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*Happiness is when what you think, what you say, and what you do are in harmony*  
- Mahatma Gandhi

*seed...*

## 23<sup>rd</sup> Annual National Conference of ICF

held at R. G. Kedia College, Hyderabad from 8<sup>th</sup> -10 Sept, 2017



Group Photo of Delegates and Resource persons



Resource Persons and Participants of Leadership Development Programme for Managing Excellence and Innovations in Higher Education in the emerging Fourth Industrial Revolution – Meeting and Dinner at IIC, New Delhi, 20th December, 2017

24th Annual Conference of Indian College Forum will be held at Jamshedpur, Jharkhand in collaboration with Jamini Kant Mehto Group of Colleges, East Singhbhum, Jharkhand in the month of September, 2018 – watch for dates. Pre-conference workshop on Autonomy of Colleges: Prospects and problems have been arranged in the college on 27-28 April 2018

*Cover page - Mahatma Gandhi,  
painting by Ambuj, student of FMG Academy, Greater Noida, UP*

College Post Editorial Board :  
GD Sharma, Baldev Mahajan, M.M. Pant, S. Bhushan, S.C. Sharma, Kavita Sharma & Kunal Mathur

**EDITORIAL**

**BHARAT CRAVES FOR ENGLISH- MACAULAY LAUGHS -  
GANDHI..... !**



The Times of India while reporting on Annual Survey of Education Report 2017 gave caption as Bharat craves for English. It stated that the rural India students speak English. The greatest hurdle in the spread of English language and culture was people living in rural India- named Bharat. This was mainly because they did not require this language for their vocations, communication and living a happy community life. In other words, they lived their life comfortably without being educated in the English language, before Macaulay visited India and wrote his minutes about transforming Indian education, culture, and values and making Indians appreciate English language, literature, and culture. People in Bharat got education, communicated and lived happily and enjoyed their culture and values and may be communicating in almost 100 of languages including Sanskrit. Through their native languages they created knowledge of

Agriculture, Architecture, Health Sciences, Astronomy, Economy, Governance and so on and communicated to people throughout length and breadth of Bharat - say Kanya Kumari to Kashmir or even with neighboring countries speaking different languages. But it was for Macaulay to make India speak English, appreciate its literature and culture and making them follow what British Raj wanted them to follow. In his Minutes of 1835 he wrote along with other things; "... We must at present do our best to form a class who may be interpreters between us and the millions whom we govern, --a class of persons Indian in blood and colour, but English in tastes, in opinions, in morals and in intellect. To that class we may leave it to refine the vernacular dialects of the country, to enrich those dialects with terms of science borrowed from the Western nomenclature, and to render them by degrees fit vehicles for conveying knowledge to the great mass of the population "

These minutes were followed in letter and spirit during the British rule particularly after the power of governance was taken over by the Crown from East India Company, which later on set up Hunter Commission and followed it by Woods despatch in 1854. Hunter recommended that the Primary education should be given in Mother Tongue and it should draw

an example from local situations. English language education was attempted to be given after 4-6 years of education at primary level of education. Woods despatch recommended for setting up the Board of Education and bringing all educational institutions under its supervision and control. This step played a major role in compelling people to learn and appreciate English language and culture, And those resisted or opposed were subtly and not so subtly discouraged, if not punished. Those who adopted it were rewarded with jobs in Administration, Army, Police, and Services. Hence the process of implementation of Minutes of Macaulay through policy and action gained momentum. Since this language was imposed there was resistance and opposition, which was expressed by people outside education system or through modification of education system to meet their aspiration and British Raj dictates and allurements. Hence we find the emergence of Anglo-Vedic Institutions of Education, and by setting up of Hindu and Muslim Universities and so on. Whole freedom movement was fought outside educational institutions and in vernacular and regional languages. There are several examples of it. To name a few, Subramaniam Bharati in the south and Ramdhari Singh Dinkar in the north and Bankim Chandra Chattopadhyay in Bengal and so on. Gandhi communicated in Hindustani with people throughout length and breadth of the country. He viewed that Macaulay's minutes on education was " born and nurtured in sin". To quote "... nurtured in sin, for the tendency has been to dwarf the Indian body, mind, and soul." He said " Is it not a painful thing that, if I want to go to a court of justice, I must employ English language as a medium; that, when I become a Barrister, I may not speak my mother tongue, and that someone else should have to translate to me from my own language? Is not this absolutely absurd? Is it not a sign of slavery? Am I to blame the English for it or myself? It is we the English - knowing men, that have enslaved India. The curse of the nation will rest not upon the English but upon us."

After India became free from British Rule and charted its trust with destiny, it had options to choose its course of action and reform education system so as to prepare sound body, mind, and soul of people of free India. But we chose to retain what British

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**Editor**

G.D. Sharma

**Co-editor**

Baldev Mahajan

### 23RD ICF NATIONAL CONFERENCE

23rd National Annual Conference of Indian Colleges Forum on "Challenges before Higher Education in Emerging Fourth Industrial Revolution" was held from 8-10th September 2017 in Collaboration with R.G. Kedia College (Affiliated to Osmania University) run and managed by Marwardi Shikshan Sansthan, Hyderabad. The Conference was inaugurated by Hon. Bandaru Dattatreya former Union Minister for Labour. While inaugurating the conference he appreciated the ICF and the host college for taking up the very important theme for the conference for deliberation. He hoped that the outcome of the conference will be very useful for policy planning on the Higher Education. He promised to take up the recommendations of the conference at the appropriate level in Parliament and in the government for implementation.



The conference was attended by the Principals of colleges drawn from various parts of the country. They



*Dr Papi Reddy being felicitated by Professor G.D. Sharma, President ICF along with : from left Dr K. Mohmmad Basheer, VC, Calicut University, Calicut, Dr. DVG Krishna, Director, R.G. Kedia College, Hyderabad, fourth from left, Professor Venugopal Rao, Dean Academic Audit, Osmania University, Hyderabad, Dr. Bikas C. Sanyal, former specialist Higher Education, IIEP, Paris and Shri P.P. Shrivastv, Former member and Chair Education Council of North Eastern Council, Shillong*

presented papers on the theme of the conference and participated in the discussion. Principals also worked four groups to draw recommendation on the theme of the conference. The theme and chair of these groups were as follows;

1. Challenges and Opportunity for Emerging AI and IoT Chair- Dr Bikas Sanyal, Co-Chair Ms Chandana Bhattacharya,
2. Role of Colleges in harnessing new technology in Education Chair Dr. B.K Tyagi, Co Chair Dr. Ajay Sareen,
3. Role of Central Govt. UGC and State Government to strengthen colleges to meet the emerging challenges Chairs Dr S.C. Sharma and Dr Jamini Kant Mehto, Co-Chair Dr M. Usman,
4. Strategy to deal with technology impact on culture and Economy Chair Shri PP Shrivastav, Co-Chair Dr. C. Massar.

Several eminent people spoke on the theme of the conference. A special address was given by Dr K. Mohammad Basheer, Hon. Vice Chancellor of Calicut University, Calicut, Kerala. The Valedictory address was given by Professor Papy Reddy, Chairman, State Council of Higher Education, Telangana. See detailed report at [www.seededu.org](http://www.seededu.org)

### LEADERSHIP DEVELOPMENT PROGRAMME

3 day Leadership Development Programme for Principals of Colleges on Managing Excellence and Innovations in emerging Fourth Industrial Revolution was organized by SEED-CHEST from 28-30th December 2017. Three-day workshop deliberated on several themes pertaining to Artificial Intelligence, Internet of Things and changes likely to take place in the system of higher education. It focused on role of leaders to handle these changes effectively

*...contd. on page 29*



*Photo of Participants and Resource persons of workshop*

## CHALLENGES AND OPPORTUNITIES FOR INDIAN HIGHER EDUCATION IN THE 4TH INDUSTRIAL AGE

M M PANT \*

*The paper deals with the following aspects - 1: The new Industrial Age: the 4th Industrial Revolution, 2: Technologies that will be prevalent in the future, 3: Skills that will be valuable, 4: The new teaching-learning model:- Heutagogy, 5: Lifelong learning as the answer to the challenges of the 4th Industrial Age, 6: AI and education, 7: Mobile based learning, 8: The road ahead? Chatbots for learning, 9: Challenges and Opportunities, 10: Resources for further information. Author makes fervent plea for Giraffe's approach over the Ostrich approach about the changes and development that are likely to be caused by Fourth Industrial Revolution. He pleads for developing National Qualification Framework to liberate education so as to enable it to cope up with emerging changes.*

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### 1. The new Industrial Age: the 4th Industrial Revolution

The new President of India in his very first speech said : "The India of the 21st century will be one that is in conformity with our ancient values as well as compliant with the Fourth Industrial Revolution. There is no dichotomy there, no question of choice.

We must combine tradition and technology, the wisdom of an age-old Bharat and the science of a contemporary India

The term ' the 4th Industrial Revolution' was brought into currency in January 2016 by Professor Klaus Schwab, the founder of the World Economic Forum at its meeting in Davos. The pre-Industrial Age was one where the sole source of energy was a muscular power of humans and domesticated animals. This power could be amplified through simple machines like the lever, the inclined plane, and the pulley. It is said that Archimedes was so excited upon understanding the principle of the lever, he remarked ' give me a place to stand upon, and I can move the earth'.

The first Industrial revolution happened around 1784

\* Professor M M Pant, former PVC, IGNOU and Technology expert

with the harnessing of steam as Engines for locomotion as well as in boilers for use in factories.

The second Industrial Revolution was driven by the invention of the incandescent lamp by Thomas Edison and the technology for electricity generation and distribution. This also spurred the oil companies to go beyond kerosene ( lamp oil) to explore petrol and Diesel engines and so around 1870 we had steam, kerosene, petrol, diesel, and electricity to propel us into the industrialization and mass production era. And to lay the foundations of our educational system, which reflected the needs and aspirations of this great 2nd Industrial Age.

This continued until about a hundred years when around 1970 we witnessed the Age of electronics: radio, television, and computers, now referred to as the 3rd Industrial revolution.

The creation of the IITs in 1961 and similar institutions in their image helped India find a significant place in the Leadership in the 3rd Industrial Age with examples of Satya Nadella and Sunder Pichai and others of this. India benefitted from the establishment of the IITs in the 1960s (the first set of B.Tech graduates from IIT, Kanpur came out in 1965) and

its products were ready to benefit from the 3rd Industrial revolution. IIT, Kanpur in turn benefitted from the KIAP program supported by a consortium of nine US universities (namely M.I.T, University of California, Berkeley, California Institute of Technology, Princeton University, Carnegie Institute of Technology, University of Michigan, Ohio State University, Case Institute of Technology and Purdue University) that helped set up IIT, Kanpur's research laboratories and academic programmes.

Likewise, the IIT in Delhi benefitted from UK collaboration, the IIT in Madras from German and the IIT in Bombay was supported by the USSR. But the future envisages providing everyone who wants to learn with an opportunity to learn, at affordable costs, and MOOCs have amply demonstrated that this is the way forward. So a model that is gaining ground is for learners to adopt

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MOOCs as a low cost global flexible solution to massify tertiary education.

But as we enter the first few years of the 4th Industrial Age, engineers created in that image are becoming less relevant leading to the recent decisions of AICTE to close about 800 engineering colleges.

This fourth Industrial Age which became visible around the year 2015, the beginning of the 2nd half of the 2nd decade of the 21st century is being driven by breakthroughs in fields such as artificial intelligence, robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing.

Our existing Higher education system is completely unprepared for these and lacks the speed and agility for Institutional reforms to deal adequately with these.

The fourth Industrial revolution results from the fusion of the physical world (of atoms and energy), the information world ( of bits and qubits) and the biological world (of neurons and genes).

## 2. Technologies that will be prevalent in the future:

There are several speculations on the future technologies in the coming decade. While there may be different perceptions on when the tipping points for these may occur, there is a broad consensus that the technologies listed below, do represent the major MegaTrends :

- Big Data
- Virtual Reality and Augmented Reality
- The Internet of Things
- Digital Manufacturing or 3D Printing
- Robots and Drones
- Blockchain
- Mobile Computing
- Computational Thinking
- Machine Intelligence

With so many technologies emerging on so many fronts, it's a challenge just to keep up. Every advance is billed as "the next big thing."

Not every emerging technology will alter the business or social landscape - but some truly do have the potential to disrupt the status quo, alter the way people live and work, and rearrange value pools.

The problem is that we don't know which one(s)?

Today, billions of people connected by mobile devices, and unprecedented processing power, storage capacity, knowledge, are creating a new world order.

And these will be multiplied by technology breakthroughs in fields such as artificial intelligence, robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing.

## 3. Skills that will be valuable:

The traditional education system produces rote learners and test takers. Their core competence may be summarized as the ability to write down during examination time, what was written in the prescribed

textbooks or other readings, without looking at them.

This skill is of very little value today and will become even less important in the future.

Various studies have identified the following skills as important in a VUCA ( volatile uncertain complex and ambiguous ) world.

- Complex Problem Solving
- Critical Thinking
- Creativity
- People Management
- Co-ordinating with others
- Emotional Intelligence
- Judgement and Decision making
- Service Orientation
- Negotiation
- Cognitive Flexibility

One of the big opportunities for the higher education system is to deploy new teaching-learning model (heutagogy further elaborated below) to teach the above skills.

## 4: The new teaching-learning model: Heutagogy

Heutagogy arose from the work of Stewart Hase and Chris Kenyon. They suggest that learning is a learner-centric experience rather than an educator-centric one, where learners who encounter subject matter in addition to tips on how to learn to increase their overall learning capabilities by becoming highly autonomous and self-determined.

To better understand this, let's look at heutagogy in the context of two other famous "-goals:"

Pedagogy, a teacher-centric approach, involves combining the skills and knowledge necessary for delivering high-quality, effective teaching, usually to young learners in a school setting.

Andragogy involves moving away from the teacher-centric approach and into a more learner-centric or collaborative learning relationship between learner, teacher, and peers, usually in an informal adult learning environment.

Learners aren't always autonomous and self-directed at first. However, as learners progress and mature in skill and in life, so does their approach to learning.

With its roots in andragogy, heutagogy puts mature learners in the driver's seat, as the final stop in the learning continuum.

Heutagogy can be implemented in a few clearly defined steps :

- 1: Don't teach just content. Explain the learning process
- 2: Conduct a needs assessment
- 3: Offer courses asynchronously
- 4: Provide learning as chunks ( a few minutes duration worth)
- 5: Encourage and facilitate collaboration and discussion
- 5: Lifelong learning as the answer to the challenges of the 4th Industrial Age

Mahatma Gandhi was among the early evangelists of lifelong learning saying:""

The biggest takeaway from IIT-Madras will not be

whether you know thermodynamics or something else but the ability to learn new things. Learning to learn will be the biggest lesson that you will take away from your IIT days," Nandan Nilekani, Former Chairman, Unique Identification Authority of India and co-founder, Infosys, told graduating students of IIT Madras.

"The good news is that you got a degree from IIT-Madras, and the not-so-good news is that you cannot stop learning. You have to keep learning for the rest of your life because we are entering an era of life-long learning," he said at the institute's 54th Convocation Day.

The Harvard Universal Classics, originally known as Dr. Eliot's Five Foot Shelf, is a 51-volume anthology of classic works from world literature, compiled and edited by Harvard University, President Charles W. Eliot and first published in 1909.

Eliot had stated in speeches that the elements of a liberal education could be obtained by spending 15 minutes a day reading from a collection of books that could fit on a five-foot shelf. (Originally he had said a three-foot shelf.) The publisher P. F. Collier and Son saw an opportunity and challenged Eliot to make good on this statement by selecting an appropriate collection of works, and the Harvard Classics was the result.

Eliot worked for one year with William A. Neilson, a professor of English; Eliot determined the works to be included and Neilson selected the specific editions and wrote introductory notes. Each volume had 400-450 pages and the included texts are "so far as possible, entire works or complete segments of the world's written legacies that was later made available as a DVD and now it is available on Kindle to read on your mobile device.

In fact, I recently downloaded it on my iPhone.

An interesting challenge to higher education in the 4th Industrial Age is to curate a similar set of learning resources suitable for present times.

It is clear that 15 minutes a day will not suffice and at least 30 minutes a day would be required. Of these about 20 minutes per day be spent exploring technology and business matters and about 10 minutes each day on human concerns as reflected in a liberal education.

In 2015, UNESCO took up the theme of Lifelong and Lifewide learning through formal, nonformal and informal learning. The above article summarizes this initiative.

'The Belem Framework for Action' and 'Learning to be' reports emphasize the role of lifelong learning

In the recent past, that is in the 3rd Industrial Age, the place of learning ( the School, College or University) and the place of working ( factories, businesses or Government) were distinct and separate in space as well as in time ( stage of the learner).

Now, in the 4th Industrial Age, this separation is getting reduced.

In India particularly there is an education crisis at all levels. Please view a few ( about 10 ) of my recent tweets at [twitter.com/mmpant](https://twitter.com/mmpant) to have a glimpse. Our Bharat Ratna in Science, Prof. CNR Rao says in 2015 at the Rashtrapati Bhawan that 90% of our University Curriculum is out of date, and there is no response. AICTE

acknowledges that a third of their Institutions received recognition through forged documents and various business leaders have put figures as high as 95% of University graduates as being unemployable. The CEO of Capgemini said that almost 60% of his staff was 'untrainable'.

Because Indian School children did not do well in the PISA, the Government opted out. Because our Universities did not figure in any significant way in Global rankings, the MHRD spent a lot of money on developing the NIRF. For those who are interested in their own future and the future of their near and dear, the only course of action is to take charge of their lives and become lifelong learners, so they are not limited by or constrained with the official education models and can transcend it. Learning is at once deeply personal and inherently social. And it is not a spectator sport, but a participative one.

## 6: AI and Education :

When we use Amazon, Netflix or Siri we are experiencing Artificial Intelligence. As the field progresses, advances in computer science are being leveraged to create intelligent machines that more closely resemble humans in their functions. Computers can now simulate human perception, learning and decision making based on access to categories, properties, and relationships between various information sets.

Machine learning is a subset of AI, providing computers the ability to learn without being explicitly programmed. Neural networks model the biological function of human brains to interpret and react to specific inputs such as words and tone of voice. Neural networks are proving valuable for more sophisticated natural user interfaces through voice recognition and natural language processing, allowing humans to interact with machines in the same way as they interact with other humans.

As the underlying technologies continue to develop exponentially, AI has the potential to enhance online learning, Adaptive learning software, and research processes in ways that more intuitively respond to and engage with students.

Since the 1950s, the benchmark for Machine Intelligence has been the Turing Test, which requires that a human being unable to distinguish a machine from a human in conversations and real-world situations.

AI is now regularly used in Higher education in the form of 24/7 online help desks, including the use of IBM Watson at Deakin University.

## 7: Mobile based learning

Many earlier attempts at integrating modern technology in Higher education had met with the big challenge of providing access. In fact, India even launched a dedicated satellite, the EduSAT to create an all India network of receive stations for virtual classrooms. The lectures were created and broadcast from dedicated studios. The reverse communication was limited, resulting in a model that was described as one-way video and 2-way audio teleconferencing.

In the time-span of just about a decade, we have seen an almost universal access to mobile phones, including Smartphones.

So, instead of banning mobile phones, they must be seen as essential learning devices. I have been exploring the use of mobile phones with Whatsapp to deliver lifelong learning. They have now evolved to 3 well-defined programs. The highest impactful of these is one with the title "Coming of Age in the 4th Industrial Age" which can be easily pursued concurrently with any tertiary education program.

Another one is on "SmartParenting" and a third one is on "Teacherpreneurship".

From January 2018, every person who turns 18 (comes of age) will be a child who was born in the 21st century, and for the next decades, there will be one million persons turning 18 every month. The first program is directed at them, and the other two at their parents and teachers.

The potential is huge. Imagine the positives of being able to access any course you want, just when and where you need it, on whatever device you wish to receive. This is formally described as space shift, time shift, and device shift

These changes will not happen overnight but are well on their way to reality and most of us don't realize it. The potential for a steep increase in the cognitive capital of nations is great.

At the same time, there are some real concerns. With data created on everything, will there be acceptable levels of privacy for individual lives? With accessibility greatly enhanced and a path to almost everything possible on the internet, how can we sufficiently protect intellectual property or secure financial data? The challenges of navigating the transition are great as well.

### 8. The road ahead? Chatbots for learning

Since the 1950s, the benchmark for machine intelligence has been the Turing Test, which requires that a human being unable to distinguish a machine from another human in conversations and real-world situations. The test was finally beaten in 2014 and AI is now regularly leveraged in higher education in the form of 24/7 online help desks, including the use of IBM Watson at Deakin University. AI's full potential for education remains untapped, but institutions can look to developments in the consumer sector. Virtual assistants, for example, interpret verbal cues to respond conversationally, mirroring human interaction. Though popular avatars like Siri and Cortana are built into smartphones, Amazon's Alexa is becoming a household name as a standalone, always-listening assistant that uses far-field microphones to retrieve information from the web on command. Some fear, however, that the field is advancing faster than people's understanding of it.

### 9: Challenges and Opportunities

Although it's a myth that ostriches bury their heads in the sand when frightened, the truth is that they lie down -

as flat as they can - hoping that whatever is coming will pass by. Giraffes, on the other hand, do the opposite: They stretch their necks out further, observe their surroundings carefully and prepare for either fight (their kick can kill a lion) or flight (they can run at speeds up to 32 miles per hour) In other words, giraffes are proactive. That doesn't mean they aren't scared; it just means they know that, in order to survive, they need to look ahead and assess what alternatives are available. As of now, we seem to be adopting an ostrich policy of ignoring the above future trends and moving as if nothing is going to change. But we should like a giraffe stick our neck further upwards and try to assess the emerging scenario.

It is clear that many axioms of the present Higher education system are no longer true. First- that the longer the duration of the course, the more useful it is. So our efforts a few decades ago to force a 3-year degree program and more recent efforts by Delhi University towards a 4-year undergraduate degree program were contrary to the future needs.

Next 'taught masters' run on a full-time basis are bad designs for everybody. Students should be able to jump on to research right after an undergraduate degree. Perhaps the move to a National Qualification Framework is now more urgent than ever before. Secondly, the rigid and sometimes absurd restrictions on prior courses of study as requisites for studying subjects at the undergraduate level need to be removed completely. The need is for educated persons to be eclectic rather than narrow specialists.

The big opportunities are in providing the solutions. It will be the teacher's role to help create the desired personalized learning experience.

### 10: Resources for further information:

I have selected just a few interesting and important resources for further information from a huge amount of resources that are available in the field.

- 1: The Digital Revolution: The impact of the 4th Industrial Revolution on Employment and Education: [http://www.edg.co.uk/media/193777/digital\\_revolution\\_web\\_version.pdf](http://www.edg.co.uk/media/193777/digital_revolution_web_version.pdf)
- 2: Intelligence Unleashed - Pearson, <https://www.pearson.com/innovation>. In this important new report, a positive and plausible vision is set out of how learning could be transformed by artificial intelligence in education (AIED).
- 3: NMC Horizon report Higher Education 2017: <https://www.nmc.org/publication/nmc-horizon-report-2017-higher-education-edition/>
- 4: An avalanche is coming: <https://www.pearson.com/avalanche.html>
- 5: Education in the 4th Industrial Revolution: in 3 parts
  - 5.1: <http://www.21stcentech.com/education-4th-industrial-revolution/>
  - 5.2: <http://www.21stcentech.com/education-4th-industrial-revolution-part-2/>
  - 5.3: <http://www.21stcentech.com/education-4th-industrial-r>

## THE ENTREPRENEURIAL UNIVERSITY<sup>1</sup>

BIKAS C. SANYAL\*

*The challenges of society and economic conditions and scarcity of resources demands innovative approaches. The entrepreneurial approach holds the answer to many of these challenges.*

### 1. INTRODUCTION:

Universities today face three types of challenges as follows:

#### Economic challenges:

In economic sphere universities have to confront the scarcity of funding while facing the challenges of a knowledge-based, market-oriented, globalized and networked economy, impacts of the 'General Agreements of Tariffs and Trade' making higher education an internationally tradable commodity, the recent phenomenon of "Brexit" of United Kingdom and the "America First" phenomenon of the United States affecting their own university policies and of countries collaborating with them. In addition, the universities of developing countries are facing accelerating demand for higher education with stagnant funding from the state.

#### Social Challenges:

In the social sphere, universities have to face the challenges of social issues such as, social injustice, inequality, extreme religious and ideological radicalism, greed and corruption, moral and ethical issues; cultural issues such as "ethnic cleansing", ideological and religious intolerance, lack of intercultural understanding and dialogue, and environmental issues such as excessive exploitation of natural resources, misuse and abuse of them, and the phenomenon of global warming among others.

#### Spiritual challenges:

In the spiritual sphere, universities are called upon to face the challenges of the competitive, consumerist society generating unsatisfied greed among

the learner community resulting in a lot of mental and physical stress and unhappiness degrading the quality of student life. In the corporate sector, long hours, multi-tasking, stiff competition, rigorous commute, irregular eating habits, and working requirements, all combine to create a pool of highly stressed, inefficient and thus despairing workforce resulting in absenteeism, lost productivity and disability caused by mental distress. (Sanyal, 2017)

These challenges result in an environment of uncertainty and complexity. It is the levels of uncertainty and complexity in any environment and the associated threats and opportunities that dictate the need for an entrepreneurial response. Universities being the bastion of innovation, knowledge, and wisdom have the responsibility to provide that response as noted by Professor Andrew Hamilton<sup>2</sup>, Vice Chancellor, University of Oxford:

"Why should an 800-year-old university, steeped in tradition and renowned for its ancient buildings and gleaming spires place a strong emphasis on entrepreneurship, innovation, change and the impact of our endeavors?"...He continued "We want to know and explore because with knowledge and exploration comes the possibility of change, of making a positive impact and of meeting the many challenges of life in the 21st Century" Andrew Hamilton (2013)

To confront these challenges universities need special characteristics of which an attempt for an exhaustive list is given in generic form below to be

attributed selectively to the type of responses needed.

### 2. DESIRED CHARACTERISTICS OF ENTREPRENEURIAL UNIVERSITIES:

- " Having a diversified funding base and a strong steering core (meeting both economic and social and spiritual causes)
- " Taking local traditions to global destination (e.g., through an integration of spiritual, social and economic entrepreneurship)
- " Meeting the diverse needs of students through

\* The paper was presented in the International conference on Financing Higher Education organized by the Center for Policy Research and Higher Education and the British Council in India, New Delhi February 16-17, 2017

\* Dr Bikas C Sanyal is a retired educationist, former higher and Teacher education adviser of UNESCO, consultant of Maastricht School of Management and former Honorary Director of India House, Paris.

diversified programs, including programs on business ethics social and spiritual values ( see later for the skills needed)

- " Facilitating their students, staff, and faculty to establish links with business, industry, and community as they would be needed
- " Preparing students/ trainees not only for smooth passage to employment but also developing human resources capable of putting innovative ideas to practical use and to generate income from economic, social and spiritual programs.
- " Creating science parks, incubators, and associations with the industries and communities outside.

To acquire the above characteristics the universities would need adequate educational programs to appreciate the importance of education in developing entrepreneurship in economic, social and spiritual contexts. The programs are discussed below for all three contexts not all of them would apply to a particular context.

### 3. EDUCATIONAL PROGRAMS OF ENTREPRENEURIAL UNIVERSITIES

Entrepreneurial education should impart to learners through appropriately designed educational programs entrepreneurial skills providing the three types of qualities given below.

Inherent qualities

- " a strong sense of independence and ownership,
- " joys in making own efforts,
- " belief in hard work and in freedom of action.

Entrepreneurial education should develop among learners the following attitudinal qualities.

- " Achievement motivation
- " Self-confidence
- " Diligence and perseverance
- " Desire for autonomy
- " Learning by doing
- " Strong sense of commitment and determination
- " Capacity for innovation
- " Courage and taking risks to continue the pursuit of desired goals despite uncertainties, vulnerabilities and periodic failures

Entrepreneurial education should impart to the learners the following cognitive skills:

- " Leadership ( Strategic thinking)
- " Exploratory skills seeking opportunities and looking for unexplored, available underground, off -shore and on shore natural resources solar, wind and water wave power and human resources, unemployed and underemployed to be usefully utilized.
- " Self-learning and self-employment skills.

- " Managerial(including mobilization, allocation, and utilization of financial resources) skills
- " Communication and networking skills
- " Negotiating skills
- " Selling /lobbying skills

The universities have to orient their faculty to conduct these programs in an effective way with the help of the potential stakeholders (the family, learners themselves, the state and the potential employers).

### 4. ENTREPRENEURIAL UNIVERSITY: AN INNOVATION IN FINANCING OF HIGHER EDUCATION (SANYAL 2013)

As mentioned above the main focus of entrepreneurial universities is on raising funds for economic, social and spiritual causes. I mention twelve broad areas of income generating activities universities may undertake to fit their socio-economic-cultural context. Some of these activities may be irrelevant for some institutions. Appropriately selected and designed, the benefits from such activities on the cost recovery basis, can also serve economic,

social and spiritual causes with very limited resource often providing surplus with faculty and learners equipped with the entrepreneurial skills listed above.

Areas of Income generating activities

**1. Provision of services:** Full Cost Short Courses; Continuing Education, Private Students, self-financed students; Consultancies; Professional Services from the professional department; Testing of Materials, Products, and Processes; Authentication, Certification, and Approval services; Bureau Services; from under-utilized

facilities; Access to Information and computing; Renting of Audio Visual Services and subcontracting underutilized Technical Skills;

**2. Sale of Products:** Patents; License to Manufacture; Prototype Building; Publications; Computer Software.

**3. Use of Physical Facilities:** Renting Existing Facilities when they are not in use such as Teaching Rooms; Lecture Halls; Studios; Laboratories; Workshops, Social Rooms; Car Parks Sport Facilities; Cultural Facilities; Renting of Space for offices of university academic professionals allowed to practice outside, Food Shops, Stationary shops; Travel Agency, Post Office. Bank. News Agents, Hair Hairdressers; small shops of useful goods and services. Building new facilities e.g.; use of unused land for building conference halls, guest houses etc and for production purposes and for leasing to external academic institutions.

**4. Residence, Catering and Conferences:** Charging Market Rate of Rent to well to do students; renting rooms for external conferences or other suitable users during

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*The universities have to orient their faculty to conduct these programs in an effective way with the help of the potential stakeholders (the family, learners themselves, the state and the potential employers).*

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vacation periods; leasing private sector accommodation for students and charging room rents including management costs; ;opening up catering facilities for public and providing catering services away from the institutions on casual basis or permanently for other organizations ;use of student halls of residence during vacation for lodging external participants.

Building facilities for conferences or short courses for whole year and charging regular fees for users, both external and internal

**5. Inward Advertising:** Institutions have a large permanent market with reasonably well to do customers for advertising opportunities through publications, databases, and physical Sites.

**6. Provision of Internal Services :** Establishment of employment agency for students; sale of computer disks, software, hardware including old computers; discounted membership of private medical insurance scheme; discounted purchase of books, equipment, goods and services from suppliers; provision of coin or card operated photocopying machines; sale of previous examination papers, postcards, maps, diaries, Christmas cards and any other publicity print materials related to the Institution.

**7. Recycling:** Sale of used computers after renovation, used book sales, sale of old clothes, furniture, and equipment, waste paper, aluminum cans, used laboratory materials,

**8. Award Ceremony:** The ceremony being held during Holidays allows income from rents halls of residence to participants; charging a fee for participation and an additional fee for guests. Additional income may be generated from charging a commission to the company renting gowns; photographic and video companies, selling general souvenirs of the institution; seeking donations from philanthropists invited specially for the ceremony.

**9. Brokerage Function:** Helping small and medium-sized enterprises to locate external funds for their research and development (R&D) and training; accepting a contract for providing services hiring external staff on subcontract basis; franchising short courses to other institutions; providing staff for services to other organizations on management contract.

**10. New delivery modes:** Running Full Cost Courses on Distance Learning mode (e.g., different forms of e-learning) for homemakers, working for population, retired people looking for an education for pleasure.

**11. Investment:** Management of cash reserves and cash flows ensuring high returns from an investment with minimum risk.

**12. Charity Shows:** Special spectacles on reasonable entrée fee for specific development projects.

## 5. SOME EXAMPLES OF ENTREPRENEURIAL UNIVERSITIES. (SANYAL 2017, IBID)

Universities all over the world are now focusing on insertion of entrepreneurship in some form or other. Some examples of the three types mentioned above are given below.

**Entrepreneurial Universities with Economic Entrepreneurship** In the USA most major state universities have increased their non-state funding to around 70 percent of their total income. In Colorado, it rose to as high as to 84 percent in the beginning of 21st century.

In Russia the most enterprising university on our list is the Orel State Technical University of central Russia.

In India, the Birla Institute of Technology (BITS), executes continuous professional development in industries through distance education. This generates income for the BITS.

In Brazil, University of Sao Paulo (USP) created a user-friendly interface in order to facilitate access of small companies and entrepreneurs for financial advantage to USP's body of knowledge for the financial advantage of both.

In Kenya, the Faculty of Technology in Makerere University, established by the Gatsby Trust assists in developing the small and medium-sized industries to generate additional income.

## Entrepreneurial Universities with Social Entrepreneurship

To demonstrate the extent of social entrepreneurship programs around the world, the Global Entrepreneurship Monitor(GEM) reports the largest comparative study of social entrepreneurship in the world based on interviews with 167 793 adults in 58 economies in 2015, shows that there are more social entrepreneurs than commercial entrepreneurs in every global region, except for Latin America and the Caribbean.

In the USA Ashoka U an organization with headquarters in Virginia is promoting social entrepreneurship collaborating with universities and colleges all over the world. In the United States there were 17 universities as of 2013 among them are Northwestern University, the University of San Diego and Brown University.

In India, the Narsee Monjee Institute of Management Studies, Mumbai, the Indian Institute of Management, Ahmedabad and the Tata Institute of Social Science run programmes of Social Entrepreneurship.

In the United Kingdom, the HEFCE has joined hands with the UnLtd, to have inspired 70 institutions to engage in social entrepreneurship programs. The Oxbridge University, University of Arts, London and University of Northampton among others have strong programs of social entrepreneurship.

## Entrepreneurial Universities with Spiritual

### Entrepreneurship

The people around the world are now looking for spiritual training and education which has become a multimillion-dollar business often run outside of the higher education sector leaving a lot of space for income generation by the universities while providing a great service to the society.

Yoga and meditation are the two important programs of spiritual entrepreneurship.

According to Yoga Journal of 9 February 2017, 80 million Americans were likely to try yoga for the first time in 2016. According to a report by the Beijing based Daxue Consulting, published in Times of India, 7 March 2017, the yoga market in China is growing rapidly with the number of people involved in its practice rising from 4 million in 2009 to 10 million in 2014. The report continues to say that the yoga industry in China is growing at an annual rate of 20%!

Among the universities, in India as of 2015, there were over fifty recognized universities offering Yoga degrees and certificates in India at different levels. This excludes all institutions which do not have 'university' in their title.

The first UNESCO Chair on Yoga was established in December 2012 at Ramakrishna Mission Vivekananda University (RKMVU), Belur, Howrah in its campus in Coimbatore, Chennai, within the framework of its activities in the field of Inclusive Adapted Physical Education and Yoga (RKMVU)

In the USA, Scottsdale Community College in Arizona USA has introduced a program recently on Yoga and Meditation ( Extracted from Google 16 March 2017).

Professor Chris Streeter's work at the University of Boston Medical College on the subject is getting recognition in the medical world in the United States

## 5. MANAGEMENT OF ENTREPRENEURIAL UNIVERSITIES

We have discussed above the desired characteristics of Entrepreneurial universities to confront the economic, social and spiritual missions and the educational programs providing the entrepreneurial skills to achieve their economic, social and spiritual goals including the financial gains to make from them. Based on Sanyal (2012) and taking hints from OECD (2012) the following strategies for effective management of entrepreneurial universities are suggested. These strategies are to be adapted to the different contexts.

### Strategy 1 Institutional Governance and Leadership.

- " The mission statement of the University should explicitly mention entrepreneurship as a major part of the university strategy having a strong commitment to its implementation.
- " The leadership should ensure coordination and

integration of its programmes at all levels across the university ;

- " The faculties and departments should be given autonomy for entrepreneurship development in the wider regional, social and community environment.

### Strategy 2. Management of finance and personnel of Entrepreneurial University:

The university's entrepreneurial objectives are to be supported by an effective financial management mechanism for entrepreneurial development with a wide variety of funding sources, including facilitating access to private financing for its potential entrepreneurs and to business incubation facilities. The staff should be trained in modern financial management techniques. Appropriate incentive mechanisms are to be provided for those who actively support the university's entrepreneurial agenda.

The university's management strategy should also have a personnel management strategy which will breakdown the traditional boundaries among the staff and students building synergies between them. Its recruitment criteria should emphasize on entrepreneurial attitude, behaviors, and experience and it should support staff development.

### Strategy 3. Entrepreneurial Strategy in Teaching and Training/ Learning

The university should be structured in such a way that a culture of entrepreneurship and innovation cuts across in teaching and learning of all disciplines imparting the entrepreneurial skills mentioned in Section 3.

### Strategy 4, University - Business- Community/ External Relationships for Knowledge Exchange.

The University:

- " should be committed to collaboration and knowledge exchange with industry, society, other education/ training institutions of similar nature and the public sector creating opportunities;
- " demonstrating active involvement in knowledge exchange partnerships and relationships ;
- " developing strong links with incubators, science parks and other external initiatives with a wide range of stakeholders;
- " supporting staff and student/ training mobility between academia and the external environment and
- " linking research, education and wider community activities together to affect the whole knowledge ecosystem.

### Strategy 5 Managing the Entrepreneurial University as an internationalized institution

The entrepreneurial university should explicitly support the international mobility of its staff and students

(including Ph.D. students) and demonstrate its international character in content, structure, and methods of delivery.

### Strategy 6 Measuring the Impact of the Entrepreneurial University

- " The university should have mechanism to assess the degree of implementation of each of the above strategies taking into consideration the contextual differences of each type of entrepreneurship: economic, social and spiritual
- " It should carry out regular monitoring and evaluation of its performance in programs of entrepreneurship and revise the program as and when necessary.

Once the universities have incorporated the social and spiritual entrepreneurship programs accreditation of their programs for their quality control and inter-institutional co-operation should be in order. This is referred briefly below.

### 6. Accreditation of Entrepreneurial Universities

To facilitate accreditation of economic and social entrepreneurship programs, an Accreditation Council had been set up, in Collaboration with University-Industry-Innovation Network with Head Quarters in Amsterdam. Comprised of world-leading experts, the Council with acronym ACEU (2017), has designed the world's first accreditation program for entrepreneurial universities. This may include spiritual entrepreneurship programs as well

### CONCLUSION

As mentioned in the section on effective management of entrepreneurial university it has to develop a fertile knowledge innovation ecosystem, create an entrepreneurial culture and have a strong local base for entrepreneurship. The comprehensive nature of the entrepreneurial university given in the paper while reducing the financial burden on the state and increasing their autonomy has the possibility of providing graduates of leading a good quality life with mental wellbeing. It has also the potential of reducing corruption, inequality, injustice, violence, global warming and wastage of resources in the society. It also can promote harmony among people, and between man and nature as observed by Mr Ban-Ki-Moon the former Secretary-General of the United Nations in the General assembly (2014).

However, the state has to remain responsible for its sustainability with whatever complementary resources it needs.

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## FUTURE OF HIGHER EDUCATION FINANCING AND GOVERNANCE

SUDHANSHU BHUSHAN\*

*The paper brings out the structural changes that are taking place in the system of financing and governance of Higher Education.*

### INTRODUCTION

Vishwajeet project, A scheme aimed at allocating around Rs 8,700 crore to seven top Indian Institutes of Technology (IITs), as part of ongoing efforts to enhance their global standing, was turned down by the Finance Ministry of the Government of India. When V. Ramgopal Rao, Director of the Indian Institute of Technology (IIT), Delhi, expressed disappointment over it at a function in New Delhi, the Minister of Human Resource Development, Government of India proposed an alternative to the centrally sponsored project in terms of the Higher Education Finance Agency (HEFA), the Uchcharat Avishkar Yojana, and the Prime Minister's proposed scholarships of Rs. 75,000 a month. (Hindu, September 12, 2017) Another centrally funded project, called, Rashtriya Uchcharat Shiksha Abhiyan, RUSA, to provide support to the state universities and colleges, having a low success in terms of gap between resource allocation during 12th plan and meager resource disbursement during the same period is also a pointer to the fact that less reliance has to be placed on centrally sponsored projects in the higher education financing in the future for which the budgetary resource comes from the taxes. The minister's suggestion to move towards Higher Education Finance Agency which is a debt-based financing to the institutions of higher education and Uchcharat Avishkar Yojana which is industry supported financing is clearly an indicator that there is a move towards market-based strategies in the financing of higher education in the future. Heavy reliance is also being placed on educational loan as a means of financing to the students which is clear from the fact that during 2013-14 the total quantum of educational loans by commercial banks stood at Rs. 70282 crores. (Rani Geetha, 2016, p. 183) The amount of scholarship disbursed is a meager sum of Rs. Rs. 316 crores by the Higher education department of central government during 2015-16. (Department of Higher Education, 2018) Furthermore, the tuition fees are enormously high with the spread of self financing courses in higher education institutions.

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\* Professor Sudhanshu Bhushan is Head of Higher and Professional Education, National Institute of Educational Planning & Administration, New Delhi

(Bhushan S, 2008) The future of higher education financing is moving towards high tuition fee, from a scholarship to loan based system to students and from centrally sponsored assistance to the institutions towards market linked loans from commercial banks and support from industries. It is therefore clear that there is a paradigm shift in the financing of higher education in India. (Errol D' Souza, 2004; Chattopadhyay, S, 2009)

Financing of higher education affects the mode of governance. Market based strategies call for an efficient system whereby the debt is repaid to the lenders. Hence the question of efficiency in higher education acquires importance. Question of efficiency affects higher education in many ways. First of all, resource allocation has to be based on the rates of return criteria. There are two types of rates of return, social return and the private return. The market-based strategies of financing relegates the importance of social return and gives important role to the private return. However, the primary and secondary education which has a much higher social return and a lower private return in comparison to higher education may be justified for government funding whereas higher education financing may be left to the forces of market because of its high private return. Hence the resource allocation in higher education in the future will be guided by the higher private return

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and financing from the private sources. Second, the grant of the subsidy by the government will also be examined by the criteria of efficiency and not by the criteria of distributional benefit to the poor sections of the society. Efficiency will outweigh the distributional advantage. The question of educational finance in the higher education will be more guided through the targeted subsidy as it will be considered to be more efficient. Hence, once over all subsidy is reduced, higher education will be subjected to higher tuition fees. Third, the consideration of efficiency will affect the overall higher education system by the

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<sup>1</sup> private return is based on wage differences at different levels of education whereas social return is inclusive of externalities related to non wage differences such as prestige, honour, civility, political participation, national development etc. associated with different levels of education.

question of higher productivity. An overall policy drive may be seen to be guided by increasing productivity by increasing the hours of teaching and research, reducing salary payment to the teachers, increasing part time teachers, ban in the recruitment of permanent teachers and increasing use of technology in governance as well as teaching learning. There might be cut in library, infrastructure, etc. and an advocacy for the use of technology may be intensified. Fourth, the question of efficiency will also give rise to increasing accountability not only for the teachers and staffs who are being paid by the government but also for the students in terms of attendance, discipline and control over student's union activities. Wherever the autonomy to the institutions will be granted, there will be a rider to the autonomy in terms of performance and responsibility not only in the areas of teaching and research but also in terms of efficiently raising resources through the market.

What all this amounts to in terms of the financing and governance of higher education in the future? As the financing of higher education will be linked to the forces of market in the future, the injustices to the marginalized sections of the society will grow. Surely, state will step in to mitigate the injustice by providing a concession to the marginalized sections, yet it will not prove to be sufficient and there will be growing dissatisfactions in the campuses of higher education institutions. This will lead to the failure of law and order in the University campus and growing strains on the academic leadership to control the situation. Another challenge will be that teachers will be subjected to much more discipline, accountability and performance in the face of rising shortage of teachers as the government will be withdrawing the resource to support the higher education. The discipline and command over teachers will grow through the regulatory mechanism and the substantive autonomy of the teachers will be much more threatened in the name of maintaining professional accountability. The teaching community will be subjected to authoritative control by the bureaucracy and will feel alienated from the system of higher education. They will be guided by rules rather than the passion and love for teaching and research. The third and the most important challenge in the future seems to be the crisis of the public

system of institutions. The governance failure will loom large in the face of financial shortage and the resulting difficulties to manage the system. Public institutions will be discredited ultimately to find ways for private institutions to rule in the future. Thus the problems of marginalisation of poor students, alienation of teachers and surveillance and governance failure of public institutions will remain an important challenge for the future of higher education.

The objective of the paper is to show the shifts in the financing of higher education, structural changes in policy reform and the resulting problems and challenges in higher education.

**Expenditure Pattern in Higher Education:** It would be interesting to analyze the higher education expenditure by Central government during 2011 - 12 to 2015 - 16 to understand any shift in the pattern of financing. (i) The total plan expenditure of higher education during the first three years increased from Rs. 12575 cr. to Rs. 14244 cr., declining sharply to Rs. 12591 cr. in 2014-15 and then increasing to Rs. 14428 in 2015-16 in nominal terms. During the five-year period the expenditure in real terms, adjusting for inflation and growth in enrolment rate should have gone up over Rs. 18,000 crore, assuming at least 10% annual growth rate in nominal terms. The expenditure cut in higher education was sharply felt in the University and higher education, particularly grant to UGC. It has declined from Rs. 5341 cr. In 2011 - 12 to Rs. 3605 cr. The downfall since 2013-14 may be noted. The expenditure cut to UGC has been felt in terms of shortage of plan allocation to the state universities and colleges. There has been a centrally sponsored scheme of RUSA for funding state universities and colleges initiated during the 12th plan period to compensate for the shortfall in the resource allocation to UGC. However, it may be noted that originally 12th plan earmarked Rs. 22500 cr. under RUSA. However, in the first four years of the 12th plan till 2015 - 16 the disbursal under RUSA has been less than Rs. 2000 crore. Hence overall even after making an adjustment for RUSA there is a clear evidence of fall in the plan expenditure of higher education since 2013-14. Hence direct subsidization of higher education out of budget has been declining (ii) Another interesting aspect of the financing of higher education is the increasing reliance upon student financial aid. It consists of two components - interest subsidy and scholarship. To compensate for the decline in direct subsidy the interest subsidy component has been introduced since 2013 - 14. The allocation to interest subsidy has been increased to Rs. 1960 in 2015 - 16. On the other hand there has been a nominal increase in the scholarship as compared to interest subsidy. The allocation for the scholarship stands at Rs. 228 cr. in 2015-16. It shows another trend in terms of a shift from plan direct subsidy to University and colleges to interest subsidy meant for students. It indicates a move towards encouraging education loan by

<sup>2</sup> *The past literature on the rate of return on education is so far inconclusive as it mainly depends on the level of economic development. In a major study Psacharopoulos (1994) noted that both private as well as social rates of return are higher at the primary and secondary levels in comparison to the higher education justifying the preference for resource allocation in favor of school education. However, estimates vary from country to country. The recent estimates on private returns to education in India suggests that "there is an incentive to acquire higher levels of education as returns to higher education are positive and monotonically increasing." (Geetha Rani, 2016, p. 187)*

the students in order to fund higher education studies. Fall in direct subsidy to universities and colleges would mean an increase in tuition fees will be encouraged to meet rising development cost. Hence an increase in tuition fees will go hand in hand with increasing loan to students. (iii) It may be interesting to note that plan allocation for technical education has been stagnant in last three years in nominal terms, thereby indicating a fall in real terms. However, technical education has not witnessed a decline of the same magnitude as in the case of general education. The worst sufferer of the cut in the plan has been University and higher education and not technical education. (iv) In the case of open and distance education, too, there is no compensating increase, though in the last three years it has registered a significant increase in the plan allocation (see Table no. 1).

Overall it may be observed that non-plan expenditure for University and higher education has registered an increase in the first three years and in the last two years it has remained stagnant, thereby indicating a sharp fall in real terms. So far as technical education is concerned, there has been an increase, at least in nominal terms, in

the non-plan expenditure in the last five years. It shows that in real terms University and higher education has suffered in comparison to technical education (see Table no. 2).

#### Structural Shift in Financing: From Subsidy to Loan

Empirically it was noted above that there is a structural shift to push the financing of higher education from tax based subsidy suppressing the tuition fee to a lower level to a system of reduced subsidy allowing the rise in the tuition fee to be met by the students through borrowing in the financial market. The shift is evident from the very fact that Central grants through different schemes and programme do not commensurate with the increase in the enrolment. As a result private institutions are flourishing with high tuition fees and government and government aided institutions have to resort to generating internal resources through raising the tuition fees in a regular program or by means of self financing courses. Government's new plan to encourage educational loans through the institutional arrangement to meet the cost of education is emerging as a new policy initiative. it is,

**Table 1: Central Plan Expenditure of Higher Education: Component wise**

Rs. Crore

		2011-12	2012-13	2013-14	2014-15	2015-16 (RE)
1.	University and Higher Education (UHE)	6094	6112	5129	3613	3829
1.1	UHE of which UGC	5341	4990	4966	3474	3605
2	Promotion of Indian Languages	165	227	240	183	295
3	Student Financial Aid (SFA)	163	115	1719	1737	2188
3.1	SFA of which interest subsidy	-	-	1524	1544	1960
3.2	SFA of which scholarship to students	163	115	194	193	228
4	Planning, Administration and Global Engagement	24	27	104	79	96
5	Open and Distance Education	471	296	205	206	430
6	Technical Education	5711	5926	6578	6354	6533
7	RUSA			267	416	1055
8	Total	12575	12726	14244	12591	14428

Source: Outcome Budget, 2014-15, 2015-16, 2016-17, Department of Higher Education, MHRD, Government of India, available on [http://mhrd.gov.in/documents\\_reports?field\\_documents\\_reports\\_category\\_tid=11](http://mhrd.gov.in/documents_reports?field_documents_reports_category_tid=11)

therefore, important to understand the implications of subsidy versus loan.

In the literature the implications have been examined primarily from the point of view of efficiency, equality and equity perspective of subsidy and loan as policy instruments. (Cecilia García-Peñalosa and Klaus Wälde, 2000; ) There is the traditional argument that subsidy, by depressing the tuition fees, enables equality of opportunity to higher education to all sections of the society irrespective of which income group they belong to. Whether subsidy also supports the equity objective of higher education can be substantiated only if there is a net transfer of income from the rich to the poor as a result of the introduction of subsidy. This can certainly happen when tax to support the subsidy is collected from the rich (relatively to the poor) and the introduction of subsidy leads to an increase in the potential as well as actual increase in the income of the poor in comparison to the rich who graduate from higher education. In this case there is a net transfer of income from the rich to the poor and the introduction of subsidy also results in the fulfillment of equity objective. Moreover, if all the graduates of higher education, whether rich or poor, acquiring higher skills are employed in the labour market at higher wages, the effect of subsidy may be said to increase overall income without any wastage i.e. without any efficiency loss (i.e. loss in output). However, it may be argued that where as

subsidy provides equality of opportunity there is an efficiency -equity trade off in actual practice.

Efficiency may be achieved if higher access to higher education as a result of subsidy leads to the generation of higher skill and higher income in modernized system in comparison to a state when there is no subsidy and production takes place with the low-skill and low wages in traditional system of production. However, it is argued that in actual practice the greatest beneficiary of higher education are those who belong to the rich. Either the poor class do not get admitted because of merit-based admission policy or even if they get admitted, they drop out implying a lower graduation rate of the poor. In such a scenario when the graduates of higher education are students who are relatively from rich background they have high probability of getting a high skilled higher wages job in the labour market. In such cases if on a net basis taxes collected from poor (in relation to the rich) to support the subsidy goes to the benefit of increasing the income of the rich through the intermediary of higher education, then it is a case of reverse distribution: there is a net transfer of income from the poor to the rich. In such a scenario there is no doubt that there will be efficiency gain due to higher employment and income, yet equitable distribution of income suffers due to reverse distribution from the poor to the rich. There is an efficiency equity trade off, namely, higher access of relatively rich leads to

**Table 2: Central Non-Plan Expenditure of Higher Education: Component wise**

Rs. Crore

		2011-12	2012-13	2013-14	2014-15	2015-16 (RE)
1.	Secretariat	58	62	66	67	99
2.	University and Higher Education	4471	4863	7387	7313	7397
2.1	UHE of which UGC	4400	4686	5124	5432	6095
3	Promotion of Indian Languages	85	93	103	104	115
4	Planning, Administration and Global Engagement	31	27	33	44	48
5	Open and Distance Education	4	5	6	6	7
6	Book promotion and IPR	17	30	215	275	300
7	Technical Education	2262	2582	2654	3013	3272
8	Total	6929	7718	10274	10577	10971

Source: Outcome Budget, 2014-15, 2015-16, 2016-17, Department of Higher Education, MHRD, Government of India, available on [http://mhrd.gov.in/documents\\_reports?field\\_documents\\_reports\\_category\\_tid=11](http://mhrd.gov.in/documents_reports?field_documents_reports_category_tid=11)

gain in efficiency (increase in output) with the reverse distribution of income, exacerbating inequality in income. Alternatively, even assuming that all the graduates of higher education - rich or poor - are the beneficiary of the tax subsidy and in particular, relatively the poor benefits with resulting distribution of income in their favor, it is quite likely that this may result in graduate unemployment due to oversupply of skilled labour. In such a case there may be a possibility of redistribution of income from rich to the poor, yet there will be a loss in the efficiency due to unemployment of skilled labour graduating from higher education institutions.

It may be noted that in spite of efficiency equity trade off, politically the instrument of subsidy was found favourable for a longer time in Indian higher education as also the world wide on the ground that it serves social justice. In the phase of mass expansion of higher education, however, state found it increasingly difficult to mobilize sufficient resources without adversely affecting the rate of growth supported by consumption good and financed by the private corporate sector. An increase in taxes to mobilize resources for higher education would have meant disincentivizing private sector. In such a scenario state was caught in a contradiction. Either it could cut the rate of growth of economy through taxing corporate sector and support subsidy or encourage the rate of growth of economy through a reduction in tax and curtailing subsidy. The problem acquired greater dimension when the phase of expansion of higher education was seriously marred by lack of desired growth of subsidy. Educational institutions could not maintain the quality of higher education due to the shortage of infrastructures and teachers along with the unrestricted entry of students. It was argued that higher education institutions are inefficient in the sense that they are only capable of producing unemployable graduates through insufficient resources. The equity argument was replaced in the policy discourse by the efficiency argument. The old political ideology of subsidizing higher education gives way to the new political ideology of loan based higher education to improve the efficiency and increasing quality by generating sufficient resources and help in reducing the unemployable graduates. Private corporate sector created a new discourse on "unemployable graduates" which are becoming a burden on the economy. Such was the effect of reduction in the government grant on a real per capita basis to the universities and colleges. It was thought necessary to search for an alternative to the tax based subsidy if the government wanted to improve the efficiency of higher education without harming the interests of private corporate sector. It may of course be argued that subsidy by allowing larger participation in higher education has much higher social return due to the externalities of education. However, many arguments in favor of externalities may not be quantified and proved. Ultimately,

the strength of subsidy being the basis of financial support to higher education supporting equity objective was getting weaker and weaker in the policy discourse dominated by elite circles (Windham Douglas M, 1976;). Subsidy argument being discredited, it gave rise to a new discourse - loan based financing of higher education.

Does financial market guarantee that there is no efficiency equity trade off and is therefore a policy instrument of loan to be preferred over subsidy? It needs a closer examination as to what reason justifies it. There could be four types of loan based system. Commercial banks borrowing without interest subsidy, commercial banks borrowing with interest subsidy to the banking system, income contingent loan and graduate taxation. In India interest subsidy to the commercial banks to encourage education loan to the students and a new policy of higher education finance through Higher Education Finance Agency (HEFA) to the higher education institutions have been introduced recently. Let us first understand the implications of education loans without or with interest subsidy. If tax based direct subsidy is falling, the tuition fees will have a tendency to rise. This will discourage poor students to access higher education due to the lower level of affordability of poor students. Equality of opportunity will be severely curtailed. However, if the government assures that any student who cannot afford higher education can avail loan facility which may be paid back to the banks with interest after graduation from the higher education, probably the equality of opportunity is restored under conditions of no risk and uncertainty. Graduates trained from higher education, if they are able to get a job in the labour market, will also contribute to the economy through higher income and will presumably pay back the loans with interest. There might be efficiency gains due to higher output without a fall in output as subsidy withdrawn from higher education will be utilized by the government in other employment avenues. Equality and equity based argument with loan based financing of higher education can be sustained only when risk and uncertainty associated with the student loan is taken care of by guaranteeing perfect financial and capital market and the perfect labour market. Only then the fear in the mind of students can be removed about the uncertainty of getting the loan or getting a high wage job in the labour market so as to repay the loan with interest. Since commercial banks insist on some collaterals the poor students' probability of joining the higher education institutions will be much less in comparison to the rich. This might give rise to reverse distribution phenomenon or at least resulting income opportunities in favor of graduates of privileged sections thus jeopardizing the equality as well as equity objectives. In any case the fear of uncertainty of getting a decent high wage job will also come in the way of poor students availing the loan facility by the commercial banks.

Therefore, loan based system of financing of higher education is a way to restrict the entry to higher education institution which might result in efficiency gains but the equality and equity objectives of higher education will suffer.

In order to assure the commercial banks that if there is default in the repayment of loan by the students, government will compensate for the default through the interest subsidy. The instrument of interest subsidy is not so much to assure the students of non repayment of loans if they do not get a decent job. Hence it is not going to incentivize the students of resorting to student loans. It is simply an insurance to the commercial banks and therefore some sort of encouragement to achieve higher volume of lending on account of education. Commercial banks might be willing to park some of the surplus for education loan, given interest subsidy support by the government. Interest subsidy is not directly going to help poor students in any way to provide premium against risk and uncertainty associated with borrowing or with the labour market.

There are two other loan based policy instruments being tried out in Australia, New Zealand and England, namely income contingent loan and graduate loan. These two policy instruments have so far not tried out in India. In the case of income contingent loan the repayment to loan to cover the tuition fees is activated only when the graduates after finding the job have income levels higher above the stipulated level of income. When graduates fail to obtain a high wage job or remain unemployed they are free from the repayments of loan. Whatever is the loss on account of non repayment to the banking system is fully compensated by the government. Income contingent loan might increase the chances of equality of opportunity, might result in efficiency gain but may not necessarily promote equity. There might be reverse distribution as taxes (out of poor in relation to the rich) financed for the non repayment of income contingent loan may outweigh the resulting income of the poor graduating from the higher education institutions. The graduate loan takes care of this because in this case the graduates with higher income have to pay not only the loan plus interest but also some sort of a tax component in the repayment of loan so that it compensates for the non repayment of those graduates who fail to obtain the decent job and repay back the loan. In this case the banking system does not get compensated for the loss out of tax collected. Only the graduates who have got decent job, having acquired the capacity to pay surplus over and above their own repayment, are asked to pay the tax element in the repayment.

#### REALITY CHECK

Loan: P Geetha Rani (2016) from the unit level data has examined loan as means to financing higher education in

India. Some of her findings are worth noting: (i) number of educational loans increased from 1.1 lakh in 2000-01 to 25.9 lakhs in 2013-14, (ii) amount of education loans released increased rapidly from Rs. 1,028 cr. in 2000-01 to Rs. 70,282 cr. in 2013-14 at an annual average growth rate of 38%, while rate of growth of government expenditure was at 15%, (iii) Share of education loans constituted around 8.8% in total expenditure on higher and technical education in 2000-01, the share exceeding 100% in 2013-14, (iv) education loans and interest subsidy were highest for medical, followed by architecture, law, fashion, management, (v) loan sanctioned and interest subsidy were higher for top quintile in comparison to bottom quintile across all social groups, general, OBC and SC and ST students, besides general category students got highest benefits of loan sanctioned and interest subsidy followed by OBC and SC and ST students. From the above it is clear that the structural shift towards loan as means to financing higher education is becoming popular. It has already exceeded the quantum of government expenditure on higher and technical education. Besides the advantage of education loan and interest subsidy has tilted in favour of rich income class.

In 2016 the education loan facility has been extended to central and state government supported institutions of higher education. If the grant to these institutions are withdrawn the institutions will be forced to take loan. In the first stage technical and professional institutions supported by central government who may expect to charge user fee for any facility extended to students supported by loan may come forward. State government supported universities and colleges imparting general education will hesitate to borrow money from Higher Education Funding Agency due to their inability to charge user fee from students. This will increase hierarchy of - technical and general and central and state funded - institutions of higher education. HEFA has the provision of zero interest rate financing. Since the central government has not announced subsidy on this account, it is not clear how HEFA will manage to raise money from the financial market? Heavy reliance being placed on donors and Corporate Social Responsibility fund for subsidizing the loan programme is to be tested when the loan scheme is rolled out. Besides the borrowing capacity is restricted to five times the annual collection of fees from the students, institutions charging lower fees will have lower borrowing capacity than the institutions higher fees. It also implies the scheme will have tendency to increase fees from the students in order to have larger borrowing capacity. The reality check of education loan to students and in the future education loan to institutions point towards future of higher education in India favoring rich class and privileged communities affording higher education in view of the fact that subsidy component has a tendency to decline.

**GST:** Another reality check is the introduction of Goods and Services Tax (GST) in 2017. It is said to result in 42% devolution of pooled resources to states, as recommended by the 14th Finance Commission, up from 32% recommendation by the 13th Finance Commission. The consequence of this much greater devolution to the States is that the fiscal space for the Centre will reduce in the same proportion. This will have the effect of Centrally Sponsored Scheme (CSS), in fact Central assistance to State Plans as a whole, to reduce (PIB, 2015). The effect may be felt in higher education. RUSA as CSS will have much lower scale of assistance to state universities and colleges in the years to come. Higher education, being in the concurrent list, is the responsibility of both the centre and the state. Yet the state governments in a new regime of GST will have to take greater care of development needs of state universities and colleges whereas centre will be more responsible for centrally funded institutions and only residual fund will be devoted to maintain the quality by the centre which is the responsibility of central government. To fulfill the responsibility of the maintenance of the standards of higher education, as per the Constitution of India, central government will resort to various policy measures rather than support through plan assistance. The future of higher education will, therefore, witness central government's role in higher education reform through policy directives by the centre. GST is said to support fiscal federalism. The implication of GST supported fiscal federalism will be that the state governments will have to find ways to support the social sectors, including higher education.

**NITI Aayog:** Another reality check is end of an era of central plan funding with the abolition of Planning Commission. National Institution of Transforming India (NITI) Aayog was established in India on 1st January 2015 as a policy 'Think Tank' of the Government of India. Niti Aayog is chaired by the Prime Minister of India so as to shape up the direction of policy of the government in the spirit of fiscal federalism noted above through the greater devolution of resources from centre to states. Hence Niti Aayog will be instructed to give policy directions from time to time. As a major step towards this NITI Aayog has been asked to prepare vision 2030, 7 year strategy and three year plan of action (2017-18 to 2019-20) for the economy, including higher education. The salient features of action plan is five point policy direction. 1. Designation of World Class Universities 2. Autonomy for top colleges and universities 3. Reform of the regulatory system - A tiered system of universities 4. Establish system of project/researcher specific research grants 5. Increased focus on vocational and profession led education. A detailed 7 year strategy and 2030 vision is yet to come to determine policy direction of higher education in the medium and long run. World class universities have now been

designated as Institutions of Excellence and a scheme has been launched with an invitation bid to select 10 from among public and 10 from among private universities. Action plan under the heading reform of regulatory system notes the three tier university system having differing autonomy and performance based funding. The first tier with research universities will have freedom from regulatory control. The second tier with teaching (and a focus on employability) will have relatively lower degree of freedom. The third tier will be residual category with the aim of universalizing higher education, having least degree of freedom. Movement from one tier to another will be permitted depending upon the performance and third tier university, if it is continuously non performer, may be closed down as well. Above action plan of NITI Aayog notes the objective of future governance to be driven by accountability, efficiency and performance.

**Memo of Understanding:** Another reality check is the move of the Ministry of Human Resource Development to develop a memo of understanding with all centrally supported institutions and universities. The objective of the MOU is to enhance the performance through target setting by the institution/university on the critical parameters of the organization. Institutions/universities are sought to be provided autonomy with delegation of financing powers so as to raise internal resources. General Financial Rule of the Ministry of Finance on user charge (Rule 47) notes that "Ministries/Departments must ensure that the user charges recover the current cost of providing services" (GFR, 2017, p. 17). Subsequently, the MHRD issued instructions to raise internal resources to the extent of 30% of total income of the organization. No doubt, many centrally funded institutions/universities will shy away from signing an MOU and committing to raise the internal resources to the tune of 30%, yet it will become a benchmark for the years to come.

The reality checks of various recent changes pronounced by the government indicates that the future of higher education financing will move towards raising internal resources through fees. Loan as component of financing households and institutions of higher learning will rise. Institutions of higher education will acquire more autonomy to raise resources and will be subjected to market risks. Institutions will furthermore be subjected to prove the accountability and fund support will be linked to performance of institutions. Hierarchy among institutions, as a result, will grow with three tier system of autonomy and funding. Institutions of higher education located in rural areas will have to be closed down for want of funding or if they continue they will impart low quality of education to the masses. The claim of fiscal federalism and resource transfer to states, if not translated to higher funding support to state universities and colleges, will siphon away resources to meet populist demands rather than meet

the ambitions of poor to study in higher education institutions with subsidized support. What will be its effects on governance of higher education institutions?

### GOVERNANCE FAILURE

First of all, it is necessary to understand the governance failure on account of over regulation by UGC. In recent years the UGC has been trying to cover up the failure of its schemes and programmes through a maze of regulations. While failures of its schemes and programmes were the result of the failure of the state to mobilize resources sufficiently to fund the mass higher education, it was thought that traditional model of governance through regulation cannot be sustained. It is in this light that the NITI Aayog, three year plan of action, states that "We should introduce a system of regulation that focuses on information disclosure and governance rather than micro management of universities" (Niti Aayog, 2017, p.139). This is suggested in the context of UGC's failure to micro manage the universities "as an overarching regulator of every aspect of higher education from student fees to curriculum to teaching and course hours" (ibid., p. 139). The body like UGC which could steer the growing system of higher education in 1960s and 1970s to some benchmark of standards of higher education through uniform regulations, today it stands discredited due to failing regulatory system. The expansion of public and private higher education was not in the hands of UGC. It grew in response to demand without any quality check by state governments and university system run under the command of state governments. When public university system began to crumble with the shortage of teaching and non-teaching staff and physical resources and infrastructure, it was impossible for UGC to correct the public system of higher education through regulatory control. Besides, UGC also failed to check the growth of large number of private higher education institutions and practices to privatize higher education as it has no authority such as seizing degree granting power to control them. Today, in spite of regulations the private system of higher education is not effectively under the control of UGC. The Action plan of Niti Aayog mentions about that, too. In fact, it also speaks about "rationalization of the role of professional councils" (ibid. p. 139). What direction it takes may be given in the 7 year strategy document? At present the central government's constitutional responsibility to maintain the standards through regulatory method seems to be in limbo. Control is directly exercised by the central government, UGC's role is becoming perfunctory in nature. The hint of voluntary disclosure means that institutions will have to survive through market competition, but at the same time individuals and institutions will be subject to control through the strict accountability in output terms.

It would be not out of place to understand the new

decision making process in the government and its implications. There are now groups of secretaries on various sectors which are constituted by the Prime Minister. There are also additional secretaries and Joint secretaries meet with the Prime Minister. Sometimes ideas pick up takes place in a meeting of Prime Minister with young CEOs. The group of secretaries then come up with the ideas and suggestions in line with the party manifesto of the government such as skill India, digital India, make in India, start up programme etc. The ideas relate to transforming India through transparent governance. Such ideas are then carried forward through the Prime Minister's office to the NITI Aayog and respective Ministries to translate into proposal which is approved with its financial allocation by the Finance Ministry. The proposal is then passed to the respective ministries for implementation. Group of secretaries discussion and proposed transformation into projects or programmes for implementation suffers from many problems. The proposal suffers from absence of autonomous decisions of the respective ministry where there used to be large scale consultation with experts and various stakeholders. There is over centralization of ideas and decision making at the level of Prime Minister's office. Niti Aayog makes consultations and simply ensures the finalization of proposal with the help of respective Ministry. Group of secretaries thinking may have no connection with the reality of the situation. New approach to decision making it is important to highlight that it negates the role of UGC and professional councils to take autonomous decisions and perform the role of maintaining standards through regulations. It rather points out the burden of regulations. The project approach puts its faith on performance driven approach which can be monitored through targeted output indicators.

### CONCLUSION

The future of higher education financing relying on education loan will have consequences for governance that need to be understood. Reliance on market borrowing will link higher education to market principles of governance. With the financial restructuring taking place and centralized decision making process at the level of group of secretaries, the governance will be steered through accreditation and ranking process in place. NAAC and National Institutional ranking framework will ensure that more and more institutions are under its ambit. The new move towards tiered autonomy as stated in the action plan of NITI Aayog will give greater autonomy to a group of higher ranking research dominated universities and lesser autonomy will be available to teaching and rest of the institutions. The scheme of institutions of eminence will be another category in the hierarchy of institutions. In the future the academic and financial autonomy will be given to the universities and institutions will be more self

governing. They will have to be competitive for and generate more and more resources.

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gave us as language, the system of administration, system of justice, laws, and practices. Though we adopted a policy of teaching in mother tongue, regional language and in English. Many states continued with their regional languages and some even adopted regional languages in higher education, but it is English language which offered a prize of jobs in government, judiciary, police and administration with Indian Civil Service turned into Indian Administrative Service and until recently rewarding only those who new the English language well. Thus the government gave signals to rest of people in various states that if you wish to occupy positions of power and lucrative jobs you have to acquire proficiency in English language. Hence states after states attempted to adopt English in schools from very first standard, overthrowing the well-founded theory of learning -"education to begin with should be in mother tongue", and to transit the learner to a regional language and then to any foreign language, if necessary. Because the prize English language offered, no wonder a friend of mine told me that he heard a mother telling his father-in-law that he should not tell his grandson to call Kabutar -" Kabu", but tell him to call it" Pigu". That is the psyche we have created in our people over 70 years of our free India. No wonder, every

rural parent wants his sons and daughters to occupy the position of power and lucrative jobs, want their wards to learn English language and speak and feel proud. It is a different story, if only a few of them get such jobs or power or money. Leaving the rest millions of people to look at Sahibs in awe and beg them for jobs and their real entitlements.

Learning foreign language whether it is English, French, Chinese, German or any other foreign language is not a bad idea, but at what level and for what purpose is the real issue. Our study pertaining to Quality of Primary Education has shown that states after states imposed English language in first standard onwards and performance in this language is pathetic as they have to do rote learning. In fact this rote learning has also marred learning of regional languages. It is a high time when our government is engaged in framing a New Education Policy to do a thorough examination of the impact of the past, not very old past (British time) but of very recent past and formulate a policy which will make students to learn not 'rote learn', and understand their situations, express their views in their own languages, contribute to development of themselves, society and give people pride about themselves and the habitat, Bharat they live in.

**UNIVERSITY EDUCATION SYSTEMS: GENESIS AND DEVELOPMENT**

GD SHARMA\*

*The paper traces the genesis of university systems in world and India. It highlights the new issues that have cropped up in Higher Education in India. The paper also makes suggestions to address them.*

**I****The World University Education System:**

There are five waves of world University System. First one around 427 AD or 321-317 BCE was oldest universities of world in India - Asia. Second wave was in Egypt and Morocco around 857 AD and 970 AD in Africa and Arab - or Magrib. Third wave was in Italy -Bologna , Spain and UK around 1088 and 1096. All three wave universities represented three religions namely, Vedic-Hindu, Islamic and Christianity. Followed by this three was fourth wave- wherein third wave university system was modified through experimentation and exploration by migrants from third wave university system mainly in US. The fifth wave university system was poor replica of third wave university system mainly in colonial counties English and French colonial counties with modification under the influence of fourth wave and internal desire to resurrect first and second wave university system.

Whereas first wave Universities, namely Nalanda, Taxshila and VikramShila were destroyed by Muhammad-i-Bakht-yar Khilji in 1200 CE during Invasion on India, after they had worked from 8 to 9 centuries. Second wave universities in Egypt and Arab modified their working after French colonialism and English influence, but these continued their operations. Third wave universities in Europe expanded from Italy, Spain, UK , Germany, France and in other states. The fourth wave, not so distinguished from third wave came into being in America after the declaration of independence mainly by migrants from Europe- having knowledge of third wave universities, but operating in migrants' ways of exploration, experiment and development. Let us elaborate on this proposition.

**First Wave:**

India has a history of having three leading Universities in the world as early as 427 AD and \_\_321-317 BCE. These were Nalanda, Taxshila and Vikramshila.

\* Professor GD Sharma is: former, professsor of NIEPA, Secretary, UGC, and Director, CEC and presently the President of SEED.

1. Takshashila (700 BCE) located 50km west of Rawalpindi in Pakistan was the world's first and oldest university. Students from Babylonia, Greece, Arabia and China studied there. Over 60 different courses were offered. Maurya Emperor Chandragupta and his minister Chanakya (The author of Arthashastra) were products of the university. It was operational for 800 years.
2. Nalanda (5th century CE) in the kingdom of Magadha (present state of Bihar in India). Now the site is located 95km south-east of Patna in Bihar, India. Students from China, Korea, Japan, Tibet, Mongolia, Turkey, Sri Lanka and Southeast Asia studied there.

3. Vikramashila (783 CE) located 13km north-east of Kahalgaon, in Bhagalpur district of the state of Bihar in India was established by King Dharmapala in 783 CE.

All the three universities were destroyed by Mohmmed Bakht Khilji in 1200 BCE.

**Second Wave:**

Some universities are found in Morocco and Egypt . The University of Kaureen or University of al-Karaouine or alQarawiyyin situated in place called Fez in Morocco, the University of al-Karaouine or alQarawiyyin was founded in the year 859 by woman named Fatima Al Fihri. She

was a daughter of a wealthy merchant called Mohammed al Fihri. Fihri family migrated to Fez from Kairouan in present day Tunisia. Fez at that time was a bustling metropolis now known as al-Maghrib, and was the land of promise for the people of that era. The university taught language, logic, medicine, mathematics, astronomy along with Quran and Fiqh (Islamic jurisprudence)

In Egypt - Cairo Al Ajhzar University, as early as 970. Originally as madarssa teaching primary to tertiary level. It focused on Islamic Religion.

We are bringing aspects of destruction or modification into our discussion, as the structures may be destroyed or modified, but the knowledge is continuous process and it lives with people from generations to generations. Therefore, it has its implications on modified or newly developed university system developed out of socio, politico and economic circumstances. These old

*The fourth wave, not so distinguished from third wave came into being in America after the declaration of independence mainly by migrants from Europe- having knowledge of third wave universities, but operating in migrants' ways of exploration, experiment and development.*

universities represented civilizations in Asian World African Muslim World. Both focused on respective Religion, logic, medicine, Mathematics, Astronomy, Jurisprudence, and gathered world of knowledge and placed for further development by generations to come. Invasion by outsiders destroyed the university system in India, Asia, whereas French Colonials undermined the importance of Kaourisin University in Egypt.

### Third Wave:

The third wave of University System come from Europe - Bologna, Italy founded in 1088 and oldest in Europe. (ranked 208 in QS WUR 2016-2017) Among other the top 10 oldest universities of word presently in operation and ranked by QS are : University of Oxford, UK founded in 1096 (6th in WUR), University of Salamanca, Spain Established in 1134 (ranked 601=700 range), University of Paris, France established in 1160 with its present several campuses ranked at 221 - university of Paris-Sorbonne and University of Paris -Pantheon- Sorbonne at 228). University of Cambridge, UK established in 1209 (ranked as 4th ), University of Padua, Italy founded in 1222 (ranked 338th WUR), University of Napples Federico II established in 1224 (ranked 481-490), University of Siena, Italy established in 1240 (ranked 701+), University of Columbia, Portugal established in 1290 (ranked 451-460) and only exception is Al Azher University, Egypt (second wave University established in 970 AD and modified its operations (ranked 35th in WUR QS 2016-2017 )

### Fourth Wave:

Fourth Wave Universities were established after 1500. In Asia Philippines' University of Santo Tomas was established in 1611, That the University of Harvard, Massachusetts in US in 1636 and University of Sydney, Australia, 1850. Followed by it several countries were set up. These universities have understanding of third wave university system, but focussed on experimentation and exploration keeping in view the developmental need of the countries. US university system constitute a university system distinguished from third wave universities, yet have advantage of knowledge resources of third wave but greatly engaged in creating new knowledge resources based on experimentation and exploration.

### Fifth Wave:

Fifth wave Universities came to be set up in 1857 was in India namely, Presidency of Bombay- Bombay University, Presidency of Madrass- Madrass University and Presidency of West Bengal, Calcutta -Calcutta University. The difference in Universities set up in India was that under British colonial rule university had limited purpose of preparing native to help the Empire- hence a poor replica of British University system. As the development

took place, India attempted to resurrect its indigenous knowledge resources as also balancing it with British knowledge resources so as to respond to colonial rulers' needs. The setting up of Banaras Hindu University and Aligarh Muslim University was an attempt to resurrect first and second wave university system and amalgamating it with modern British University model. Some universities also came to be set up in India and in many of the erstwhile colonial countries ruled by British and French that attempted to resurrect indigenous knowledge resources of first and second wave university system as also specific needs of respective countries. Examples of Sanskrit Universities, Janani medicine and Aurvedic medicine, Yogic Science and specific to science and social science institutions, namely Indian Institute of Science, Tata Institute of Social Science, Art and culture Universities, Agriculture and Engineering Universities, IITs and IIMs came to be established as part of influence of First, Second, Third and Fourth wave university system and also distinguished from these wave system so as to have their own identity. One of them was JNU- inter- disciplinary oriented Post Graduate and Research University. Hence fifth wave university system presents distinguished features from third and fourth wave university system in Europe, US, Australia and similarly placed countries. This is true for many of newly developed countries in Africa, Asia as also in Middle East and Russian or erstwhile Soviet Union countries. Many of countries of Asia also took third and fourth wave university model and developed them keeping in view their respective countries' needs, such as , China, South Korea, Vietnam, Hong Kong, Taiwan and so on.

### Indian University Education System:

Indian University Education System as obtaining today is in response to third and fourth wave university Education system struggling to establish its identity by attempting to follow third and fourth wave universities at the same making an attempt to resurrect its first wave pride of university education system. In fact third wave university system in the world came as a response to first and second industrial revolution. This revolution was caused by discovery of new sources of energy in the form of Steam. First industrial revolution from steam to electricity led to second industrial revolution and encouraged experimentation and creation of new field of knowledge and skills which was enabled first by steam power and later by electricity power. This made third wave universities to shift its education process from religious education to industrial requirement of human resources. Cambridge University started teaching subjects other than religious education. Development during the first industrial revolution needed scores of human resources to manage industrial production first in cloth manufacturing, communication- rail and transport industry and processing of raw material including chemical

material gave rise to several new branches in education. Study of wealth of nations gave rise to studies in Economics, Social Science and Political system of state management. The First and Second industrial revolution, besides giving economic power also gave military power to UK, France and other European countries, enabling them to expand their economic and military base in many countries. UK established its economic base and followed it by military dominance in India and many countries. Industrial revolution needed raw material and human resources and having advantage of new breakthrough in energy resources and production in scale economies in factories gave rise to colonization of relatively disadvantaged countries for the benefit of their industrial revolution. India was one of these countries which was considered good for raw material as also human resources to meet the need of second and third Industrial Revolution. Indian University Education system, as stated above, came as a response to meeting the need of Human Resources and skill need of colonial rulers to meet the expanding need from 1st to 3rd Industrial Revolution.

#### Industrial Revolution and World Wars

Industrial revolution also gave rise to military power in Europe and it also raised aspiration of countries to expand their base through military operations and conflict. First World War was the first test of these new sources of energy and new technology warfare. The Second World War was the test of power gained through second and third industrial revolution of electronics and nuclear technology more particularly by fourth wave university education system developed in USA.

#### Change of System of Education in India

UK after having taken power of reins from East India Company, established its direct rule on India and attempted to change the system of governance and education. The process of change led to establishment of a new education system, by wiping out the existing indigenous native education system? A major role in this was played by Lord Macaulay, when he visited the length and breadth of India and gave his report to British Parliament in the form Minutes in 1832. Followed by this several commission namely, Hunters and others were set up to give a new education system to India in a very structured form as was done in UK to meet the Human Resources need of first and second industrial revolution. It also gave a system of governance of education in the form of Board of Education, which subtly manipulated the system to suit the needs of Empire and quell resistance to new system. Education and military power was used to manipulate and force Indian population to accept the model of education, means of production and distribution and method of governance. With regard to growth of higher education, first three universities were

set up in 1857 at Bombay, Calcutta and Madras. The system of higher education grew slowly during 1857 to 1947 when colonial rulers were forced to leave the country. When India became independent there were nearly 24 universities and about 500 colleges in the country.

#### Development of University Education after independence of India:

After independence it was expected that the system of education and university education which is mother of all the professions would be geared to the needs of development of India educationally, technologically and economically with social and cultural values. Several attempts were done in this direction by setting up two commissions namely, University Education Commission headed by Dr. S. Radhakrishnan and Education Commission headed by Dr. D. S. Kothari, report being tilted as Education and National Development. Recommendations of these Commissions were implemented through: first by setting up the University Grants Commission for maintenance and coordination of standards in higher education, second by announcing a National Policy on Education in 1968. Third by announcing New Policy on Education in 1986 and programme of action in 1987 and, fourth by revising the policy in the year 1992 and announcing in the parliament in the year 1995.

A significant development took place in the system of university education in terms of growth of numbers of university, colleges, specialised deemed to be universities, specialised institutions of technology namely, Indian Institute of Technologies and National Institutes of Technology, Medical Universities and Colleges and recently self financing colleges, and private self financing universities. A separate paper on factors and forces of development of higher education has been published in College Post. Readers interested in details may refer to that article (Vol. 16, No.3, July-September, 2016).

We presently have 270 Self-Financing Private Universities and 336 State Universities and about 46 Central Universities and 90 Deemed to be Universities. There are about 46,000 UG and PG college. They are providing education to nearly 1.34 crores students.

The growth has helped educated manpower needs not only in India but many developed countries like UK, USA and European countries. Yet there is sort of discontent about the quality and contribution of university education to the development of economy, contribution to need based local technology and position of universities in world university education system. There is also a problem of mismatch between education and economic needs. Graduate un-employment and un employable graduate is also stated to be a serious issue. Some of the new issues which have cropped during last one decade may be discussed here.

## New Issues in Development: of University Education System in India

### 1. Quality Assurance : Ranking vs Grading

World University Ranking results indicating a very few Indian Universities figuring in the list, made Ministry of HRD to initiate national institutional ranking in India under its National Institutional Ranking Framework. The ranking of world Universities by four World University Ranking Systems, namely, Times Higher Education Ranking, Shanghai -Hongkong, QS, World University Ranking by world University Ranking Centre even though suffering from several infirmities of methodology and assessment tools have made big market news and have given political people to brow beat the national university system. Answer to this appears to have been to initiate a ranking system to rank Indian Universities and colleges. To begin with one has to ask the question- what is purpose and what is likely outcome and future impact on the system of higher education?

Before we attempt to answer to this question let us examine what has been our system of external quality assessment and public reporting and how long has it been in practices. First time quality assessment in the system of higher education was started with the setting up of National Assessment and Accreditation Council by University Grants Commission as inter -university Centre of UGC. Since then establishment of NAAC, it is assessing and accrediting Universities and Colleges in India, of course on voluntary basis. So far a good number of Universities and Colleges have been assessed by NAAC. Some are in first cycle of 5 years some other are in second cycle of five years. This system of assessment based on parameters and separate weight for affiliated and autonomous colleges and Universities have been used to assess and accredit based on detailed data/documents contained in self study of the universities and colleges and then peer group review though spot verification and assessment and then grade is given to institutions based on this assessment with a proviso to appeal for review, if not satisfied with grade or withdraw from assessment, if felt so by the institute. This was one of the methods to let the institution know about their position and let public know the same. Purpose was to make universities and colleges know their strength and weakness in the light of their mission and objective and improve upon it, if need be. Public reporting helped the institution to position itself in information metrics of students and parents. NAAC grading has its own rigour as also its limitations. Yet it is a system which has more depth in assessment of quality of institutions. Recently 2017 NAAC has also published top 10 ranked Universities and Top ten ranked colleges.

National Institutional Ranking System: The latest in university ranking is National Institution Ranking 2017 published by Ministry of MHRD, with photos of PM and

HRD minister on the top of web page, is lending high weight to seriousness of ranking. It may be mentioned that all the four world university ranking systems are not of the government of that country, but by academic bodies or news agency. Some news agencies have also been ranking colleges and universities in India, but not with many consequences. MHRD ranking would certainly have consequences, which may be beyond the control of MHRD. First and foremost is that many recently set up private self financing universities figures in top hundred ranking universities in MHRD 2017 ranking list. Of the total of 100 top universities, there are as many as 30 universities which are self financing and set up in various states not earlier than 1995 or so. This belie a often stated dictum that it requires great deal of resources and may be 100 years to acquire top ranking position. When we are entering Fourth Industrial Revolution the time span aspect may receive a great discount. But building a good faculty base, research base and culture of academic dialogue and debate has its own gestation period. Some of public universities which figure in this list are with 40-150 years time span to make the mark, yet not all public institutions with this time span has not made the mark. Nevertheless, building a good research and teaching-learning environment requires a good time span. The self financing institutions have also beaten this norm. Many private self financing universities have started marketing themselves citing NIRF ranking.

The other aspect is that ranking of universities has mix list of general, medical, veterinary, and agriculture and so on. This makes it difficult to compare and position institutions with comparable features. It would be appropriate to classify universities with similar stream of studies and rank. Of the five parameters Teaching - Learning Resources, Research and Professional Practice and Graduate outcome account for 30,30 and 20 percent. The rest 10 each are for outreach and inclusivity and perception with their sub parts. These weights sound well, but will have to have different weights for different streams /features of universities. Ranking them under the same scale may confuse position and information metrics of students and parents.

Having said so, the question may arise what is the aim of such kind of ranking which may conflict with grading by NAAC. Because of different objectives of these two public reporting systems of quality of institutions by the government /government agency might cause confusion if NAAC A+ graded university or college does not figure in the list. Had the ranking done by agencies other than government people might take them in respective light as they take World University Ranking by different agencies ranking one university at different position, because of methodology and approach differences, but as this agency being the government in

both the cases, it would tend to confuse the users and institutions. In our view this aspect needs to be considered by MHRD. The other point is that whether this is a function of MHRD to enter into ranking system? Outside India people may take it with pinch of salt.

## **2. Autonomy for excellence vs security of jobs and funding**

The debate on autonomy of colleges is turning out as autonomy vs security of job and funding by government. Delhi University Teachers' Association has been waging war against an attempt to seek autonomy of St. Stephens College, New Delhi. In fact DUTA and for that matter many of Teachers associations in various universities and colleges have been up against this concept since this was introduced in 1986-87 with announcement of New Education Policy, 86 and programme of Action 1987. Many states enthusiastically adopted this scheme, yet many states opposed it. There was debate in Central Advisory Committee on Education about granting autonomy to colleges and target was at least 500 colleges should be given autonomy by next five years. But it did not happen for the reasons that there was strong fear in the minds of teachers that it will lead to privatization of higher education, threaten their jobs or reduce new recruitment, weaken affiliated college teachers association and finally colleges will be asked to mobilize funds for running the colleges. This fear persisted in spite of the fact that scheme of autonomous colleges never envisaged this to happen. It attempted to provide additional funds to autonomous colleges for new activities and also position of professor in autonomous colleges with post graduate studies programme. Many affiliated colleges in southern states particularly Tamil Nadu benefited from the scheme both financially and academically and some of them have acquired status of Deemed to be University in course of time. The concept of autonomy to colleges and even to university department was a right step to help colleges to frame their curriculum for both under graduate and post graduate degree programme, introduce semester system, new methods of teaching and learning, new method of evaluation of students. These reforms were essential to make higher education relevant to society and enable colleges to excel. Since this was a major structural change to overthrow the colonial yoke on higher education either teacher did not understand or they are found wanting to take new responsibility. On the part of University those who were progressive supported the change and those believed in traditional system put spoke in a subtle manner to discourage this change, as it was felt that they will lose revenue on account of examination fee. On the part of government there is an example that Rajasthan state after experimenting it for five years reversed autonomous colleges to affiliated colleges by constituting committee and getting recommendation to

reverse it. The concept also did not suit Directorates of Higher Education in states as colleges are likely to go out of their hegemony. Private aided college feared their grant may be cut. Hence a well articulated and experimented scheme of autonomous colleges for the larger interest of students, society and system of higher education has been made to fade out. And any attempt by a college to seek autonomy receives a hostile reception, as has happened in the case of St. Stephens College. Surprisingly, neither UGC nor University and Delhi State government has come out with the statement that: whatever colleges receive as grants, security of jobs and future funding of higher education is not likely to be affected. On the contrary funding agencies should enhance funding, job security and research funds for such institutions as such investment would really help development of the country through quality human resources and Research & Development.

The issue therefore is freeing colleges from colonial legacy of affiliated colleges. It is a key challenge. An attempt was done 1986 and revised 1992 policy. But this attempt as stated above miserably failed. There are islands of success of this concept, but there is a vast sea of affiliated colleges. This is much higher challenge as vested interest group here is very vocal and capable to disrupt the idea of autonomy. Hence in the past, one has towed a policy of least resistance. This has seriously affected potential of growth of knowledge relevant to societal and national development and made hundreds and thousands of graduates' unemployable. The concept of autonomy was to bring social relevance and improve quality of higher education as 86 percent of students studying in higher education are enrolled in colleges. If colleges do not develop and impart knowledge of socially relevant courses and keep focusing on: remembering and reproducing text books knowledge in examination held for 100 thousand of students testing the same abilities, it would be a sheer wastage. This prototyping is enemy to innovations, diversity and change.

Any system of empowerment of colleges and their regulation has to ensure that support is provided to both public and private sector for maintenance and coordination of standards in higher education.

We also have a challenge of educationally responding to growing population in the eligible age group for higher education. Another emerging challenge is Fourth Industrial Revolution i.e. Artificial Intelligence and machine learning. Seven skill set, namely, Complex Problem Solving, Critical Thinking, Creativity, People Management, Coordination with Others, Emotional Intelligence, Judgement and Decision Making, Service Orientation, Negotiation and Cognitive Flexibility, as identified by World Economic Forums are likely to become corner stone of higher education.

We hope all these issues and challenges will be addressed by new policy proposed to be announced by the present government.

*This column brings out briefs of : Ph.D, M.Phil Researches in Education, Economics of Education, Social, Political, Psychology aspects of education conducted in University /College departments. It also brings out briefs on researches done by Research Institutions, Industry and NGOs. This column was introduced from April- June, 2016 issue of College Post. Method of reporting the researches completed and in progress was given in that issue. Interested researchers, professors and Heads of institute are requested to send their brief accordingly. Purpose of this column is to high light the researches in education conducted in university and college departments and in any other institution / industry and NGO for the benefit of policy makers, research scholars, thinkers. Readers are welcome to encourage relevant person and institute to send briefs on research done and being done in education.*

This issue brings to you briefs on following researches in Education.

### PH.D. THESIS

**Title- Study of Teachers Education in West Azerbaijan, Iran**, Scholar-Mshsa Moshfedgyan, Guide- Professor Sonawane Sanjeev A, Depart of Education, University- Savitribai Phule Pune University, Date of completion-2012

#### Background:

The study brings out clearly the system of education in Azerbaijan, Iran, and also changes introduced after Cultural Revolution in Iran. The study mentions that "The 1979 revolution continued the country's emphasis on education, but Imam Khomeini's regime put its own stamp on the process. The most important change was the Islamization of the education system. All students were segregated by sex. In 1980, the Cultural Revolution Committee was formed to oversee the institution of Islamic values in education. An arm of the committee, the Centre for Textbooks (composed mainly of clerics) produced 3,000 new college-level textbooks that reflected Islamic views by 1983. Teaching materials based on Islam were introduced into the primary grades within six months of the revolution."

#### Key Findings

The study has brought out several findings on the basis of data collected from students. Some of the key findings are mentioned here:

**Growth:** There is no growth and development in teacher education colleges in Iran.

**Internship Training:** About internship courses, teacher's educators have indicated strongly that every student has access to governmental and non-profit schools during her/his internship course in West Azerbaijan's universities. Also they have agreed strongly that every student gets access to simulated classes which are usually held by

students in universities during her/his internship course in West Azerbaijan's universities. Teacher educators have just agreed that every student gets access to rehearsal and explanation classes including teaching films.

**Facilities:** About current facilities for students, they have indicated strongly that almost all required facilities are prepared for better presentation of internship course in West Azerbaijan's universities.

**Attendance :** About the current rules and attendance control in the classes, students have indicated strongly that attendance is necessary in the class and its effects on her/his final marks in West Azerbaijan's universities. Also they have agreed that attendance is necessary in the class and if a student's absence increases, her/his course will be omitted in West Azerbaijan's universities. But, teacher educators have disagreed that attendance is not necessary in the class and it is up to students' interest in West Azerbaijan's universities.

**Examination:** About the methods of holding final exams, students have agreed strongly that the final exams and scoring the final exam answer sheets is usually done by the teacher educators of the same subject in West Azerbaijan's universities. But they have disagreed that designing and scoring the tests and exams are carried out by teacher educators from other universities in West Azerbaijan's universities. Students also have disagreed strongly that the examinations are often coordinated nationally and scored by teacher educators outside the campus in West Azerbaijan's universities.

#### Suggestions

Several suggestions have been made by the researcher. A few of the key suggested are mentioned here:

- " Increase the capacity for admitting students appropriate for the needs of society.
- " . Increase the number of periods for in-service and remedial courses for official and educational personnel. .
- " Hold seminars for analyzing the future challenges and to find appropriate solutions of problems.
- " . Change the research approaches with emphasis on the participation in social and civil activities by making use of civil organizations.
- " . The method of evaluation of students' performance by universities has to assess the progress of students at the end of the training and before they join service.
- " . The evaluation should include: the study of desirable and necessary changes in students' behaviour at the end of every semester.
- " The final and qualitative evaluation be done about the expected and minimum required skills for teaching.

Source : Shodhganga- Infflibnet, UGC

**Title- Education and Economic Empowerment of Women - A study in Coastal Karnataka-** Scholar- A. Preethi K. - Guide- Professor P. Shripathi Kalluraya, Economics of Education, Economics Department, Mangalore University date-30th June, 2013

The study has been carried out on sample of educated and employed and educated and un-employed in coastal Karnataka.

### Sampling

Sample was drawn from employed women across their education level under-graduation, graduation, post-graduation and professional education. The researcher had used a comprehensive, structured and pre-tested questionnaire to collect the primary data from the sample educated women respondents of 200 each from Dakshina Kannada and Udupi districts Data was also collected from a controlled group of 200 educated but non-working women le, 100 each from Dakshina Kannada and Udupi districts Purposive random sampling technique was adopted.

### Scope

Though the research work focuses on economic empowerment of women through education, it has considered other aspects of empowerment viz, personal and social empowerment too as the former is supported by the latter Therefore, major findings of the study are classified into personal empowerment, social empowerment and economic empowerment

### Key Findings:

There are several findings of the study; some key findings are reported here.

#### **Personal Empowerment:**

Among different indicators of personal empowerment, undergraduates score between 130 {communication skills} to 230 (positive attitude), graduates score between 140 {negotiating power} to 257 {self confidence}, post-graduates score between 140{risk taking ability} to 260 {self image), the scores of professional educated women are between 150 {risk taking ability} to 252 {skill development)

- o Among total personal empowerment scores, undergraduates, graduates, post-graduates and professional graduates score 17 48, 19 23, 20 33 and 20 86 respectively. It may be noticed that personal empowerment varies with consistency across the educational status of employed women It is also found that professional educated women are highly empowered in personal empowerment terms.

#### **Social Empowerment:**

Under graduates' social empowerment scores vary between 148 {social awareness} to 230 (respect in family), graduates score between 145 (participation in public programmes) to 236 (respect in the family), post-graduates score between 150 (ability to run the family) to 240 (respect in the family), professional graduate women score between 194 (participation in public programmes) to 300 (ability to run the family)

- o Among total social empowerment scores, undergraduates, graduates, post-graduates and professional graduates score 10 92, 10 93, 11 76 and 13 86 respectively It shows that social empowerment varies with consistency across the educational status of employed women. It is also found that professional graduate women are more socially empowered.

**\* Comparison of social empowerment with controlled group:** Sample women are more socially empowered compared to controlled group But it is also observed that even under controlled group higher the level of education higher will be the extent of social empowerment.

#### **Economic Empowerment:**

Income of the respondents is positively related to their educational status Higher the education level, higher is the income. Professional graduate women earn more income followed by post-graduates, graduates and undergraduates. The professional graduates earn average monthly income of Rs 37460, post graduates Rs.23720, graduates Rs 22140 and undergraduates Rs. 10640 respectively

- o With regard to 'consumption', majority of graduates, Post graduates and professional graduates' consumption expenditure is between 40 to 60 percent whereas in case of undergraduates it is 60-80 percent.
- o With regard to 'saving behaviour' of sample women it is noticed that majority of undergraduates save less than 20.0 percent of their monthly income whereas in case of other women respondents, it is between 20-40 per cent.

**\*Comparison of economic empowerment with controlled group:** The comparative analysis of economic empowerment scores of sample women and that of controlled group shows wide gap between two groups. It is mainly because the latter don't earn at all But it is also observed that the scores of controlled group too vary in accordance with levels of education of sample women.

Source: Shodhganga, Inlibnet, UGC

**BUDGETARY FUNDING: EDUCATION-2018-19**

Budgetary Allocation in 2018-19 presented in the parliament has marginally increased the outlay on schools and reduced allocation on IITs, IIMs, and University Grants Commission. For IITs and IIMs, it has reduced the amount by nearly Rs. 2000 crores (Rs.1981 crores) from Rs. 8244.8 revised allocation for 2017-18. There is also cut on much-hyped digitisation of education. The allocation on E-learning was reduced to Rs. 456 crores from Rs. 518 - a cut of 62 crores i.e. 11 percent.

Of the total outlay of 85,010 crores, school education has got 50,000 crores - Rs.3000 crores rise from the revised allocation for 2017-18 and higher education has got the rest i.e.,Rs. 35,010 crores. Finance Minister has raised the amount of Sarva Shiksha Abhiyan by Rs.2628 crores from the previous year of Rs. 23,500 crores i.e. by 11 percent. But Rashtriya Madhyamik Shiksha got a marginal increase of 300 crores over the previous year of Rs. 3913 cores i.e. 7.6 percent. Mid Day Meal programme gets additional Rs.500 crores over Rs.10,000 from the previous year.

There is kind of paradigm shift in funding of higher education from state supporting the education of youth to acquire the capability to deal with new challenges in emerging Fourth Industrial Revolution. It has talked of increase in provisions under the RISE- Revitalising Infrastructure and Systems in Education. This is proposed to be done through restructuring Higher Education Financing Agency- a non-banking Company. HEFA had earlier planned to raise Rs.20,000 to lend low-cost funding to government higher education institutions to be repaid by them by raising income over the period of 10 years. The FM has proposed to raise it to Rs. 1 Trillion under the budget, 2018. This sounds quite a big amount, but it has to be seen, whether government institutions would be able to change their approach from government grants to loan funding for infrastructure development? What about the vast proportion of government aided institutions of Higher Education? What about new private self-financing institutions, which have come up during the last 10 years almost outpacing government institutions in professional education. Where they have to go for funding? Banks may not lend at low cost. Besides, there is a question pertaining to trust run institutions regarding who would become a guarantor. Before envisaging a change in approach, it is necessary to look at the ground realities of education system of India.

There is, however, an increase of Rs.250 crores in allocation for World-Class Universities /Institutions. There is also a mention of setting up of 24 new Medical Colleges.

With decline in funding through UGC, many quality oriented schemes including research funding, may have an adverse impact. Besides, the development grants to colleges may also have some adverse impact. It is not quality of only 10 institutions of eminence that would

matter for development of quality of scholars and R&D, but a large number of State Universities and Colleges, which enrol more than 80 percent of students in higher education their quality would also matter for taking India to a higher intellectual and R&D level to face the new challenges of knowledge economy.

There are reports that in fact expenditure on education as a percentage of GDP has declined from 3.1 percent to 2.7 percent over 2012-13 to 2017-18 BE. In this light, the budgetary funding on education in 2018-19 is not very happy news. This is particularly so, as the FM has revised cess for education and Health from 3% to 4% to mop up from public Rs.11,000 Crores every year.

**ISSUES: LET US LEARN FROM GROUND SITUATION**

Recent Annual Conference of ICF has brought out some issues pertaining to the appointment of: Principals of colleges, Teachers for newly incorporated socially relevant courses in higher education and the need for removal of contradictory statutory position with regard to recruitment of teachers, particularly in Kerala and the submission of accounts of grants to the UGC. We analyse these issues here.

**Appointment of Principals of Colleges**

UGC Guidelines for the appointment of Principals of colleges envisages experience of research guidance. The Guidelines are silent about the level of research guidance and a number of years of research guidance. The ground level situation in Kerala state as well as in many other states a large number of Colleges does not have Ph.D and M.Phil. Programmes granted by affiliating universities. As a result there are very few opportunities available to teachers to have research guidance experience. If college is having Post Graduate Programmes then teachers can guide the students for PG dissertation. But many colleges also do not have PG programme approved by the affiliating universities. This makes almost impossible for teachers in college to acquire research guidance experience to become eligible for appointment as Principals of Colleges. In this situation, it is very important to revisit UGC 2010 Guidelines for the appointment of Principals of Colleges and incorporate the aspects which are needed for a teacher to become a good Principal. We suggest that it could be experience in Research Guidance or experience in coordination work pertaining to academic, administrative and financial activities of colleges for being eligible for the position of Principal of the college. We also suggest that the training and experience of leadership development programme in management and development of colleges could be further added as preferred qualifications.

**Removal of anomaly in Recruitment of teachers:**

A notification issued by Government of Kerala and the UGC Guidelines for recruitment of teachers are in conflict.

UGC guidelines envisage constitutions of the selection committee for in a particular way and both do not agree with regard to the composition of the selection committee. Given in Kerala Government G.O. No: \B5f2IH.Edn Dated 30th August of 72 of Education (F) Department, Govt. of Kerala). Covering Admission of students, the appointment of staff, reservation, the fee paid by students, salary payment to staff, selection procedure of staff, maintenance & contingency grants to colleges etc The colleges in Kerala are bound by the provisions of this bilateral agreement. These provisions have been incorporated in the Statutes of colleges affiliated to Universities. College in Kerala are, therefore, bound by the constitution and process of selection committee as specified under the GO. As a result colleges are not able to recruit teachers as per the UGC guidelines, owing to fear of losing government grants. This anomaly needs to be resolved by the Kerala Government so that quality of college education does not suffer in the state for want of good teachers.

#### **Recruitment of Teachers for new courses**

Several innovative courses are being introduced throughout the country in the interest of making higher education socially relevant. In Kerala also about 250 new courses have been introduced in the colleges and these are in operation for the last two years. But posts of teachers for these courses have not been sanctioned and given to colleges. Colleges are managing the courses through ad-hoc teachers, which do not inspire confidence among the students and community. The implementation of idea is key to innovation. The idea and innovation losses the steam if the implementation is not done effectively. There is a general apathy about recruitment of teachers. We suggest that there should be the corresponding action to provide funds and human resources to make innovation a great success. We hope Kerala Government as also other

state governments would act fast on this aspect.

#### **Rashtriya Uchhtar Shiksha Abhiyan (RUSA)**

The funding is the key to improvement of the quality of higher education. Accordingly, RUSA was launched in mission mode to provide funds to improve the quality of higher education in general. But in practice, there are reports that RUSA funding in Kerala and some other states are not being provided to government-aided colleges. These colleges constitute a good proportion of higher education institutions in many states and in Kerala. A large proportion of students are studying in these colleges. It, therefore, becomes discriminatory to these students if the grant for improvement of quality is not available to these colleges. We suggest funding should be made available to both government and government-aided colleges for improving infrastructure, academic resources and quality of teachers in aided colleges.

#### **Devil in Details: Submission of Accounts of Grants:**

Devils in detail is a very old proverb. It is applicable in every aspect of development of higher education. We need to go into details to understand the depth of issues. Here is an issue pertaining to submission of accounts for utilization funds by the colleges who receive grants from University Grants Commission. Often in the absence of detailed procedures the interpretation of items eligible for expenditure is left to the concerned person /officer. This often make colleges not to utilize funds for the fear that expenditure account may not be accepted by the concerned person/officer. In the era of digitization, this has almost become necessary to detail out the format with all its components for submission of accounts. This will help Principal and staff of the college to know what is acceptable and not acceptable. This will also help colleges to utilize funds properly and reduce the scope of subjective interpretation by person/officer concerned.

*...contd. from page 2*

and need for change in approach from IQ to Emotional Quotient, and pleaded for introduction of the concept of inquisitiveness, self-study and ability to filter good from bad information flowing from the internet and social media in the education process. The principal of Colleges from Assam and Jharkhand attended the workshop. The workshop was inaugurated by Shri PP Shrivastave, Former member and Chair Education Council, North Eastern Council, Shillong. Professor MM Pant, former PVC Indira Gandhi National Open University and Technology Expert, Professor G.D. Sharma, President SEED, Professor Sudhanshu Bhushan, Head, Higher and Professional Education, NIEPA, New Delhi Professor

Madhulika Kaushik, formerly with Common Wealth of Learning and presently Pro-vice Chancellor, Usha Martin University, Professor R.C. Sharma, Digital Devices Expert, presently at Mawasan University, Malaysia, Dr. O.P. Bohra, formerly with National Institute of Public Finance and Policy, New Delhi, presently at Dubai, Dr. S.C. Sharma, Former Principal of RLA College, New Delhi, Dr. Sunil Mehru, Jt. Director, CEC, New Delhi interacted with delegates. The valedictory address was given by Professor Furqan Qamar, Secretary-General, Association of Indian University, New Delhi. Dr Buddhin Gogoi, Principal, Margarita College and State Secretary ICF, Assam led the delegates group. See detailed report at [www.seededu.org](http://www.seededu.org)

### CHILE- FREE HIGHER EDUCATION

Chile makes a law to provide free higher education to all. After 18 months of bitter discussion, all the deputies (102) including opposition members passed the law making higher education free. Only two deputies abstained. Socialist President Michelle Bachelet termed it "Historic reform" in higher education. The Higher education reform law to quote "---- guarantees free education. Free education has existed since 2016 but was subject to the inclusion in each year's national budget. At present, the poorest 60% of students study for free. The benefit will be extended further depending on GDP trends" The bill sets sub-secretariate for higher education charged with the responsibility of determining who is eligible for free education. Bill also creates a regulator titled as "Superintendency in Chile". The regulator will supervise and penalise those who do not provide quality higher education or have for-profit operations".

The news reports mention that "The reform law establishes that tuition fees for each degree will be set by a committee of experts. Students may be consulted. The government will set a ceiling for the tuition fees of students not eligible for free education; higher education institutions can only set the fees for students belonging to the richest 10% of Chilean families. "

The bill also makes higher education institutions to be accredited compulsorily.

*Source and Courtsey: Maria Elena Hurtado-World University News, 31st Jan. 18*

### CHINA INFLUENCING CAMPUSES IN AUSTRALIA

Parliament told

Submission made to Parliament by Clive Hamilton, professor of public ethics at Charles Strut University, Canberra, and Alex Joske, researcher and student at the Australian National University, said that Chinese Students and Scholars Association is present in almost all the campuses of Australian Universities, as an integral component of the Communist Party of China's so-called United Front Work, which seeks to influence organisations in China and abroad." It further said that the CSSAs is "aimed primarily at monitoring the thoughts and behaviours of the 130,000 Chinese students on campuses across Australia" Though submission was made in January have been issued by Parliamentary Committee. The CSSA is also present in many scientific organisations in Australia. It said their presence "raises serious concerns about the potential for their networks to be used for industrial espionage".

It said that CSSAs are found across the campuses in the world.

"Found at universities around the world, CSSAs play a central role in the Chinese government's efforts to monitor, control and intervene in the lives of Chinese

students in Australia and to limit academic freedom on universities," It further added that "CSSAs often attempt to downplay or hide the fact that they are guided by the Chinese government."

Report mentions that "Offering lucrative appointments, research funding and free trips to China, they facilitate information theft, whether deliberate or inadvertent," the submission claims, adding that a 2015 United States FBI report concluded that talent recruitment plans, while not illegal, "pose a serious threat to US businesses and universities through economic espionage and theft of IP [intellectual property]".

*Source and Courtsey: Yojana Sharma- World University News 31 Jan, 18*

### USA: SURGE OF WHITE SUPREMACIST ON CAMPUSES

New Data released by Centre on Extremist of Anti-Defamation League (ADL) reported that "it recorded 346 incidents since 1 September 2016, where white supremacists have used fliers, stickers, banners and posters to spread their message. These incidents targeted 216 college campuses - from Ivy League universities to local community colleges - in 44 states and Washington DC." It further stated that "During the autumn semester of 2017, there were 147 such incidents, a staggering 258% increase over the 41 incidents that took place during the same semester in September to December 2016." The report adds that "They see campuses as a fertile recruiting ground, as evident by the unprecedented volume of propagandist activity designed to recruit young people to support their vile ideology."

It is reported that" In the last week of January, white supremacist groups Patriot Front and Vanguard America plastered college campuses with fliers, demonstrating that the trend shows no signs of stopping. Vanguard America vandalised a Black History Month poster at Middle Tennessee State University with its own propaganda." The report further mentions that "White supremacist campus activism doesn't end with paper propaganda. Since the 2016 presidential campaign, they have been stepping out of the shadows into the mainstream"

Jonathan Greenblatt, ADL's CEO, stated that "White supremacists are targeting college campuses like never before."He further said that" While campuses must respect and protect free speech, administrators must also address the need to counter hate groups' messages and show these bigoted beliefs belong in the darkest shadows, not in our bright halls of learning. He added, "There is a moral obligation to respond clearly and forcefully to constitutionally protected hate speech."

*Source & Courtsey: Brendan O'Malley- World University News-1, February, 18*

I was always keen to work for quality of higher education and contribute the development of region and the country. I developed a vision for quality of higher education in India. After doing my Ph.D. in Botany, I joined as lecturer in Botany department of Guhawati in 1984 and served the academics and research organisation for 20 years before I joined Margerita College as Principal in 2004. Here my journey to work towards achieve vision started. I worked for development of the college by introducing several of quality oriented programme and participated at the state, national and international level programmes. I had also a vision to relate higher education with society. I availed and was invited to serve several of social, academic, and public organizations. I became Vice Chairman, All Assam OBC Association, Executive Member, Assam Science Society, Executive Member, Assam College Teachers' Association. Life Member, International Society for Conservation of Natural Resources. Varansi, Active Member, Indian Science Congress. General Secretary, Assam Gyan Bigyan Committee, Charaideo Branch Member, National Bio-diversity Project and so on. I served nearly 35 organizations in various capacity which gave me deep understanding of society and I could relate working in my college with larger canvas of society. Presently I being a member of Dibrugarh University Court and College Development Council of the university offers me to have two way interaction between university and colleges.

Another major change came to me when I attended Indian Colleges Annual National Conference in PSG College, Coibatore on the theme entitled "Reforming Higher Education in the context of Globalization" in the year 2010. This was my first conference after joining Indian Colleges Forum. Having deeply influenced by work of ICF and devotion of the President of SEED. I sort of became one close member of organization and motivated several of my fellow principals to join the organization and attend the conferences organized by ICF in different part of the country and on theme which are highly relevant to the development of quality in higher education in India.

My motivation was that, not I only benefit from such events, but my other fellow principals should also benefit from these academic events which tend to build leadership quality among principals of colleges. Since 2010 I along with 8-10 principals attended all the conferences in different parts of the country. We also organized an Annual National Conference of ICF at Kaziranga University as vice chairman of Assam Principals Council at Kaziranga University, Kaziranga. It was a unique experience as a private University joined hands with APC to host ICF conference. This was excellently arranged and attended by principals of colleges from different parts of the county. I also became State Secretary of ICF and now designated

to coordinate ICF and SEED activities in the this region.

Leadership has been one key aspect of development quality of higher education. When Centre for Higher Education and Training of SEED launched International Diploma Programme in Educational Leadership- Higher Education, I along with 10 principals from Assam attended the Diploma and had opportunity to interact with world renowned experts in UNESCO, International Institute of Education Planning, Paris OECD and other eminent institutions along with principals from Meghalaya and other states. We were the first first batch of persons from India to have such an exposure. Which inspired me to work for international level quality of higher education in India. I also got an opportunity second time to visit and interact with institutions and above organization as group leader. We also visited Maastricht School of Management, Maastricht Netherlands and interacted with faculty on various aspects of Leadership in higher education.

The search and journey for quality continued as the new developments of Fourth Industrial Revolution came to impact the system of higher education all over the world and India. SEED-CHEST organized three day workshop at India Habitat Centre on New Technology and Higher Education. This was attended by Deans of University and College Principals from Assam, Meghalaya and Delhi and yet another workshop on Impact of Fourth Industrial Revolution on higher education in Delhi along fellow principals from Assam and Jharkhand has not only helped building vision for future, but has helped networking and mutually benefiting from such academic discourses. It was an intellectual feat to interact with internationally known experts and policy makers from apex organization in the country and abroad.

I wish to share that such conferences and academic events not only enable you to interact and learn from experiences of peer group from length and breadth of the India, but also from world over. This makes us to fully grasp the gravity and seriousness of the role being played by us as leaders of the institutions, which we head. Our institution not only cater to one group of students and faculty members, but groups of fresh students every year entering into the portals of institutions. If we are up to date in our knowledge and understanding, we share this with our students and in turn they impact the society. This process keeps us on our quest for quality and enlightened leadership. This I share with you and wish you also share your experience with us.



**Budhhin Gogoi**  
Principal, Margerita College,  
Margerita, Assam

**Empowering and Disempowering Technologies:  
THE FOURTH INDUSTRIAL REVOLUTION** - Klaus Schwab, World Economic Forum, 2016 pp184

We have already entered into a new overarching technology revolution since a major breakthrough in computer technology via the Internet of Things and Artificial Intelligence. The breakthrough in the physical, intellectual and biological world has been happening randomly and at unimaginable speed impacting the way we work, the way we live, way we think and way we behave. But to make people to be aware of this development in a compressive manner has been done by Schwab, the Founder and Executive Chairman of World Economic Forum, Devos, Switzerland in the above-titled book- The Fourth Industrial Revolution. In his introduction to the book, he says to quote " Shaping the fourth industrial revolution to ensure that it is empowering and human -centred, rather than divisive, and dehumanising is not a task for any single stakeholder or sector or for any one region, industry or culture. The fundamental and global nature of this revolution means it will affect and be influenced by all countries, economies, sections of people. It is therefore, critical that we invest attention and energy in multistakeholder cooperation across academic, social, Political, national and industry boundaries. These interactions and collaboration are needed to create positive, common and hope-filled narratives, enabling individuals and groups from all parts of the world to participate in, and benefit from the ongoing transformations.

The book deals with the subject in three broad chapters, namely, Historic Context, Drivers and Impact of Fourth Industrial Revolution.

In the first chapter, he narrates how changes have taken place since 1760-1840 where we moved into steam energy driven mechanical production phase including the spread of railroads as means of communication and enhancement of speed and volume of communication. Termed as a first industrial revolution. The second industrial revolution which started in early twentieth century mass production became possible " fostered by electricity and assembly line" Third industrial revolution began in the 1960s, "catalysed by development of semiconductors, mainframe computing, personal computing (1970-80s) and internet (1990s). The chapter also deals with Profound and Systemic Change, Inequality as systemic challenge.

In the second chapter, he deals with the Drivers of change. He says this is a collection of work done by WEF and Global Agenda Councils in the forum to map technology innovations done across various fields through research and technology breakthrough in limitless manner unfolding on various fronts and places. In this chapter, he deals with Megatrends pertaining to Physical, Digital and Biological spheres. In physical he

deals with - Autonomous vehicles, 3D Printing, Advanced Robotics, and, new materials.

In Digital the book deals with the Internet of Things. He says" The digital revolution is creating radically new approaches that revolutionise the way in which individuals engage and collaborate. For example blockchain, often described as "distributed ledger" is a secure protocol where a network of computers collectively verifies a transaction before it is recorded and approved." Thus it creates a system of trust, without undergoing a central neutral authority. The success of bitcoin or similar coin lies in this technology.

In Biology, he says " synthetic biology is next step. It will provide us with the ability to customise organism by writing DNA." According to him, it has enormous possibilities in agriculture, medicine and biofuels. However, the possibility of disempowering impact of customising organism by writing DNA should not be underrated.

In the third chapter, the book deals with Impact on Economy, Growth, Ageing, Productivity, Employment and Labour substitution related to impact on skills, impact on developing economies, nature of work. Impact on Business- dealing with-shifting customer expectations, improvement of asset productivity, new forms of collaboration, operating models -transformed into new digital models. Impact on national and global pertaining to Governments and governed -such as money and taxation, liability and protection, security and privacy, availability and inclusion, power asymmetries, countries, region and cities.

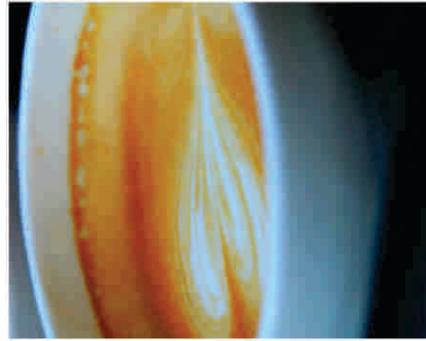
The book spells out innovation -enabling regulations. Here in box D, he describes several aspects, including "Cyber warfare and autonomous warfare" and towards the more secure world, society, community and individuals. The book attempts to counter the disempowering aspect of technology in the section on "The Way Forward".

I do not wish to steal the thrill of reading the book by mentioning what it says in this section. I wish to recommend this book to every citizen of the India and world so that we collectively address the disempowering and empowering aspects of Fourth Industrial Revolution.

**GD Sharma**

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