effect of conflict management styles on employee satisfaction: A study of textile sector in India.** (Prof. Shabnam Saxena), Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar.
7. Yadav, Nisha. **Intellectual capital performance in Indian service sector: An empirical study.** (Dr. Karam Pal Narwal), Haryana School of Business, Guru Jambheshwar University of Science & Technology, Hisar.

Commerce

1. Bakhtaria, Ajay. **Suksham udhayamoan ka Ujjain Jile ke aarthik vikas par prabhav.** (Dr. B S Makkad), Department of Commerce, Vikram University, Ujjain.

2. Chakma, Jyoti Bikash. **Tourism marketing in Northeast India: A comparative study of Meghalaya and Mizoram.** (Prof. NVR Jyoti Kumar), Department of Commerce, Mizoram University, Aizawl.

3. Daham, Firas Mohammed. **Auditing of banks with risk management and compliance risk: A comparative study between government and private banks of IRAQ.** (Dr. Ashvin H Solanki), Department of Commerce, Saurashtra University, Rajkot.

4. Joshi, Gauravkumar Probodhkumar. **A study of changes in financial variables and environmental disclosure practices in selected NIFTY 50 companies of India.** (Dr. Kamlesh S Dave), Department of Commerce, Saurashtra University, Rajkot.

5. Mamta Rani. **Impact of human, social and financial capital on performance of Micro, Small and Medium Enterprises: A study of Haryana.** (Dr. Silender Singh Hooda), Department of Commerce, Chaudhary Devi Lal University, Sirsa.

6. Parmar, Unnati Yogeshkumar. **An evaluation of various financial indicators of top 10 companies of FMCG sector in India.** (Dr. S N Ransariya), Department of Commerce, Saurashtra University, Rajkot.

7. Patel, Hiteshkumar Ghelubhai. **A comparative study of financial performance of selected district co-operative banks of Gujarat.** (Dr. Kamlesh S Dave), Department of Commerce, Saurashtra University, Rajkot.

Economics

1. Dhangar, Arjun Kumar. **Gandhi Sagar Jal Pariyojna ka Paschimi Madhya Pradesh ke sinchai kshetrphal aur krishi utpadan par prabhav: Ek arthik adhyayan.** (Dr. Gyanchandra Khimesara), Department of Economics, Vikram University, Ujjain.

2. Kiran Bala. **An economic analysis on Indo-ASEAN trade.** (Dr. Manoj Siwach), Department of Economics, Chaudhary Devi Lal University, Sirsa.

3. Kotkar, Nivrati Tulsiram. **Rashtriye Krishi Bima Yojna: Maharashtra Rajyeyacha: Ek chikitsak abhyas (Isvi 2000-01 te 2012-13).** (Dr. Pate Shivaji B), Department of Economics, Swami Ramanand Teerth Marathwada University, Nanded.

4. Madavi, Annaji Dayaram. **Gadchiroli Jillyhateel aadivasi samajachya (Madia Gonds) samajik va arthik isthithichey adhyayan.** (Dr. Tawar A T), Department of

Economics, Swami Ramanand Teerth Marathwada University, Nanded.

Education

1. Nagar, Damodar Prasad. **Bhartiye darshan ka vartman samey mein paryavaran sarakshan evam Jeevan shaili ke sandarbh mein adhyayan.** (Dr. Rama Sharma), Department of Education, IASE Deemed University, Sardarshahr.

2. Panor, Mumpy. **A study on educational stress, family relationship, adjustment and academic achievement of senior secondary students of Arunachal Pradesh.** (Prof. Elizabeth Hangsing), Department of Education, Rajiv Gandhi University, Itanagar.

3. Syiem, Sonisha Rimai. **Family environment and parent-child relationship of adolescent learners in lower Subansiri District of Arunachal Pradesh.** (Prof. Elizabeth Hangsing), Department of Education, Rajiv Gandhi University, Itanagar.

4. Touthang, Stephen Thangkholen. **English language learning skills among the elementary school learners: A critical study.** (Prof. T Lungdim), Department of Education, Rajiv Gandhi University, Itanagar.

Home Science

1. Shruti Kumari. **Psychology of unusual eating behaviour among girls residing in hostels and lodges: A study of Patna town.** (Dr. Faruque Ali), Department of Home Science, T M Bhagalpur University, Bhagalpur.

Journalism & Mass Communication

1. Jha, Alok Kumar. **Media education in India: A critical study.** (Dr. Rachana Gangwar), Department of Mass Communication and Journalism, Babasaheb Bhim Rao Ambedkar University, Lucknow.

2. Jha, Kanhaiya. **Bharat mein rajnaitik daloan ke sanchar prakriya ka Adhyayan (Pramukh rajnaitik daloan ke vishesh sandarbh mein).** (Dr. Avinash Bajpai), Department of Mass Communication, Makhn Lal Chaturvedi National University of Journalism and Communication, Bhopal.

3. Prem Kumar. **Controversial political statements: A study of interpretational disparities induced through political hegemony and media priming.** (Prof. Vikram Kaushik), Department of Communication Management & Technology, Guru Jambheshwar University of Science & Technology, Hisar.

4. Radadiya, Jitendra Jayantibhai. **Role of Gujarati print media in agricultural development of Saurashtra (2010 to 2015).** (Dr. Nita V Udani), Department of Journalism, Saurashtra University, Rajkot.

5. Rashmi Kumari. **Communicator, message, medium and effect: A study with special reference to Prem Rawat, 'An Ambassador of peace'.** (Prof. Gopal Singh), Department of Mass Communication and Journalism, Babasaheb Bhim Rao Ambedkar University, Lucknow.

Law

1. Bhasker, Preeti. **Physical violence against women and compensatory jurisprudence with special reference to acid attack victims working in Sherores cafes of Uttar Pradesh.** (Prof. Preeti Misra), Department of Human Rights, Babasaheb Bhim Rao Ambedkar University, Lucknow.

2. Dwivedi, Pankaj. **Panchyati Raj vyavastha mein mahilaoan kee bhumika: Vidhik evam samajik adhyayan: Madhya Pradesh ke Chatarpur Jile ke vishesh sandarbh mein.** (Dr. S N Sharma and Dr. N K Jain), Department of Law, Vikram University, Ujjain.

3. Singh, Girijesh Kumar. **Legal protection and status of differently abled persons in India: A study of higher educational institutions in Lucknow, Uttar Pradesh.** (Prof. Priti Saxena), Department of Human Rights, Babasaheb Bhim Rao Ambedkar University, Lucknow.

4. Sudhadevi, M S. **Legal reformation of the status of women in the modern context with special reference to Indian legislation.** (Prof. B S Reddy), Department of Law, Kuvempu University, Shankaraghatta.

5. Yatheesh, G S. **A critical study of constitutional rights and obligations in relation to education.** (Prof. B S Reddy), Department of Law, Kuvempu University, Shankaraghatta.

Library & Information Science

1. Om Prakash. **Employment opportunities for Library and Information Science professional in India: An analytical study.** (Prof. M P Singh), Department of Library and Information Science, Babasaheb Bhim Rao Ambedkar University, Lucknow.

Management

1. Chandra, Mohan Singh. **A need-gap study of HR practices in educational institutions.** (Dr. Sanjay Sharma), Department of Business Management, Chhattisgarh Swami Vivekanand Technical University, Bilhailai.

2. Jain, Vikrant Lalit. **Human resource management in IT-ITES industry in India & its impact on employee attrition.** (Dr. Vilas Kulkarni), Department of Management, Gujarat University, Ahmedabad.

3. Rastogi, Ekta. **A study of emerging trends of green marketing focusing FMCG products with special reference to NCR region.** (Prof. M S Khan), Department of Rural Management, Babasaheb Bhim Rao Ambedkar University, Lucknow.

4. Sharma, Sanchit. **An analysis of planning and control of crowd management during selected events organised in Madhya Pradesh.** (Dr. Kamran Sultan), Department of Business Management, Vikram University, Ujjain.

5. Singh, J P. **Study on refining of selection system for officers of Indian Armed Forces.** (Dr. Bedanta Bora and Dr. S N Mishra), Department of Management, Sikkim Manipal University, Gangtok.

6. Sukhani, Rekha. **Impact of workplace spirituality on the job satisfaction of employees: A comparative study of selected private sector banks.** (Dr. Ankita Jain), Department of Management, IIS University, Jaipur.

7. Sundarka, Baibhav Pawan K. **An empirical study of credit risk management of commercial banks.** (Dr. Nilam Panchal), Department of Management, Gujarat University, Ahmedabad.

Physical Education & Sports

1. Chavan-Patil, Vishal Balaso. **Gymnasticsmadheel nivdakn vyayam prakarancha kabaddi kheladunchya sharirik va koshelya koshaley shamtevar hona-ya-parimancha abhyas.** (Dr. V R Parihar), Department of Physical Education, Swami Ramanand Teerth Marathwada University, Nanded.

2. Darshan Kaur. **Baldev Singh legendary hockey coach: A case study.** (Prof. Monika Verma), Department of Physical Education, Chaudhary Devi Lal University, Sirsa.

3. Meenakshi. **Study of job stress, job satisfaction and adjustment of physical education teachers of Haryana.** (Dr. Ashok Kumar Malik), Department of Physical Education, Chaudhary Devi Lal University, Sirsa.

4. Pardeep Kumar. **Comparative study of sports policy of India and other developed countries.** (Dr. B D Vanar), Department of Physical Education, Gujarat University, Ahmedabad.

5. Raval, Nishith Ravindrakumar. **Effect of yogic asanas and physical exercises on selected health fitness components, physiological and psychological variables.** (Dr. B D Vanar), Department of Physical Education, Gujarat University, Ahmedabad.

Political Science

1. Jha, Praveen Kumar. **Ek mahan rajneta evam samajik karyakarta: Babu Jagjeevan Ram: Ek adhyayan.** (Dr. Ramesh Chandra Rai), Department of Political Science, T M Bhagalpur University, Bhagalpur.

Psychology

1. Chauhan, Ajaykumar Jagdishbhai. **A comparative study of internet addiction and cyber bullying among undergraduate students.** (Dr. R K Chocha), Department of Psychology, Saurashtra University, Rajkot.

2. Gondaliya, Pallavaviben Amritlal. **A study of assertiveness big five-personality and health among college students.** (Dr. J A Sojitra), Department of Psychology, Saurashtra University, Rajkot.

3. Raut, Amit Hukumchand. **Educational aspiration, self-confidence and optimistic-pessimistic attitude among professional and non professional students.** (Dr. H J Narke and Dr. N M Palwade), Department of Psychology, Swami Ramanand Teerth Marathwada University, Nanded.

4. Sadatia, Bharkumar Prabhulal. **A comparative study of occupational stress, organizational commitment and mental health among clock industries and ceramic industries employees.** (Dr. Dinesh A Dadhnia), Department of Psychology, Saurashtra University, Rajkot.

5. Solanki, Laxmiben Ramjibhai. **A psychological study of emotional intelligence and adjustment among students.** (Dr. J A Sojitra), Department of Psychology, Saurashtra University, Rajkot.

6. Solanki, Nayankumar Kantilal. **Life satisfaction social adjustment and coping strategies among primary caregivers of patients with schizophrenia and obsessive-compulsive disorder.** (Dr. R C Parmar), Department of Psychology, Saurashtra University, Rajkot.

Public Administration

1. Sukhdev Singh. **An assessment of functioning of government colleges and self financing college in Haryana.** (Dr. Satyawan Dalal), Department of Public Administration, Chaudhary Devi Lal University, Sirsa.

Social Work

1. Kori, Asha Deepak. **Community initiatives of corporate social responsibility in engineering organizations in Mumbai: A study of women beneficiaries.** (Prof. Vandana Chakrabarti), Department of Social Work, S.N.D.T. Women's University, Mumbai.

Sociology

1. Gonmei, Chamgailiu. **Traditional Village Council: A comparative study of Zeme, Liangmai and Rongmei Naga Tribes in Manipur.** (Prof. I L Aier), Department of Sociology, North Eastern Hill University, Shillong.

2. Pithadiya, Sachin Jayantilal. **A sociological study of Machhu Kathiya Sai-Sutar caste of Junagadh District.** (Dr. H D Zankat), Department of Sociology, Saurashtra University, Rajkot.

3. Yadav, Preeti. **Health care programmes and nutritional status of women and children: A sociological study of Lucknow slums.** (Prof. B N Dubey), Department of Sociology, Babasaheb Bhim Rao Ambedkar University, Lucknow.

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Special Number of the University News

on

'Implementing National Education Policy-2020 to Transform Higher Education in India'

A Special Number of the University News on the theme 'Implementing National Education Policy -2020 to Transform Higher Education in India' is being brought out in the month of March, 2021. The Special Issue will cover articles of experienced and eminent educationists, higher education practitioners and policy makers. Readers of the University News are also invited to contribute to the Special Number by submitting papers/articles on below mentioned themes:

1. Innovative Implementation Strategies for Recommendations on Various Components of the Policy.
2. Implementation Strategies for Different Dimensions viz., Teaching, Research and Community Engagement.
3. Issues and Challenges in Implementation of the Policy.
4. Practicability, Suitability and Ease of Implementation of the Policy.
5. Roadmap for Holistic Implementation of the Policy.
6. Actionable Points on the Part of Government, HEIs and other Stakeholders.
7. Any Other Subtheme Relevant to the Topic.

Following are the essential guidelines to be followed:

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- Manuscripts including tables, figures and references should be around 3000-4000 words for articles and 600 words for Communications.
- The manuscripts should be typed in MS Word double-space with 12 point font and ample margin on all sides on A 4 size paper.
- The cover page should contain the title of the paper, author's name, designation, official address, address for correspondence, contact phone/fax numbers and e-mail address.
- The main text should not contain footnotes. References should be given at the end of the manuscript and should contain only those cited in the text of the manuscript. The full reference should be listed at the end in alphabetical order running the following style:

Books

Miles, M., and Huberman, M.,(1994). *Qualitative Data Analysis*. London : Sage.

Articles

Over, R.(1982). Does research productivity decline with age? *Higher Education*, 11, 511-20.

Chapter in a Book

Rendel, M. (1986). How many women academics 1912-1977? In R. Deem (ed.), *Schooling for Women's Work*. London: Routledge.

Article Retrieved from Website

Mazumdar, T (Year, Month, Date Published). *Article Title*. Retrieved from URL.

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