



The Knowledge Vehicle

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Education Promotion Society for India (EPSI) & Indian Management Conclave (IMC) White Paper



Theme: The road to INDIA becoming a FIVE Trillion USD Economy traverses through Higher Education

- India will have to repeat its feat of doubling GDP, like it did during the period from 2000 to 2006, when the GDP doubled from \$ 476 billion to \$ 949 billion. This period saw strong spurt in Management and Engineering Education.
- Robust Higher Education focus leading to skilling and employability will help us to become a true services economy – Gross Enrolment Ratio (GER) target of 35% by 2025 and 50% by 2035 is necessary, which only matches that of China and is still half of the US GER.
- 950 Universities need to grow to 1200+ by 2025 to sustain GER growth. Brick and Mortar educational institutions will have to ride the digital highway that DIGITAL INDIA promises to build, reshaping their focus towards distance, online and continuing education in addition to campus programmes.



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Five Trillion USD Economy by 2024 – An Aspirational Goal

1. The Context

The ambitious goals set up in the recent Union Budget 2019 by the Union Finance Minister about a national endeavour for achieving the 5 trillion USD economy within the next 5 years by 2024 is no doubt, an aspirational but an audacious task.

The target for achieving 5 trillion USD economy has generated a serious debate about the various contributing factors in order to make this a reality. The NDA Government led by the Prime Minister Modi is betting on three critical drivers for achieving this target viz. infrastructural development, revamping and rejuvenating agriculture and easing the credit support.

Emphasizing the need for structural reforms for achieving USD 5 trillion economy, the Finance Minister Nirmala Sitharaman, in her budget speech, hoped that India's economy would grow to become USD 3 trillion economy, in the fiscal year 2019-20, to become the sixth largest in world.

Moving up from the current size of \$2.8 trillion, Indian Economy needs to almost double its size in the next five years to realize the \$5 trillion target by 2024. The required average growth rate from now on should hit 11.5 percent to achieve this target whereas the average growth rate has been around 7-8 percent in the recent years. Further concern is recent slowdown in Indian economy. International Monetary Fund in April 2019 has slashed India's GDP growth forecast to 7.3 percent for 2019-20 and to 7.5 percent in 2020-21 followed by the downward revision by Asian Development Bank to 7.2 percent and the Reserve Bank of India at 7 percent. Whether India will achieve a GDP growth to become the \$5 trillion economy by 2024 depends upon, among other factors, the crucial factors of human capital and higher education.

2. 2000-2006: Growth in Education & Economy coincide

Our higher education has produced earlier and once given the required resources as envisaged in National Education Policy, is capable to produce talent needed by the industry, society, government and agriculture, as it had done post 1990's. This is the talent bank that will run our economy and can meet the current as well as the future challenges of making it a \$ 5 trillion economy by 2024.

Let us look at the past and assess how our economy performed during the post-liberalization era of 1990's and should also examine factors which accounted for high or low growth. Normally, the Indian economy has taken 7 to 7.5 years to double size of the cake but there were also periods when it had doubled within 5 years as well. For instance, during the period from 2000 to 2006, GDP doubled from \$ 476 billion to \$ 949 billion.

Now, we should ask ourselves 'what critical factors were working to bring about this spectacular growth during 2000-06'? Indian Higher Education, which was growing at a very fast rate during this period, was certainly one of the key factors in driving this growth and the economy was absorbing talents from different disciplines in large numbers. However, what worked very well during those years, although did not work in perfect tandem during the later years but now is planned to grow with global competitive skills.

3. Role of Higher Education in Economic Growth

In the current global scenario, talented and skilled manpower is considered strategically more important than capital and in the future global competition, only those nations will be winners which are able to produce sufficient talented manpower, capable of meeting future challenges thrown up by disruptive technology and big geo-political changes.

The national leadership, policy makers and academic leaders need to give a deep thought to the fact that without quantitative and qualitative growth in the Indian Higher Education, achieving the aspirational goal of USD 5 trillion Indian Economy may not become a reality by 2024. There are two historical examples which present evidence in favour of this argument:-

- 3.1** In the post-liberalisation era of 90's and 2000's, Indian economy witnessed speedy growth which was made possible by the abundant supply of talented engineers and MBAs from Indian colleges and universities. Had we not expanded engineering and management education sufficiently across the country by engaging with the private sector, steady economic growth in 90's and 2000's, would have never happened.

Considerable growth of higher education in India was witnessed post 1990's with the introduction of liberal policy of MHRD, Government of India, towards private sector involvement in the higher education as new colleges and universities were established in almost all parts of the country. Large numbers of graduates passing out each year also contributed to steady and consistent economic growth during 1990-2007. This is evident from the following Table:

Trend and growth of HEIs, Enrolment and GER in India							
Year	Number of Institutions			Enrolment in millions	GER (%)	CAGR (%)	
	Universities	Colleges	Total			HEIs	Enrolment
1980-81	132	4,738	4,870	2.9	4.8	3.7	3.8
1990-91	185	4,748	5,933	4.9	5.9	2.0	5.4
1995-96	226	7,923	8,149	6.4	7.0	6.6	5.5
2000-01	254	10,152	10,406	9.6	8.1	5.0	8.4
2005-06	350	16,982	17,332	14.3	11.6	10.7	8.3
2010-11	621	32,974	33,595	27.5	19.4	14.2	14.0
2012-13	665	35,829	46,494	29.6	21.1	2.8	2.5
2017-18	903	39,050	49,061	36.6	25.8		

Source: All India Survey on Higher Education (AISHE) (Various Years)

It can be observed from the above data table that highest growth occurred in the year 2005-06 (10.7%) and in 2010-11 (14.2%) establishing the direct relation between higher education growth and economic growth.

- 3.2** At the outset of 21st century, economists and researchers around the world predicted that countries with ageing populations like Japan will experience slow growth and those with large young population like India and China will be benefited by the 'demographic-dividend' which created lot of euphoria in India. However, during the last 20 years, we forgot that without adequate education, skills and aptitude, the sizable young population may not be able to deliver quality benefits to the economy. Shrinking growth of jobs in the last decade and the social turmoil created by it are ample proof of how opportunities of 'demographic-dividend' have turned out to be a 'demographic-disaster'. While our higher education institutions and universities are very much concerned about quality production of human resources that will add to high economic growth, creation of jobs to propel the economy with the qualified personnel is more or less responsibility of the society and the Government as well.

4. Future Growth of Indian Higher Education (2020-25)

Recently the committee on National Education Policy (NEP) has given a growth projection for higher education for 15 years. Among the long-term recommendations, the immediate requirements for next five years to achieve the quantitative goals are also outlined by the Committee.

It is envisaged that the Population of India will rise from 1.36 billion in 2019 to 1.40 billion in 2025 which will require more colleges, universities, faculty and higher Gross Enrolment ratio. The draft New Education Policy proposes to increase the current Gross Enrolment Ratio of 25.8 per cent to 35 per cent by 2025 along with other key requirements which would contribute substantially to achieve the \$ 5 trillion economy goal.

The important quantitative dimensions to meet the 2025 goals in higher education as recommended by the NEP are:

5. 15 Lakh Faculty in 2025: A National Resource

India has 13 lakh faculty members now and has the teacher student ratio at 1 teacher to 24 students which is to go up to 15 lakh faculty in 2025 with a teacher student ratio of 1 teacher for 22 students. This growth in faculty will help turning out more talent from the higher education institutions which in turn will add to the high economic growth.

5.1 50 Million Students: A Talent Bank

By 2025, Higher Education Institutions in India are expected to have 50 million students, going up from the current 36.6 million. This talent bank growing up each year is the key to achieve higher growth rate than anticipated by IMF or ADB.

5.2 1200 Universities in 2025

With the sharp rise in number of students and faculty, 1200 Universities are proposed to be operational with well-equipped infrastructure and faculty as per the New Education Policy. Going up from the present number of 950, these universities will be capable to send out thousands of more qualified professionals who will turn out to be the engines of economic growth. With the establishment of 250 more universities, the required number of colleges may go down to 25,000 in 2025 instead of existing 40,000.

5.3 35% GER by 2025- Contributing to Growth

Categorically specifying that current Gross Enrolment Ratio (GER) of 25.8 percent would go up to 35 percent, the report terms it moderate growth as compared to estimated GER of China, Brazil and Russia. This 10 percent increase in GER will be a turning factor in achieving a high growth rate contributed by higher education institutions.

Based on this growth in the GER by 2025, the most likely scenario for Indian Higher Education after 5 years will witness more number of faculty, students at more universities contributing to India's Economic Growth at a rate higher than anticipated as has happened in past also.

6. Education with "Quality & Relevance"

Quality of Indian Higher Education has always been a matter of pride not only at national level but also at international level. What is needed is the well-researched improvement of global standard in universities and colleges. India will be working hard for improving the quality of average institutions in the shortest possible time to meet the challenges of Industry 4.0 with key modification in content, pedagogy, autonomy and regulation, ranking position, international accreditations among other parameters.

There are 5 key quality aspects which include Curriculum and Pedagogy for Industry 4.0 era, National & Global Accreditation, National & International Ranking Places and Getting Ready for Global Competition to achieve higher quality standards in higher education and making it possible to achieve the \$ 5 trillion economy goal.

6.1 Creating employable talent for Industry 4.0 Era

The Indian economy will be going along, embracing and adopting the game changers in the 'Decade of Disruption' which is crucial not only for the world economy but also for the Indian economy as many disruptive technologies which emerged during the last decade or so, are attaining their momentum across all industries, across all nations and in every place of human life viz work places, homes, transport, hospitals, schools, colleges, hospitality and others. Disruptive technologies like AI, Robotics, IOT, Deep Learning, Machine Learning, Cloud Computing, Virtual Reality, 3D Printing, Nano technology have created a VUCA World which is marked by volatility, uncertainty, complexity and ambiguity.

How we shall groom the young and talented workers, managers, trainers, teachers, scientists and experts to manage these disruptive technologies at the earliest, is the basic question haunting policy framers, law makers, educationists and business leaders but the vision is clear to get clear of them and march on our goal.

The World Economic Forum (WEF), a big proponent of disruptive technologies has been speaking eloquently on this subject. They have stated that we should prepare ourselves quickly for this new phase in human civilization to get the desired growth or face disaster. India has to take a call on it and an urgent one at that, if it has to achieve the targets of high growth.

To meet the exigencies and challenges of disruptive technologies, we have only one option - raising the quality of Indian Higher Education expeditiously and exponentially by infusing massive funds. Gradual improvements or incremental methods may not yield the desired results. We have to work with a great sense of urgency or otherwise we will miss the bus of the 4th Industrial Revolution (4IR).

Klaus Schwab, Founder CEO, WEF in his article, titled "The Great Reconstruction" says "The physical world is being dwarfed by a new digital, interconnected, integrated and virtual world with a circular and shared economy. Manufacturing is being revolutionized by automation, localization and individualization – all of which will make traditional supply chains obsolete. Competition is becoming less cost-based and is driven more by functionality and innovation. Soon economies of scale will no longer provide advantages they once did. The most precious resources will be talent, not traditional capital".

Schwab's message to emerging economies like India, China, Brazil, Indonesia, Malaysia is clear that they have to manage "uninterrupted supply of talent manpower" for winning the battles of 4th IR. The Higher Education Systems of these nations including India, should be agile, futuristic, and pragmatic and endowed with requisite resources. The quality of our higher education institutes must be transformed to become 'world class' within the next few years.

6.2 Strengthening Accreditation

The quest for Accreditation in India is rising and more and more higher education institutions are deploying efforts to get accreditation. However, the process needs a boost as out of existing 40,000 Higher Education Institutions of different category in India, only a few hundreds have earned accreditation from the Indian Accreditation Agencies like NAAC, NBA, QCI. If we count the number of Indian management institutes who are internationally accredited by AACSB, EQUIS, AMBA, it hardly runs in tens.

Accreditation by NAAC

Indian Higher Education: Scenario 2025			
S No.	Parameters	2019	2025
1	GER %	25.8	35
2	No. of Students Enrolled (In Million)	36.6	50.0
3	No. of Universities	950	1200
4	No. of Colleges (in Thousand)	40	25
5	No. of Faculty (in Lakh)	13.0	15.0
6	Student-Teacher Ratio	24.1	22.0

Cycle-wise Accreditation (As on November 30, 2018)			
Cycle	Universities	Colleges	Total
I Cycle	341	7695	8036
II Cycle	163	3361	3524
III Cycle	68	803	871
IV Cycle	01	14	15
Total	573	11,873	12,446

If we look into the distribution of Grades (viz. A, B or C), the Table below provides the current snapshot of quality among the accredited institutions under the UGC System:-

Grade-wise Break-up of Institutions Accredited by NAAC				
	A Grade	B Grade	C Grade	Total
Universities	205	127	9	341
Colleges	1653	52000	842	7695
Total	1858	5327	8511	8036

It is evident from the above statistics that hardly 20 per cent colleges and 30 per cent universities have been accredited by the NAAC so far out of which only 20 per cent universities and 4 per cent colleges are of A Grade. This needs to be strengthened with more institutions moving up from C to B and B to A grades.

Accreditation by NBA

The NBA has been accrediting programmes in engineering, management, pharmacy, architecture since 2004-05

and has accredited 7722 programmes in different grades/scores so far.

6.3 Robust Rankings

Alarmed by the low ranking positions obtained by Indian Universities and institutions in global rankings viz. Time Higher Education (THE), SJTU and QS, MHRD, the Government of India has launched the National Institutions Ranking Framework (NIRF) on September 29, 2015 to make it globally competitive. The rankings are awarded to almost all types of higher education institutions and universities imparting education in Management, Engineering, Medical, Architecture, Pharmacy, Law.

The participation in the ranking by the institutions has increased along with the quest to grab higher ranking positions. The consistent rising number of participating institutions over the years reflect their interest in getting an NIRF ranking position:

Number of Participating Universities/Colleges				
Sr. No.	Category	NIRF Ranking Year		
		2018	2017	2016
1	Overall/University	957	724	233
2	Engineering	906	1007	1438
3	Management	487	542	609
4	Pharmacy	286	316	454
5	Architecture	59	42	28
6	Other College	1087	596	803
7	Medical	101	43	
8	Law	71	49	
9	Total	3954	3319	3565

6.4 Attracting Global Competition

The Global scenario reflects that higher the competition, better is the outcome. Instead of refraining from facing global competition in higher education, it has to be welcomed to improve the standard to meet the global requirements. The 21st century higher education is consistently keeping pace with the global changes as the disruption is also impacting the education and learning domain in a big way. India must welcome both traditional higher education players (Universities & Colleges) and new technology-based providers (like Coursera, Udacity).

7. Implementing Key Draft National Education Policy recommendation is important to accelerate growth

A review of the 477 page Draft National Education Policy document by the authors of this Whitepaper suggest that there are five key areas that could change the higher education scenario in India. This is a welcome move and the conclave also endorses its implementation. NEP proposes to bring about structural and regulatory changes, making Research a priority area for faculty development.

7.1 Scrapping the Multiple Regulatory Structure

With the aim to have only one independent regulatory authority by replacing the existing individual regulators in higher education, including professional and vocational education, the Committee of National Education Policy proposes setting of the National Higher Education Regulatory Authority (NHERA). With this, the role of AICTE and UGC will be limited to setting standards and providing grants to higher educational institutions.

7.2 Periodical Accreditation Review

A key recommendation to separate NAAC from UGC has been made by the Committee. Currently, the National Assessment and Accreditation Council (NAAC) is an accreditation body under the UGC. NAAC will function as the top level accreditor, and will issue licenses to different accreditation institutions, who will assess higher educational institutions once every five to seven years. All existing higher education institutions should be accredited by 2030.

7.3 Establishing & Funding a National Research Foundation

The draft Policy recommends establishing a National Research Foundation, an autonomous body, for funding, mentoring and building the capacity for quality research in India. The Foundation will consist of four major divisions: sciences, technology, social sciences, arts and humanities, with the provision to add additional divisions. The Foundation will be provided with an annual grant of Rs 20,000 crore (0.1% of GDP).

Dr Kasturirangan Committee has observed in the draft NEP that the total investment on research and innovation in India has declined from 0.84% of GDP in 2008 to 0.69% in 2014. India also lags behind many nations in the number of researchers (per lakh population), patents and publications

	Spending on research and innovation (% GDP)	Researchers (per lakh population)	Total Patent Applications
India	0.7	15	45,057
China	2.1	111	13,38,503
USA	2.8	423	605,571
Israel	4.3	825	6,419

Source: Economic Survey of India 2017-18

7.4 Ease in Establishment of New Higher Educational Institutions

Currently, higher educational institutions can only be set up by Parliament or state legislatures. The draft Policy proposes that these institutions could be allowed to be set up through a Higher Education Institution Charter from NHERA.

7.5 Restructuring of Higher Education Institutions into 3 clusters

Higher education institutions are proposed to be restructured into three types: (i) research universities focusing equally on research and teaching; (ii) teaching universities focusing primarily on teaching; and (iii) colleges focusing only on teaching at undergraduate levels. All such institutions will gradually move towards full autonomy - academic, administrative, and financial.

8. The Way Forward for leveraging education to power \$ 5 Trillion Economy

Higher education growth is instrumental in achieving high economic growth rate as it has been observed in the past also. The action plan can be divided into short term, medium term and long term vision.

8.1 Immediate Actions needed in the next 12 months

To begin with, the recommendations of Draft National Education Policy should be implemented by approving the policy and action points should be identified to be implemented so that the one year goal is achieved on time giving a boost to improvement in higher education.

8.2 Medium Term Actions needed to get to \$ 5 Trillion Economy by 2024

India, with a GER of 35 percent in 2024 as compared to 25.8 percent in 2019 will have to gear up to cope with the number of students going up at 50 million in 2024 from 36.6 million in 2019. With 250 more universities in 2024 and with a faculty strength of 15 lakhs, higher education institutions will be better equipped and will have more research avenues. The implementation of the action plan will also contribute in arriving at an optimum teacher student ratio so as to achieve globally high education standards.

8.3 Long term Vision for the Indian Higher Education

Achieving inspirational targets of 5 trillion USD economy and 50 million total enrolments in Higher Education by 2024 may be doable in medium term of 5 years or so. But at the same time India as a nation should also think about long-term targets for next 10-15 years. India's long-term vision for Higher Education should be as follows:-

(I) **India's stature in the Global Higher Education:**

- i. Among the top 200 global ranking of universities, 25 institutions/universities should be from India
- ii. Indian institutions/ universities should target 5 lakh International Students.
- iii. There should be 2% international faculty in Indian Universities and Higher Education Institutions.
- iv. Indian universities should enrol 5 lakh + students in their campuses outside India.
- v. Out of top 200 global universities, at least 25 should have their campuses in India or their significant presence in India.

(II) **India as a Hub for Manpower**

- i. 70% of graduates from Indian universities should be industry ready and employable
- ii. Around 50 million manpower from India should be employed at foreign countries by 2035

(III) **Eco-System of Innovation, Research and Entrepreneurship**

- i. India to become one of the top 20 countries in terms of patent fillings
- ii. Universities and higher education institutions to have entrepreneurship cell, incubation centre and innovation labs.
- iii. India should be one of the top 20 countries in terms of research papers, publication as well as citations.

In conclusion, Higher Education has a key role to play in powering India into a USD 5 Trillion Economy. Higher Education creates talent that runs the corporations. It also adds direct investments as hundreds of new Universities get created and lakhs of faculty and students gain employment. Like in late 1990s and early 2000, Policy makers must leverage the power of Indian Higher Education for achieving laudable goal of high economic growth.

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