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Foreword

With a majority of higher education enrolment in State Universities and Colleges and almost all private-unaided colleges affiliated to State Universities, the States are the key stakeholders in higher education. However, until recently there has been little focus on state universities and colleges. Even the central funding that flows through the University Grants Commission is very small and thinly spread. As a result, its impact on development of higher education in the States and UTs is not very significant. There is also a lack of holistic thinking and integrated planning at state level for higher education. Twelfth Five Year Plan seeks to address these issues. This report is being brought out as an attempt towards this.

This report, *Annual Status of Higher Education in States and UTs, 2012 (ASHE, 2012)* maps the higher education systems in all State and Union Territories (UTs). The report provides socio-economic profile, institutional and enrolment data, growth trends, key indicators of higher education, and labour market information with a view to create a framework for holistic thinking of the higher education in the States and its linkages with the demographic trends and schooling on one hand and economy and labour markets conditions on the other. Issues of access, equity, infrastructure, staffing and financing are covered where possible.

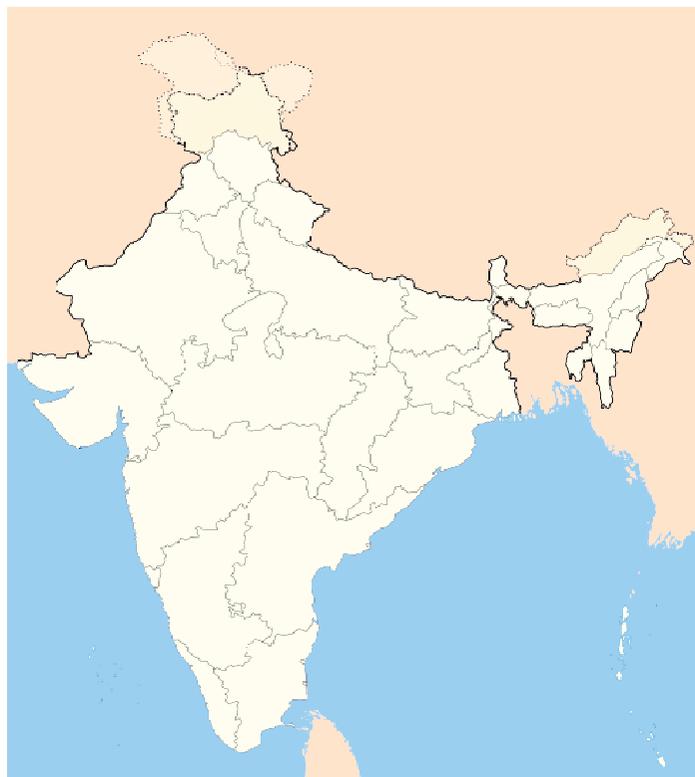
Since, this report has been brought out in a short time and is entirely based on data from secondary sources; there are gaps and inconsistencies in data. It is hoped that the gaps would be filled up, inconsistencies removed and presentation improved in the subsequent editions of this report.

I am pleased to acknowledge the support received from Eduvisors, an education sector focused research and consulting firm towards collection and compilation of data and the subsequent analysis in this report. Finally, I would like to convey our gratitude to Confederation of Indian Industry (CII), New Delhi for working with the Planning Commission on this report and integrating State Specific Sessions as part of CII's Fourth Global Higher Education Summit, 2012. Support and guidance received from the Ministry of HRD, UGC and the World Bank is also duly acknowledged.

New Delhi, 1 November 2012

Pawan Agarwal

India



Country Profile

Capital	New Delhi
Total Area (in sq. km.)	3,287,263
Total Population	1,21,01,93,422
Population Density (per sq. km.)	370.6
Number of States	28
Number of Union Territories	7
Literacy Rate (%)	74.04
Sex Ratio (per 1,000 males)	940
Gross Domestic Product, 2011-12 (In Rs. Crore)	52,22,027
Per Capita Income, 2011-12 (Rs.)	38,005

Introduction

India officially known as the Republic of India is located in South Asia and it came into existence on the 15th of August 1947. The name of the country is derived from 'Indus', which in turn originates from the Old Persian word 'Hindu'. Many Indian languages in various subtle guises use the geographical term Bharat that is recognized by the Constitution of India as an official name for the country¹.

Bounded by the Indian Ocean in the south, the Arabian Sea in the south-west, and the Bay of Bengal in the south-east, it shares land borders with Pakistan in the west; China, Nepal, and Bhutan in the north-east; and Burma and Bangladesh in the east. The country is the seventh largest in the world in terms of area and is the second most populous country in the world, only second to China. However, it is the most populous democracy in the world.

The economy of India is the tenth largest in terms of nominal Gross Domestic Product (GDP) and third largest by Purchasing Power Parity (PPP)². In 1991, the country witnessed market-based economic reforms in the form of Liberalization, Privatization & Globalization (LPG) and thus began India's journey to become one of the fastest-growing major economies of the world. However, it continues to face the challenges of poverty, illiteracy, corruption, malnutrition, and inadequate public healthcare. The 48.76 crore worker labour force is the world's second largest, as of 2011.³ The service sector makes up 55.6% of GDP, whereas the industrial and agricultural sector contributes 26.3% and 18.1% respectively. The major agricultural products include rice, wheat, oilseed, cotton, jute, tea, sugarcane, and potatoes⁴ and the major industries include textiles, telecommunications, chemicals, food processing, steel, transport equipment, cement, mining, petroleum, machinery, and software.

Coming to the higher education scenario in the country we find that despite considerable progress during the Eleventh Five Year Plan i.e. 2006-07 to 2011-12, less than 20% of the estimated 120 million potential students are enrolled in the higher education institutes in India. The Indian higher education system has emerged as one of the largest in the world, with 14.6 million students enrolled in more than 31,000 institutions. The number of institutions has grown at a CAGR of 11% while student enrolment has grown at a CAGR of 6%. However, despite these growth figures, the Gross Enrolment Ratio (GER) of India (15%) is significantly lower than the world average of about 26%. In addition, there is wide disparity in enrolment figures across states, between urban and rural areas and faculties.

It is expected that the number of eligible students will double by the year 2020, thus increasing the pressure to provide access to effective higher education. In addition to quantity, the quality of education currently being delivered is also a key area of concern. Issues like shortage of trained qualified faculty, poor infrastructure and outdated curricula plague several institutes. The employability of the students graduating from the current higher education institutes is also questionable, with the industry still facing concerns of shortage of qualified manpower in India. The standards of research and teaching at Indian universities are also far below the international standards. A testament to this is the fact that no Indian university is currently featured in any of the rankings of the top 200 international universities.

However, during the Eleventh Five Year Plan, considerable momentum has been generated in the establishment of new higher education institutes and increasing enrolment. The nation has been successful in crossing the threshold of 15% GER, thus moving the country from being an 'elite' to a 'mass' higher education system. Going forward, the focus is on sustaining the momentum by focusing

¹ Ministry of Law and Justice 2008

² GDP (current US\$) Data in 2011", World Bank database

³ Ministry of Labour & Employment, Govt. of India

⁴ Central Statistical Organization

on the 'Three E's- Expansion, Equity and Excellence'. The focus is necessarily required to be not just on increasing access and increasing enrolments, but also on providing quality education, thus creating skilled manpower. With the current growth being skewed in favour of certain regions, disciplines and sector; it is imperative that greater diversity is achieved through expansion strategies implemented across the states.

Being a large and diverse nation, decentralization in terms of higher education strategy development and implementation is crucial, with a collaborated relationship between the centre and the states; rather than one of control. Synergies have to be established between each of the 35 states and union territories and the central government, in ensuring effective disbursement, sharing and utilization of resources. Only through effective state participation would it be possible to bring about administrative, academic and financial reforms in the state higher education systems.

In the Twelfth Five Year Plan i.e. 2011-12 to 2016-17, one of the key strategies is to recognize the various state education systems as the principal site for expansion and to focus on the average quality of state institutions. A multi-dimensional challenge, this would require simultaneous actions by both the central and the state governments. Such initiatives are essential not only to ensure the growth of the nation into a global powerhouse, but also to meet the social challenges and the rising aspirations of the nation's youth. A clear articulation of the various current challenges faced by each of the states, and a shared understanding of the solutions, and designing of implementation strategies specifically designed to meet the state's challenges is necessary to chart the nation's growth in the coming years.⁵

As a result of disparity in quality capacities, students with intent to pursue higher education and employment invariably migrate to other states in India or abroad to obtain the same. A trend analysis of reasons for this migration evinces the largest reasons for migration of students from north eastern region is not only to pursue higher education like research and PhDs but also a basic level of higher education like graduation. This migration is a major concern. Statistics reveal 95% of students from the northeast region (NER) do not come back to these states after obtaining higher education elsewhere. During the period 2005 to 2009, maximum number of students had gone abroad for Research & PhD, which is regarded as the most promising talent pool.

Universities and University Level Institutes in India

The higher education landscape of the country is characterized by 299 state universities, 140 private universities, 130 deemed universities and 44 central universities (as per the latest records released by Universities Grants Commission in September 2012). Along with these universities, the country houses 39 Institutes of National Importance (INI) that specialize in the fields of engineering & technology, management, medical sciences, languages, information technology, statistical research, pharmaceutical education & research and petroleum studies. In total, the country has 652 universities and university level institutes that impart higher and technical education and provide affiliation to more than 33,000 colleges and institutes in the country.

⁵Main Plan Document on Higher Education in India, Twelfth Five Year Plan

Table 1: Distribution of Universities & University Level Institutions in India

Type of University	India (As on 17.09.2012)	Percentage
State University	299	46
Private University	140	21
Institution of National Importance	39	6
Deemed University	130	20
Central University	44	7
Total	652	100

Source: UGC

The Capital of India and a Union Territory - Delhi along with the state of Uttar Pradesh has the maximum number of central universities with both housing 4 each. The state of Andhra Pradesh has the highest number of state universities with 32 universities, followed by Tamil Nadu, which has 24 state universities. Tamil Nadu has the maximum number of deemed universities (29), followed by Maharashtra (21). The state of Rajasthan has the maximum number of private universities with 25 universities in the state, as per latest records. The Institutes of National Importance are evenly spread out across the various states and union territories of the country, with almost every state and union territory having at least one such institute.

Despite the growth in the number of higher education institutions in India, their geographical spread remains largely skewed with a high concentration of institutions in big cities and towns. While overall institutional density increased from 10 to 14 institutions per 1,000 sq. km. during the Eleventh Plan, large number of habitations and settlement clusters with a population of more than 10,000 and less than 1,00,000 are without any proximate institution of higher education.

Institutional Expansion

The expansion of central institutions during the Eleventh Plan was historic, as the central government had never established such a large number of institutions in a single plan period. In total, the central government established 51 new institutions during the Eleventh Plan period. Each state now has at least one central university except Goa, where the state government did not want one. Special financial assistance was provided by the central government to existing central institutions to raise their intake capacity in order to provide 27% reservation to OBCs without affecting the number of general seats.

Table 2: Growth of Central Institutions during the Eleventh Plan

Type of Institution	2006-07	2011-12	Increase
Central Universities	19	40	21
Indian Institute of Technology	7	15	8
Indian Institute of Management	6	13	7
Indian Institute of Science, Education and Research	2	5	3
School of Planning and Architecture	1	3	2
National Institute of Technology	20	30	10
Other technical institutions	15	15	0
Total	70	121	51

Source: MoHRD, UGC

Increase in higher education capacity during the Eleventh Plan was largely achieved through the setting up of new institutions by central and state governments and the private sector. The number of institutions grew by over 40% from 33,057 to 46,446. By the end of the Eleventh Year Plan, the country had 645 degree awarding institutions, 33,023 colleges affiliated to 174 universities and over 12,748 diploma-granting institutions. Table 2 provides a snapshot of the growth of institutions in the Eleventh Plan. It's important to note that the increase in institutional capacity exceeded growth in enrolments suggesting that enrolment per institution, which was already low at the start of the Eleventh Plan, has been further reduced. This indicates that a further expansion of capacity needs to take place without creating new institutions and many institutions, which currently have very low enrolments, will need to expand enrolments during the Twelfth Plan.

Growth in private institutions has been significant during the Eleventh Plan period, with 98 private state universities, 13 private deemed universities, 6,335 private colleges, and 2,321 private diploma institutions being set up during this period. While a majority of them offer professional or vocational programs almost exclusively, a large number of general arts, commerce and science colleges; and a few comprehensive multidisciplinary universities have also been established in the private sector in recent years.

Table 3: Growth of Institutions in the Eleventh Plan

Category	2006-07	2011-12	Increase	Growth Rate (%)
Central Institutions				
Degree Awarding Institutions	75	138	63	13.0
Colleges	58	69	11	3.5
Diploma institutions	14	24	10	11.4
Sub total	147	231	84	9.5
State Institutions				
Degree Awarding Institutions	253	316	63	4.5
Colleges	9,500	13,024	3,524	6.5
Diploma institutions	2,151	3207	1,056	8.3
Sub total	11,904	16,547	4,643	6.8
Private Institutions				
Degree Awarding Institutions	80	191	111	19.0
Colleges	13,706	19,930	6,224	7.8
Diploma institutions	7,220	9,541	2,321	5.7
Sub total	21,006	29,662	8,656	7.2
Total	33,057	46,446	13,383	7.0

Source: MoHRD, UGC

During the Eleventh Plan, the nation has recognized and responded to the rising demand for higher education. As a result, enrolment has increased in government as well as private institutions both at the degree and the diploma levels. Table 3 provides the higher education statistics for the years 2006-07 and 2011-12, enrolment growth and the compound annual growth rate (CAGR).

Gross Enrolment Ratio or GER, (also referred to as Gross Attendance Ratio in the National Sample Surveys) is often used to measure higher education access. GER is the total enrolment in higher education (both degree and diploma programs) as a percentage of the population in the eligible age cohort of 18-23 years⁶. Under this definition, the GER for higher education in India has increased from 13.1% in 2007-08 to 15% in 2011-12.

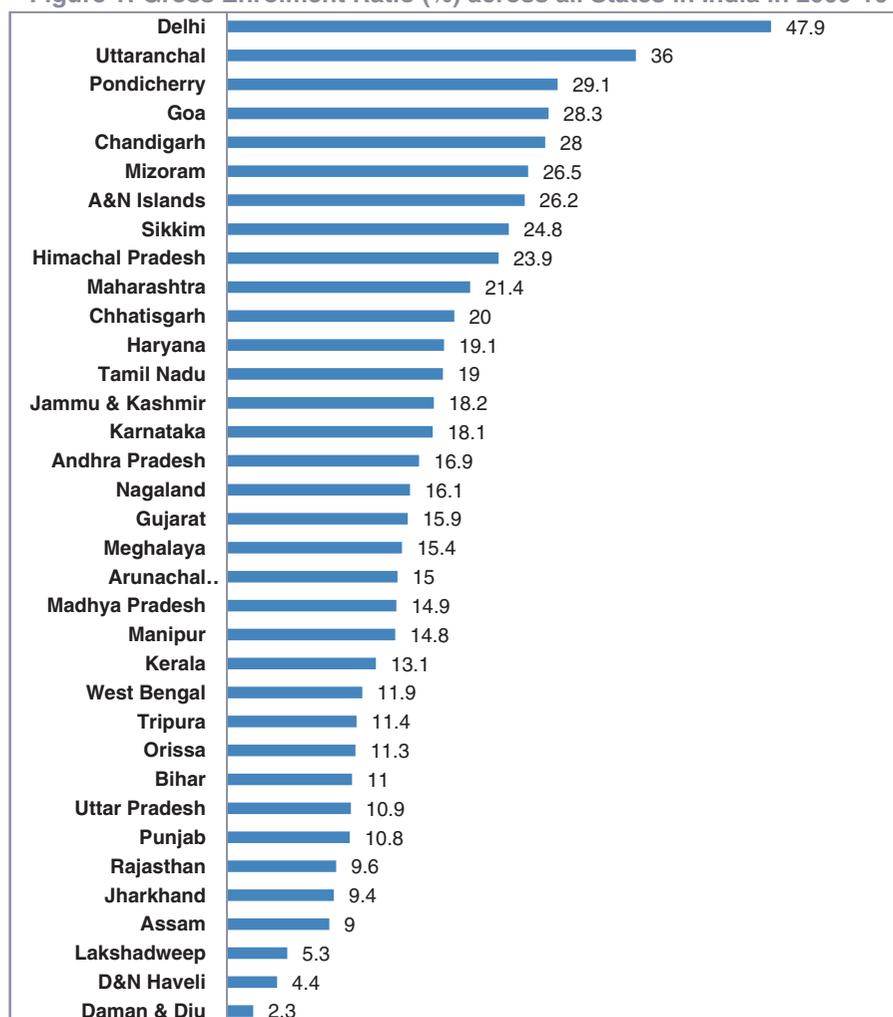
⁶ Globally, enrolment in the 18-22 age cohorts is used to measure the GER. Using the global definition GER increased from 15.2% in 2008-08 to 20.2% in 2011-12.

Even though our higher education system is one of the largest in the world, the GER is far below the world average. The national target was to increase the GER to 15% by the end of the Eleventh Five Year period (2011-2012), which has been achieved, and 30% by 2020. While this goal requires higher capacity for intake, it also requires steps to improve access to higher education across gender and different social groups, and to bridge the rural-urban divide in order to ensure more equitable outcomes in educational participation.

Increased enrolments in the Eleventh Plan have enabled Indian higher education to cross the threshold of 15% GER, moving the country from an 'elite' to a 'mass' higher education system. Despite this growth, the unmet demand for access to higher education remains significant, indicating that a further expansion of access to higher education is required.

Even though GER at the national level is 20%, there are wide inter-state variations. Delhi, Chandigarh and Puducherry, which attract a large number of students from outside their states, have GERs exceeding 25% while states like Bihar, Jharkhand, Assam, Rajasthan, Odish and West Bengal have significantly lower GERs as can be seen in Figure 1. This suggests a need for state-specific strategies in addressing issues of expansion of higher education during the Twelfth Plan period.

Figure 1: Gross Enrolment Ratio (%) across all States in India in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

Table 4: Growth of Enrolment during the Eleventh Year Plan (lakh)

Category	2006-07	2011-12	Increase	CAGR (%)
By type of institutions				
Government	68.07 (44.15)	84.90 (42.03)	16.83	4.5
Central	3.46 (2.25)	5.10 (2.52)	1.64	8.1
State	64.61 (41.90)	79.80 (39.51)	15.19	4.3
Private	86.14 (55.86)	117.10 (57.97)	30.97	6.4
By degree / diploma				
Degree	133.32 (86.46)	169.68 (84.00)	36.36	4.9
Diploma	20.89 (13.55)	32.33 (16.00)	11.32	9.1
Total	154.21	202.00	47.80	5.6

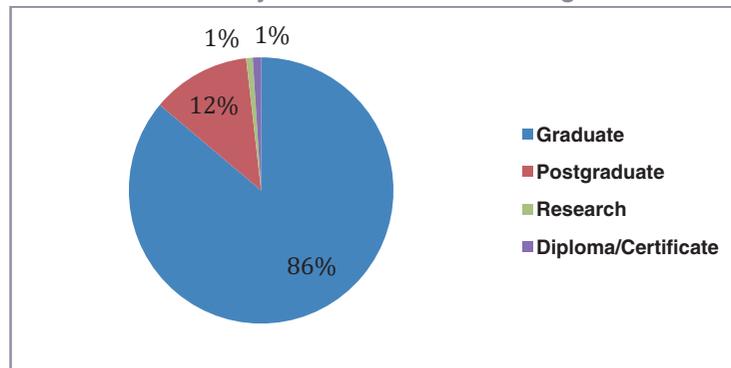
Source: UGC, AICTE, NCTE and INC

Note: Figures in parentheses are percentage of total for the year.

The state of Tamil Nadu has the maximum number of degree awarding institutes (9.3%), closely followed by Uttar Pradesh (9.14%) and Maharashtra (6.94%). These three states constitute over half the number of colleges in the country with 53.46% of all colleges situated in these states thereby making them the hubs for higher & technical education. However it must be noted that these states are also among the most populous states in the country with 31.73% of the population residing in these 3 states alone. Although Maharashtra and Tamil Nadu have GERs higher than the national average, at 21.4% and 19% respectively, the number of potential students without access to higher education is still high.

During the academic year 2010-11, among the students enrolled for higher education in India (across undergraduate, postgraduate and doctoral programs), the maximum number of students are enrolled in undergraduate programs (86%). 12% of the total number of students were enrolled in post graduate programs. The lack of focus on research in India is reflected in the fact that only 1% students were pursuing research in various areas as seen in Figure 2 below.

Figure 2: Students Enrolment by Level of Education in Higher Education in 2010-11



Source: Higher Education at Glance, UGC, 2010-11

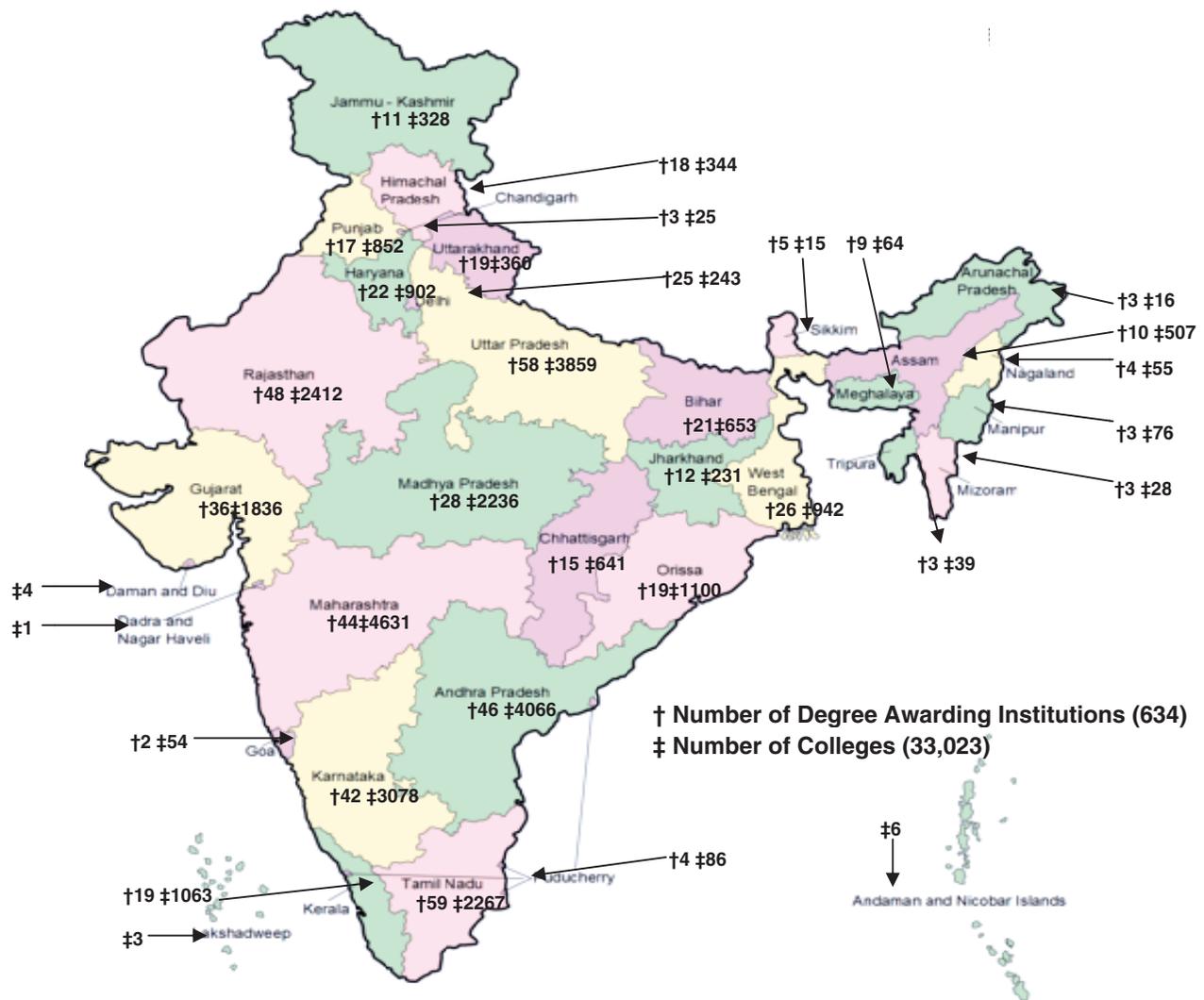
The total enrolment across the various faculties has increased at a rate of 5.6% between 2007-08 and 2011-12. Among the various faculties, the maximum growth in enrolment has been seen in the faculties of engineering (15.2% growth), followed by teacher education (10.3%) and medicine, nursing & pharmacy (9.9%). As on 2011-12, the maximum students have been enrolled in faculty of arts (30.61%) followed by engineering (25.26%).

Table 5: Growth of Enrolment by Field of Study during the Eleventh Plan (lakh)

Faculty	2007-08		2011-12		Increase	Growth Rate (%)
	Total	%	Total	%		
Arts	59.3	38.45	61.78	30.61	2.48	0.8
Science	27.37	17.75	31.27	15.49	3.9	2.7
Commerce & Management	24.41	15.83	29.87	14.8	5.46	4.1
Education	7.32	4.75	11.95	5.92	4.63	10.3
Engineering	24.14	15.65	48.96	24.26	24.82	15.2
Medicine, Nursing & Pharmacy	6.86	4.45	10.91	5.41	4.05	9.9
Agriculture & Veterinary Science	1	0.65	1.21	0.6	0.21	3.9
Law	2.69	1.74	3.27	1.62	0.58	2.4
Others	1.11	0.72	2.74	1.29	1.63	19.8
Total	154.21	100.00	202	100	47.65	5.6

Source: MoHRD, UGC

Figure 3: State Wise Degree Awarding Institutions & Colleges



Initiatives in Higher Education

During the Eleventh Five Year Plan, several initiatives to address the concerns of quality, equity and access were designed and implemented. These initiatives were related to faculty development, technology usage, academic and governance reforms and accreditation. A brief about these initiatives is given below:

- 1. Faculty Initiatives:** Several measures were taken during the Eleventh Plan to address faculty shortages, including:
 - Increasing the retirement age for faculty to 65 with provision for further extension to 70.
 - Institution of several fellowship and scholarship schemes for MPhil and PhD programmes.
 - A faculty re-charge scheme to enable increased availability of young faculty.
 - An initiative to enlist professionals and experts from outside academic institutions as adjunct faculty or scholars-in-residence.
 - A program for post-doctoral fellowships for Indian scholars to augment faculty resources, which will begin operations during the Twelfth Plan.

- 2. Technology Initiatives**
 - The National Mission on Education through ICT (NME-ICT) was launched during the Eleventh Plan. Under this initiative, 392 universities and 18,374 colleges were provided broadband connectivity.
 - On-going initiatives for creation of e-content were strengthened and new initiatives were taken up. Virtual labs were developed for science and engineering and are currently being rolled out. Enterprise resource planning software for administrative and financial management of institutes and learning management system, both using open source software have been developed and are being tested by a number of institutions.
 - A low-cost computing cum access device “Aakash” was developed and is being currently tested for large-scale deployment. Overall, an investment of Rs.1,472 crore was made on this mission during the Eleventh Plan.

- 3. Quality Initiatives**
 - The first phase of the three-phase “Technical Education Quality Improvement Program (TEQIP)” with World Bank support was conducted from 2002 to 2009. With an investment of Rs.1,378 crore the program covered 127 engineering institutions. Phase-II of TEQIP (2010-2014), which extends into the Twelfth Plan, would cover another 180-190 institutions.
 - Evaluation of the first phase has clearly shown a marked improvement in placement of graduates, more capacity in postgraduate and doctorate program and improved research performance.

- 4. Governance, Regulatory and Financial Initiatives**
 - In order to promote interdisciplinary teaching and research both at the UG and PG levels, 417 departments of universities/colleges were provided financial support of up to Rs. 60 lakh during the Eleventh Plan.
 - A few states adopted the semester system for their institutions and several universities most notably, University of Delhi, have shifted to the semester system. While institutional accreditation through NAAC and program accreditation through NBA gained momentum during the Eleventh Plan, the coverage is still small. Only about one-third (167 out of 516) eligible universities and one-fifth (4,529 out of 22,500) eligible colleges have been accredited so far.

Twelfth Year Plan Expansion Initiatives

While the initiatives taken up during the Eleventh Five Year Plan have been successful to meet the pre-decided goals to an extent, it is imperative that the foundation laid upon is further built during the Twelfth Five Year Plan. The below section details the various proposed initiatives to be taken up during the 12th Five Year Plan. The Twelfth Year Plan initiatives have been designed to implement strategic objectives to meet the various issues and challenges currently plaguing the Indian higher education system. As part of this process, initiatives for enrolment expansion that were taken up during the Eleventh Plan would be reviewed for their impact and continued with necessary modifications as may be required. The specific major Twelfth Plan initiatives are as follows:

1. Development of Central Institutions as Quality-leading Institutions

- It has been planned to increase the enrolment in central institutions from Rs 5 lakh to Rs 10 lakh. The central institutions, which have been set-up during the Eleventh five-year plan, would be supported to reach their critical size.
- Old and established central institutes will be given investments for campus redevelopment to increase their capacity and to build state-of-the-art facilities as per international standards. Expansion of institutes through multiple campuses will also be encouraged to enable economies of scale and institutional efficiency.
- Up gradation of several central institutions has been planned. These include the conversion of IT-BHU and ISM Dhanbad to an Indian Institute of Technology, BESU Kolkata to Indian Institute of Science Engineering and Technology. NIFFT Ranchi would also be given the adequate support to upgrade itself into a premier institute for forging and foundry technology.
- New campus development to be done through engineering, procurement and construction (EPC) turnkey contracts at fixed cost and completed in fixed time. Some of the basic infrastructure such as students' hostels, staff housing, sports facilities, technology infrastructure, convention centre, and guest houses in central institutions will be developed through public-private partnerships.

2. Strategic Support for State Higher Education

- Currently, the central level funding for state higher education is small, and its reach is limited with limited impact, primarily due to poor coordination, excessive bureaucracy, and low levels of monitoring. During the Twelfth five-year plan, it has been decided that state higher education would be provided significantly higher central funding.
- It has been proposed to disburse central government funds on a state specific basis, with system wide planning to gain from the synergies between the state and central spending. Such a move is essential to ensure efficient intervention to the specific needs of each state, and to strategically use central funds as a tool to address equity issues and improve quality at the state level.
- The size of the Indian higher education system necessitates the management of funds at a central level for effective planning and coordination. It has been proposed to link the central funds to academic, administrative and financial reforms of the state higher education.

3. Quality Private Growth

- The expansion in higher education during the Eleventh Five Year Plan was led by the private sector, which currently accounts for nearly 60% of the total enrolment. The private sector will be encouraged to establish larger and higher quality institutions in the Twelfth Plan.
- It has been proposed to re-examine the 'not-for-profit' status in higher education, so as to allow the entry of for-profit institutions in select areas, with the necessary vision to ensure quality and equity.
- Innovative methods to infuse more private capital in the higher education sector without changing its 'non-for-profit' status will also be evaluated. Some of the proposals are as follows:

- To provide private institutions access to long-term and low-interest rate debt by giving 'infrastructure' status to higher education.
- To allow all types of institutions of higher education to be established under section 25 of the Companies Act.
- To permit conversion of educational trusts and societies to Section 25 companies seamlessly.
- To permit educational infrastructure companies to build and lease physical facilities to academic institutions with lease revenues subject to the same tax treatment as housing finance companies.
- To permit educational trusts, societies and companies to raise funds from the capital market by issuing bonds and shares without changing their tax status.
- To relax FCRA provisions for investments by NRIs in not-for-profit education.
- To provide education companies tax exemptions in line with those enjoyed by IT companies.
- In addition, support to private institutes would be given by the government in the following three ways:
 - Access to public student financial aid would be extended to accredited private institutions
 - Private institutions would also have access to research funding on an equal footing with public institutions
 - Private institutions would benefit from various long-term quality enhancement efforts including enhanced use of technology and faculty development initiatives that are taken up during the Twelfth Plan.
- New models of Public Private Partnerships (PPP) in higher education will also be encouraged during the Twelfth Five Year Plan, particularly in the establishment of research and innovation institutions. Based on the Eleventh Plan experience of setting up Indian Institutes of Information Technology (IIITs) and polytechnics in PPP mode, a framework will be put in place to encourage the spread and growth of PPP models, increase and improve resource utilization and enhance the quality of education in such institutions.

4. Expansion of Skill-based Programs

- With a view to produce employable talent, special emphasis will be placed on the expansion of skill-based programs in higher education during the Twelfth Five Year Plan. A framework for setting up community colleges is currently under development and has been endorsed in principle by the Central Advisory Body on Education.
- These community colleges would serve multiple needs of the community as follows:
 - Providing career oriented education and skills to students interested in directly entering the workforce
 - Providing contracted training and education programs for local employers
 - Providing remedial education for high school graduates who are not ready to enrol in traditional colleges, including providing them a path to transfer to three or four year institutions; offer general interest courses to the community for personal development and interest.
- The on-going UGC initiative that supports career-oriented add-on courses in traditional universities and colleges and the IGNOU's scheme of community colleges will also be reviewed.
- Technical support of Philanthropic Foundations and the Indian Centre for Research and Development of Community Education (which has 230 community colleges in its fold) would be taken to build on the current initiatives and create a robust framework for skill-based education within the higher education sector in the country.

5. Creation of a Comprehensive Student Financial Aid Programs

- To increase the number and scale of scholarships, public spending on student financial aid would be enhanced. It has been planned to consolidate all the student financial aid schemes

under the Ministry of HRD under a single 'Student Financial Aid Program' in order to strengthen the administration of these schemes.

- In addition, a student loan guarantee corpus would be created under the management of a Credit Guarantee Trust to ensure non-defaulting of student loans. This will protect lending institutions from student default, thus encouraging them to participate actively.

6. Launch of a National Initiative on Inclusion of Persons with Disabilities

- All the current and future initiatives for inclusion of persons with disabilities will be covered under a single program 'National Initiative on Inclusion of Persons with Disabilities'. This initiative would include the following:
 - Provision of support and policy direction to higher educational institutions and services to make them disabled-friendly and create model universities and colleges at the State and district levels.
 - Usage of new technologies effectively to address challenges of learning for persons with disabilities through various access devices and high quality learning material.
 - Creation of curricula, and provide research and training related support to enhance awareness, knowledge and sensitivity about disability issues.

7. Launch of a National Initiative for Quality Higher Education in Indian Languages

- A new national initiative ('Bhasha' Initiative) has been proposed to increase the quality of education and quality of teaching learning, by conducting classroom delivery in Indian languages.
- Under this initiative, the aim is to promote Indian languages with the aim to enhance the teaching-learning process and to promote research and publication in Indian languages in colleges and universities.

8. Other equity-related Initiatives

- To ensure equity in the higher education system, focused efforts would be executed to increase the enrolment of students from disadvantaged communities by strengthening the current remedial teaching programs with teaching/ coaching modules, preparatory training and special coaching for entrance examinations to highly sought-after courses and institution.
- Model colleges and polytechnic institutes will be established in districts with low Gross Enrolment Ratio, and Fifth Schedule Districts. Targeted schemes will be launched to attract students from vulnerable communities.
- All equity-related schemes in higher education across different ministries under the Central government would be brought under one umbrella, namely "Equal Opportunity for Higher Education Initiatives". These would be coordinated by the Planning Commission to effectively monitor them and also take into state-level initiatives.

9. National Mission on Use of ICT in Higher Education

- There were several initiatives, which were undertaken during the Eleventh Five Year Plan in the area of ICT in higher education, which will be re-looked at during the Twelfth Five Year Plan, with an objective to make these programs more effective, efficient and sustainable. These include:
 - **Digital Infrastructure Initiatives:**
 - Up gradation of connectivity for universities and colleges to 10GBPS and 1 GBPS respectively
 - Building of computer labs in all institutes as required
 - Provision of smart classrooms
 - Setting up of classrooms with interactive video-conferencing facilities linking meta-universities and affiliating universities

- Setting up of 100 server farms for cloud computing

- **Content Initiatives:**

- Development of virtual labs, to promote creation of user-generated content
- Establishment of a single national level consortium for propriety content
- Creation of open-access content repositories including interoperable institutional repositories
- Creation of platforms to facilitate user generated content and related networks
- Creating of a single portal for access to all content
- Continuation of current initiatives of DTH channels to telecast digital educational videos

- **Governance Initiatives:**

- Rollout of institutional ERPs
- Computerization of examination wings of all universities
- Provision of robust online linkage of all affiliating universities with their affiliated colleges
- Creation of online data collection system
- Library automation
- Automation of grants management

- **Training and Capacity Building Initiatives:**

- Training of faculty in instructional design content creation;
- Implementation of massive capacity building efforts for adopting technology-mediated pedagogy in the classrooms

10. Technical Education Quality Improvement Programme (TEQIP)

- The second phase of the TEQIP would be continued during the Twelfth Five Year Plan and the Phase 3 would be launched. Under Phase 3, the focus would be on supporting state technical universities and scaling-up sector-wide programmes. Architecture and town planning would be included in Phase 3 of TEQIP. Separate and independent initiatives should be taken up for improving quality in other fields like management education, pharmacy education, and hotel management.

11. Strengthening of Accreditation System

- The management of such a large higher education system becomes tougher without the presence of a systematic and efficient accreditation system. While the processes have been initiated, during the Twelfth Five Year Plan, the accreditation system will play a central role in the regulatory arrangements for higher education. Both NAAC and NBA would act as accreditation bodies to order to facilitate student mobility and academic articulation.
- Currently, it is being considered to establish a new accreditation law that provides for accreditation by independent agencies registered with a national accreditation authority. In addition to the national accreditation bodies, Indian institutes would also be encouraged to obtain program specific accreditation from credible international accrediting bodies.

12. Capacity and Capability Building of Faculty

- Development of quality teachers in adequate numbers is a strong concern area across all faculties of higher education. The number of faculty is required to be doubled from the current Rs 8 lakh to Rs 16 lakh during the 12th Five Year Plan to cater to the student demand. This requires an increase in capacity at both the postgraduate and doctoral levels. Competition from other sectors is acting as a strong deterrent for attracting talent for teaching.
- With a view to develop Indian faculty and provide global exposure, it is proposed to launch an International Faculty Development Program, under which Indian universities would

organize 2-4 week summer workshops conducted by leading international teachers and researchers. About 40-50 such workshops would be conducted annually. In addition, Indian faculty would also be sent for 3-6 months to the best international universities for training and mentoring.

13. Improving India's academic research foundation

- The quality of Indian research has gradually improved over the last decade. India's publications have accumulated 16,10,511 citations with 5.77 citations per paper. However, the figure is still less as compared to the world average with 10.81 citations per paper. During the year 2009, India stood eleventh in terms of the number of papers published, seventeenth in terms of the number of citations and thirty fourth in terms of number of citations per paper (as per the ISI Web of Science)
- Despite such achievements, Indian higher education continues to have limited research capacity. Low levels of funding and segregation of the country's research & development institutions from universities and colleges have resulted in large-scale migration of students interested in pursuing research to other developed nations. A reflection of the poor research foundation in India is the fact that none of the Indian universities have figured amongst the top 200 universities in the Times Higher Education Rankings or the Academic Ranking of World Universities for the year 2011.
- To strengthen the research foundation in India, the following initiatives have been proposed to be implemented during the 12th Five Year Plan:
 - **Promotion of multi-disciplinary research universities:** Multi-disciplinary universities engaged in cutting edge research and top quality teaching would be promoted during the 12th Five Year Plan. A legislative framework to set up such universities termed 'Universities for Research and Innovation' is currently under consideration. These universities could be either public universities, private universities or could be established as public-private partnerships. It has been targeted to establish 20 such universities by the end of the 12th Five-year Plan.
 - **Centres of Excellence:** During the 12th Five Year Plan, 20 Centres of Excellence (CoE) would be developed into world-class research centres within existing universities and institutions of national repute. These centres would be engaged in conducting world-class research, focusing on areas in alignment with the long-term strategic interests of the country. In addition to these 20 CoEs, 50 centres for training and research in areas of science and technology would also be established.
 - **Promotion of collaborative research:** Research-based Inter University Centres (IUCs) in different areas would be established during the plan period. The areas of focus of these IUCs would be inter-disciplinary in nature and of strategic importance to India, involving both basic and applied research. To foster inter-disciplinary research and enhance research training, it is planned to establish 10 Inter-Institutional Centres (IICs). These centres would be established either as broad partnership between multiple research-oriented institutes or program specific partnership between funding agencies and research institutes.
 - **Excellence clusters and networks** would also be established by creating linkages between national laboratories/ national research centres and the universities. Similarly, local alliances would be created in different cities and interaction across institutions in such hubs would be enhanced through a structured, highly interactive collaborative framework and institutions would be incentivized to collaborate and open their courses to each other's students.
 - **Establishment of nodal agency to promote industry-academia linkage:** To further enhance the industry-academia interface, a nodal agency would be established to promote and facilitate industry-higher education collaboration. An independent not-for-

profit organization, the nodal agency would be founded by contributions from industry and government and will constitute of business and higher education leaders.

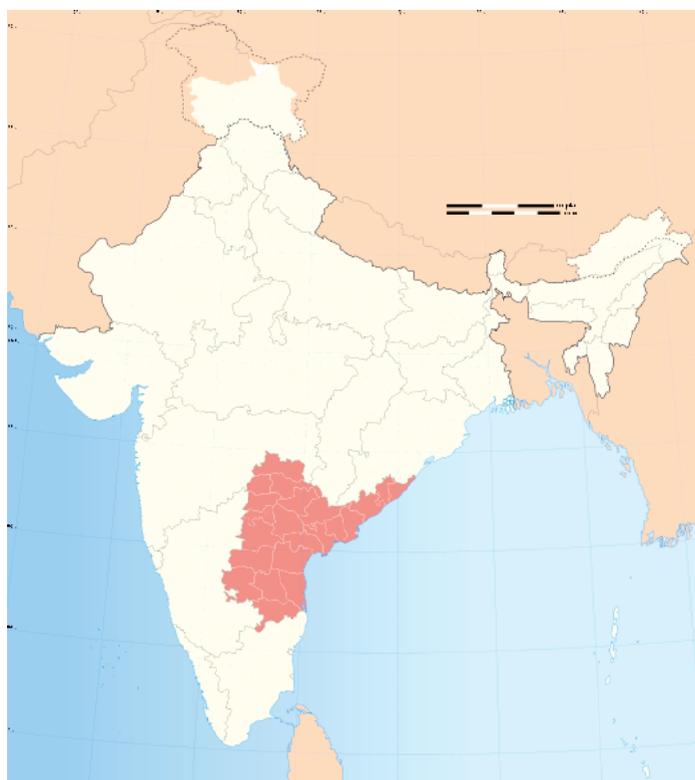
- **International research collaborations:** During the twelfth plan, efforts will be made to strengthen international research linkages leveraging the 22 million strong India diaspora.

14. Multi-level Governance

- **New legislative frameworks:** To promote institutional autonomy, foster academic reforms and to provide a boost to cutting edge-research, several new legislative frameworks are being considered currently. These include:
 - The Prohibition of Unfair Practices in Technical Educational Institutions, Medical Educational Institutions and Universities Bill aimed at checking unfair practices relating to capitation fees and misleading advertising through mandatory disclosures by academic institutions;
 - The National Accreditation Regulatory Authority for Higher Educational Institutions Bill that seeks to make accreditation by independent accreditation agencies mandatory for all higher educational institutions;
 - The Education Tribunals Bill to create a central tribunal and state level tribunals for expeditious resolution of disputes relating to institutions, faculty, students and regulatory authorities;
 - Foreign Educational Institutions (Regulation of Entry and Operations) Bill to enable quality foreign education institutions to enter and operate in India and regulate operations of foreign education providers; and,
 - National Commission for Higher Education and Research (NCHER) Bill to create an umbrella regulatory authority subsuming the UGC, and current regulators, AICTE, NCTE and DEC.
- **Standardization of State Level Governance:** Currently, there is a wide variance in the legislative frameworks across the states. During the 12th Five Year Plan, all states will be encouraged to review the existent legislative and governance structures to tackle the unique challenges that each of the states face in higher education.
- **Institutional Level Governance:** For the development of institutes at an individual level, it is imperative that governance and management of HEIs are tied closely to their mission. The current practice of treating all institutions alike needs to be abandoned and standardization of education and processes should be moved away from, to allow for greater diversity. Institutions of higher education would be categorized, with each category of institutions being treated differently.

- 15. **Development of Database on Higher Education:** Unlike the developed nations, there is very little credible data for evidence-based policymaking in India currently. It is highly imperative that an efficient database on higher education in the nation is maintained with facts, figures and trends. Currently, the central government is in the process of conducting an All India Survey on higher education, which would provide useful data and help create a comprehensive management information system.

State Focus: Andhra Pradesh



State Profile

Capital	Hyderabad
Total Area (in sq. km.)	2,75,045
Total Population	8,46,65,533
Population Density (per sq. km.)	308
Number of Districts	23
Literacy Rate (%)	67.66
Sex Ratio (per 1,000 males)	992
State Domestic Product, 2010-11 (In Rs. Crore)	5,10,421
Per capita income, 2010-11 (Rs.)	60,458

Introduction

The state of Andhra Pradesh (AP) is located on the south-eastern coast of the country; it is one of the largest states in India in terms of area and population. The state ranks 4th in terms of area and 5th in terms of population among the states of India. The state shares a border with Maharashtra, Chhattisgarh and Odisha in the north, the Bay of Bengal in the east, Tamil Nadu in the south and Karnataka in the west. Historically the state is known as the “Rice Bowl of India”⁷. Andhra Pradesh has the second-longest coastline of 972 km (604 mi) among the states of India.

Rural Andhra Pradesh is primarily agrarian in nature with more than 3/4th of its workforce engaged directly in agriculture sector. Andhra Pradesh is the 3rd largest economy in India in terms of Gross State Domestic Product. Andhra Pradesh’s economic growth path has been commendable especially during the last 3 decades. Starting from a relatively lower per capita income, Andhra Pradesh has surpassed the national average about a decade ago.

Although the state’s performance is impressive in terms of economic growth, however when compared to the rest of the states in India, its overall development has been moderate. Social sector indicators such as literacy and skills have not been impressive enough on a comparative scale.⁸

Universities and University Level Institutes

The higher education landscape of Andhra Pradesh is characterized by 32 state universities, 7 deemed universities and 3 central universities. Andhra Pradesh along with Bihar, Maharashtra, Tamil Nadu and West Bengal are the only states of India, which do not have any private universities. In addition to these universities, there are two Institutes of National Importance in the state. Andhra Pradesh has the maximum number of state universities, accounting for nearly 12% of all state universities in the country in 2011-12. The state also has 7.6% of all universities and university level institutions in the country.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Andhra Pradesh (2011-12)	India (2011-12)
State University	32	285
Private University	0	112
Institution of National Importance	2	39
Deemed University	7	129
Central University	3	40
Total	46	605

Source: UGC

The state capital of Hyderabad, the 4th most populous city in India is a major higher education and research hub with 12 universities situated in it. The oldest state university in Andhra Pradesh is the Osmania University, which was established in 1918 (even before the establishment of the Andhra University in 1926, which is the 2nd oldest university in the state). Osmania University has been tagged with the title of “University with Potential for Excellence” status. The university is particularly known for its faculty of Engineering and Technology, Law, Arts, Sciences, Commerce and Management departments.

One of the central universities of the state, the University of Hyderabad is also located in the state capital and is one of the leading public research universities in India thus it is primarily devoted to

⁷ “The rice bowl of India may see a crop holiday on bumper harvest - Economy and Politics”. Livemint.com. 22 Aug 2011.

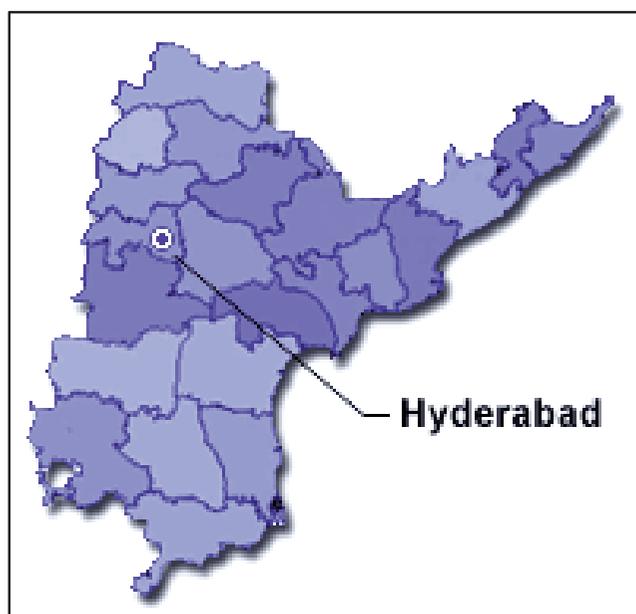
⁸ Approach to the 12th Five Year Plan-Andhra Pradesh

postgraduate and doctoral studies. The Indian Institute of Technology (IIT) – a premier engineering and technology institute is located in the capital as well and is one of eight new IITs established by the Ministry of Human Resources & Development (MoHRD). The state also has a National Institute of Technology (NIT) in Warangal and Indian Institute of Information Technology (IIIT) in Hyderabad, which is an Institute of National Importance as well as a deemed university. The first central university of the state was the English and Foreign Languages University (EFL University), which was established in 1958, and the Hyderabad campus of EFL University, is the oldest of its four campuses located in the country.

The National Academy of Legal Research & Study (NALSAR) is located in Shamirpet, Hyderabad. The university is fully residential and conducts teaching in law and allied disciplines. It is considered the Best Law College⁹ in the country and offers programs at both undergraduate and postgraduate levels.

Warangal is a city with a population of approximately 10 lakh and it has 2 state universities, namely Kakatiya University- a general university established in 1976 and Kakatiya Institute of Technology & Science – a technology and science state university. The National Institute of Technology is located in Warangal and is a leading public engineering institute. It was formerly a Regional Engineering College (REC) and was one of the first seventeen RECs established by the prime minister in 1959. Today it is an Institute of National Importance awarding Bachelor's, Master's and Doctoral degrees in engineering, technology, basic sciences and management.

Figure 1: Location of Premier Institutes in Andhra Pradesh



- Andhra University
- Damodaran Sanjivayya National Law University
- Gandhi Institute of Technology & Management
- National Institute of Technology
- Kakatiya University
- Kakatiya Institute of Technology & Science
- Osmania University
- University of Hyderabad
- International Institute of Information Technology (IIIT)
- National Academy of Legal Research & Study (NALSAR)
- Indian Institute of Technology (IIT)
- Maulana Azad National Urdu University
- English & Foreign languages University
- Dr. N.T.R. University of Health Sciences
- KL University
- Sri Venkateswara University
- Sri Padmavati Mahila Visvavidyalayam

⁹ Outlook Magazine ranking of Best Professional Colleges in India, 2012

Table 2: Distribution of Government and Private Sector Colleges by Faculty Type in 2010

No.	Faculty	Government Sector	Private Sector	Total
1	Engineering	23	696	719
2	Business/ Management	38	933	971
3	Education	14	601	615
4	General Education	249	1,750	1,999
	Total	324	3,980	4,304

Source: Higher Education Department, Govt. of Andhra Pradesh

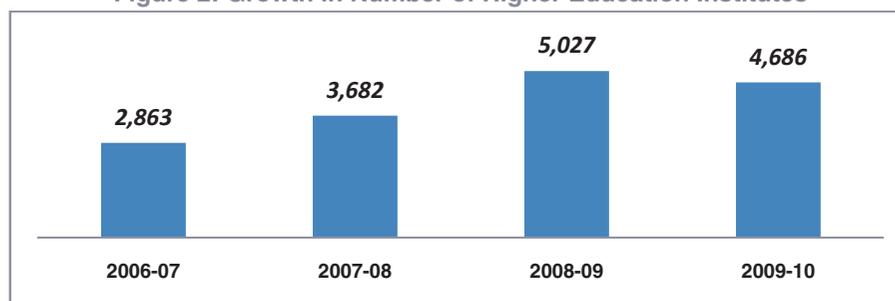
The universities of Andhra Pradesh offer a wide variety of specializations in fields of General Studies, Architecture & Fine Arts, Distance Education, Local & Foreign Languages, Healthcare, Information Technology, Legal Studies, Science & Technology, Management, Vedic Studies and Veterinary Studies. They are spread across cities of Andhra Pradesh and a majority of them are in Anantapur (2), Hyderabad (12), Vishakhapatnam (3), Vijayawada (2), Tirupati (5), and Warangal (3).

Overall the state of Andhra Pradesh has 4,304 colleges in the faculty of Engineering, Business/Management, Education and General Education. The majority of them are private sector colleges, with 92.4% of all colleges belonging to the private sector and a nominal 7.6% colleges belonging to the Government sector. This large gap is primarily due to large number of private engineering and management colleges with over 95% of such colleges belonging to the private sector and a mere 5% belonging to the government. The situation is marginally better in the faculty of general education.

Key Higher Education Indicators: Institutes & Enrolment

The number of higher education institutions in Andhra Pradesh grew at a compounded annual growth rate of 17.65%, between 2006-07 and 2009-10. Even though the CAGR of 17.65% is above the national average of 7%, the growth in the number of institutes has not been steady. The number of institutes dipped from 5,027 during 2008-09 to 4,686 during 2009-10, showing a sharp fall of 7% over the previous year.

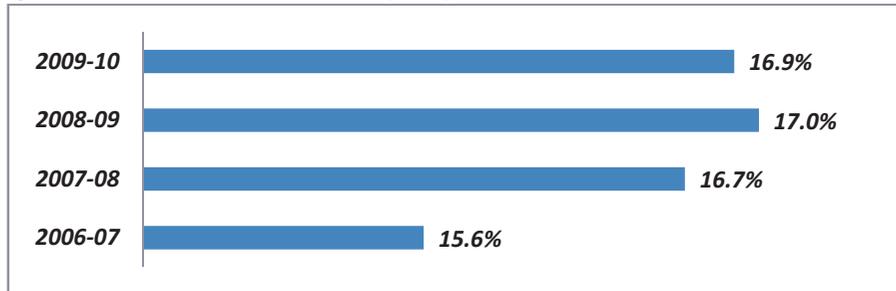
Figure 2: Growth in Number of Higher Education Institutes



Source: Statistics of Higher & Technical Education, MoHRD 2006-10

The Gross Enrolment Ratio (GER) of the state increased at a very slow pace between 2006 and 2010. The GER of the State of 16.9% is above the National average of 15% in 2009-10; yet the ratio needs to improve further to ensure access to higher education for the 18-24 year age group.

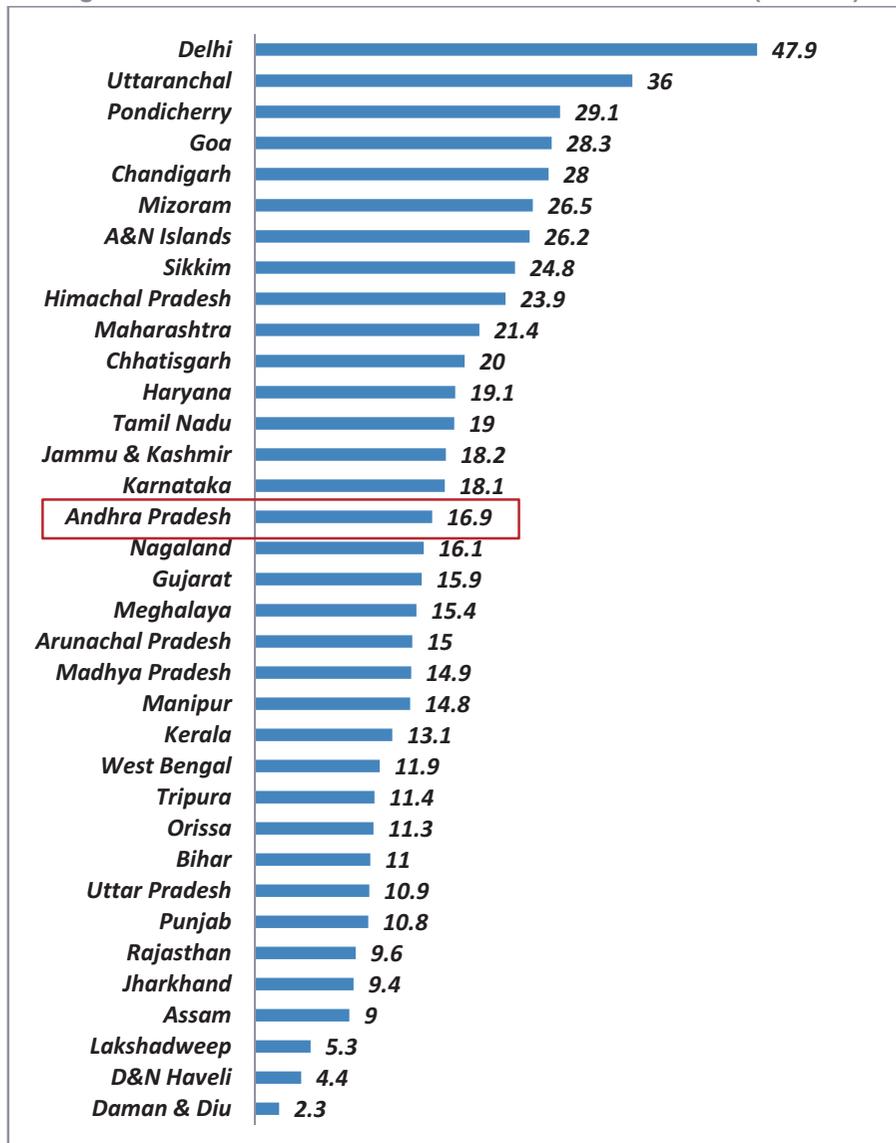
Figure 3: Gross Enrolment Ratio (GER) in the State between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MoHRD 2006-10

As shown in Figure 4, Andhra Pradesh has the 16th highest GER among all Indian States, with neighbouring states like Maharashtra and Chhattisgarh ahead of Madhya Pradesh.

Figure 4: Gross Enrolment Ratio across All States in India (2009-10)



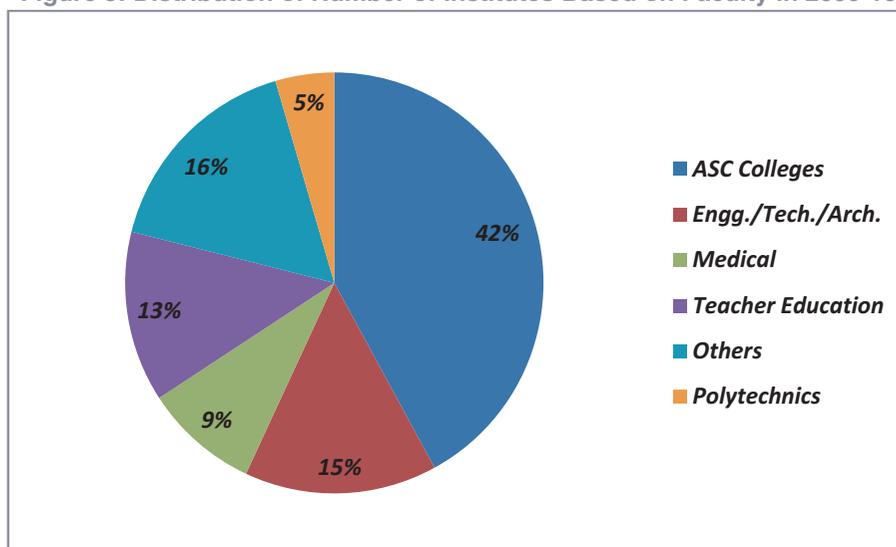
Source: Statistics of Higher & Technical Education, MoHRD 2006-10

The following sections present a description of the current higher and technical education scenario in the state. A brief description is given about the Industry and Employment landscape in the state and its link to higher education. The challenges facing the higher education sector in Andhra Pradesh have been analysed and the report concludes with the initiatives that have been undertaken to improve higher education in the state of Andhra Pradesh.

Growth in Higher Education Institutes and Enrolment

At the national level, the dominant programs that are offered in higher education are in the areas of arts, science and commerce (ASC) streams. A similar trend is seen in the state of Andhra Pradesh as well, with 42% of the total number of institutes offering programs in ASC streams. Institutes offering programs in the fields of engineering, technology, architecture & design (15%) and teacher education (13%) were the 2nd and 3rd most dominant in 2009-10

Figure 5: Distribution of Number of Institutes Based on Faculty in 2009-10

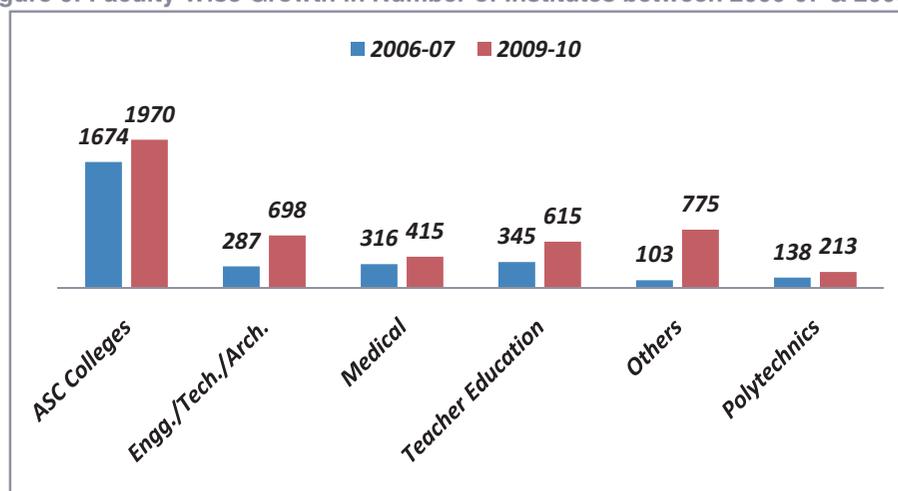


Source: Statistics of Higher & Technical Education, MoHRD 2009-10)

With regard to CAGR, the maximum growth in the number of institutes between the years 2006-07 and 2009-10 has been in the fields of Engineering, Technology, Architecture, with a CAGR of 34.08%; followed by Polytechnic institutes (CAGR of 15.4%) in technical higher education. Thus, there have been positive initiatives taken to promote Engineering in the state, the high growth could also be due to the high demand in Andhra Pradesh for engineering at both degree and diploma level¹⁰. The number of institutes offering programs in the area of Teacher Education (21.02%) and Medicine (9.41%) has also steadily increased. Although the number of ASC Colleges was the highest as compared to other colleges in both 2006-07 and 2009-10, the growth of ASC colleges was marginal at 5.52% between 2006 and 2010.

¹⁰AP stumbles as govt steers 'professional' course, Times of India, Aug 30th, 2012

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MoHRD 2006-10

Table 3: Degree Wise Growth in Number of Colleges/Institutes between 2004 & 2011 and College Intake in 2011

College/Institute Type	No. of Institutions		CAGR (%)	Intake in 2011
	2004	2011		
Engineering Colleges	236	710	20.19	3,05,846
Colleges Offering MBA	207	971	29.45	78,340
Colleges Offering MCA	271	713	17.53	50,148
Colleges Offering Pharmacy	45	290	36.50	26,155
Colleges Offering B.Ed.	304	615	12.49	65,943
Colleges Offering Law	38	48	3.98	9,564
Colleges Offering Medical	27	50	10.84	6,289
Colleges Offering UG Courses	1,295	2,101	8.42	NA
Colleges Offering PG Courses	420	701	8.93	NA
Colleges Offering Polytechnic	0	248	0	67,320

Source: Department of Higher Education, Government of Andhra Pradesh

As can be seen in Table 3, the maximum growth in CAGR terms has been witnessed by colleges offering Pharmacy degrees, which has increased at rate of 36.5% over a 7 year period, followed by colleges offering Masters in Business Administration (MBA) with 29.45% growth and the 3rd highest growth has been registered by Engineering Colleges, with 20.19% over a 7 year period between 2004 and 2011.

The maximum intake of students was in engineering colleges, with enrolment above 3 lakh. This is more than the intake of colleges offering MBA, MCA, Pharmacy, B.Ed, Law, Medical and Polytechnics combined, indicating that the field of engineering is the most preferred course of study in the state of Andhra Pradesh. It is interesting to note that the number of engineering colleges has increased almost three fold and MBA colleges have increased almost 4 fold between 2004 and 2011, indicating a very strong demand for these two faculties among the youth of Andhra Pradesh which is being met by the supply of such institutions in such a rapid manner over a 7 year period.

Colleges offering Medicine and Teacher Education have grown at a steady pace of 10.84% and 12.49% indicating an increasing demand of these two faculties at both undergraduate and

postgraduate level of study. The least amount of growth has been witnessed by institutes offering Law with a marginal growth rate of 3.98%, followed by Colleges offering undergraduate (UG) courses and postgraduate (PG) courses with CAGR of 8.42% and 8.93% respectively.

Table 4: Growth of Enrolment at Undergraduate (UG) & Postgraduate (PG) level in 2009-10

Faculty	2009-10				
	UG	UG (%)	PG	PG (%)	Total
Arts	1,24,009	82.14	26,957	17.86	1,50,966
Commerce	2,02,671	97.28	5,670	2.72	2,08,341
Science	2,77,587	77.26	81,718	22.74	3,59,305
Engg. /Tech./Arch./Design	3,94,186	99.25	2,975	0.75	3,97,161
Medicine	12,180	95.67	551	4.33	12,731
Agriculture & Allied	5,150	89.41	610	10.59	5,760
Mgmt/Hotel Mgmt/Travel Mgmt	0	0.00	40,791	100.00	40,791
Teacher Education	43,195	98.61	608	1.39	43,803
Law	4,970	88.80	627	11.20	5,597
Others	454	48.61	480	51.39	934
Total	10,64,402	86.86	1,60,987	13.14	12,25,389
Post School Diploma	1,83,970				
Post Graduate Diploma	128				

Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

As depicted in Table 4, across various faculties, the number of students enrolled at the undergraduate (UG) level (86.86%) is significantly higher than the number of students at the postgraduate (PG) level (13.14%) in 2009-10. Such a trend was seen in the faculties of Arts, Commerce, Engineering, Medicine, Agriculture, Teacher Education and Law. The faculty of Science had a balanced mix of enrolment at UG and PG level, with 77.26% at UG level and 22.26 at PG level respectively, as compared to other faculties in the state. It is to be noted that the faculty of Management had significant proportion of enrolment at PG level; however data at UG level was not available.

Maximum proportion of enrolment in the state is in the field of Engineering (32.31%), followed by the Science Stream (29.32%) and Commerce stream (17%). The least proportion of the total enrolment was in the faculties of Agriculture & its allied fields and Law with .47% and .45% respectively. Post School Diploma in the state had a higher number of enrolments with 1,83,970 students enrolled in 2009-10 as compared to 128 in Post Graduate Diploma Programs. Such a high number in Post School Diplomas depicts the interest that students have in job oriented courses once they graduate from high school in the state.

In terms of total enrolment, the maximum growth between 2007-08 and 2009-10 has been registered in the fields of Engineering, Technology, Architecture & Design (28.96%), followed by the Commerce stream with a marginal growth (3.39%). The streams of Medicine (-77.39%), Arts (-26.91%), Agriculture (20%), Management (-18.03%), Teacher Education (-16.84%) and Science (-13.04%) all registered negative growth between 2007-08 and 2009-10.

Table 5 also indicates the growth rate between UG and PG enrolment. The UG enrolment has declined by 7.93%, however the PG enrolment has grown at similar rate of 7.12% indicating a growing demand for PG courses in the state. The maximum growth at PG level has been recorded for the faculty of Medicine, followed by Management. Arts, Engineering, Medicine, Management and Law are the only faculties to register positive growth at PG level. Only the Commerce and Engineering streams have reported positive growth at UG level between 2007-08 and 2009-10. Overall the enrolment in higher education in the state has declined at 6.19% between 2007 and 2010, primarily

due to reduced enrolment at the UG level, especially in the faculties of Medicine, Management and Law.

Table 5: Faculty Wise Growth of Enrolment at UG and PG Level between 2007-08 and 2009-10

Faculty	UG + PG		Growth (%)		
	2007-08	2009-10	UG	PG	UG +PG
Arts	2,06,548	1,50,966	-33.05	26.48	-26.91
Commerce	2,01,516	2,08,341	3.98	-14.08	3.39
Science	4,13,169	3,59,305	-11.11	-18.99	-13.04
Engg./Tech./Arch./Design	3,07,982	3,97,161	28.69	78.36	28.96
Medicine	56,302	12,731	-78.34	747.69	-77.39
Agriculture & Allied	7,200	5,760	-21.58	-3.63	-20.00
Mgmt/Hotel Mgmt/Travel Mgmt	49,762	40,791	-100.00	140.12	-18.03
Teacher Education	52,670	43,803	-15.77	-56.16	-16.84
Law	10,054	5,597	-48.53	57.54	-44.33
Others	1,108	934	-38.98	31.87	-15.70
Total	13,06,311	12,25,389	-7.93	7.12	-6.19
Post School Diploma	67,402	1,83,970	172.94		
Post Graduate Diploma	1,897	128	-93.25		

Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

Quality of Institutes

In the latest institutions accredited by NAAC¹¹ under the new methodology in 2012, amongst the 13 universities assessed and accredited, 9 universities were given grade A (Very Good) and the remaining 4 were given grade B (Good). A total of 56 colleges in the state have been graded up to 2012, out of which more than 1/4th or 30% colleges have received the highest grade A (Very Good). Maximum number of colleges (55%) received B (Good) grade and the remaining 15% Colleges received C (Satisfactory) grade.

Table 6: Grading Pattern of Colleges Depending on the Number of Faculties

No. of Faculties (No. of colleges)	C	C+	C++	B	B+	B++	A	A+	A++	A 3 Star	A 4 Star
3 and above (including university college) (104)	-	1	1	25	25	27	22	-	-	1	2
2 faculty (07)	-	-	-	1	2	1	2	-	-	-	1
Single faculty (10)	-	-	2	1	3	2	1	-	-	-	1
Total	-	1	3	27	30	30	25	-	-	1	4

Source: State-wise Analysis of Accreditation Reports - Andhra Pradesh, NAAC

As reported by the NAAC in their state wise Analysis of Accreditation Report for the state of Andhra Pradesh, a total of 121 colleges of different faculties ranging from single, two and three above faculty were analyzed and graded. Maximum number of colleges was awarded B+ and B++ grade, followed closely by B grade and A Grade. Only 4% of all colleges graded under the star system are awarded A 3 Star and A 4 Star grade.

A+ is considered the Benchmark and all other grades are interpreted relative to the Benchmark grade and (B+ = B++) > B > A > C++ > C and so on is the order of the grading constituted by the NAAC.

¹¹National Accreditation and Assessment Council

Industry and Employment Scenario

Key Industries

Industrial sector in the state has gained momentum in the past few years with the proactive role of state with regard to effective policy implementation including single window clearance and incentives, establishing world class infrastructure and making power available at the cheapest industrial tariff, thereby realizing entrepreneurial energies in private as well as public sector. A positive mindset and increased skilled labour force across the industries played constructive role in this growth process.

The natural resources, policy incentives and infrastructure in the state are favourably suited for investments in major sectors such as drugs and pharmaceuticals, biotechnology, IT and ITeS, mines and minerals, textiles, leather and tourism. Andhra Pradesh is one of the foremost states to have developed sector-specific policies. Forming industrial clusters and developing infrastructure has been a key strategy of the state to attract investments in various industries¹². The department of Industries was set up with the objective of establishing Cottage and Small Scale Industries, Industrial Cooperatives and extending credit to artisans.

The State is committed to provide and promote world-class facilities like ports, airports, expressways, quality power supply, water supply etc. The State has provided a network of Industrial Estate (IEs) and Industrial Development Areas for locating industries at specific growth points. The Gas exploration in the Krishna Godavari basin raised scope for setting up of Petro-Chemical Complexes and a host of gas based industries. The following section gives a brief introduction to some of the key industries in the state.

1. Agri and Food Processing Industry

- A variety of agro-climatic conditions in the state make it conducive for growing a variety of horticulture crops such as fruits, vegetables, spices, tuber crops, plantation crops and floriculture.
- The state is one of the largest producers of rice in India. It is a leading producer of cash crops such as tobacco, groundnut, dry chilly, turmeric, oilseeds, cotton, sugar and jute.
- Prominent players in this sector are Cong Agra Foods, Cargill India Pvt. Ltd., ITC and Andhra Pradesh Dairy Development Cooperative Federation (APDDCF).

2. Bulk Drugs and Pharmaceuticals

- Hyderabad is the hub of the bulk-drugs industry, accounting for one-third of the national production of bulk drugs. The state produces a majority of 500 basic drugs produced in the country.
- The state government has helped in the development of pharmaceutical and biotechnology industry through specific policies, promoting knowledge-based cluster approach with financial incentives and appropriate infrastructure support. Presence of related educational infrastructure has also helped the industry. The biotechnology incubation centre was commissioned in 2008.
- Major players in this field are Albany Molecular Research Inc (AMRI), Novartis, Matrix Laboratories Ltd and Indian Immunologicals Ltd (IIL)

3. IT and ITeS

- The share of IT exports from Andhra Pradesh is 15% of the national IT exports. IT sector contributes to more than 49% of total exports from all sectors in the state.
- Some of the key players in the IT sector present in AP are IBM, Mahindra Satyam, Microsoft, and Cognizant.

¹²India Brand Equity Foundation – State report on Andhra Pradesh

4. Apparel & Textiles

- The state is a leading producer of cotton. Medium grade and superior long staple varieties of cotton are predominantly grown in the state.
- The state government has identified textile sector as one of the long-term growth engines. The number of power looms in the state aggregates to around 44,000 employing approximately 1,10,000 workers.

5. Petroleum, Chemicals and Petrochemicals

- Andhra Pradesh is set to become the second Indian state after Gujarat to enter the oil and gas exploration and production segment through bids for oil and gas blocks under the Central Government's New Exploration Licensing Policy (NELP).
- The Andhra Pradesh Government decided to enter the oil and gas exploration and development sector and setup a Special Purpose Vehicle (SPV), the Andhra Pradesh Gas Infrastructure Corp Limited as a joint venture between two state-owned entities). Hindustan Petroleum Corporation is setting up a Diesel Hydrotreater Unit at Visakhapatnam refinery.

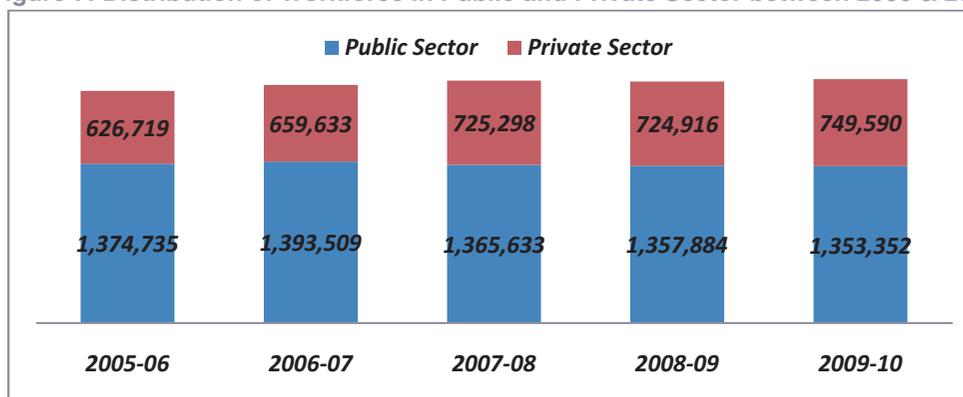
6. Tourism

- The state of Andhra Pradesh is known for its pristine beaches, sacred places of worship, lush green forests and spicy cuisine.
- With tourist attractions such as Charminar, Golconda Fort, Ramoji Film City, Araku Valley, Borra Caves, Tirupati Balaji Temple, and Puttaparthi Saibaba, the state offers attractive investment opportunities to developers and investors.

Employment Scenario¹³

After the introduction of Industrial Policy in 1991, 3,012 industries have gone into production providing employment to 4,55,129 persons. Between 2009-10 and 2010-11, about 10,728 Micro, Small and Medium Enterprises have been established, providing employment to 1,81,375 persons. There are 113 SEZs approved by the Government of India in Andhra Pradesh, of which 74 are notified and 27 have been operationalised and have created employment for 82,606 persons so far. IT sector created direct IT employment for about 2.75 lakh-educated youth of the State.

Figure 7: Distribution of Workforce in Public and Private Sector between 2006 & 2010



Source: Employment and Training Department, Govt. of Andhra Pradesh

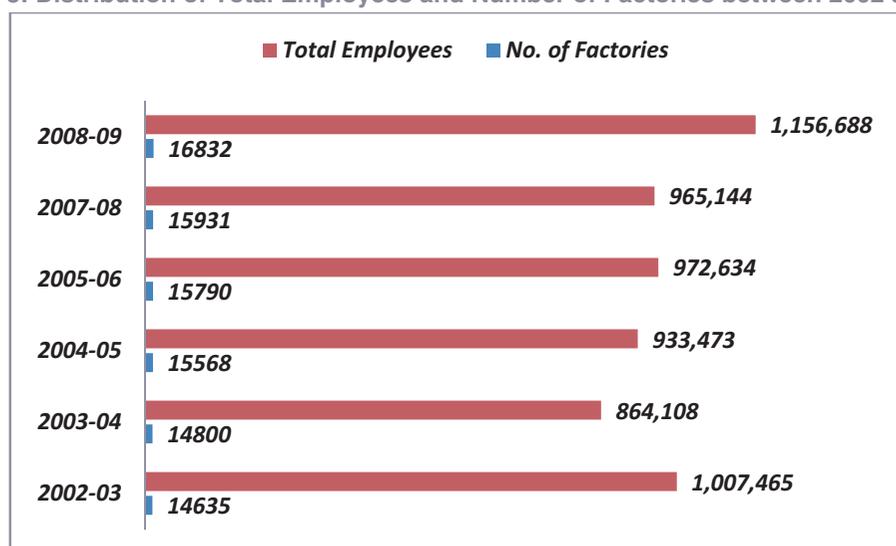
The rural unemployment rates & urban unemployment (per 1000 persons) in Andhra Pradesh and India have increased during 1993-94 to 1999-2000. However, during the period 1999-2000 to 2004-05, the rural and urban unemployment rates in Andhra Pradesh have decreased. The number of

¹³Economic Survey of Andhra Pradesh, 2010-11

establishments in the organized sector in March, 2010 was 21,564. Out of these, 13,789 were in Public Sector and 7,775 were in Private Sector. A total of 21.03 lakh persons were employed in the organized Sector as on March, 2010 in which the public sector alone accounted for 64.33% and the remaining 35.67% were employed in Private Sector.

The compound annual growth rate (CAGR) reveals that employment in public sector has declined at rate of 0.39% over a 5 year period; however employment has been increasing at a rate of 4.5% in the private sector. A positive growth in private sector and a marginal growth in public sector indicate a structural shift of employment in the state and mark the presence of more private players in the state's economy, thereby generating more employment for the youth of the state.

Figure 8: Distribution of Total Employees and Number of Factories between 2002 and 2009



Source: Directorate of Economics and Statistics, Govt. of Andhra Pradesh

The number of factories in the state has steadily grown between 2002 and 2009 at a CAGR of 2.36% and the employment generated in these factories has also grown at a similar rate of 2.33% over a 7 year period. Such stable growth is indicative of growing industries in the state and thereby growing demand for skilled workforce for the future years to come. It can also be seen from Table 7 that investment and employment both have grown at a healthy pace during the 11th Five Year Plan with investment increasing at a rate of 22.65% and employment generated at a similar rate of 22.79% between 2006 and 2011.

Table 7: Investment and Employment between 2006 and 2011

Period	Investment (In Rs Crore)	Employment
2006-07	6,428.01	62,382
2007-08	8,374.89	1,00,979
2008-09	8,283.4	1,17,477
2009-10	17,892.71	1,70,014
2010-11	14,550.05	1,41,820

Source: Economic Survey, Govt. of Andhra Pradesh, 2011-12

The Commissionerate of Industries, Government of AP has given employment and investment projections for the 12th Five Year Plan (Table 8). Further, the Industrial Investment Promotion Policy 2010-15 envisages an employment target of 5 lakh per year (2 lakh direct and 3 lakh indirect).

Table 8: Employment and Investment Projections for the 12th Five Year Plan

Year	Large Industries			MSMEs		
	Nos	Investment (In Rs Crore)	Employment	Nos	Investment (In Rs Crore)	Employment
2011-12	100	18,302	36,604	10,000	5,500	1,65,000
2012-13	121	20,132	40,264	11,000	6,050	1,51,250
2013-14	133	22,145	44,291	12,100	6,655	1,66,375
2014-15	146	24,360	48,720	13,000	7,321	1,83,013
2015-16	160	26,796	53,592	14,300	8,053	2,01,314
Total	660	1,11,736	2,23,471	60,400	33,578	8,66,951

Source: Commissionerate of Industries in AP, Hyderabad

Given the above scenario, in order to create large employment the priority sectors identified are textile units, chemical industry, electrical machinery, paper products and printing and publishing industry. The sectors, which can create employment under MSMEs, are textiles, wearing apparel, food and beverages and tobacco. These units contribute to around 70% of the total employment of MSME sector.¹⁴

Key Challenges & Initiatives in Higher Education

With respect to higher education including professional, technical and general education, the state has shown considerable progress over time. The 1990s was an important period in terms of growth in number of institutions available for higher, technical and professional education.

The state has higher number of engineering colleges than degree colleges. The strength of the state is its intake capacity and outgoing professionals out of these higher educational institutes. Around one fourth of the total pharmacy colleges and one third of engineering colleges in India appear to be located in Andhra Pradesh. These points indicate that technical and professional education institutions in India are highly concentrated in Andhra Pradesh.

Challenges in Higher Education

However, the cause of concern is the quality of higher, professional and technical education provided in the state. Many of the graduates of the higher, technical and professional educational institutions in the state could not get placed in the job market. There is a mismatch between the type of skills that the industry demands and the type of skilled labour that the higher educational institutions are producing. Therefore, there is a need for addressing this mismatch by streamlining the courses, curriculum and the content of these courses. The major concerns for higher education in the state are improving participation, ensuring equity across social, economical and gender groups and then the quality of education.

Some of the specific challenges that need to be looked in to are:

- Infrastructure required for Andhra Pradesh State council of Higher Education (APSCHE) to organize seminars, training programs and orientation programs.
- An amount proposed for implementation of various schemes under Collegiate Education in the Annual Plan.
- Finishing school initiatives and training teachers programs have to be undertaken to reduce the dropout rate at various levels of education in the state.
- English Language labs need to be setup for the improvement of English communication and soft skills training at the UG Level needs to be imparted.

¹⁴ Approach to the 12th Five Year Plan Andhra Pradesh

- Access with focus on equity or inclusiveness: The system requires a massive expansion penetrating into rural areas. It also requires identification of areas, regions and social and economic groups which have lower access to higher education.
- Private participation is unavoidable in the field of higher education but this should be done with a balance of equity and quality. Almost all the Private Institutions are for – profit Institutions. The challenge the government faces is to regulate them.
- Quality of higher education in the state needs to move towards excellence in order for the state to become a well established center of knowledge for the country. Provisions should be made with regard to access and relevance so as to ensure quality education is provided to the youth of the state.
- Increased intake at degree Level in Technical Institutions and an Up gradation of equipment through a scheme of Modernization & Removal of Obsolescence (MODROBS) of AICTE.

Higher Education Initiatives Implemented

- The Rajiv Gandhi University of Knowledge Technologies (RGUKT) has shifted from an ICT department to a Technical Education department. Three fully residential IIITs established under RGUKT. The institutes specialize in teaching and research in IT and emerging areas of Engineering and Science.
- The pedagogy followed at RGUKT is based on learning to learn and lifelong learning philosophy. Education is imparted through the use of ICT and each student is given a laptop.
- Apprenticeship Training to Engineering graduates and diploma holders initiated with the guidance of Board of Apprenticeship Training (BOAT), Ministry of Secondary and Higher Education, Govt. of India and other state Level departments.
- Transmission of recorded technical lessons and live interaction between students and lecturers through KU band and teaching students via electronic classrooms done throughout the state with the help of the State Board of Technical Education & Training.
- Online Verification of Degrees: OLIVE database setup in 1999 with the data of students who have qualified professional degree programs from various universities in AP. (This initiative prevents the entry of students with fake certificates and facilitates faster issuance of VISAs to students at the US consulate at Chennai).
- All the universities & IIITs in the state included in the OLIVE database.
- The database includes the specimen signature of all the authorized signatories on the degree certificates of various Universities in the State.
- Facilities for Career Guidance and counselling for engineering degree/diploma institutions.
- The department and the board, provide academic improvement at Diploma Level for in service candidates, through correspondence cum contact courses (CCC).
- Centrally sponsored schemes such as Teacher Education Quality Improvement Program (TEQIP) launched in Engineering and government Polytechnic Colleges in the state. (AP was judged the best in implementation of the project in the Joint Review Meeting (JRM)).
- SONET (Society for Networking for Excellence in Technical Education) provides interconnectivity among engineering colleges, to adopt innovative teaching practices, digitize library and video conferencing etc. throughout the state. SONET provides latest International technical journals to its member Colleges.

Strategies proposed for improvement of Higher Education¹⁵

1. Creating equal opportunities

- An obligatory principle that needs to be practiced is that no student who is eligible (given the previous academic record) and interested in higher education is deprived of the opportunity for higher education because of economic or non-economic reasons.

¹⁵ Approach to the 12th Five Year Plan Andhra Pradesh

- Introducing Scholarships for students belonging to SC/ST/OBC and minority communities.

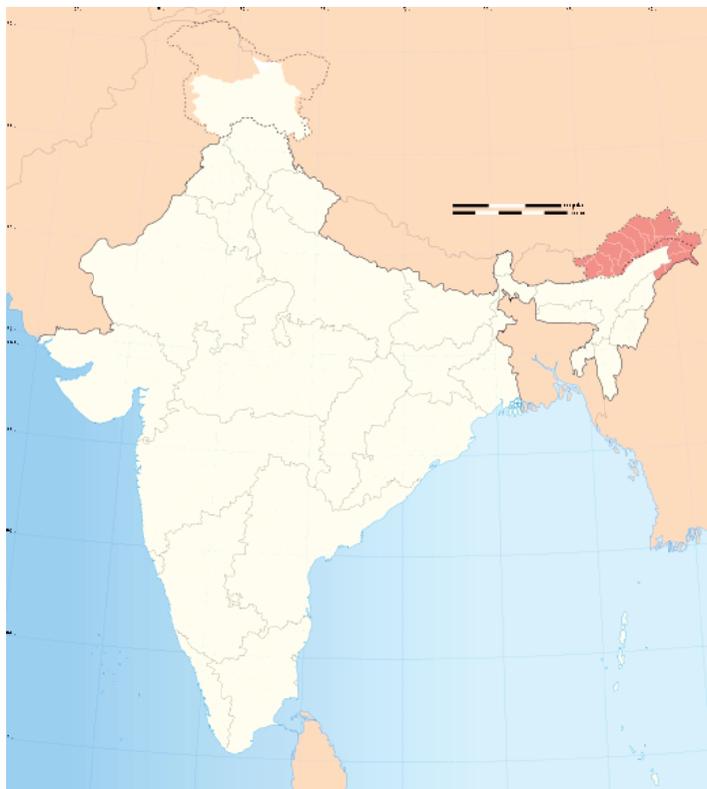
2. Quality of education

- Ensuring qualified teachers especially private in institutions.
- Ensuring required infrastructure.
- Implementing Teacher Training programmes – updating subject knowledge and teaching methods.
- Setting up a mechanism for the assessment of teachers and institutions.
- Implementing a system of accreditation and ranking of institutions based on the quality of education.

3. Institutional Reforms

- Developing regulatory framework for mechanism for the private and corporate institutions providing higher, professional and technical education.
- Setting up a mechanism for preventing malpractices.
- Setting up of monitoring mechanism especially for private institution. (Grading of Institutions based on their performance and placement)

State Focus: Arunachal Pradesh



State Profile

Capital	Itanagar
Total Area (in sq. km.)	83,743
Total Population	13,82,611
Population Density (per sq. km.)	17
Number of Districts	17
Literacy Rate (%)	67
Sex Ratio (per 1,000 males)	920
State Domestic Product, 2009-10 (In Rs. Crore)	6,276
Per capita income, 2009-10 (Rs.)	51,405

Introduction

Arunachal Pradesh is one of the seven sister states, and is located in the north-eastern region of the country. The erstwhile North-East Frontier Agency, the state shares international boundaries with Bhutan, Tibet, China and Myanmar. In terms of state boundaries, Arunachal Pradesh shares its boundaries with Assam and Nagaland. The terrain of the state is largely mountainous, and agriculture and horticulture are the key occupations of the local population. After being constituted as a union territory in 1972, Arunachal Pradesh later became the 24th state of the Indian Union in the year 1987.

The state is spread over 80,000 sq. km., and has a small population of approximately 13 lakh. The state is characterized by its low density of population (17 per sq. km.). In terms of literacy, the state has a poor literacy rate of 66.95% and stands 34th among the 35 states and union territories of India.

Universities and University Level Institutes

The state has only 3 university level institutions, with one central university; one deemed university and one National Institute of Technology. There are plans for two new private universities, which will be soon established – their UGC approval is pending, since the information sought for inspection purpose is yet to be received by the UGC.

The Rajiv Gandhi University (central university) is the premier institution for higher education in the state, and has completed twenty-five years of existence. Functional from the year 1985, the university was converted into a central university during the year 2007.

The only deemed university in Arunachal Pradesh, North Eastern Regional Institute of Science and Technology (NERIST) is a science and technology oriented higher education institution, which was established in 1984 and has student strength of approximately 1,500. The institution offers innovative and unconventional academic programs in the areas of agricultural engineering, civil engineering, computer science, electronics and communications engineering, electrical engineering, mechanical engineering, forestry, physics, mathematics and management. Certificate, diploma and degree programs are offered by the institution with an aim to enhance employability of the students after completion of their Class XII and to develop skills for technician, supervisory and executive levels. Till date, 21 batches have graduated from the institute. In addition to the above two universities, a National Institute of Technology (institute of national importance) was also established in the year 2010.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Arunachal Pradesh (2011-12)	India (2011-12)
State University	0	285
Private University	2 ¹⁶	112
Institution of National Importance	1	39
Deemed University	1	129
Central University	1	40
Total	5	605

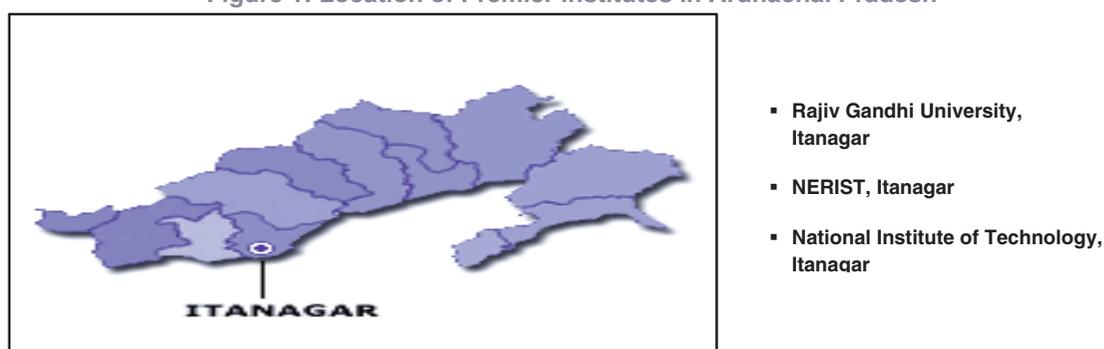
Source: UGC

¹⁶ For the two private universities in Arunachal Pradesh, the information requested by UGC for inspection purpose is yet to be received

It has been proposed that 5 more university level institutions will be established in the state to increase the access to higher education. The universities are as mentioned below:

1. Arunachal Pradesh University
2. Indira Gandhi Science, Technology and Medical Science University (currently awaiting approval)
3. Arunachal University of Studies (currently awaiting approval)
4. Venketeshwara Open University
5. Himalayan University

Figure 1: Location of Premier institutes in Arunachal Pradesh



All the three major higher education institutes in the state are located in the district of Papum Pare. However, with state government proposing to establish more universities in the state, an increase in regional diversification of higher education is expected..

In addition to the universities and university level institutions, there are 30 colleges in Arunachal Pradesh, with majority of them being government degree colleges. There are ten technical/professional colleges, which include 6 teacher education colleges, 1 law college, 1 fine arts college, 1 agricultural college and 1 homeopathic medical college. There are only two polytechnic institutes in the state currently. While the number of higher education institutions is currently low, the state government has proposed to establish 18 new colleges to increase the parity in the higher education scenario in the state.

Table 2: Distribution of Government, Grant-in-Aid and Self Financing Colleges Affiliated to State Universities

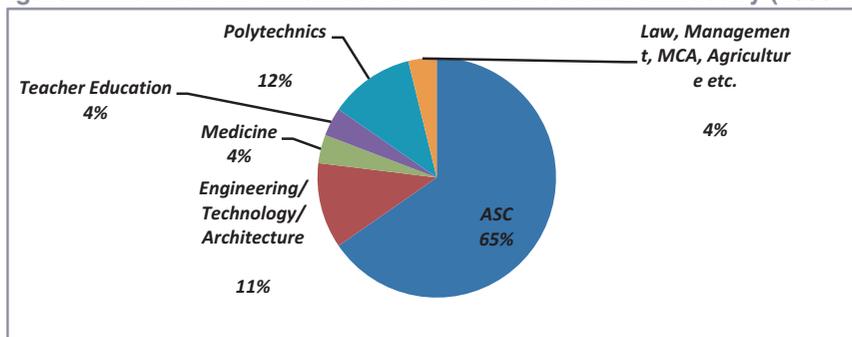
No.	Institute	Current	Proposed
1	Government Degree Colleges	12	3
2	Private Degree Colleges	6	-
3	Technical/ Professional Colleges	10	4
4	Polytechnic Colleges	2	7
5	Model Degree Colleges	-	4
	Total	30	18

Source: Vision Document for 12th Five Year Plan (2012-17), Arunachal Pradesh

Growth in Higher Education Institutions and Enrolment

In 2009-10, ASC colleges dominated the total number of higher education institutions in Arunachal Pradesh with 65% of the total number of institutions offering arts, science and commerce programs.

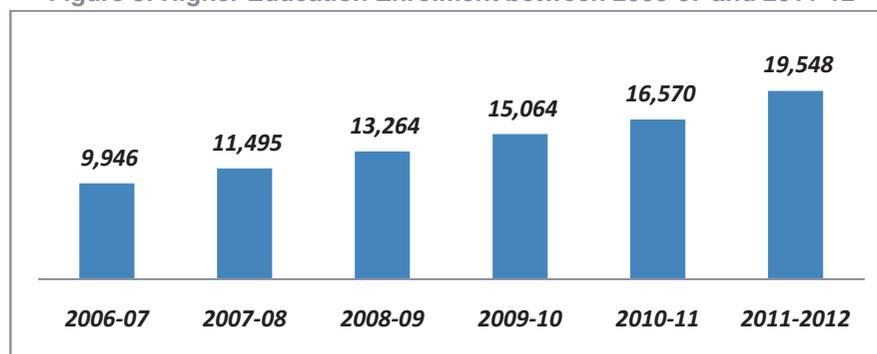
Figure 2: Distribution of Number of Institutions based on Faculty (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

The total enrolment of students in higher education has been consistently increasing over the years, at a healthy CAGR of 14%. The total enrolments in higher education have almost doubled from 9,946 students in the year 2006-07 to 19,548 in the year 2011-12.

Figure 3: Higher Education Enrolment between 2006-07 and 2011-12



Source: Statistics of Higher & Technical Education, MoHRD

Table 3: Distribution of Enrolment at Undergraduate (UG) and Postgraduate (PG) Level 2009-10

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
ASC	12,261	994	13,255	92.5	7.5
Engineering	1,826	1359	3,185	57.3	42.7
Medicine	144	NA	-	-	-
Agriculture	NA	NA	-	-	-
Management	NA	79	-	-	-
Education	100	100	200	50	50
Law	95	NA	-	-	-
Post school diploma	1,320	-	1,320	-	-
Post graduate diploma	-	579	579	-	-
Others	132	NA	-	-	-
Total	15,878	3,111	18,989	83.6%	16.3%

Source: Statistics of Higher & Technical Education, MoHRD

As per the available data, in terms of total enrolment in the year 2009-10, the maximum contribution has been by the ASC streams, with students enrolling for the programs accounted for 69.8% of the total enrolment; followed by engineering streams, with 16.7% of the students enrolled for various engineering programs. In terms of enrolment according to the level of education, 83.6% of the total number of students enrolled is engaged in undergraduate education. While the distribution of students across undergraduate and postgraduate programs is largely skewed in the case of ASC programs (only 7.5% of the students at post graduate level), it is more balanced in engineering streams (42.7% of students engaged in post graduation).

Quality of Institutes

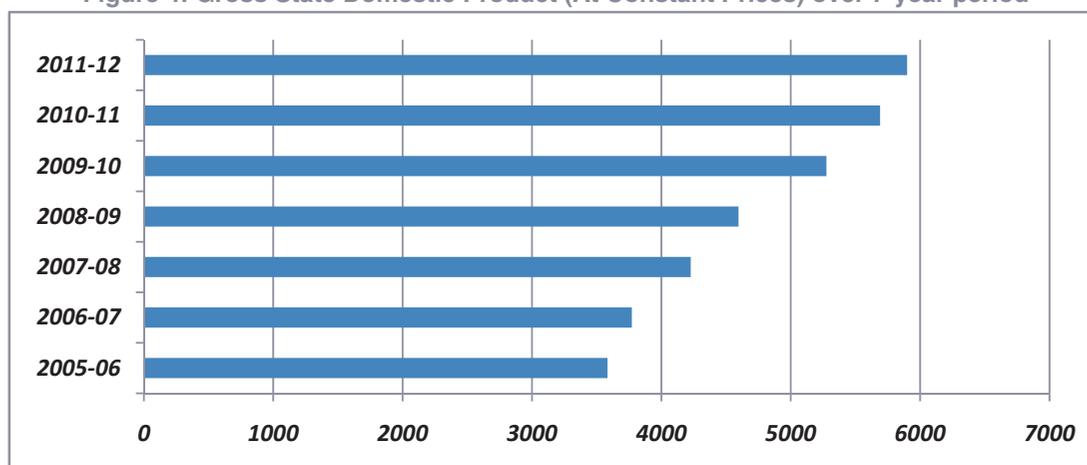
Out of the 30 higher education institutions and 3 universities and university level institutions, only 2 institutions have been assessed and accredited by the National Assessment and Accreditation Council (NAAC). Between these two institutions, one institution has received a grading of B (Good) and the other institution has received a grading of C (Satisfactory).

Industry and Employment Scenario

Economy Overview

Arunachal Pradesh reported Rs 5,899 Crore Gross State Domestic Product (GSDP) in 2011-12, which constituted 0.11% of the nation's GDP at constant prices.

Figure 4: Gross State Domestic Product (At Constant Prices) over 7-year period



Source: Planning Commission Database

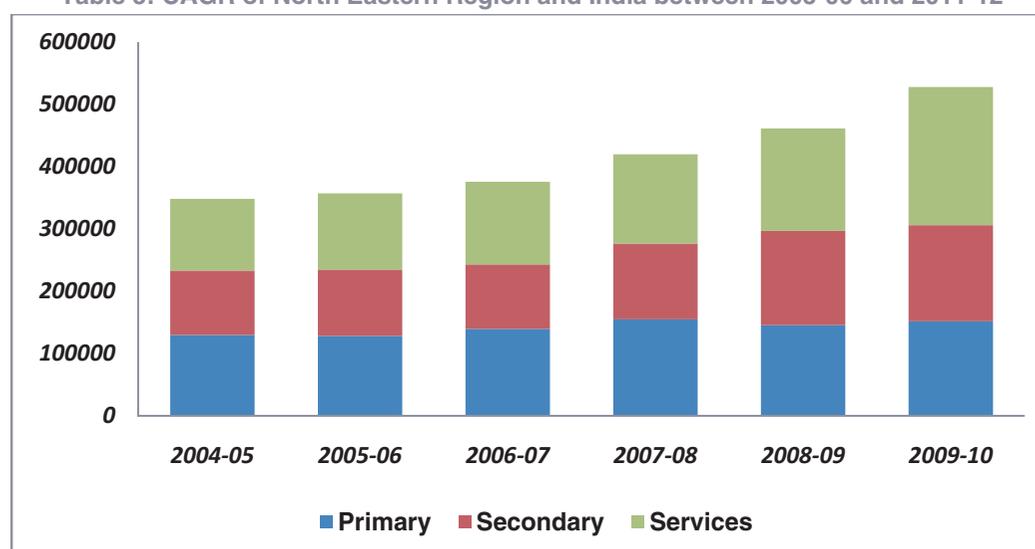
Table 4: CAGR of North Eastern Region and India between 2005-06 and 2011-12

State/Country	6 year CAGR (%)
Arunachal Pradesh	8.68
Assam	6.49
Manipur	5.76
Meghalaya	8.85
Mizoram ¹⁷	9.26
Nagaland	5.62
Sikkim ¹	13.14
Tripura	8.63
India	8.22

Source: Planning Commission Database

The state of Arunachal Pradesh saw the 4th highest increase in GSDP in the north-eastern region of the country at 8.6% between 2005-06 and 2011-12. The CAGR is higher than the national CAGR of 8.2%, which indicates that the state's growth is above par.

Table 5: CAGR of North Eastern Region and India between 2005-06 and 2011-12



Source: Central Statistical Organization (CSO) (As on 02.08.2011).

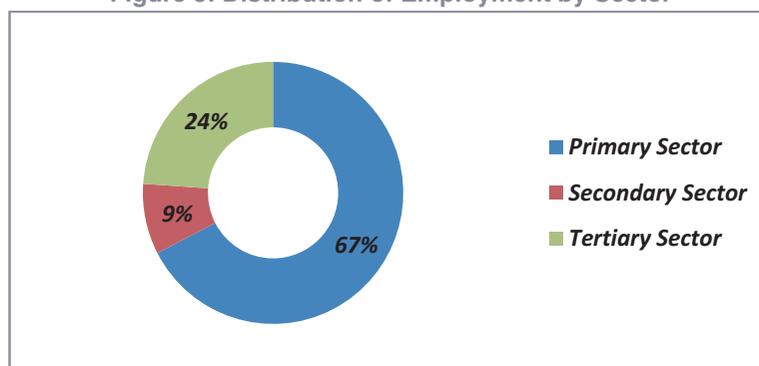
The sectoral contribution to the GSDP indicates that the services sector has steadily grown faster with a CAGR of 14% as compared to 8% in secondary sector and 3 % in the primary sector between 2004-5 and 2009-10. Such a growth is indicative of increased participation of labour force in the services sectors such as in banking and insurance, real estate, hotels and restaurants, transportation and communication.

Employment Scenario

As can be seen from Figure 3, the primary sector employs around 67.4 % of the total workforce in Arunachal Pradesh, followed by tertiary sector (23.9 %) and secondary sector (8.7 %).

¹⁷ Data for 2011-12 is not available hence CAGR calculated between 2004-05 till 2010-11

Figure 5: Distribution of Employment by Sector



Source: India Brand Equity Foundation, Arunachal Pradesh-State Report 2010

Around 94 per cent of the state's population lives in the rural belt. Agriculture is the main occupation of the people of the state. Of the total workforce, 60.4 per cent are cultivators with self-owned land and only 5.1 per cent of the workforce falls in the agricultural labourer category.¹⁸

Table 6: Distribution of Employment according to 5th Economic Census

Major Activity Group	Total Employed
Public Administration, Defence, Social Security	27,894
Retail Trade	25,346
Education	14,510
Manufacturing	7,960
Electricity, Gas & Water Supply	6,544
Restaurants & Hotels	4,975
Health & Social Work	4,956
Construction	4,079
Community, Social & Personal Service Activity	3,832
Sale, Maintenance & Repair of MV And MC	2,737
Posts & Telecommunication	1,885
Agricultural Services	1,196
Transport & Storage	1,180
Financial Intermediation	1,049
Farming of Animals	830
Real Estate, Renting & Buss. Serv.	582
Mining & Quarrying	409
Wholesale Trade	334
Fishing	81

¹⁸India Brand Equity Foundation, Arunachal Pradesh- State Report

Other Activities	6
Total	1,10,385

Source: Fifth Economic Census 2005, Arunachal Pradesh

According to the 5th Economic Census, highest percentage of workforce was employed in public administration, defence and social security sectors of the state (25%). This group was closely followed by individuals employed in retail trade (23%). The 3rd most dominant activity group of employment in the state was the field of education, which constituted 13% of the total workforce.

Key Industries

The resources, policy incentives and climate in the state supports investments in mining and mineral products (including cement), tissue culture and floriculture, plantation crops (tea, rubber, etc.) and agro-based industries. Based on availability of resources, the state has identified thrust areas for industrial development:

1. Power

- The state is estimated to have hydropower potential of over 57,000 MW.
- Despite such huge potential; the state has witnessed limited development of the hydropower infrastructure under the state sector.
- Key players in this field are NTPC, NHPC, North Eastern Electric Power Corporation (NEEPCO) and Bhilwara Energy Limited

2. Mineral Based Industries

- Arunachal Pradesh has considerable mineral reserves, which offer immense potential. These minerals are useful in the gasified form or in cooking, fertilizer plants, refractory units and calcium carbide manufacturing units.
- The state's mining activities are managed by the Arunachal Pradesh Mineral Development and Trading Corporation Limited (APMDTCL).

3. Agriculture and Forest-Based Industries

- Major agro and forest-based industries in the state relate to tea, fruit, timber and plywood industries.
- The industry is characterized by many regional players; several units have been set up by Arunachal Pradesh Forest Corporation (APFC), a government organization.

4. Tourism

- Tourism has grown rapidly in the recent years with eco and adventure tourism, cultural tourism and religious tourism being the major areas of interest.
- The State Industrial Policy, 2008 encourages development of tourism sector in areas such as tour operations, hotels and resorts.
- In 2009-2010, Arunachal Pradesh received financial assistance from the central government for developing sustainable rural tourism. The project aims at promoting traditional rural art, craft, textile and culture to attract tourists as well as develop rural economy.

5. Textiles

- Textile is a grass-roots industry in Arunachal Pradesh and provides significant employment opportunity to women. Most of the units are small-scale home-based units. The many tribes in the state produce unique and appealing handloom designs. The products include skirt (gale), shirt (galuk), cotton shawl, and side bag and curtain cloth.

Initiatives for Skill Development / Employment Generation¹⁹

- Skill Development Council and Employment Generation Council were set up under the chairmanship of chief minister.
- Assessment of state requirements and gaps was performed – courses in ITIs to be introduced accordingly.
- 5 govt. ITIs (2 NEEPCO, 2 NHPC) and 1 private ITI are functional in the state; 11 additional ITIs – one in each district has been proposed.
- NEC sponsored trainings for professional courses were initiated.
- Sponsorships for students for vocational courses in cities like New Delhi etc. (hospitality industry etc.) have been initiated.
- 9 polytechnics are under construction during 12th Five Year Plan.

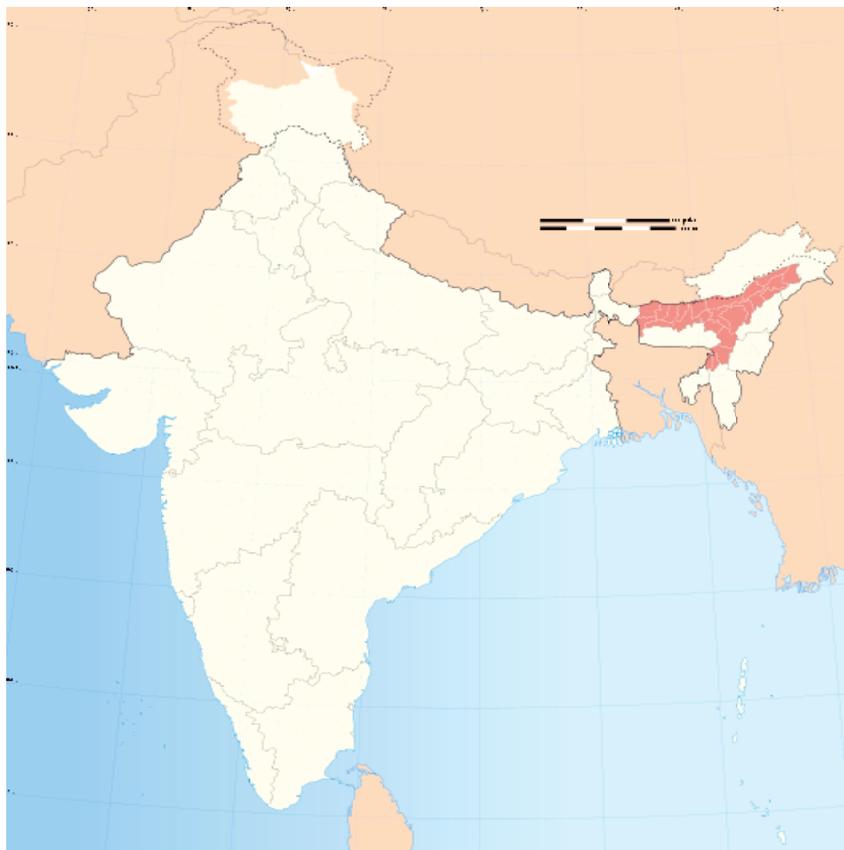
Current Initiatives in Higher Education

The state government of Arunachal Pradesh has proposed several initiatives to combat the concerns of equity, regional imbalance and quality in higher education. A brief about these initiatives is given below:

- Establishment of seven model degree colleges.
- Starting of academic programs of 9 polytechnic institutes funded under the Gol scheme.
- Establishment of law college, with infrastructure being provided by NHPC.
- Establishment of six new private teacher education colleges.
- Renovation of two government colleges, whose buildings were constructed in the 1970-80 period.
- Construction of classroom, libraries, laboratories and staff quarters in all the colleges.
- Provision of computer education to all the students across colleges.
- Establishment of three polytechnic institutes under the Public Private Partnership model.

¹⁹ Arunachal Pradesh, Annual Panel Discussion 2012-13, Planning Commission

State Focus: Assam



State Profile

Capital	Dispur
Total Area (in sq. km.)	78,550
Total Population	3,11,69,272
Population Density (per sq. km.)	397
Number of Districts	23
Literacy Rate (%)	73.18
Sex Ratio (per 1,000 males)	954
State Domestic Product, 2010-11 (In Rs. Crore)	92,496
Per capita income, 2010-11 (Rs.)	30,413

Introduction

Assam (Asom) is located in the northeast region of the country. It shares its borders in north and east with the Kingdom of Bhutan and Arunachal Pradesh respectively. Along the south lie Nagaland, Manipur and Mizoram. Meghalaya lies on the South-west of the state and Bengal & Bangladesh are located to its West.

Assam is popularly known as the land of the red river and blue hills. Most of the state's population lives in the thriving and lush valleys of its two major river systems in the 24 districts of the Brahmaputra valley and the 3 districts of the Barak valley. The less densely populated two hill districts - Karbi-Anglong and Dima Hasao, separate the 2 valleys.

Economy of Assam today features a distinctive combination of backwardness and ampleness. Despite the state having rich natural resources, and supplying 25% of the nation's petroleum needs, growth rate of Assam's income has not kept pace with that of the country. Tea estates and Petroleum refineries are the two significant industries in the state. Assam is a major producer of crude oil and it accounts for about 15% of India's crude output, which is exploited by the Assam Oil Company Ltd.

Universities and University level Institutions in Assam

4 State Universities, 2 Private Universities, no Deemed Universities and 2 Central Universities characterize the higher education landscape of Assam. In addition to these universities, the state has 1 Indian Institute of Technology (IIT), located in Guwahati, and a National Institute of Technology (NIT) in Silchar. Out of the 4 state universities, 2 are general universities, i.e. providing degrees and specialization in all mainstream subjects, and one agriculture university and a university for distance education.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Assam (2011-12)	India (2011-12)
State University	4	285
Private University	2	112
Institution of National Importance	3	39
Deemed University	0	129
Central University	2	40
Total	11	605

Source: UGC

Assam has the most wide-ranging networks of higher educational institutions in the whole of north-eastern region of India. Besides Bihar, Madhya Pradesh, Manipur and Tamil Nadu, the state of Assam is the only other state in the country to have 2 central universities located within its territory. The state houses one of the finest agriculture universities in the country and has 3 Institutions of National Importance.

Guwahati (Guahati) is the largest city of Assam and is considered to be the largest metropolitan area in the northeast region of the country. The city houses the Indian Institute of Technology (IIT) - Guwahati, one of the leading autonomous engineering and technology oriented institute of higher education and is the 6th IIT to be established. Besides having an Institute of National Importance located in its premises, the city has 2 universities, one of which is the Guwahati University which is a

general university with faculties of Arts, Science, Commerce and Management, a school of Fine Arts, a law college, an academic staff college, a medical college and an institute of Science and Technology. The K.K Handique State Open University, located in Guwahati, is the first of its kind in the entire North East Region and ranks 14th among the open universities in India. The Assam Legislative Assembly by an Act established it in 1995.

Silchar is considered to be the economic gateway to the states of Mizoram and Manipur. It is the second largest city in the state in terms of population and area. The city boasts of the prestigious National Institute of Technology (NIT) -Silchar, which was formerly the Regional Engineering College but was upgraded to a NIT and made an institute of national importance in 2007. The city also has one of the two central universities located in the state, i.e. the Assam Central University, which is a teaching cum affiliating university. The university has 9 schools, which offer Social Sciences, Humanities, Languages, Life Sciences, Physical Sciences, Environmental Sciences, Information Sciences, Technology and Management Studies.

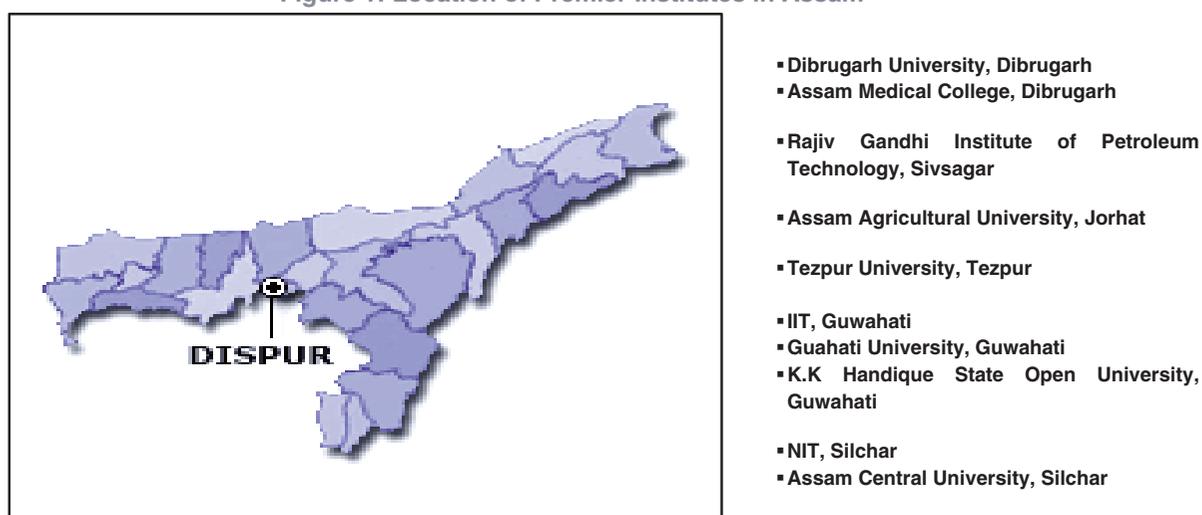
Jorhat city is one of the most important cities of Assam and it provides access to the upper Assam region and Nagaland. Jorhat city has the famous Assam Agriculture University (AAU), which extends to the entire state in regard to teaching, research and extension education in the field of agriculture and allied sciences. The university has affiliated 6 colleges, 6 regional research stations in each agricultural zone of Assam and 4 commodity research stations. AAU is the only educational institute in the world to offer a 4-year degree program in Agriculture, with specialization in Tea Husbandry and Technology.

Dibrugarh is known as the 'Tea city of India' and one of the most important and affluent districts of Assam. Dibrugarh University is one of the four state universities in Assam and the easternmost university of India. It is a teaching cum affiliating university, and has centres for Computer Studies, Engineering & Technology, Management Studies and Judicial Studies. The district also has the Assam Medical College, which was the 1st medical college to be established in the northeast region of India. It is affiliated to Dibrugarh University. The college is the tertiary medical referral centre for upper Assam and Arunachal Pradesh.

Tezpur University is the other central university, besides Assam University. The university offers undergraduate, postgraduate and doctoral programs in various academic divisions such as Science & Technology, Humanities & social Sciences, Management Sciences and Engineering. Tezpur University is the 1st first University in India to offer Master of Technology in Computational Seismology and also one of the few universities in India to have its own Department of Energy.

The Rajiv Gandhi Institute of Petroleum Refinery - Assam Center – located in Sivsagar, is one of the Institutes of National Importance in the state. The location of the institute at Sivsagar, in the upper reaches of the Brahmaputra Valley, is considered to be appropriate because of the extensive oil field activities being carried out in its vicinity and its proximity to the Gas Cracker Plant.

Figure 1: Location of Premier Institutes in Assam



Most of the premier institutions of the state are located in different part of the state. The universities and institutions of the state are conveniently located in regions which are practically suited for their respective focus area of study. For example, the Rajiv Gandhi Petroleum Institute is situated in Sivsagar, which has major petroluem refineries of the country, the Assam Agriculture University located in Jorhat, which is one of the most fertile regions of the north east region, having 135 tea gardens. The Assam Medical College is strategically located in Dibrugarh, which provides medical facilities and services to upper Assam and it neighbours.

Table 2: Distribution of Educational Institutions (General)

No.	Category of Institution	No. of Educational Institutions			Total
		Govt.	Provincialised	Non Govt.	
1	Universities	8	0	2	10
2	Colleges	7	189	175	371
3	Law Colleges	1	0	5	6
4	Sanskrit Colleges	0	1	1	2
5	Sanskrit TOLS	0	82	100	182
6	Voluntary Organizations	0	0	17	17
	Total	16	272	300	588

Source: Directorate of Higher Education, Government of Assam

Out of the 189 Provincialised colleges affiliated with various universities in the state, 101 are affiliated to Guahati University, 74 are affiliated to Dibrugarh University and 14 are affiliated to Assam University. There are 175 non-government colleges affiliated to Guahati University, Dibrugarh University and Assam University. Tezpur Central University does not affiliate any colleges in the state. There are 2 non-government universities namely, Don Bosco University and Down Town University. The Bodoland University is the only university in the Bodoland Territorial Autonomous Districts (BTAD).

Table 3: Distribution of Educational Institutions (Technical)

No.	Category of Institution	No. of Technical Institutions					Intake
		Central Govt.	State Govt.	State University	Private	Private University	
1	Degree level Institutions	4	5	2	5	1	3,873
2	Diploma level Institutions	1	9	0	0	0	1,605

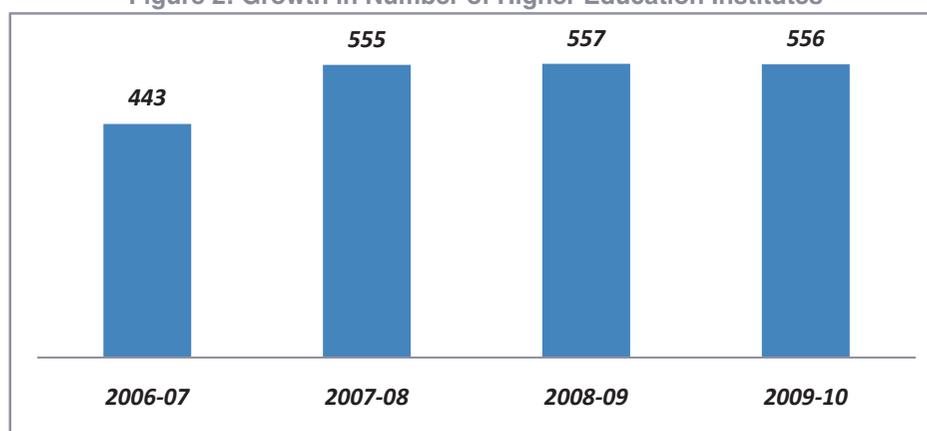
Source: Directorate of Technical Education, Government of Assam

As can be seen in Table 3, the total intake of technical degree level institutions is 3,873 and for technical diploma level institutions it is 1,605. There are 4 central government degree level institutions, out of which 1 is also a diploma level institution (Central Institute of Technology, Kokrajhar). There are 9 state government polytechnic institutes, which are considered as diploma level institutions in the state. The state has 5 private institutes and 1 private University (Down Town Charity Trust) that are considered to be technical degree level institutions. There is a majority of government (central & state) technical degree level institutions (64.7%) as compared to private (private institutes & universities) in the state (35.3%). The state has government (1 central & 9 State) diploma level institutes only. Such dependence on government institutions indicates lack of investment by private players in the field of technical education in the state and heavy dependence on central and state funds.

Key Higher Education Indicators: Institutes and Enrolment

The growth rate in the number of higher education institutes in Assam stands at 7.78% vis-à-vis the national CAGR of 9.58% during 2006 and 2010. This indicates a below average performance in ensuring access to higher education. This hypothesis is further backed by the fact that the number of higher education institutes grew marginally between 2007 and 2010, as seen in Figure 2.

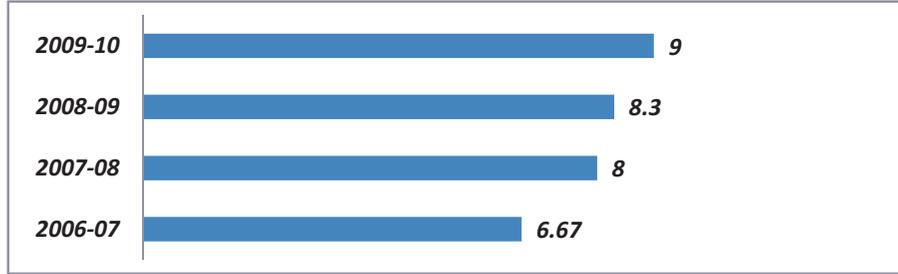
Figure 2: Growth in Number of Higher Education Institutes



Source: Statistics of Higher & Technical Education, MoHRD 2006-10

Currently in the state, the strength of faculty at University level is 572, at Government college level it is 309, at Provincialised colleges it is 7,044 and at Sanskrit colleges it is 488. In total, the strength of faculty in the state is 8,413 and the student-teacher ratio of government and provincialised colleges stands at 25:1. The Gross Enrolment Ratio (GER) has been rising steadily between 2006 and 2010, thereby indicating a greater access among the population of the age group of 18-24 years to higher education in the state. While the GER during the year 2006-07 was 6.67%, it has marginally improved to 9% in 2010. In 2011-12, the GER was recorded at 7.04%, which was far below the national average of 13.58%.

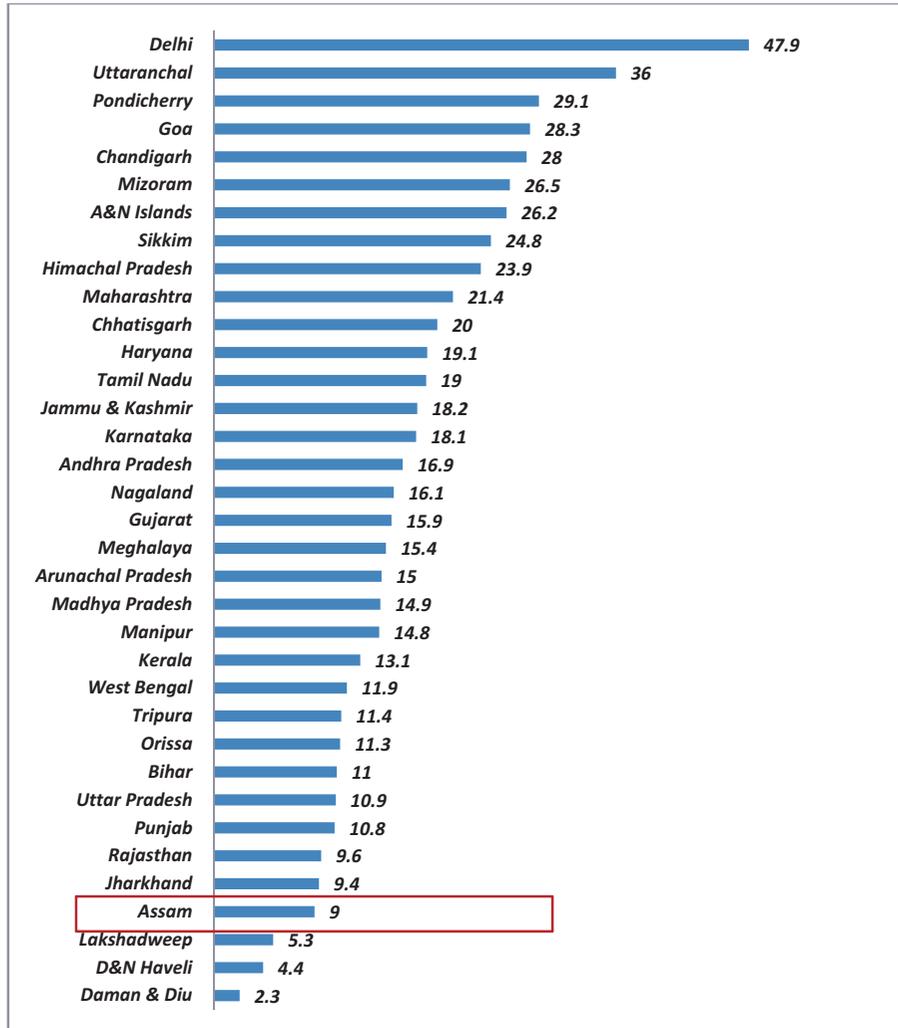
Figure 3: Gross Enrolment Ratio (%) in the state between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

However, despite the marginal growth in GER, the state still stands 32nd among the various states and union territories. Assam, in 2009-10, had the worst GER in the north eastern region, with the maximum GER recorded by Mizoram at 26.5%. As the GER is far below the north east region average of 16.62% and the Nation's average of 15%, Assam has to ensure qualitative and quantitative solutions to ensuring higher education access to all its youth.

Figure 4: Gross Enrolment Ratio (%) across all states in India (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

The following sections present a brief description of the current higher education scenario and the industry & employment scenario in the state of Assam. The key initiatives and challenges in higher education that are being faced by the state have also been briefly discussed.

Growth in Higher Education Institutes and Enrolment

As depicted in Table 4, the higher education enrolment was highly skewed towards Arts faculty with 71.4% of all student enrolments at both Undergraduate (UG) and Postgraduate (PG) level; followed by the Science faculty with 16.58% and the Commerce faculty with only 8.3% of total student enrolment in the state.

Table 4: Enrolment by Faculty at Undergraduate (UG) and Postgraduate (PG) Level in 2011-12

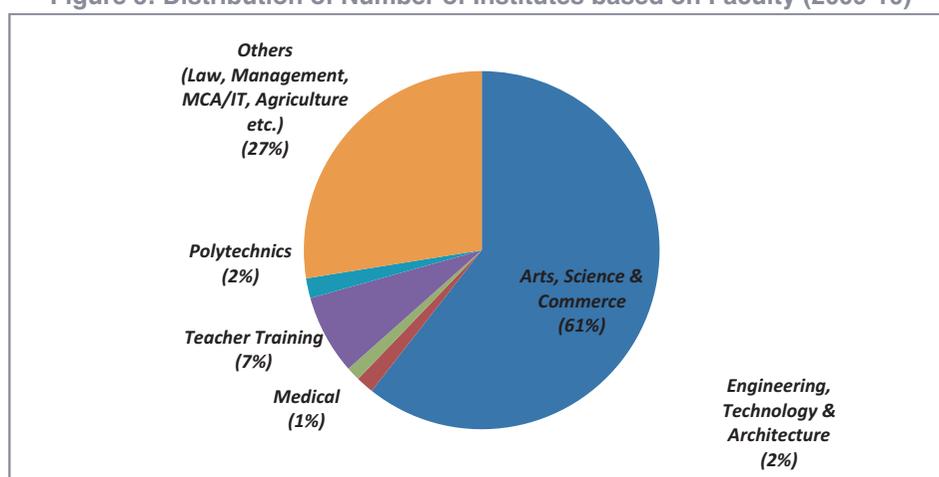
Faculty	UG	PG	Total
Arts	1,45,572 (95%)	7,587 (5%)	1,53,159 (100%)
Science	31,542 (89%)	4,028 (11%)	35,570 (100%)
Commerce	16,708 (94%)	1,109 (6%)	17,817 (100%)
Law	7,177 (100%)	0	7,177 (100%)
Ph.D./D.Phil./M.Phil.	0	779 (100%)	779 (100%)
Total	2,00,999 (94%)	13,503 (6%)	2,14,502 (100%)

Source: Directorate of Higher Education, Govt. of Assam

Note: (%) denotes UG or PG Percentage Share of Total Enrolment

This composition of students at the level of education was also biased in favour of the undergraduate level (94%) as compared to postgraduate level (6%). This could be due to the fact that there is a lack of postgraduate degree institutions in the state and thus, most students go to other states to pursue their post graduation.

Figure 5: Distribution of Number of Institutes based on Faculty (2009-10)

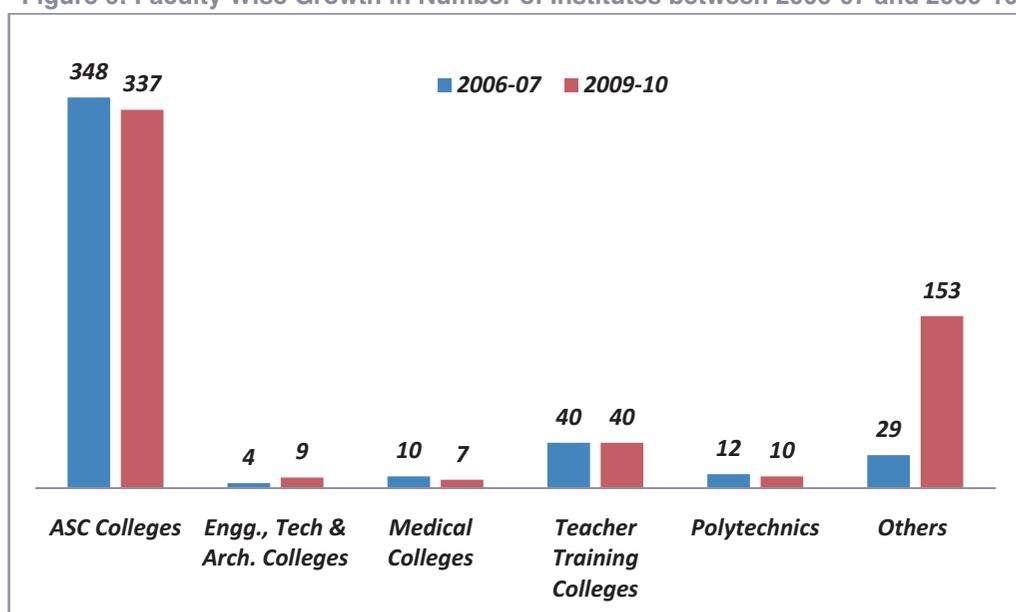


Source: Statistics of Higher & Technical Education, MoHRD

At the national level, the popular programs that are being offered in higher education are in the areas of arts, science and commerce. The same trend can be seen in the state of Assam as well, with 61% of the total number of institutes offering programs in arts, science and commerce. Institutes offering programs in teacher education constitute 7% of all institutes. Engineering/ technology/ architecture, Medical and Polytechnics all constitute nearly 2% each of all institutes in higher education in the state.

As seen in Figure 6, the maximum growth in the number of institutes between 2006-07 and 2009-10 has been in the fields of engineering/ technology/ architecture, with a CAGR of 30.68%. This is followed by growth of other institutions in the field of Law, Management, MCA/IT, Agriculture (73.12%) etc. Thus, there have been credible efforts on promoting education in field of engineering as well as other fields besides mainstream subjects. On the other hand, the number of institutes offering programs in the areas of medicine (-11.04%), arts, science and commerce (ASC) (-1.5%) and Polytechnics (-5.83%) has declined. This is a worrying sign, as polytechnics are required to improve employability of students.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Table 5: Distribution Enrolment at Undergraduate (UG) and Postgraduate (PG) level in 2009-10

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
Arts	1,45,572	7,745	1,53,317	95	5
Commerce	16,708	1,109	17,817	94	6
Science	31,532	4,408	35,940	88	11
Engg. / Tech./ Arch./ Design	8,556	442	8,998	95	5
Medicine	2,556	297	2,853	90	10
Agriculture & Allied	759	163	922	82	18
Management (General, Travel, Tourism)	213	281	494	43	57
Teacher Education	2,388	544	2,932	81	19
Law	7,177	404	7,581	95	5
Others	148	89	237	62	38
Total	2,15,609	15,482	2,31,091	93	7

Source: Statistics of Higher & Technical Education, MoHRD

As can be seen in Table 5, the number of students enrolled at the undergraduate level (93%) is significantly higher than the number of students at the postgraduate level (7%) across various faculties. The faculty of management, however, has equivalent number of students enrolling for both, the under graduate (43%) and postgraduate program (57%). The faculties with maximum number of enrolment are the ASC streams, followed by Engineering, Technology & Architecture and then by Law.

In terms of total enrolment, the maximum growth has been registered in the faculties of Engineering/ Technology/ Architecture/ Design (30.1%), followed by Arts (.42%) and Commerce streams (.37%). The streams of Management and Science have seen the least growth, with enrolment in management declining at 14.64% and enrolment in Science also declining at 11.13%.

Table 6: Faculty Wise Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) level between 2007-08 and 2009-10

Faculty	Total Enrolment (UG+PG)		CAGR (%)
	2007-08	2009-10	
Arts	1,52,027	1,53,317	0.42
Commerce	17,685	17,817	0.37
Science	45,504	35,940	-11.13
Engg. / Tech./ Arch./ Design	5,316	8,998	30.10
Medicine	2,853	2,853	0.00
Agriculture & Allied	922	922	0.00
Management (General, Travel, Tourism)	678	494	-14.64
Teacher Education	2,932	2,932	0.00
Law	7,569	7,581	0.08
Others	238	237	-0.21
Total	2,35,724	2,31,091	-0.99

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Both central universities of the state have been rated B (Good) by NAAC. Dibrugarh and Guahati universities, both being state universities, have also been ranked B (Good). Out of 44 colleges in Assam that were assessed by NAAC, 16% of them have been ranked A (Very Good), 82% have been ranked B (Good) and 2% colleges have been ranked C (Satisfactory)²⁰.

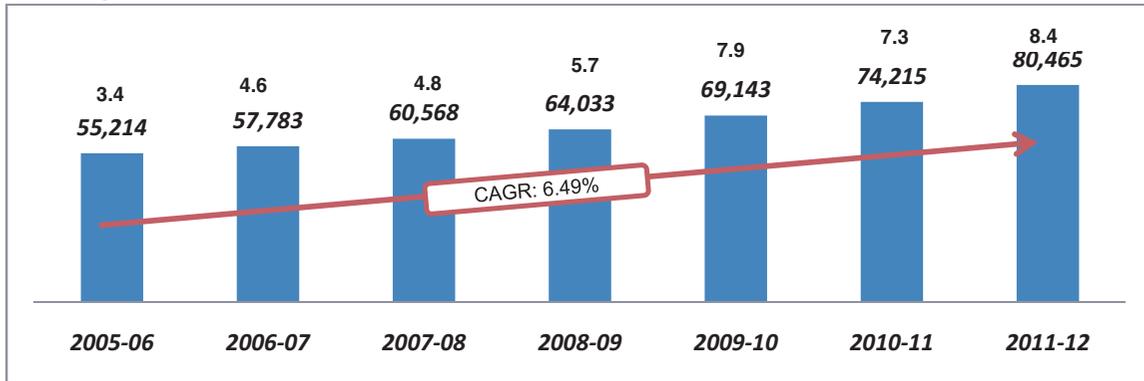
Industry and Employment Scenario

Overview of Economy

Assam is the largest economy of the Northeast region. It is the most industrially advanced state in Northeast India, mainly because of its comparative proximity to the rest of the country and availability of infrastructure. Assam constitutes 1.5 % of India's GDP at constant prices.

²⁰National Accreditation and Assessment Council

Figure 7: Gross State Domestic Product at Constant Prices between 2005 and 2012



Source: Planning Commission Database, Note: Bold Figure indicates % Growth over previous year

The state has steadily grown at a healthy rate of 6.5%. As can be seen from Figure 7, the Year on Year growth rate has increased gradually with the growth over previous year being 8.4% in 2011-12. Currently Assam's GSDP at Constant Prices stands at Rs 80,465 Crore, which is the highest GSDP in the Northeast region of the country.

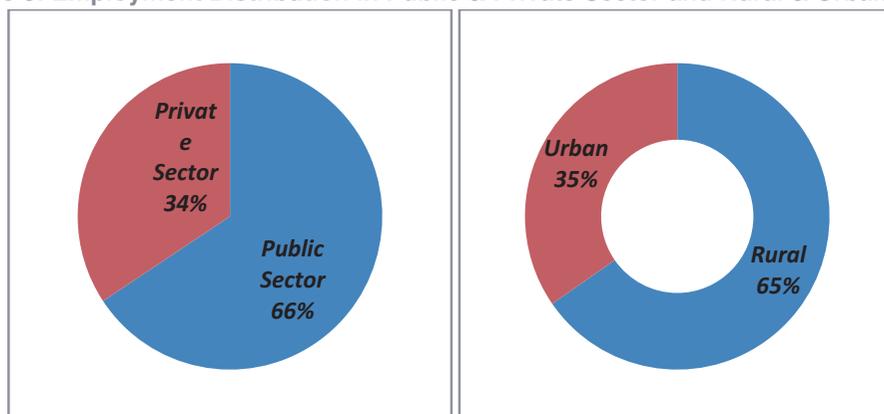
Table 7: Gross Domestic Product of States and India in 2011-12

State/ Country	Gross State Domestic Product at Constant Prices in 2011-12 (In Rs Crore)
Arunachal Pradesh	5,899
Assam	80,465
Manipur	7632
Meghalaya	11,760
Mizoram	N.A
Nagaland	8,929
Sikkim	N.A
Tripura	15,463
India	52,22,027

Source: Planning Commission Database

Employment Scenario

Figure 8: Employment Distribution in Public & Private Sector and Rural & Urban Areas



Source: Economic Survey of Assam, 2011-12

Source: Fifth Economic Census

According to the Economic Survey of Assam - 2011-12, the total employment in the public and private sector establishments under EMI program in 2010 was 11.14 lakh (5.31 lakh in public sector and 5.82 lakh in private sector) compared to 11.03 lakh (5.32 lakh in public sector and 5.71 lakh in private sector) in 2009. This shows an improvement of 1% in the employment scenario, with the private sector being the major contributor.²¹

As per the 5th Economic Census and seen in Figure 8 above, out of the 22,08,169 persons engaged in the unorganized sector, 14,42,854 persons were in rural establishment (65%) and 7,65,315 persons were in urban establishments (35%).²²

Table 8: Distribution of Educated Job Seeker Registered with Employment Exchanges in Assam

Level of Education	2009	2010	Percentage Increase/Decrease
Engineering Graduate	271	385	42.07
Medical Graduate	165	197	19.39
Agriculture Graduate	186	156	-16.13
Veterinary Graduate	69	53	(-) 23.19
Graduated Trainees			
a) Engineering	1,319	1574	19.33
b) Non-Engg. Trade	751	893	18.91
Post Graduates	4780	3002	(-) 37.20
Graduates	28,598	34,012	18.93
H.S.S.L.C.	39,999	47,681	19.21
H.S.L.C.	78,005	93,054	19.29
Diploma Holders (Engg.)	293	249	(-) 15.02
Others	563	487	(-) 13.50
Total	1,54,999	1,81,743	17.25

Source: Directorate of Employment and Craftsmen Training, Assam.

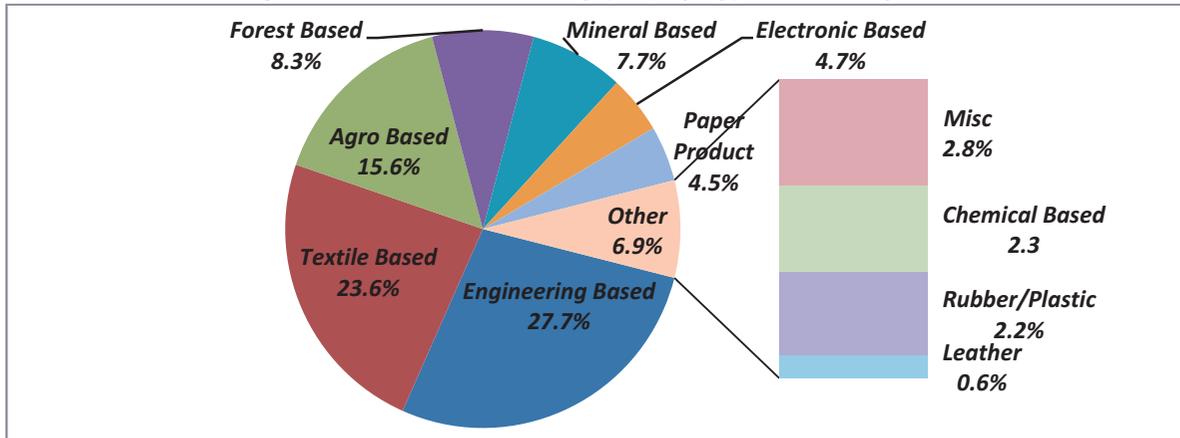
In 2010, there were 2,606 vacancies notified with the employment exchanges²³, however there was 1.8 Lakh registered job seekers at all levels of education in the state. The size of the educated job seekers is considerably high in the state, which is a major challenge for this growing economy. As can be seen in Table 8, the percentage of engineering, and medical graduates registering with employment exchanges has increased considerably. This is not a Good sign for the socioeconomic status of the state. However, the number of postgraduates registering has declined by 37%, which is an encouraging sign that PG students are managing to find gainful employment in the state.

²¹ Labour, Employment and Wages, Economic Survey, Assam, 2010-11

²² Fifth Economic Census, 2005

²³ Labour, Employment and Wages, Economic Survey, Assam, 2010-11

Figure 9: Small Scale Industry (SSI) by Type of Industry

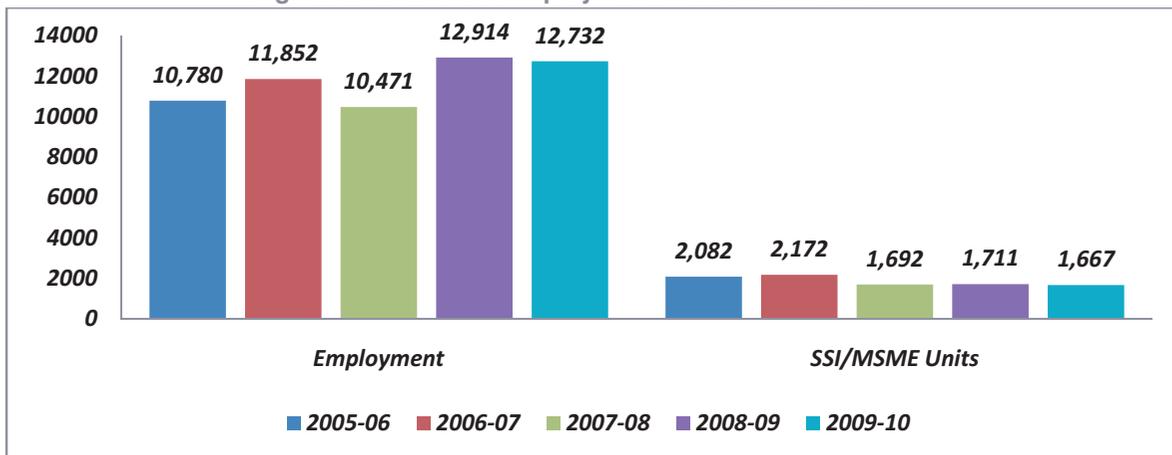


Source: Economic Survey of Assam 2010-11

There are 3,900 registered manufacturing units in Assam, which are distributed across all the districts in the state offering employment to around 1.4 lakh people. The majority of these units are involved in food processing sector. Informal sector plays a key role in the economy, providing employment to over 22 lakh people. Most of these are employed in public administration, retail trade and agricultural activities.²⁴ In 2009, there were 3,971 factories (registered under Factory Act, 1948) in the State, providing employment to 1,37,164 persons. The maximum workers were engaged in manufacturing of food and beverage (48.4%) followed by manufacturing of other non-metallic mineral products (18.8%), manufacturing of wood and products of wood and cork (except furniture), articles of straw and plaiting materials (5.6%) and manufacturing of chemicals and chemical products (4.2%). The increase of employment in 2009 was 6% as against 6.4% increase in factories over 2008.²⁵

As can be seen from Figure 10 below, small-scale industries (SSI) in the state are predominantly dominated by engineering based (27.7%) and textile based (23.6%) industries. Agro based and forest based industry combined form 23.9% of all industries in the state.

Figure 10: Growth of Employment in SSI/MSME Units



Source: Directorate of Industries & Commerce, Assam.

The employment scenario in small-scale industries (SSI) and Micro, Small and Medium Enterprises (MSME) units is a bit skewed in state. The employment between 2005 and 2010 has increased at a

²⁴ NSDC Skill Gap Study of the North East - Assam

²⁵ Industry, Trade and Mining, Economic Survey, Assam, 2010-11

rate of 4.25% but the number of SSI/MSME units has declined at a rate of 5.41% in the same time period. Such an inverted relationship between employment figures and the number of industry units can only be signified by the fact that the average number of employment per unit has increased from 5.2 in 2005-06 to 7.6 in 2009-10, an increase of nearly 50%. There were 34,327 SSI/MSME units in Assam and they provided employment to 1,78,054 persons at the end of 2010-11.²⁶

Key industries²⁷

Assam is rich in natural resources such as natural oil and gas, rubber, tea, and minerals such as granite, limestone and kaolin. Assam tea is a well-recognized product all over the world. Some of the industries and the respective key players are described in the following section:

1. Tea

- Tea occupies an important place among all the agriculture-based industries in the state. About 17% of the workers of Assam are engaged in the tea industry.
- Assam produces around 55% of the tea produced in India and about one-sixth of the tea produced in the world.
- Key players in this sector are Assam Tea Corporation Limited, Assam Company India Limited, Tata Tea Limited, Williamson Magor Group, Apeejay Tea Limited and Mcleod Russel India Limited

2. Energy: Coal, Oil and Gas

- Assam accounts for about 15% of India's crude output. The wells at Digboi, Duliajan, Sivasagar, etc., produce natural gas, which accounts for about 50% of India's total onshore-production.
- Coal occurs mainly in upper Assam districts, the proved reserve of coal in this belt is about 340 million tones.
- Key players are Bongaigaon Refineries and Petrochemicals Limited, Indian Oil Corporation Limited, Oil and Natural Gas Corporation Limited, Oil India Limited, Assam Gas Company Limited.

3. Limestone and Cement

- Limestone is an important mineral, which is used in the manufacturing of cement. Several cement factories have come up in Assam because of availability of high quality limestone in the region.
- Key players are Cement Corporation of India Ltd., Barak Valley Cements Ltd and RCL Cement Private Ltd.

4. Agriculture and Horticulture

- Agriculture accounts for over a third of Assam's income and employs 69% of workforce. Agriculture and allied activities contribute around 40% to the state's GDP.
- The agro-climatic conditions support cultivation of a wide range of horticultural crops including plantation crops and various fruits and vegetables, flowers, spices, medicinal and aromatic plants, nut crops and tuber crops.

5. Tourism

- According to the Ministry of Tourism, 3.9 million tourists visited Assam during 2009 – the highest among the north-eastern states.
- Assam is a tourist destination for nature lovers, wildlife enthusiasts, leisure tourists, ornithologists and photographers from all over the world.

²⁶Economic Survey of Assam 2010-11

²⁷India Brand Equity Foundation- Assam, State Report

6. Traditional cottage industry

- Assam is traditionally famous for its cottage industry, especially, spinning, weaving and sericulture. Bell-metal work is another traditional cottage industry of the state. Brass-work is also an important traditional handicraft.

7. Sericulture

- The climate and general environment of the state is well suited for sericulture. Traditional varieties of silk cultured include eri, muga and mulberry. The muga silk, known for its fine sheen and golden colour, is used by the local silk-weaving industry and has contributed to the development of the muga in the state.
- Assam produces about 10% of total natural silks of India. The state contributes 99% and 65% respectively, to the total muga and eri raw silk production in the country.

Current Initiatives and Key Challenges in Higher Education

Current Challenges

Some of the challenges that plague the state of higher and technical education in Assam are:

- The current Gross Enrolment Ratio stands at 7.04%, which is much lower than the national average of 13.58%.
- Due to poor quality of education, many students go out of the state to pursue higher education, that they finance themselves.
- The state does not have enough quality infrastructures with regard to hostels and classrooms.
- There is a need to improve quality of education and make provisions for additional capacity in existing Colleges so as to prevent students from seeking higher education in other states. Provisions need to be undertaken to expand existing institutions for accelerating GER.
- New scheme of higher education, like diploma courses in Engineering Colleges, are needed.
- Need for better management of finances for higher education for overall coordinated development
- To maintain a state database of higher education and assess the 'push factors' that could help in policy development.
- Higher and technical education departments should provide the latest market driven and job oriented courses so as to strike a balance between traditional and new subjects.

Initiatives Undertaken

- To stop the brain drain of students in the state, existing Universities have been directed to commence at least 2 new job oriented and vocational courses in each of the government colleges.
- Digital classroom and digital libraries have been setup in most of the government institutes.
- Introduction of Science and Commerce stream in all the existing provincilised colleges so as to encourage students to take up such streams.
- To act as a nodal agency for standardization of education, a 'Higher Education Mission' has been established, which will look into the bottlenecks of Higher Education in the state and prescribe corrective measures for the same.

Initiatives Proposed²⁸

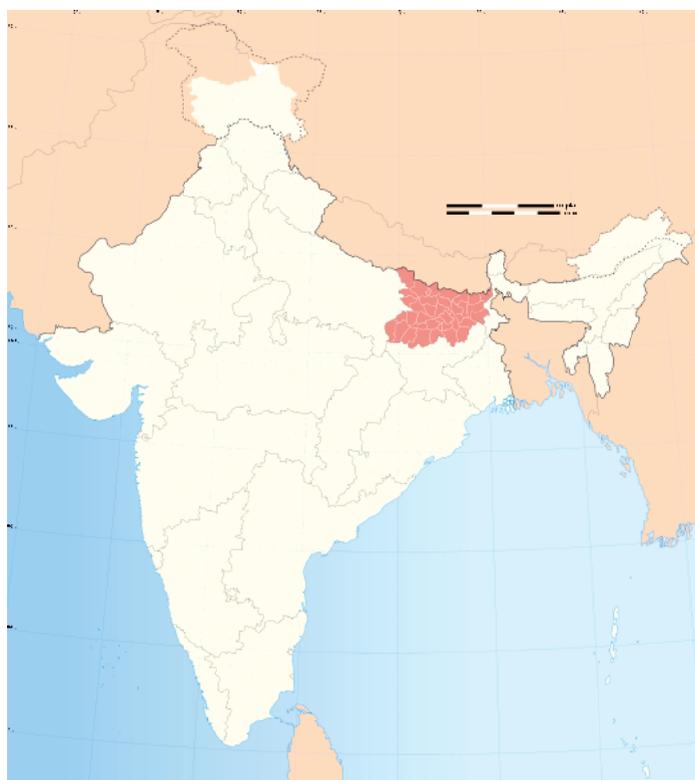
Assam at present has 2 State engineering colleges along with another 2 Engineering Colleges under Society Act, 9 Polytechnics and 2 Junior Technical School under the Directorate of Technical Education. In comparison to all India the ratio of degree level and Diploma level institutions are very less in the State. To boost technical education in the state, Assam government has decided to establish a Women University, 1 University of Science and Technology, 3 new Engineering colleges and 3 polytechnics in the state. The state government has also proposed to upgrade some branches of the existing two Polytechnics to Degree level and upgrade the two Junior Technical Schools to Diploma level institution during the Eleventh Five Year Plan.

The main objectives of the 11th Five Year Plan were as follows:

- Consolidation and qualitative improvement program.
- Infrastructural development.
- Improvement of overall institutional efficiency.
- Diversification of courses.
- Completion of Tezpur Polytechnic.
- Release of existing and due liabilities to Dibrugarh University.
- To establish three new State Engineering College.
- Establishment of a University of Science and Technology.

²⁸Assam Economic Review 2010-11

State Focus: Bihar



State Profile

Capital	Patna
Total Area (in sq. km.)	99,200
Total Population	10,38,04,637
Population Density (per sq. km.)	1,102
Number of Districts	38
Literacy Rate (%)	63.82
Sex Ratio (per 1,000 males)	916
State Domestic Product, 2010-11 (In Rs. Crore)	1,95,050
Per capita income, 2009-10 (Rs.)	20,069

Introduction

Bihar is located in the eastern part of India and is an entirely land locked state. It is bounded by Nepal in the north and by Jharkhand in the south. The Bihar plain is divided into two unequal halves by the river Ganga, which flows through the middle from west to east. Bihar lies mid-way between West Bengal in the east and Uttar Pradesh in the west, which provides it with a transitional position in respect to climate, economy and culture.

It is the 12th largest state in terms of geographical size and the 3rd largest by population. Almost 58% of Bihar's population is below the age of 25, which is the highest proportion in India.²⁹ The improved governance has led to an economic revival in the state through increased investment in infrastructure, better health care facilities, greater emphasis on education, and a diminution in crime and corruption³⁰. Indian and global business and economic leaders feel that Bihar now has Good opportunity to sustain its growth. Such progressive projections have led many business and economic leaders to invest in the state.³¹ The state also has a large base of industrial labour, making it an ideal destination for a wide range of industries.

The state has been a major centre of learning as it was home to the universities of Nalanda (one of the earliest universities of India dating back to the 5th century) and Vikramshila. The state now has institutes of national importance such as National Institute of Technology (NIT) and Indian Institute of Technology (IIT), which provide skilled manpower to the industry.

Universities and University Level Institutes

The higher education landscape of Bihar is characterized by 14 state universities, 2 deemed universities and 1 central university. In addition to these universities, there are 2 Institutes of National Importance located in the state. Bihar is one of five states in the country that does not have any private university established in them. The absence of private universities is mainly due to the abundance of traditional and specialized universities in the state

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Bihar (2011-12)	India (2011-12)
State University	14	285
Private University	0	112
Institution of National Importance	2	39
Deemed University	2	129
Central University	1	40
Total	19	605

Source: UGC

After separation of Jharkhand from Bihar, no national level institution was present in the state. The state government felt that unless modern institutions for technical and professional courses are established, the out of state migration of students would not be checked. Hence, the state has set up Chanakya National Law University, Chandragupta Institute of Management, National Institute of Fashion Technology, Arya Bhatt Knowledge University, and the Birla Institute of Technology in the last 5 years.³²

²⁹ "The Economic Strangulation of Bihar", Centre for Policy Alternatives, New Delhi, India

³⁰ "Bihar witnesses a quiet transformation", Sharma, Supriya; Jha, Abhay Mohan (15 July 2008)

³¹ "English makes inroads in Bihar villages", Jha, Abhay Mohan (8 March 2008).

³² Bihar's Approach to 12th Five Year Plan

The state has taken steps to revive the famous Nalanda University. The state government has given 463 acres of land for the establishment for the same. Bihar has 500 colleges for higher education, and amongst these roughly half of them are constituent colleges and the rest are private colleges affiliated to various universities in the state.

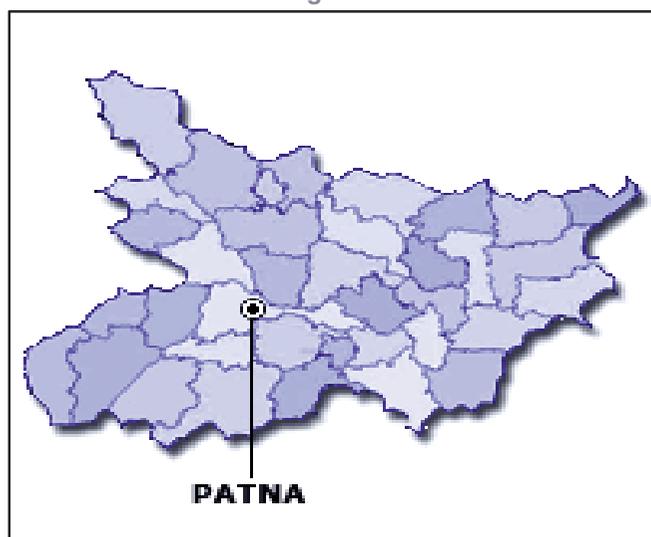
The universities present in Bihar provide a diverse variety of specialized fields; some of the specializations that one can find in these universities are Pharmaceutical Education & Research, General studies, Legal Studies, Agriculture studies, Science & Technology, Foreign & Local languages including Sanskrit, Arabic & Persian, Distance education, Buddhism & Pali and Yoga.

The state capital of Patna, known, as the oldest continuously inhabited place in the world³³ houses many prominent institutes of the state. The two institutes of national importance of the state - the Indian Institute of Technology (IIT) and the National Institute of Technology (NIT) are both located in the capital. The IIT in Bihar was established in 2008 and is one of the eight new IITs that were established by the Government of India. The NIT was formerly known as the Bihar College of Engineering and was converted to an NIT in 2004.

Patna University, the oldest state university and the seventh oldest university of the Indian subcontinent were established in 1917. The university has several colleges and institutions, which cover various areas of study including law, teacher training, science, arts, commerce, medicine and engineering. Since 1974, the university also has a Directorate of Distance Education. Patna College was founded on 9th January 1863 during the British Raj and is now affiliated to Patna University. It is also considered to be the oldest institution of higher education in Bihar.

The B.R. Ambedkar University is located in the Northern part of the state, in the city of Muzzaffarpur. It is the second oldest state university after Patna University and has 37 constituent colleges. It is a premier institution of teaching and learning in the city and offers full-time and part-time programs ranging from undergraduate to postgraduate distance education and research level studies.

Figure 1: Some of the Premier Institutes in Bihar



- Lalit Narayan Mithila University, Darbhanga
- Kameshwar Singh Darbhanga Sanskrit University
- B.R. Ambedkar University

- Women's Institute of Technology, Patna
- IIT & NIT, Patna
- Patna University, Patna
- Birla Institute of Technology & NSIT, Patna
- Chandragupta Institute of Management
- AIIMS, Patna
- National Institute of Fashion Technology (NIFT), Patna
- Chanakya National Law University, Patna

- Central University of Bihar, Mothari
- Central University of Bihar, Gaya

The Central University of Bihar has two campuses, located in Gaya and Mothari. This central university was established in 2009 and functioned temporarily from Birla Institute of Technology in

³³ "Populations of Largest Cities in PMNs from 2000BC to 1988AD". 22 August 2008.

Patna. However, after 3 years it finally established its own campus at Gaya. The university offers only postgraduate studies in various fields. Prominent engineering institutes in Bihar, besides IIT & NIT, are the Birla Institute of Technology (BIT) in Patna, Muzaffarpur Institute of Technology (MIT) at Muzaffarpur, Netaji Subhas Institute of Technology (NSIT) at Patna and Women's Institute of Technology at Darbhanga.

Some of the well known medical institutes in the state are Jai Prakash Narayan, All India Institute of Medical Sciences (AIIMS), Patna, Indira Gandhi Institute of Medical Sciences, Patna and Patna Medical College & Hospital. Chandragupta Institute of Management, Patna is one of the leading management schools in the state and was established on the lines of the IIMs. The Chanakya National Law University (CNLU) is an autonomous law schools in India located in Patna. It was established in 2006 by the Government of Bihar as a public university dedicated to the field of legal education.

Key Higher Education Indicators: Institutes & Enrolment

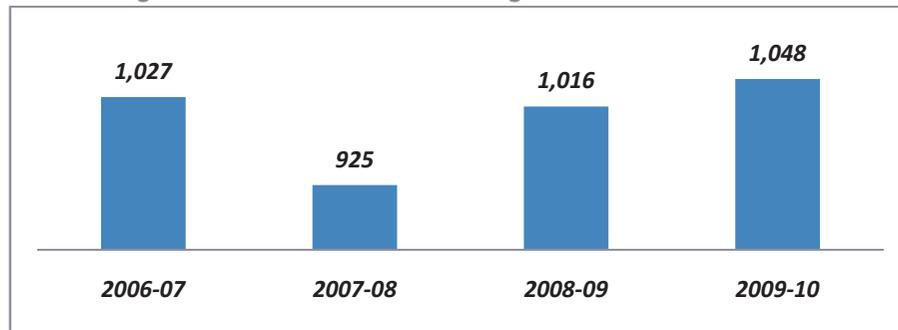
The higher education sector in Bihar comprises college and university education, both for general and technical streams. The apex institutions for higher education are the universities in the state. Presently, 15 universities are functional in the state, out of which 13 are traditional universities of which one is a central university and two of them are open universities. There are 817 colleges, which are distributed amongst 13 traditional universities. Out of these colleges, 451 are government colleges and they constitute to more than half of the total number of colleges. Apart from the government colleges, there are 97 local body colleges and 267 colleges of other types.

Providing professional training to the prospective school teachers is another component of the higher education system in Bihar. Presently, there are 33 teacher training centres in Bihar. Out of these 33 institutions, 10 were established in 2010, in response to substantial expansion of elementary and secondary education in Bihar. Compared to the number of institutions for general education, the number of institutions for technical education is rather limited in Bihar as there are only 10 colleges for engineering education. Out of these 10 colleges, 2 were established in 2009, widening the opportunity for engineering and technical education in Bihar. All the institutions of higher education mentioned above are managed and financed by the state government. However, these government institutions of education are not enough to meet the entire demand for higher education programs. Consequently, a number of private institutions have come up in recent years in Bihar, offering generally technical and vocational education. There were only 63 such private institutions in 2001, but their number to 164 in 2008 and further to 251 in 2010. According to the Economic Survey of Bihar in 2010-11, there were 15 research institutes covering various disciplines.³⁴

The growth rate in the number of higher education institutes in Bihar stands at a very low rate of 0.67% in comparison to the national Compounded Annual Growth Rate (CAGR) of 7%, which indicates a below average performance in ensuring access to higher education. Bihar is way behind in terms of the number of higher education institutions per million of population. In particular, the availability of engineering colleges, medical colleges, polytechnic colleges and teacher training colleges is very low.

³⁴Economic Survey of Bihar, 2010-11

Figure 2: Growth in Number of Higher Education Institutes

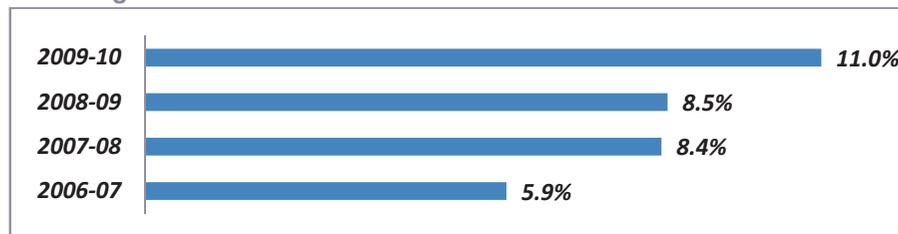


Source: Statistics of Higher & Technical Education, MoHRD 2006-10

Bihar has negligibly small number of technical institutions, amounting to only 0.56 % engineering colleges and 0.76% polytechnic institutions of the total number of technical institutions in the country. These figures indicate that Bihar requires quantitative expansion along with bringing qualitative and innovative changes in its technical institutions. This would help the state to bridge the gap between demand and supply and would also ensure access to demand driven technical/professional education for all sections of society at an affordable cost.

The state's Gross Enrolment Ratio has almost doubled between the years 2006 and 2010, however the ratio is still at a very low level and in the year 2009-10 it was a mere 11%. This was far below the national average of 15% in 2009-10; hence major steps are needed in order to increase enrolments in the state. Many senior secondary graduates want an entry into higher education institutions in Bihar. However, due to insufficient capacity, many of them migrate to other states for admission in the higher education institutions. Bihar's approach to the 12th Five Year Plan is to reach the Gross Enrolment Ratio (GER) of 20% in higher education, which is to be achieved by the end of the 12th Plan period³⁵. The state has a very low GER as seen in Figure 4, in comparison to other states and union territories of the country and ranked 27th in GER of 18-24 years age group in the year 2009-10.

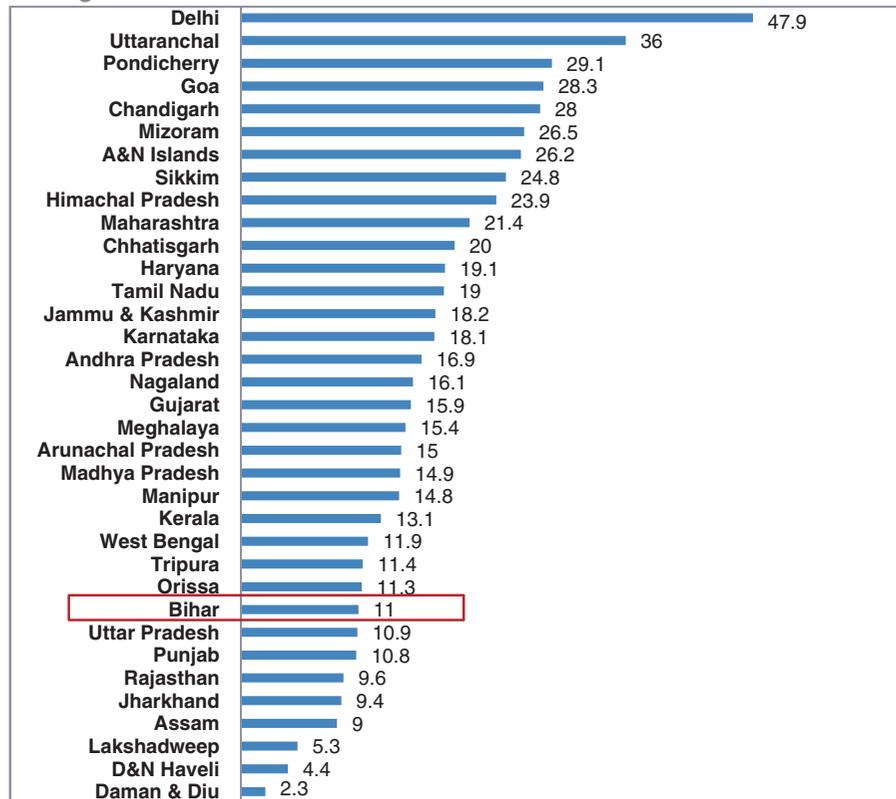
Figure 3: Gross Enrolment Ratio between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

³⁵Bihar's Approach to 12th Five Year Plan

Figure 4: Gross Enrolment Ratio across all states in India in 2009-10



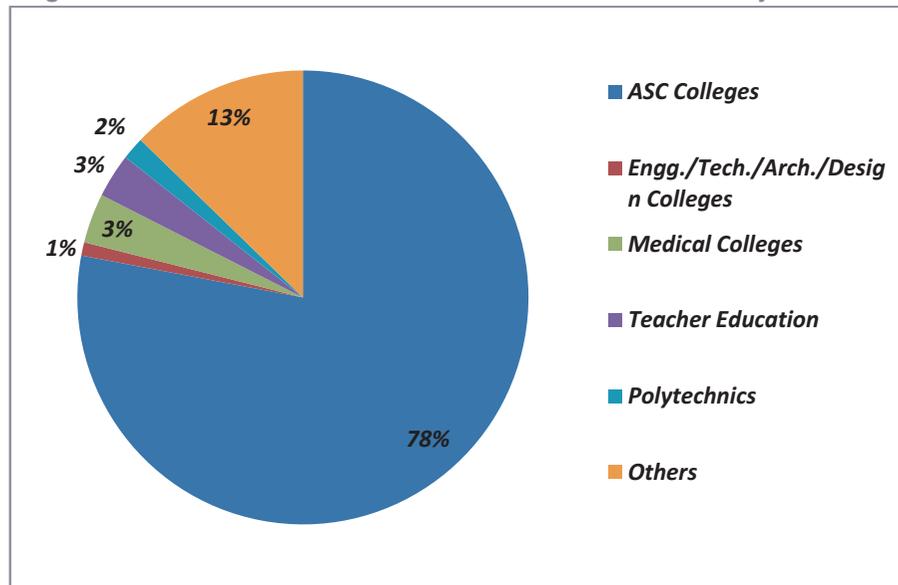
Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

The following sections describe the current scenario of higher and technical education in Bihar, as well as the trends that have been seen in the state in the near past. The next section focuses on the industry and employment situation in the state and links its relevance to higher education in the state. The report concludes with the key challenges faced in higher and technical education in Bihar and elaborates some of the key initiatives and policies that have been undertaken by the government to ensure quality, access and relevance of higher education in the state of Bihar.

Growth in Higher Education Institutes & Enrolment

It has been documented that at the national level, the dominant programs that are being offered in higher education are in the streams of arts, science & commerce (ASC). A similar trend was seen the state of Bihar as well, with 78% of the total number of institutes offering programs in ASC streams in 2009-10. Institutes offering programs in Teacher Education (3%) and Medicine (3%) are the second most dominant category. Unlike most other states, the institutes in the fields of engineering, technology, architecture and design are very few in Bihar and constituted only 1% of all major institutes in the state in the year 2009-10.

Figure 5: Distribution of Number of Institutes Based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

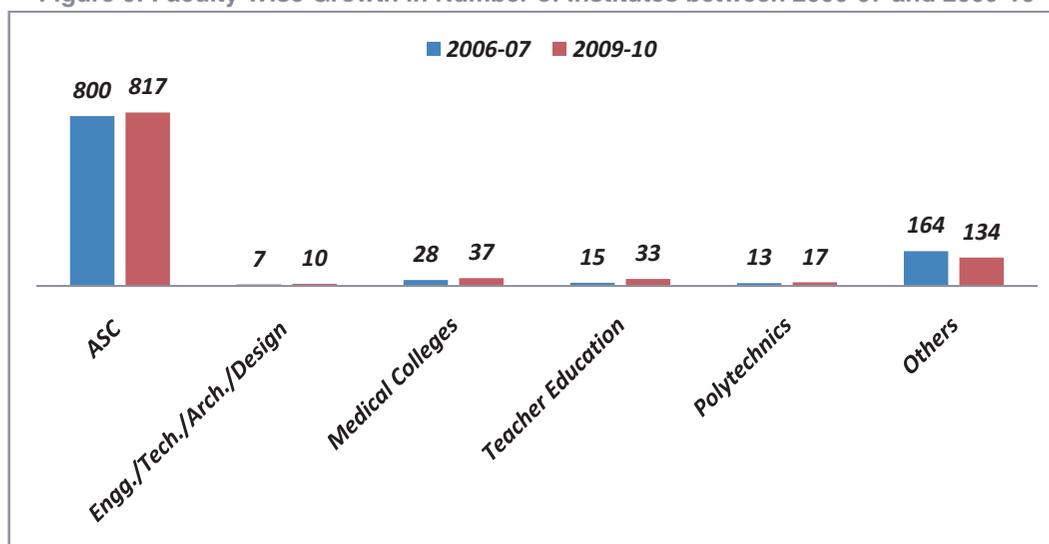
With reference to CAGR, the maximum growth in the number of institutes between the years 2006-07 and 2009-10 was in the fields of Teacher Education, with a CAGR of 29.72%, as seen in Figure 6; followed by engineering institutes with 12.49% growth over a 4 year period, although only 3 new institutes were added to the pre-existing 7 institutes in 4 years. The number of Polytechnic institutes grew steadily in the state at a rate of 9.26%.

The least amount of growth was seen in the number of ASC Colleges, at 0.7%. This is indicative of a shift in higher education from general streams such as Arts, Science and Commerce to more specialized streams at both undergraduate and postgraduate levels.

Some of the initiatives that the government is planning with respect to increasing the number of technical institutes are that every district must have at least one engineering college amongst other such initiatives. Accordingly the government has proposed to establish at least one engineering college in the remaining uncovered 32 districts through PPP mode. Every subdivision must have at least one polytechnic institution in government sector or under PPP mode. The target will be to churn out 1,00,000 vocationally trained individuals annually in long term trades and 5,00,000 individuals annually in short term market driven trades.³⁶

³⁶Bihar's Approach to 12th Five Year Plan

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-07 & 2009-10

With regard to the various faculties in 2009-10, the number of students enrolled at the undergraduate (UG) level (94.22%) was significantly higher than the number of students at the postgraduate (PG) level (5.78%) as depicted in Table 4. The faculty of Teacher Education, however, has equivalent number of students enrolling for both the UG (59.8%) and PG (40.2%) programs in 2009-10. The faculty of Management also registered a similar pattern with 76.97% enrolled at UG level and 23.03% enrolled at PG level.

The stream of Arts, Science and Commerce (ASC) had the maximum enrolment figure at both UG and PG Level, constituting 90.8% of all enrolment in 2009-10. The lowest enrolment was in the faculty of Agriculture (0.1%) followed by management (.4%) at both UG & PG level combined.

Table 4: Distribution of Enrolment at Undergraduate (UG) and Postgraduate (PG) level in 2009-10

Faculty	UG	UG (%)	PG	PG (%)	Total
Arts	5,76,511	94.06	36,418	5.94	6,12,929
Commerce	70,048	96.92	2,228	3.08	72,276
Science	1,47,397	94.30	8,912	5.70	1,56,309
Engg. /Tech./Arch.	8,880	99.97	3	0.03	8,883
Medicine	10,200	98.64	141	1.36	10,341
Agriculture	1,359	94.51	79	5.49	1,438
Management	3,021	76.97	904	23.03	3,925
Teacher Education	4,634	59.80	3,115	40.20	7,749
Law	14,805	99.83	25	0.17	14,830
Others	36,130	95.50	1,702	4.50	37,832
Total	8,72,985	94.22	53,527	5.78	9,26,512
Post School Diploma	17,829				
Post Graduate Diploma	956				

Source: Statistics of Higher & Technical Education, MoHRD, 2007-08 & 2009-10

High proportion of enrolment at UG level in ASC streams is considered normal, however the minimal enrolment at PG level in all streams (5.78%) is a cause of concern as students in the state are not considering higher specialized studies and are preferring post School diploma courses rather than

post graduate diploma courses to enhance their employability. Thus it can be seen that out of the 18,785 students enrolled in Diploma courses, 94.91% were enrolling themselves in post school diploma courses and only 5.09% were enrolled in postgraduate diploma programs in 2009-10.

In terms of total enrolment, the maximum growth between 2007-08 and 2009-10 was registered in the faculties of management (174.48%), followed by Teacher Education (99.05%) and Arts streams (69.57%).

The Commerce (-25.74%) and Agriculture (-43.07%) streams showed negative growth in enrolments. The Engineering faculty, however, recorded a stagnant positive growth of 0.05% over a period of 3 years. Overall the growth in enrolments between 2007 and 2010 was steady at 49.26% with strong growth at UG level (54.11% growth); however there was a decline in enrolment growth at the PG level, with a rate of 1.36%.

The faculty of Commerce witnessed declining growth, both at UG (-22.44%) and PG (-68.23%) levels. The stream of Management was able to grow at a healthy rate, both at UG (180.76%) and PG (155.37%) levels. Thus, we can conclude that the state's student body is showing greater interest in pursuing management and management related courses at both UG and PG level of study.

Both Post School Diploma and Post Graduate Diploma showed positive growth at 49.52% and 101.69% respectively, between 2007-08 and 2009-10. Such positive growth may be due to an increased demand for job-oriented courses amongst the students of Bihar and their preference shifting from long term specialized degree to shorter term vocational degrees after high school graduation and at undergraduate levels.

Table 5: Faculty wise Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) level between 2007-08 and 2009-10

Faculty	UG +PG		Growth (%)		
	2007-08	2009-10	UG	PG	Total
Arts	3,61,454	6,12,929	76.44	4.95	69.57
Commerce	97,326	72,276	-22.44	-68.23	-25.74
Science	1,24,257	1,56,309	29.34	-13.48	25.79
Engg. /Tech./Arch.	8,879	8,883	0.54	-93.62	0.05
Medicine	6,279	10,341	67.41	-24.19	64.69
Agriculture	2,526	1,438	-45.53	154.84	-43.07
Management	1,430	3,925	180.76	155.37	174.48
Teacher Education	3,893	7,749	20.27	7,687.50	99.05
Law	10,857	14,830	38.02	-80.77	36.59
Others	3,834	37,832	1,425.12	16.18	886.75
Total	6,20,735	9,26,512	54.11	-1.36	49.26
Post School Diploma	11,924	17,829	49.52		
Post Graduate Diploma	474	956	101.69		

Source: Statistics of Higher & Technical Education, MoHRD, 2007-08 & 2009-10

Quality of Institutes

Only 11 colleges have been assessed and accredited by NAAC³⁷ up to 2012, out of which 5 received A (Very Good) rank, 5 received B (Good) rank and only 1 college received C (Satisfactory) rank.

³⁷National Accreditation and Assessment Council

Industry and Employment Scenario

Key Industries³⁸

The state provides investment opportunities in sectors such as agro-based industry, food processing, sugar, power, leather, manufacturing and tourism. The natural resources and policy incentives support the agro-based sector. Agro-based industry and petroleum products (primarily, Barauni oil refinery) account for roughly 85% of the total industrial output in the state. Bihar offers a wide range of policy incentives for businesses under the Industrial Incentive Policy, 2011 and also provides incentives for the sugar, renewable energy, food processing and tourism sectors.

Due to its unique location-specific advantage because of its proximity to the vast markets of East and North India), access to ports such as Kolkata and Haldia, raw material sources and mineral reserves from the neighboring states, Bihar is a prime destination for investment. A brief overview of the various key industries in Bihar is as given below:

1. Food Processing & Dairy

- Bihar is one of the largest producers of vegetables and fruits in the country. The advantages of the state make it a suitable place for setting up units in the food processing sector.
- The state is one of the leading producers of banana, mango, litchi and vegetables such as onions, tomato, potato and egg-plant in the country.
- Food processing is a priority sector for the State Government. Up to 40% of the project cost for setting up food processing units is subsidized by the State Government.
- Besides food processing, the State Government also promotes cooperative marketing of milk and dairy products. Major players in this sector are Bihar State Cooperative Milk Producers Federation (COMPFED) and Usher Agro Limited.

2. Chemicals, Oil & Gas

- The major drivers of chemical, oil and gas industry in Bihar are proximity to sea ports, availability of labour and the vast market of Eastern India.
- Petroleum & allied sectors are large contributors to the state's industrial value output as they have one of the largest public sector refineries in the country – Indian Oil Corporation Limited (IOCL).
- Prominent companies in this sector present in the state are Indian Oil Corporation Limited, Graphite India Limited and Krishi Rasayan Exports Private Limited.

3. Sugar

- Sugar, the largest agro-based industry in the state plays a prominent role in Bihar's economy.
- The North of the state is climatically well-suited for producing Good quality sugarcane with minimum inputs as compared to other states. The State Government offers incentive package to the sugar industry. The Sugarcane Institute in Pusa and Rajendra Agricultural University are engaged in sugarcane-related research activities.
- Major players in the sugar industry are K. K. Birla Group, Riga Sugar Company Limited, Vishnu Sugar Mills Limited and Eastern Sugar & Industries Limited.

4. Tourism

- The state has a rich cultural heritage as it is associated with pilgrimages and historical monuments related to religious gurus such as the Buddha, Mahavir, Guru Gobind Singh.

³⁸India Brand Equity Foundation – State report on Bihar

- Tourism in the state revolves around the Buddhist circuit (Bodhgaya, Rajgir, Nalanda), the Jain circuit (Bisram, Mandar hill, Champanagar) and the Sufi circuit.
- The State's Tourism Policy stresses on developing infrastructure and financing for tourism.

5. Manufacturing Industries

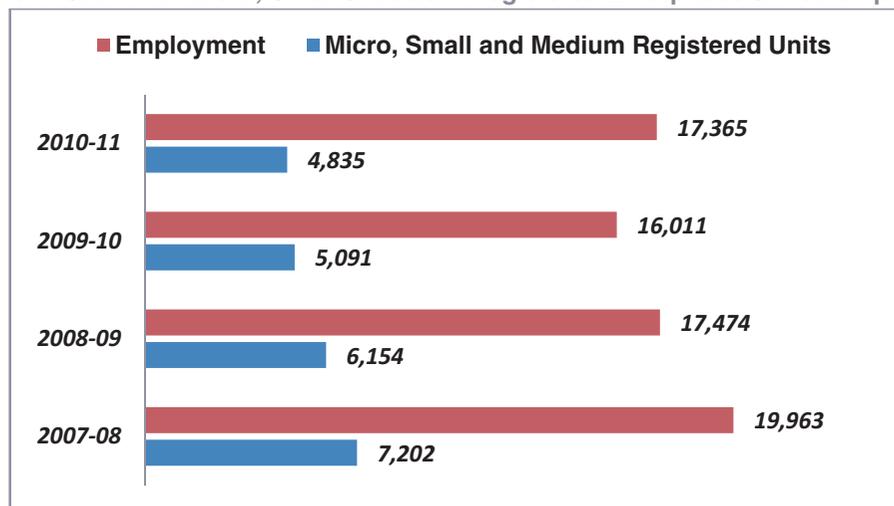
- The state has leather, textile and handloom industries as its prominent sectors, apart from some engineering units.
- The state has ample raw materials (hides and skin of livestock), technical skills (leather technology institutes) and manpower, which are the major drivers for leather industry in the state.
- Key players are Bata India Ltd, Bharat Wagon and Engineering Company and Gangotri Iron & Steel Company.

Employment Scenario

Bihar has a very strong base of young population. This can be converted into a major demographic dividend, if this population is linked with marketable skill sets. Thus, there is a need to stress upon marketable vocational skills beside formal education. This will also help in reducing unemployment rate, as the working age population will have appropriate skills to suit the needs of the market. The challenge before Bihar is to develop a sustainable quality based vocational education and training system that will enable employers to find the skilled labour inputs they need. At the same time, currently, unskilled workers must be empowered to develop skills in a trade and become upwardly mobile participants in the economy. Enhancing the employability quotient of the youth is reckoned to be one of the biggest challenges confronting the state.

The major agricultural products of Bihar are cereals, pulses and oilseeds, along with varieties of fruits and vegetables. However, the farmers have been unable to harness the full benefits of these important agricultural products in the absence of processing industries, which also have high potential for employment generation. The State Investment Promotion Board (SIPB) has approved a total of 603 project proposals till date. This involves a total investment of more than Rs. 2,48,000 crore and employment of 1.85 lakh persons.

Figure 7: Growth of Micro, Small & Medium Registered Enterprises & their employees



Source: Economic Survey of Bihar-2011

As can be seen in the Figure above, the number of Micro, Small and medium registered companies gradually decreased from 7,202 in 2007-08 to 4,835 in 2010-12. As a result employment in these units also declined from 19,963 in 2007-08 to 17,365 in 2010-11.

The Economic Census 2005 revealed that the state registered a growth of 17.31 % in the total number of establishments over the previous Economic Census of 1998. Bihar had 12.25 lakh establishments in 2005, of which 68.23% belonged to the rural and 31.77% to urban area. Out of the total number of enterprises, 62% belonged to the Own Account Establishments (OAE) category and 32% were establishments with at least one hired worker.

There were 2.85% Agricultural and 97.15% Non-Agricultural Establishments in the state. Of the total Agricultural Establishments, 25,000 or 72% belonged to the OAE category, while remaining 28% were under the group of Establishments with hired workers (EHW). In the category of Non-Agricultural Establishments, 7.95 lakh belonged to OAE group and 3.94 lakh belonged to Establishments with hired workers (EHW) in the state.

A total 22.69 lakh workers were working in 12.25 lakh establishments of the state. The number of total workers grew by only 1.62% in 2005 over 1998. Out of total workers, 61.9% were in rural areas, while 38.1% were in urban areas. There were 63,000 workers in Agricultural establishments and 22.06 lakh workers in Non-Agricultural establishments.³⁹

As per the Annual Survey of Industries (2008-09), with 1,777 factories in Bihar, its share in Indian factories declined from 1.22% in 2007-08 to 1.14% in 2008-09. The share of Bihar in fixed capital; working capital and persons employed also registered a decline in 2008-09 over 2007-08.⁴⁰

Key Challenges in Higher Education

In order to achieve better access to higher education, Bihar government needs to ensure that all subdivisions have adequate centers for higher learning. The issue of quality in higher education in Bihar and academic reforms, initiated during the 11th Plan at the national level, needs to be firmly addressed during 12th Plan.

In the area of higher education, there is a serious need for expanding the infrastructure of higher education to meet the growing demand in the society. During the 12th Plan the government of India will target a GER of 20% or more in higher education, thus it is necessary to raise the GER in higher education in Bihar to a level of 17% to 18% in order to keep parity with the other states. To address the same, large number of institutes should be established in the state. Some of the other challenges plaguing higher and technical education have been elaborated below.

Challenges in Higher Education

- Students don't opt for technical, professional and vocational courses in the state due to lack of quantity and quality. Most students seek technical and vocational programs in states.
- The state needs Management institutes and Engineering Colleges to promote technical and professional education. For such initiatives funding is required from Govt. of India, UGC, and AICTE.
- Infrastructure, recruitment of qualified teachers and laboratory facilities with necessary equipment are the need of the hour for Colleges to improve the quality of education
- GER in Bihar is 11% and needs to be increased to 18% (National Averages). For this purpose, there is a need for more Technical and Professional Institutes with quality infrastructure and qualified and competent teachers.
- The state should setup a State Council for Higher education
- All Higher Education initiatives in Bihar need assistance in the ratio 90:10 from the Govt. of India as the state has limited resources and cannot afford such an expansion.

³⁹ Fifth Economic Census-2005

⁴⁰ Annual Survey of Industries, 2008-09

- The state has 5 districts with no primary teacher training Colleges, 14 districts with 1 primary teacher training Colleges, highlighting a need for 19 new primary teacher training Colleges.
- The state has only 6 Govt. B.Ed. Colleges. However, Government of India mandates 1 Govt. B.Ed. College in every 3 districts hence there is a demand for 13 Govt. B.Ed. Colleges. A proposal has been sent for 7 new Government Colleges in the state.
- The gender parity index in higher education in Bihar is 0.49 whereas at all India level it is 0.70. It shows that the participation of woman in higher education in Bihar is quite low.

Challenges in Technical Education

- The Central Government's policies tend to neglect the need for technical institutions both as part of higher education and for science and technology interventions. Additionally, it is a stark fact that Bihar has negligible numbers of technical institutions (only 0.56% engineering colleges and 0.76% of polytechnic institutions of the total number in India).
- Lack of quality technical education and low availability of seats in Colleges has led to "Brain Drain" in the state. Students of Bihar excel in competitive exams and enter premier institutes across the country and abroad. This leads to an acute lack of quality manpower, which impedes industrial development in the state. Another essential challenge is the Non availability of latest technologies.
- Lack of application based learning for students and no or very little exposure to industry practices and trends. Few employment opportunities after diploma and graduation courses provided to students.
- Currently there is a huge shortage of quality faculties. The quality of training depends upon the quality of trainers. Trainers are needed to be trained regularly to enhance their technical knowledge.

Initiatives in Higher & Technical Education

The Government of Bihar and the Government of India together, try to enhance and improve the quality of higher and technical education in the state of Bihar by prescribing certain initiatives and policies that have been and will be accomplished in the next five years during the 12th Five Year Plan. Some of these initiatives include following best practices, infrastructural up gradation and increasing quality with the use of ICT tools. Some the current and proposed initiatives have been described briefly.

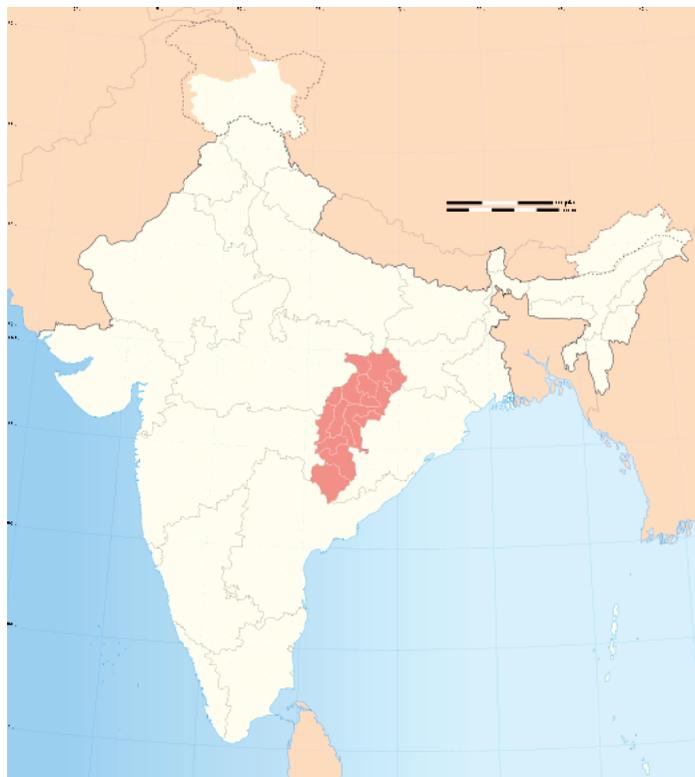
Initiatives undertaken in Higher Education

- Establishment of prestigious traditional Universities in the state including: Moulana Mazrul Haque Arabi Pharsi University, Chanakya National Law University, Aaryabhata Knowledge University, Nalanda Open University and Chandragupta Management Institute.
- Commencement of opening up of Model degree Colleges in 18 sub division districts having no constituent degree Colleges. 50 Colleges have been selected to be converted into centres of excellence.
- A Bihar State Educational Infrastructural Development Corporation has been established to deal with the huge infrastructure gap in secondary and higher education. A large number of schools, girl's hostels and degree colleges are to be set up. This corporation will create their physical infrastructure. This dedicated Corporation will not only develop physical infrastructure but will also do procurement in the field of education.
- FIST program for promoting quality higher education and research in Science education has been started in 229 constituent Colleges and 114 affiliated Colleges by department of Science and Government of India.

Initiatives Proposed in Higher & Technical Education

- Credit system and semester system that is on the national agenda would also be introduced in the colleges and universities of Bihar. Universities need to evolve a system of annual academic audit for colleges. All colleges and universities would be affiliated under 2F and 12B of UGC in order to attract central planned funding on a large scale.
- All universities and colleges should be accredited by NAAC.
- Govt. of India approved a plan to establish Polytechnics in 34 unreserved districts under submission on Polytechnic.
- Department of Science has invited Private promoters for establishing Diploma Level technical institutes in PPP mode under the guidance of AICTE.
- Government of India has given consent to establish IIIT in 11th Five Year Plan
- A proposal to establish a science complex-Planetarium in North & South Bihar is under active consideration in the 12th Five Year Plan so is an International Level Science City in Patna.
- Teacher Education Quality Improvement Program (TEQIP)-II will also be implemented in the 12th Five Year Plan after analysing the work of TEQIP-I.
- There is a requirement of quantitative expansion along with qualitative and innovative changes in technical institutions. This would help the state in bridging the gap between demand and supply of such facilities.
- All premier colleges would be encouraged to prepare for the autonomous college status or college with potential excellence status from UGC. So far, quality in higher learning centers of general education has not been addressed properly.
- Various steps will be taken for modernization and strengthening the laboratories/workshops as per latest technology. New laboratories will be established. Modernization of class rooms/computer centers and libraries will be carried out.
- It is proposed to establish two state-of the art technical teacher's training Institutes; one for ITI instructors and other for polytechnic/engineering teachers training Institute. For improving the quality of faculties of universities, each university should have its own academic staff college with core faculties in addition to UGC academic staff college where regular training/refresher courses will be conducted.
- Creating infrastructure for on the job training encouraging apprenticeships is a major requirement of quality higher education. The enabling infrastructure for large number of formal apprentices needs to be built.
- Providing industry input to curricula development; providing opportunity for students group to undertake problem solving projects; industry exposure for faculty; creating avenues for earning by learning; establishment of industry institute interaction cum placement cell; greater and wider acceptance of the course and institute and other steps deemed necessary for heightening such interactions.
- Giving incentive to take up research projects will reward the University/college faculty. This is necessary to attract Good faculty. To start postgraduate education and demand driven research and development, innovation in collaboration with industry and other knowledge users in existing institution is necessary. Faculties will be encouraged to take up projects from various stakeholders for technological solution.

State Focus: Chhattisgarh



State Profile

Capital	Raipur
Total Area (in sq. km.)	1,35,194
Total Population	2,55,40,196
Population Density (per sq. km.)	189
Number of Districts	16
Literacy Rate (%)	71.04
Sex Ratio (per 1,000 males)	991
State Domestic Product, 2010-11 (In Rs Crore)	1,10,243
Per capita income, 2010-11 (Rs.)	44,097

Introduction

Located in Central India, the state of Chhattisgarh was formed in the year 2000, by the partitioning of 16 south-eastern districts of Madhya Pradesh. It is the tenth largest state in India with an area of 1,35,190 sq. km. and is the 16th largest state in terms of population. The state shares its border with Madhya Pradesh, Maharashtra, Uttar Pradesh, Odisha, Jharkhand and Andhra Pradesh.

Mainly famous for its agriculture produce, the state is also known as the 'Rice Bowl of Central India'. The economy of the state is mainly supported through agriculture, electric power and steel production. Chhattisgarh is amongst the few profitable states in India in terms of utility-based electricity. Korba, situated in Chhattisgarh is, in fact termed as the 'Power Capital' of India, with the National Thermal Power Corporation's super thermal power plant working at 90% plant load factor. The state is also rich in its mineral resources and has deposits of limestone, iron-ore, copper, rock phosphate, manganese, bauxite, coal and mica. The state alone accounts for about 16% of the nation's coal reserves.

Universities and University Level Institutes

The state of Chhattisgarh has 20 universities and university level institutions, including 6 private universities, 10 state universities and 1 central university. In addition, there are two Institutes of National Importance in the state – NIT Raipur, a premier technical institute with more than 3,000 students enrolled in various undergraduate and post graduate programs; and All India Institute of Medical Sciences Raipur, a newly established medical college and medical research public university which will operate under the Ministry of Health and Family Welfare (India). While NIT Raipur was established in the year 1956, AIIMS Raipur recently started offering its classes in September 2012.

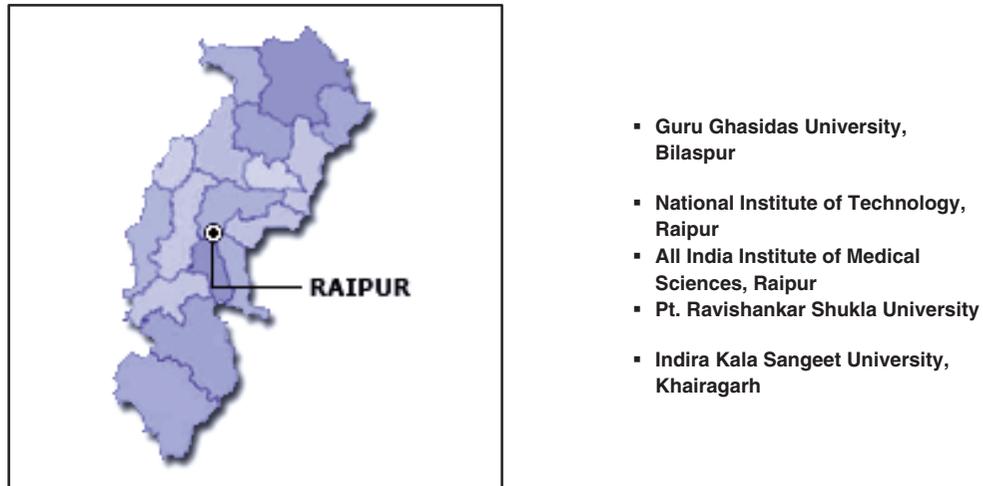
In addition, the state also houses the Indian Institute of Management, Raipur; which was setup in the year 2010 and is the tenth Indian Institute of Management in the country. The other key universities in the state are Pt. Ravishankar Shukla University, which is the state largest and older institution of higher education, established in the year 1964; and the Indira Kala Sangeet University, a public university established in the year 1956 and consists of departments of music, dance, visual arts, folk music and arts. Guru Ghasidas University is the only central university in Chhattisgarh and was established in the year 1983 and currently has about 125 colleges affiliated to it.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of university	Chhattisgarh (2011-12)	India (2011-12)
State University	10	285
Private University	6	112
Institution of National Importance	2	39
Deemed University	-	129
Central University	1	40
Total	19	605

Source: UGC

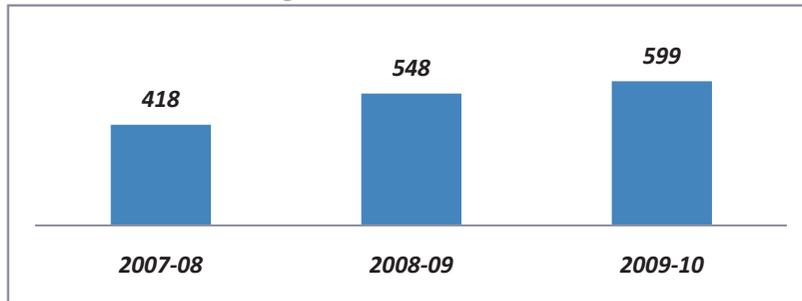
Figure 1: Location of Premier Institutes in Chhattisgarh



Key Higher Education Indicators: Institutes and Enrolment

As per MoHRD data, the growth rate in the total number of higher education institutes in the state stood at 19.7% between the years 2007-08 and 2009-10. The growth rate in the state was higher as compared to the national average growth rate, the national level growth being only 7% in the same period. The total student enrolment in higher education also increased from 2.01 lakh during the year 2007-08 to 4.99 lakh during the year 2009-10.

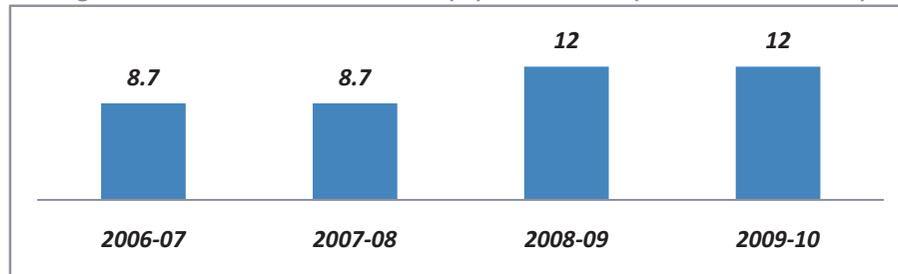
Figure 2: Growth in Number of Higher Education Institutes between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

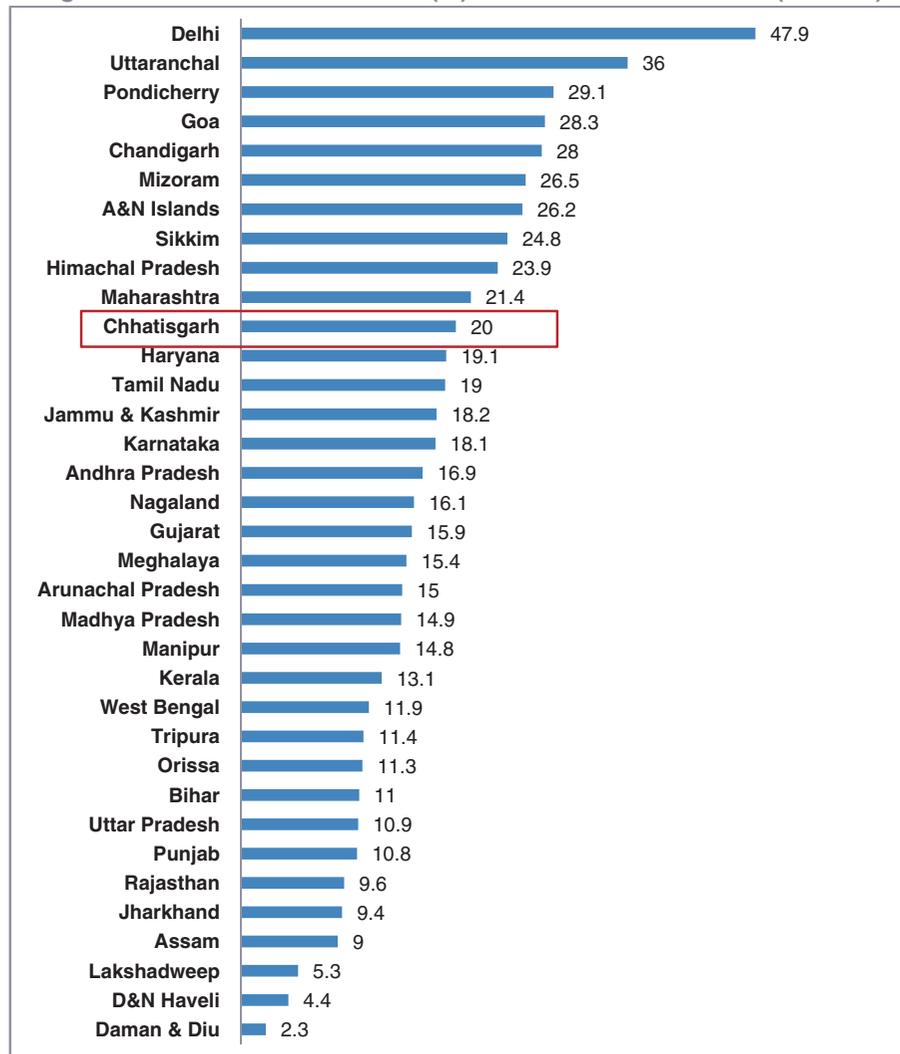
The Gross Enrolment Ratio (GER) in the state increased from 8.7% during the year 2006-07 to 12% during the year 2009-10. The GER, however, was still much less as compared to the national average of 15% and the state has to make significant investments to meet the national average in the coming future.

Figure 3: Gross Enrolment Ratio (%) in the state (2006-07 to 2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

Figure 4: Gross Enrolment Ratio (%) across all States in India (2009-10)



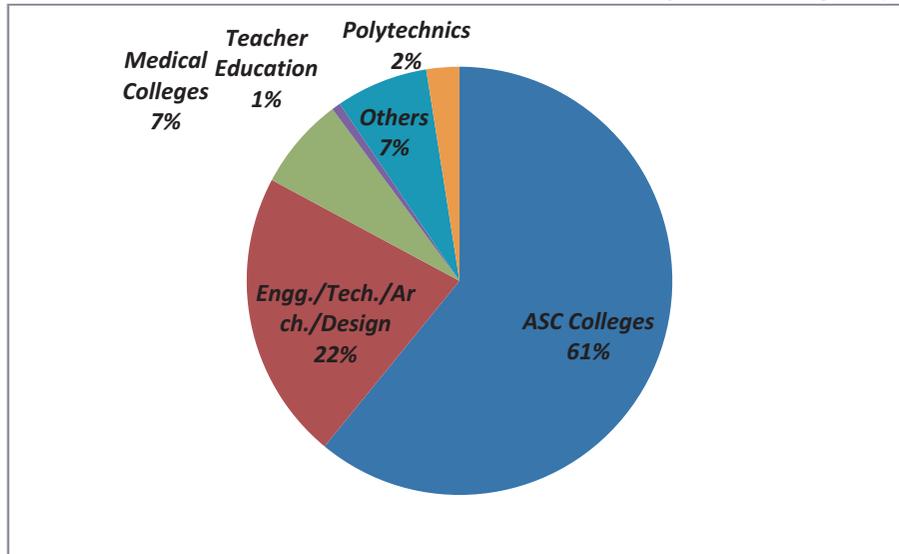
Source: Statistics of Higher & Technical Education, MoHRD

The sections below present a brief description of the current higher education scenario, industry and employment scenario in Chhattisgarh, key initiatives and challenges in higher education that are being addressed by the state.

Growth in Higher Education Institutes and Enrolment

As on year 2009-10, there were a total of 599 higher education institutions in the state, which offer programs across general and technical education. Amongst these institutes, institutes offering arts, science and commerce programs form the majority - with 61% of the institutes offering programs in arts, science and commerce; followed by institutes offering programs in engineering/ technology/ architecture (22%). Teacher education institutes constitute a minority, with only 1% of the total number of institutes offering programs in teacher education and teacher training.

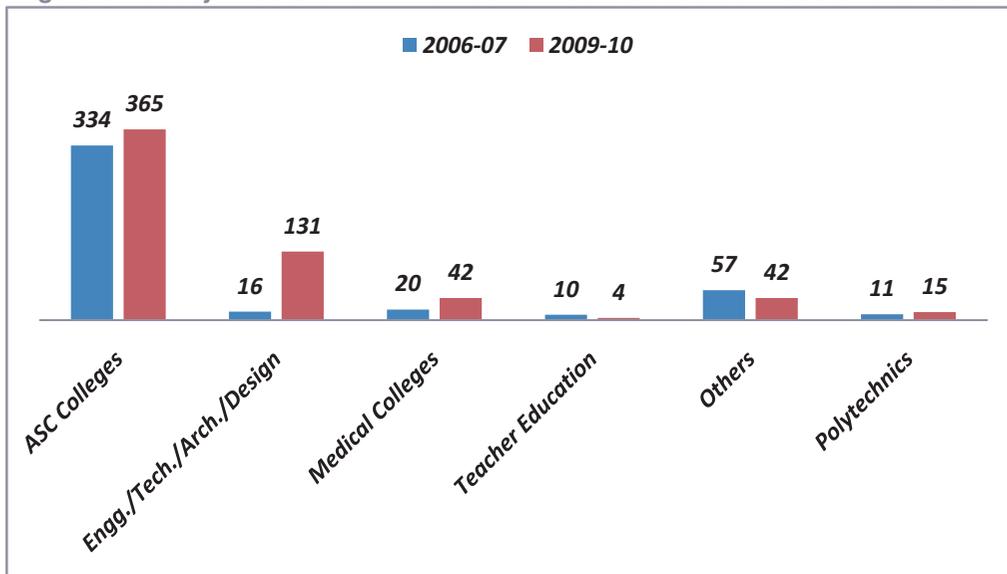
Figure 5: Distribution of Number of Institutes Based on Faculty in Chhattisgarh (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

In terms of the growth rate, the maximum growth has been seen amongst engineering and technology institutes, with a growth of approximately 100% between the years 2006-07 and 2009-10. Similarly, there has been a growth in the number of medical colleges in the state, at a rate of 27.7% during the same period. On the other hand, the number of teacher education institutes has come down from 10 during 2006-07 to 4 during the year 2009-10. The growth in the number of ASC colleges has also been minimal with 2.9% growth during the same period.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Except for the faculty of management and arts, the distribution of student enrolment between the under graduate and post graduate programs are largely skewed in favour of under graduate programs. While 37% of the students pursuing management programs are enrolled in postgraduate programs, 23% of the arts students are enrolled at the post graduate level.

Table 4: Distribution and Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) level

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
Arts	2,25,450	65,927	2,91,377	77	23
Commerce	40,285	5,017	45,302	89	11
Science	47,430	5,581	53,011	89	11
Engg. / Technology/ Arch.	55,006	529	55,535	99	1
Medicine	6,366	150	6,516	98	2
Agriculture & Allied	949	175	1,124	84	16
Management	2,376	1,405	3,781	63	37
Teacher Education	8,651	336	8,987	96	4
Law	5,032	35	5,067	99	1
Others	1,156	327	1,483	78	22
Total	3,92,701	79,482	4,72,183	83.1	16.9

Source: Statistics of Higher & Technical Education, MoHRD

In terms of total enrolment, during the year 2009-10, the maximum number of students had opted for arts program (62%), followed by engineering and technology programs (12%). Between the years 2007-08 and 2009-10, the maximum growth in student enrolment has been seen in the faculties of arts, engineering and management with a CAGR of 75%, 105% and 106% respectively. The student enrolment, has, however declined in the faculties of agriculture (-47%) and law (-8%). The total student enrolment between the years 2007-08 and 2009-10, has, increased at a CAGR of 56%.

Table 5: Faculty Wise Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) Level

Faculty	Total Enrolment (UG+PG)		CAGR (%)
	2007-08	2009-10	Total
Arts	94,775	2,91,377	75
Commerce	30,607	45,302	22
Science	27,931	53,011	38
Engg. / Tech./ Arch./ Design	13,200	55,535	105
Medicine	5,295	6,516	11
Agriculture & Allied	4,037	1,124	-47
Management	892	3,781	106
Teacher Education	5,564	2,91,377	27
Law	5,992	45,302	-8
Others	5,324	4,432	-47
Total	1,93,617	4,72,183	56

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Amongst the various universities in the state, only one university has been accredited by the National Assessment and Accreditation Council (NAAC) - Pt. Ravishankar Shukla University that has been awarded a rating of B by NAAC. In addition to the university, 13 higher education institutes have been assessed by NAAC. Out of these, 1 institute has been awarded a rating of A (Very Good), 10

institutes have been awarded a rating of B (Good) and 2 institutes have been awarded a C rating (Satisfactory).

Industry and Employment Scenario

Key Industries⁴¹

A brief overview of the various key industries in Chhattisgarh is as given below:

1. Mining

- The state is among the richest Indian states in terms of mineral wealth, with 28 varieties of major minerals including diamonds. The state holds a major share of coal deposits in India and is the only state in the country to have tin ore reserves.
- About one-fifth of the iron ore in the country is mined in the state. Also, rich deposits of bauxite, limestone, dolomite and corundum; makes it the ideal location for production of end products like cement and aluminium.
- During the year 2011-12, the state had generated revenue of from minerals.
- Key player(s): NMDC Ltd

2. Iron and steel

- The state is considered as the iron and steel hub of the country. The steel plant of Steel Authority of India Ltd (SAIL) located in Bhilai produces more than 3 million tonnes of saleable steel per year. In addition, there are several establishments by the private sector as well.
- The state contributes around 28% of the nation's sponge iron production and is one of the leading iron ore producing states in India. In the year 2010-11 alone, the state produced around 31.7 m tonnes of iron-ore.
- Key players: Steel Authority of India Ltd, TATA Steel, Essar Steel, Godawari Power and Ispat Ltd.

3. Cement

- The state has a strong cement sector as a result of its abundant limestone reserves. It accounts for around 5% of the total limestone reserves in India.
- During the year 2010-11, the state accounted for around 8% of the total limestone production in India, amounting to 19.2 million tonnes.
- The state has nine major and 12 minor cement units, with the majority of the cement production units concentrated in the Raipur area.
- Key players: ACC Ltd, Lafarge India, JK Lakshmi Cement Ltd, and UltraTech Cement Ltd.

4. Food processing

- The state is considered as the 'Rice Bowl of Central India' and its reliance on agriculture has led to the identification and growth of the food processing industry as a special-focus industry.
- In line with its resources, the government is currently in the process of setting up a food processing park in the state, located in the district of Rajnandgaon.

5. Aluminium and metals

- To utilize the rich natural resources available in the state, initiatives have been proposed to develop the metal sector of the state.
- It has been proposed to establish an aluminium park in Korba district, spreading across 140 hectares of land to promote value addition in the aluminium sector.

⁴¹India Brand Equity Foundation – State report on Chhattisgarh

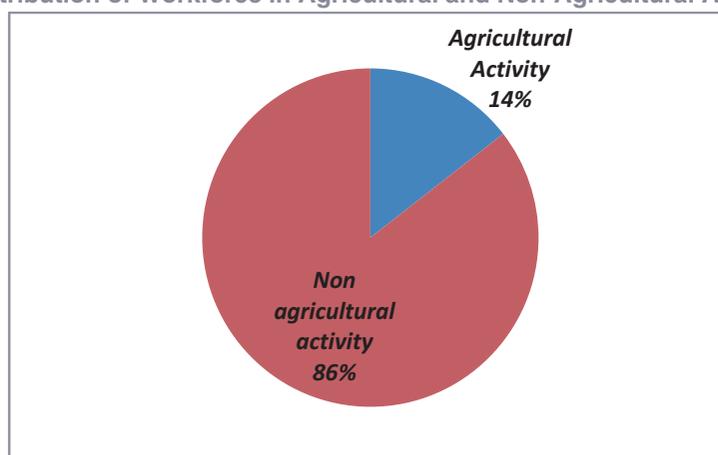
6. Other key industries

- The other key industries, which have been identified as key thrust industries by the state, are the apparel industry & gems and jewellery industry.

Employment Scenario

As per the Economic Census – Chhattisgarh, 2005; the total workforce of the state amounted to 15.15 lakh persons. Amongst these, 14% of the manpower is involved in agricultural activity and the remaining 86% of the workforce population is involved in non agricultural activities.

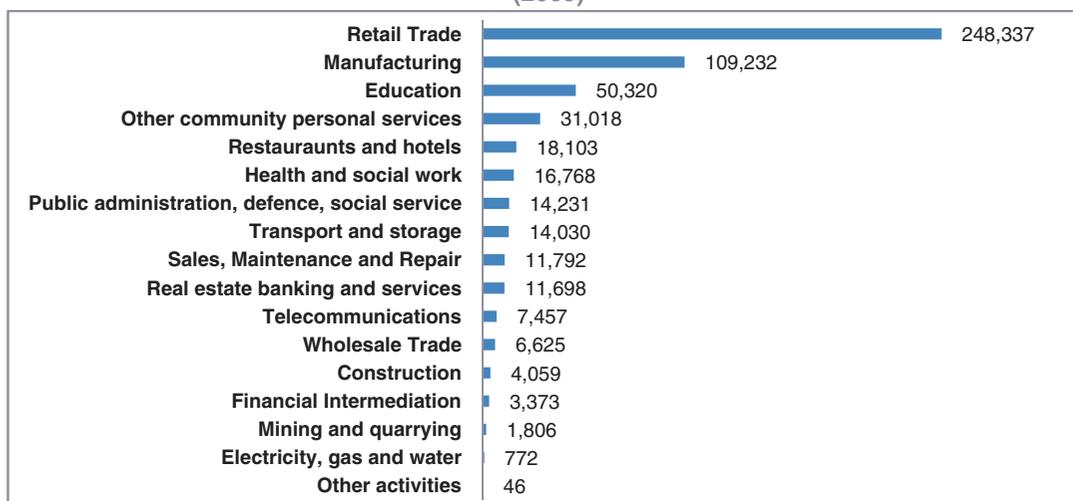
Figure 7: Distribution of Workforce in Agricultural and Non-Agricultural Activities (2005)



Source: Economic Census – 2005, Chhattisgarh

Amongst the non-agricultural enterprises in the state, the largest number of establishments belongs to the sector classified as 'retail trade' (45%), followed by manufacturing (20%). The other prominent industry sectors, which contribute to the total number of establishments in the state, are education (9%) and community & personal services (6%).

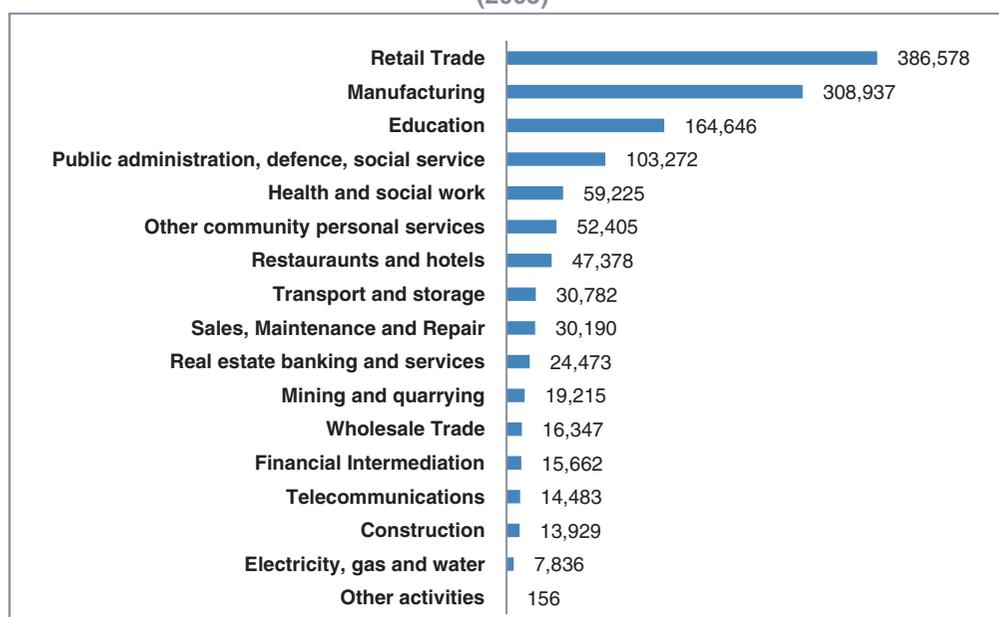
Figure 8: Distribution of Establishment in Public & Private Sector by Industrial Classification (2005)



Source: Economic Census – 2005, Chhattisgarh

In terms of the contribution of the various industries as classified in the Economic Census – Chhattisgarh, 2005; the industry of ‘retail trade’ engages the majority of the workforce. The other major contributing industries are manufacturing (24%), followed by education (13%) and public administration (8%)

Figure 8: Distribution of Workforce in Public and Private Sector by Industrial Classification (2005)



Source: Economic Census – 2005, Chhattisgarh

Current Initiatives and Key Challenges

A brief about the various initiatives that the state government has planned for the 12th Five Year Plan is given below:

1. Establishment of universities

- The state has established an Open University in the state and has enrolled more than ten thousand students, thus enabling wider access to education for the students of the state.
- Two state universities have also been established in the tribal areas of the state, enabling the tribal population and the local inhabitants to pursue their higher education courses.
- The state is encouraging the establishment of private universities to support various government initiatives in the area of higher education. Two private universities were established in the year 2006, and another two private universities were established in the year 2011 and 2012.
- To further strengthen the higher education infrastructure in tribal areas, 56 new government colleges have been opened in the last eight years, thus ensuring equitability and removal of regional imbalance in the state.

2. Vocalization of higher education

- The state government has given permission to start vocational courses at the degree level in 47 new government colleges. In addition, 12 government colleges have also been granted permission to offer UGC approved add-on courses.
- The state government has also adopted liberal approach in granting permission to colleges to start vocational courses on a self financing basis.

3. Introduction of semester system

- The semester system has been introduced at the post graduate level across all higher education institutes in the state. Assessment of students is conducted on a continuous basis in all government colleges, through unit tests/ half yearly examinations on a regular basis.

4. Other future initiatives:

In addition to the above initiatives, the state government has developed other strategies to tackle the concerns of equity, access and quality in higher education.

- Establishment of degree colleges has been planned under the 12th Five Year Plan in districts where the Gross Enrolment Ratio is lesser than the national average
- Setting up of an MIS system in all the government colleges integrating the processes of library management, e-learning, academic and administration management
- Introduction of compulsory spoken English classes in all the government colleges
- Establishment of a centre of excellence in job-oriented subjects like bio-technology, space technology, nano-technology, micro-biology, cell biology, molecular biology, stem-cell technology, management and accounting
- Establishment of a state level quality assurance cell

Current Challenges faced by the state in Higher Education

In improving the higher education scenario in Chhattisgarh, the state is facing several challenges, many of which are common across states in India. Some of these challenges that the state needs to address are:

- **Skills mismatch:** There is an existent mismatch between the abilities that are developed among the students in higher education institutes in the state and the skills demanded by the industry. It has been estimated that more than 70% of the engineering graduates are unemployable. While there are no shortages in terms of quantity for majority of the sectors, there are steep shortages felt in some of the sectors.
- **Outdated curriculum:** The curriculum currently being implemented in various higher education institutes in the state is largely outdated and highly theoretical in nature. As a result, students are not able to implement their knowledge in the work environment.

State Focus: Delhi



Profile

Total Area (in sq. km.)	33,578
Total Population	1,67,53,235
Population Density (per sq. km.)	11,297
Number of Districts	9
Literacy Ratio (%)	86.34
Sex Ratio (per 1,000 males)	866
State Domestic Product, 2010-11 (In Rs. Crore)	2,47,602
Per capita income, 2009-10 (Rs.)	1,35,814

Introduction

Delhi is the capital of India and is the second most populous metropolis in the nation, with a population of 16.3 million recorded in 2011. The Union Territory shares its border with the states of Uttar Pradesh and Haryana, and it is the centre of international politics, trade, culture and literature in India. Delhi has emerged as a key state with immense scope for development of the services industry. A prominent agri-trade centre of the country, it is an established tourist destination, with several historical monuments. Being the seat of the central government, Delhi has an important position in the country in terms of formulation of policies. It has become an important centre for trade and commerce, with several key industry associations being present.

Universities and University Level Institutes

Delhi is home to 25 universities and university level institutions, including 5 Central Universities, 4 State Universities and 12 Deemed Universities. In addition, there are 4 Institutes of National Importance in Delhi. Some of the most reputed national level universities are located in Delhi. The University of Delhi, established in the year 1922, has grown into one of the largest universities in India, with 16 faculties, 86 academic departments, 77 affiliated colleges and 5 recognized institutes located across the city, with more than 1.3 lakh regular students and 2.6 lakh students in their non-formal education program.

Jamia Millia Islamia, a Central University, was established in 1920 and offers programs in engineering & technology, teacher education, humanities, law, natural sciences, social sciences, architecture & dentistry. The South Asian University – an international university sponsored by the eight member states of the South Asian Association for Regional Cooperation (SAARC) – was also established recently in Delhi, during the year 2010. By the year 2014, it is expected to host a total of 3,000 students in the university.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Delhi (2011-12)	India (2011-12)
State University	10	285
Private University	9	112
Institution of National Importance	2	39
Deemed University	7	129
Central University	1	40
Total	29	605

Source: UGC

Among the state universities, the Delhi Technology University has been consistently ranked among the best engineering colleges in India. Established in 1941, the institute enrolls approximately 6,800 students. In addition to these universities, there are four Institutes of National Importance located in Delhi – IIT Delhi, All India Institute of Medical Sciences (AIIMS), National Institute of Technology Delhi, and Indian Statistical Institute. The Indian Institute of Technology (IIT), Delhi, is a premier engineering and technology institute and was ranked 212 in the QS World University Rankings of 2012. Among the engineering colleges in India, it has always been ranked in the top three colleges.

On the other hand, the National Institute of Technology, Delhi has recently been established (in 2010), and is currently operating under the mentorship of NIT-Warangal. The All India Institute of

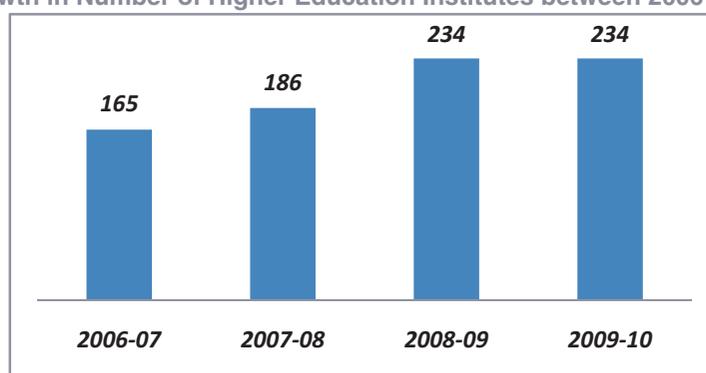
Medical Sciences (AIIMS) is considered the best ranked medical college in India. The institute has held the top slot in the rankings published by India Today for six consecutive years.

There are several niche universities in Delhi, which are not focused on general/ technical education. The National School of Drama is a theatre training institute established in the year 1959, and is an autonomous organization under the Ministry of Culture, Government of India. The TERI University – the first university in India dedicated to the study of environment, energy and natural sciences for sustainable development – was established in 1998 and offers doctoral and masters programs in the areas of biotechnology, regulatory and policy aspects, energy and environment and natural resources. The University has partnerships with several international universities such as University of Nottingham, Michigan State University, University of New South Wales and University of Iceland. The other key universities located in Delhi are the Indian Institute of Foreign Trade, a leading public business school established in 1963; and the School of Planning and Architecture, India's leading education and research institute in the field of planning and architecture.

Key Higher Education Indicators: Institutes and Enrolment

As per the Ministry of Human Resource Development (MoHRD) data, the growth rate in the total number of higher education institutes in Delhi stood at 12.2% between 2006-07 and 2009-10. This is growth rate is higher than the national average of 7%, thus reflecting an above average performance of the union territory in terms of establishing new higher education institutes.

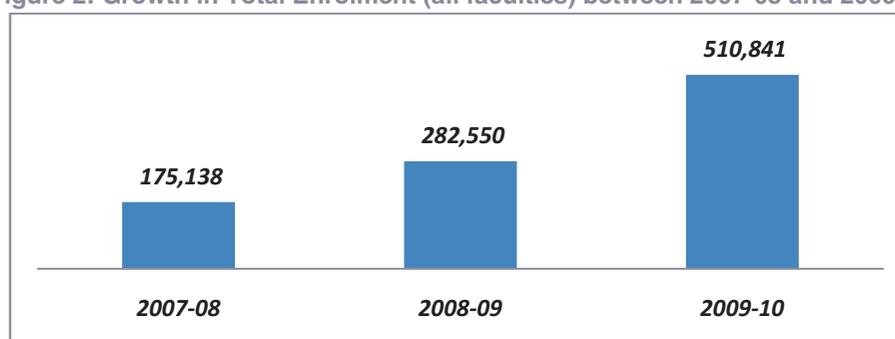
Figure 1: Growth in Number of Higher Education Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Along with the growth in the number of higher education institutes in Delhi, the total higher education enrolment has also been increasing consistently. The total higher education enrolment (across all faculties) has increased from 1.75 lakh - in 2007-08 to 5.1 lakh in 2009-10, at a growth rate of 70%.

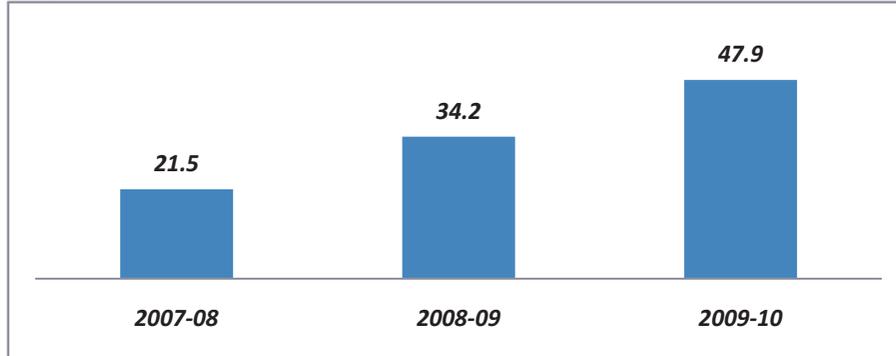
Figure 2: Growth in Total Enrolment (all faculties) between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

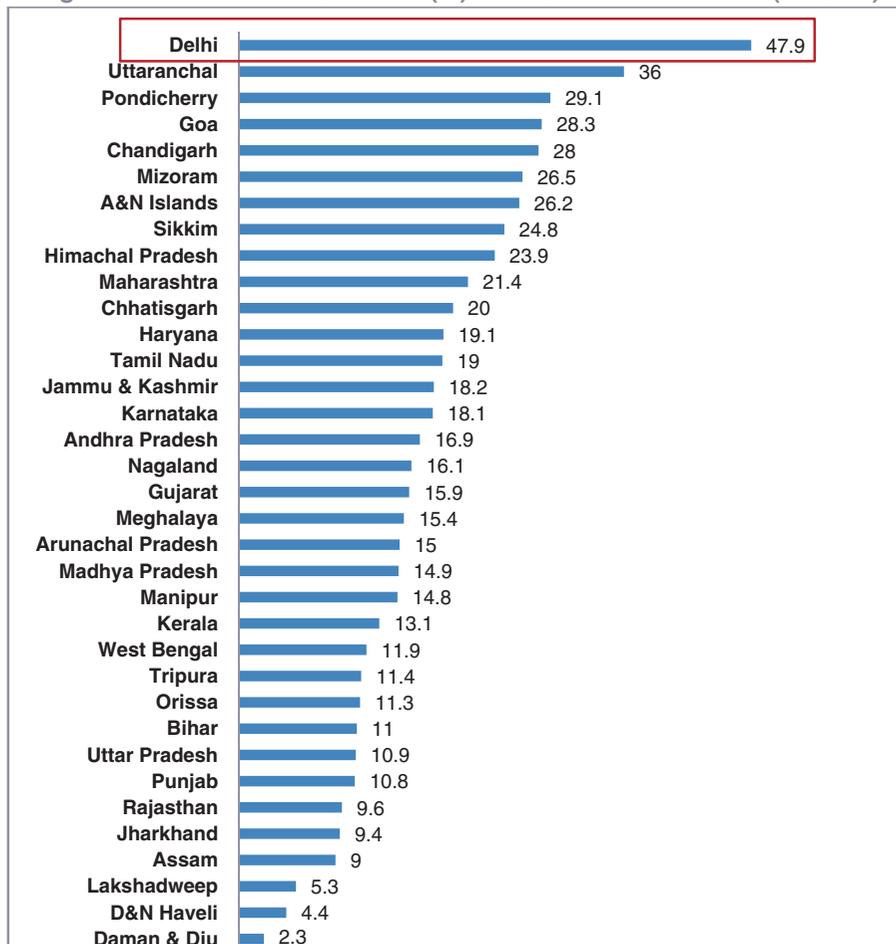
Among all the states and union territories in India, Delhi is ranked the best in terms of Gross Enrolment Ratio (GER). Between the years 2007-08 and 2009-10, the GER of the union territory has increased from 21.5% to 47.9%. The GER figure is much higher than the national average of 15%. The only state, which has a comparable GER, is Uttarakhand, with a GER of 36%.

Figure3: Gross Enrolment Ratio in the state between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Figure 4: Gross Enrolment Ratio (%) across all states in India (2009-10)



Source: MoHRD (Higher and Technical Education Statistics)

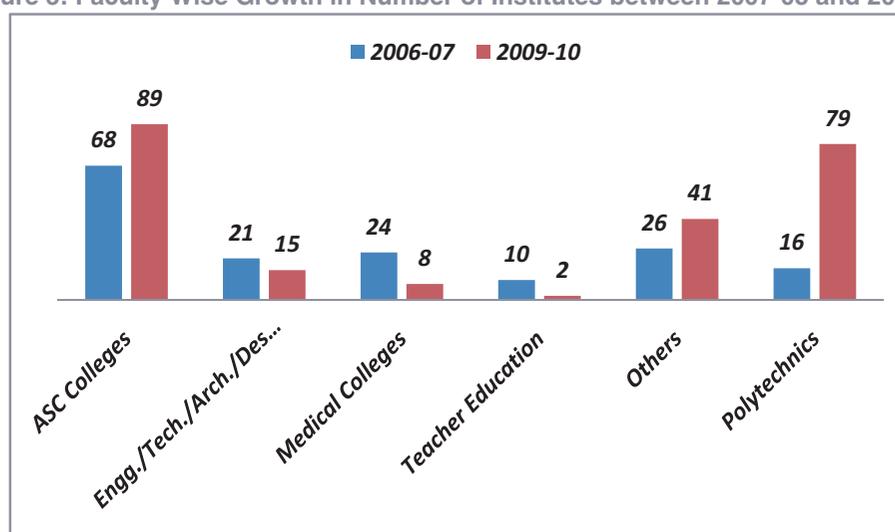
The following sections present a brief description of the current higher education scenario in the union territory and present an outline of its industry and employment scenario. The report concludes by

highlighting the various initiatives implemented in higher education and the challenges faced in higher education by the state.

Growth in Higher Education Institutes and Enrolment

In 2009-10, there were a total number of 234 higher education institutes in Delhi. Among these, the largest category of institutes offered arts, science and commerce programs (38%); followed by polytechnic institutes (34%). Only 6% of the total higher education institutes were engineering and technology institutes. In terms of Compound Annual Growth Rate (CAGR), the maximum growth has been shown by polytechnic institutes (69%), followed by arts, science and commerce (ASC) colleges (9%). The number of higher education institutes under all other categories declined between 2006-07 and 2009-10.

Figure 5: Faculty Wise Growth in Number of Institutes between 2007-08 and 2009-10



Source: Statistics of Higher & technical Education, MoHRD (Incomplete data for teacher education colleges)

The enrolment at the undergraduate level is significantly higher as compared to the enrolment at the post graduation level except for the faculties of engineering, management and law. Under the faculty of law, 80% of the total enrolment is at the post graduate level. Similarly, 47% of the total students enrolled for management programs are pursuing their post graduate programs.

Table 2: Distribution of Enrolment at Undergraduate (UG) and Postgraduate (PG) level

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
Arts	2,09,971	11,210	22,1181	95	5
Commerce	1,20,114	1,488	1,21,602	99	1
Science	42,152	3,529	45,681	92	8
Engg. / Technology/ Arch.	15,344	6,743	22,087	69	31
Medicine	5,199	1,288	6,487	80	20
Agriculture & Allied	1,049	232	1,281	82	18
Management	3,525	3,178	6,703	53	47
Teacher Education	4,533	900	5,433	83	17
Law	1,118	4,446	5,564	20	80
Others	21,054	2,446	23,500	90	10
Total	4,24,059	35,460	4,59,519	92.3%	7.7%

Source: Statistics of Higher & technical Education, MoHRD

In terms of total enrolment, the maximum growth has been registered in the faculties of commerce (108%), arts (90%), engineering/ technology (61%) and teacher education (57%).

Table 3: Faculty Wise Distribution and Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) level

Faculty	Total Enrolment (UG+PG)		CAGR (%)
	2007-08	2009-10	Total
Arts	61,587	2,21,181	90
Commerce	28,035	1,21,602	108
Science	19,401	45,681	53
Engineering/ Technology/ Architecture/ Design	8,506	22,087	61
Medicine	3,565	6,487	35
Agriculture & Allied	1,219	1,281	3
Management (General, Travel, Tourism)	9,436	6,703	-16
Teacher Education	2,215	5,433	57
Law	6,730	5,564	-9
Others	4,024	23,500	142
Total	1,44,718	4,59,519	78

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Among the various universities in Delhi, only three universities have been assessed and accredited by the National Assessment and Accreditation Council (NAAC) – namely the Jamia Hamdard University, the Rashtriya Sanskrit Sansthan and the Jawaharlal Nehru University. All the three universities have been awarded an A Grade (Very Good) by NAAC. In addition to the three universities, 11 higher education institutes have been graded by NAAC, out of which 6 institutes were awarded an A Grade (Very Good) and 5 institutes were awarded a B grade (Good).

Industry and Employment Scenario

Key Industries⁴²

A brief outline of the various key industries in Delhi is given below:

1. Banking and Financial Services Sector

- Delhi is home to a number of private and public banks and financial services institutions (including commercial banks, industrial banks and international banks) dealing in banking transactions, negotiations, loan agreements etc.
- Key players: Reliance Life Insurance, Life Insurance Corporation of India, State Bank of India, United Bank of India

2. Agriculture and Processed Food Industry

- The UT of Delhi acts as a nodal location for exchange of goods with the northern parts of the country because of its good connectivity and supporting infrastructure.
- There are nine principal markets and 12 different submarkets for trade of agricultural produce in Delhi, located in areas like Narela, Azadpur, Tikri Kalan, Shahdara, Bagh Diwar, Keshopur, Gazipur, Najafgarh and Mehrauli
- Key players: Mother Dairy, Kohinoor Foods Ltd, Hind Agro Industries Ltd, Sterling Agro Industries Ltd.

⁴²India Brand Equity Foundation – State report on Delhi

3. Construction and Real Estate

- The construction and real estate market in Delhi has been growing over the last decade. Due to the strategic importance of Delhi, several infrastructure development companies have been involved in construction of residential and commercial complexes, townships, power projects, hospitals, hotels, schools, roads and public utility infrastructure in the state.
- Key players: DLF Ltd, Unitech, Parsavnath Developers Ltd, Ansal API .

4. Knowledge Based Industries

- There are a number of software companies in Delhi involved in the businesses of enterprise Resource Planning (ERP), SQL, CRM, software development etc. These units are spread across the state.

Employment Scenario

As per the statistics released by the Directorate of Economics and Statistics (2010), a total of 35.53 lakh persons were engaged in employment in Delhi in 2010.

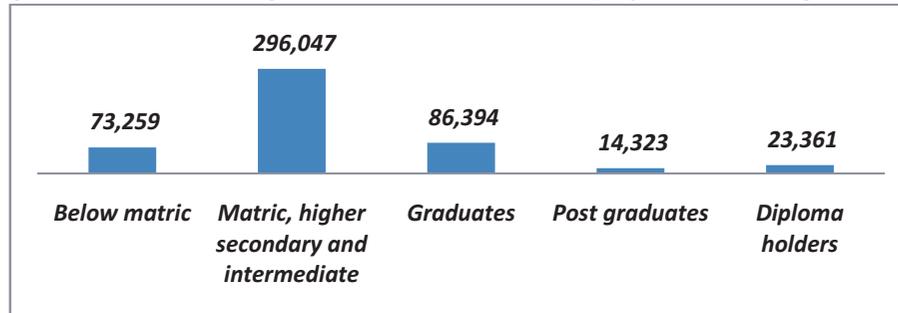
Table 4: Total Employment by Major Activity Group in 2010

Major Activity Group	Total Employment
Farming of Animals	11,771
Agricultural Services	468
Fishing	23
Mining and quarrying	0
Manufacturing	10,98,821
Maintenance and repair of MV and MC	1,13,333
Electricity, gas and water	29,427
Construction	15,980
Wholesale trade	1,51,423
Retail trade	9,00,811
Restaurants and hotels	1,56,979
Transport and storage	1,08,956
Communications	90,028
Financial, insurance, real estate and business services	2,96,954
Community, social, personal services and others	5,81,413

Source: Directorate of Economics and Statistics, Delhi

During 2010, 4.9 lakh applicants were registered on the live registers of the employment exchanges in Delhi. Among these applicants, 86,394 applicants (18%) were graduates, 14,323 applicants (3%) were postgraduates and 23,361 applicants (5%) were diploma holders. Despite completing their degrees at different levels of higher education, 1.24 lakh students have not been able to gain employment. This points towards the poor employability quotient among these students, as the demand for skilled manpower in Delhi is continuously increasing.

Figure 6: Number of Registered Job Seekers at Employment Exchanges in 2010



Source: Directorate of Employment, Delhi

Current Initiatives and Key Challenges

Despite possessing the highest Gross Enrolment Ratio (in higher education) in the nation, Delhi is faced with few challenges, mainly due to the high demand among students for few particular programs being offered. A brief about these challenges have been mentioned below:

- **Supply demand mismatch:** Despite the presence of 29 universities and university level institutions in Delhi, the students of Delhi face constraints in seeking admissions in various courses at University of Delhi and Jawaharlal Nehru University (as these are central universities and are well reputed). Also, some of the colleges of the University of Delhi have highly competitive basic selection criteria in the range of 97% to 100%, for some of the popular general courses at the undergraduate level. As a result, more colleges should be established in Delhi so as to ensure that maximum number of students are able to secure admission in the courses of their choice.
- **Poor employment potential of students:** Several studies conducted on higher education scenario have highlighted the poor employability of students graduating from the higher education system in the state. Thus, more efforts are required to ensure that the system produces students who have the required skills, which are sought by the industry. While the number of graduates from general education and technical education colleges are increasing, the industry and services sector continue to face the problem of non-availability of skilled and trained manpower.
- **High cost of higher education:** The cost incurred by students to pursue higher education in Delhi is substantially higher than that borne by students in other parts of the country. There is an immediate necessity for subsidizing higher education, particularly for students belonging to the low income section of the society.
- **Lack of research:** There is an urgent need to encourage exclusive research programs in the field of Science by creating world class research institutes, which are government funded. It is required that the existing technical institutes take up more innovative research projects for nurturing young talents and thus promote research based learning in higher education.

To combat these challenges, several initiatives have been taken up by the Delhi government; some of them are as follows:

- **Provision of Grants and Funds:** the Delhi government is funding affiliated colleges of University of Delhi for they're up gradation and construction of new buildings. This ensures that costs incurred by these colleges are not being transferred to the students. The National Law

University, IIT and Ambedkar University are also being provided with funds for their functioning and construction of their buildings.

- **Establishment of Technical University for Women** has been proposed in the current financial year.
- **Re-organization of ITIs:** To combat the problem of employability, the Delhi Skill Development Mission has been constituted and a number of ITIs have been re-organized as 'Centres of Excellence' in various fields like electrical engineering, automobile engineering, mechanical engineering, construction and hospitality. Introduction of skill oriented and professional courses has been advised both in technical education institutes and general education institutes.
- **Increase in intake capacity of general and technical colleges** in government institutions.
- **Revitalization of polytechnics and engineering colleges** by promoting industry linkages.

State Focus: Goa



State Profile

Capital	Panaji
Total Area (in sq. km.)	3702
Total Population	14,57,723
Population Density (per sq. km.)	394
Number of Districts	2
Literacy Rate (%)	87.4
Sex Ratio (per 1,000 males)	968
State Domestic Product, 2009-10 (In Rs. Crore)	22,283
Per capita income, 2009-10 (Rs.)	1,32,719

Introduction

The state of Goa is located in the western region of India and shares its border with the states of Maharashtra and Karnataka. Goa is among the few Indian states with 100% electrification and 100% automatic telephone system. The state has an established iron-ore mining industry and has emerged as a manufacturing base for several leading companies in sectors such as fertilizers, tyres and tubes, cement, electrical machinery, fishnet making, automatic washing machines and pharmaceuticals.

Due to its advantageous location Goa has emerged as a major exporter of seafood to the US, Japan and the European countries. Amongst the services sector, tourism is the largest segment. Globally recognized as a tourist destination, Goa is famous for its beaches and cultural diversity.

Universities and University Level Institutes

Goa has two university level institutions – Goa University, which is the only university in Goa, operating under the state government; and the National Institute of Technology, Goa, which was established recently in the year 2010. The Goa University, which is the sole university in the state, affiliates all the Goan colleges. The National Institute of Technology, Goa is one of the 30 National Institutes of Technology in India and is recognized as an Institute of National Importance. Currently, about 400 students are enrolled in the institute.

In addition to the university level institutions, the state of Goa has a number of institutions, which has been able to establish their repute at the national level. The Birla Institute of Technology and Science, Pilani has one of its campuses in Goa, and has emerged as a premier private institute for technical education in the country. More than 2,000 students are currently enrolled in their undergraduate programs. The Goa Engineering College, which is a government-run college, is the oldest engineering college in the state. The institute is an NBA accredited degree college and is affiliated to Goa University.

In the field of management, the Goa Institute of Management is the most prestigious college in the state. The institute is an autonomous college, and offers post graduate programs in management. The institute was established in 1993. Shree Damodar College of Commerce and Economics, is another premier institute in Goa. In the field of medical education, the Goa Medical College is the most reputed institute in the state. Established in the year 1842, the institute is the third oldest medical college in India. The institute is affiliated to Goa University.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

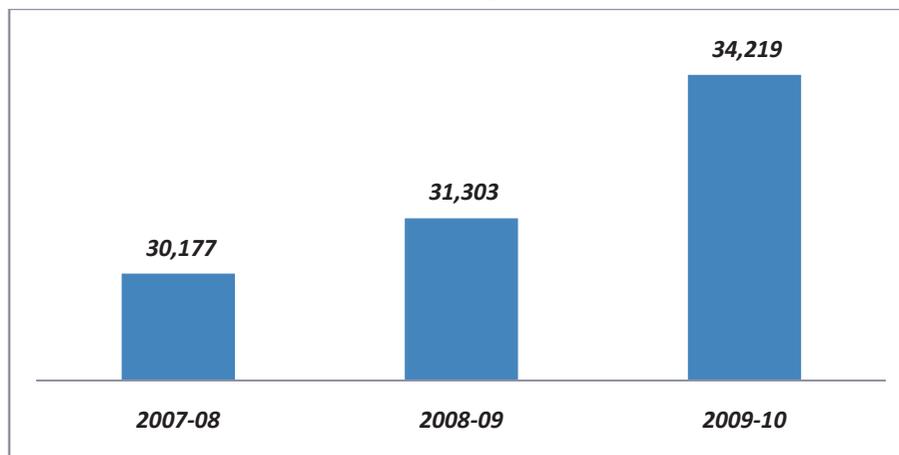
Type of University	Goa (2011-12)	India (2011-12)
State University	1	285
Private University	0	112
Institution of National Importance	1	39
Deemed University	0	129
Central University	0	40
Total	2	605

Source: UGC

Key Higher Education Indicators: Institutes and Enrolment

The number of enrolments in higher education in Goa has gradually increased from 30,177 during the year 2007-08 to 34,219 in the year 2009-10, at a Compounded Annual Growth Rate (CAGR) of 6.4%. One of the primary reasons for the slow growth rate in higher education enrolment is the exodus of students from the state to other states.

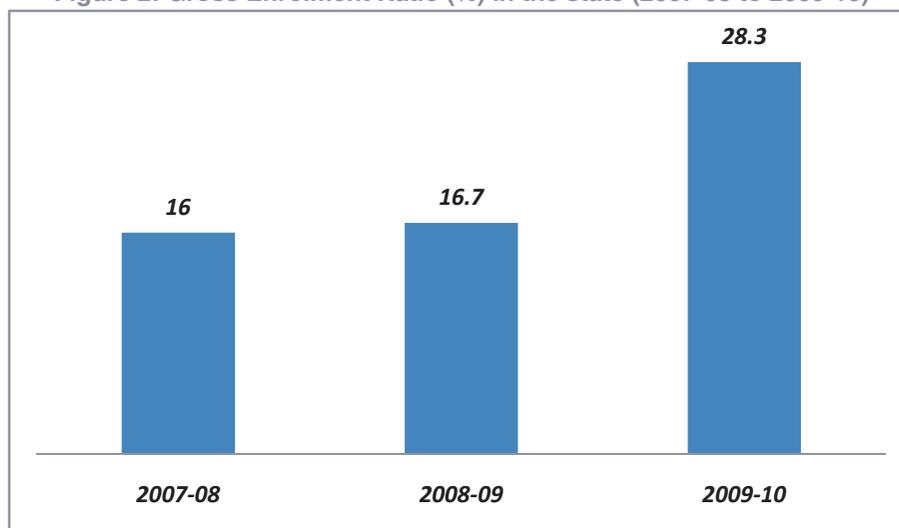
Figure 1: Growth of Student Enrolment in Higher Education Institutes between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

In terms of the Gross Enrolment Ratio (GER), the state has consistently performed better as compared to the national average between the years 2007-08 and 2009-10. The GER has significantly improved from 16, during 2007-08; to 28.3, during the year 2009-10.

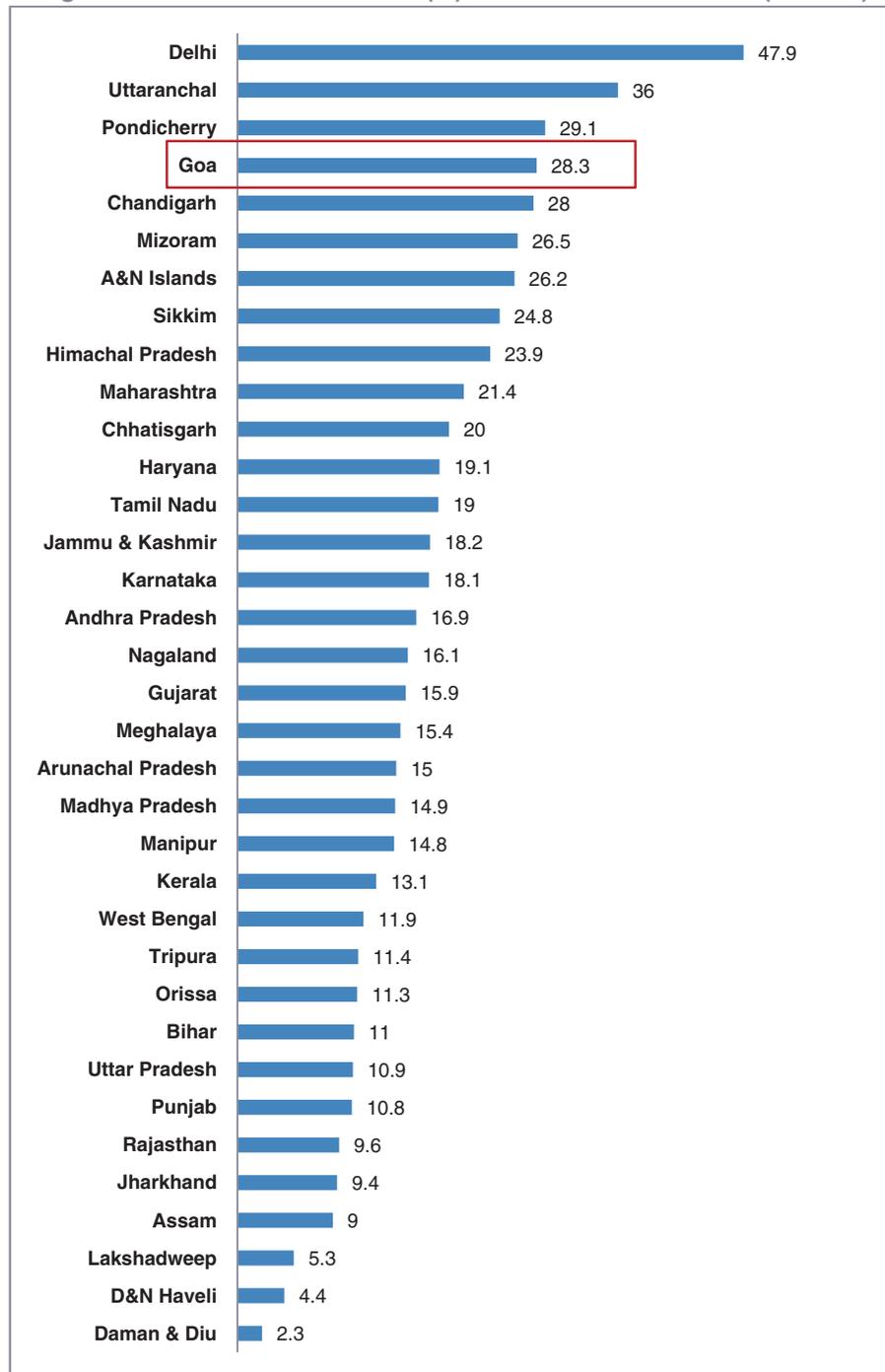
Figure 2: Gross Enrolment Ratio (%) in the state (2007-08 to 2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

In 2009-10, the state was ranked 4th among the 35 states and union territories in India in terms of Gross Enrolment Ratio.

Figure 3: Gross Enrolment Ratio (%) across all states in India (2009-10)



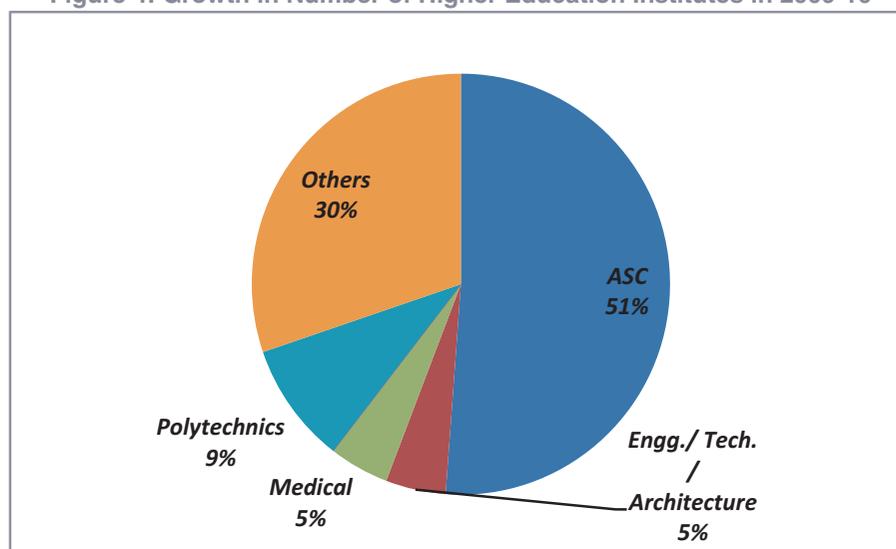
Source: Statistics of Higher & Technical Education, MoHRD

The sections below present a brief description of the current higher education scenario in Goa, industry and employment scenario in Goa.

Growth in Higher Education Institutes and Enrolment

As per Ministry of Human Resource Development data, there are a total of 43 higher education colleges (excluding universities and university level institutions) in Goa. Among these, institutes offering programs in the faculties of arts, science and commerce are in majority (51%), followed by polytechnic institutes (9%).

Figure 4: Growth in Number of Higher Education Institutes in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Across the various faculties, the number of students enrolled at the undergraduate level is significantly higher than the number of students enrolled at the post graduate level. Across the undergraduate and postgraduate levels, the maximum number of students are enrolled in commerce programs (32%), followed by arts programs (21%). The other dominant faculties are science (18%) and engineering/ technology/ architecture (14%).

Table 2: Distribution of Enrolment at Undergraduate (UG) and Postgraduate (PG) level in 2009-10

Faculty	Enrolment		Total	UG (%)	PG (%)
	UG	PG			
Arts	4,626	865	5,491	84	16
Commerce	8,154	346	8,500	96	4
Science	4,123	488	4,611	89	11
Engg./ Tech./ Arch.	3,455	95	3,550	97	3
Medicine	1,361	69	1,430	95	5
Agriculture & Allied	144	48	192	75	25
Management	915	127	1,042	88	12
Teacher Education	219	37	256	86	14
Law	732	87	819	89	11
Others	281	9	290	97	3
Total	24,010	2,171	26,181	92	8

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Goa University has undergone assessment by National Assessment and Accreditation Council (NAAC) and has been awarded a grade of B (Good). Amongst the higher education institutes, 9 institutes have been accredited by NAAC, with 4 institutes being awarded A rating (Very Good) and 4 institutes being awarded a rating of B (Good).

Industry and Employment Scenario

Key Industries⁴³

Goa's abundant reserves of iron-ore drive the mining industry in the state. Goa's high rate of literacy has attracted knowledge-based industries such as pharmaceuticals, biotechnology and IT. Apart from having an established iron-ore mining industry, Goa has emerged as a manufacturing base for several leading companies in sectors such as fertilizers, tyres and tubes, cement, electrical machinery, fishnet making machines, automatic washing machines and printed circuit boards.

Tourism is another key revenue generator because of the inflow of international tourists. Moreover, a large percentage of the population can speak English, which helps the state's tourism and IT enabled Services (ITeS) industries. The following section presents a brief description of the various key industries prevailing in the state currently.

1. IT / ITeS and Electronics Industries

- Despite being a small state and a late starter in the IT industry, Goa is ideally placed to capitalize on the opportunities available in IT. It is one of the most literate states in India, with a literacy rate of over 87 %. Most Goans are English speaking, as a result of which the state is a Good location for the ITeS industry. The state is close to several business centres of the country like Mumbai, Pune and Bangalore, which provides opportunities for growth.
- Some of the major IT players in Goa are Smartlink Network Systems, Zenith Computer, PCS Technology and Crompton Greaves.

2. Mining Industry

- The mining belt of Goa covers an area of approximately 700 sq km and is mostly concentrated in the 4 talukas of Bicholim, Salcete, Sanguem and Quepem. Mining (especially of iron-ore) along with tourism is an important industry. Prominent mining companies in the state are Sesa Goa, Dempo Group, V.M. Salgaocar & Company and V.S. Chowgule.

3. Pharmaceutical Industry

- The state accounts for about one-tenth of India's pharmaceutical production. The pharmaceuticals industry is one of the major employers in the state.
- Apart from the incentives and policy thrust, Goa is preferred by leading pharmaceutical companies because of its ambience and pollution free environment, which is conducive for the pharmaceuticals industry.
- A large number of companies such as Cipla, Aventis, and Blue Cross have set up manufacturing facilities in Goa.

4. Tourism Industry

- Goa is a globally recognized tourist destination, famous for its beaches and cultural diversity. A blend of Eastern and Western culture, friendly and hospitable people and the common use of English as a prominent language makes Goa a veritable tourist paradise.

⁴³ India Brand Equity Foundation- Report on Goa, 2012

- Tourism is a key economic activity of Goa and has contributed substantially to the economic development of the state through employment generation and foreign exchange earnings.
- The innovative marketing strategies to project Goa as an all time leisure destination have resulted in higher tourist inflows over the years.

5. Fisheries Industry

- Goa has a coastline of about 104 km and inland waterways of about 255 km. The coast is full of creeks and estuaries formed by rivers. Goa is a major exporter of seafood to the US, Japan, China and the European countries.
- The government has made significant development to provide and improve landing and berthing facilities for both the traditional fishermen and fishing boat operators.
- The fishing industry in the state mainly comprises mechanized vessels, fish processing plants, marketing network and shrimps farms, which are largely owned and operated by private sector companies. The state has been developing the necessary infrastructure required for the industry.

Employment Scenario

Small-scale industries are vehicles for achieving a boarder regional spread of industry and are generally more employment intensive per unit of capital than large-scale industries and above all non-polluting and environment friendly. As can be seen in the below table, employment has grown at a rate of 10.67% over a 4 year period between 2007-08 and 2010-11. Although Micro, Small and Medium Enterprises (MSMEs) do not employ highly educated personnel in high numbers, students of higher and technical education do seek employment in these enterprises.

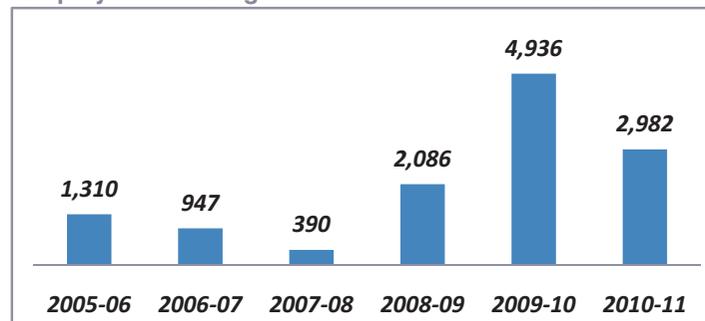
Table 3: Units & Employment in Micro, Small & Medium Enterprises between 2007-08 & 2010-11

Year	Units	Employment	Employment per Unit
2007-08	57	892	16
2008-09	76	1,375	18
2009-10	112	2,322	21
2010-11	63	1,213	19

Source: Economic Survey of Goa, 2011-12

Employment in Large Scale Industries grew at an impressive 17.88% Compound Annual Growth rate (CAGR) between 2005-06 and 2010-11. Such high growth in employment is indicative of opportunities for skilled professionals with higher or technical education background to seek employment in the state of Goa.

Figure 5: Employment in Large Scale Industries between 2005-06 and 2010-11



Source: Economic Survey of Goa, 2011-12

Table 4: Registered Job Seekers at Employment Exchanges by Level of Education in 2008

Level of Education	UG	PG
Arts	8,690	1,325
Science	6,444	923
Commerce	16,847	1,339
Engineering	1,365	15
Medicine	128	22
Veterinary	10	-
Agriculture	95	15
Law	1,105	28
Education	1,770	23
Others	1,218	245
Total UG/PG	37,672	3,935
Matriculates	67,242	
Persons who passed Higher Secondary	54,332	
Diploma Holders	7,284	
Below SSCE literates, labourers etc.	28,090	
Total	198,555	

Source: Economic Survey of Goa, 2011-12

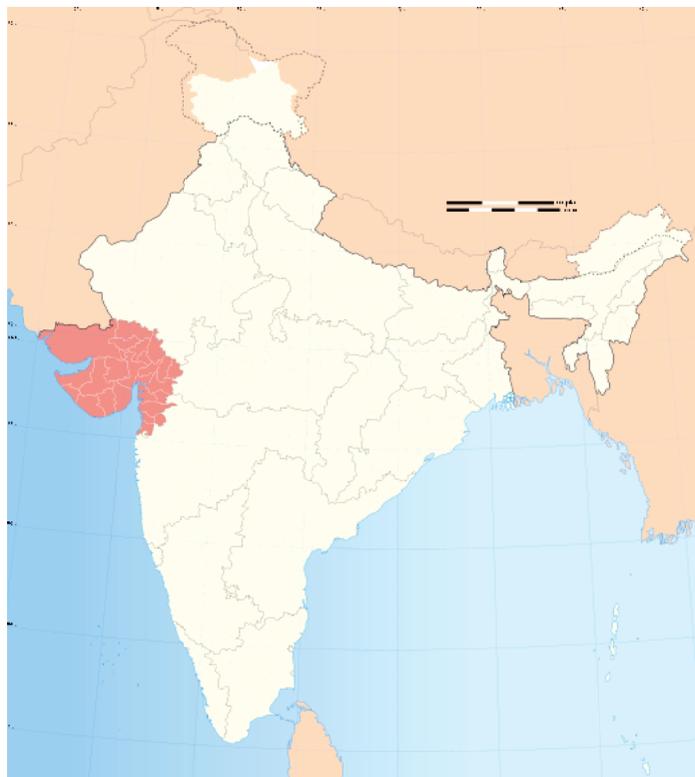
The maximum number of persons registering at employment exchanges in Goa in 2008 were matriculates (33.68%), followed by persons who have passed higher secondary (27.36%) and undergraduates & postgraduates combined (20.95%).

In undergraduate level of study, highest number of persons registering with employment exchanges was from the faculty of Commerce, which constituted 8.48% of all persons registered at employment exchanges, followed by arts stream (4.37%) and science stream (3.24%). It is a matter of concern that, at the undergraduate level of study in the streams of arts, science and commerce (ASC), the percentage of educated unemployed persons is highest. Such a statistic indicates that ASC students are not equipped with job-oriented skills and hence, cannot are not able to gain employment immediately after graduating.

Very few postgraduate students, however, were registered with the employment exchanges as compared to undergraduate students indicating higher employability of postgraduate students in the state.

It must be noted that statistics of employment exchanges do not provide a highly accurate picture of unemployment in the state; hence such data is only used to infer results that require further scientific examination.

State Focus: Gujarat



State Profile

Capital	Ahmedabad
Total Area (in sq. km.)	1,96,024
Total Population	60,383,628
Population Density (per sq. km.)	310
Number of Districts	25
Literacy Rate (%)	79.31
Sex Ratio (per 1,000 males)	918
State Domestic Product, 2009-10 (In Rs. Crore)	3,70,400
Per capita income, 2009-10 (Rs.)	63,961

Introduction

Strategically located on the west coast of India, Gujarat is the gateway to the rich land-locked northern and centre vicinity of the country. The state of Gujarat accounts for about 30 per cent of India's stock market capitalisation, 22% of exports and 9.5% of the workforce.

Over the last decade, the state has not only emerged as the hub of industrial and investment development but has also accelerated the pace of development of knowledge by envisioning, initiating and implementing progressive steps and initiatives in higher education. This is reflected in the state's goal to create a widespread network of educational institutions to make Gujarat a globally recognized knowledge society, as mentioned in the state's vision document: Blueprint for Infrastructure in Gujarat-2020 (BIG 2020).

Universities and University Level Institutes

20 state universities, 15 private universities, 2 deemed universities and 1 central university characterize the higher education landscape of Gujarat. In addition to these universities, there are 8 institutes of national importance located in the state. Universities like Gujarat University, Veer Narmad South Gujarat University, Maharaja Sayajirao University of Baroda and Sardar Patel University have been existent for more than fifty years. Together, these universities and institutes of national importance constitute 7.6% of the total number of universities and university level institutions in India.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Gujarat (2011-12)	India (2011-12)
State University	20	285
Private University	15	112
Institution of National Importance	8	39
Deemed University	2	129
Central University	1	40
Total	46	605

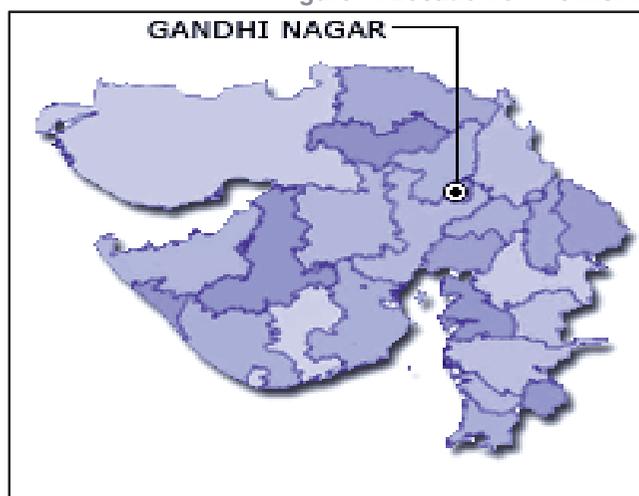
Source: UGC

Gujarat is home to several reputed institutes across areas of management, fashion and design, engineering, architecture, pharmaceutical studies and petroleum studies. Ahmedabad, which is the former state capital and the largest city of Gujarat, houses several centres of excellence such as the Indian Institute of Management (IIM) – which is considered to be one of the best management schools in India, and the Physics Research Laboratory. The Sardar Vallabhai National Institute of Technology, another premier institute in India for engineering is located in the second largest city of Gujarat, Surat. Premier institutes such as Center of Environmental Planning & Technology (CEPT) – considered to be one of the best architectural schools in India; and the National Institute of Design (NID), which is reputed to be one of the internationally acclaimed multi-disciplinary institutions in the field of design education and research are located in the state capital Gandhinagar.

Leading management schools like Institute of Rural Management, Anand; which is one of the leading institutes in rural management in India and Mudra Institute of Communications, Ahmedabad; which is India's premier communications management institute are also situated in Gujarat. Other nationally reputed institutes include the National Institute of Pharmaceutical Education and Research (pharmaceutical studies), and Pandit Deendayal Petroleum University (petroleum studies). During the

year 2008, the Indian Institute of Technology, Gandhinagar was established; thus making Gujarat one of the four states in India which houses an IIT, NIT and IIM.

Figure 1: Location of Premier Institutes in Gujarat



- Center of Environmental Planning & Technology (CEPT), Gandhinagar
- National Institute of Design (NID), Gandhinagar
- Indian Institute of Technology (IIT), Gandhinagar
- Pandit Deen Dayal Petroleum University, Gandhinagar
- Indian Institute of Management (IIM), Ahmadabad
- Physical Research Laboratory, Ahmadabad
- Mudra Institute of Communications, Ahmadabad
- National Institute of Pharmaceutical Education and Research, Ahmedabad
- Institute of Rural Management (IRMA), Anand
- Sardar Vallabhai National Institute of Technology (SVNIT), Surat

However, the geographical spread of the reputed higher education institutes remains skewed, with a large concentration of institutes in big cities and towns such as Ahmedabad, Gandhinagar and Surat.

In addition to universities, which offer programs across areas like arts, science, commerce, engineering, management, pharmacy and technology, there are several universities, which focus on offering programs and conducting research in specific areas like agriculture, ayurveda, teacher education, social science, design, energy and space & allied science.

Table 2: Distribution of Government, Grant-in-aid and Self-financing Colleges Affiliated to State Universities

University	Colleges			Total
	Govt.	Grant-in-Aid	Self Finance	
Gujarat University	15	131	84	230
Veer Narmad South Gujarat University	14	53	102	169
Sardar Patel University	0	14	1	15
Hemchandracharya North Gujarat University	12	57	123	191
Bhavnagar University	2	9	40	51
Krantiguru Shyamji Krishna Verma Kutch University	3	6	22	31
Suarashtra University	10	86	180	276
Total	56	356	552	964

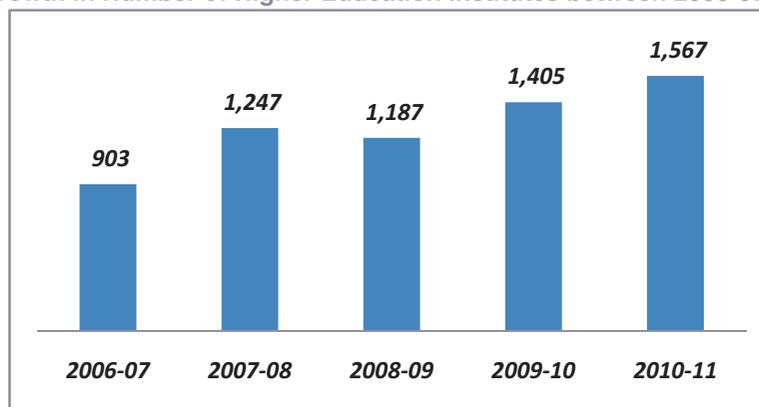
Source: Draft-Document for 12th Five Year Plan, Higher Education, Education Dept., Govt. of Gujarat

Among the various universities in Gujarat, there are 7 state universities, which together affiliate 964 colleges. Self-financing colleges (57%) form the dominant category of institutes in Gujarat, followed by grant-in-aid colleges (36.9%), which are sponsored by the central government. This indicates a strong dependence on private players and central funding; and a weak presence of state government funded colleges (5.8%).

Key Higher Education Indicators: Institutes, Enrolment, and Teachers

The growth rate in the number of higher education institutes in Gujarat stands at 14.7% vis-à-vis the national growth of 7%, which indicates an above average performance in ensuring access to higher education.

Figure 2: Growth in Number of Higher Education Institutes between 2006-07 and 2009-10



Source: Socio-Economic Review 2011-12, Gujarat State

While the number of enrolled students has been increasing over the years (between 2006-07 and 2010-11) at a growth rate of 10.7%, the growth the number of teachers entering the higher education system is much higher at 24.2%. As a result, the pupil teacher ratio has been consistently improving (28:1 during the year 2010-11 as compared to 50:1 in 2006-07).

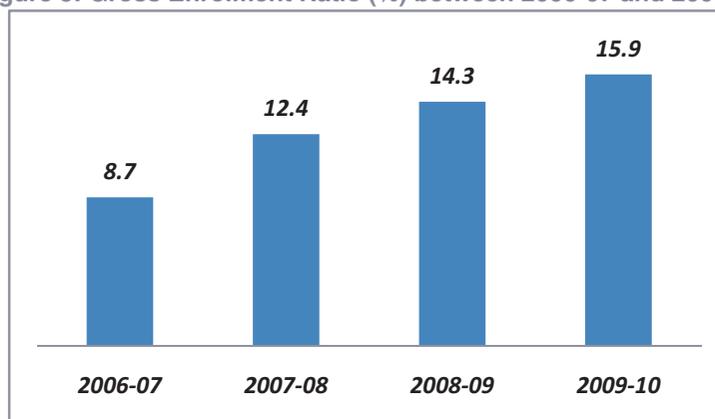
Table 3: Pupil Teacher Ratio in Higher Education

	2006-07	2007-08	2008-09	2009-10	2010-11
No. of Teachers	8,263	12,656	20,766	20,054	24,445
No. of Pupils ('000)	409	534	589	643	680
Pupils/Teacher ratio	50	42	28	32	28

Source: Socio-Economic Review 2011-12, Gujarat State

The state Gross Enrolment Ratio (GER) has been rising steadily over the last few years, thus reflecting increasing access among students in the age group of 18-24 years to higher education. While the GER during the year 2006-07 was 8.7%, it has almost doubled, to the level of 15.9% in the year 2009-10.

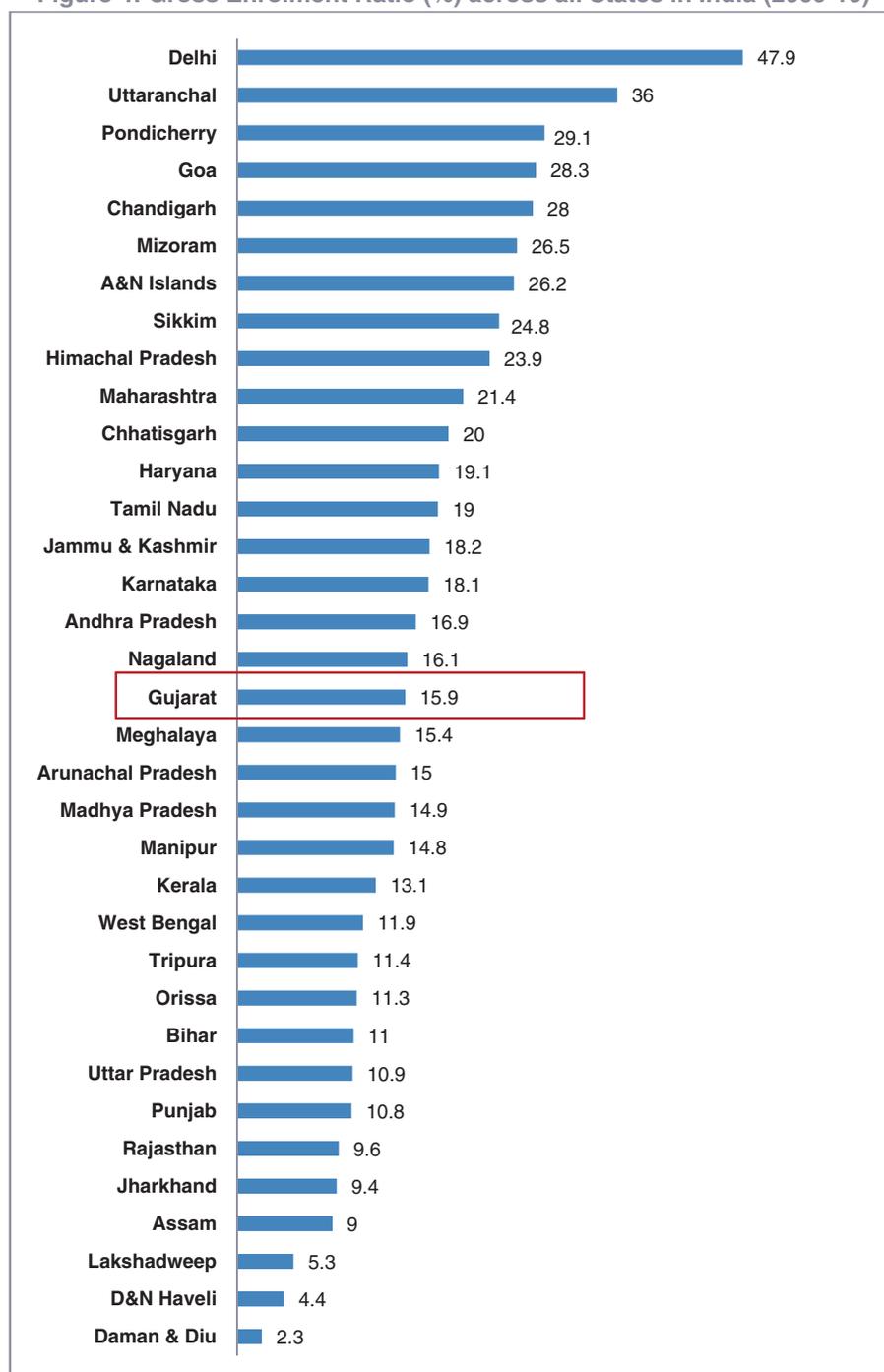
Figure 3: Gross Enrolment Ratio (%) between 2006-07 and 2009-10



Source: Statistics of Higher and Technical Education, MoHRD

However, despite the growth in GER, the state still stands 18th among various states and union territories. While this is higher than the national average of 15%, Gujarat still has a long way to achieve the state target of 25% GER⁴⁴ by the year 2017.

Figure 4: Gross Enrolment Ratio (%) across all States in India (2009-10)



Source: Statistics of Higher and Technical Education, MoHRD

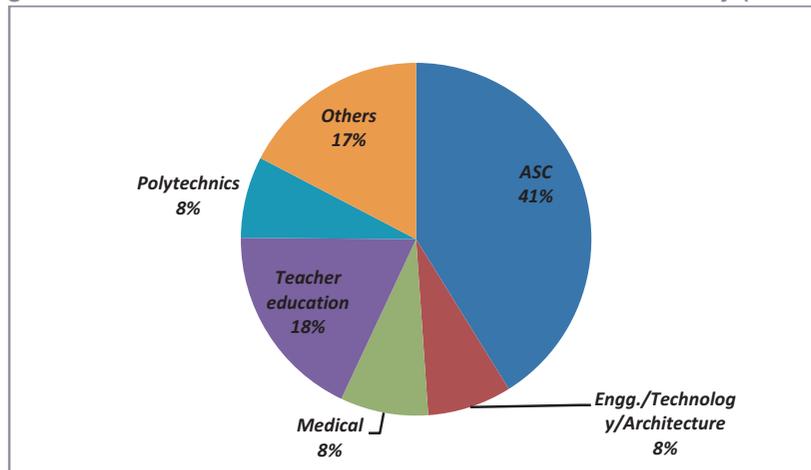
⁴⁴Blueprint for Infrastructure in Gujarat - 2020

The below sections present a brief description of the current higher education scenario in Gujarat, the industry and employment scenario in Gujarat, and the key initiatives and challenges in higher education that are being addressed by the state.

Growth in Higher Education Institutes and Enrolment

At a national level, the dominant programs that are being offered in higher education are in the areas of arts, science and commerce. The same trend is reflected in Gujarat as well, with 41% of the total number of institutes offering programs in arts, science and commerce. Institutes offering programs in teacher education (18%) and engineering/technology/architecture (8%) fall in the second and third major categories.

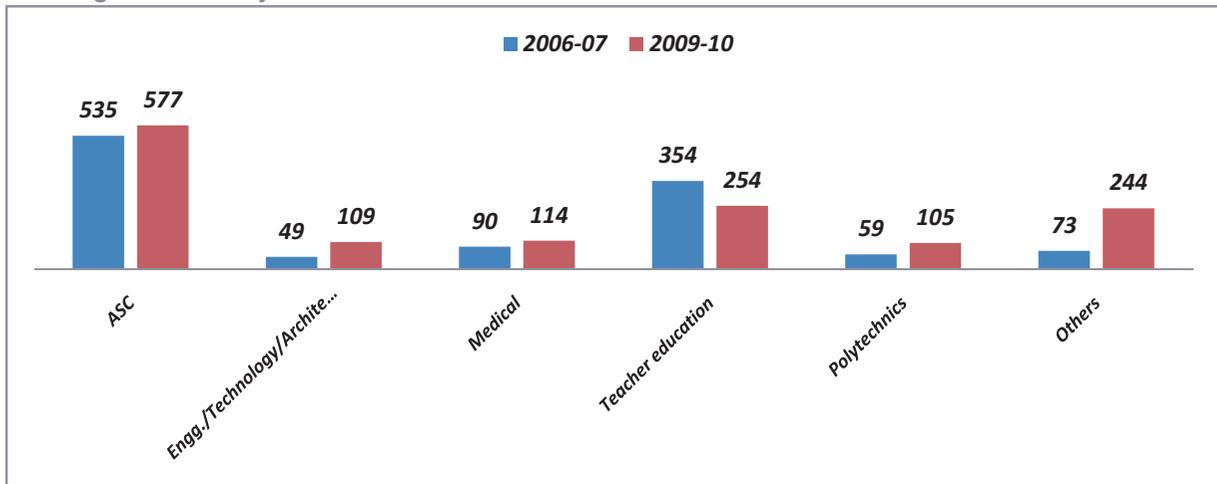
Figure 5: Distribution of Number of Institutes Based on Faculty (2009-10)



Source: Statistics of Higher and Technical Education, MoHRD

The maximum growth in the number of institutes between the years 2006-07 and 2009-10 has been in the fields of engineering/technology/architecture, with a CAGR of 22.1%; followed by polytechnic institutes (15.5%). Thus, there has been a strong impetus on promoting education in field of engineering at both degree and diploma level. On the other hand, the number of institutes offering programs in the area of teacher education has declined (-7.96%).

Figure 6: Faculty-wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher and Technical Education, MoHRD

Across various faculties, the number of students enrolled at undergraduate level is significantly higher than the number of students at postgraduate level. The faculty of management, however, has equivalent number of students enrolling for both under graduate (59%) and postgraduate program (41%). The faculties with the least number of students in the PG level are teacher education (2%) and engineering/technology/architecture/design (7%).

Table 4: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) level

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
Arts	1,68,478	43,647	2,12,125	79	21
Commerce	1,41,404	30,475	1,71,879	82	18
Science	65,896	10,098	75,994	87	13
Engg./ Tech./ Arch.	98,822	7,046	1,05,868	93	7
Medicine	25,668	7,166	32,834	78	22
Agriculture & Allied	2,637	757	3,394	78	22
Management	22,470	15,788	38,258	59	41
Teacher Education	52,964	1,076	54,040	98	2
Law	8,457	1,075	9,532	89	11
Others	8,490	23,322	31,812	27	73
Total	5,95,286	1,40,450	7,35,736	81	19

Source: Statistics of Higher and Technical Education, MoHRD

In terms of total enrolment, the maximum growth has been registered in the faculties of teacher education (43.4%), followed by science (19.9%) and commerce streams (10.6%). The streams of law and arts have seen the least growth, with enrolment in law declining at 12.3% and enrolment in arts registering a growth of only 0.1%.

Table 5 indicates a strong growth in the total number of students enrolling for post graduation (24%), as compared to the enrolment at under graduation (6%). Except in the streams of science and engineering/ technology/architecture/design, the enrolment at the post graduation level has registered a strong growth across streams. At the under graduate level, however, the enrolment has declined in the streams of arts, medicine and law between the years 2007-08 and 2009-10.

Table 5: Faculty Wise Distribution and Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) Level

Faculty	Total Enrolment (UG+PG)		CAGR (%)		
	2007-08	2009-10	Total	UG	PG
Arts	2,11,387	2,12,125	0.1	-2.5	14.1
Commerce	1,26,622	1,71,879	10.6	6.0	55.2
Science	43,833	75,994	19.9	30.6	-11.3
Engg./ Tech./ Arch.	91,581	1,05,868	4.9	6.1	-7.4
Medicine	31,136	32,834	1.8	-5.2	93.3
Agriculture & Allied	3,162	3,394	2.4	0.4	10.6
Management	30,598	38,258	7.7	0.6	22.5
Teacher Education	18,133	54,040	43.4	43.3	49.2
Law	14,183	9,532	-12.3	-14.7	28.1
Others	5,827	31,812	75.1	20.0	187.9
Total	5,76,462	7,35,736	8.4	5.7	24.3

Source: Statistics of Higher and Technical Education, MoHRD

Quality of Institutes

Among the 278 higher education colleges, which have been accredited by the National Assessment and Accreditation Council, only 2.5% of the colleges have been rated A (Very Good). 73% of the institutes have been rated B (Good) and 24% of the institutes have been rated C (Satisfactory).⁴⁵

Industry and Employment Scenario

Key Industries⁴⁶

The significance of higher education becomes more prominent in a state like Gujarat, which contributes to roughly 15% of the total industrial output of the country. With a vision to attract an investment of Rs 11.8 lakh crore across 19 sectors by 2020⁴⁷, it is of utmost importance that employable talent is being churned out in greater quantity than what is currently being produced. At the national level, Gujarat is a leader in several industrial sectors such as chemicals, petrochemicals, dairy, drugs and pharmaceuticals, cement and ceramics, gems and jewellery, textiles and engineering. A brief overview of the various key industries in Gujarat is as given below:

1. Agro and Food Processing

- The agro sector including animal husbandry, contributed 13.8% to Gujarat's GSDP in 2009-10.
- There are around 13,761 milk co-operative societies in the state.
- Key players: Amul, Parle Products Pvt Ltd, Vadilal *and* Rasna.

2. Chemicals and Petrochemicals

- Gujarat contributed about 51% to the national production of chemicals in 2010-11. It is the highest contributor to the national production of petrochemical products.
- Key players: Asian Paints Ltd, Tata Chemicals Ltd, Gujarat State Fertilisers and Chemicals Ltd and Excel Industries Ltd.

3. Textiles and Apparels

- Gujarat is the largest producer (35%) and exporter (60%) of cotton in the country.
- Over 40% of the country's art-silk fabric is produced in Surat. Gujarat is the largest producer of denim in India (65 to 70%) and the third largest in the world.
- Textiles account for 21% of total employment in the state.
- Key players: Arvind Ltd, Ashima Group, Digjam Ltd and Raymond Ltd.

4. Engineering and Auto

- The state's engineering and automotive sectors contribute 8% to India's total industrial production and over 9% to the national engineering output.
- Small-scale industry is a significant contributor to the national production of brass parts, foundry, forging and machine tools, oil engines and electric motors, submersible pumps and industrial valves and bearings.
- Key players: ABB, Larsen & Toubro (L&T), General Motors and Panasonic.

5. Gems and Jewellery

- Gujarat accounts for 72% of the world's share of processed diamonds and 80% of total diamonds processed in India.
- It contributes 90% to the total diamonds processed in India in 10,000 units, located in Surat.
- 8 out of 10 diamonds in the world are polished in Surat.

⁴⁵National Accreditation and Assessment Council

⁴⁶India Brand Equity Foundation – State report on Gujarat

⁴⁷Blueprint for Infrastructure in Gujarat - 2020

- The state has the highest labour productivity in the jewellery sector in India.
- Renowned institutions such as the Indian Diamond Institute, Gujarat Hira Bourse, and the Gems and Jewellery Export Promotion Council provide skilled manpower for the industry.

6. Oil and Gas

- Gujarat ranks first in the production of crude oil (onshore: 53%) and natural gas (onshore: 31%) in India.
- The state has the highest number of oil and gas fields, both onshore and offshore, in India (31.3%).
- Nearly 36.6% of India's installed refining capacity is in the state of Gujarat.
- Key players: Cairn India, IOCL (Indian Oil Corporation Limited), ONGC (Oil and Natural Gas Corporation Limited) and Shell.

7. Pharmaceuticals and Biotechnology

- Gujarat accounted for 35% of the national pharmaceutical production and around 22% of pharma exports in 2010-11.
- It has the largest number of clinical research organisations in India and over 100 companies with WHO-compliant manufacturing units.
- Key players: Sun Pharma, Bayer Crop science, Quintles, Zydus Cadilla.

8. Ports

- The infrastructure available for development of the shipbuilding industry includes:
 - Availability of raw materials such as ship building plates and engines
 - Stillness of water and deep draft
 - Proximity to ancillary industries
 - Sufficient anchorage space
- There are several shipyards present in Gujarat such as ABG Shipyard, Alcock Ashdown and Vipul Shipyard.

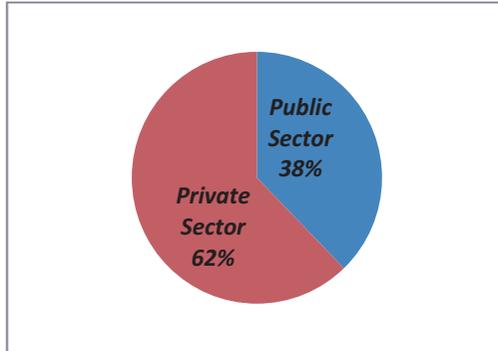
9. Tourism

- 8 tourism hubs have been created for the convenience of tourists visiting Gujarat.
- In 2010-11, around 19.8 million tourists visited the state.

Employment Scenario

As per the statistics released by Directorate of Employment and Training, Gandhinagar (2010-2011), the size of the registered workforce in Gujarat is 21 lakh with majority of them being employed in the private sector (62%).

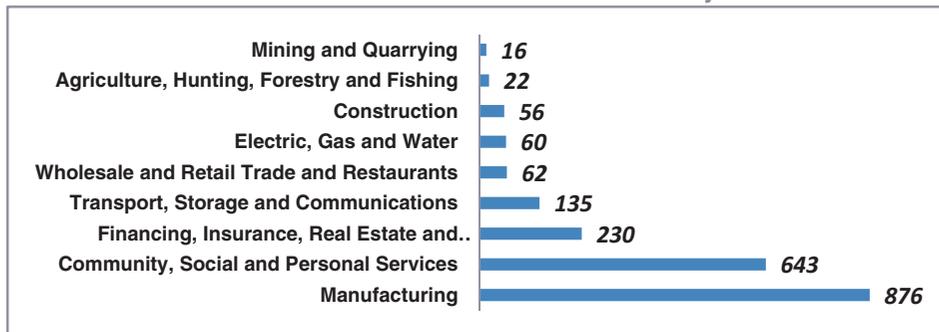
Figure 7: Distribution of Workforce in Public and Private Sector in 2010-11



Source: Socio-Economic Review 2011-12, Gujarat State

In terms of industrial classification, the maximum employment has been generated by the manufacturing sector with 8.76 lakh (41%) of the total workforce being engaged by the sector. The other major contributing sectors are community, social and personal services (30.6%); financing, insurance, real estate and business services (10.9%) and transport, storage and communication (6.4%).

Figure 8: Distribution of Workforce in Public & Private Sector by Industrial Classification



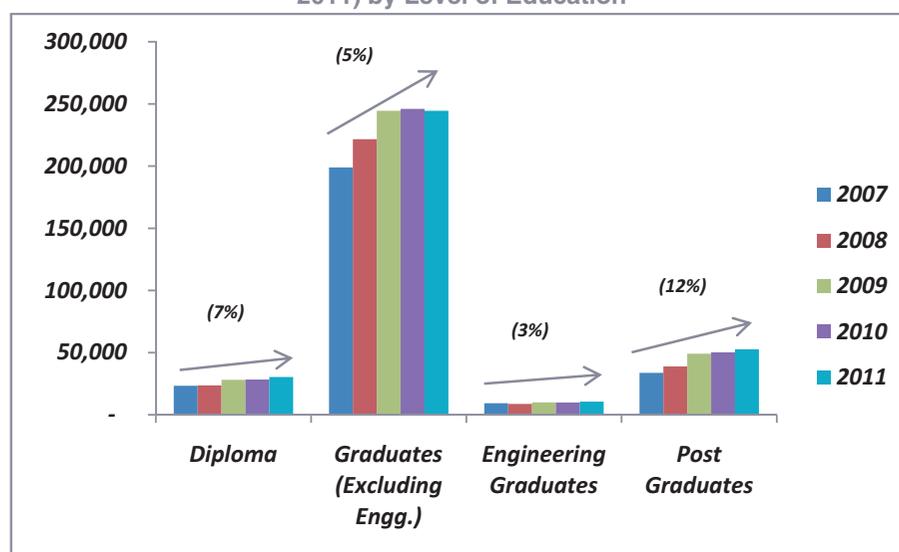
Source: Socio-Economic Review 2011-12, Gujarat State

During 2010-11, among the job seekers with higher education qualifications registered with the Gujarat Employment Exchanges (3.38 lakh), the maximum number of job seekers was graduates from streams of arts, science, commerce and others (excluding engineering) at 72.3%. The next dominant segment of job seekers was the category of postgraduate students (including engineering) at 15.5%.

The total number of educated unemployed persons, for the year 2010-11, stands at 8.3 lakh. Despite registration of 1.63 lakh vacancies with the employment exchanges, a vast number of students who have completed their higher education have not been able to engage in gainful employment. This may be considered as an indicator towards the non-availability of quality manpower, as per the standards expected by the industry.

The maximum growth registered in the number of job seekers registering at the Exchanges is depicted by the category of post graduates (12%) followed by diploma holders (7%)

Figure 9: Growth in Number of Job Seekers Registered with Employment Exchanges (2007-2011) by Level of Education



Source: Socio-Economic Review 2011-12, Gujarat State)

Current Initiatives and Key Challenges

The state has estimated an investment of Rs 11.8 lakh crore for the period up to the year 2020, covering sectors such as energy, transportation, SEZs, urban infrastructure, water, tourism, IT, education and human resource development⁴⁸. In terms of the state's performance in the secondary sector (industry); the state is promoting investments at a huge scale, thus attempting to develop a more attractive investment environment for companies and entrepreneurs. Moving forward, it is expected that the industrial sector will drive the state economy.

The services sector of the state accounts for a smaller share of its GDP as compared to the industry sector. However, significant investments are being made by state government in education and, in turn, creation of skills that the industry (employers) is looking for in their workforce.

It has been estimated that the demand for qualified manpower in Gujarat would be about 2.5 lakh in the coming five years, and the supply would be 1.5 lakh; thus leaving a gap of 1 lakh⁴⁹. It is, thus imminent, that higher education in the state be given a strong thrust, with focus on both quality and quantity to ensure that the state fulfils the vision that it has defined for itself.

Currently, several initiatives are being implemented by the state government, with a view to increase access, and also positively impact the employability of students graduating from Gujarat's higher education system.

A brief description about these initiatives is given below:

1. Choice Based Credit System (CBCS)

- The first state to implement CBCS at all levels, the introduction of the system is expected to increase the employability of students by developing both thinking and analytical ability. It offers wide-ranging choices (including interdisciplinary and vocational courses) for students to opt for based on their aptitude and their career goals.

⁴⁸Blueprint for Infrastructure in Gujarat - 2020

⁴⁹Industry Responsive Skill Development- Emerging Trends in Gujarat

- The CBCS has been implemented at the under graduate as well as the postgraduate level across all state universities in Gujarat. Till date 34 CBCS orientation workshops have been organized to orient the academic and administrative staff about the system.
- The CBCS is a student centric system, and is expected to benefit more than 8 lakh students and about 13,000 faculties in Gujarat.

2. Universal Development of Integrated Employability Skills through Higher Education Agencies (UDISHA)

- The initiative has been launched by the state government to enhance the employability of graduate and postgraduate students through short term and long term sustained training in developing skills, thus creating broader placement opportunities.
- UDISHA clubs have been setup in all government and grant in aid colleges, and are expected to bridge the gap between the job seekers and job providers. Till date, 436 colleges have been given the basic financial support required to set up clubs, through which student registration, pre-placement training, job fairs and counselling are offered.

3. SANDHAN – All Gujarat Integrated Classroom

- The initiative has been launched with an aim to enable all the students pursuing their higher education to have access to lectures delivered by eminent academicians from across the state, nation and from abroad. Under this initiative, a dedicated room has been setup in every college where the students can attend lectures.
- Till date, more than 1,000 hours of lectures have been telecasted every year since 2009, reaching out to 81,400 students in the year 2009-10 and 1,10,000 students in the year 2010-11.

4. Knowledge Management Programme

- The objective of this program is to build capabilities of faculties of higher education institutes, by integrating ICT and English in their role of creation and dissemination of knowledge. Under this initiative, training for the components of English and ICT training has been delivered to the master trainers at the state and district level.
- It has been planned to deliver training to the faculties at the district, cluster and college level in the next phase.

5. Gujarat Knowledge Society

- The Gujarat Knowledge Society has been instituted by the Government of Gujarat to bridge the gap between the industry and the higher education system. The aim of GKS is to prepare the youth for new knowledge based economy and society to stimulate the creation of world-class knowledge resources by developing new competencies and skills among the students.
- Under the initiative, customized short-term courses are prepared and delivered at nominal rates through private and institute training partners, thus empowering the youth for accessing better employment opportunities.

6. Establishment of an Assessment and Administrative Audit (AAA) wing

- Under this initiative, various higher education institutes are encouraged to undergo an audit and assessment process, which measures the aspects of academic management, academic practices, infrastructural facilities and institutional initiatives.
- The initiative aims to facilitate awareness among the colleges about processes and systems that can ensure quality teaching and research.

7. Training and Capability Building Program

- The initiative aims at strengthening the faculty in their respective subjects and also to equip them to use the necessary tools of new technology, which can be used in classroom delivery. Under this program, training is delivered in the respective subject areas, communication skills and ICT.

8. Building research centres

- To address the concern of poor performance of faculty in research, workshops have been conducted at various universities and higher education institutes for providing support to teachers in preparing proposals of research projects.
- Till date, 659 faculty members have attended these workshops and a total of 582 research proposals have been prepared.

Current Challenges faced in Higher Education

In improving the higher education scenario in Gujarat, the state is facing several challenges, many of which are common across states in India. Some of these challenges currently faced are:

- **Access:** There needs to be greater access to higher education for all classes in terms of class, income and gender.
- **Equity:** Currently the state lacks in areas of teacher and student quality, creating an environment for nurturing knowledge building and an open system that can become an agent of change and development. There is a need for greater equity in higher education in the state in terms of diverse backgrounds of students, 1st generation literates, gender, and urban/rural and income groups.
- **Research in Higher Education:** Enhancement is required both in terms of quantity and quality of research. The state lags behind in cutting edge research and doesn't provide enough initiatives to promote effective research in various fields of study. Poor faculty orientation towards research and ICT, lower competence in English and subject domain are some of the reason for inadequate research in the state. There is an absence of effective mechanism for industry-institute interface for enhancing research, patents, and product specialization.
- **Capacity Building:** The state is in dire need to build capabilities of teachers, administrators, management and other stakeholders of higher education. Due to poor English language, communication and written skills, many graduates are not able to meet basic minimum employment standards at the state and national level.
- **Governance:** The state governance has suffered heavily due to poor transparency, inadequate disclosure of material information and archaic structural mechanisms in areas of legal framework, accountability, training of ICT implementation and work flow management.
- **Extension:** Extension in the state has been ineffective due to lack of skills absorbed into curriculum, deprived industry linkages and lack of relevance of ground level realities. The state suffers due to poor capabilities of teachers, management, administrator and inadequate interdisciplinary partnerships and sub standards ICT in curriculum.

State Focus: Haryana



State Profile

Capital	Chandigarh
Total Area (in sq. km)	44,212
Total Population	2,53,53,081
Population Density (per sq. km)	573
Number of Districts	21
Literacy Rate (%)	76.64
Sex Ratio (per 1,000 males)	877
State Domestic Product, 2010-11 (In Rs. Crore)	2,33,310
Per capita income, 2009-10 (Rs.)	92,327

Introduction

Haryana is primarily an agricultural state and one of the most developing states in India. The areas in the periphery of the state, which are in close proximity to the nation's capital-Delhi, are of strategic importance to private firms, thus one can find large number of industrial establishments here.

A large proportion of the state is also included in the National Capital Region (NCR), as a result of which these areas are exposed to development at a much faster rate as compared to the other areas. One of the wealthiest states in the nation, it has a per capita income of Rs 67,891. The agricultural and manufacturing industry in the state has experienced sustained and continuous growth over the last two decades. The economy of the state is supported by manufacturing, services, agriculture and retail.

Universities and University Level Institutes

The state of Haryana consists of 29 university level institutions, with 10 state universities, 9 private universities, 7 deemed universities, 1 central university and 1 institutes of national importance. National Institute of Technology (NIT) in Kurukshetra and IIM Rohtak are the two institutes of national repute in the state. While NIT Kurukshetra was established in 1963, IIM Rohtak was established in 2010. Some of the state universities are have been existent for more than 4 decades now and have been able to establish their repute in the northern part of the country.

Universities like Bhagat Phool Singh Mahila Vishwavidyalaya, Kurukshetra University, Maharishi Dayanand University and YMCA University of Science & Technology are amongst the most well reputed state universities. In addition to these universities, there are several prominent private universities in the state like Amity University, Apeejay Stya University, ITM University, OP Jindal University, which have been able to attract students not just from the state of Haryana but also from other northern states as well.

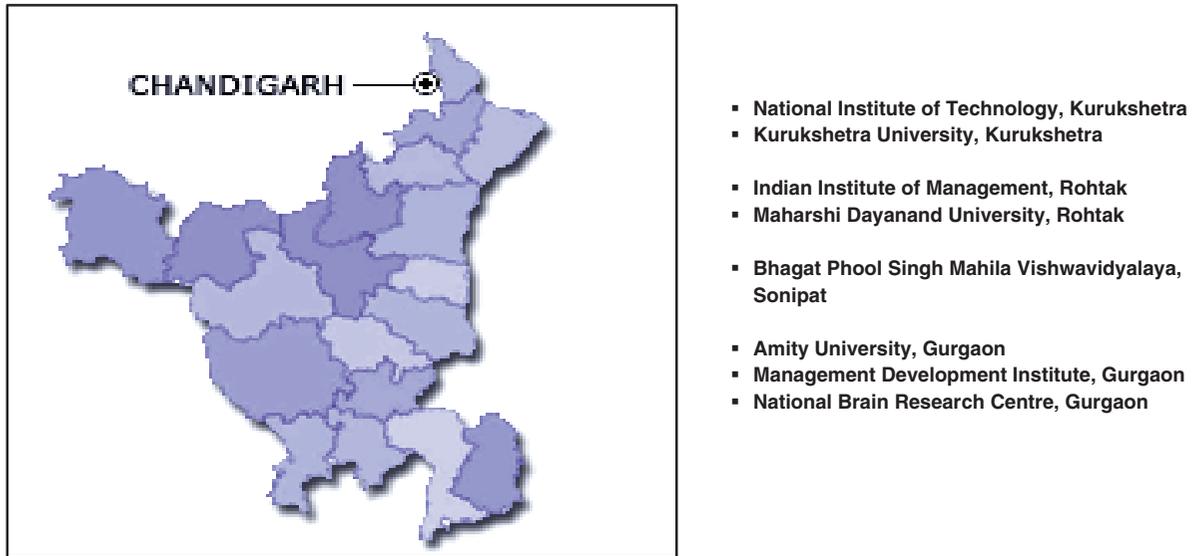
Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Haryana (2011-12)	India (2011-12)
State University	10	285
Private University	9	112
Institution of National Importance	1	39
Deemed University	7	129
Central University	1	40
Total	28	605

Source: UGC

In addition to the universities focused on general and technical education; there are several universities, which are focused on niche areas as well. The Choudhary Charan Singh Haryana Agricultural University is one of most recognized agricultural university in the nation. There are also deemed universities focused on brain research (National Brain Research Centre), food technology (National Institute of Food Technology, Entrepreneurship and Management) & dairy research (National Dairy Research Institute). There has also been a proposal to establish India's first defence university (Indian National Defence University) in the state. The Management Development Institute – which is ranked amongst the top ten management schools in India, is also located in the NCR of Gurgaon.

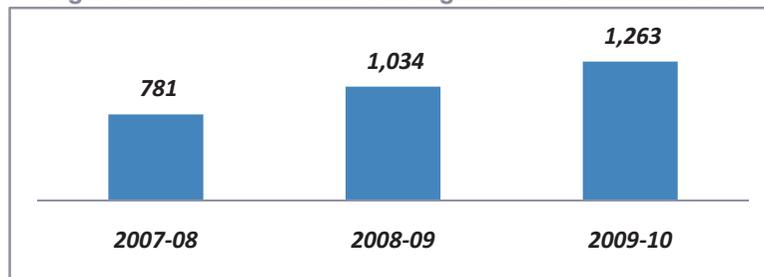
Figure 1: Location of Premier Institutes in Haryana



Key Higher Education Indicators: Institutes and Enrolment

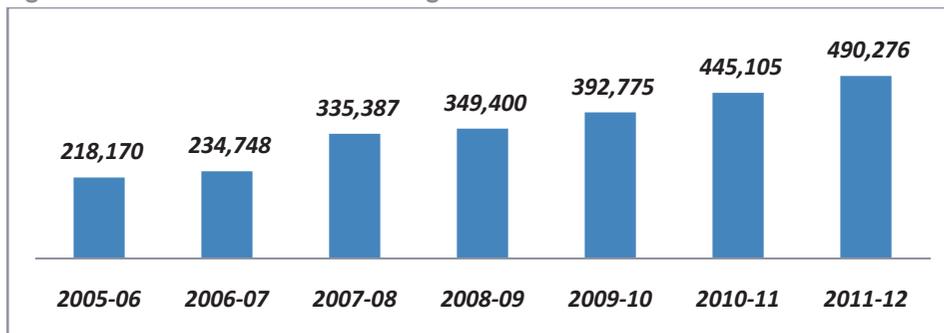
As per Ministry of Human Resource Development (MoHRD) data, the growth rate in the total number of higher education institutes in Haryana stands at 27% between 2007-08 and 2009-10. With the national level Compound Annual Growth Rate (CAGR) of higher education institutes being only 7%, the state has performed exceedingly well in comparison.

Figure 2: Growth in Number of Higher Education Institutes



Source: Statistics of Higher & technical Education, MoHRD

Figure 3: Growth of Enrolment in Higher Education between 2005-06 and 2011-12



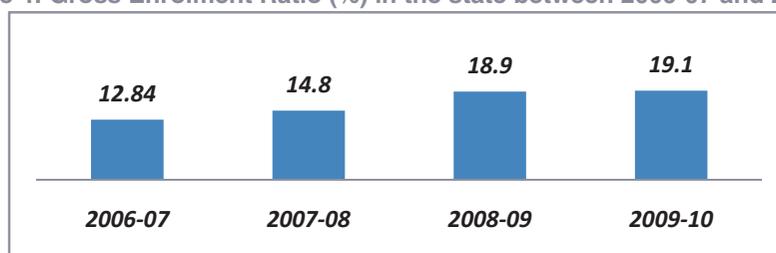
Source: Higher Education in Haryana during 12th FYP, Approach and Strategies

As can be seen in Figure 3, the enrolment figures have also been steadily increasing in Haryana. The total enrolment figure for the year 2011-12 stands at 4.9 lakh as compared to 2.2 lakh in 2005-06 – a

CAGR of 14.4%. The maximum growth in enrolment was seen between 2006-07 and 2007-08 with a 30% growth in 2007-08 over the previous year. Over the last three years, the increase in student enrolment has been steady at between the range of 10% to 12%.

The state Gross Enrolment Ratio (GER) has been rising steadily over the last few years, thus reflecting increasing access among the 18-24 population to higher education. While the GER during 2006-07 was 12.84%, it reached 19.1% during the year 2009-10. The target of the state is to achieve a GER of 30% by 2020. (as mentioned in the report titled 'Higher Education in Haryana during 12th FYP, Approach and Strategies)

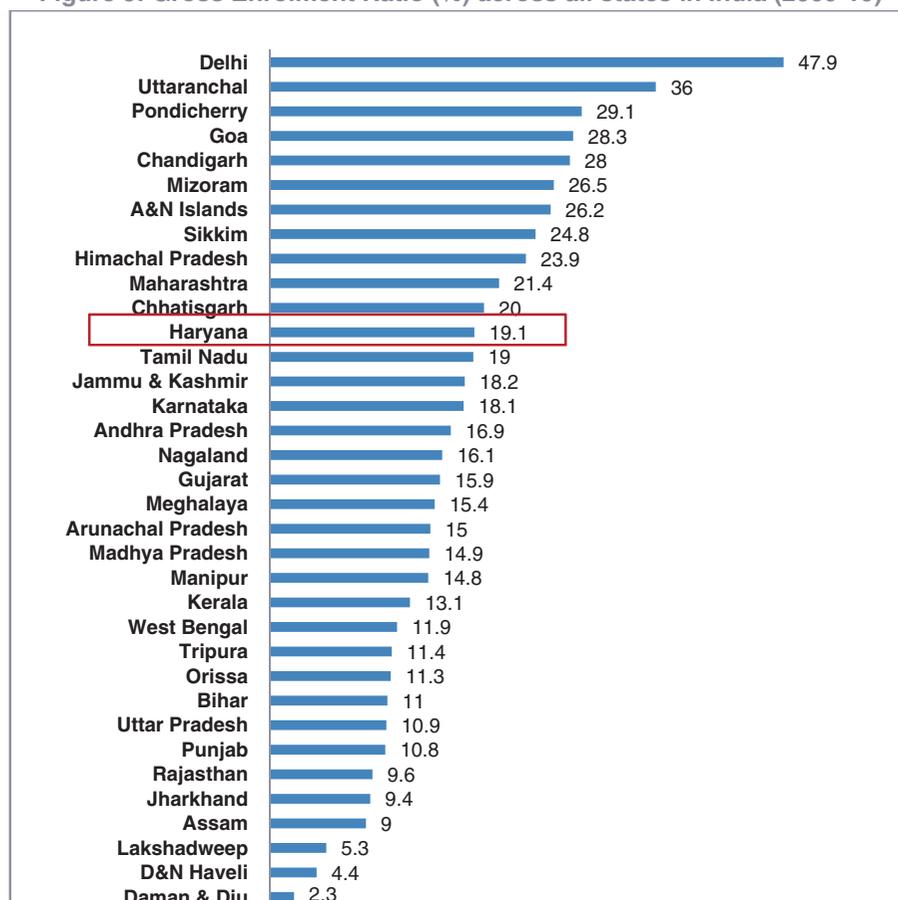
Figure 4: Gross Enrolment Ratio (%) in the state between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

The state ranks 12th in terms of GER among the all the states and union territories of the country, although this is higher than the national average, the state has a long way to go before it achieves its target of 30% GER by 2020.

Figure 5: Gross Enrolment Ratio (%) across all states in India (2009-10)



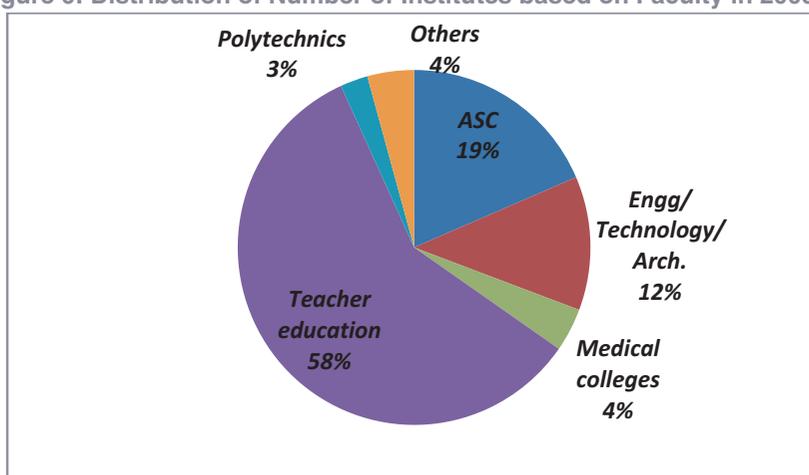
Source: Statistics of Higher & Technical Education, MoHRD

The following sections present a brief description of the current higher education scenario in Haryana. A brief outline of the industry & employment scenario and its linkages to higher education in the state is also presented. The report concludes with the key initiatives and challenges in higher education that are faced by the state

Growth in Higher Education Institutes and Enrolment

In 2009-10, the state had 1,293 higher education institutes for both general and technical education. The majority of these institutes were teacher education institutes, with 58% of the total institutes in the state focussing on teacher education and training. The second major category of institutes was Arts, Science and Commerce institutes, which constituted 19% of the total number of institutes in the state.

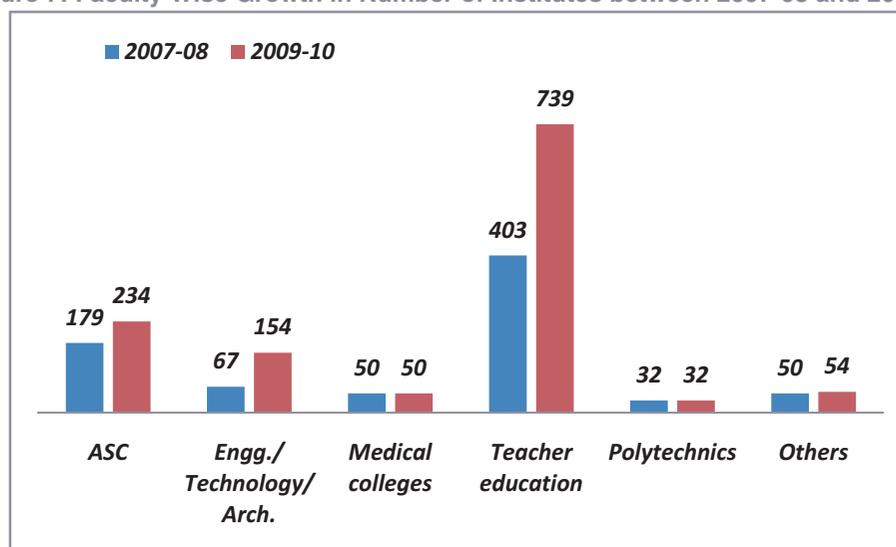
Figure 6: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

The maximum growth in the number of institutes in terms of CAGR between 2007-08 and 2009-10 has been in the fields of engineering/ technology/ architecture, with a CAGR of 52%, followed by institutes offering teacher education & training (35%). It can also be seen (Figure 6) that the number of medical colleges and polytechnics has seen no growth between 2007-08 and 2009-10.

Figure 7: Faculty Wise Growth in Number of Institutes between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Across the various faculties, the number of students enrolled at the undergraduate level (93.6%) was significantly higher than the number of students enrolled at the postgraduate level (6.4%) in 2009-10. The trend is different for the faculty of management, with 43.8% of the students enrolled in undergraduate programs and the remaining enrolled in postgraduate programs. In terms of total enrolment, the highest enrolment is in the arts stream (34%), followed by engineering/ technology/ architecture (24%).

Table 2: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) level in 2009-10

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
Arts	1,51,808	5,507	1,57,315	96.5	3.5
Commerce	41,027	1,255	42,282	97.0	3.0
Science	36,082	4,530	40,612	88.8	11.2
Engg./ Tech./ Arch.	1,13,018	420	1,13,438	99.6	0.4
Medicine	8,307	289	8,596	96.6	3.4
Agriculture & Allied	974	297	1,271	76.6	23.4
Management	11,560	14,832	26,392	43.8	56.2
Teacher Education	65,158	303	65,461	99.5	0.5
Law	3,969	507	4,476	88.7	11.3
Others	2,504	1,928	4,432	56.5	43.5
Total	4,34,407	29,868	4,64,275	93.6	6.4

Source: Statistics of Higher & Technical Education, MoHRD

In terms of total enrolment, the maximum growth has been registered in the faculties of teacher education (43.4%), followed by science (19.9%) and commerce (10.6%). The faculties of law and arts have seen the least amount of growth, with enrolment in law declining at a rate of 12.3% and enrolment in arts registering a growth of only 0.1%.

Table 5 indicates a strong growth in the number of students enrolling for post graduation (24%), as compared to the enrolment at under graduation (6%). Except for the faculty of science and engineering/ technology/ architecture/ design, the enrolment at the post graduation level has registered a strong growth across streams. At the undergraduate level, the enrolment has declined in the streams of arts, medicine and law between 2007-08 and 2009-10.

Table 3: Faculty Wise Growth of enrolment at Undergraduate & Postgraduate level between 2007-08 and 2009-10

Faculty	Total Enrolment (UG+PG)		CAGR (%)		
	2007-08	2009-10	Total	UG	PG
Arts	2,11,387	1,57,315	0.1	-2.5	14.1
Commerce	1,26,622	42,282	10.6	6.0	55.2
Science	43,833	40,612	19.9	30.6	-11.3
Engg./ Tech./ Arch./ Design	91,581	1,13,438	4.9	6.1	-7.4
Medicine	31,136	8,596	1.8	-5.2	93.3
Agriculture & Allied	3,162	1,271	2.4	0.4	10.6
Management	30,598	26,392	7.7	0.6	22.5
Teacher Education	18,133	65,461	43.4	43.3	49.2
Law	14,183	4,476	-12.3	-14.7	28.1
Others	5,827	4,432	75.1	20.0	187.9
Total	5,76,462	7,35,736	8.4	5.7	24.3

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Among the various universities in the state, only 3 universities have been assessed and accredited by the National Assessment and Accreditation Council (NAAC). The Guru Jambheshwar University of Science and Technology, Hisar and Kurukshetra University have been awarded grade A (Very Good), the Maharshi Dayanand University, Rohtak has been awarded grade B (Good). Among the colleges in the state, 110 colleges have been assessed by the NAAC, with 18% of these institutes being graded A (Very Good), 75% of the institutes being graded B (Good) and 6.3% of the institutes being graded C (Satisfactory) as per the latest report released by the NAAC in 2012.

Industry and Employment Scenario

Key Industries⁵⁰

Due to its strategic location, Haryana is gradually becoming a prime industrial hub, with several private firms establishing their factories in this state. The requirement for skilled manpower is going to increase multi-fold in the coming future. A brief overview of the various key industries in Haryana is as given below:

1. IT/ITeS Industry

- Haryana is amongst the leading states in India in terms of IT exports.
- Key players: IBM Global Process Services, Tata Consultancy Services, Microsoft Corporation, Google

2. Agro-Based Industry

- One of the biggest employment generators in Haryana is the Agro Based Industries. Dairy farming is promoted as a key self-employment venture, with the per capita milk availability in Haryana being the second highest in the country
- Key players: Nestle India, GlaxoSmithKline Consumer Healthcare Ltd, Haldiram's Foods International Ltd, PepsiCo India

3. Textiles and Apparels

- The state boasts of abundant availability of raw materials thus giving it a competitive advantage over the other states.
- Readymade garments worth US \$1,316.6 million are exported from Haryana annually, providing employment to around 10 lakh workers
- Key players: DCM Textiles, Benetton India, Orient Craft, Pearl Global

4. Petrochemicals

- A 5,000-acre project jointly set up by HSIIDC and IOCL is expected to drive the further growth of the petrochemicals industry in the region. The new complex would be a dedicated industrial zone for downstream industries.
- Key player(s): Indian Oil Corporation Ltd.

5. Real Estate and Construction

- The state has demonstrated rapid growth in the real estate industry across the residential, commercial and hospitality space.
- The city of Gurgaon (located in Haryana) accounts for more than 70% of the new commercial space coming up in the National Capital Region.
- Key players: DLF, Unitech Group, Ansal Housing and Construction Ltd., Emaar MGF Land Ltd.

⁵⁰India Brand Equity Foundation – State report on Haryana

6. Biotechnology

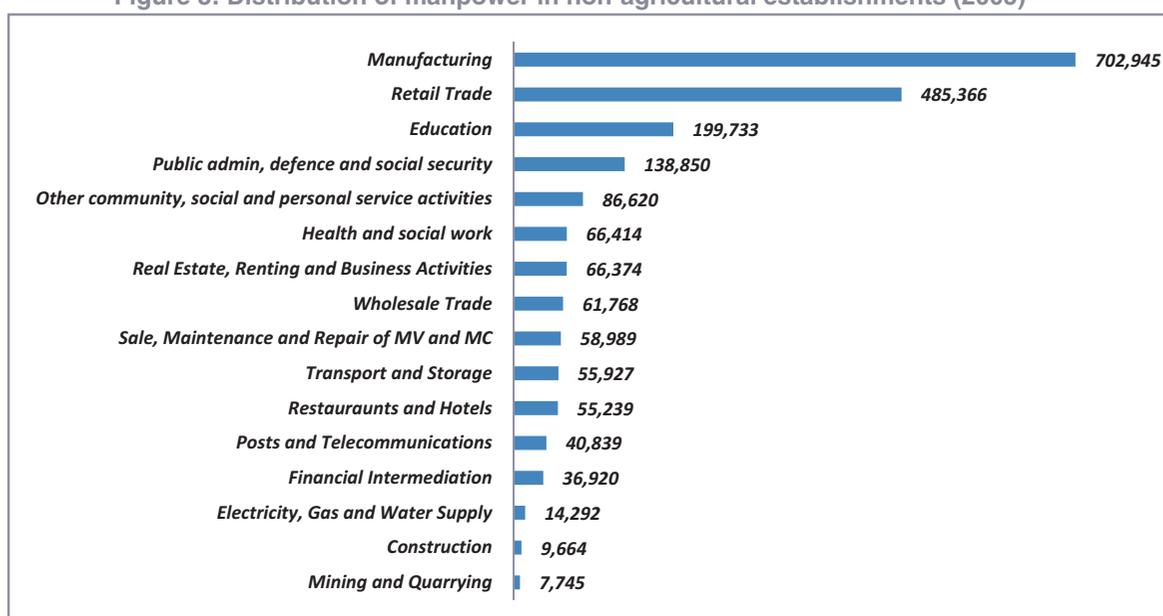
- The government of India has selected Haryana for the establishment of a bio-technology park along with R&D facilities, besides promoting the establishment of a pharma industrial park
- Key players: Proagro Seeds Company, Eli Lilly Company, Ranbaxy Laboratories, Venus Remedies Ltd.

Employment Scenario

As per Economic Census, 2005, a total of 22.4 lakh persons were engaged in economic activity in the state of Haryana, of which 7% of the persons were engaged in agricultural activities. About 20.8 lakh persons were involved in non-agricultural activities in Haryana.

Among the 20.8 lakh persons engaged in non-agricultural activities in Haryana, the maximum number of persons was employed in manufacturing sector (34%). The other major employment generating sectors were retail trade (23%), education (10%) and public administration, defence and social security (7%).

Figure 8: Distribution of manpower in non-agricultural establishments (2005)



Source: Economic Census, 2005 – Haryana

The state of Haryana is fast developing into a prime industrial hub, with its investment friendly policies and due to the easy availability of labour. Thus, it becomes imperative for the state to develop a strong higher education infrastructure, for further progress of the state.

Key Higher Education Challenges and Initiatives Proposed

The challenges, which Haryana faces in the landscape of higher education, include access, relevance, quality, governance and financing. While several initiatives were taken up during the 11th FYP to tackle these core concern areas, efforts are still required to address these challenges.

1. **Access:** The GER in Haryana was 19.1% during 2009-10. It is estimated that at the present growth rate of students in higher education (which is 13-14%), the total number of students would more than double by the year 2020. On the other hand, the present growth rate of

government colleges in the state is 2.5%, which is much lesser than the growth rate of student enrolment. To further enhance access to higher education in the state, the following strategies have been proposed:

- Promotion of quality distance education programs through e-content
- Offering of flexi-timings in the universities and colleges of the state, thus allowing efficient utilization of infrastructure
- Promotion of public private partnership under various models such as basic infrastructure model, outsourcing model, equity/ hybrid model, reverse outsourcing model

2. **Equity:** To ensure that higher education is provided to all segments of society, the following initiatives have been proposed:

- Provision of financial support to girl students and students belonging to SC/ ST, minority groups and Other Backward Categories (OBC) through scholarships, book banks, fee subsidization
- Strengthening of infrastructure to provide access and to retain women students, differently-abled students and students from socially deprived backgrounds
- Strengthening of the remedial system for students from socially deprived backgrounds
- Consolidation and improvement of the capacity and quality of the existing institutes

3. **Relevance:** While the state focused on the expansion of higher education, adequate attention was not paid to the quality and relevance of higher education. As a result, the employability of graduates has become a key concern area. To tackle this issue, the following strategies have been proposed:

- Provision of integrated curriculum with greater flexibility in choice of subjects and innovative pedagogic practices
- Focus on development of skills such as critical thinking, communication, collaboration and creativity
- Laying special emphasis on verbal and written communication skills in English
- Curriculum revision as per the current industry needs
- Updating faculty competencies
- Concept of finishing schools to be amalgamated with university education

4. **Quality and Excellence:** Currently, there is very less emphasis on research in universities. The number of research papers and patents from academia belonging to Indian universities is limited. This is a strong area of concern for the Indian higher education system. The following strategies have been proposed by the state government to strengthen the research foundation in the universities in Haryana:

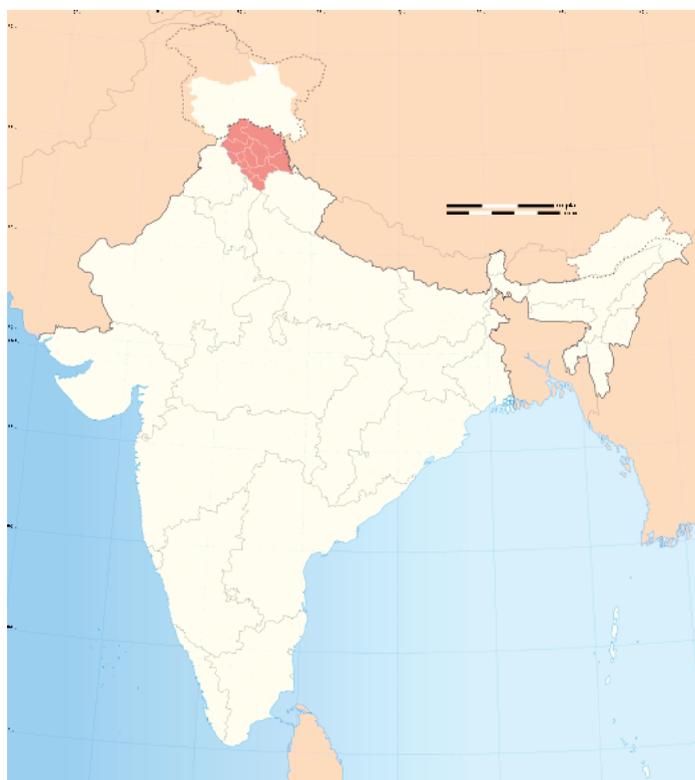
- Mandatory accreditation along with supplementary measures to generate pressure on the higher education system to evolve adequate norms and standards
- Multi subject orientation in the higher education system
- Implementation of Choice Based Credit System
- Strengthening research orientation in the curriculum
- Provision of more research funding
- Updating teaching pedagogy
- Usage of innovative techniques (e.g.: ICT) in teaching learning process
- Setting up of Inter-University Centre (IUCs) at the state level to share costly and rare infrastructure, research equipment etc.

5. **Financing:** With an increase in salaries, and the number of students enrolling for higher education, it is becoming increasingly difficult for the government to meet the financing

demands of the university considering the budgetary constraints. To tackle this issue, the following strategies have been proposed:

- Increase in budget allocation by 20-30%. There is an urgent need to step up both public and private investment in higher education and to increase the efficiency of the utilization of these funds
- Only 2.1% of the state GDP is being currently allocated for education in the state. It has been suggested to increase the allocation to 6% of the state GDP.
- Supporting private investments in higher education, with state government ensuring measures to keep a check on the quality of education

State Focus: Himachal Pradesh



State Profile

Capital	Shimla
Total Area (in sq. km.)	55,673
Total Population	68,56,509
Population Density (per sq. km.)	123
Number of Districts	12
Literacy Rate (%)	83.78
Sex Ratio (per 1,000 males)	920
State Domestic Product, 2010-11 (In Rs. Crore)	42,062
Per capita income, 2010-11 (Rs.)	58,493

Introduction

Himachal Pradesh (HP) is located in the northern region of India. The state is surrounded by Jammu & Kashmir in the north, Punjab in the west and the southwest, Haryana in the south, Uttar Pradesh in the southeast and China in the east. 'Hima' means snow in Sanskrit, and the literal meaning of the state's name is in the lap of Himalayas.⁵¹

The economy of Himachal Pradesh is currently the third fastest growing in India.⁵² Himachal Pradesh has been ranked fourth in the list of the highest per capita incomes of Indian states. Due to the abundance of perennial rivers, Himachal also sells hydroelectricity to other states such as Delhi, Punjab and Rajasthan⁵³. The economy of the state is highly dependent on three sectors: hydroelectric power, tourism and agriculture.

Himachal Pradesh has one of the highest literacy rates in India, next only to Kerala. Hamirpur District is among the top districts in the country in terms of literacy rates for literacy. Literacy rates among women are also quite encouraging in the state. The standard of education in the state has reached a considerably high level as compared to other states in India, with several reputed educational institutes located in the state for higher studies.⁵⁴

Universities and University Level Institutes

4 state universities, 15 private universities, and 1 central university characterize the higher education landscape of Himachal Pradesh. The state currently does not have any deemed universities. In addition to these universities, there are 2 Institutes of National Importance located in the state. Three of the four state universities were established prior to 1990, with the Himachal Pradesh University being the oldest university in the state (est. in 1970). The newest state university established was the Himachal Pradesh Technical University, which was setup recently in the year 2010. The state has a high number of private universities, which accounts for 13.39% of all private universities in the country, with only Rajasthan and Uttar Pradesh having more private universities.

The universities in the state offer a wide variety of specializations at undergraduate, postgraduate and doctoral levels. Some of the popular specializations found in the state are in the fields of agriculture, horticulture & forestry, information technology, biotechnology, science & technology and management. Apart from these fields, courses are also offered in general studies pertaining to arts, science, commerce, social science and humanities. The state has two Institutes of National Importance in the form of an Indian Institute of Technology (IIT) at Mandi and a National Institute of Technology (NIT) at Hamirpur.

Table 1: Distribution of Universities & University Level Institutions at State & National level

Type of University	Himachal Pradesh (2011-12)	India (2011-12)
State University	4	285
Private University	15	112
Institution of National Importance	2	39
Deemed University	0	129
Central University	1	40
Total	22	605

Source: UGC

⁵¹ "Literal meaning of Himachal Pradesh" www.himachalpradesh.us.

⁵² State Domestic Product of India 2011-12 | State-Wise GDP 2011 | District GDP of India | State-wise Population 2011 | VMW Analytic Services".

⁵³ Economy of Himachal Pradesh" Suni System

⁵⁴ Educational Profile of Himachal Pradesh" General Overview of Education in Himachal

The central university of the state is called the Central University of Himachal Pradesh and is located in two campuses; one in Dehra Gopipur and the other in Dharamsala. The university was founded in 2009 as a result of the government's policy to establish central universities in each of the states that do not already have one. The university has 11 schools ranging from business & management studies to journalism, mass communication & media. The school of medicine maintains both the colleges of medical and dental sciences.

Chaudhary Sarwan Kumar (CSK) Himachal Pradesh Krishi Vishwavidyalya in Palampur is one of the most renowned 'hill agriculture' institutes in world and was established in 1978. There are 4 colleges affiliated to this university, namely the College of Agriculture, College of Veterinary & Animal Sciences, College of Home Science and College of Basic Sciences. The university offers UG and PG courses as well as research activities in college departments and has five advanced research centres at the main campus.

Dr. Yashwant Singh Parmar University of Horticulture and Forestry is another state university and it has earned a unique distinction in India for imparting teaching, research and extension education in horticulture, forestry and allied disciplines. Himachal Pradesh University (HPU) is a state non-profit university located in Hamirpur and is in the vicinity of the Indian Institute of Advanced Study. The university has faculties in commerce & management, education, languages, law, life sciences, performing & visual arts, physical sciences, social sciences, computer sciences and engineering. The university affiliates 6 colleges & institutes in different regions of the state.

Figure 1: Location of Premier Institutes in Himachal Pradesh



- IIT, Mandi
- NIT, Hamirpur
- HP Technical University, Hamirpur
- Himachal Pradesh University, Shimla
- Indian Institute of Advanced Study, Shimla
- Eternal University, Sirmaur
- Chitkara University, Solan
- Dr. Yashwant Singh Parmar University of Horticulture & Forestry, Solan
- Maharishi Markandeshwar University, Solan
- Manav Bharti University, Solan
- Shoolini University of Biotechnology & Management Sciences, Solan

Almost all the private universities in the state were recognized between 2009 and 2011; some of them are Jaypee University of Information Technology in Waknaghat, Eternal University in Sirmaur and the Baddi University of Emerging Sciences and Technologies in Baddi.

Prominent institutes in the field of engineering & technology in the state are IIT in Mandi and NIT in Hamirpur. IIT, Mandi is one of the eight new IITs established by the Ministry of Human Resource Development (MoHRD), Government of India (GoI). The NIT at Hamirpur is one of the 30 NITs established, administered and funded by GoI. It offers undergraduate and postgraduate programs in engineering & architecture and doctoral programs in engineering, pure science and humanities. The Indian Institute of Advanced Study (IIAS) is a prestigious research institute based in Shimla. It was set up by the Ministry of Education, Government of India in 1964 and started functioning from October 20, 1965. The programs currently focus on the areas of Humanities, Social Sciences and Natural & Life Sciences.

The higher & technical institutes of the state are spread out evenly in the state. There are institutes located in the north in Dharamsala & Palampur, in Hamirpur in the west, in Mandi & Solan in the central region and in Shimla & Sirmaur in the southern region of the state.

Table 2: Distribution of Colleges by Funding in 2011-12

Type of Colleges	Number of Colleges
Government Colleges	67
Government Sanskrit Colleges	5
Private Colleges	5

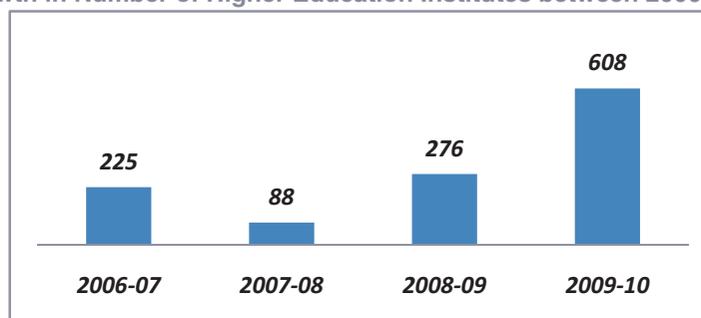
Source: Department of Higher Education, Government of Himachal Pradesh

As shown in Table 2, the state of Himachal Pradesh has 77 colleges in total, of which 87% are government colleges, followed by an even number of government Sanskrit colleges (6.5%) and private colleges (6.5%). It is evident from Table 2 that colleges in the state are primarily government funded and there is limited investment made by the private sector in education; however there are 15 private universities that provide higher and technical education through their own school and departments of various faculties.

Key Higher Education Indicators: Institutes & Enrolment

The CAGR in the number of higher education institutes in the state stands at 38.83% as compared to the national level of 7%, which indicates an impressive progress and above average performance in providing higher and technical education to the youth of the state. The number of higher and technical institutes has more than doubled from 225 in 2006-07 to 608 in 2009-10 as seen in Figure 2 below.

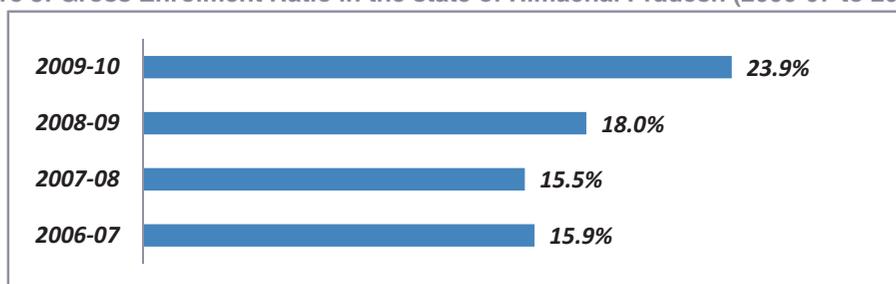
Figure 2: Growth in Number of Higher Education Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

The state Gross Enrolment Ratio (GER) has been rising steadily between 2006-07 and 2009-10, thereby reflecting increased access among the age group of 18 - 24 years population to higher education. While the GER during the year 2006-07 was 15.9%, it has maintained steady growth and reached 23.9% in 2009-10. The GER of 23.9% in 2009-10 is much higher than the national average of 15%.

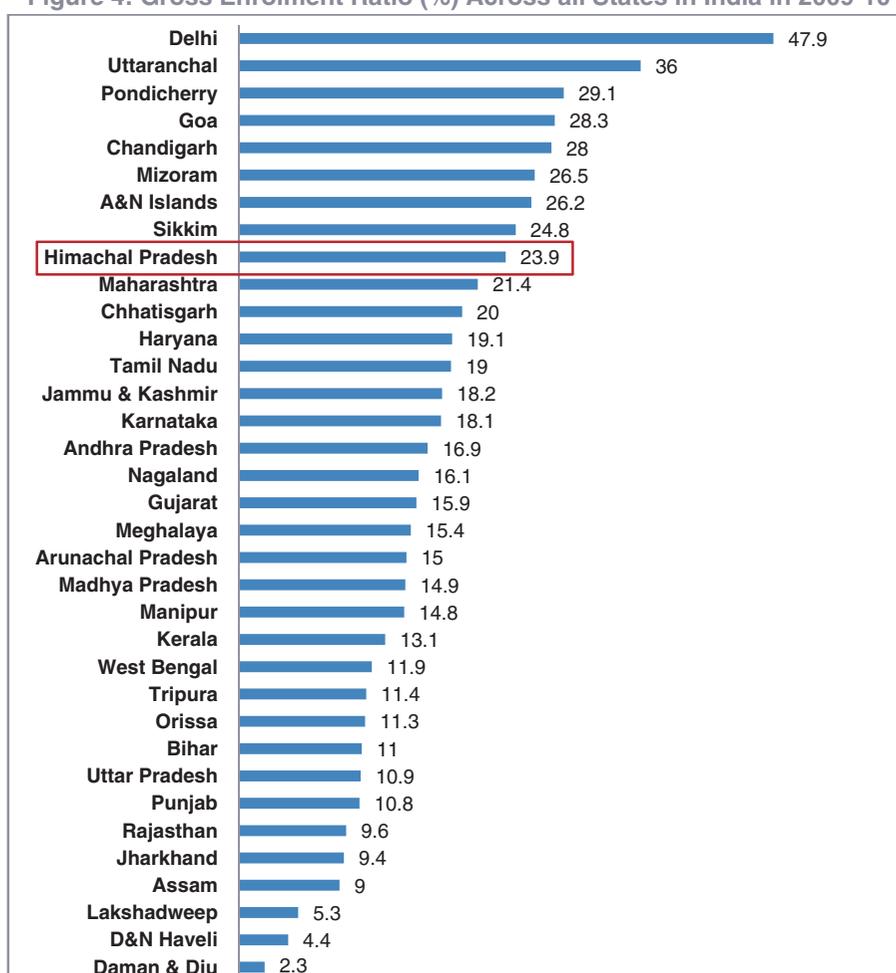
Figure 3: Gross Enrolment Ratio in the state of Himachal Pradesh (2006-07 to 2009-10)



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

Despite impressive growth in GER, the state still stands 9th among the various states and union territories. While this is much higher than the national average of 15%, Himachal Pradesh still has a long way to go before it provides access to quality education to all its youth.

Figure 4: Gross Enrolment Ratio (%) Across all States in India in 2009-10



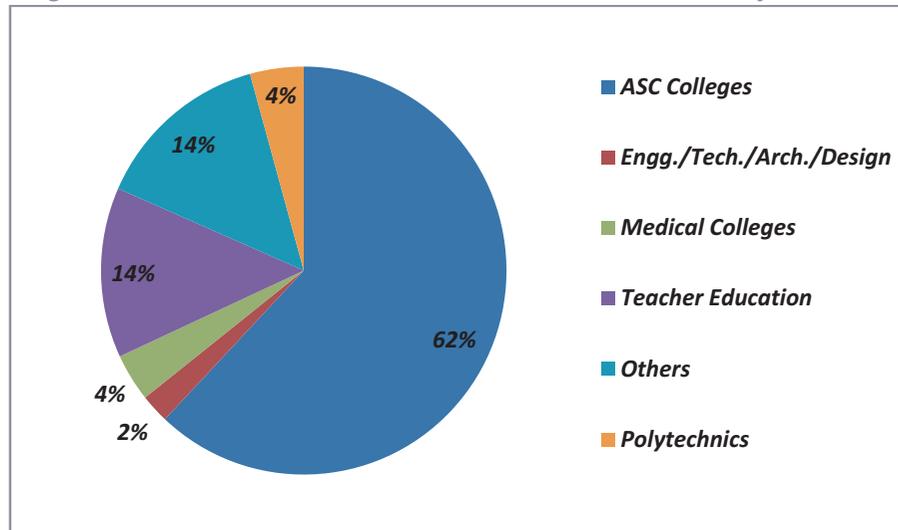
Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

The following sections present a brief description of the current higher & technical education scenario in the state. This is followed by the industry and employment situation in Himachal Pradesh. The conclusion includes the key challenges faced by the state in higher & technical education and the initiatives taken by the state to make higher education more relevant and equitable for all.

Growth in Higher Education Institutes and Enrolment

At the national level, the dominant programs that are offered in higher education are in the areas of arts, science & commerce (ASC). A similar trend is reflected in Himachal Pradesh as well, with 62% of the total number of institutes offering ASC programs. Institutes offering programs in teacher education (14%) and the programs under 'Other' category (agriculture, law and information technology etc.) are the 2nd and 3rd major categories.

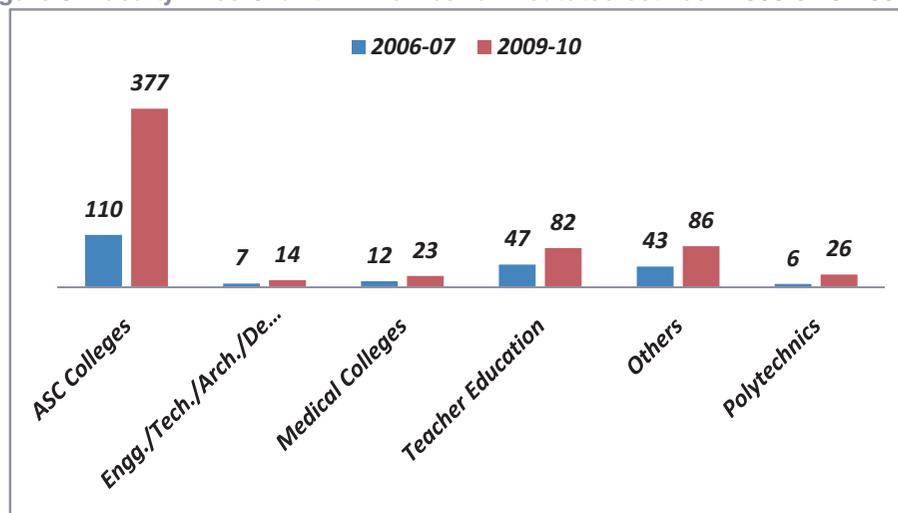
Figure 5: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

The maximum growth in the number of institutes between the years 2006-07 and 2009-10 has been in polytechnics with a CAGR of 62.2%; followed by ASC Colleges (50.1%). Engineering colleges in the state have also witnessed a growth of 25.7%. Thus, there has been a deliberate emphasis put on promoting education in field of engineering at both degree and diploma level. All major faculties have witnessed a strong growth in the concerned time period indicating that higher & technical education in the state is being aggressively pursued; however such growth needs to be balanced with quality of education imparted, tangible infrastructure and capacity building.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-07 & 2009-10

Across the various faculties, the number of students enrolled at the undergraduate level (91.53%) is significantly higher than the number of students at the postgraduate level (8.47%) in 2009-10. The faculty of management, however, has relatively better distribution between number of students enrolled in UG (60.91%) and PG programs (39.09%). A similar distribution is witnessed in the faculty of agriculture as well with 69.89% enrolled in UG programs and 30.11% enrolled in PG programs.

The highest enrolment in the state is in the ASC stream both at UG (72.5% of all UG enrolment) and PG (63.7% of all PG enrolment) level of education. The faculties with the least number of enrolments are law (1.23%) and agriculture (0.7%) as seen in the table below. A significant proportion of students enrol themselves in diploma programs, with majority students enrolled in at post school diploma programs (84%) and the remaining at the PG level (16%). Hence job oriented courses offered after school are popular among the youth of the state.

Table 3: Distribution Enrolment at Undergraduate (UG) and Postgraduate (PG) level in 2009-10

Faculty	UG	%	PG	%	Total
Arts	61,853	91.13	6,018	8.87	67,871
Commerce	12,406	97.29	346	2.71	12,752
Science	18,032	94.10	1,130	5.90	19,162
Engg. /Tech./Arch.	12,258	97.32	338	2.68	12,596
Medicine	5,138	97.24	146	2.76	5,284
Agriculture	680	69.89	293	30.11	973
Management	2,674	60.91	1,716	39.09	4,390
Teacher Education	8,264	93.43	581	6.57	8,845
Law	1,655	96.61	58	3.39	1,713
Others	4,186	78.64	1,137	21.36	5,323
Total	127,146	91.53	11,763	8.47	138,909
Post School Diploma	10,400				
Post Graduate Diploma	1,997				

Source: Statistics of Higher & Technical Education, MoHRD, 2007-08 & 2009-10

In terms of total enrolment, the maximum growth has been registered in the faculties of engineering, technology, architecture & design (133.87%), followed by commerce (104.85%) and medicine (97.83%). All faculties in regard to overall enrolment have grown significantly between 2007-08 and 2009-10 (55.2%); however the growth in enrolment at PG level is 3 times that of UG growth i.e. PG enrolment has grown by 155.11% as compared to 49.77% growth in UG enrolment. Such high growth especially in PG indicates a high demand for specialization in engineering (192.12%), science (116.06%), teacher education (956.36%), management (349.21%) and commerce (408.82%) in the state. More and more students of the state are expanding their knowledge base by pursuing PG programs thereby improving their chances of employability and increasing their academic acumen as well.

Table 4: Faculty Wise Growth of Enrolment at UG and PG level between 2007-08 and 2009-10

Faculty	UG +PG		Growth (%)		
	2007-08	2009-10	UG	PG	Total
Arts	47,698	67,871	36.61	148.57	42.29
Commerce	6,225	12,752	101.49	408.82	104.85
Science	13,115	19,162	43.20	116.06	46.11
Engg. /Tech./Arch.	5,386	12,596	132.47	199.12	133.87
Medicine	2,671	5,284	102.44	9.77	97.83
Agriculture	878	973	12.03	8.12	10.82

Management	2,351	4,390	35.80	349.21	86.73
Teacher Education	6,030	8,845	38.31	956.36	46.68
Law	1,391	1,713	23.32	18.37	23.15
Others	3,758	5,323	32.38	90.77	41.64
Total	89,503	1,38,909	49.77	155.11	55.20
Post School Diploma	1,914	10,400	443.36		
Post Graduate Diploma	2,054	1,997	-2.78		

Source: Statistics of Higher & Technical Education, MoHRD, 2007-08 & 2009-10

Quality of Institutes

One state and one private university have been assessed & accredited and both have been graded B (Good) in the latest list of accredited universities and colleges released by NAAC⁵⁵ in 2012.

Amongst the 21 higher education colleges, who have been accredited by the National Assessment and Accreditation Council, only 4.76% of the colleges have been graded A (Very Good), 76.19% of the institutes have been graded B (Good) and 19.05% of the institutes have been graded C (Satisfactory).

Industry and Employment Scenario

Key Industries⁵⁶

Himachal Pradesh has attracted investments in pharmaceuticals, IT and engineering industries. Agriculture also plays a significant role in the state's economy. The state has a robust food processing sector. The state manifests a large base of skilled labour, making it a favourable destination for knowledge-based sectors. Further, the state has a large pool of semi-skilled and unskilled labour.

The rich natural resources of the state are favourably suited for investments in major sectors such as procurement of agricultural produce, hydroelectric power, cement and tourism. Himachal Pradesh has made significant achievements in industrialization during the past few years. The following section presents a brief description of the various key industries in the state.

1. Agro based Industries

- Agriculture is the main occupation and the major source of employment in the state. Food processing industry is primarily focused in the areas of traditional processing of agricultural and horticulture raw material.
- Agri-procurement has lately been an investment area for corporate entities. The area under fruit cultivation increased from 792 hectares in 1950-51 to about 2,11,295 hectares in 2010-11.
- Some major companies in this field are Cremica Group, Adani Agri Fresh, Nestle India and Dabur.

2. Pharmaceutical Industry

- Himachal Pradesh is among the fastest growing regions for the pharmaceutical industry in India, driven by the incentives announced by the state government in its Industrial Policy, 2004.
- The Department of Environment, Science & Technology (DEST), Government of Himachal Pradesh proposes to develop a Biotechnology Park (BTP) spread over an area of about 35 acres at village Aduwal in Solan district, under Public Private Partnership (PPP) mode. The park will have Biotechnology Incubation Center and Biotechnology Industrial Cluster.

⁵⁵National Accreditation and Assessment Council

⁵⁶ India Brand Equity Foundation- Report on Himachal Pradesh, 2012

- Around 300 pharmaceutical companies have set up operations in the state, including Ranbaxy, Dr Reddy's, Morepen and Torrent Pharmaceuticals.

3. Textile Industry

- The textiles industry in the state is mainly focused on spinning companies such as Vardhman, which are also engaged in weaving and dyeing. Handloom and carpet weaving have developed as small scale industries.
- Himachal Textile Park Ltd, a subsidiary of Jindal Cotex Ltd, is setting up its 1st park in Una district.
- Textile companies present in the state are Vardhman Group, Winsome Group, Birla Textile Mills and Himachal Fibre Ltd.

4. Light Engineering Goods

- The light engineering goods industry in Himachal Pradesh includes precision engineering components, automotive components, steel and fabrication units and cylinder manufacturing.
- Kala Amb in Paonta Sahib has a large number of steel fabrication mills. Auto component units are mainly based in Parwanoo (Solan district). General & light engineering Industrial cluster is also located in Parwanoo. International Cars and Motors Limited have a factory at Una.
- Some key players in this sector in the state are Gabriel India, International Cars and Motors Ltd, Blue Star India and TVS Motor Company.

5. Cement Industry

- Himachal Pradesh has ample availability of quality limestone; the state supplies almost half of its cement produced to other states.
- For establishment of a large cement plant at Broh Shind, Chamba district, the Government of Himachal Pradesh has signed a MoU with J P Industries.
- Major cement companies doing business in the state are ACC Ltd, Ambuja Cements Ltd and Jaypee Cements.

6. IT and Electronics Industry

- The state's IT policy and the incentives offered to the IT industry are aimed at promoting the state as an attractive destination for the industry.
- The state has proposed to set up Information Technology Parks and several incentives are being offered to IT firms. Software Technology Parks of India (STPI) has set up a centre in Shimla.
- IT and Electronic companies in the state are Himachal Futuristic Communication Ltd, Microtek International, WeP Peripherals Ltd and Spice Mobile.

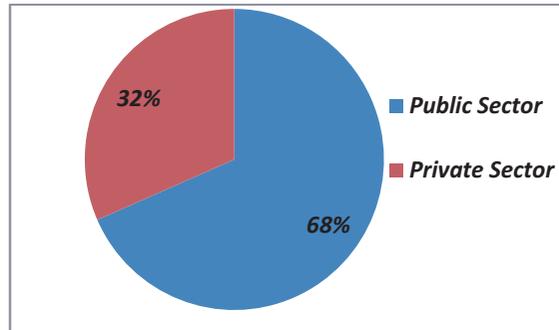
7. Tourism Industry

- Tourism is one of the most important sectors for the state economy in terms of foreign exchange earnings as well as creation of employment opportunities.
- The state is endowed with topographic diversity as well as with historical monuments and religious shrines.

Employment Scenario

The total employment in the state as on June 2010 in the public sector was 2,64,525 and in private sector was 1,22,076. The number of industrial establishments was public sector is 3,888 and in private sector it was 1,274.

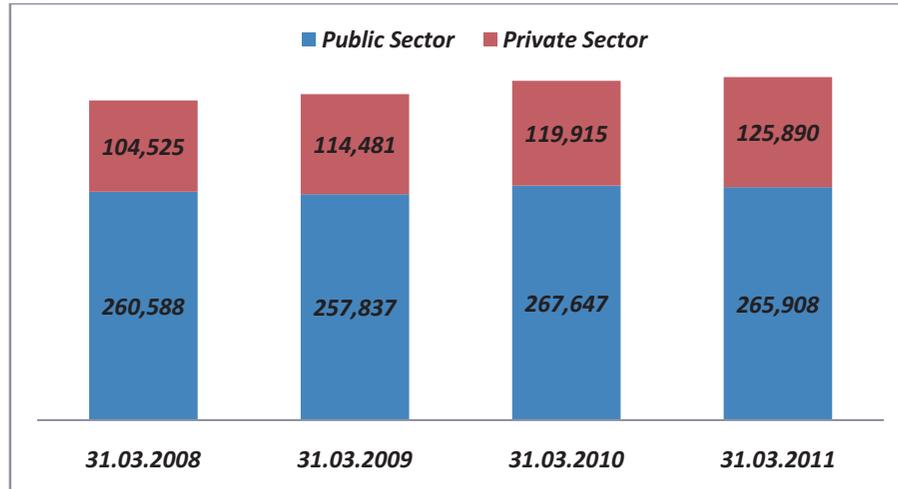
Figure 7: Sector Wise Distribution of Workforce in June 2010



Source: Economic Survey of Himachal Pradesh, 2011-12

It can be seen from the below figure that between the years 2007-08 and 2010-11, employment growth in private sector outpaced the growth in public sector quite significantly. A strong CAGR of 6.32% was recorded in private sector as compared to a marginal CAGR of .66% in public sector.

Figure 8: Sector Wise Growth in Employment between 2007-08 and 2010-11



Source: Annual Area Employment Market Report, Directorate of Employment, Government of Himachal Pradesh

As per 2001 Census, 32.31% of the total population of the state was classified as main workers, 16.92% as marginal workers and the remaining 50.77% as non-workers. Of the total workers (main and marginal) 65.33% are cultivators and 3.15% are agricultural labourers, 1.75% are engaged in household industry and 29.77% in other activities.

It must be noted that the Statistical Returns from Employment Exchanges relating to various characteristics of job seekers fresh or otherwise and the demand pattern of employment in industry and service sectors provide only a broad indication of the unemployment situation in the organized labour market as depicted in table below. However, registration is voluntary and cannot be deemed to cover all job seekers. Moreover, the number of job seekers is not the number of unemployed persons.

Table 5: Details of Registration, Live Register, Vacancies Notified & Vacancies Filled between 2008-09 to 2010-11

Year	Registrations	Live Register	Vacancies Notified	%age Change	Vacancies Filled
2008-09	167,437	8,13,782	8,310	NA	8,280
2009-10	130,490	8,24,340	4,640	-44.16	4,779
2010-11	120,042	8,25,764	7,869	69.59	4,833

2011-12	135,781	8,39,007	10,573	34.36	11,620
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Source: Annual Area Employment Market Report, Directorate of Employment, Government of Himachal Pradesh

The table above depicts the broad unemployment trends between 2008-09 and 2011-12. Registrations of job seekers has declined by 22.06% in year 2009-10 and 8% in 2010-11 but in the year 2011-12, registration has increased by 13.11%.

10,573 vacancies were notified to Employment Exchanges including Central Employment Cell and Special Employment Exchange (for physically handicapped) during the year 2011-12 as compared to 7,869 vacancies during the year 2010-11. 11,620 vacancies were filled during the year 2011-12 as compared to 4,833 during the year 2010-11. Thus, the placement has increased by 140.43% in the year 2011-12. Huge increase has been noticed during the year 2011-12. This is due to seven job fairs organized in the year 2011-12 in which 4,696 job seekers were placed. Special efforts to improve placements in private sector are being made by the department. For this purpose, campus interviews are organized in employment exchanges and job fairs are organized in different towns at regular intervals so that interview opportunities could be made available to job seekers near their residences and access of job seekers to employers could be made easier.⁵⁷

Table 6: Percentage change in Live Register by Occupation between 2010 and 2011

Occupation	Live Register as on 31.03.2010	Live Register as on 31.03.2011	%age change over previous year
Professional, Technical & Related Workers	1,48,798	1,55,142	4.26
Administrative, Executive & Managerial Workers	4,940	4,650	(5.87)
Clerical & Related Workers	38,965	37,702	(3.24)
Sales Workers, Farmers, Fishermen, Hunters, Loggers & Related Workers, Service Workers	15,863	9,533	(39.90)
Production & Related Workers, Transport Equipment Operators & Labourers	29,506	30,839	4.51
Supervisors & Foremen, Transports Equipment Operation, Drivers	17,761	15,862	(10.69)
Unskilled Workers	6,019	4,313	(28.34)
Workers not classified by Occupation	5,66,488	5,67,723	0.21
Total	8,28,340	8,25,764	(0.31)

Source: Annual Area Employment Market Report, Directorate of Employment, Government of Himachal Pradesh

It has been experienced that there is a shortage of manpower in highly skilled categories; as is evident from the table above. In the category of administrative, executive and managerial Workers only 4,650 job seekers were registered in employment exchanges in the state and decrease of 5.87% was observed in this field during the year 2010-11. There is a surplus of manpower in the category of workers not classified by occupation mostly simple middle pass, matriculates and 10+2 pass. As many as 5,66,488 applicants were registered for general vacancies in Employment Exchanges in the State as on 31.03.2010. Marginal increase of 0.21% has been noticed in this division during the year 2010-11.

⁵⁷ Annual Area Employment Market Report, Directorate of Employment, Government of Himachal Pradesh

As on Dec, 2011 there are 474 medium and large scale industries and about 38,409 small scale industries with a total investment of about Rs 14,146.58 crore working in the state. These industries provide employment to about 2.61 lakh persons. Special Incentives Package by the central government in January, 2003, with a total investment of Rs 11,538.31 crore was planned it generated employment opportunities for 1,06,395 persons.

With a view to provide technical and highly skilled manpower to all the industrial units, institutions and establishments, the central employment cell has been set up in the Directorate of Labour and Employment of the state and is engaged in rendering its services during 2011-12. Under this scheme, assistance is provided to the employment seekers, on the one hand in finding suitable jobs in private sector according to their qualifications, and on the other to recruit suitable workers without wastage of money, material and time.⁵⁸

It has been observed that due to lack of motivation, awareness and deficiency in soft skills, job-seekers are not able to pick up appropriate jobs and they do not continue with a job for long time. Job seekers need better vocational guidance and career counselling to get the jobs as per their desires and capabilities. In order to improve the quality of education and to produce manpower according to market demand, the government launched the State Skill Development Mission on 6th June, 2009 under the Chairmanship of Chief Secretary, Himachal Pradesh.

Key Challenges & Initiatives in Higher Education⁵⁹

Elementary and higher education departments in the state administration have been taking care of the needs of education of the ever increasing population of the state. There has been an unprecedented rise in the number of educational institutions in the state in past few years.

Key Challenges

- There is an absence of centralized public grievance cell in the Higher Education Directorate, with each branch of the Directorate dealing independently with matters of public grievances pertaining to their allocated subjects. However, the desirable solution is to have a single contact point for the redressal of grievances.
- The Department of Higher Education has been permitting private education institutes to run vocational and professional courses of study that yield surplus revenue to the institutes running these courses. These include courses such as B.Ed, Information Technology, Physical Education, BCA, BBA, etc. which are in demand among the students. Considering vast infrastructure and other facilities available in the already existing government educational institutes, opportunities to run these courses should be offered to them in the first place in order to optimally utilize their infrastructure.
- At the Directorate of Higher Education most officers are promoted either from among college cadre lecturers and principals or from among school cadre principals and headmasters who come with strong biases in favour of their respective feeder cadres and therefore, there seems to be clear-cut clash of interests between the College Cadre officers and School Cadre officers. The fallout of this ongoing tussle is that many officers rank posts required to be filled from among school cadre employees are lying vacant and no sincere efforts are in sight to fill these up.

⁵⁸ Economic Survey of Himachal Pradesh-2011-12

⁵⁹ Higher Education Department, Strategic Review Of Machinery Of Government

- The officers of the Directorate of Education are of the opinion that it is not worth to open new colleges imparting general education in the state. They rather emphasize on introducing vocational courses in the existing institutes that have strong employer linkages. They feel that market driven demand for various courses be taken into consideration while introducing vocational streams. They also argue that opening of new colleges in the state will alter the social fabric as large scale exodus of youth to urban areas will take place in search of white collar jobs which for them are more yielding in terms of material gains.
- There have been no efforts at the Directorate level to chalk out suitable roadmap of higher education for the state. A core group of department officers and experts from outside working in the field of education need to be formed under a “Think Tank” to track emerging issues and concerns of higher education. The role of the think tank is to suggest strategies to keep pace with advancements taking place in other parts of the country in imparting quality and relevant education in the state.
- The market is flooded with persons trained in skills, which are not being sought by the industry. There is a considerable surplus of engineers in the market. It is necessary to bridge the gap between the demand and supply by training manpower in courses required by the industry and suitable to the local requirement.⁶⁰

Strengths of Higher Education in the State

- High rates of overall literacy in the state.
- The state is better placed in the progress of girl child education.
- Network of educational institutes in the state has been widened as to bring education facilities to the doorsteps to the people.
- Girl students have been exempted from payment of tuition fee up to post-graduate level courses.
- Teaching of English language has been introduced from Class-I level in schools.
- Vocational education in the areas of banking, accountancy, bee-keeping and horticulture etc. has been introduced in twenty-five schools of the state at +2 levels.
- Environment education has been made compulsory at school level.
- Complete ban has been imposed on corporal punishment.
- Computer education in schools has been outsourced to DOEACC.

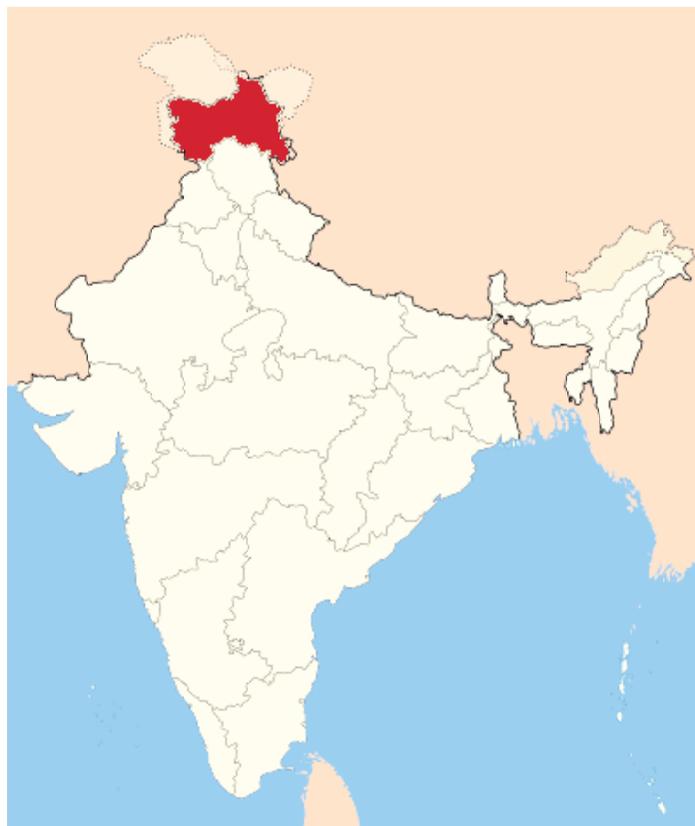
Reforms Required in the State

- There is a need to set up an interface in the Education Department and NGOs in Himachal Pradesh engaged in social sector projects such as protection of human rights, environmental safety, gender, education, culture, and protection of the disabled.
- Trends emerging in other parts of the country in the field of education need close monitoring and emphasis should be laid on supporting initiatives of private education sector. Government must evolve mechanisms to encourage private investment in education by providing level playing field to investors and allowing them respectable margins of return over their capital investment.
- Statistics on various aspects of education are not either available or are not even compiled which are needed to analyse situations requiring corrective measures. Other constraints include the lack of accurate and reliable data on education, poor sharing and availability of such information, weak coordination of data collection initiatives, and lack of analytical skills for policy formulation and evaluation.

⁶⁰Himachal Pradesh Development Report, Planning Commission

- Government must continue its efforts toward revamping education content and creating conditions for quality education. It is expected that the gov't.'s efforts will focus on mechanisms for assuring the quality of education through attestation, accreditation, monitoring, and testing.
- Many private education institutions are established and operated not for the main purpose of providing education services but to make a profit, taking advantage of inadequate legal basis for the regulation and control of non-government education institutions; and the delegation of power to local authorities is slow. Such teaching shops should not be permitted to flourish to dupe ignorant students who get misled by tall claims made in the advertisements put up by these unscrupulous institutes.

State Focus: Jammu & Kashmir



State Profile

Capital	Srinagar (Summer Capital)
Total Area (in sq. km.)	2,22,236
Total Population	1,25,48,926
Population Density (per sq. km.)	124
Number of Districts	14
Literacy Rate (%)	68.74
Sex Ratio (per 1,000 males)	883
State Domestic Product, 2010-11 (In Rs. Crore)	38,540
Per capita income, 2010-11 (Rs.)	33,056

Introduction

Jammu and Kashmir (J&K) is the northern-most state of India and it shares borders with Himachal Pradesh and Punjab, and the neighboring countries of Pakistan, China and Afghanistan. The state consists of three regions, namely Jammu, the Kashmir valley and Ladakh.

Srinagar is the summer capital, and Jammu is the winter capital. While the Kashmir valley is famous for its beautiful mountainous landscape, Jammu's numerous shrines attract thousands of Hindu pilgrims every year. Ladakh, also known as "Little Tibet", is renowned for its remote mountain beauty and Buddhist culture.

Jammu and Kashmir's economy is predominantly dependent on agriculture and allied activities. The Kashmir valley is also known for its sericulture and cold-water fisheries. Wood from Kashmir is used to make high-quality cricket bats, popularly known as Kashmir Willow. Agricultural exports from the state include apples, barley, cherries, corn, millet, oranges, rice, peaches, pears, saffron, sorghum, vegetables, and wheat, while manufactured exports include handicrafts, rugs, and shawls.

Education is given utmost importance in the state and it is the only state in India where education is free up to the university level. There are two central universities in the state located one each in the region of Jammu and the region of Kashmir. By an ordinance promulgated by the Governor of the state on 5 September 1969 - which was subsequently replaced by an Act of the State Legislature, the University of Jammu and Kashmir was bifurcated into two full-fledged Universities: the University of Jammu and the University of Kashmir. Accordingly, the statutes and regulations of the Jammu and Kashmir University Act 1965 were modified.⁶¹

The state has many other prominent universities & colleges spread out in different regions. The state has reputed agricultural universities, medical colleges and institutes of science and technology.

Universities and University Level Institutes

6 state universities and 2 central universities characterize the higher education landscape of Jammu & Kashmir. There are no private and deemed universities in the state. In addition to these universities, there is 1 Institute of National Importance located in the state namely the National Institute of Technology (NIT) in Srinagar.

The Central University of Kashmir (formerly the Central University of Jammu and Kashmir) was recently established in 2009 as one of the thirteen new central universities established under the Central Universities Act, 2009.⁶² The 6 state universities offer specializations in the fields of general studies, science & technology and agriculture. Some of the state universities are the Baba Ghulam Shah Badshah University (est. in 2002), The Islamic University of Science & Technology (est. in 2005), Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir (est. in 1982), Shri Mata Vaishno Devi University (est. in 1999) and the University of Jammu (est. in 1969).

⁶¹ <http://www.kashmiruniversity.net/aboutuok.aspx>

⁶² "J & K: Education Profile".

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Jammu & Kashmir (2011-12)	India (2011-12)
State University	6	285
Private University	0	112
Institution of National Importance	1	39
Deemed University	0	129
Central University	2	40
Total	9	605

Source: UGC

The Central University of Kashmir is located in Ganderbal, J&K. It currently offers five-year integrated programs, as well as postgraduate degrees in 3 areas; M.A. in English Language & Literature, M.Sc. in Information Technology, and Master's in Business Administration (MBA). The constituent schools that are in the university are in the fields of business studies, education, engineering & technology, languages, legal studies, media studies, physical & chemical sciences and social sciences.

The University of Jammu (Central University) offers undergraduate, postgraduate and doctoral programs in the fields of management, science & technology, biological sciences, social sciences, mathematics, law, languages, business & commerce and graphic designing. Notable affiliated institutes are Govt. College of Commerce, Govt. College for Women and Govt. College of Engineering & Technology, which are located in Jammu. The University of Kashmir is in the summer capital Srinagar and was awarded A (Very Good) grade by the National Assessment & Accreditation Council (NAAC). It has 5 constituent colleges & institutes, 30 permanently affiliated government colleges and 4 privately managed professional colleges.

Figure 1: Location of Premier Institutes in Jammu & Kashmir



- Central University of Kashmir, Srinagar
- University of Kashmir, Srinagar
- Sher-e-Kashmir University of Agricultural Sciences & Technology, Srinagar
- National Institute of Technology, Srinagar

- Shri Mata Vaishno Devi University, Katra

- University of Jammu, Jammu
- Govt. College of Engineering & Technology, Jammu
- Govt. Medical College, Jammu

The Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir is an agricultural university located in Srinagar. Its main campus is in Shalimar, Srinagar. The University has multiple campuses, colleges and research centres, 7 extension centres across the Kashmir Valley and Ladakh regions of the state. The university offers UG, PG and doctoral programs in agriculture and its related fields of veterinary sciences & animal husbandry, fisheries, forestry, horticulture, sericulture and agricultural engineering.

The Islamic University of Science & Technology is a public university located at Pulwama. The university has been set up as a centre for higher learning for the people of the state and its neighbouring regions. The university aspires to be the hub for dialogue between industry and academia and a platform for imparting job-oriented skills. The university has 4 schools offering undergraduate and postgraduate programs in the fields of technology, business studies, humanities & social sciences, and sciences and 1 government polytechnic offering diploma programs in civil engineering, electrical engineering and mechanical engineering. The Baba Ghulam Shah Badshah University focuses on postgraduate training and undertakes research in fields such as management, environment, biodiversity, biotechnology, computer sciences, information technology, and applied mathematics.

The National Institute of Technology is the only institute of national importance in the state and is located in Srinagar. It was formerly called the Regional College of Engineering in Srinagar; and it forms a part of the league along with other newly established NITs in India.

The geographical spread of the reputed higher education institutes is limited due to the constraints of the geographical make-up of the state. Due to the mountainous terrain of Ladakh very few higher education institutes have been constructed there and the current institutes are mainly confined to the valley of Jammu, Srinagar, Katra, Pulwama, Kathua and Rajauri as seen in the above figure.

Table 2: Distribution of Government & Private Institutes by Courses Offered in 2011-12

Private Institutes		Government Institutes	
Type of Colleges	Total	Type of Colleges	Total
Engineering Colleges	3	Government Degree Colleges	72
College Offering UG Courses	19	No. of Grant in Aid Colleges	7
Colleges Offering B.Ed. + B.Ed. (Disabled)	145 +2	Colleges Imparting PG Education	19
Colleges Offering Law	22	Colleges Offering B.Ed.	2
Colleges Offering B.P.Ed.	2	Colleges Offering Job Oriented Courses	16
Colleges Offering M.Ed.	34	BCA	9
Colleges Offering MCA	8	BBA	5
Colleges Offering MBA	9	BIT	1
Colleges Offering BCA	44	Mass Com & Multimedia	1
Colleges Offering BBA	30	Colleges Offering Add-On-Courses	17
B.Sc. (IT) + PGDCA	1 +3	Heritage Colleges	2

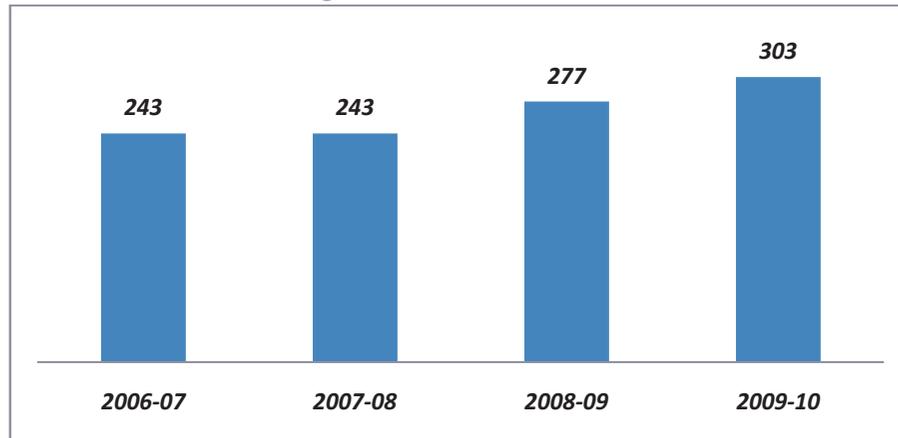
Source: Department of higher Education, Govt. of Jammu & Kashmir

The majority of institutes in the state of J&K offer teacher education (145 B.Ed. +34 M.Ed. +2 B.Ed. for disabled persons + 2 B.P.Ed.) when it comes to the private sector, whereas the maximum number of government institutes are Govt. Degree Colleges (72).

Key Higher Education Indicators: Institutes & Enrolment

The growth in the number of higher education institutes in Jammu & Kashmir stands at 7.55% as compared to the national growth rate of 7% between 2006-07 and 2009-10, which indicates an average performance in ensuring access to higher education.

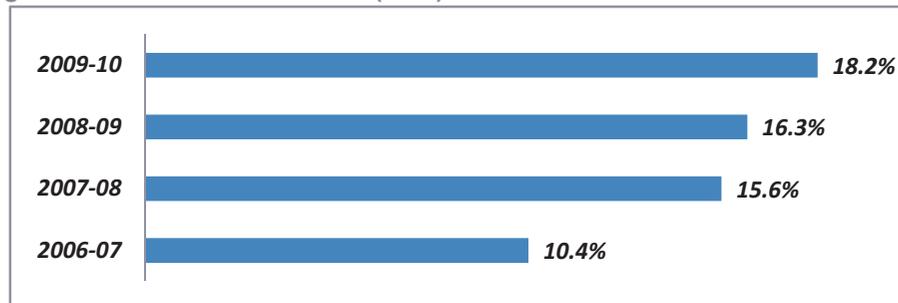
Figure 2: Growth in Number of Higher & Technical Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MOHRD: 2006-10

The state Gross Enrolment Ratio (GER) has been rising steadily over the last few years, thereby reflecting an increased access among the population of 18-24 years of age to higher and technical education. While the GER during the year 2006-07 was 10.4%, it has almost doubled to 18.2% in 2009-10 as seen in the below figure.

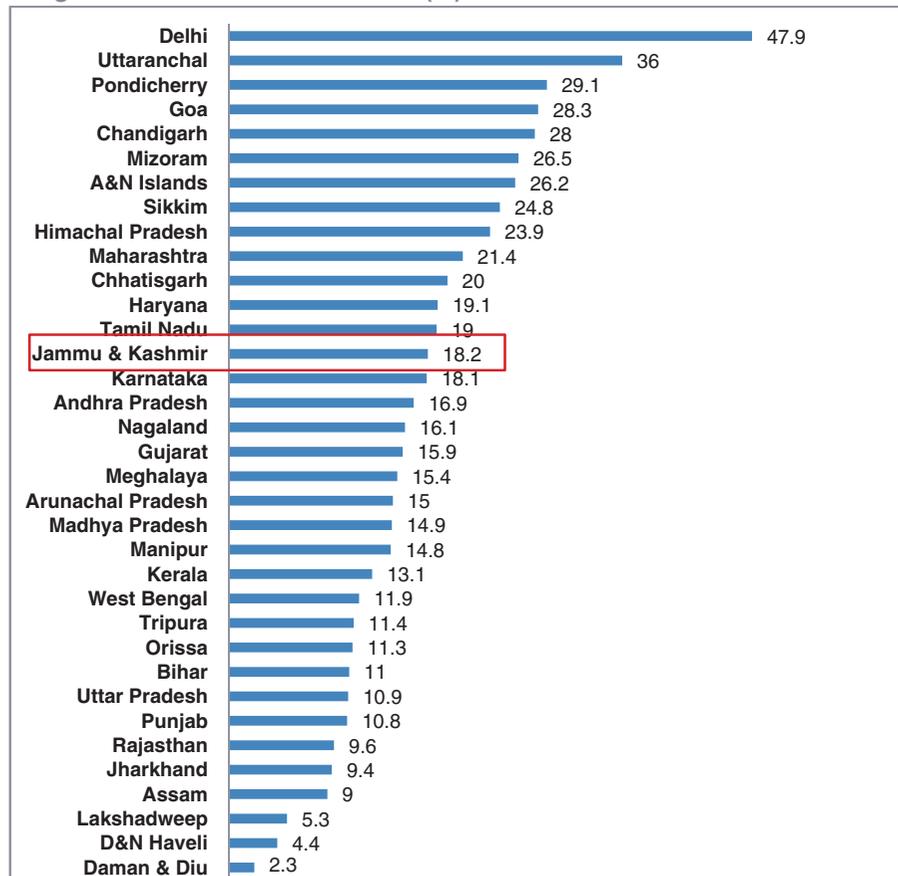
Figure 3: Gross Enrolment Ratio (GER) in the state between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

However, despite the impressive growth in GER, the state still stands 14th among the states and union territories of the country with regard to GER in 2009-10 as seen in the below figure. While this is higher than the national average of 15%, Jammu & Kashmir still has a long way to go before it manages to provide access to quality education to all its citizens in the state.

Figure 4: Gross Enrolment Ratio (%) across all States in India in 2009-10



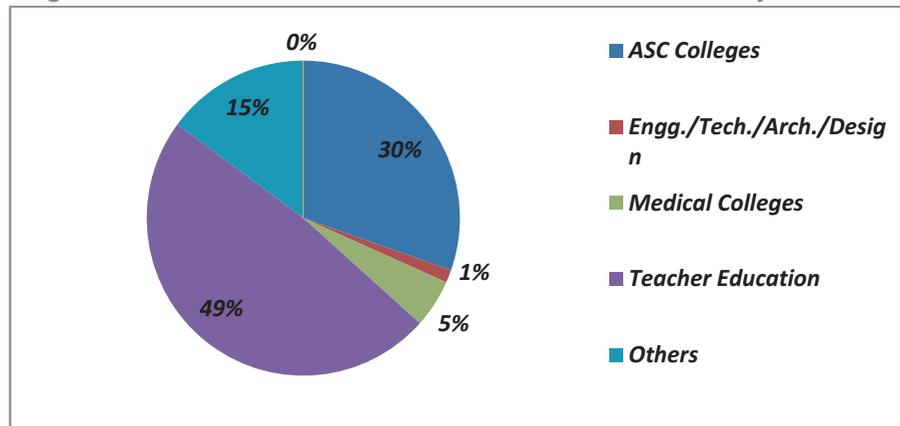
Source: Statistics of Higher & Technical Education, MoHRD: 2009-10

The following sections present a brief description of the current higher & technical education scenario in the state, followed by an outline of the industry & employment situation and its linkages to higher education. The conclusion consists of the various key challenges plaguing the higher & technical education landscape and highlights the major initiatives that have been undertaken and have been proposed by the centre and state in this regard.

Growth in Higher Education Institutes and Enrolment

At a national level, the dominant programs that are being offered in higher education are in the areas of arts, science & commerce (ASC). However this is not the trend in the state where teacher education institutes offering B.Ed. and M.Ed. programs are the most dominant category of institutes (49%) in 2009-10. This is followed by ASC colleges (30%) and rounded up by the institutes offering programs under the 'Others' category (15%), which includes Law, Agriculture, MCA and IT etc. The state has least number of engineering colleges (1%). It must be noted that due to unavailability of data the number of Polytechnics is not known in 2009-10 and so has been reported as 0; however in 2011-12 there were 6 Govt. Polytechnics and 18 more were being established. Hence steps are being taken to improve the technical education scenario in the state.

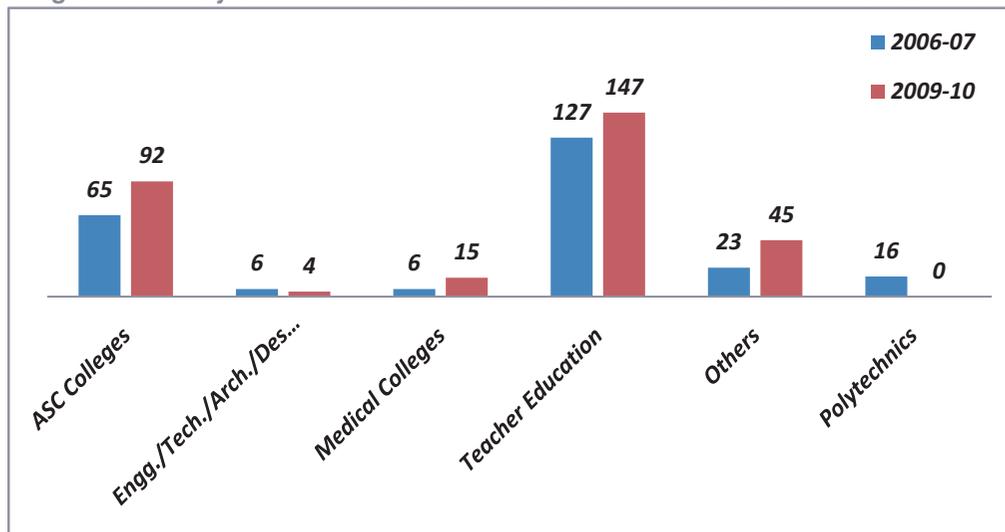
Figure 5: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD: 2009-10

The maximum growth in the number of institutes between the years 2006-07 and 2009-10 has been in the fields of medical colleges with a CAGR of 35.31%, followed by ASC Colleges with 12.15%; and teacher education institutes with a growth rate of 4.94%. Thus, the thrust areas have been general studies (ASC), medicine and teacher education in the state. As mentioned earlier due to unavailability of number of polytechnics in 2009-10 as seen in Figure 6 below, detailed analysis of its growth could not be undertaken. On the other hand, the number of institutes offering programs in the area of engineering, technology, and architecture & design has declined considerably at the rate of-12.52%.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MoHRD: 2006-10

Across the various faculties, the number of students enrolled at the undergraduate level (88.5%) is significantly higher than the number of students at the postgraduate level (11.5%) in 2009-10. The faculty of management, however, has equivalent number of students enrolling for both the undergraduate (57.9%) and postgraduate program (42.1%). The faculties with the least number of students are Agriculture (.58%) and law (1.34%). The enrolment in diploma programs is significantly higher at post school level (93.72%) than at postgraduate level (6.28%) in 2009-10.

Table 3: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) level in 2009-10

Faculty	UG	%	PG	%	Total
Arts	102,752	87	15,367	13	118,119
Commerce	15,405	98	311	2	15,716
Science	3,995	61	2,557	39	6,552
Engg. /Tech./Arch.	3,912	98.5	60	1.5	3,972
Medicine	3,541	96.5	130	3.5	3,671
Agriculture	886	78.7	240	21.3	1,126
Management	1,246	57.9	905	42.1	2,151
Teacher Education	37,417	96.5	1,363	3.5	38,780
Law	1,642	63.4	947	36.6	2,589
Others	114	27.1	307	72.9	421
Total	170,910	88.5	22,187	11.5	193,097
Post School Diploma			3,328		
Post Graduate Diploma			223		

Source: Statistics of Higher & Technical Education, MoHRD: 2009-10

In terms of total enrolment, the maximum growth has been registered in the stream of commerce (416.8%), followed by agriculture (37.82%) and medicine (23.69%). The streams of teacher education and science have seen the least growth, with enrolment in teacher education declining by 6.67% and enrolment in science declining by 59.06% between 2007-08 and 2009-10. Diploma programs have also witnessed decline in growth with post school diploma enrolment declining by 55.7% and postgraduate diploma declining at 39.89% indicating a fall in demand for such courses and students preferring degree programs rather than diploma programs in the state.

The below table also indicates a strong growth in the number of students enrolling for postgraduate studies (63.79%), as compared to the enrolment at undergraduate level (12.21%). Except in the streams of science and teacher education, which have registered declining growth at both undergraduate and postgraduate level; the enrolment has been strong in all other streams. Overall student enrolment has grown by 16.42% between 2007-08 and 2009-10 indicating a growing number of students in the state are pursuing higher and technical education in order to enhance their knowledge and improve their employability.

Table 4: Faculty Wise Growth of Enrolment at UG & PG Level between 2007-08 & 2009-10

Faculty	UG +PG		Growth (%)		
	2007-08	2009-10	UG	PG	Total
Arts	93,573	1,18,119	15.57	229.34	26.23
Commerce	3,041	15,716	513.26	-41.21	416.80
Science	16,004	6,552	-65.60	-41.74	-59.06
Engg. /Tech./Arch.	3,571	3,972	11.42	0.00	11.23
Medicine	2,968	3,671	23.47	30.00	23.69
Agriculture	817	1,126	25.67	114.29	37.82
Management	1,856	2,151	67.02	-18.47	15.89
Teacher Education	41,553	38,780	-6.00	-21.98	-6.67
Law	2,171	2,589	5.94	52.50	19.25
Others	302	421	26.67	44.81	39.40
Total	1,65,856	1,93,097	12.21	63.79	16.42
Post School Diploma	7,512	3,328			-55.70
Post Graduate Diploma	371	223			-39.89

Source: Statistics of Higher & Technical Education, MoHRD, 2007-08 & 2009-10

Quality of Institutes

Only two universities have been assessed and accredited by the National Assessment and Accreditation Council (NAAC), namely the University of Jammu and University of Kashmir and both have been graded A (Very Good). Among the 37 higher education colleges, which have been accredited by NAAC, only 21.62% of the colleges have been rated A (Very Good). 64.86% of the institutes have been given grade B (Good) and 13.51% of the institutes have been graded C (Satisfactory).⁶³

Industry and Employment Scenario

Key Industries⁶⁴

The people of the state are skilled weavers and designers of textile products. This provides a basis for setting up textile units. Also, the traditional skills of fine craftsmanship can be utilized to suit the needs of modern industrial processes, especially, in the field of electronic and precision engineering.

Food processing and agro-based industries (excluding conventional grinding and extraction units) thrive in the state because of an excellent climate for horticulture and floriculture. Handicrafts, the traditional industry of the state, have been receiving priority attention of the government in view of its large employment base and exports potential. The state is famous for its small-scale and cottage industries such as carpet weaving, silks, shawls, basketry, pottery, copper and silverware, papier-mâché and walnut wood. Some of the key industries of the state are briefly described below.

1. Horticulture & Floriculture

- Horticulture is the wall of the rural economy in the state, providing employment to thousands, directly and indirectly.
- The state is a leading producer of apples, walnuts, pears, almonds and apricots and has huge potential for exports of processed food and allied services.
- The state has suitable agro-climatic conditions for a variety of flowers. The floriculture industry supplies flowers to, both, domestic and international markets. The state has Asia's largest 'Tulip Garden', established by the State Floriculture Department.

2. Handicrafts

- Handicraft is the traditional industry of the state and occupies an important place in the economy. Kashmiri silk carpets are famous the world over and earn a substantial foreign revenues.
- Wood from Kashmir, popularly known as Kashmir willow, is also used to make high-quality cricket bats. The cottage handicrafts industry provides direct and gainful employment to around 3,40,000 artisans.
- The state has established the Jammu & Kashmir Handicrafts Sales & Export Promotion Corporation and J&K State Handloom Development Corporation to promote development and growth of the handicraft sector.

3. Tourism

- Tourism has emerged as an important sector and is one of the major contributors to the state's economy.
- Around 10.02 million tourists visited the state during 2010. Jammu is famous for its temples while Kashmir valley is known for its scenic beauty.

⁶³National Accreditation and Assessment Council

⁶⁴India Brand Equity Foundation – State report on Jammu & Kashmir

- Major tourist attractions include Chashma Shahi Springs, Shalimar Bagh and the Dal Lake in Srinagar, Gulmarg, Pahalgam and Sonamarg in the valley, Ladakh, Vaishno Devi temple and Patnitop near Jammu.

4. Sericulture

- Sericulture is an agro-based labor-intensive cottage industry providing gainful employment to rural areas of the state.
- Kashmir is well known for its quality of silk and its traditional silk-weaving industry. As of 2010-11, sericulture activities carried out in about 2,500 villages in the state and 25,500 families were engaged in this pursuit.

5. IT & ITeS

- IT is a sunrise industry in the state and is emerging as an important sector in transforming the socio-economic lives of the people. The state government has taken certain initiatives under the IT policy to develop this industry.
- The state industrial policy also provides an attractive environment for increased investment in the IT industry. The state government is interested in inviting major Indian and overseas players in the sector to spur IT growth in the state
- A Software Technological Park (STP) has been established at Rangreth in Srinagar. A task force in the IT sector is being constituted with experts from companies functioning in the state.

Employment Scenario

With increase in population and number of educated persons in the state, the avenues of employment generation have not increased proportionately. High incidence of unemployment among the youth and the educated has emerged as an area of concern in the state.

Table 5: Number of Persons Registered at Employment Exchanges in 2006, 2007 and 2008

Type of Persons Registered with Employment Exchanges	31 st Dec 2006		31 st Dec 2007		Growth (%)	Registered Unemployed on 31st Dec 2008
	Number	% of Total	Number	% of Total		
1. Illiterate Unemployed						
▪ Illiterate	9,369	8.5	4,030	3.61	-56.98	4,167
2. Literate Unemployed Below Matric						
▪ Below Matric	25,384	23.2	24,916	22.33	-1.84	26,265
3. Educated Unemployed Matric and above						
▪ Matric & Above	36,487	33.35	40,729	36.5	11.62	43,938
▪ Undergraduates	14,763	13.49	15,637	14.01	5.92	16,574
▪ Postgraduates	7,500	6.85	5,479	4.91	-26.94	6,034
▪ Degree Engineers	3,833	3.5	3,079	2.75	-19.6	3,272
▪ Diploma Engineers	6,031	5.51	6,279	5.62	4.09	6,684
▪ ITI Trained	2,897	2.64	9,106	8.16	214.32	10,023
▪ Skilled labour	3,119	2.85	2,310	2.07	-25.93	3,271
Total	109,383	100	111,565	100	105	120,228

Source: Digest of Statistics – 2006-07, 2007-08, DES, J&K

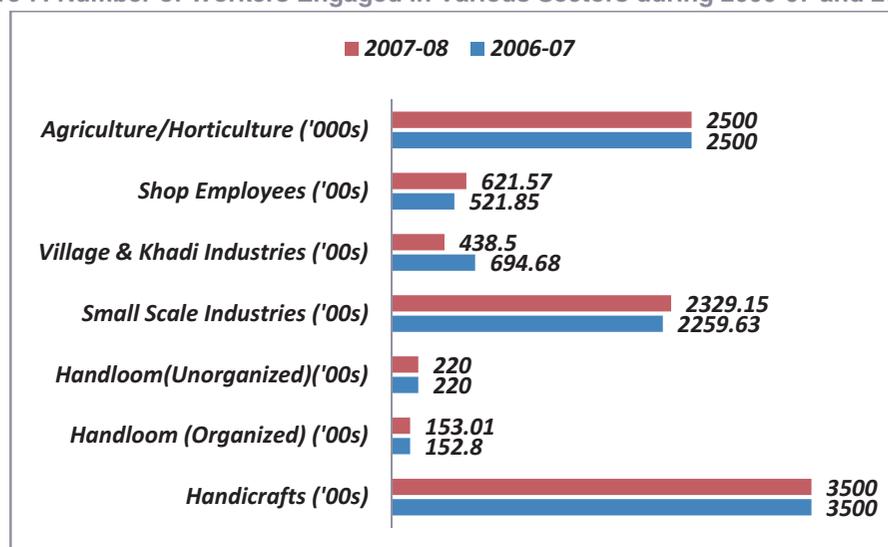
As can be seen in the above table, the number of undergraduates registering with employment exchanges has marginally increased by 5.92% and postgraduates has declined by 26.94% between

2006 and 2007, indicating that more undergraduate and postgraduate students are obtaining employment on graduation.

The number of literate unemployed (below matric) has recorded an increase of about 5.41% during the year 2008. Unemployment among the registered educated people had recorded a rising trend. The educated unemployed population was at 82,619 in year 2007 and 89,796 in the year 2008 recording an increase of 8.69%. The overall number of registered unemployed persons in the state during 2007 was 1,11,564 persons which has increased to 1,20,228 persons in the year 2008, showing an increase of about 9.91%. The training institutions like ITIs and other skill training centres have been meeting a significant part of the requirements of the skilled manpower of organised industry. It seems necessary that the process of restructuring and reorientation of their courses is required to be more expeditious with a view to quickly respond to the labour market so that the growth rate of unemployment shows a substantial decrease. This would result in a positive growth of skilled employment creation and consequent absorption. Rapid expansion of education, particularly of higher education, has also contributed to mismatch in labour market. High private rates of return on higher education, to a large extent resulting from low private cost, is an important reason for the rush for higher education despite high incidence of educated unemployment. Self-employment and casual labour continue to play a pivotal role in rehabilitation of the unemployed.

The Fifth Economic Census, conducted in 2005, indicates that there were 3.24 lakh enterprises in the state, which are engaged in different economic activities during 2005. The total number of persons working in these enterprises was recorded to be 7.52 lakh, more or less equally distributed in rural and urban areas - 51.53% in urban areas and remaining 48.47% in rural areas. The average annual growth rate in employment in the said enterprises during 1998 to 2005 was 6.82%. With this annual average growth rate in employment in enterprises, the state of J&K topped all the states. However, this momentum needs to be kept going.⁶⁵

Figure 7: Number of Workers Engaged in Various Sectors during 2006-07 and 2007-08



Source: i) Directorate of Handicrafts, J&K, ii) Directorate of Handlooms, J&K, iii) Directorate of Industries and Commerce, J&K, i v) Secretary, J&K Khadi and Village Industries Board, J&K, v) Labour Commissioner J&K

In the above figure, it can be seen that the number of workers employed in handicraft and horticulture/ agriculture sector has remained constant between the years 2006-07 and 2007-08, as there has been no additional absorption of the human component in these sectors. Handloom sector has shown a decline in employment over the years. Substantial employment growth was observed in small

⁶⁵ Economic Census-2005

enterprises, which tackled the task of unemployment to some extent by expanding their employment base. Regarding village and *Khadi* industries, the employment scenario has drastically reduced from 69,468 to 43,850, thereby registering a negative growth of 37.13%.

Key Challenges and Initiatives in Higher Education

Key Challenges of Higher Education

Some of the problems that are plaguing the higher and technical education landscape of the state are:

- The state government needs to prepare a comprehensive plan of higher education; information with regard to number of type of district wise colleges, institutes, and GER & faculty position (institute-wise) should be collected with the aim to introduce employable courses in the colleges of the state.
- With regard to approved reforms agenda for 11th Five Year Plan like introduction of semester system, credit system, revision of curricula, autonomy etc., it is observed that the state has not initiated major steps to implement the agenda for higher education. For better quality of higher education, the state should start with the revision of curriculum and universalizing the semester system etc.
- Need to look into the existing and additional capacities that need to be created in higher education by aligning supply side from school education and demand side from labour market, to draw linkages between the sectors in higher education.
- Need for government to shift the salary component of the plan fund into non-plan fund.
- Many of the 11th Five Year Plan reforms still have not been implemented fully.
- Limited number of colleges and universities in the state has undergone assessment by NAAC. Only 24 colleges (of 273 colleges) and 2 universities (of 6 universities) in the state have been accredited by NAAC till date. Similarly, NBA has accredited limited number of courses in technical institutes.
- There is a need to review the functioning, infrastructure, efficiency and contribution of polytechnics in the state. More government technical institutes are needed and the state should not rely on private participation alone.

Major Achievements during 11th Five Year Plan

During the 11th Five Year Plan, the main thrust of the state in higher and technical education was to increase the Gross Enrolment ratio (GER) and to reduce the caste, gender and regional disparities in higher education by way of capacity expansion. Some of the achievements of the 11th Five Year Plan were:

- A total of 45 degree colleges were established in the state during the 11th Five Year Plan. The total enrolment in degree colleges increased by about 55% in the state. The enrolment of female students has also increased manifold and is now at par with the male students, which clearly reflects the reduction of disparities on the basis of gender.
- High GER growth has been due to massive capacity expansion by way of establishing new degree colleges and university campuses across the length and breadth of the state.
- EDUSAT facilities under the Indian Space Research Organization (ISRO) have been implemented. Two hubs are connected to nearly 40 degree colleges through Satellite Interactive Terminals and through this system quality study material and lecture were transmitted and the students in rural areas benefitted immensely.
- Two central universities one each in Jammu and Kashmir division were approved and established in the 11th Five Year Plan.

- All state universities have introduced job oriented technical degree/courses as a result of which most of the students are receiving placement after completion of their degree/course.

Thrust area of the 12th Five Year Plan

For the 12th Five Year Plan, the main thrust is on improved quality of education, institutions of excellence, which are world class and facilitating private investments including PPP in education. The basic objectives/thrust areas identified in higher education are:

- Consolidation, Quality Improvement and Skill Development.
- Improvement in faculty.
- Increase in GER and capacity expansion.
- ICT coverage of all universities and colleges.
- Facilitating private investment including Public Private Partnership (PPP).

Initiatives Proposed

There are few initiatives that the state government has proposed for the years to come in order to make the higher & technical education infrastructure in the state reach world class standards. Few of these initiatives and identified action areas are as given below:

- 18 new polytechnics are being established under integrated skill development mission.
- There is a need to create State Council for Higher Education to better align and coordinate the higher education system.
- Consolidating, improving quality and skill development, improvement in GER, ICT coverage of all colleges and universities and introduction of Public Private Partnership (PPP)
- The state will try to introduce National Vocational Quality Education Framework (NVQEF) with the assistance of AICTE/ MoHRD. This will help in providing vocational training to students of the state.
- Three new job oriented vocational courses have been proposed.
- National Council of Skill Development is contemplating to establish 5,000 skill development centres in PPP mode.
- The state plans to increase the number of M.Phil. and Ph.D. degree students to ensure availability of sufficient number of persons eligible for filling up the universities and colleges' vacant faculty posts.
- Proposal to establish an IIT in PPP mode
- Enhancing the enrolment of science students to promote research in science related fields.
- Islamic University of Science & Technology will start offering PG courses in life sciences in 2012-13.
- The state plans on getting all the trades of all ITIs affiliated to National Council for Vocational Training (NCVT), to give better placement opportunities in national and international organizations.
- An advance training institute is proposed to be setup in PPP mode.

State Focus: Jharkhand



State Profile

Capital	Ranchi
Total Area (in sq. km.)	74,677
Total Population	3,29,66,238
Population Density (per sq. km)	414
Number of Districts	24
Literacy Rate (%)	67.63
Sex Ratio (per 1,000 males)	947
State Domestic Product, 2010-11 (In Rs. Crore)	93,211
Per capita income, 2009-10 (Rs.)	29,786

Introduction

Jharkhand was formed in 2000, when it was carved out of the southern part of Bihar. The state shares its border with the states of Bihar, Uttar Pradesh, Chhattisgarh, Odisha and West Bengal. The state has a concentration of the nation's highly industrialized cities such as Jamshedpur, Ranchi, Bokaro Steel City and Dhanbad. Jharkhand is well known for its abundance in natural resources. Jharkhand that includes coal, iron ore, bauxite, copper, mica, graphite, silver, uranium and limestone, contributes about 40% of the nation's mineral wealth. The natural resources, favourable policy initiatives and the location specific advantages of the state support private investments in sectors such as mining and metal extraction, engineering, iron and steel and chemicals.

The state houses some of the nation's best technical and management institutes such as the National Institute of Technology (NIT), Jamshedpur; Birla Institute of Technology (BIT), Ranchi; Birsa Institute of Technology, Sindri; Indian School of Mines, Dhanbad and Xavier's Labour Research Institute, Jamshedpur.

Universities and University Level Institutes

Higher education in Jharkhand is characterized by 14 universities and university level institutions, which includes 1 central university, 7 state universities, 3 private universities, 2 deemed universities and 1 institute of national importance. In the field of technical education, the state is home to several leading institutes, which attract students from across the nation.

The National Institute of Technology, Jamshedpur is one of the 30 NITs in India and currently enrolls more than 3,000 students in its undergraduate and postgraduate programs. Established in 1960, the institute is considered to be among the best NITs in the nation. Another premier institute located in the state is the Birsa Institute of Technology, Sindri; which is the only government engineering college in Jharkhand. The institute is affiliated to Vinoda Bhave University and enrolls about 3,000 students.

The Indian School of Mines, Dhanbad is a premier institute, which was established in 1926 on the lines of the Royal School of Mines in London. While the institute was established with a view to offer mining education, it has now become a complete technical institute. The institute is the one of the very few institutes in India, which caters to the human resource requirements in the areas of mining, petroleum, mining machinery, mineral engineering and earth sciences. The institute will soon be converted into an Indian Institute of Technology (IIT), with the resolution for conversion already been approved. The Birla Institute of Technology, Mesra – an autonomous engineering and technology oriented institute of higher education – is another premier institute located in the state.

In addition to the technical institutes, there are management institutes of national repute in the state as well. The Xavier Labour Research Institute, Jamshedpur (XLRI) is a private graduate business school and is often considered the best business school for personnel management and industrial relations. Established in 1949, the institute is placed among the top five business schools in India. Another premier management institute in the state is the Xavier Institute of Social Service, which was established in 1955, with an objective of producing resources trained in the areas of rural development, personnel management and industrial relations. Other key institute located in the state is the National Institute of Foundry and Forge Technology (NIFFT), which was established by the government of India in collaboration with UNDP-UNESCO during 1966 and offers programs in the areas of foundry technology, forge technology, manufacturing engineering, metallurgy and materials engineering, applied science and humanities and environmental engineering. A national law university (National University of Study and Research in Law) has also been established in the state in the year 2010 and currently enrolls about 300 students.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Jharkhand (2011-12)	India (2011-12)
State University	7	285
Private University	3	112
Institution of National Importance	1	39
Deemed University	2	129
Central University	1	40
Total	14	605

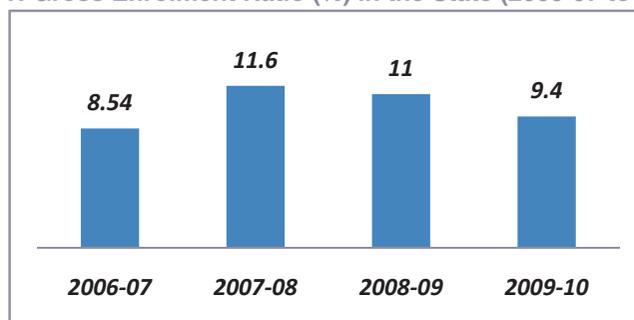
Source: UGC

Key Higher Education Indicators: Institutes and Enrolment

As per MoHRD data, there were a total of 180 higher education institutions in the state (excluding university level institutions). The total higher education enrolment has been consistent between 2007-08 and 2009-10, with about 19 lakh students enrolling for undergraduate, postgraduate and doctoral programs. In 2009-10, a total of 1,98,420 students were enrolled for the various higher education programs in Jharkhand.

During 2009-10, the Gross Enrolment Ratio (GER) of the state was 9.4%. While it has been marginally better than the GER during 2006-07 (8.54%), the state performs poorly as compared to the national average.

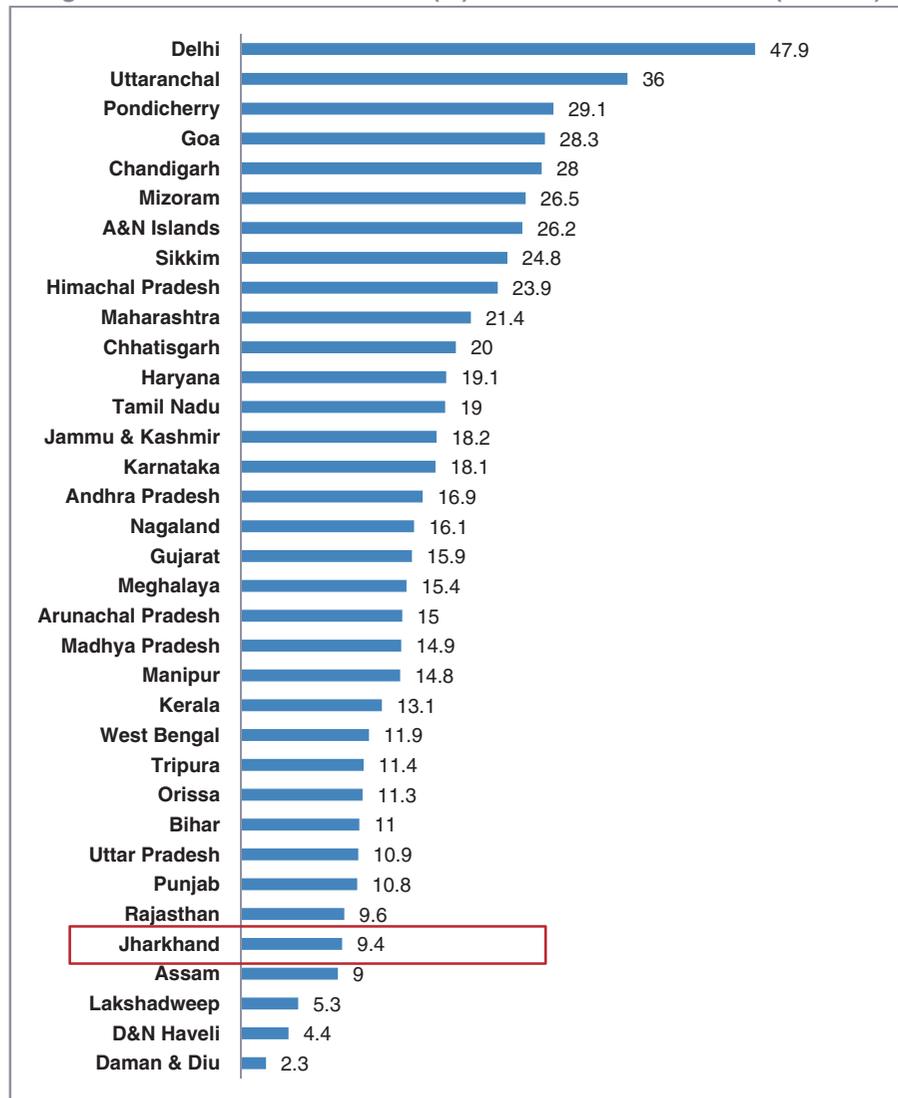
Figure 1: Gross Enrolment Ratio (%) in the State (2006-07 to 2009-10)



Source: Statistics of Higher & technical Education, MoHRD

As on 2009-10, the state was ranked amongst the bottom five states in terms of the GER. Moving forward, the state has to implement effective strategies to ensure increased access to higher education in the state.

Figure 2: Gross Enrolment Ratio (%) across all states in India (2009-10)



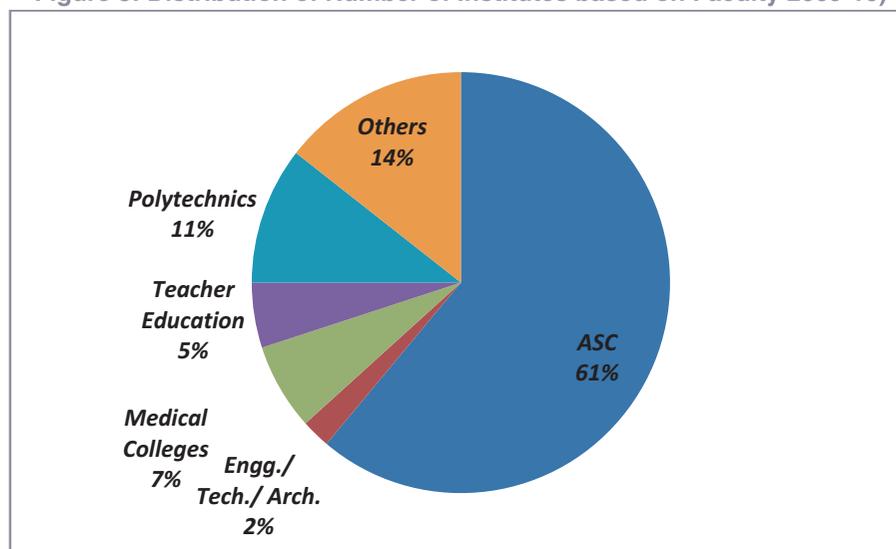
Source: Statistics of Higher & Technical Education, MoHRD

The below sections present a brief description of the current higher education scenario, industry and employment scenario in Jharkhand & the key initiatives and challenges in higher education that are being addressed by the state.

Growth in Higher Education Institutes and Enrolment

In 2009-10, the state had 180 higher education institutes. Among these, the maximum number of institutes offering programs under the faculty of arts, science and commerce (ASC) (61%), followed by institutes offering medical education (7%) and teacher education (5%). 11% of all institutes in Jharkhand are polytechnic institutes.

Figure 3: Distribution of Number of Institutes based on Faculty 2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

In line with the national level trend, enrolment in undergraduate programs is significantly higher than the enrolment in postgraduate level programs. While majority of them have more than 80% of the students enrolled in undergraduate programs, the faculties of agriculture, management and teacher education have a more equitable distribution. Among the various faculties, the maximum number of students are enrolled in the faculty of arts (53%), followed by commerce (21%) and science (15%).

Table 2: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) level in 2009-10

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
Arts	96,565	6,295	1,02,860	94	6
Commerce	35,249	5,123	4,03,72	87	13
Science	27,404	2,570	2,99,74	91	9
Engg./ Tech./ Arch.	10,293	1,479	11,772	87	13
Medicine	545	7	552	99	1
Agriculture & Allied	275	123	398	69	31
Management	968	457	1,425	68	32
Teacher Education	813	596	1,409	58	42
Law	1,841	37	1,878	98	2
Others	510	35	545	94	6
Total	1,74,463	16,722	1,91,185	91	9

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Among the various higher education institutes in the state, the National Assessment and Accreditation Council (NAAC) have accredited only 9 colleges. Among these 9 colleges, 7 institutes have been awarded B (Good) grade and 2 institutes have been awarded A (Very Good) grade.

Industry and Employment Scenario

Key Industries⁶⁶

Jharkhand has around 40% of the country's mineral wealth. The state is one of the largest producers of coal, mica and copper in India. Due to its large mineral reserves, mining and mineral extraction is the major industry in the state. Its extensive mineral resources make mining, metals and related sectors, a naturally strong sector in the state. Some of the major industries that are operational in the state are as follows:

1. Mining & Metals Industry

- Jharkhand is a mineral-rich state; about 40% of India's mineral reserves are available in the state.
- It supports downstream industries and thermal power generation. Jharkhand's mineral reserves include coal, iron ore, bauxite, copper, mica, graphite, manganese, lead, silver, uranium and limestone.
- The Central Mine Planning and Design Institute, the Central Institute of Mining & Fuel Research and the Indian School of Mines are located in Dhanbad and the National Metallurgical Laboratories is located in Jamshedpur.
- Some of the key players in the state are Tata Steel Ltd, Jindal Steel & Power Ltd, Hindalco Industries Ltd (HIL) and Steel Authority of India Ltd (SAIL).

2. Engineering Industry

- The major growth drivers for the engineering industry are the availability of raw material (iron and steel, aluminium, copper and other metals and non-metals), power, water and industrial labour.
- A number of heavy engineering companies located in the state produce equipment and provide turnkey and consulting services to the existing metal and mining industry.
- Some major Engineering firms conducting business in the state are McNally Bharat Engineering Company Ltd, TRF Ltd, Timken India Ltd and Mecon Ltd.

3. Chemical Industry

- The chemical industries in Jharkhand produce a wide range of chemicals such as caustic soda, dye and pigments and industrial and medical gas.
- The industry has developed to serve other manufacturing units in the region and the markets of eastern India.
- Prominent players in the chemical industry in the state are Aditya Birla Chemicals (India) Ltd, Tata Pigments Ltd and BOC India.

4. Cement Industry

- With the reserves of cement grade limestone, this region is well suited for creating additional capacities both in large and mini cement plants.
- Jharkhand has vast reserves of crystalline limestone, starting from Garhwa district to Bokaro district. Exploration of limestone in this area will help in developing cement plants in the state.

⁶⁶ India Brand Equity Foundation- Report on Jharkhand, 2012

- The major cement companies in Jharkhand are ACC Ltd and Lafarge India.

5. Automotive Industry

- The automotive industry in Jharkhand includes original equipment manufacturers as well as auto component production units. The auto components produced in the state range from simple items such as nuts and bolts to complex ones such as shafts, radiators, and axles.
- Key players in this field in the state are Tata Motors Ltd, Apex Auto Ltd and JMT Auto Ltd.

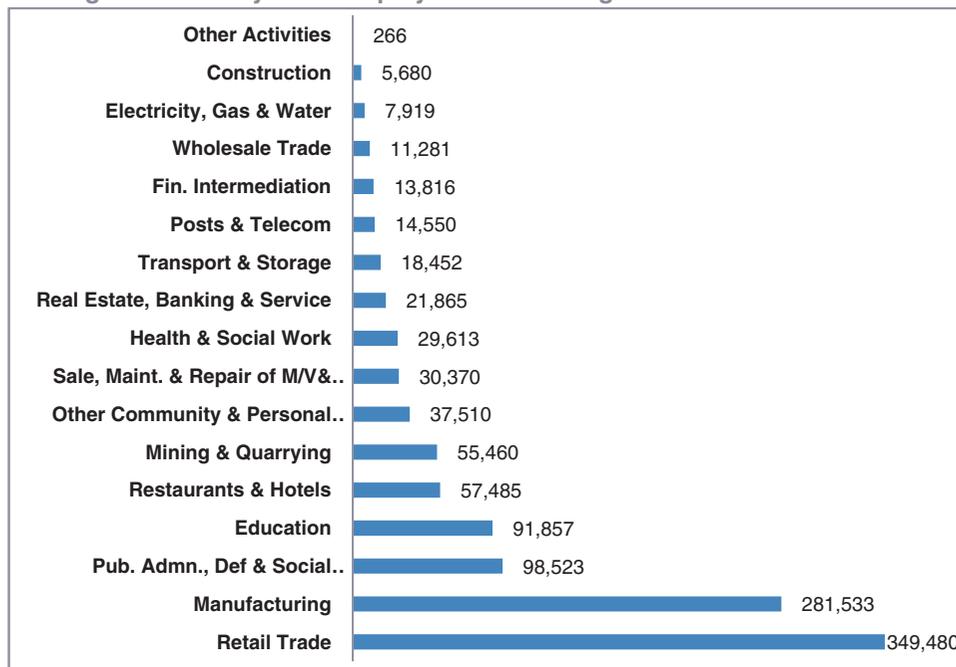
6. Agro Based Industry

- Jharkhand has a varied agricultural product base that supports a host of agro-based industries. The state's soil and climatic conditions also support the cultivation of ornamental plants, mushrooms, spices and tea. Jharkhand has a large sericulture base. The state is one of the leading Tussar (a non-mulberry silk) producers in the country.
- Birla Institute of Technology (BIT), Ranchi conducts a three-year undergraduate course on food processing technology. The institute, in collaboration with Department of Welfare, Government of Jharkhand, carries out training programs on food processing techniques.
- Major Agro based companies in the state are Swastik Group and We Group Mushroom.

Employment Scenario

According to the 5th Economic Census released in 2005, there were 11,25,660 workers working in 4,78,183 Non-Agricultural Establishments in the state. Its activity wise employments have been given in the below figure.

Figure 4: Activity Wise Employment in Non Agricultural Establishments



Source: 5th Economic Census- 2005

There were 26,826 workers in Agricultural Establishments and 11,25,660 workers in Non-Agricultural Establishments. Both in Agricultural and Non-Agricultural Establishments, the number of workers decreased by 47.89% and 1.64% respectively, during the period 1998-2005. The number of workers in Non-Agricultural sector decreased marginally whereas in the Agricultural sector, nearly half of the workers decreased during the period 1998-2005. The highest number of workers in Non Agricultural

Establishments was in the activity group of Retail Trade (31.04%), followed by Manufacturing (25.01%) and Public Administration, Defence & Social Securities (8.75%).

A total of 60% of employment and 22% of GSDP originate in the primary sector, underlining the low-productivity and subsistence-level nature of these activities. 87.6% of employment is in the unorganized sector and 94.0% of workers are unorganized. For unorganized sector workers who are employed outside agriculture, poverty ratios are highest among casual labour, followed by those who are self-employed. This does not represent efficient use of human resources.

Reforms Suggested for the State Employment Exchanges

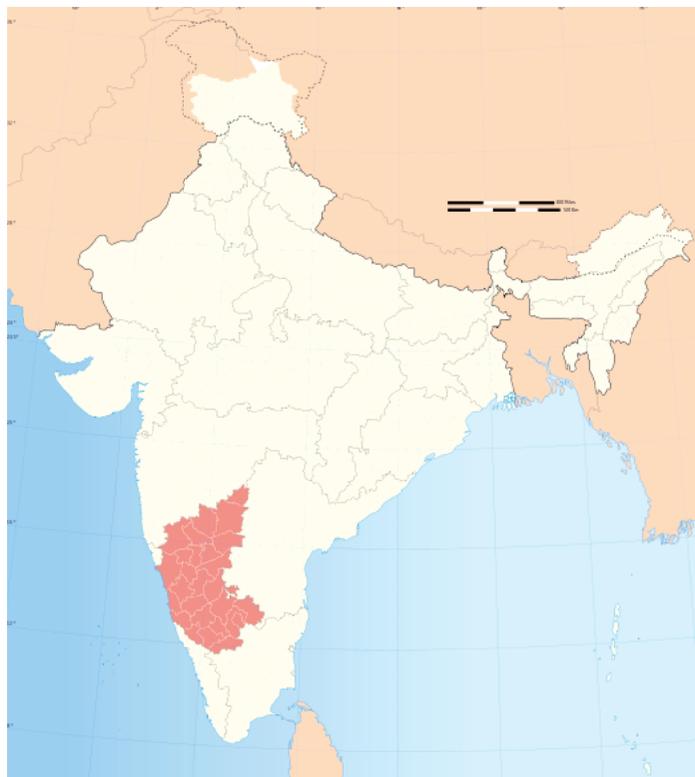
- Reforming of employment exchanges and allowing private sector participation in this domain like Gujarat and Rajasthan.
- Permit private training organizations to offer training at employment exchanges as it does in West Bengal.
- Extend the coverage of “job” or “rojgar melas” in partnership with private placement agencies as in Rajasthan.
- Partner with National Skill Development Corporation (NSDC) to promote skill development and vocational training

At an all India level, there is some tentative identification of where skill needs are going to be. For instance, within the services category, Planning Commission identifies the following for high growth and employment – IT-enabled services, telecom services, tourism, transport services, health-care, education and training, real estate and ownership of dwellings, banking and financial services, insurance, retail services and media and entertainment services.

Based on the findings published in “Transforming Jharkhand: The Agenda for Action”, Report of the Chief Minister’s Committee for the Development of Jharkhand; the following has been concluded (as quoted in the report):

“Broadly speaking, at the high end of the workforce, we have segments requiring high levels of general education and/or technical education. Our primary focus is on segments of the workforce which have comparatively low levels of education, and which are currently with or without (formal/non-formal) skills. Among these segments, those with a fairly high incidence of skills (predominantly non-formal) and rapid growth of employment are clearly those on which formal training initiatives would need to focus. Our analysis identifies the following trades on a prima facie basis as those in which an intensive effort to expand training would be required: Construction Workers, Stone Cutter; Salesmen, Shop Assistants; Transport Equipment Operators; Tailors, Dress-makers, Sewers, Upholsterers; Carpenters, Cabinet and Wood; Tobacco Preparers, Tobacco Product Makers; Hair Dresser, Barber, Beautician; House Keeper, Matron, Steward, Cooks, Waiters, Bartenders; Stationary Engine Operators, Equipment Operators, Material Handling, Loaders; Plumber, Welder, Sheet Metal, Structural, Metal Preparers, Erectors; Painting; Arts and Journalists.”

State Focus: Karnataka



State Profile

Capital	Bengaluru
Total Area (in sq. km.)	1,91,791
Total Population	61,130,704
Population Density (per sq. km.)	319
Number of Districts	30
Literacy Rate (%)	75.6
Sex Ratio (per 1,000 males)	968
State Domestic Product, 2010-11 (In Rs. Crore)	3,53,616
Per capita income, 2009-10 (Rs.)	59,763

Introduction

The state of Karnataka is located in the southern region of the country. The Arabian Sea in the West, Goa in the northwest, Maharashtra in the north, Andhra Pradesh in east, Tamil Nadu surrounds it in the south-east, and Kerala in the south-west. It is the eighth largest Indian state by area and the ninth largest state by population.

Karnataka has emerged as a key state with knowledge-based industries such as IT, biotechnology and engineering forming the crux of the state economy. The state also leads in electronics, computer software and biotechnology exports. It is the science capital of India with more than 100 Research and Development (R&D) centres, and is a preferred destination for multinational corporations with more than 650 such companies residing in the state.

The state is home to some of the premier educational and research institutions of India such as the Indian Institute of Science (IISc), the Indian Institute of Management (IIM), the National Institute of Technology (NIT) and the National Law School of India University (NLS). An IIT at Muddenahalli has been approved by the central government as part of the Eleventh 5 year plan. This will be the first IIT in Karnataka.⁶⁷

The state of Karnataka has a unique 'Pre University Education system' in place where students, who have passed Secondary School Leaving Certificate (SSLC), have to pursue a 2 year pre-university course or a 3 year diploma course before they are granted admission to a degree college. In the pre-university course, the student has to choose any one of the three streams of arts, science & commerce (ASC), depending on the student preference.

Universities and University Level Institutes

22 state universities, 2 private universities, 15 deemed universities and 1 central university characterize the higher education landscape of Karnataka. In addition to these universities, there is 1 Institute of National Importance located in the state.

Karnataka's deemed universities constitute 11.62% of all deemed universities in the country, thus making it the state with the 3rd highest number of deemed universities in the country after Tamil Nadu and Maharashtra.

The 42 universities and university level institutions provide a wide variety of faculties at undergraduate, postgraduate and post doctoral level of studies. Some of the specializations include in the subject of science & technology, engineering & architecture, legal studies, agriculture studies, medical studies, veterinary studies and most commonly in general studies which includes subjects in arts, science and commerce (ASC). The 15 deemed universities provide education in acute fields of study such as advanced scientific research, information technology, mental health & neuroscience and yoga.

⁶⁷ <http://www.deccanherald.com/content/15938/iit-muddenahalli-moily.html>

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of university	Karnataka (2011-12)	India (2011-12)
State University	22	285
Private University	2	112
Institution of National Importance	1	39
Deemed University	15	129
Central University	1	40
Total	41	605

Source: UGC

Bengaluru or Bangalore, the state capital of Karnataka, is known as the Garden City of India due to the vast distributions of parks in the city. It is also the IT hub of the state and country. Besides having growing businesses and MNCs, the city is home to many reputed institutes of higher education as well. The Indian Institute of Management (IIM) – one of the leading business schools in India and one of the foremost pioneering institutes in Science and research, the Indian Institute of Science (IISc.), are located in the state capital. The Indian Institute of Science is considered to be a Deemed University. Bengaluru also houses the International Institute of Information Technology (IIIT), which is also considered an Institute of National Importance.

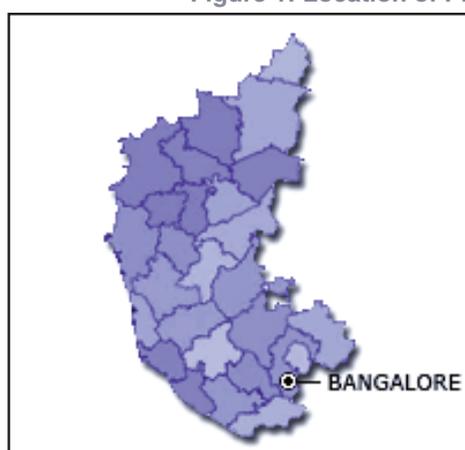
All the private universities in the state are located in Bengaluru. The Alliance University, located in the outskirts of Bengaluru, was established in 2010 and has 4 schools, which include the School of Business, College of Law and the College of Commerce, Engineering and Design. The Azim Premji University (APU) is a private university specializing in post-graduate programs in the area of education and development and was established by the Azim Premji Foundation.

The National Law School of India University (NLSIU) is located in Bengaluru and is considered to be the most prestigious institution in the country for legal studies, both at undergraduate and postgraduate levels of study. The college was ranked 1st on the India Today India's Best law Colleges 2011-12⁶⁸.

The Central University of Karnataka is located in Gulbarga. It was established through an Act of Parliament - "The Central Universities Act, 2009" by Govt. of India. Another Institute of National Importance – the National Institute of Technology, Surathkal, is a public engineering college and was formerly known as the Karnataka Regional Engineering College.

⁶⁸ "India's Best Law Colleges 2011". Indiatoday.intoday.in,

Figure 1: Location of Premier Institutes in Karnataka



- NIT, Surathkal
- Indian Institute of Science (IISc), Bengaluru
- IIM, Bengaluru
- IIIT, Bengaluru
- NLSUI, Bengaluru
- AzimPremiji University, Bengaluru
- Alliance University, Bengaluru
- University of Mysore, Mysore

The University of Mysore is one of the oldest universities in India and was established in 1916. It was the first state University of Karnataka and is an affiliating university. The university encompasses 122 affiliated colleges and 5 constituent colleges. In addition, the University has 37 postgraduate departments, 8 specialised research & training centres and 2 postgraduate centres. Mangalore University, located in the coastal city of Mangalore, is a state university, imparting education at both undergraduate and postgraduate level in arts, commerce, science, law and management. Kannada University⁶⁹, also known as Hampi Kannada University or Hampi University, is a research oriented public university in Hampi, Karnataka, founded in 1991 with the aim to develop the Kannada language and to promote the literature, traditions, culture, and folklore of Karnataka.

Even though most of the premier institutes are located in Bengaluru, the distribution of affiliating universities is spread across the span of the state thereby providing access to higher education to the youth all over the state as can be seen in the above figure.

Table 2: Distribution of University Wise Institutions in College Education in 2010-11

College Type	No. of Institutes
Government	356
Private Aided	296
Private Unaided	710
Total Colleges	1,362

Source: Dept. of Collegiate Education, Govt. of Karnataka

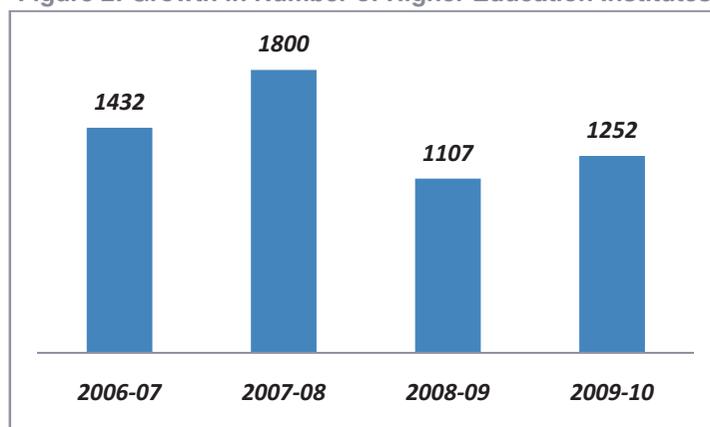
Among the various universities in Karnataka, the maximum number of colleges & Institutes are private unaided (52.12%), followed by government colleges & institutes (26.13%), and private aided colleges & institutes (21.75%) as indicated in the above table. As more than half of the number of colleges & institutes in the state are private unaided, it reflects a strong dependence on the private sector to provide facilities for higher education in the state. However the state government is also playing its part in funding higher education as it provides financing in full and in part to 47.88% of the colleges & institutes in the state in 2010-11.

⁶⁹ <http://www.ugc.ac.in/oldpdf/alluniversity.pdf>

Key Higher Education Indicators: Institutes & Enrolment

The number of higher education institutes in Karnataka has not grown at a steady pace and in 2008-09 there was a sharp dip in the number of higher education institutes in the state. Over a 4-year period between 2006 and 2010, the Compound Annual Growth Rate (CAGR) has been declining at a rate of 4.33% as compared to the increasing national rate of 7%. Such declining growth is indicative of decreasing number of institutes and increased dependence on existing institutes of the state. It must be noted that the data source used was not able to provide accurate data with regard to certain institutions; hence the analysis has presented an ambiguous scenario of the landscape of higher education in the state between 2006 and 2010.

Figure 2: Growth in Number of Higher Education Institutes



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

It can be seen that in the below table that the maximum enrolment has been in private aided colleges with 40% of the total enrolment in 2010-11, followed by government colleges, with 32% of total enrolment. The least number of students are enrolled in private unaided colleges & institutes with 28% of the students enrolled in such institutes.

It is interesting to note that while private unaided colleges form dominates the higher education landscape in the state, the enrolment in private unaided colleges is the least. The reasons could be higher fee and/ or inefficient utilization of resources thus resulting in poor enrolment. The average number of students per college is 378; with the figure being 200 for private unaided institutes and 465 for the government colleges in the state.

Table 3: Distribution of University Wise Enrolment in College Education in 2010-11

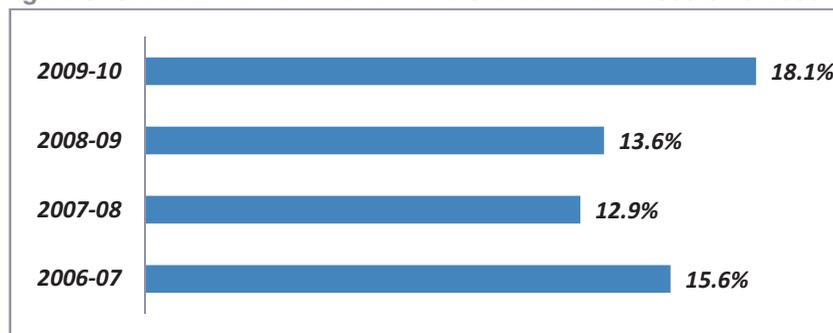
College Type	No. of Students
Government	1,65,451
Private Aided	2,06,186
Private Unaided	1,41,995
Total Strength	5,15,838
Avg. students per college	378

Source: Dept. of Collegiate Education, Govt. of Karnataka

The state needs to focus on increasing enrolment in higher education by providing access to colleges and financial assistance as poverty in the region denies the benefit of higher education to a large

number of students.⁷⁰In this context, the state Gross Enrolment Ratio (GER) has been rising at a steady rate between 2006 and 2010, thereby indicating increased access to higher education for the population belonging to the age group of 18-24 years. The GER has increased from 15.6% in 2006-07 to 18.1% in 2009-10.

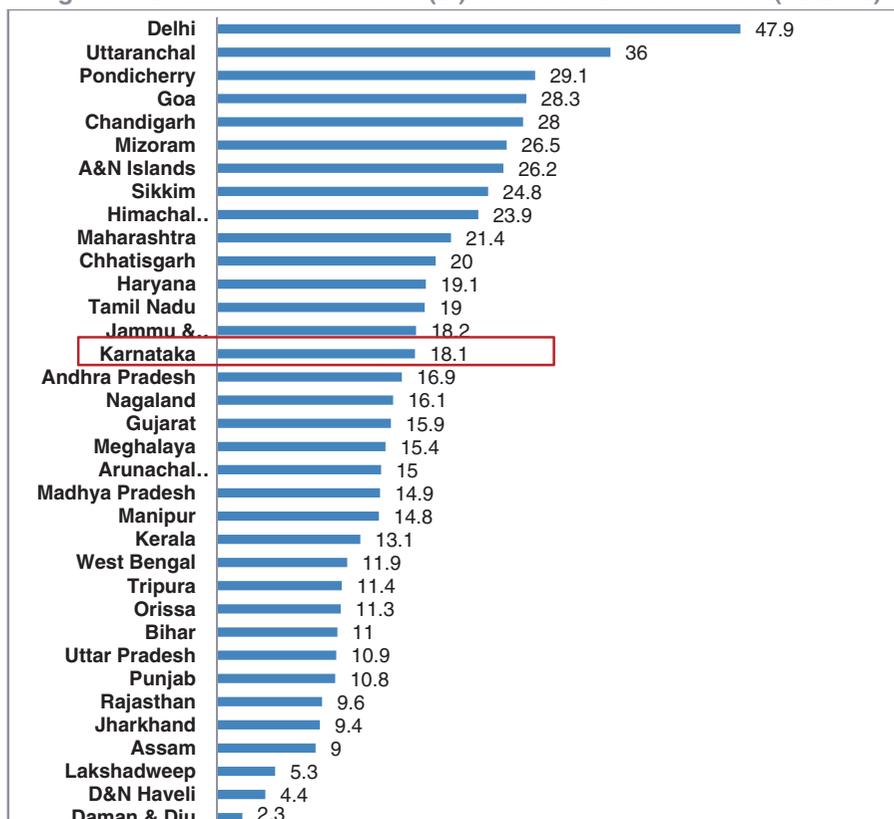
Figure 3: Gross Enrolment Ratio in the State between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

The state stands 15th among the various states and union territories in the country as seen in the below figure. Even though Karnataka's GER is higher than the national average of 15%, Karnataka still needs investment from its resources to ensure quality access to all its youth, thus, striking a balance between state and private investment in order to maintain a stable and growing GER that can meet the goals of the state and the nation.

Figure 4: Gross Enrolment Ratio (%) across all States in India (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

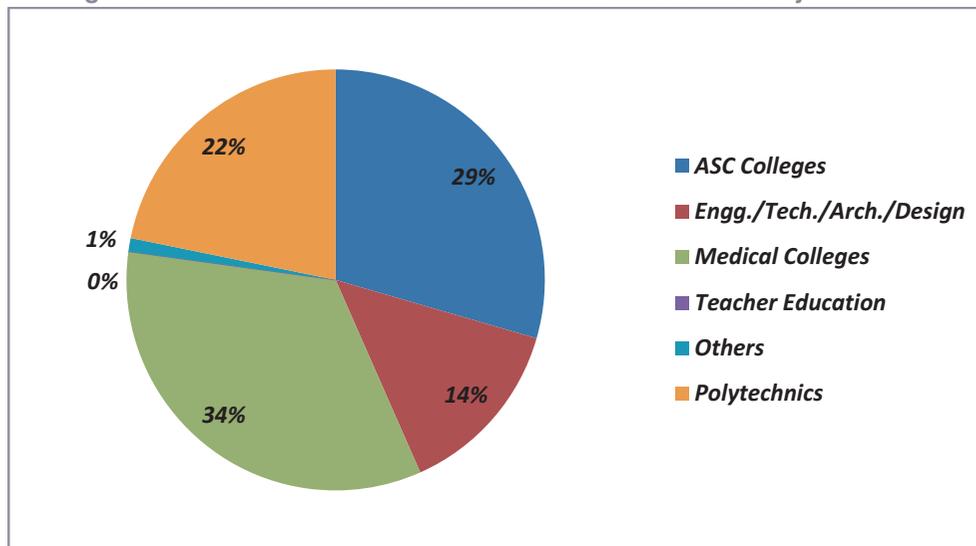
⁷⁰Economic Survey of Karnataka – 2010-11

The following sections present a brief description of the current landscape of the higher education situation in the state. The industry and employment scenario in Karnataka and how higher education is a major tool that drives the economy of the state follows this. Finally, the various key challenges and current initiatives have been presented.

Growth in Higher Education Institutes & Enrolment

It has been concluded that at a national level, the dominant programs that are being offered in higher education are in the areas of arts, science & commerce (ASC). This trend has not been witnessed in the state of Karnataka in 2009-10, in which the dominant higher education institutes were medical colleges (34%). This is followed by ASC colleges (29%) and polytechnics (22%), as seen in the below figure.

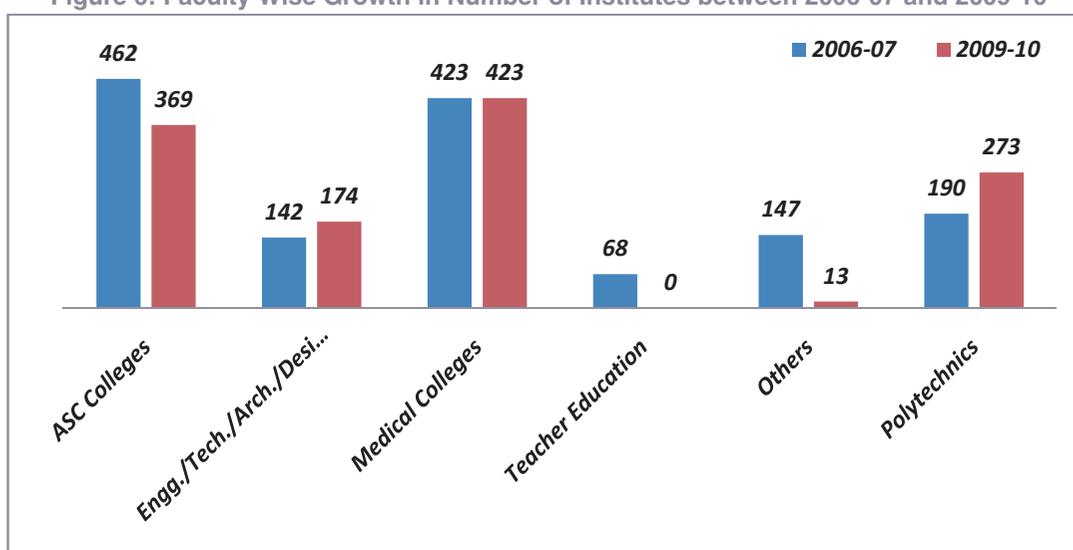
Figure 5: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

It must be noted that with regards to growth in the number of institutions in the state, between 2006 and 2010, the data found was insufficient with respect to certain faculties. Polytechnics have grown at the fastest pace in the state, with 12.7% CAGR, followed by engineering, technology, architecture & design institutes, which grew at 6.93% between 2006 and 2010. The least amount of growth was recorded by ASC colleges, which declined at 7.14% over the 4 year period. Statistics for medical colleges were not available; however institutes of such faculty are high in demand, as they constitute the 2nd largest number of institutes in both 2006-07 and 2009-10.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2007-08 & 2009-10

The state of Karnataka has witnessed strong and continuous growth in the area of technical education. Both engineering and polytechnics have registered a healthy growth rate of 28.97% and 28.44% respectively between 2008 & 2011, as depicted in the below table.

Private engineering institutions have grown at the fastest pace of 31.71%, whereas government polytechnics have registered the maximum growth of 37.29% between 2008 and 2011, among all types of polytechnic institutes (aided & private).

Table 4: Growth & Distribution of Technical Institutions and Enrolment between 2008 & 2011

Engineering Institutions						
Year	Govt.	Aided	Private	Total	Enrolment	Average Enrolment
2008-09	12	10	123	145	53,489	369
2009-10	14	11	149	174	55,760	320
2010-11	14	11	162	187	56,235	301
Growth (%)	16.67	10.00	31.71	28.97	5.13	-18.43
Polytechnic Institutions						
Year	Govt.	Aided	Private	Total	Enrolment	Average Enrolment
2008-09	59	43	123	225	51,667	230
2009-10	81	43	149	273	58,881	215
2010-11	81	43	165	289	57,038	197
Growth (%)	37.29	0.00	34.15	28.44	10.40	-14.35

Source: Directorate of technical education, Government of Karnataka

As can be seen in the table below, across the various faculties, the number of students enrolled at the undergraduate level (96.66%) is significantly higher than the number of students at the postgraduate level (3.34%) in 2009-10. Only the faculty of agriculture can be considered evenly spread with 76.67% enrolled at undergraduate level and 23.33% enrolled at postgraduate level. All other faculties have more number of students enrolled at the undergraduate level. Such uneven distribution indicates that demand for undergraduate courses is higher and the youth of Karnataka is not enrolling in

postgraduate study after completing there under graduation, rather, they are seeking employment. The maximum enrolment is in the faculty of arts (38.71%) followed by enrolment in commerce (19.51%) and the engineering, technology, architecture & design (20.76%).

Table 5: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) levels in 2009-10

Faculty	UG	UG (%)	PG	PG (%)	Total
Arts	3,49,668	96.94	11,034	3.06	3,60,702
Commerce	1,90,548	98.48	2,938	1.52	1,93,486
Science	90,144	94.28	5,474	5.72	95,618
Engg. /Tech./Arch./Design	1,78,432	98.13	3,398	1.87	1,81,830
Medicine	63,260	90.38	6,732	9.62	69,992
Agriculture	3,522	76.67	1,072	23.33	4,594
Management	6,198	95.65	282	4.35	6,480
Teacher Education	9,362	98.66	127	1.34	9,489
Law	9,308	99.23	72	0.77	9,380
Others	0	0.00	0	0.00	0
Total	9,00,442	96.66	31,129	3.34	931,571
Post School Diploma	149,913				
Post Graduate Diploma	4,020				

Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

It needs to be noted that due to non availability of enrolment data regarding certain faculties, data could not be completely analysed. However, further sections; present the analysis on the basis of the available data.

With regard to growth between 2007 and 2010, the maximum growth was witnessed in the faculty of law (470.21%), followed by commerce (134.79%) and arts (117.8%). The total enrolment has increased at a rate of 47.53%, in which undergraduate enrolment grew at a rate of 55.93%. However, postgraduate enrolment declined sharply by 42.31% in the 3 year period.

Enrolment at undergraduate and postgraduate level in the faculty of law grew at an exceptionally fast rate of 483.94% for undergraduate level and 41.18% for postgraduate level. The faculties of management and teacher education saw a decline in enrolment at both the undergraduate and postgraduate levels.

The state saw enrolment in Post school Diploma increase by 49.17% between 2007 and 2010, indicating a growing demand for job oriented diploma courses after high school study.

Table 6: Faculty Wise Growth of Enrolment at UG & PG Level between 2007 & 2010

Faculty	UG +PG		Growth (%)		
	2007-08	2009-10	UG	PG	Total
Arts	1,65,610	3,60,702	130.94	-22.27	117.80
Commerce	82,409	1,93,486	146.96	-44.07	134.79
Science	65,258	95,618	98.75	-72.50	46.52
Engg. /Tech./Arch./Design	181,868	1,81,830	-0.02	0.00	-0.02
Medicine	69,992	69,992	0.00	0.00	0.00
Agriculture	4,205	4,594	6.47	19.51	9.25
Management	29,699	6,480	-77.56	-86.40	-78.18
Teacher Education	30,172	9,489	-67.99	-86.29	-68.55
Law	1,645	9,380	483.94	41.18	470.21
Others	575	0	-100.00	-100.00	-100.00
Total	6,31,433	9,31,571	55.93	-42.31	47.53
Post School Diploma	100,495	149,913	49.17		
Post Graduate Diploma	3,688	4,020	9.00		

Source: Statistics of Higher & Technical Education, MoHRD, 2006-07 & 2009-10

Quality of Institutes

The NAAC⁷¹ assessed and accredited 8 Universities in the state of Karnataka and awarded 4 universities grade A (Very Good) and the remaining 4 universities grade B (Good). Out 302 colleges assessed and accredited, 31.56% received the highest grade of A (Very Good), majority of colleges (66.11%) received grade B (Good) and only 2.32% colleges received grade C (Satisfactory).

Industry and Employment Scenario

Key Industries⁷²

Karnataka has emerged as a key state with knowledge-based industries such as IT, biotechnology and engineering. The state also leads in electronics, computer software and biotechnology exports in the country. It is the science capital of India with more than 100 Research and Development (R&D) centres, and a preferred destination for multinational corporations with more than 650 such companies.

The state offers a wide range of fiscal and policy incentives for businesses under the New Industrial Policy, 2009-14. Additionally, the state has well drafted sector-specific policies for biotechnology, IT, Business Process Outsourcing (BPO) and textiles.

Karnataka is making significant investments in industrial infrastructure, such as setting up of industrial clusters, Special Economic Zones (SEZs) and Public Private Partnership (PPP) projects to provide an impetus to further industrial development.

1. IT & IT Enabled Service

- Karnataka has emerged into a major base of Information Technology (IT) industry.
- About 36 percent of the world's SEI CMM Level 5 certified companies are located in Bengaluru and it is among the five largest technology hubs in the world.
- Major IT firms in the state are Wipro Technologies, Infosys, Genpact and Accenture

2. Biotechnology

⁷¹National Accreditation and Assessment Council

⁷²India Brand Equity Foundation – State report on Karnataka

- Karnataka has played a key role in India's emergence as a significant player in the global biotechnology industry. Karnataka is home to 60% of the country's biotech units.
- Premier Life Sciences institutions such as Indian Institute of Science, National Centre for Biological Science, Jawaharlal Nehru Centre for Advanced Scientific Research, etc., are present in the state.
- Some key players in the state are Biocon, Astra Zeneca India, Jubilant Life Sciences Ltd and GlaxoSmithKline Pharmaceuticals Ltd.

3. Engineering

- The Engineering industry in Karnataka has positive prospects in its performance. Bharat Earth Movers Limited, Hindustan Machine Tools Limited and Bharat Heavy Electricals Limited are among the leading companies in this sector.

4. Electronics and Telecom

- Karnataka is the leading state of the country in electronics and telecommunication, with over 300 of the world's leading companies.
- The state has high end research and development organizations like the Indian Institute of Science, Cosmic Industrial Laboratories Ltd, Indian Space Research Organization (ISRO), CSIR Centre for Mathematical Modeling and Computer Simulation (CMMACS), National Aerospace Laboratories, Centre for Liquid Crystal Research and the John F. Welch Technology Centre.
- Prominent Electronic and Telecom companies in the state are Bharat Electricals Ltd, Nokia, Siemens and Philips Electronic India Ltd.

5. Automotive

- Karnataka has a vibrant auto industry. Of the total 201 listed auto-ancillary firms in India, 5% are based out of Karnataka.
- Toyota, Volvo, Tata Marcopolo and TVS Motors have set up vehicle manufacturing units in Karnataka, leading to the growth of ancillary units involved in manufacturing tires, bearings and other auto spare parts.

6. Textiles and Apparel

- Karnataka is one of the leading producers of cotton, silk and wool, which are the key raw materials required for textile manufacturing units. The state contributes to 65% to India's total silk production.
- Karnataka is a major apparel sourcing destination for the global market. The state has a share of 32% of the domestic apparel market, with over 1,500 apparel units.
- Key Textile and Apparel companies doing business in Karnataka are Gokaldas Exports Ltd, Karnataka Silk Industries Corporation (KSIC), Himatsingka Seide and Shahi Exports Private Limited.

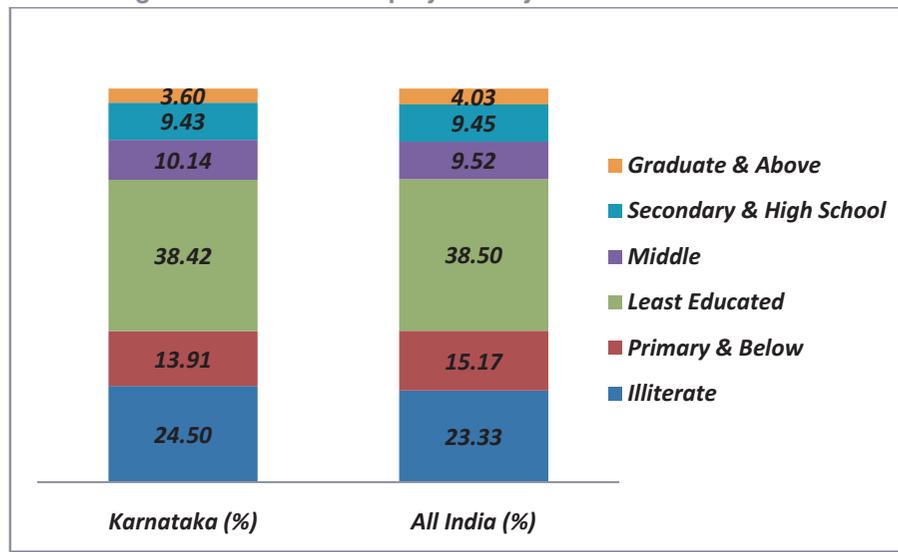
7. Agro and Food Processing (Floriculture)

- Karnataka has a Good agricultural base including a variety of food crops offers immense scope for the development of food processing industries.
- The state accounts for 71% of the country's total coffee production. The state is one of the leading producers of flowers, spices, fruits and vegetables.
- Major Agro and Food Processing companies are Hindustan Unilever Limited, Nestle India, Britannia Industries Limited and United Breweries Group.

Employment Scenario

Karnataka is basically an agrarian economy where a majority of the population depends on the primary sector. Employment is largely unorganized, rural and non-industrial in nature. The unemployment rate for both rural and urban Karnataka is the lowest amongst similar states. However there exists a significant gap between the rural and urban areas within Karnataka. The incidence of unemployment in Urban Karnataka is almost double that of rural Karnataka. This observation, in the context of the rapid pace of urbanization, is a cause of concern.⁷³

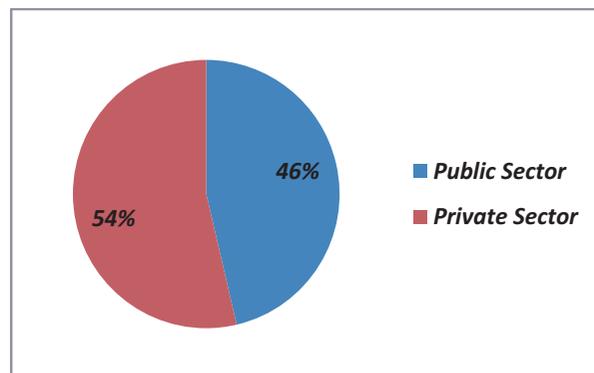
Figure 7: Percentage Distribution of Employment by level of Education in Karnataka & India



Source: National Commission for Enterprises in the Unorganized Sector (NCEUS), 2009

The state of Karnataka depicts a similar distribution of employment by level of education that is found in all states in India. The least educated category in Karnataka (education up to primary level has been defined to constitute the category of the least educated) constitutes the maximum work force with 38.42% and 38.5% at the national level. The next most dominant category is the illiterate population that comprises 24.5% of the entire workforce of Karnataka. Only 3.6% of the total work force consists of graduates and above and this is less than the all India average of 4.03%. Maximum workforce of Karnataka consists of person with primary level to high school level education.

Figure 8: Distribution of Workforce in Public and Private Sector in 2010-11

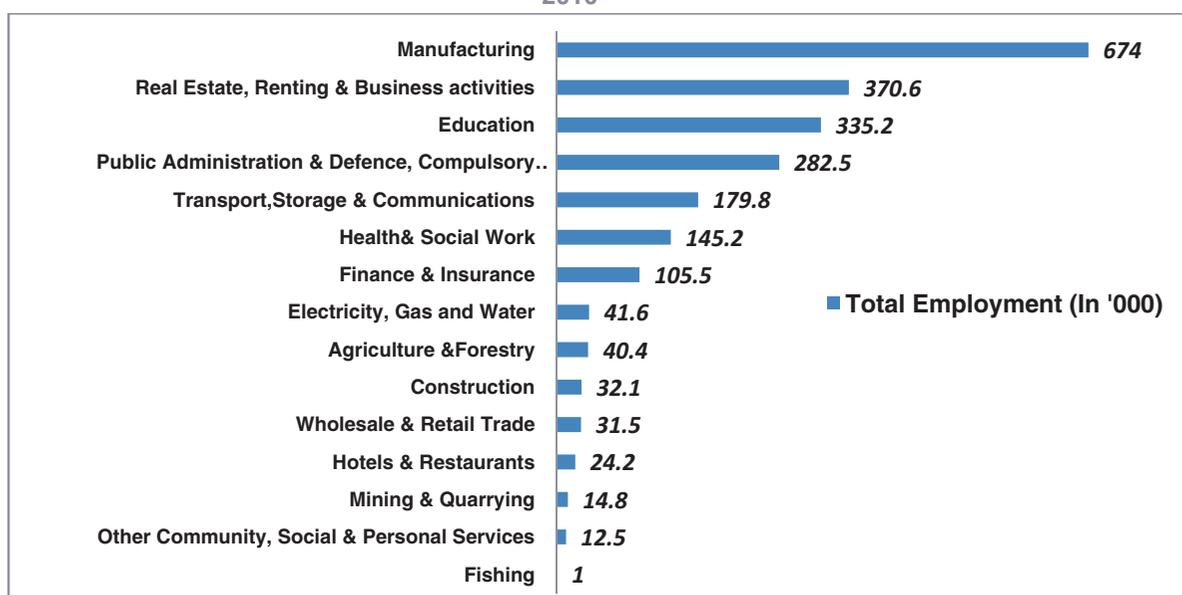


Source: Economic Survey of Karnataka-2010-11

⁷³Karnataka Economic Census, 2010-11

The workforce of Karnataka is evenly distributed between the private and public sectors. The private sector employed 54% of the total workforce whereas the public sector employed 46% of the total workforce of the state in 2010. In terms of industrial classification, the maximum employment was generated by the manufacturing sector with 6.74 lakh persons; equivalent to 29.4% of the total workforce in the state. Other major contributing sectors are real estate, tenting & business activities (16.18%) followed by the education sector (14.63%). The industry-wise classification of workforce is depicted in the below figure.

Figure 9: Distribution of Workforce in Public & Private Sector by Industrial Classification in 2010



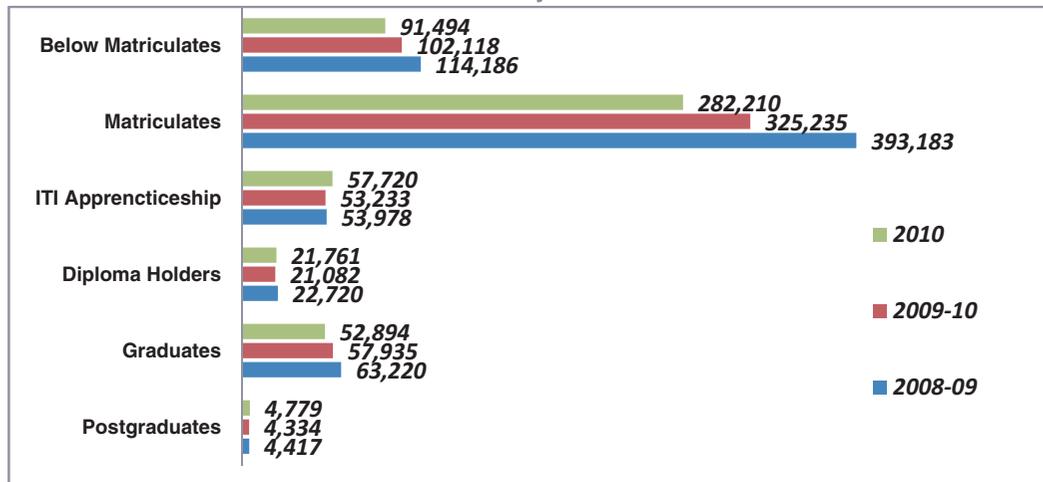
Source: Economic Survey of Karnataka, 2010-11

According to the 5th Economic Census data, the total number of establishments (comprising of agricultural and non-agricultural activities) increased by 32.81%. Correspondingly, the total number of persons working in establishments registered an increase of 20.79%. During the same period, the number of Own Account Establishments (OAE) increased by 35.67% and the establishments with at least one hired worker by 28.07%. The agricultural employment increased by 12.57% during the period 1998-2005. The corresponding increase in the non-Agricultural employment was 22.10%.

Up to December 2010, 5.1 lakh job seekers with different levels of educational qualifications had registered with the Karnataka Employment Exchanges. The maximum number of job seekers fell under the category of matriculates. The next dominant segment of job seekers was the category of below matriculates. Graduates registering with employment exchanges declined in the three year period (-16.3%), however, the number of postgraduates registering with the employment exchanges increased at the rate of 8.19%.

The maximum growth rate registered in the number of job seekers registered at the government employment exchanges has been by postgraduates (8.19%) followed by ITI Apprenticeship (6.93%).

Figure 10: Growth in Number of Job Seekers Registered with Employment Exchanges between Mar '08 and Dec'10 by Level of Education



Source: Department of Employment & Training, Government of Karnataka

According to Table 5, there were 9 lakh graduates (UG) and 31,000 postgraduates (PG) in 2009-10, however only 6.4% of the undergraduate students and 14% of the postgraduate students had registered in government run employment exchanges. Such low registration indicates that undergraduate and postgraduate students are able to find gainful employment once they graduate from their specific courses of study at different levels of education in Karnataka. (However it needs to be noted not all unemployed UG and PG students register with employment exchanges and hence, the true number of educated unemployed will always be difficult to estimate.)

Key Challenges and Initiatives in Higher Education

In recent years, the state has made some major interventions in the field of higher education. These include establishment of new colleges and universities, attracting and retaining talent in higher education by providing incentives and higher salaries, institutional reforms and ICT interventions, provision of more scholarships and education loans to the students etc.

Innovative models of public private partnerships have also been introduced to achieve the desired goals. The Azim Premji Foundation has established a private University to develop models of quality education.

Challenges in Higher Education

- There is a need for provisions of infrastructural requirements for new Universities, new projects and grants to institutes of higher learning.
- Students from rural backgrounds, SC/ST and financially and socially backward sections of women need access to quality higher education
- Library books, infrastructure and hostel facilities are lacking in most educational institutes in the state.
- The expansion in higher education should meet the requirements of the growing industry, business and service sector, and should increase the stock of human capital to take the lead in global competition.
- Growing localisation of the state university system.
- Lack of clear policy framework for entry of new education providers to the higher education system.
- Lack of mission differentiation between several types of institutions.

- Deficit in public trust towards higher educational institutions.
- Lack of dynamic learning goals and curricular relevance.
- Research orientation in higher education is lacking in most of the universities in Karnataka.
- Bridging the gap between school education and higher education
- Financing patterns and self-financing of higher education institutions

Initiatives Proposed⁷⁴

- There is an urgent need for universities to develop a broad-based recruitment policy. Towards that end, universities could develop a diversity index, which rates their performance on a diversity scale, which gives a sense of the different backgrounds (educational, social and regional) from which it has drawn its faculty members and administrative personnel.
- Developing stronger interlinks between different Universities in terms of academic collaborations, credit transfer system, and faculty and student mobility.
- Enhancing the autonomy of universities to take decisions regarding academic issues, intellectual issues like setting up new departments, areas of study, examination and evaluation schemes, coursework and curricula.
- Focusing attention on reform of bodies like the Academic Council and the University Syndicate to become representative of larger community and intellectual interests.
- The state has established the Karnataka Knowledge Commission, which is endeavouring to promote excellence and quality in higher education.
- Two of the state universities – Karnataka University and Mysore University – are being shaped as Model Universities. Karnataka State Higher Education Council is to be established to plan the development of higher education in the state to meet the global challenges. These developments need to be strengthened and sustained over a long period of time to increase enrolment in higher education from 13% to 21% by the end of the XII Five Year Plan.
- Collegiate Education: The main aim and responsibility is to bring up students in all respects to reach higher education Level. Thus, there are plans of opening Govt. 1st Grade Colleges at places where the demand exists, where the government would provide support in the form of land, building and other infrastructure facilities.
- Soft Skill development in colleges: This includes training programs for value education and English communication skills.
- Library books, infrastructure and hostel facilities are being proposed for the efficient functioning of Govt. polytechnic institutes.
- Paying special attention on establishing research centres across the streams of physical and natural sciences, humanities and social sciences which will have greater autonomy with regard to their academic functioning but will function under the umbrella of the Universities.
- To set up an Academy of Higher Education under the Karnataka State Higher Education Council to facilitate curriculum development, research, training value education in the Universities and Colleges
- Intensify the facility of ICT infrastructure and give access to teachers and students as basic educational facility. Make broadband connectivity, Internet access, and computer access absolutely universal such that it is perceived as a basic necessity and every student and faculty member in a university has unencumbered access to resources and data worldwide, thus encouraging a new culture of data-intensive research.
- Create new models of industry and education interface by exploring innovative internship programmes for teachers and students and collaborative and joint research projects by R&D departments of industries and faculty members in the universities.
- To continue provision of training programs for various polytechnic students as well as graduated students under Guidance Supervisory Development and Entrepreneurship Awareness programs.

⁷⁴Vision Document -2020, Karnataka Higher Education

State Focus: Kerala



State Profile

Capital	Thiruvananthapuram
Total Area (in sq. km.)	38863
Total Population	3,33,87,677
Population Density (per sq. km)	859
Number of Districts	14
Literacy Rate (%)	93.91
Sex Ratio (per 1,000 males)	1084
State Domestic Product, 2009-10 (In Rs. Crore)	2,02,487
Per capita income, 2009-10 (Rs.)	59,179

Introduction

Kerala, also known as 'God's Own Country', is located along the coastline in the extreme southwest of the Indian peninsula, and is bordered by the states of Karnataka and Tamil Nadu. Socially, a very progressive society, the state has the highest Human Development Index, literacy rate, life expectancy and the best sex ratio among all the Indian states.

Kerala is one of the few states, which have been able to market its natural beauty successfully to the leisure tourism sector. The state is well known for its traditional industries such as coir manufacturing, handlooms and handicrafts. Historically, the state has been a major exporter of commodities such as tea, cashew kernel, seafood, coir products, spices and coffee.

Universities and University Level Institutes

The state has 13 universities and university level institutions, which comprises 1 central university, 9 state universities, 2 deemed universities and 1 institute of national importance. The National Institute of Technology (NIT), Calicut is the only Institute of National Importance of the state and is one of the most reputed technical education institutes in India. Among the various universities, Calicut University, Cochin University of Science and Technology, Kerala University and Mahatma Gandhi University are the most renowned universities in the state.

Kerala University is an affiliating university located in the state capital and was the 16th university to be set up in India in 1937. Currently, the university affiliates 81 colleges, with total enrolment of students across all the affiliated colleges and the university being more than 1 lakh. Calicut University is another major affiliating university in the state. Established in 1968, it currently affiliates more than 250 colleges. The Cochin University of Science and Technology (CUSAT), is a government owned autonomous university, located in the city of Kochi. Established in the year 1971, the university has three campuses. Currently, more than 2,000 students are enrolled in the various undergraduate and postgraduate programs being offered. Another major university in the state is the Mahatma Gandhi University, which was established in 1983 and currently affiliates about 220 colleges.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of university	Kerala (2011-12)	India (2011-12)
State University	9	285
Private University	0	112
Institution of National Importance	1	39
Deemed University	2	129
Central University	1	40
Total	13	605

Source: UGC

In addition to these universities, there are several premier higher and technical education institutes in Kerala. The Indian Institute of Management (IIM) (one of the thirteen IIMs in India) is located in the city of Kozhikode and was the fifth IIM to be established in the country. The Indian Institute of Science Education and Research (IISER), Trivandrum is an institution of higher education established by the Government of India in 2008, based on the recommendations of the Scientific Advisory Council (SAC) of India. The Indian Institute of Space Science and Technology was also started in 2007, to cater to the demand for scientists and engineers at the Indian Space Research Organization (ISRO). The

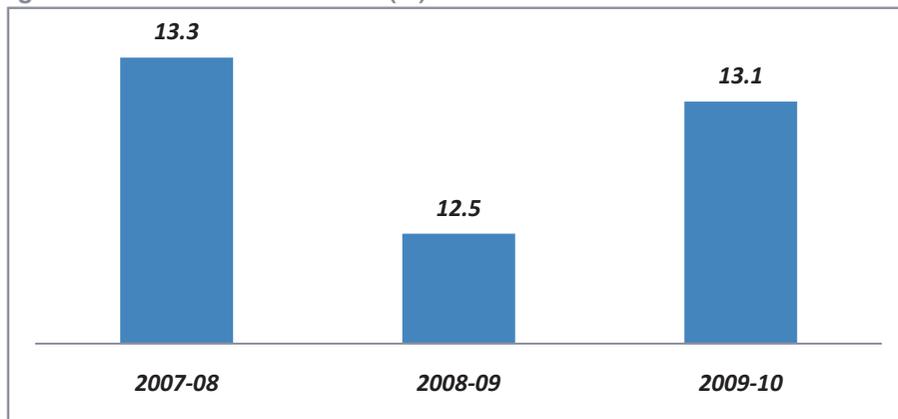
institute offers undergraduate and postgraduate education in space science & technology. In the field of law, the state houses the National University of Advanced Legal Studies located in the port city of Kochi.

Figure 1: Location of Premier Institutes in Kerala



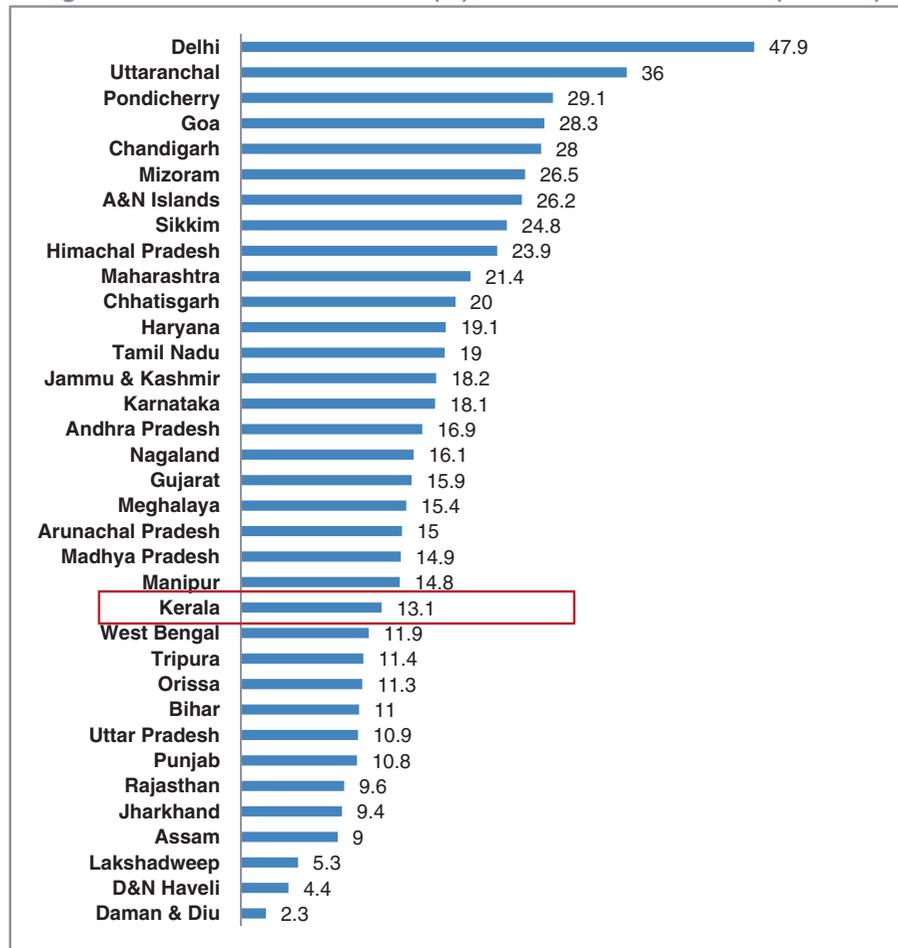
The state Gross Enrolment Ratio (GER) in higher education is currently lesser than the national average. The improvement in GER has not been significant between the years 2007-08 and 2009-10. While on one hand, the state has the highest literacy rate amongst all the states in India; the GER in higher education is still below the national average. In 2009-10 the state was ranked 23rd in terms of Gross Enrolment Ratio among all states and union territories of the country.

Figure 2: Gross Enrolment Ratio (%) in the state between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Figure 3: Gross Enrolment Ratio (%) across all states in India (2009-10)



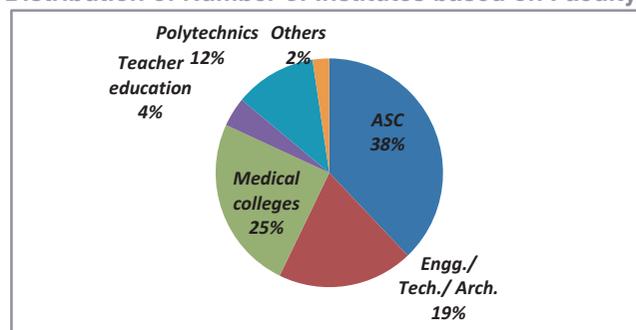
Source: Statistics of Higher & Technical Education, MoHRD

The following sections present a brief description of the current higher education scenario in Kerala and a brief outline of the industry and employment scenario in Kerala.

Growth in Higher Education Institutes and Enrolment

In 2009-10, there were a total of 507 higher education institutes offering programs across general and technical education in Kerala. Among these institutes, the majority of the institutes were those offering arts, science and commerce (ASC) programs (38%); followed by medical colleges (25%) and engineering/ technology/ architecture colleges (19%).

Figure 4: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Across the various faculties, the total enrolment in higher education (including undergraduate (UG), postgraduate (PG), post school diploma and post graduate diploma programs) was 3.6 lakh in 2009-10. The maximum enrolment was in the faculty of engineering (30.5%), followed by Arts (24.7%), Science (23.2%) and Commerce (12.1%).

Table 2: Distribution of Enrolment at Undergraduate (UG) and Postgraduate (PG) level

Faculty	Enrolment (2009-10)		Total
	UG	PG	
Arts	72,532	9,518	82,050
Commerce	37,098	3,211	40,309
Science	68,371	8,519	76,890
Engg./ Technology/ Arch.	99,071	2,203	1,01,274
Medicine	17,009	1,351	18,360
Agriculture & Allied	779	208	987
Management (General, Travel, Tourism)	2,805	836	3,641
Teacher Education	3,348	195	3,543
Law	2,936	373	3,309
Others	520	293	813
Total	3,04,469	26,707	3,31,176

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Among the various universities in the state, the University of Calicut and Mahatma Gandhi University have been assessed by the National Assessment and Accreditation Council (NAAC). Both the universities have been awarded grade B (Good). In addition to the universities, a total of 83 higher education institutes have been assessed by NAAC, with 40 institutes being awarded grade A (Very Good), 42 institutes receiving grade B (Good) and 1 institute being awarded a grading of C (Satisfactory).

Industry and Employment Scenario

Key Industries⁷⁵

The traditional industries of Kerala include handloom, cashew, coir and handicrafts. The state's industrial growth was 15.66% between the years 2005-06 and 2010-11 at current prices. As of March 2011, there was a total 1,94,908 functional micro, small and medium enterprises, employing about 10 lakh people.

The service sector (including tourism, public administration, banking and finance, transportation and communication) and the agricultural and fishing industries dominate the economy of the state. A brief of the key industries in the state is given below:

1. Coir

- The state of Kerala accounts for 95% of the total coir and coir products in India. The industry alone provides employment to 3.5 lakh persons.

2. Handloom and Powerloom

- The handloom industry in the state employs about 1 lakh people and ranks second among the traditional industries of the state in terms of providing employment.
- Around 94% of the total number of looms is under the cooperative sector, with the rest being under entrepreneurs.

3. IT and ITeS

- The cities of Kochi and Trivandrum have emerged as the IT destinations of the state, which house several IT parks.
- Key players: Tata Consultancy Services, Infosys, iGATE Patni, RR Donnelley India Outsource Pvt. Ltd.

4. Electronics

- Due to the availability of skilled and semi-skilled workers for the electronics industry, the state has been able to attract global electronics manufacturers.
- Key players: Traco Cable Company, Transformers and Electricals Kerala, Kerala State Electronics Development Corporation Ltd

5. Tourism

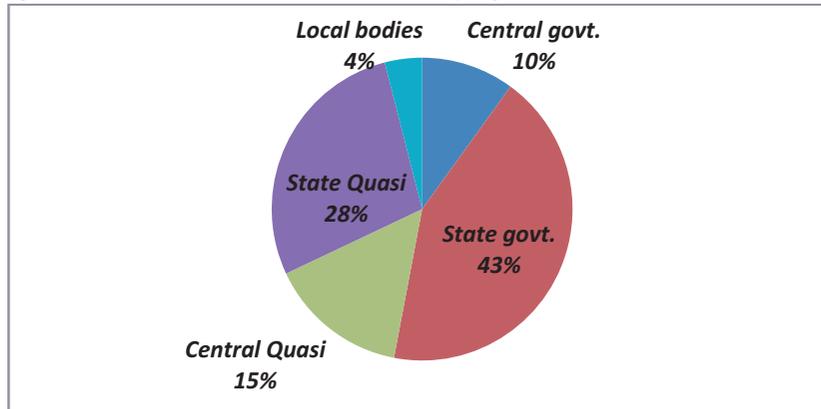
- Tourism is a primary economic activity in the state and the sector contributes about 9% to the state GDP. In 2010-11, more than 15 lakh tourists visited the state.

Employment Scenario

During 2011, a total of 11 lakh persons were employed in the private and public sector in the state. Among the 11 lakh persons, 55.2% of the workforce was employed in the public sector, and the remaining was employed in the private sector (44.8%). Of the 6 lakh persons employed in the public sector, the majority of them were employed in state government organizations (43%), followed by state quasi government bodies (28%) and central quasi government bodies (15%).

⁷⁵India Brand Equity Foundation – State report on Kerala

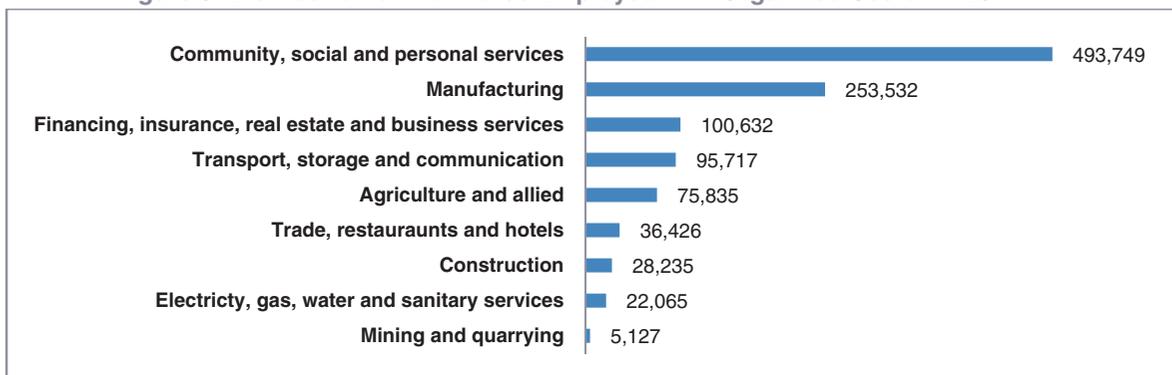
Figure 5: Distribution of Workforce Employed with Public Sector in 2011



Source: Economic Review, 2011(Kerala)

A total of 11.11 lakh persons were employed in the organized sector during 2010-11. The majority of this work force is employed in community, social and personal services (44.4%); followed by manufacturing sector (22.8%) and financing insurance, real estate and business services (9%).

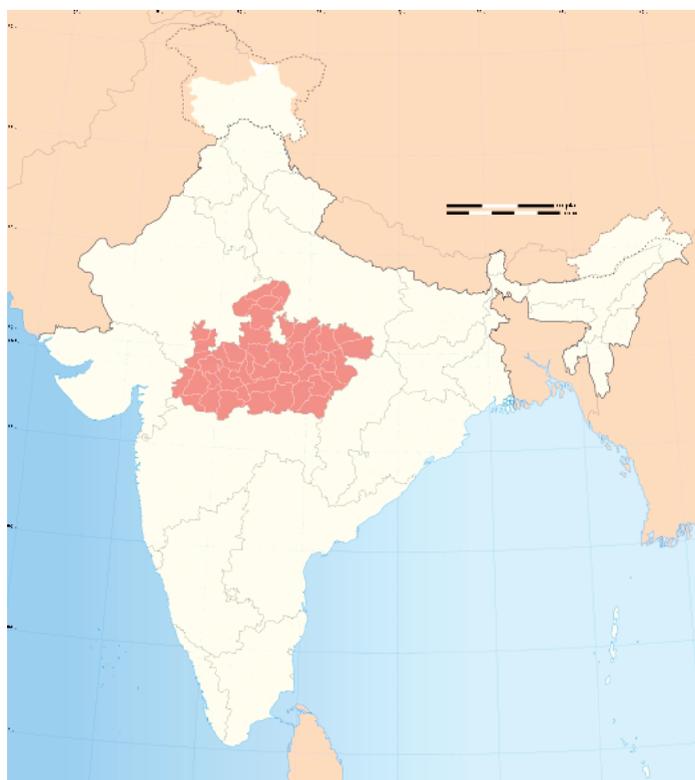
Figure 6: Distribution of Workforce Employed with Organized Sector in 2011



Source: Economic Review, 2011(Kerala)

There are several persons registered with the employment exchanges in Kerala as job seekers. In March 2011, a total of 1.55 lakh professional and technical work seekers, including medical graduates, engineering graduates, agricultural graduates, and veterinary graduates were registered with the employment exchanges in Kerala.

State Focus: Madhya Pradesh



State Profile

Capital	Bhopal
Total Area (in sq. km.)	3,08,252
Total Population	7,25,97,565
Population Density (per sq. km.)	236
Number of Districts	45
Literacy Rate (%)	70.63
Sex Ratio (per 1,000 males)	930
State Domestic Product, 2009-10 (In Rs. Crore)	1,92,333
Per capita income, 2009-10 (Rs.)	27,250

Introduction

The State of Madhya Pradesh (MP) is situated in the central zone of the country. In Hindi, 'Madhya Pradesh' means Central Province and the state is considered the 'Heart of India'. Bhopal is the administrative capital and Indore is the largest city in Madhya Pradesh. The state came into its current form on November 1, 2000, following its bifurcation to create the new state of Chhattisgarh.

MP is the second largest state by area and the sixth largest state in India by population. The state covers 3,08,252 sq. Km. and borders the states of Uttar Pradesh to the northeast, Chhattisgarh to the south-east, Maharashtra to the south, Madhya Pradesh to the west, and Rajasthan to the northwest. Madhya Pradesh is divided into 45 districts, which are grouped into 10 divisions namely Indore, Bhopal, Jabalpur, Gwalior, Ujjain, Rewa, Sagar, Chambal, Shahdol and Hoshangabad.

MP with its spatial benefits of being centrally located and blessed with abundant natural resources (both mineral as well as agricultural) is potent with economic opportunities to be utilized. The state derives benefits from its relative advantages in terms of low and competitive land prices, labour and infrastructural costs.

Universities and University Level Institutes

Madhya Pradesh has 16 state universities, 9 private universities, 3 deemed universities and 2 central universities. In addition to these universities, there are 7 Institutes of National Importance located in the state.

Madhya Pradesh has many universities, funded by the government as well as by the private sector. Some of the dominant specializations found in certain universities in the state are in the fields of agriculture, Vedic studies, engineering, information & technology and healthcare.

The state houses almost 16% of all Institutes of National Importance of the country and is one of the four states to have an Indian Institute of Technology (IIT), National Institute of Technology (NIT) and an Indian Institute of Management (IIM) located in it. Madhya Pradesh is among the few states of the country to have 2 central universities and is one of the ten states to have more than 15 state universities in the country. The state also has a high percentage of private universities with 8% of all private universities in the country being located in Madhya Pradesh.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

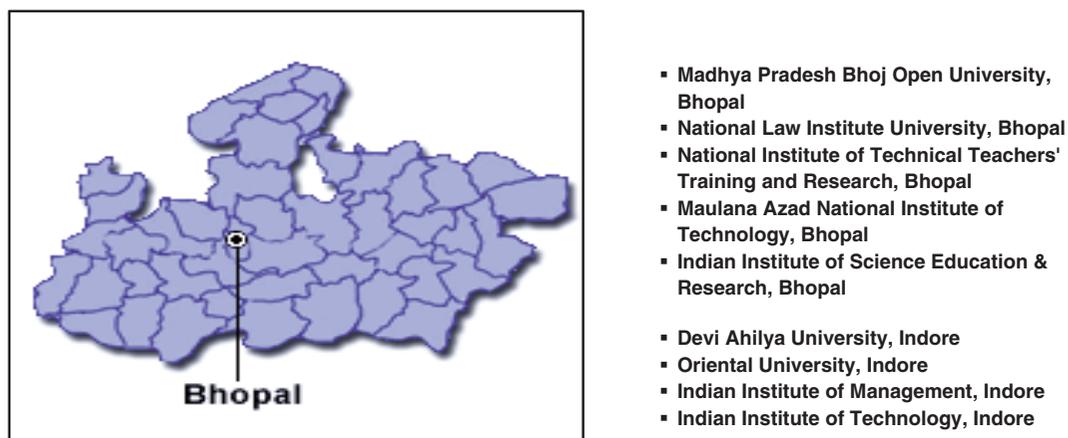
Type of University	Madhya Pradesh (2011-12)	India (2011-12)
State University	16	285
Private University	9	112
Institution of National Importance	6	39
Deemed University	3	129
Central University	2	40
Total	36	605

Source: UGC

Madhya Pradesh is home to some of the finest institutions and colleges in the country offering degree programs in an array of specializations such as engineering, agriculture, management, architecture

etc. All of these institutions are primarily based in major cities of Madhya Pradesh such Bhopal, Indore, Gwalior and Jabalpur.

Figure 1: Location of Premier Institutions in Madhya Pradesh



Bhopal is the administrative capital of the state and various Institutions of National Importance such as the National Institute of Technical Teachers' Training and Research are located in Bhopal. The National Institute of Technical Teachers Training is centrally funded and an autonomous institute providing pre-service & in-service training to teachers & staff and the Bhopal centre is one of four such institutes in the country. Bhopal also has two premier science and technology institutions in the form of Maulana Azad National Institute of Technology (NIT) and the Indian Institute of Science Education & Research.

The city of Indore is the largest city of the state and is the commercial capital of the state. Two of the leading institutions of the country in science & technology and management, namely the Indian Institute of Technology (IIT) and Indian Institute of Management (IIM) are in Indore.

The fort city of Gwalior houses two of Madhya Pradesh's deemed universities namely, the Indian Institute of Information Technology and Management (IIITM) and Lakshmi Bai National University of Physical Education. IIITM is a leading autonomous institute, which is the first IIIT established by the Ministry of Human Resource Development, Government of India in 1997, as an initiative to foster information technology (IT) and management education in India.

the city of Jabalpur houses Madhya Pradesh's only agriculture university, the Jawaharlal Nehru Agricultural University and also has two prominent general universities of the state namely Rani Durgavati University and Ujjwal Prakash Vidya Sagar University. The two central universities of the state are Dr Hari Singh Gour University located at Sagar and Indira Gandhi National Tribal University located at Amarkantak.

Table 2: Distribution of Government, Private and Private Unaided colleges Affiliated to State & Central Universities

Traditional Universities	Number of colleges			
	Government	Private Aided	Private Unaided	Total
Barkatullah University, Bhopal	63	11	139	213
Jiwaji University, Gwalior	46	14	164	224
Devi Ahilya University, Indore	54	13	103	170
Rani Durgawati, Jabalpur	58	19	90	167
Avdesh Pratap Singh University, Rewa	51	12	60	123
Dr. Hari Singh Gaur University, Sagar	32	3	35	70
Vikram University, Sagar	38	5	45	88
Total	342	77	636	1,055

Source: Department of Higher Education, Govt. of Madhya Pradesh

There are a total of 1,055 affiliated Government, private and private unaided colleges in the state. The maximum percentage of colleges are private unaided colleges constituting 60.3% of all colleges in the state, which is followed by government colleges (32.41%) and the lowest number of colleges in the state are private aided colleges (7.29%).

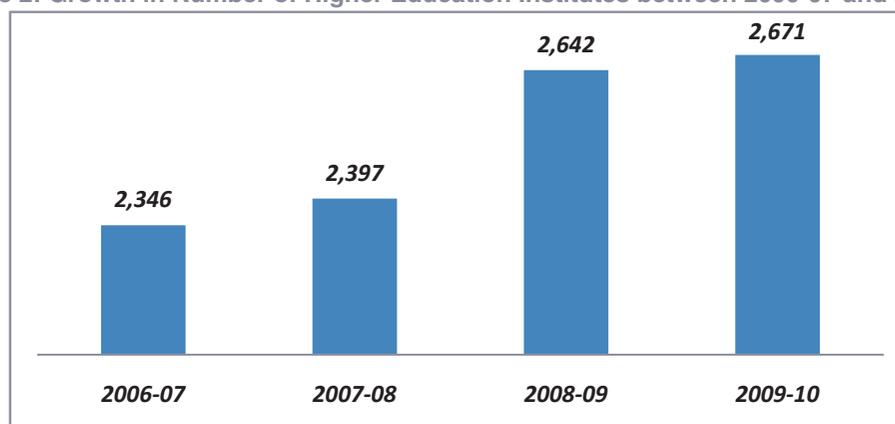
Jiwaji University in Gwalior affiliates the maximum number of colleges with 21.23% of all colleges affiliated to this university. This university also has the maximum number of private unaided colleges (21.85%) in the state. Barkatullah University in Bhopal affiliates the maximum number of government colleges (18.4%) in the state.

The central university of the state - Dr. Hari Singh Gaur University at Sagar affiliates 70 colleges out of which 45.71% of the colleges are government colleges, 4.29% are private aided and 50% are private unaided colleges.

Key Higher Education Indicators: Institutes & Enrolment

The growth rate in the number of higher education institutes in Madhya Pradesh, stands at 4.37% (Compounded Annual Growth Rate, CAGR) as compared to the national rate of 7%, which indicates a below average performance in ensuring access to higher education for the youth of the state.

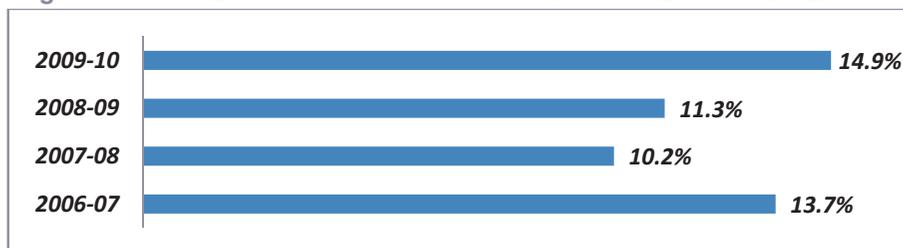
Figure 2: Growth in Number of Higher Education Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

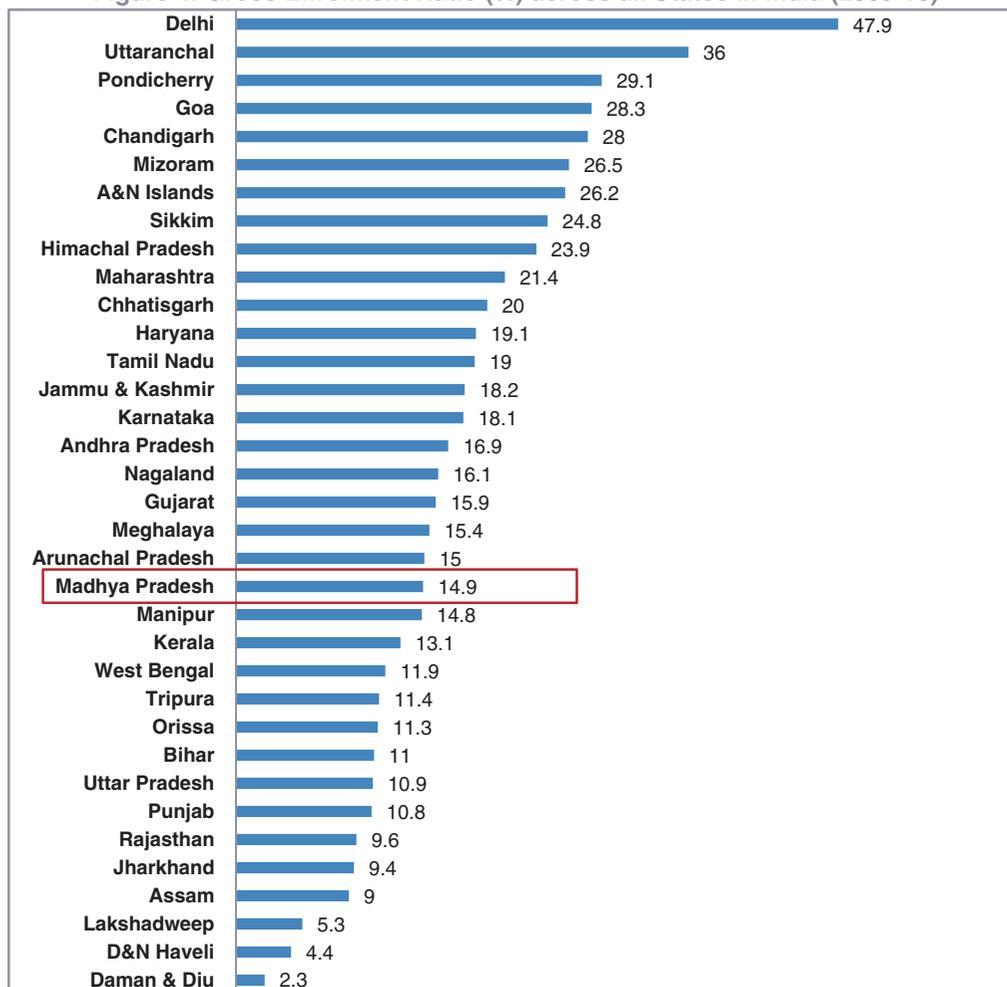
The Gross Enrolment Ratio (GER) of the state is one of the worst amongst the major states of India. The GER has not seen a major improvement between 2006 - when it was 13.7% - and 2010 - when it was 14.79%. Although the state is at par with the national average of 15% in 2009-10, it needs to invest in the education infrastructure so as to ensure maximum participation of the population in the age group of 18 to 24 years. Despite the marginal growth in GER, the state was ranked 21st among the various states and union territories in the year 2009-2010.

Figure 3: Gross Enrolment Ratio in the State between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Figure 4: Gross Enrolment Ratio (%) across all States in India (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

In the following sections the landscape of higher and technical education in the state as well as the current industry and employment scenario is discussed. The analysis concludes with the key

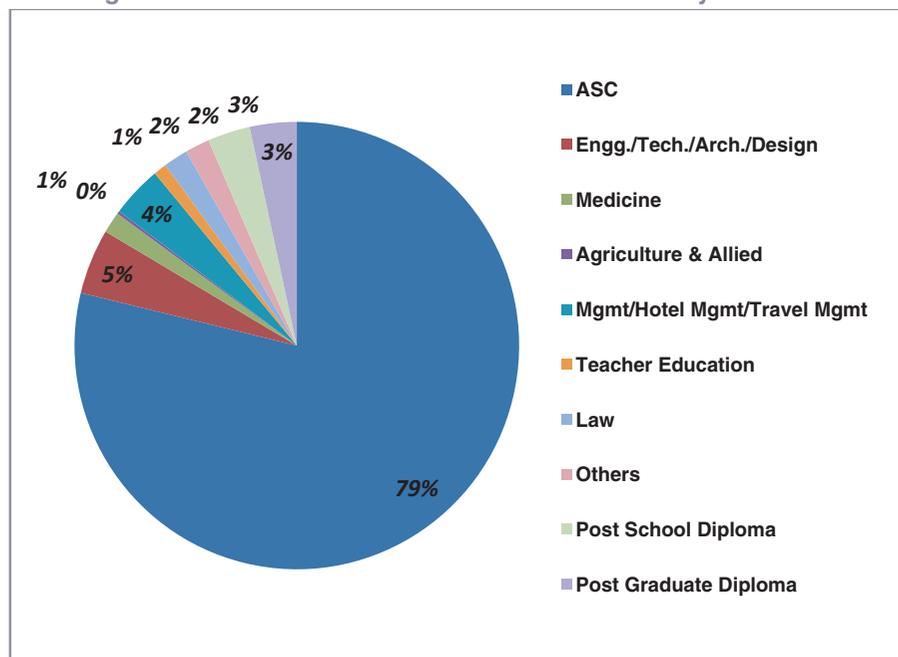
challenges that are being faced in higher and technical education and briefly describe the steps and initiatives taken to improve higher education and its access in the state of Madhya Pradesh.

Growth in Higher Education Institutes and Enrolment

It has been seen at a national level, the dominant programs that are being offered in higher education are in the areas of arts, science and commerce streams (ASC). In the state of Madhya Pradesh, the same trend can be seen, with 79% of the total number of enrolments in 2010 being in ASC streams. The second most popular faculty is that of engineering, technology, architecture and design with 5% of the total enrolment, followed by management (general, travel, tourism, and hotel) with 4% of the total enrolment in the state in 2009-10.

The least enrolment was registered in the faculty of agriculture and its related fields with the enrolment in this faculty constitution only 0.2% of the total higher education enrolment in the state.

Figure 5: Distribution of Enrolment Based on Faculty in 2009-10



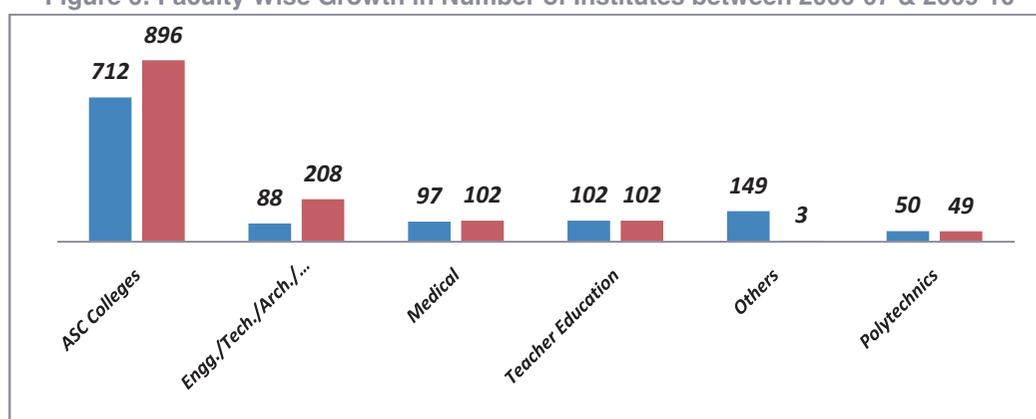
Source: Statistics of Higher & Technical Education, MoHRD

With regard to Compound Annual Growth Rate (CAGR), the maximum growth in the number of institutes between the years 2006-07 & 2009-10 has been in the faculty of engineering, technology, architecture and design with a CAGR of 32.83%. This is followed by ASC Colleges with 7.88% growth over the 4 year period. The faculty of medicine has also witnessed marginal growth of approximately 1.67% in the number of institutes.

It is evident from the above numbers that there has been a strong drive to promote education in field of engineering at both the degree and diploma level, although the number of ASC colleges has increased due to the growing demand of ASC stream at undergraduate level of study.

However, the number of institutes offering programs in the area of teacher education has remained constant and no growth has been recorded. Polytechnic Institutes of the state have declined at rate of 0.66% between 2006 and 2010.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MoHRD; '()' indicates CAGR between 2006 & 2010.

In 2009-10 at a national level, it can be seen that across faculties the enrolment distribution is skewed towards undergraduate (UG) programs of study as compared to postgraduate (PG) programs of study. A similar trend prevails at the state level as well. For the state of Madhya Pradesh, 79% of total enrolments are in undergraduate programs and 21% are in postgraduate programs of study.

However, for the faculties of agriculture and management the distribution between undergraduate and postgraduate programs was more even with 51% enrolment in postgraduate programs & 49% enrolment in undergraduate programs for the faculty of agriculture and 44% enrolment in postgraduate programs & 56% enrolment in undergraduate programs for the faculty of management.

Table 3: Distribution of Enrolment at Undergraduate (UG) and (Postgraduate (PG) level in 2009-10

Faculty	2009-10				
	UG	UG (%)	PG	PG (%)	Total
Arts	2,74,385	79	71,349	21	3,45,734
Commerce	1,62,581	87	23,894	13	1,86,475
Science	2,21,958	72	85,427	28	307,385
Engg. /Tech./Arch./Design	49,187	98	1,128	2	50,315
Medicine	15,089	92	1,251	8	16,340
Agriculture & Allied	1,130	49	1,173	51	2,303
Mgmt/Hotel Mgmt/Travel Mgmt	22,059	56	17,585	44	39,644
Teacher Education	8,634	85	1,509	15	10,143
Law	18,026	95	960	5	18,986
Others	13,773	72	5,276	28	19,049
Total	7,86,822	79	2,09,552	21	9,96,374
Post School Diploma	32,972				
Post Graduate Diploma	36,352				

Source: Statistics of Higher & Technical Education, MoHRD

The enrolment distribution between undergraduate and postgraduate is very different in other streams such as ASC streams (79% in UG & 21% in PG), engineering (98% in UG & 2% in PG), medicine (92% in UG & 8% in PG), teacher education (85% in UG & 15% in PG) and law (95% in UG & 5% in PG). In all these faculties majority of the enrolment is at the undergraduate level.

A significant number of students pursue Post School Diplomas and Post Graduate Diplomas in the state, which indicates a growing awareness of job oriented courses offered by polytechnics and other diploma granting institutions in the state.

The table below shows the growth of enrolment across the various faculties at both the undergraduate and postgraduate level between the years 2007 and 2010. The total enrolment has increased at a growth rate of 62.6% with an average growth of 51.4% in enrolments at the undergraduate level and a high growth of 125.13% in enrolments at the postgraduate level.

The total enrolment in faculties of agriculture (-30.23%), teacher education (-35.18%) and law (-16.35%), declined over the period between 2007 and 2010. This is indicative of lesser interest shown in these faculties by the students of Madhya Pradesh.

The growth rate of postgraduate programs has far exceeded the growth rate of undergraduate programs with the faculty of medicine registering the highest growth rate at the PG level (793.57%). The faculty of management has registered the highest growth rate at undergraduate level (1747.49%).

Table 4: Faculty Wise Growth of Enrolment at UG and PG level between 2007-08 and 2009-10

Faculty	UG + PG		Growth of Total Enrolment (%)	Growth of UG (%)	Growth of PG (%)
	2007-08	2009-10			
Arts	2,57,656	3,45,734	34.18	37.19	23.76
Commerce	1,22,583	186,475	52.12	54.51	37.67
Science	1,30,954	3,07,385	134.73	85.77	644.40
Engg. /Tech./Arch./Design	41,732	50,315	20.57	19.98	53.47
Medicine	7,076	16,340	130.92	117.55	793.57
Agriculture & Allied	3,301	2,303	-30.23	-57.80	88.28
Management	3,294	39,644	1,103.52	1,747.49	737.38
Teacher Education	15,648	10,143	-35.18	-38.71	-3.39
Law	22,697	18,986	-16.35	-18.67	79.78
Others	7,830	19,049	143.28	98.89	482.98
Total	6,12,771	9,96,374	62.60	51.40	125.13

Source: Higher & Technical Education Statistics, MoHRD, 2007-08 & 2009-10

From the data regarding growth of technical education (table given below), it is evident that the faculty of engineering & architecture registered the maximum growth in capacity with 44.18% growth in the number of institutes offering degree programs and 29.39% increase in the admission capacity. The faculty of Computer Application (MCA) follows this, where the number of institutes offering degree programs grew at a rate of 14.92% and admission capacity increased at a rate of 24.54%. In the faculty of pharmacy at both degree & diploma level, there has been a 12.64% increase in number of institutes offering degree programs a 18.69% increase in admission capacity There has been a marginal growth in number of institutes offering degree programs and admission capacity for the faculty of management.

Table 5: Growth of Technical Institutions & Admission Capacity in Different Courses between 2006-07 & 2007-08 in Madhya Pradesh

Faculty	2006-07		2007-08		Growth Compared to Last Year	
	Ins.	Admission Capacity	Ins.	Admission Capacity	Ins. %	Admission Capacity %
Engineering & Architecture	86	29,433	124	38,085	44.18	29.39
Pharmacy (Degree & Diploma)	95	5,409	107	6,420	12.63	18.69
MCA	67	3,790	77	4,720	14.92	24.54
MBA	63	4,900	66	5,060	4.76	3.67
Diploma (Engineering Syllabus)	44	9,034	44	9,785	0	7.65

Source: Department of Technical Education and Training, GoMP, 2007-08.

Quality of Institutes

Between 2007 and 2012, only 35 colleges in MP had valid accreditation. 11 (31 %) of these colleges which were accredited achieved a CGPA above 3, 19 (54%) had a CGPA between 2 and 3 and the remaining 5 colleges (14%) achieved a score of less than two. Accreditation of 51 colleges and 5 universities in MP is no longer valid. However, only two universities had accreditation with grade B and CGPA of around 2.7.⁷⁶

The quality of institutes established in the state of Madhya Pradesh, is reflected by the accreditation given to colleges affiliated to major universities. Only 5.31% of all affiliated colleges have actually been accredited by the NAAC⁷⁷. Only 1 affiliate college of the central university i.e. Dr. Harisingh Gour University has been accredited.

Table 6: Affiliated & Accredited colleges in 2005

Name of the University (2004-05)	Total number of affiliated colleges	Number of NAAC Accredited Colleges
Awadhesh Pratap Singh University, Rewa	78	1
Burkatullah University, Bhopal	228	12
Devi Ahilya Vishwavidyalaya, Indore	106	7
Dr. Harisingh Gour University, Sagar	82	1
Jiwaji University, Gwalior	118	6
Rani Durgawati Vishwavidyalaya, Jabalpur	112	11
Vikram University, Ujjain	66	4
Total	790	42

Source: National Assessment and Accreditation Council

⁷⁶ Madhya Pradesh, Higher Education Reform, South Asia Human Development Department, World Bank

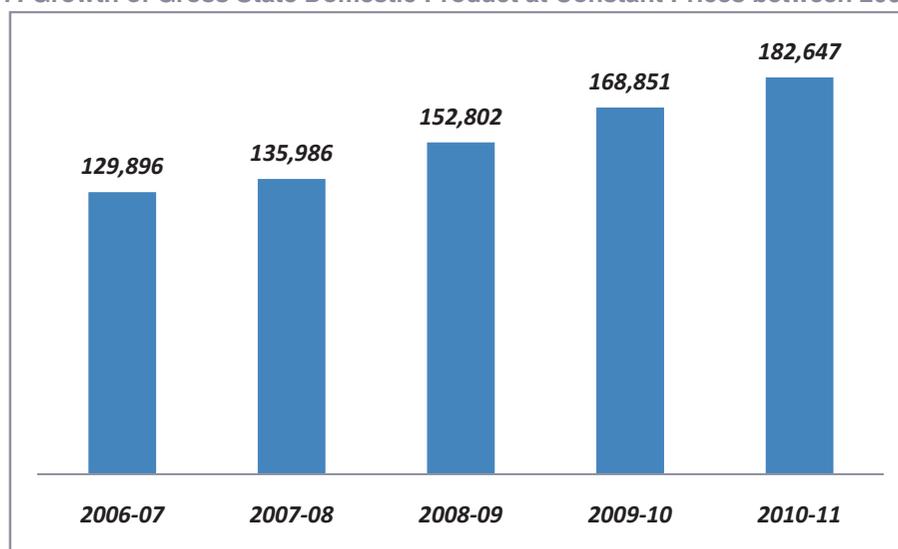
⁷⁷ National Assessment and Accreditation Council

Industry and Employment Scenario

Overview of the Economy

The Gross Domestic State Product (GDSP) of the state of Madhya Pradesh is growing at a CAGR of 8.89% between 2006 and 2011 and the state had a GSDP of Rs 1,82,647 Crore in 2010-11 thus making Madhya Pradesh the ninth largest in terms of the size of the economy. The Per Capita Net State Domestic Product in 2010-11 was Rs 22,382, which was far below the national average of Rs 35,583.

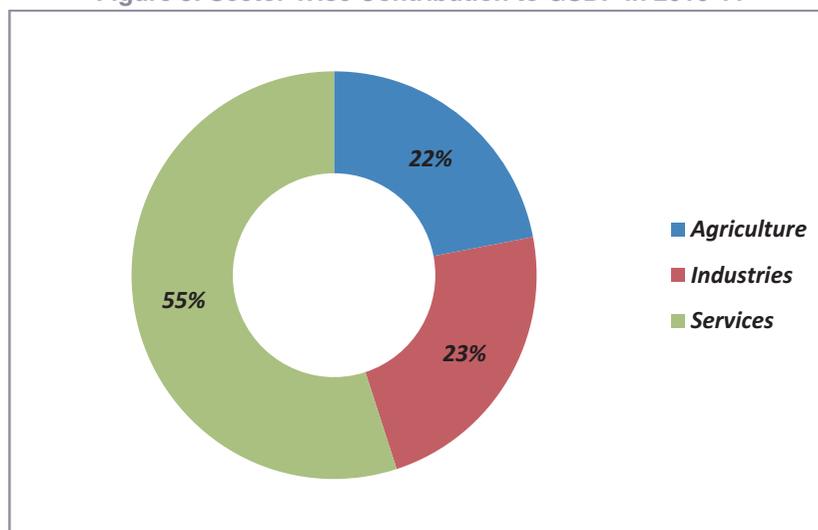
Figure 7: Growth of Gross State Domestic Product at Constant Prices between 2006 & 2011



Source: Databank on Indian Economy, RBI

Even though most of the economy is agrarian in nature the service sector (55%) was the major contributor to the GSDP in 2010-11, followed by the industrial sector (23%) and the agricultural sector (22%).

Figure 8: Sector Wise Contribution to GSDP in 2010-11



Source: Madhya Pradesh Annual Report 2010 – 2011

Key Industries⁷⁸

Higher education and the industry have a strong linkage in a state like Madhya Pradesh. The economy of Madhya Pradesh is expanding rapidly and to facilitate such robust growth Madhya Pradesh needs skilled manpower from within the state.

The natural resources including agro-based products, forest products and minerals, the state's policy incentives and its central location have attracted major investments in key industrial sectors like agro-products, consumer goods, drugs and pharmaceuticals, mines and minerals, manufacturing and textiles.

The thrust areas of business in the state are Cement, Pharmaceuticals, Chemicals, Auto and Auto components, Power, Tourism; IT/IT related services, Engineering & Electrical equipment and Roadways.

The cost of basic infrastructure and skilled manpower is relatively lower in Madhya Pradesh, as compared to other states. The economy is gradually shifting from the primary sector to secondary (industry) and tertiary (service) sectors.

The State Government, through the Madhya Pradesh Audyogik Kendra Vikas Nigam Ltd (MPAKVN) scheme, has identified several industrial clusters like Bhopal AKVN, Indore AKVN and Rewa AKVN. The state government has developed a Greenfield Special Economic Zone at Indore. It has also successfully leveraged private investment in transport infrastructure.

The state contributes the highest 30% forest area to the total forest area of the country. Medicinal plants of around 2,200 varieties are available in Madhya Pradesh forest. The state has 14% 'pashudhan' (cattle wealth) of the country which contributes 12 per cent to the milk production of the country. The following section presents a brief description of industries present and their potential in the state.

1. Auto & Auto Components

- Madhya Pradesh has an automotive cluster located at Pithampur, which is an industrial growth centre near Indore. The basic industrial infrastructure available in the automotive cluster includes power, water supply, telecommunication services, road and a dry port.
- Major players in this industry are Eicher Motors, Force Motors, Hindustan Motors and Mahindra Two Wheelers

2. Textiles

- Madhya Pradesh is one of the major cotton producing states of India. A large number of cotton textile mills are clustered around Indore, Dewas, Ujjain and Malanpur.
- The Indore SEZ has been identified by Central Government for setting up an Apparel Park under the Apparel Park for Exports Scheme (APES).
- Major players in this industry are Century Textiles & Industries, Grasim Industries, Vardhaman Textiles and Raymond.

3. Cement

- Jawad and Neemuch districts of Madhya Pradesh are part of one of the seven major limestone clusters in India and hence provide easy access to critical raw material resource for the cement industry.
- The state has total limestone reserves of 3,625.9 million tonnes, spread across more than 15 districts.
- Major players in this industry are Birla Corporation, ACC Limited, Everest Industries and Heidelberg Cement India.

⁷⁸India Brand Equity Foundation – State report on Madhya Pradesh

4. Pharmaceutical & Biotechnology Industry

- Madhya Pradesh has a rich bio-diversity. 11 of the 25 agro-climatic zones are present in the state and a large variety of rare and valuable medicinal and herbal plants are available.
- The state has formulated a Biotechnology Policy, which is expected to create a conducive environment for the bio-pharmaceutical industry in the state.
- Major players in this industry are Ipca Labs, Lupin, Piramal Healthcare, and Ranbaxy.

5. Manufacturing

- Madhya Pradesh State Industrial Development Corporation and its subsidiaries have successfully developed several growth centers across the state. The Industrial Policy of the state provides multiple incentives for setting up manufacturing units.
- Industrial infrastructure, policy incentives, labour resources and central location of the state are some of the growth drivers for the manufacturing industry in the state.
- Major players in this industry are BHEL, Kirloskar Brothers, Kores (India) and Crompton Greaves.

6. Fast Moving Consumer Goods (FMCGs)

- A number of factors such as industrial infrastructure in growth centers, labour pool and central location of the state are the drivers for setting up consumer goods manufacturing facilities in Madhya Pradesh.
- A number of multinational companies such as Cadbury, Procter & Gamble, Hindustan Unilever Limited, Coca Cola and Cargill have their manufacturing plants in the state.

7. Agro Based Industries

- Madhya Pradesh is one of the leading producers of soybean. The state is the largest producer of, oilseeds and leads in the production of spices and is amongst the largest producers of garlic.
- Major players in this industry are Adani Wilmar, Anik Industries, KS Oils and Ruchi Soya Industries.

8. Mineral Based Industries

- The state has vast mineral deposits of diamonds, slate, pyrophyllite, diaspore, coal, limestone, copper ore and manganese among others.
- Madhya Pradesh is the sole producer of diamonds in India. Besides, the state is the largest producer of minerals such as pyrophyllite and copper.

9. IT and ITeS

- Five information technology parks, located at Bhopal, Indore (2), Gwalior and Jabalpur, are at various stages of development.
- All the IT parks in the state have been given SEZ status. The IT Policy of the state provides incentives to the investors in the information technology sector.

Employment Scenario

Agriculture, manufacturing and services are the three important sectors for livelihood in the state of Madhya Pradesh. The share of agriculture in both MP and all-India has decreased over the period 1993 -2005. . The share of manufacturing sector in employment has increased in both Madhya Pradesh as well as at national level. However, the share of services sector in employment has increased at the national level but not in Madhya Pradesh.⁷⁹

Table 7: Employment Share by Sector of Madhya Pradesh and India

Sector	1993-94		2004-05	
	Madhya Pradesh	All India	Madhya Pradesh	All India
Agriculture	77.7	64.5	69.1	57
Manufacturing	5.5	10.5	7.5	12.4
Services	13.4	20.7	8.2	24.1

Source: Directorate of Economics and Statistics, GoMP and Economic Survey for MP and India.

The number of persons employed in various establishments in the state was 39,78,566 in 2005. Employment grew at the rate of 0.19% per annum during the period 1998-2005. Details of rural urban break-up both for the year 1998 and 2005 are presented in the below table. In the rural sector of MP, employment grew at the rate of 1.09% per annum whereas in the urban sector, fall in employment (-0.51%) has been noticed during 1998-2005.

Table 8: Number of Persons Employed, Economic Census (EC)-2005

	State/Country		EC 1998	EC 2005	CAGR (%)
No of persons Employed	Madhya Pradesh	Rural	16,61,160	17,92,130	1.09
		Urban	22,65,682	21,86,436	-0.51
		Combined	39,26,842	39,78,566	0.19
	India		8,32,99,500	10,09,04,121	2.78
Persons engaged in Agricultural establishment			67,48,900	1,09,13,601	7.11
Persons engaged in Non-agricultural establishment			7,65,50,600	8,99,90,520	2.34

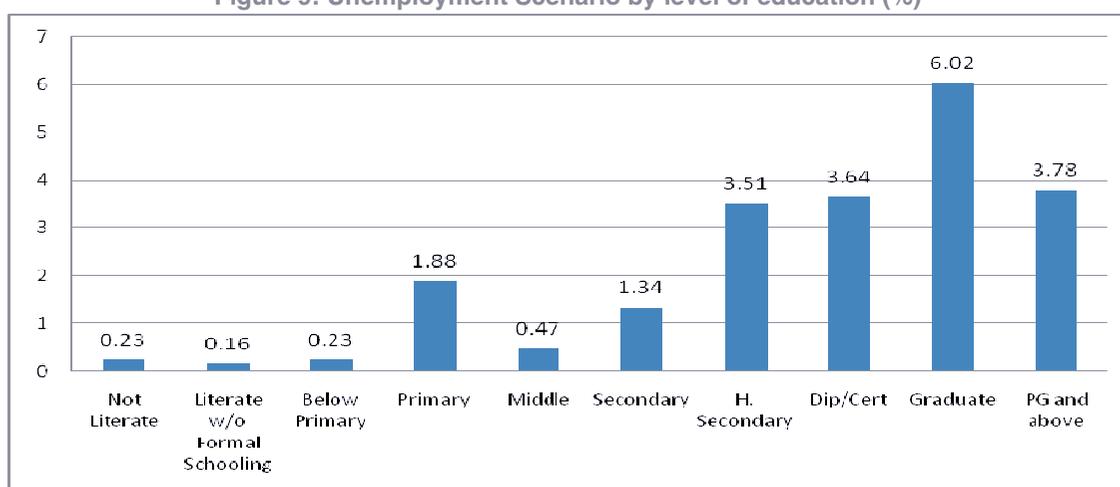
Source: 5th Economic Census

As can be seen in the below figure, overall unemployment rates in Madhya Pradesh are very low at 1.17% as compared to the national level. The unemployment rate is more than five times higher for those with higher education qualifications (at 6.02%).⁸⁰

⁷⁹Madhya Pradesh: Development Report, Planning Commission, Govt. of India

⁸⁰ Madhya Pradesh, Higher Education Reform, South Asia Human Development Department, World Bank

Figure 9: Unemployment Scenario by level of education (%)



Source: National Sample Survey Database, 2009-10

In state of Madhya Pradesh, adults between the age group 25 - 29 earn more in regular jobs, men earn more and those with tertiary education earn more. In MP, an individual with tertiary education earns 35 % more than an individual with only senior secondary level of education. For India as a whole tertiary education pays 67% higher income.

A student who has completed his higher education (UG and PG) in recent years in MP, and is younger than 30 years old, can expect to earn about Rs. 20,000 more per year than someone who has completed only senior secondary education (i.e., Rs. 82,000-60,000). This compares with Rs. 27,000 annual private spending for technical education and Rs. 7,000 for general higher education.⁸¹

Key Challenges & Initiatives in Higher Education

Challenges

- Only a small percentage of students are enrolled in higher education.
- There is a significant disparity in enrolments in rural and urban areas of Madhya Pradesh
- There are less people with higher education across poorer households of MP
- Programs offered by private institutions are not accessible to many poor households. The attendance in earlier phases of education is poor. High proportion of the young people in certain populations has never attended an educational institution.
- Syllabus is to be improved and is required to be made more rigorous and more relevant to the market requirements (the syllabus should also aim at building key skills that will help in employability instead of focusing on theoretical learning).

Proposed Solutions

- Introducing more autonomy in universities (There are generally three main forms of autonomy: academic, financial, administrative/human resources).
- Enhancing accountability through the establishment of a Board of Governors.
- Establishing a State Council for Higher Education
- Reducing the total number of affiliating colleges by encouraging the better performing colleges to become autonomous

⁸¹ Madhya Pradesh, Higher Education Reform, South Asia Human Development Department, World Bank

Objectives for the 12th Five Year Plan in Higher Education⁸²

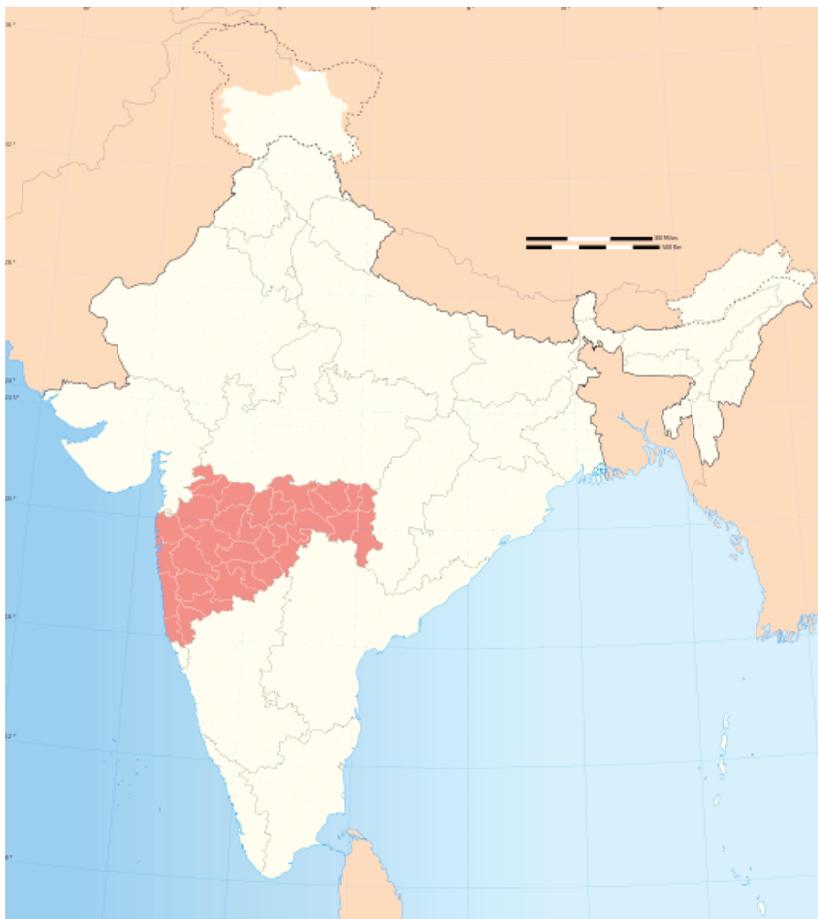
- To increase the GER in higher education to 15% by 2011-12, to 21% by XII Plan and to 30% by 2020
- To expand institutional base of higher education by creating additional capacity in existing institutions, establishing new institutions, and incentivizing state governments and NGOs/civil society.
- To provide opportunities of higher education to socially deprived communities and remove disparities by promoting the inclusion of women, minorities and differently-abled population.
- To remove regional imbalances in access to higher education by setting up of institutions in under-served areas.
- To enhance plan support for infrastructure and faculty development in institutions of higher learning and attract talent in teaching and research.
- To improve research facilities.
- To promote collaboration with Indian Universities.
- To promote autonomy, innovations and academic reforms in higher education institutions.
- To promote Indian languages.
- To undertake institutional restructuring.

Initiatives Proposed

- Swami Vivekananda Career Scheme to be implemented across the state.
- Three colleges to be developed as Colleges of Excellence.
- Number of institutions to be increased and number of courses covered by current institutions to be increased as well.
- Rural college empowerment mission to be undertaken (Colleges of MP to focus more on tribal and backward regions “satellite campuses” of Universities to be opened to reach remote areas, (all modes of teaching in addition to the classroom teaching option will be used to increase rural access).
- To Incentivize teachers to teach in rural areas (basic facilities in rural areas like hostels to be provided,
- Different kinds of curriculum to be adopted for rural areas, urban areas and tribal areas
- More courses related to and promoting traditional livelihoods to be offered (appropriate subjects that help in improvement of productivity at the existing livelihood of traditional workers to be encouraged, instead of prompting urban immigration).
- In rural/tribal areas, students to be given flexibility to choose their courses under a credit-based system
- Women’s University in Madhya Pradesh to be established.
- Residential facilities for women students and for students in tribal areas to be build (safe and affordable accommodation is a major deterrent in their opting for higher education).
- Public-private partnership in vocational education to be increased
- Massive infrastructural up-gradation in terms of Internet connectivity, hostels and equipment.
- Improvement in faculty quality through teacher training and by reducing the number of vacant faculty positions.

⁸²Madhya Pradesh Department of Higher Education , 2012

State Focus: Maharashtra



State Profile

Capital	Mumbai
Total Area (in sq. km.)	3,07,713
Total Population	11,23,72,972
Population Density (per sq. km.)	365
Number of Districts	35
Literacy Rate (%)	82.91
Sex Ratio (per 1,000 males)	925
State Domestic Product, 2010-11 (In Rs. Crore)	9,35,222
Per capita income, 2009-10 (Rs.)	83,471

Introduction

Maharashtra is the second most populous state after Uttar Pradesh, and the third largest state by area in India. The wealthiest state in the nation, Maharashtra contributes 15% of the nation's industrial output and 14% of its Gross Domestic Product. The capital of Maharashtra- Mumbai is India's largest city and is considered as the commercial capital of the nation. Mumbai houses the headquarters of almost all major banks, financial institutions and insurance companies. In terms of higher education infrastructure, the state outperforms other states with the highest number of universities and colleges.

Universities and University Level Institutes

Maharashtra is home to several nationally and internationally reputed institutes. There are 45 universities and university level institutions in the state, including 20 state universities, 21 deemed universities and 1 central university. In addition to these universities, there are 3 institutes of national importance in the state, namely the Indian Institute of Technology (IIT), Bombay; Indian Institute of Science Education and Research (IISER) and Vishveswaraya National Institute of Technology (NIT), Nagpur.

Mumbai University, which is a state public university was established in 1857 and is one of the first three universities established in India. Similarly, the University of Pune was established in the year 1949 and is among India's premier universities, with more than 400 affiliated colleges. The Symbiosis International University, a private multi-institutional university, is also located in the city of Pune. It considered to be among the best private universities in the country, Symbiosis International University has 19 academic institutes spread across nine campuses.

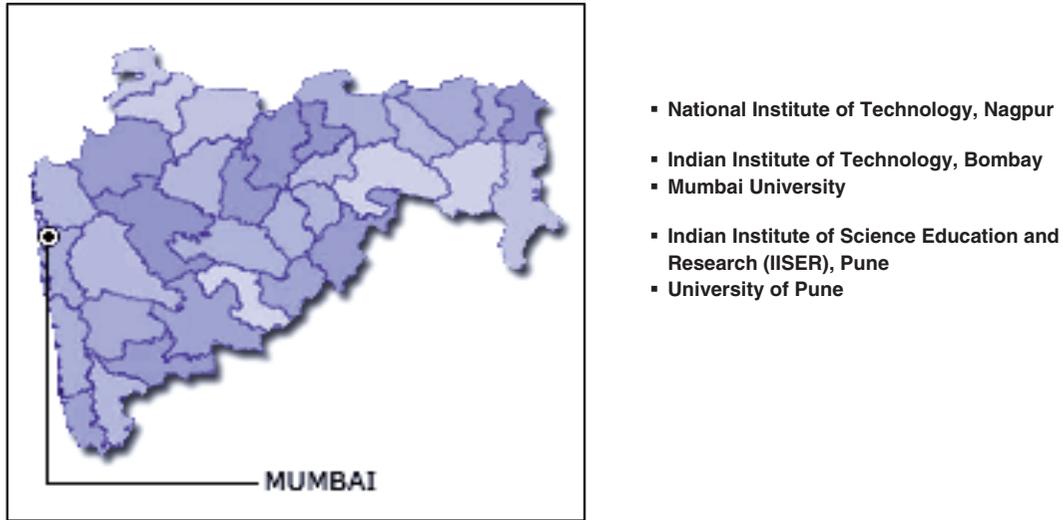
There are two agricultural universities in the state – Marathwada Agricultural University, established in year 1972 and Mahatma Phule Krishi Vidyapeeth. In the field of management, the state houses Narsee Monjee Institute of Management Studies and the Symbiosis Institute of Business Management, both of which are reputed private management institutes.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Maharashtra (2011-12)	India (2011-12)
State University	20	285
Private University	0	112
Institution of National Importance	3	39
Deemed University	21	129
Central University	1	40
Total	45	605

Source: UGC

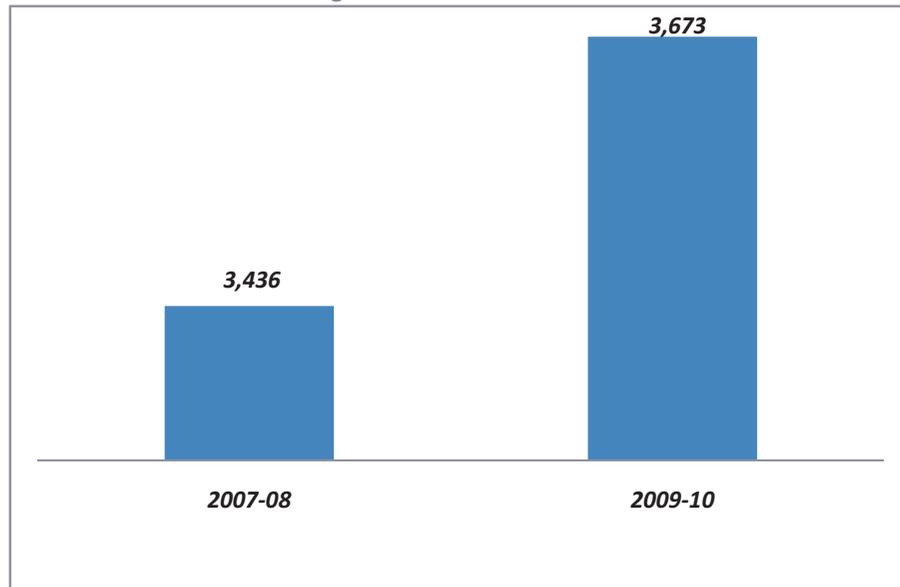
Figure 1: Location of Premier Institutes in Maharashtra



Key Higher Education Indicators: Institutes and Enrolment

As per MoHRD data, there were a total of 3,673 higher education institutions in the state in the year 2009-10. This indicates a growth of 3.3% over the year 2007-08, when the total number of institutes was 3,436.

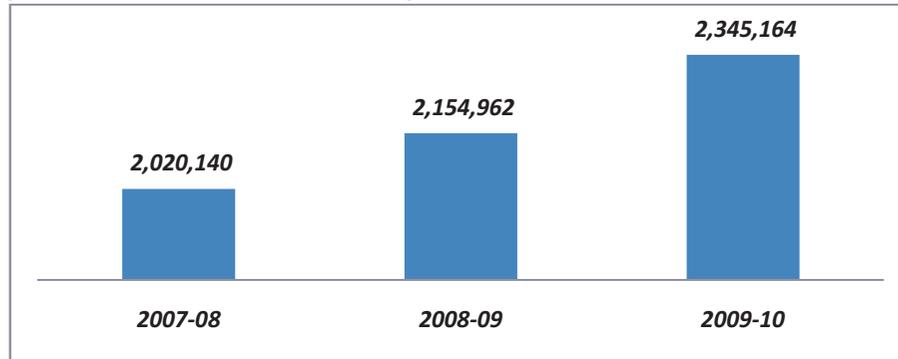
Figure 2: Growth in Number of Higher Education Institutes between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Between 2007-08 and 2009-10, the total higher education enrolment has been growing steadily. While the total enrolment in 2007-08 was approximately 20 lakh, the total enrolment in 2009-10 grew to 23.45 lakh, thereby indicating a strong growth of 7.7% during the period. In terms of absolute numbers, Maharashtra is among the states with the highest number of students enrolled in higher education.

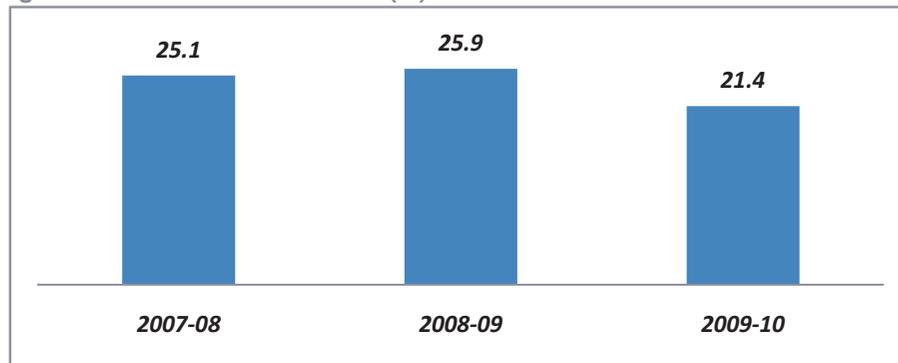
Figure 3: Growth in Enrolment in Higher Education between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

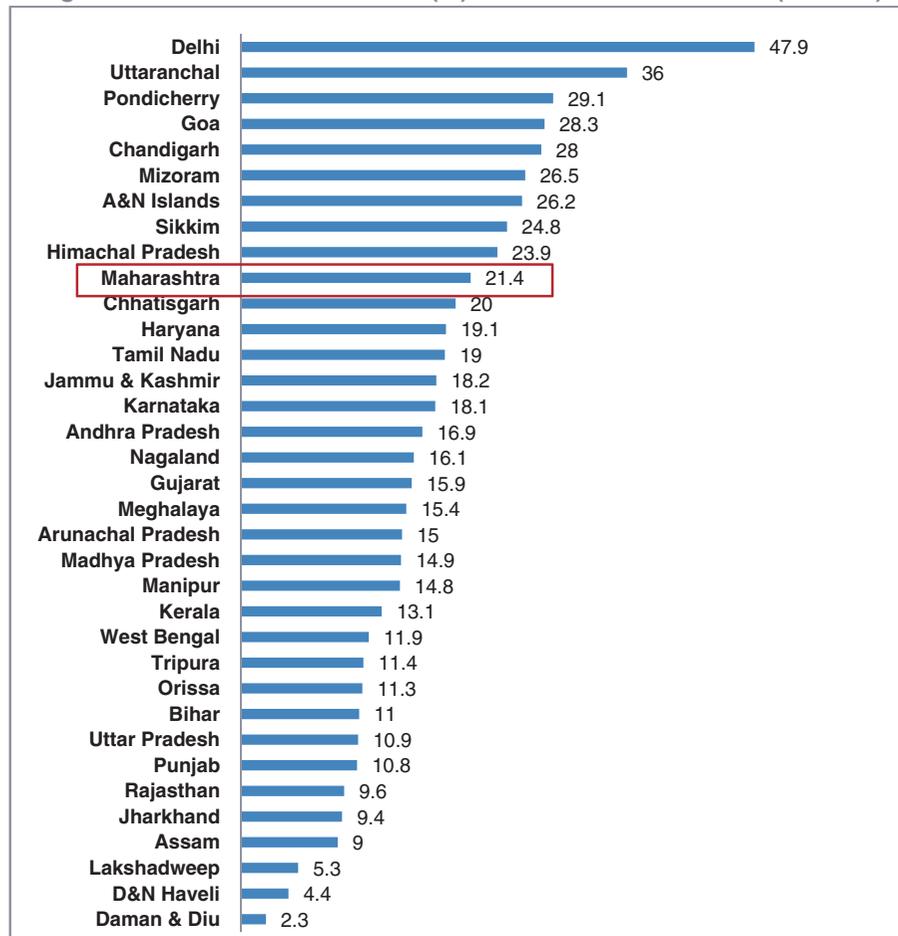
The Gross Enrolment Ratio (GER) in Maharashtra has been consistently higher than the national average between 2007-08 and 2009-10. However, there has been a decline in the GER during 2009-10 as compared to 2007-08, from 25.1% during 2007-08 to 21.4% during 2009-10. Despite the drop in GER, the state is ranked 10th among the 35 states & union territories in India.

Figure 3: Gross Enrolment Ratio (%) in the State between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Figure 4: Gross Enrolment Ratio (%) across all States in India (2009-10)



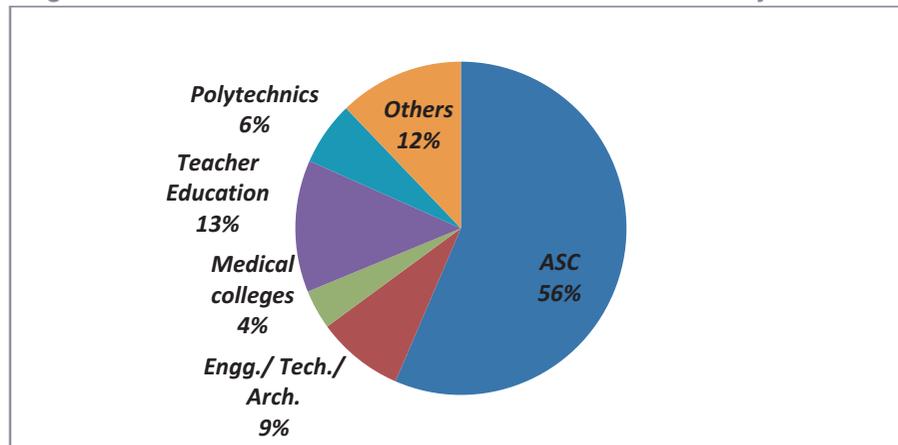
Source: Statistics of Higher & Technical Education, MoHRD

The following sections present a brief description of the current higher education scenario in Maharashtra. The report presents a brief outline of the industry and employment scenario in state. The report concludes with describing the key initiatives and challenges in higher education that are being faced by the state.

Growth in Higher Education Institutes and Enrolment

In 2009-10, the state had a total of 3,673 higher education institutes. Among these institutes, the maximum number of institutes offered Arts, Science and Commerce (ASC) programs (56%). The other dominant faculties were teacher education (13%) and engineering/ technology/ architecture (9%) institutes.

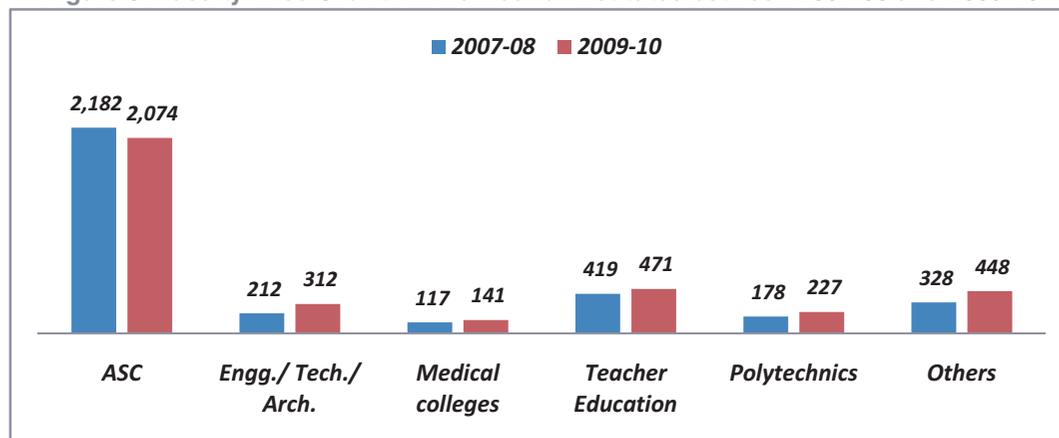
Figure 5: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

The maximum growth in the number of institutes between 2007-08 and 2009-10 has been in the faculties of engineering/ technology/ architecture (21%), followed by polytechnics (13%) and medical colleges (10%). While arts, science and commerce colleges form the majority of the higher education institutes in the state, there has been a slight decrease in their number between 2007-08 and 2009-10.

Figure 6: Faculty Wise Growth in Number of Institutes between 2007-08 and 2009-10



Source: Source: Statistics of Higher & Technical Education, MoHRD

Across the different levels of education, about 23 lakh students are enrolled in various higher education programs in the state. Among these, 3.26 lakh students are enrolled in post school diploma and post graduate diploma programs. During 2009-10, the maximum number of students was enrolled in the faculties of arts (37%), followed by the faculties of commerce (23%), science (15%) and engineering/ technology/ architecture (14%). In line with the national level trend, (except for the faculty of management) the enrolment in undergraduate programs is significantly higher than the enrolment for postgraduate programs. In the faculty of management, however, 80% of the students were enrolled in postgraduate programs.

Table 4: Distribution of Enrolment at Undergraduate (UG) and Postgraduate (PG) level in 2009-10

Faculty	Enrolment (2009-10)		Total
	UG	PG	
Arts	6,44,910	92,019	7,36,929
Commerce	3,92,519	71,170	4,63,689
Science	2,42,591	52,292	2,94,883
Engg./ Tech./ Arch./Design	2,72,683	7,920	2,80,603
Medicine	26,232	2,500	28,732
Agriculture & Allied	10,996	1,675	12,671
Management	8,006	33,743	41,749
Teacher Education	65,290	8,621	73,911
Law	35,044	3,376	38,420
Others	32,146	7,076	39,222
Total	17,30,417	2,80,392	20,10,809

Source: Statistics of Higher & Technical Education, MoHRD

In terms of total enrolment, the maximum growth has been seen in the faculties of management (59.5%), followed by science (29.4%), engineering (15.7%) and medicine (14.4%). On the other hand, there has been a slight decline in the total enrolment figures in the faculty of arts (-0.1%).

Table 5: Faculty Wise Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) level between 2007-08 and 2009-10

Faculty	Total Enrolment (UG+PG)		CAGR (%)
	2007-08	2009-10	Total
Arts	7,37,901	7,36,929	-0.1
Commerce	3,69,934	4,63,689	12.0
Science	1,76,220	2,94,883	29.4
Engineering/ Tech./ Arch./ Design	2,09,454	2,80,603	15.7
Medicine	21,944	28,732	14.4
Agriculture & Allied	12,671	12,671	0.0
Management	16,404	41,749	59.5
Teacher Education	72,563	73,911	0.9
Law	34,127	38,420	6.1
Others	93,352	39,222	-35.2
Total	17,44,570	20,10,809	7.4

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Among the various universities in the state, the National Assessment and Accreditation Council (NAAC) have assessed 15 universities. Among these universities, 6 universities have been awarded grade B (Good) and the remaining 9 universities have been awarded grade A (Very Good).

In addition to the universities, 423 higher education institutes have also been assessed by NAAC. Among these institutes, 149 institutes have been awarded A grade (Very Good), 244 institutes have been awarded B grade (Good) and 30 institutes have been awarded C grade (Satisfactory).

Industry and Employment Scenario

Key Industries⁸³

The government of Maharashtra is promoting the development of several Special Economic Zones (SEZs) across Maharashtra for sectors such as IT/ITeS, pharmaceuticals, biotechnology, textile, automotive & auto-components and food processing. The state has attracted highest number of industrial investment proposals among Indian states. The state's share in the proposed investment and employment in the country is 9.4% and 19.6% respectively. Some of the key industries in the state are as follows:

1. Pharmaceuticals and biotechnology

- Maharashtra accounts for approximately 18% of the country's output of pharmaceuticals by value.
- Maharashtra is the base for top bio-agri companies and has a well-developed laboratory and research development infrastructure and a strong resource pool.
- Key players: GlaxoSmithKline Pharmaceuticals, Cipla, Wockhardt, Lupin Ltd

2. IT & ITeS and Electronics

- The IT sector in Maharashtra is one of the most developed sectors in the state.
- The state has 37 public IT parks. A total of 451 IT parks have been approved in the state, out of which 107 are functional. The prime clusters are located in Greater Mumbai, Pune, Thane and Nashik.
- Key players: Accenture, IBM, Capgemini, Infosys

3. Engineering

- The engineering industry in the state is highly diversified and produces a large range of machine-parts. The industry, which was initially concentrated in the Mumbai-Pune belt, has spread to other cities such as Nagpur, Aurangabad, Nashik and Kolhapur.
- The major items of production and export are textile mill machinery, machinery for sugar, cement and chemical plants, food processing machinery, construction machinery, tractors, electric power machinery, transmission line towers, automobiles and ship building.
- Key players: Larsen and Toubro Ltd, Greaves Cotton Ltd, Siemens Group, ABB.

4. Petrochemicals, oil and gas, energy

- The state has a strong presence in petrochemicals, oil and gas sectors. The industry has seen significant growth in the state.
- Mumbai, Nagothane, Rabale, Nagpur and Patalganga are the major petrochemical hubs. The state contributes 27.4% to the country's chemicals, petrochemicals, and oil and gas output.
- Key players: ONGC, Hindustan Petroleum Corporation Ltd, Bharat Petroleum Corporation Ltd, Reliance Industries Ltd.

5. Auto and auto components

- Maharashtra accounts for approximately 38% of the country's output of automobile by value. The prime centres in the state are Pune, Nashik, Aurangabad and Nagpur.
- Pune is the largest auto hub of India, with over 4,000 manufacturing units in Pimpri-Chinchwad region.
- Key players: Bajaj Auto Ltd., TATA Motors Ltd., Force Motors Ltd., Mahindra and Mahindra Ltd.

⁸³India Brand Equity Foundation – State report on Maharashtra

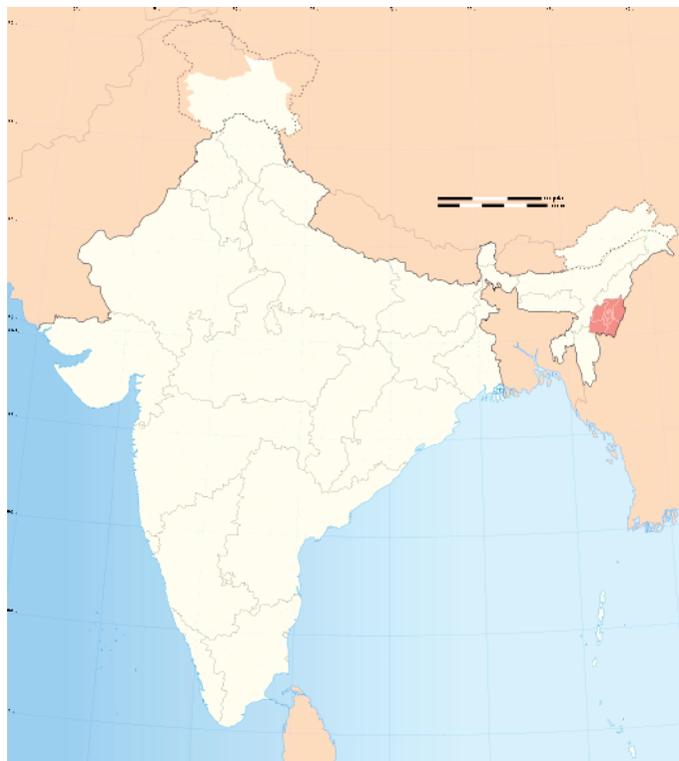
With Maharashtra at the forefront of the nation's industrial development scenario and the state attracting large amounts of investment, it is expected that industrial growth would be further strengthened. As of now, the state has already established itself in the areas of engineering, automobiles and auto components, chemicals, drugs and pharmaceuticals, textiles, information technology and biotechnology. With one of the best financial infrastructures in the country, it is often considered an economic powerhouse of the nation. The constant development expected in the state indicates that there is a strong need to build the required talent to enable further growth of the state.

Current and Proposed Initiatives in Higher Education

During the 11th Five Year Plan, several initiatives were taken by the state government to increase the gross enrolment ratio in higher education and several other initiatives have been proposed for the 12th Five Year Plan. A brief about these initiatives is given below:

- To increase enrolment of students belonging to socially and financially backward families, 16 state and central scholarships were awarded to poor and meritorious students to continue their higher education.
- To increase the standard of higher education in the state, the government has decided to ensure accreditation of the various universities and colleges of the state.
- Model colleges are being established (under the financial assistance from UGC) to increase the GER in poorly performing districts.
- Financial assistance is being given to aided colleges located in hilly and tribal areas for upgrading the infrastructural facilities of the state.
- The state has planned to establish new government art colleges to meet the student demand in the cities of Pune, Nashik and Amravati. The state government is providing financial assistance.
- Up gradation of library facilities across government institutes has been taken up by the state government.
- The government has decided to establish the State Institute of Vocational Education, Training and Research in Jalana.
- Model vocation schools would be established in the year 2013-14, where 51 existing government high schools will be converted into model vocational schools. Up gradation of machinery and laboratories would be taken up.
- To further enhance the vocational education quality in the state, a vocational education university has been proposed.

State Focus: Manipur



State Profile

Capital	Imphal
Total Area (in sq. km.)	22,347
Total Population	27,21,756
Population Density (per sq. km.)	120
Number of Districts	9
Literacy Rate (%)	79.85
Sex Ratio (per 1,000 males)	
State Domestic Product, 2010-11 (Rs. Crore)	8,228
Per capita income, 2010-11 (Rs.)	29,684

Introduction

In the local language of the state (Meiteilon or Manipuri), Manipur means “the jeweled land”, thus as the name suggest, the state is located in the lush green north east corner of the country and is considered to be a hill state due to its location, surrounded by blue hills with an oval valley in the centre. Manipur shares its borders with the states of Nagaland, Mizoram and Assam and the neighbouring country of Myanmar. Forest cover occupies nearly 64 per cent of the total geographical area of the state.

Manipur has abundant natural resources that facilitate development of infrastructure and industrial sectors. Many advantages that the state has are its agro-climatic conditions for fruits and vegetables, its access to South East Asian countries and its unique medicinal and aromatic plants.

Universities and University Level Institutes

There are 3 central universities in the state– Central Agricultural University, Manipur University and Indira Gandhi National Tribal University. There are no private, deemed or state universities in the state. The National Institute of Technology, Manipur (which is an Institute of National Importance) was established in the year 2010.

The Central Agricultural University is located near Imphal and was established in the year 1993. The jurisdiction of the university extends to all the six north-eastern hill states (Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Sikkim and Tripura). The university offers under graduate programs, post graduate programs and research activities in the areas of agronomy, plant pathology, plant breeding, agricultural chemistry and entomology. Currently, there are seven colleges under the university.

The Manipur University was established during the year 1980 and was converted into a central university in 2005. The university has one constituent college (Manipur Institute of Technology) and affiliates 72 higher education colleges. The Indira Gandhi National Tribal University (which is a central university) has established a regional centre in the state during the year 2009. In addition to these universities, the National Institute of Technology – Manipur was established in the year 2010 and currently offers undergraduate programs in the fields of Computer Science Engineering, Electrical and Electronics Engineering & Electronics and Communication Engineering. The prominent medical institutes in the state are the Jawaharlal Nehru Institute of Medical Sciences and the Regional Institute of Medical Sciences.

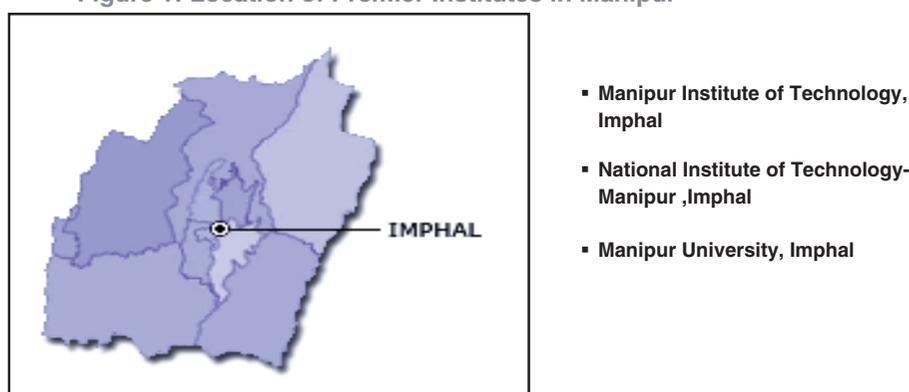
Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of university	Assam (2011-12)	India (2011-12)
State University	0	285
Private University	0	112
Institution of National Importance	1	39
Deemed University	0	129
Central University	3	40
Total	4	605

Source: UGC

All premier higher education institutes of the state are located in the capital of the state, Imphal.

Figure 1: Location of Premier Institutes in Manipur



In addition to the university level institutions, there are 83 higher education institutes, which offer general education and technical/ professional education programs, and have a total enrolment of 36,500. Among these 83 institutes, there are 65 institutes, which offer programs under the general education category like arts, science and commerce. The contribution of private players (43%) to the higher education scenario has also been significant. All the government colleges in the state are affiliated to Manipur University.

Table 2: Distribution of Government, Grant-in-Aid and Self-financing Colleges affiliated to State Universities

No.	Institute	Number
1	General Government Colleges	25
2	Government Aided Colleges	12
3	Private Colleges	28
	Total	65

Source: Brief Profile of Higher & Technical Education in Manipur, 2012, Govt. of Manipur

As it can be seen in Table 3, there are 18 institutes in the state, which offer professional education, including 6 teacher education colleges, 3 law colleges, 3 polytechnics, 2 engineering colleges and 2 medical colleges. The enrolment among these professional colleges together amounts to 1,275.

Table 3: Distribution of Colleges by Faculty

No.	Institute	Number
1	Teacher Training Colleges	6
2	Law Colleges	3
3	Medical Colleges	2
4	Polytechnics	3
5	Cooperative Management Institute	1
6	Degree Engineering Colleges	2
7	Hindi Teacher Training Colleges	1
	Total	18

Source: Brief Profile of Higher & Technical Education in Manipur, 2012, Govt. of Manipur

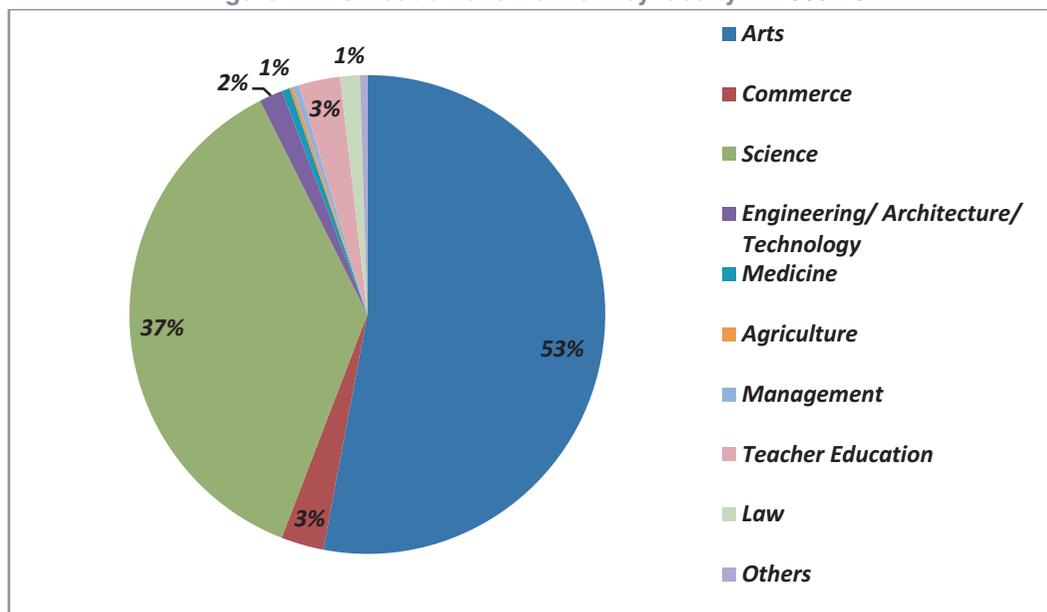
Key Higher Education Indicators: Institutes, Enrolment, and Teachers

During the year 2009-10, the total higher education enrolment was 32,277; including degree and diploma programs across education levels (undergraduate, postgraduate and doctorate programs). There were 889 students at the doctorate level (2.7%), and 475 students (1.47%) enrolled in diploma

programs. Among the students enrolled in diploma programs 82.5% of the students were pursuing post school diploma programs and the remaining students were enrolled in postgraduate diploma programs.

Among the various degree programs, arts stream had the maximum enrolment, with 53% of the students enrolled. The next major stream of choice was commerce, with 36.7% of the total enrolment. Enrolment in technical education was extremely low in the year 2009-10, contributing only 1.6% to the total higher education enrolment in the state.

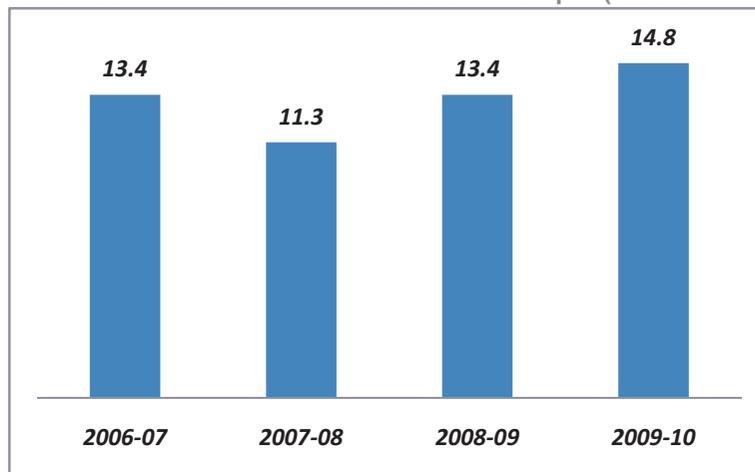
Figure 2: Distribution of enrolment by faculty in 2009-10



Source: Statistics of Higher & Technical Education- 2009-10, MoHRD

The GER of the state currently stands at 14%. Between the years 2006-07 and 2009-10, while the GER increased to 14.8% from 13.4%; the growth has been minimal. As of 2009-10, the state's position was 22nd among all states and union territories in India. The GER of 14% is close to the national average of 15% and thus indicates an average performance with regard to providing access to higher education for the age group of 18 to 24 years.

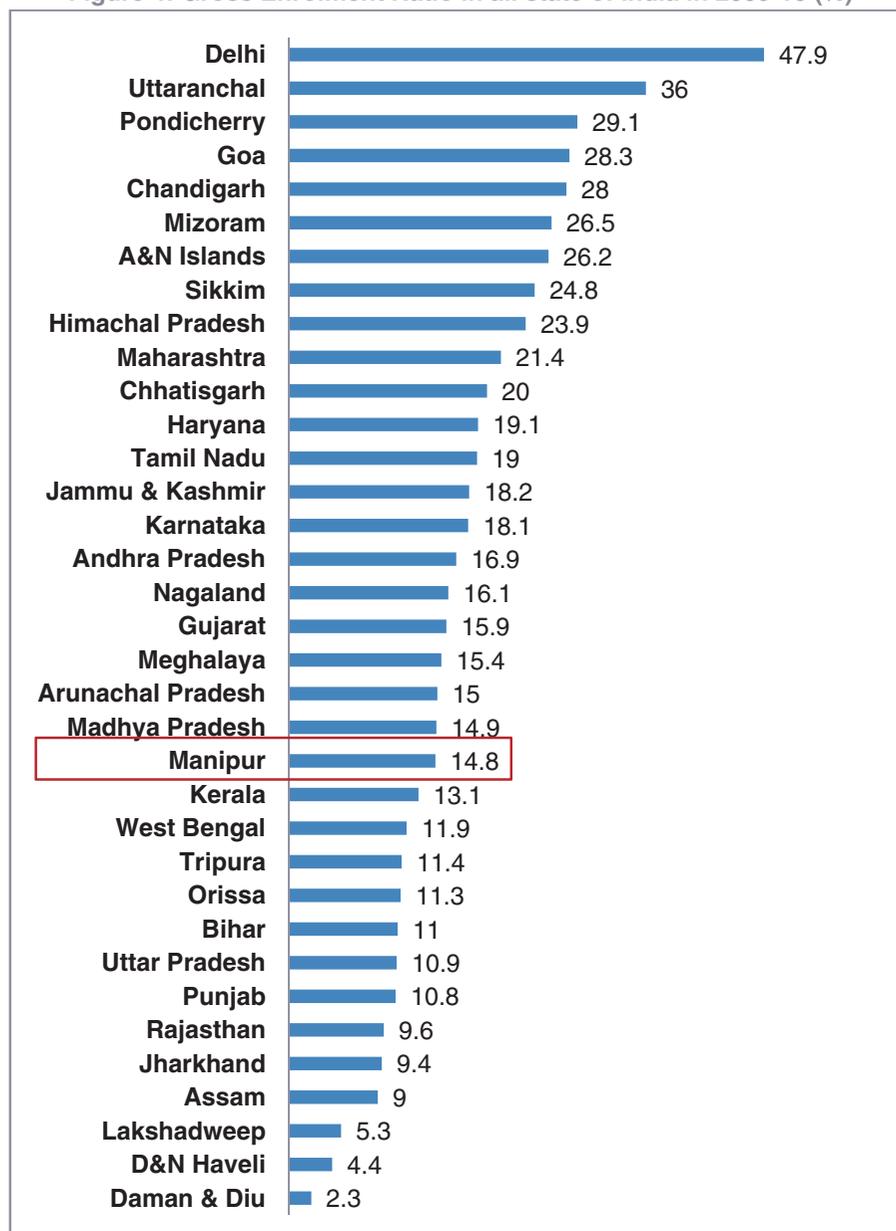
Figure 3: Gross Enrolment Ratio in the state of Manipur (2006-07 to 2009-10)



Source: Statistics of Higher & Technical Education- 2009-10, MoHRD

As compared to Manipur's neighbouring states in the northeast region of India, i.e. the 7 sisters states, the GER, in 2009-10, is in the bottom 3 with only Assam and Tripura below it. Manipur has some catching up to do and needs investment in infrastructure for higher education, so as to attract more youth to pursue higher education in the state rather than seek it in other states of India.

Figure 4: Gross Enrolment Ratio in all state of India in 2009-10 (%)



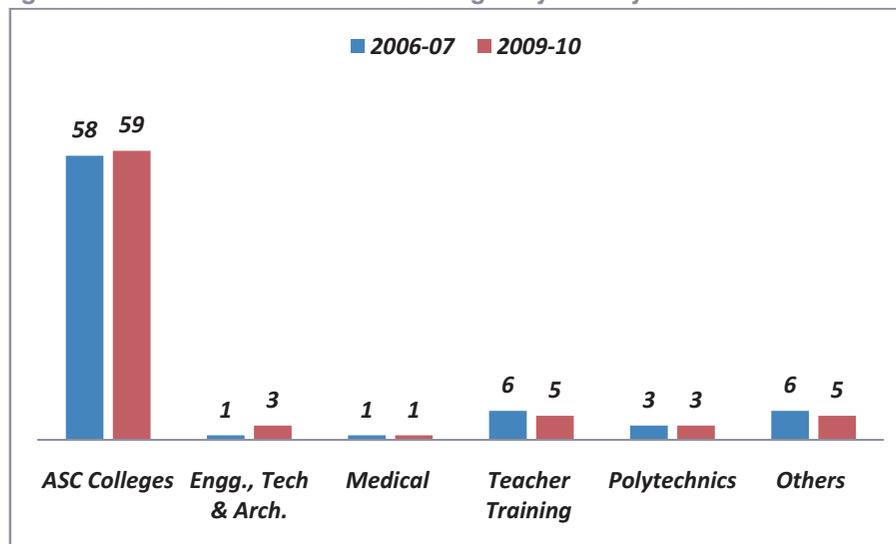
Source: Statistics of Higher & Technical Education- 2009-10, MoHRD

The following section will elucidate on the current higher education scenario in the state. The next few sections will elaborate on the various higher education trends in the state. One section is dedicated to the industry and employment scenario to gauge the linkage between higher education and industries in the state. Finally, the key challenges and some of the initiative that the state and the central government have started and proposed will be discussed briefly as well.

Growth in Higher Education Institutes and Enrolment

As it can be seen in the below figure, there has been a marginal growth in the number of colleges in the state between 2006 and 2010. The highest growth has been recorded in the faculty of engineering, technology & architecture with a CAGR of 43.7%; besides this faculty no other stream has shown any significant growth. Moreover, the number of teacher training colleges has reduced and there has been no growth in polytechnics of the state between 2006 and 2010.

Figure 5: Growth & Distribution of Colleges by Faculty in 2006-07 and 2009-10



Source: Statistics of Higher & Technical education- 2006-07 & 2009-10, MoHRD

Table 4: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) level in 2009-10

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
ASC	26,982	1,628	2,8610	94.31	5.69
Engineering	494	0	494	100	0
Medicine	98	73	171	57.31	42.69
Agriculture	0	74	74	0	100
Management	0	62	62	0	100
Education	208	46	254	81.89	18.11
Law	271	32	303	89.44	10.56
Post school diploma	392	0	392	100	0
Post graduate diploma	0	83	83	0	100
Others	39	115	154	25.32	74.68
Total	28,484	2,113	30,597	93.09	6.91

Source: Statistics of Higher & Technical Education- 2006-07 & 2009-10, MoHRD

As per the available data depicted in Table 4, the maximum total enrolment occurred in arts, science and commerce (ASC) streams, with students enrolling for ASC programs accounting for 95.5% of the total enrolment in that year; followed by engineering stream, with 0.16% of the students enrolled for various engineering programs. In terms of enrolment according to level of education, 93.09% of the

total number of students enrolled is engaged in graduate education. While it is largely skewed in the case of ASC programs (only 5.69% of the students at post graduate level), it is more balanced in the medical stream (42.69% of students engaged in post graduation as compared to 57.31% at undergraduate level).

Quality of Institutes

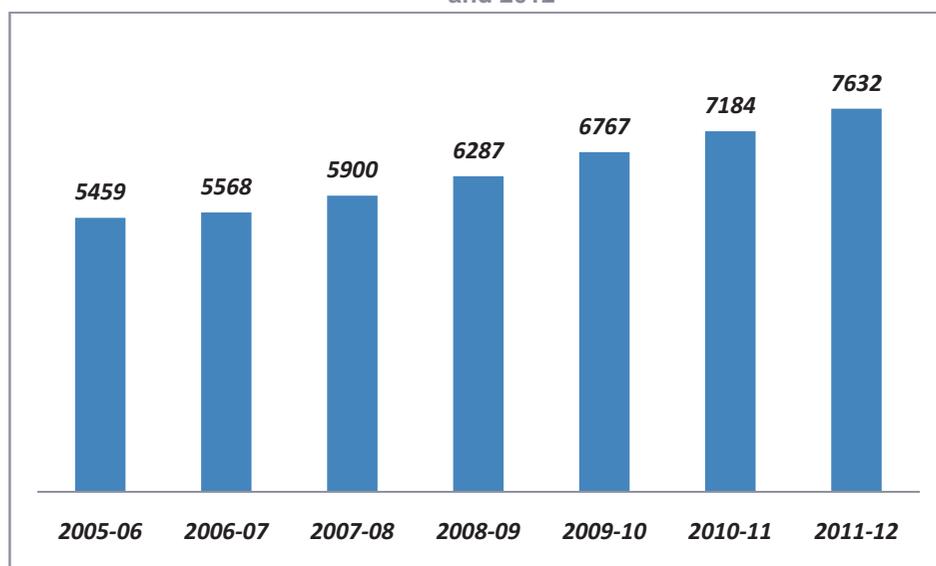
Out of the 8 colleges assessed and accredited by the National Assessment and Accreditation Council (NAAC), 1 college has received A (Very Good) grade, 6 colleges have received B (Good) grade and 1 college has received C (Satisfactory) grade.

Industry and Employment Scenario

Overview of Economy

Manipur had a Gross State Domestic Product (GSDP) of Rs. 7,632 Crore in 2011-12. It has increased at a CAGR of 5.75% between 2005 and 2012. The growth in the GSDP of Manipur is lower than that of India (8.22%) and of the northeast region (7.15%) in the same period.

Figure 6: Gross State Domestic Product (GSDP) at Constant Prices (In Rs Crore) between 2005 and 2012



Source: Central Statistical Organization

Table 5: GSDP at Constant Prices of Manipur, North East Region & India in 2011-12

State/Region/Country	GSDP at Constant Prices (2011-12)
Manipur	7,632
North East Region*	139,140
India	5,222,027

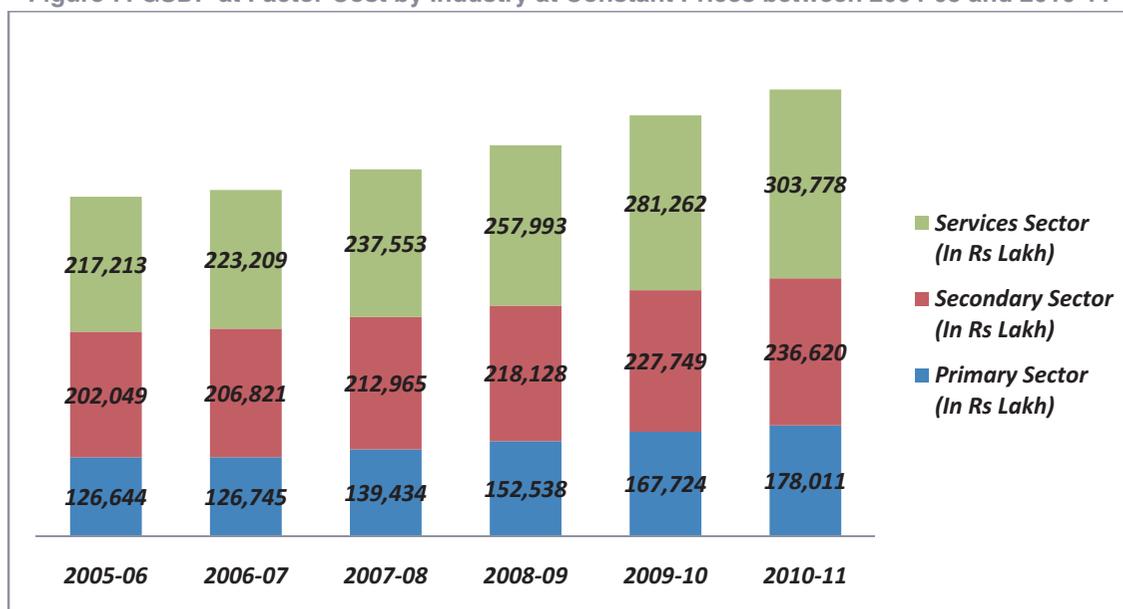
Source: Central Statistical Organization

* Aggregation of GSDP of all 8 North East States

The state constituted 5.4% of the GDP of the northeast region in 2011-12 and a mere .14% of the country's GDP at constant prices. Figure 8 depicts the sectoral contribution of primary, secondary and services sector contribution to GSDP of Manipur. The services sector is the major contributor to the GSDP with 42.28%, followed by the secondary Sector with 32.93% in 2010-11. The primary sector contributed the least to the GSDP with 24.77% in 2010-11. Primary and services sector grew steadily at similar rates over a 5 year period between 2005 and 2011 at 7.04% and 6.93% respectively. Services sector growth was primarily driven by healthcare, education, storage and communications. Secondary sector is growing at almost half the rate of the other two contributing sectors at 3.2% over the same time period.

Non-agriculture sector was dominated by small scale sector manufacturing, (95% of which was unregistered or informal (Rs 330 Crore) and retail trade. Handloom and handicraft form a large part of Manipur's informal sector.

Figure 7: GSDP at Factor Cost by Industry at Constant Prices between 2004-05 and 2010-11

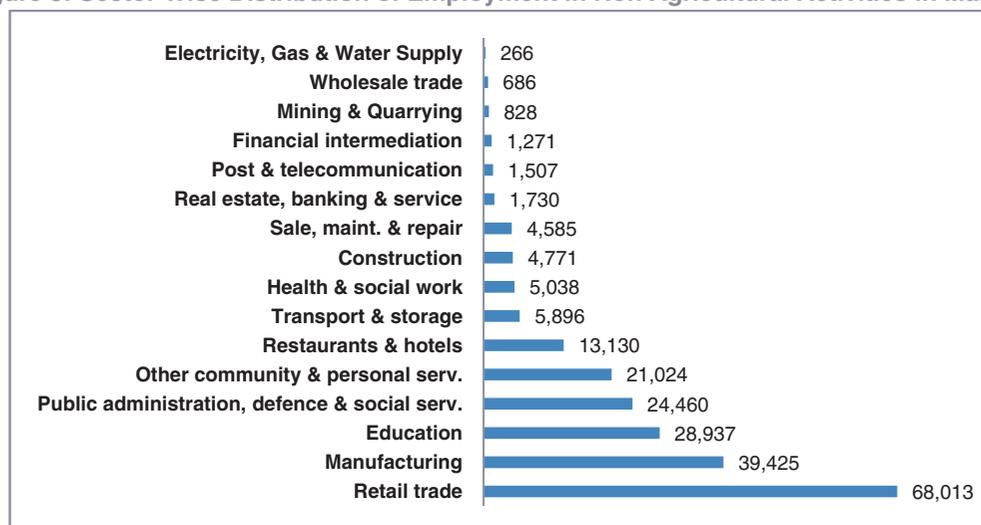


Source: Central Statistical Organization

Employment Scenario

The total working age labour pool is 12-13 lakh. Agriculture employs around 5 lakh; non-agricultural sector employs around 2.4 lakh and state government around 72,000. There are about 5 lakh unemployed or marginal workers in the state.⁸⁴

Figure 8: Sector Wise Distribution of Employment in Non Agricultural Activities in Manipur



Source: Fifth Economic Census 2005

According to the Fifth Economic Census (2005), the maximum employment was in the retail trade sector (30.69%); followed by manufacturing (17.79%) and the third most populous sector was education (13.06%).

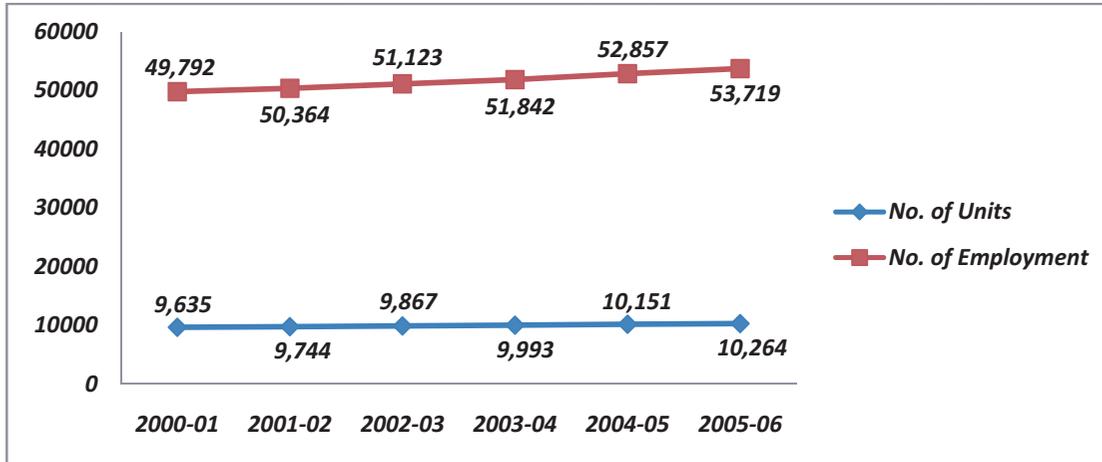
Retail trade sector accounts for 46.65% and manufacturing enterprises accounts for 20.64% of all enterprises in the state. In total, these two sectors comprise two thirds (67.29%) of all enterprises in Manipur; they employ almost half (48.49%) of the total non agricultural workforce present in the state as well.⁸⁵

It is clear from Figure 10 that the average employment per unit of manufacturing enterprises in the state was on an average 5.2 during the time period 2000 to 2006. The number of registered permanent (PMT) industrial units has grown at a slow rate of 1.27% between 2000 and 2006, hence it is evident that the employment in these industrial units will keep similar pace, thus it has grown at a rate of 1.52% during the same time period.

⁸⁴ NSDC Skill Gap Study of the North East - Manipur

⁸⁵ NSDC Skill Gap Study of the North East - Manipur

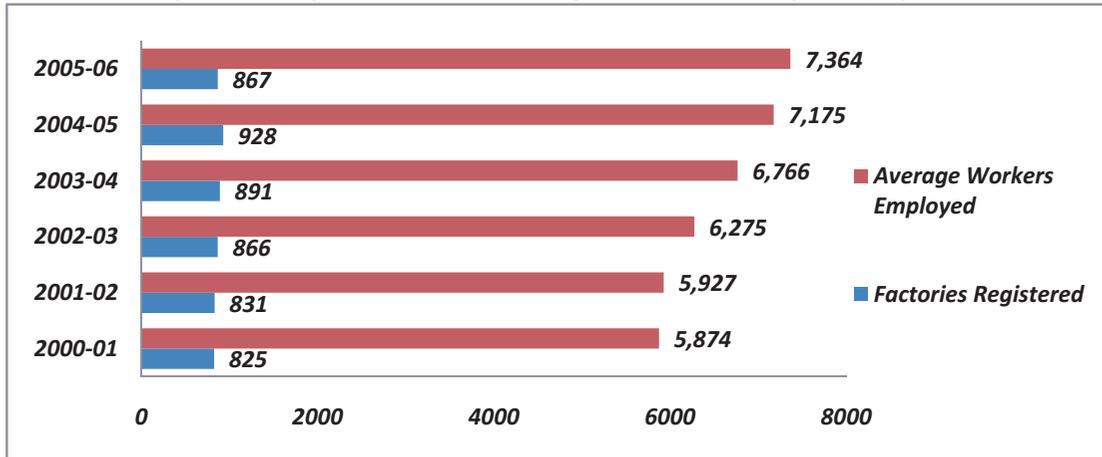
Figure 9: Growth of Registered Permanent (PMT) Industrial units and Employment



Source: Economic Survey Manipur 2008-09

The number of registered manufacturing units, along with the average employment, between 2000 and 2006 in Manipur can be seen in Figure 11. The average number of workers employed in factories has progressively risen at a rate of 4.62%; however, registered manufacturing units have only shown a marginal rise of .99% over the same 6 year period. During 2005-06, the state had 867 registered manufacturing units with an average employment of 7,364 persons. In the year 2005-06, the number of registered factories faced a sharp decline of 7% as compared to the previous year. However, the state still managed to employ approximately 200 more employees, on average, than it did in 2004-05.

Figure 10: Registered Manufacturing Units with Average Employment



Source: Statistical Abstract Manipur, 2009

Key Industries⁸⁶

Manipur has abundant natural resources that offer potential for the development of infrastructure and industrial sectors. The Manipur Industrial Development Corporation Limited (MANIDCO) and Small Industries Development Organization (SIDO) are responsible for industrial development in the state. Some of the key industries in that state are:

1. Khadi and Village Industry

- The *khadi* and village industry provides employment to people in rural and semi-urban areas at low investment per job and also makes use of local skill resources. It also provides part time as well as full time work to rural artisans, women and minorities.
- The sector produces goods worth US\$ 10 million every year and employed about 70,000 people in 2009.

2. Handlooms

- Handlooms are the largest cottage industry in the state. Manipur ranks among the top five states in the country in terms of number of looms. The state had over 2,70,000 looms and 3,00,000 weavers in 2009.
- To provide welfare measures and better working conditions to handloom weavers, schemes such as group insurance, health package, work-shed cum-housing scheme, project package scheme and integrated handloom village development project have been introduced.

3. Handicrafts

- Cloth embroidery, cane and bamboo, ivory, stone and wood carving, metal crafts, deer horn decorative articles, *supari* working sticks, dolls and toys are some of the well known Manipuri handicrafts.
- Since cane and bamboo are abundantly available, basketry is a popular occupation of the people of Manipur.

4. Sericulture

- Manipur has four varieties of silk: Mulberry, Eri, Muga and Oak-tussar.
- The Government of India initiated the Manipur Sericulture Project with assistance from the Government of Japan, particularly, to provide employment to the women.
- There were 170 primary sericulture societies as of 2008-09.

5. Food Processing

- The food processing industry is a major thrust sector of Manipur. The state's agro climatic conditions are most suited for such industries.
- Fresh packed pineapple and passion fruit, pulp, juice, toffee and concentrate, lemon and orange juice, ginger oil, ginger lime, canned mushrooms and fresh in brine or canned dry bamboo shoots, are some of the well known products of the state.
- Magfruit, Ratna, Sana, Manifru, Likla, Heirang, Chandani and Waifruit are some of the local popular brand names in this industry.

6. Bamboo Processing

- Three common facility centres for bamboo processing have been established at Tamenglong, Churachandpur and Imphal.
- Initiatives have been taken to set up a bamboo technology park. The main objective of the park is to set up entrepreneurial cluster-based bamboo processing units.

7. Tourism

⁸⁶India Brand Equity Report- State Report, Manipur

- Besides a rich tribal culture, Manipur has pleasant climatic conditions, exotic greenery and varied flora.
- According to the Ministry of Tourism, 1.2 million tourists visited Manipur in 2009.

Key Challenges and Initiatives in Higher Education

Challenges of Higher Education

- Colleges suffer from poor quality of education due to which they are unable to retain students.
- Issues of employability of students as well as law and order problems are critical to the state and play a crucial role in affecting the development of higher education infrastructure.
- The conversion of state university into central university hasn't helped in the development of higher education in the state because the funds released weren't allocated to the higher education sector.
- There is a need to explore various ways to bring more private players in the state which can cater to the increasing demand in courses like B.A, B.Com etc. and seek assistance for setting up more central institutes.

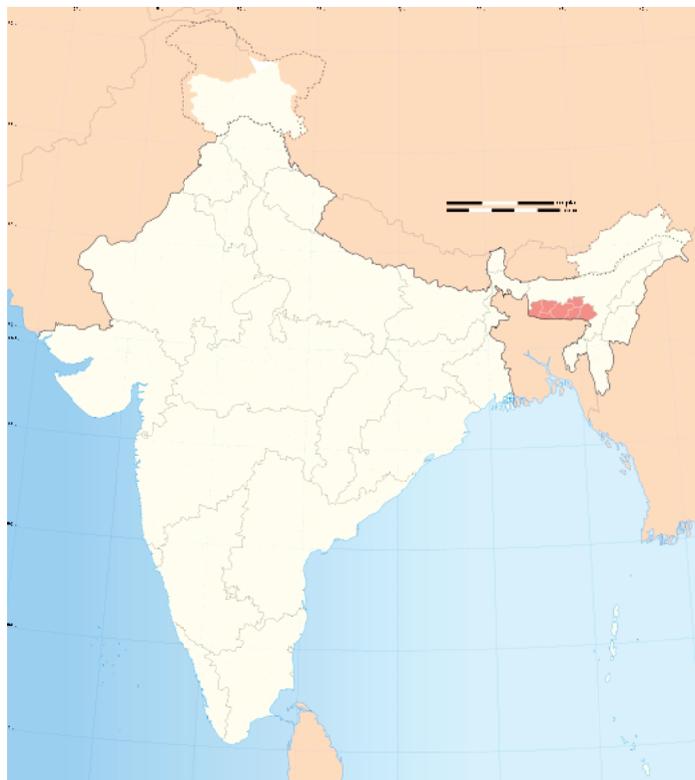
Initiatives Started

- NAAC accredited colleges have increased from 4 to 12, including 10 govt. colleges.
- 2 colleges declared by UGC as Colleges of Potential for Excellence.
- Academic building and science labs constructed in 11 govt. colleges.
- Placement of students from technical institutes in reputed companies.

Initiatives Proposed

- Opening of new market friendly courses of study and commencement of postgraduate classes in different subjects in select government colleges.
- Up gradation of an existing government college in each district as a model college with strong focus on job oriented courses and ICT initiatives.
- Establishment of 3 new polytechnics (including 1 women polytechnic), with a fully residential campus with new hostels & staff quarters.

State Focus: Meghalaya



State Profile

Capital	Shillong
Total Area (in sq. km.)	22,720
Total Population	29,64,007
Population Density (per sq. km.)	130
Number of Districts	11
Literacy Ratio (%)	72.1
Sex Ratio (per 1,000 males)	986
State Domestic Product, 2009-10 (In Rs. Crore)	12,623
Per capita income, 2010-11 (Rs.)	48,383

Introduction

Located in the North East Region (NER) of India, Meghalaya shares its border with Assam and the country of Bangladesh. The wettest state in the country, the state has numerous rivers thus resulting in favourable agro-climatic conditions that support agriculture, horticulture and forestry. Agriculture and allied activities engage nearly two-thirds of the total work force in Meghalaya. However, despite the large percentage of population engaged in agriculture, due to the low productivity and unsustainable farm practices, the state is largely dependent on imports from other states for most food items.

The state is endowed with abundant natural resources in terms of flora, fauna, medicinal plants, forests and natural resources like coal, limestone, feldspar, quartz, granite, industrial clay and uranium. The state is also an attractive tourist destination. Meghalaya is faced with several infrastructural constraints, which have prevented the economy of the state from growing at a pace at par with that of the rest of the country.

Universities and University Level Institutes

The state houses 3 central universities, 10 private universities and 2 institutes of national importance. The North Eastern Hill University (Central University), which was established in 1973, is the most reputed university for undergraduate education in the north-eastern region and is located in the state. As compared to the other north-eastern states, the number of private universities is high, with 10 private universities currently operational in the state. There are no state universities or deemed universities in Meghalaya.

The Indian Institute of Management (IIM), Shillong was established in 2008, and was the seventh IIM to be established in the nation and the first to be established in the north-eastern region of the country. The state is also home to a National Institute of Technology (NIT), which offers technical education at the undergraduate and postgraduate level. The National Institute of Fashion Technology (NIFT) has also established its campus in the state capital of Shillong.

The latest addition to the higher education institutes in the state is the North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), which was established in 2010. The medical institute imparts medical training at both at the undergraduate and the postgraduate level. With several premier institutes being established in the state over the last 5-6 years, Meghalaya is fast establishing itself as a prime education hub among the north-eastern states.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Meghalaya (2011-12)	India (2011-12)
State University	0	285
Private University	10	112
Institution of National Importance	2	39
Deemed University	0	129
Central University	3	40
Total	15	605

Source: UGC

Key Higher Education Indicators: Institutes and Enrolment

In addition to the universities and the university level institutes, there are colleges, which offer general education and technical education in the state. The participation of the private sector has also been significant in the state with 39 private higher education colleges vis-à-vis 28 government colleges.

There are 28 government colleges in the state, which offer higher education programs under General Education (Arts, Science and Commerce). Under the category of private colleges, there are 39 colleges, with majority of them being self financed (32 self financed colleges as compared to 7 grant-in-aid colleges). All these institutes are affiliated to the North Eastern Hill University. The distribution of these colleges is as shown in Table 2.

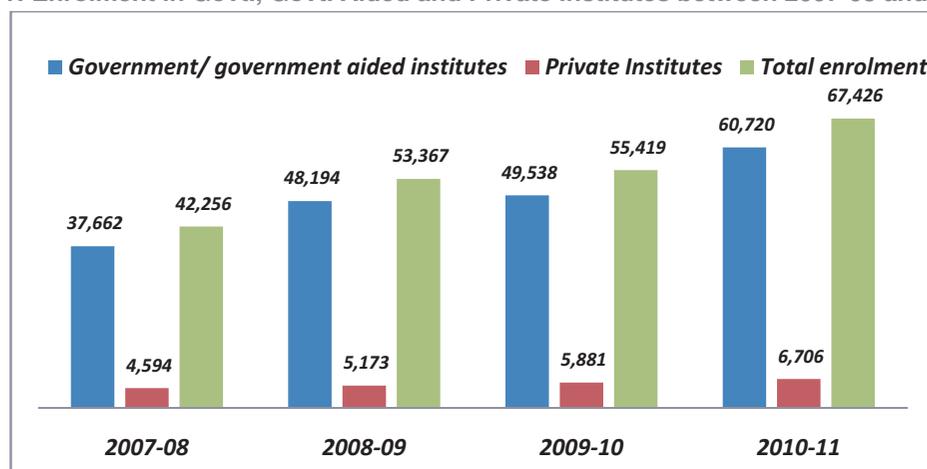
Table 2: Number of Colleges by Type of Funding

Institute Type	Number of Institutes
Government colleges	6
Deficit Colleges	15
Adhoc Colleges	7
Private Grant-in-Aid Colleges	7
Private Self Financed Colleges	32
Total	67

Source: Statistics of Higher & Technical Education, MoHRD

Three different districts of Meghalaya each have one polytechnic institute in them and offer 3 & 2 year Diploma programs. These institutes offer programs in the areas of civil engineering, electrical engineering, mechanical engineering, electronics, computer science, information technology, costumer design, computer applications and medical electronics. In addition to the regular diploma and post diploma programs, these polytechnic institutes conduct vocational education programs for the benefit of women, rural and urban unemployed youth and the economically & socially weaker sections of the society.

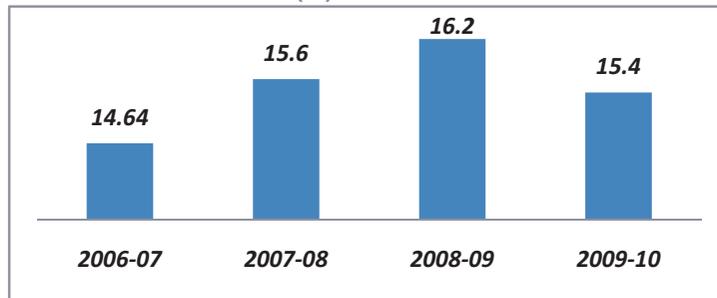
Figure 1: Enrolment in Govt., Govt. Aided and Private Institutes between 2007-08 and 2010-11



Source: Statistics of Higher & Technical Education, MoHRD

The enrolment in the state has been consistently increasing with a CAGR of 16.6% between 2007-08 and 2010-11. The major contributor to the state enrolment has been the government and government aided institutes, with 90% of the students enrolled in government and government aided institutes in 2010-11. The growth in the enrolment figures in government and government aided institutes has been high at 17.07% as compared to 13.3% in private institutes between 2007-08 and 2009-10.

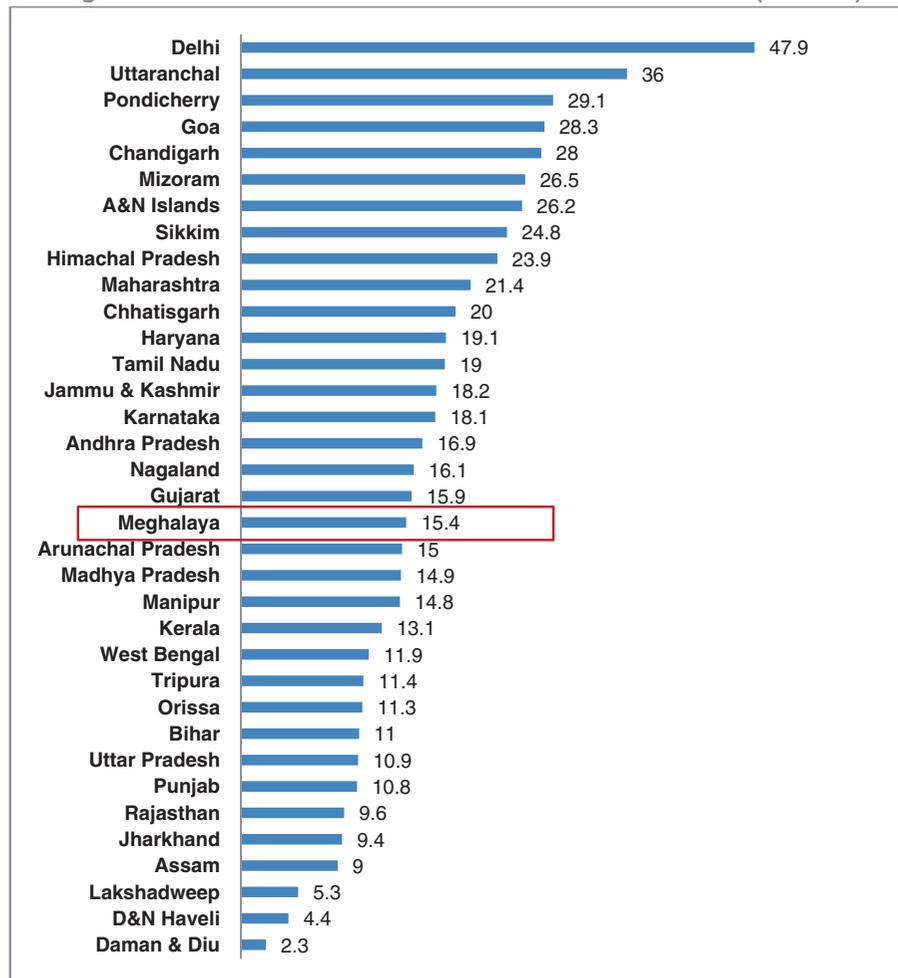
Figure 2: Gross Enrolment Ratio (%) in the state between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

In terms of Gross Enrolment Ratio (GER), the state stands 19th amongst the 35 states and union territories in India, with a GER of 15.4% in 2009-10. Over the years, the GER has been gradually increasing in the state. However, between 2008-09 and 2009-10, there was a dip in the state GER from 16.2% to 15.4%.

Figure 3: Gross Enrolment Ratio across All States in India (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

The following sections present a description of the current higher and technical education scenario in the state. A brief description is given about the Industry and Employment landscape in the state and its link to higher education. The challenges facing the higher education sector in Meghalaya have

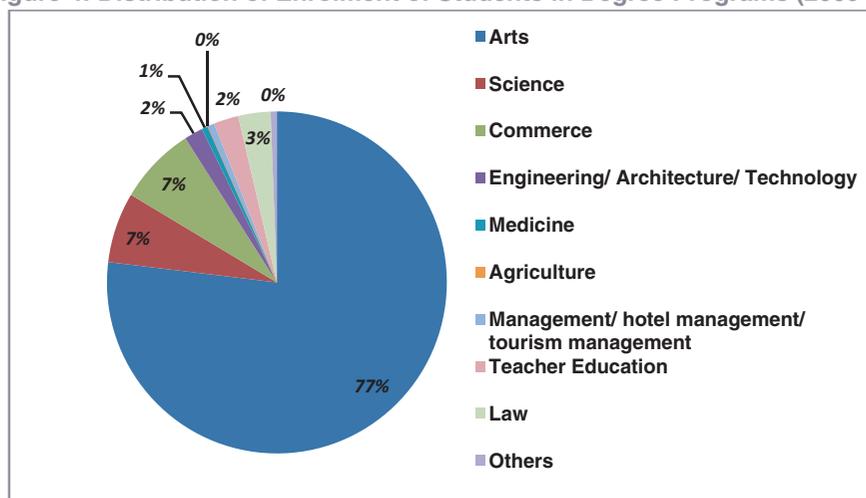
been analysed and the report concludes with the initiatives that have been undertaken to improve higher education in the state

Growth in Higher Education Institutes and Enrolment

In 2009-10, the total enrolment in higher education was 40,215 including diploma and degree programs. Among these students, only 625 students (1.5%) were enrolled for doctorate programs and 25.25% of the students were enrolled in diploma programs, with 24.9% of the students enrolled in Post School Diploma programs and 0.26% of the students enrolled in Postgraduate Diploma programs.

Among the students enrolled in degree programs, the maximum number of students was enrolled in Arts programs (76.9%), followed by Commerce (7.4%) and Science (6.7%). The contribution of technical education to the overall enrolment in the state is extremely low, with only 1.3% of the students enrolled in Engineering/ Architecture/ Technology and 0.5% of students in Management. The statistics clearly present a scenario where the state has to strengthen its offerings in the area of technical education. Currently, majority of the students who wish to pursue technical education either enrol themselves in the local polytechnic institutes or migrate to other states.

Figure 4: Distribution of Enrolment of Students in Degree Programs (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

In line with the national trend, the enrolment in undergraduate programs dominates the enrolment in the post graduate programs. Only 9.9% of the total number of students was pursuing post graduate degree programs. Among the diploma programs, only 1% of the students are pursuing Post Graduate Diploma programs.

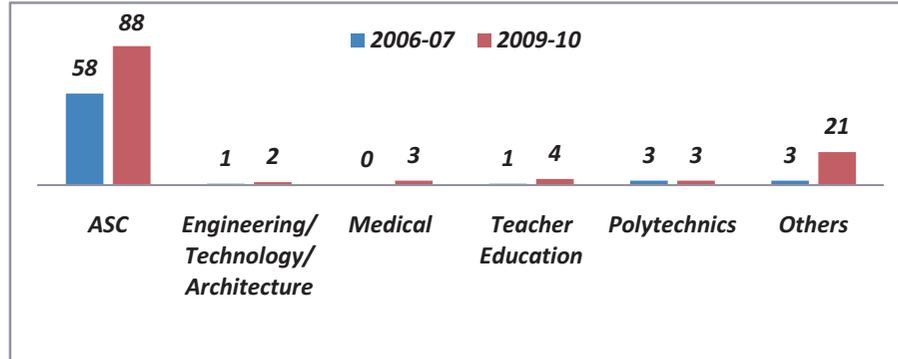
Table 3: Enrolment in Diploma Programs at UG and PG Level of Study

Type of program	Undergraduate	UG (%)	Postgraduate	PG (%)
Degree programs	27,106	90.1	2,955	9.9
Diploma programs	10,050	98.98	104	1.02
Total	37,156	92.39	3,059	7.61

Source: Statistics of Higher & Technical Education, MoHRD

Between 2006-07 and 2009-10, growth has been seen only in the faculties of arts, science and commerce programs; with 30 new institutes being added. Limited activity has happened in the other faculties with very few new institutes being established in the state.

Figure 5: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

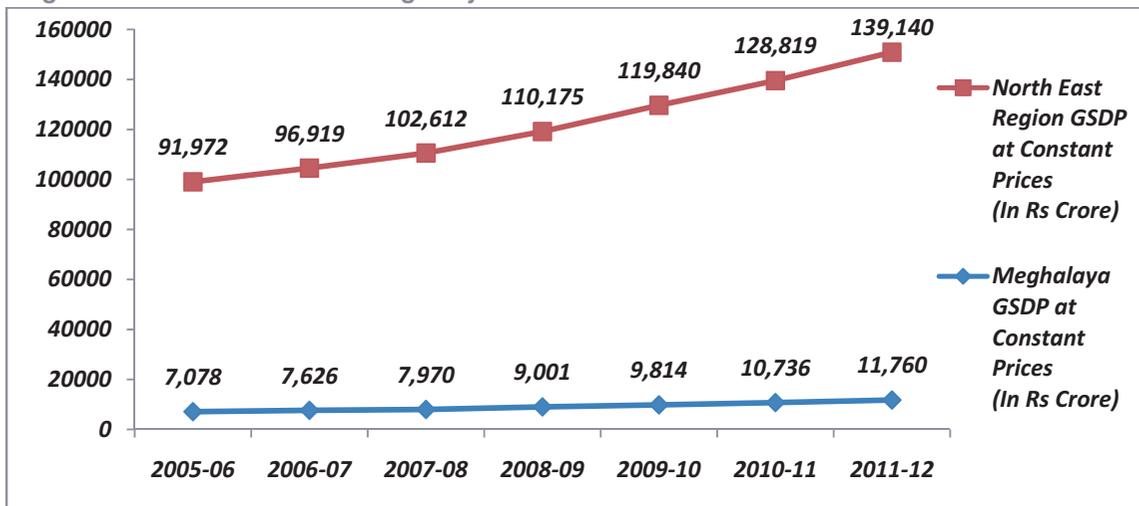
The North Eastern Hill University has been accredited with grade A (Very Good) by the National Assessment and Accreditation Council (NAAC) and is the only university in the state to have been accredited. In addition to the university, 9 higher education colleges have been assessed by NAAC out of which 4 institutes have been awarded A grade (Very Good) and the remaining 5 institutes have been awarded B grade (Good).

Industry and Employment Scenario

Overview of the Economy

In 2011-12, Meghalaya reported Rs 11,760 Crore as its Gross State Domestic Product (GSDP) at constant prices and a Per Capita Net State Domestic Product (NSDP) at constant prices of Rs 38,944. The contribution of the state to India's GDP is 0.2% and its Per Capita NSDP is higher than the national average of Rs 38,005.

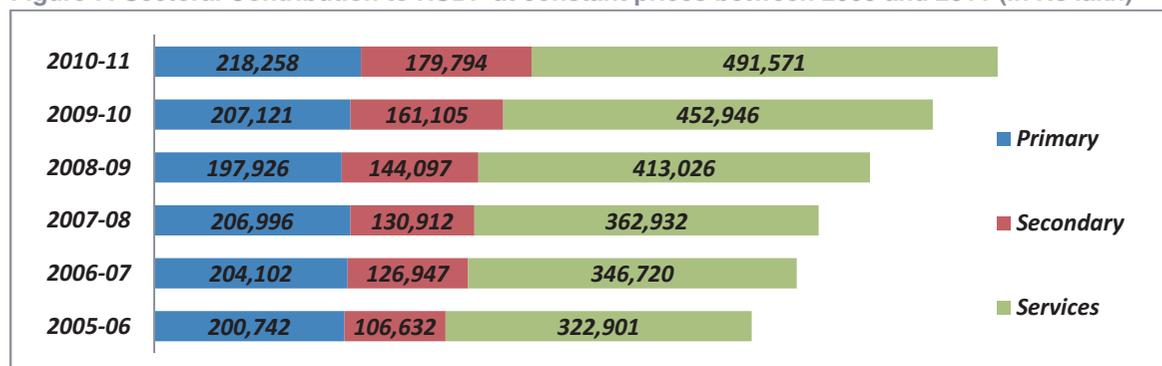
Figure 6: Growth of GSDP of Meghalaya and NER at Constant Prices between 2005 and 2012



Source: Central Statistical Organization

As can be seen from Figure 6 above, Meghalaya has a better 7-year Compounded Annual Growth Rate (CAGR) of 8.85% as compared to the 7-year CAGR of the North East Region (Aggregation of Seven North East States of India) of 7.16%. This signifies that the state out performs the average of the region it belongs to as well as India's 7-year CAGR of 8.22%.

Figure 7: Sectoral Contribution to NSDP at constant prices between 2005 and 2011 (In Rs lakh)



Source: Central Statistical Organization

In 2010-11, the Net State Domestic Product of Meghalaya comprised of the primary sector accounting for 24.5%, 20.21% was accounted for by the secondary sector and the most was accounted for by the Services sector with 55.25% of NSDP of the state. The above mentioned composition signifies that the services sector is the major contributor to Meghalaya's economy implying that the state is undergoing a structural shift from being a primary sector dependent to services sector driven economy.

Employment Scenario

Table 4: Distribution of Enterprises & Employment by Major Activity Group

Major Activity Group	Enterprises	Employment
Farming of Animals	2,303	5,446
Agriculture Services, Forestry Etc.	815	1,537
Fishing	254	439
Mining & Quarrying	1,411	7,433
Manufacturing	6,686	21,929
Electricity, Gas & Water Supply	84	1,019
Construction	1,678	8,467
Sale, Maintenance & Repair	1,202	5,050
Wholesale Trade	1,775	4,398
Retail Trade	33,940	54,385
Restaurants & Hotels	8,121	22,024
Transport & Storage	3,338	6,179
Post & Telecommunication	794	2,080
Financial Intermediation	313	2,462
Real Estate, Banking & Service	731	1,626
Public Administration, Defence & Social Services	1,923	42,021
Education	8,184	33,962
Health & Social Work	1,645	7,374
Other Community & Personal Services	8,102	14,474

Other Activities	3	35
Total	83,302	2,42,340

Source: Fifth Economic Census 2005

As per the Fifth Economic Census, Retail Trade and Public Administration, Defence & Social Services provided maximum employment in the state with 22.4% and 17.3% of total employment respectively. The Retail Trade group also has the largest number of enterprises setup in Meghalaya with 2/5th of all enterprises in the state belongs to this activity group (40.74%). The Manufacturing group is the 4th largest activity group with 8% of the total enterprises and 9% of total employment in the state.

Table 5: Job Preferences by Educated Persons in the State in 2008

Type of work desired by the unemployed	Rural			Urban		
	Male	Female	Total	Male	Female	Total
Self-employment- business / trade	30.1	14	22.6	11.8	7.7	9.5
Self-employment- agriculture	8.3	12.5	10.2	0.8	0.7	0.7
Salaried job in government sector	46.3	63.2	54.2	71.4	77.4	74.8
Salaried job in private sector	4.6	2.6	3.7	4.2	7.1	5.8
Agricultural wage labour	3.8	3.8	3.8	-	-	-
Non -agricultural wage labour	4.6	2.6	3.7	0.8	0	0.4
Any other	2.3	1.3	1.8	10.9	7.1	8.8

Source: Meghalaya Human Development Report 2008

According to the findings published in Meghalaya Human Development Report, as depicted in Table 5 above, the regular salaried job in government sector is the most preferred job among both rural and urban classes as well as between both genders. The next most preferred occupation for an urban male & female and rural male & female is self-employment in business/trade. Work force participation is higher for males (48.3%) as compared to females at (35.2%). Meghalaya being an agrarian economy; over 62% of all workers are engaged in agricultural activities. There is high level of youth unemployment, especially in urban areas. In 2004-05, unemployment rate was 8.01% for graduates, higher than those with little formal education. As of 2006, Meghalaya had 12 employment exchanges. There were 32,386 applicants on the live register. However, only 1,849 vacancies were notified. Of the total applicants, 41.2% were of minimal education, i.e., below matriculation. Only 12.9% were graduates and above.⁸⁷

Key Industries⁸⁸

The natural resources, policy incentives and infrastructure in the state favour investments in the tourism, hydroelectric power, manufacturing and mining sectors. Agriculture and related industry, contributes 24.5 % to the state's NSDP and employs more than 70 % of the population. Mineral, horticulture, electronics, IT, export oriented units and tourism have been identified as the thrust sectors for industrial development. Some of the key industries and major players in these industries are described below.

1. Agriculture, Horticulture & Food Processing

- Meghalaya has a climate that supports agricultural and horticultural activities; the state offers potential for investment in these areas.
- The state supports multiple crops such as rice, maize, pulses, oil seeds, cotton, jute, and *mesta*,
- Meghalaya produces substantial quantities of oranges, peaches, pineapples, pears, guavas, plums, bananas, potatoes, tapioca, bay leaves, ginger, maize and jackfruit.

⁸⁷ NSDC Skill Gap Study of the North East - Meghalaya

⁸⁸ India Brand Equity Foundation, States Report-Meghalaya

2. Minerals, Mining & Cement

- Meghalaya has rich mineral resources such as coal, limestone, fire clay, lithographic clay, china clay, phosphate rocks, sillimanite, granite, and substantial reserves of quartz, feldspar, gypsum and uranium.
- The mining industry has just opened up in Meghalaya; most of the coal and stones are being exported to Bangladesh.
- A number of cement factories are being either planned or being set up, owing to the rich mineral content of the state.
- Coal and Limestone mining is one of the key industries in the state. Cement industry attracts the largest investments in the state with presence of big players like Lafarge, Star cements.

3. Tourism

- Meghalaya is richly endowed with flora, fauna, thick forests, ancient forest groves, large rivers and grass fields –making it an attractive tourism destination.

4. Hydroelectric Power

- It is estimated that Meghalaya has a hydroelectric power capacity of 3,000 MW, of which only 187 MW has been developed so far.
- The state government is inviting investments in this area through the PPP mode. Independent power producers (IPP) are also being invited to develop hydro projects in Meghalaya.

5. Handloom and Handicrafts

- Meghalaya has an established tradition of high-quality weaving, with more than 25,000 households engaged in handloom weaving.
- There are 8 production centres, 32 demonstration-cum-production centres, 10 weaving training centres and a state-level handloom training institute in the state.
- With support from National Institute of Design (NID) and National Institute of Fashion Technology (NIFT), the Meghalaya Government is developing the handloom industry.

6. Information Technology (IT) Sector

- The IT policy of Meghalaya defines the IT penetration plan for various industries and public sector organizations. The policy also provides various incentives and concessions for investments in IT sector.
- With a high literacy rate, affordable cost, substantial English-speaking population, improved telecommunication connectivity and favorable climate, Meghalaya is well poised to serve the IT industry.

Key Challenges and Current Initiatives

The state of Meghalaya faces several challenges in its endeavor to improve the higher education system due to the location of the state and the resultant infrastructural challenges. Some of the key challenges that are faced by the state are as given below:

1. **Poor capacity in teacher education:** Teacher training has been a major concern for the education department, particularly at the elementary level. Challenges are being faced by the state both in terms of quality and quantity.

2. **Need for academic and governance reforms:** There is an urgent need for the state to undertake academic and governance reforms in the higher education system. Measures and interventions are required for the development and consolidation of the existing institutions.
3. **Mismatch in availability of skilled manpower:** Vocalization of education is too focused on to enhance the individual employability, to reduce the mismatch between the demand and supply for skilled manpower and provide an alternative for those pursuing higher education, thus providing a platform for the diversification of higher education.
4. **Migration of students to other states:** A common concern across all northeastern states is that students wishing to pursue higher education are migrating to other states in large numbers. It thus becomes imminent to further improve the quality of higher education infrastructure in the state to prevent the mass exodus and to retain the local talent.

To combat the challenges faced by the state, several strategies have been planned by the state government for implementation under the 12th Five Year Plan. The key strategies have been mentioned below:

- Up gradation of Shillong Polytechnic to a degree level institutions/ engineering college during the 12th Five Year Plan. Setting up on a National Institute of Technology in Shillong.
- Establishment of State Technical University to cater to the specific needs of professional, technical and vocational education.
- Greater emphasis on women education, physically handicapped students and colleges of remote and backward districts so as to bring the backward districts at par with the advanced districts.
- Provisions of support to prominent colleges in the state to offer courses which are non-traditional in nature such as fishery science, mass media etc. These courses are designed to cater to students who wish to take advantage of the local employment opportunities.

State Focus: Mizoram



State Profile

Capital	Aizawl
Total Area (in sq. km.)	21,081
Total Population	10,91,014
Population Density (per sq. km.)	52
Number of Districts	8
Literacy Rate (%)	91.58
Sex Ratio (per 1,000 males)	975
State Domestic Product, 2009-10 (In Rs. Crore)	5,078
Per capita income, 2009-10 (Rs.)	45,982

Introduction

Mizoram is located in the north-eastern region of the country and is one of the 7 sister states of the northeast. Mizoram is the land of the hill people, and the state shares its border with Assam to its north, Tripura to its northwest, Manipur to its northeast and Bangladesh and Myanmar to its east. The state is relatively new with the state being the 23rd state of the country, established in the year 1987. Mizoram is a land of rolling hills, valleys, rivers and lakes. There are 21 major hill ranges or peaks of different heights throughout the span of the state, with plains scattered amongst these hills. **The state is** covered with lush forests and thick bamboo groves, vibrant wildlife, unique landmarks of innumerable folklores and scenic villages of houses built on stilts. Mizoram is one of the few states in India to have a literacy ratio of more than 90%. Higher education establishments have come up in the state at a rapid pace. Although most institutions are state run and primarily central & state funded, private sector institutions have also taken up educational initiatives in the state.

Universities and University Level Institutes

1 central university and 1 private university characterize the higher education landscape of Mizoram. In addition to these two universities, there is 1 Institute of National Importance located in the state. The only private university in the state is the Institute of Chartered Financial Analysts of India (ICFAI) University. The number of higher education institutes of the state constitutes a minute proportion of the total number of higher education institutes in the country. However, the state still manages to impart quality education to its citizens. This is reflected in the fact that Mizoram has the highest expenditure per capita in higher education amongst all the north-eastern states.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Mizoram (2011-12)	India (2011-12)
State University	0	285
Private University	1	112
Institution of National Importance	1	39
Deemed University	0	129
Central University	1	40
Total	3	605

Source: UGC

Mizoram has 1 central university located in the state capital of Aizawl. The university was established in the year 2001 under the Mizoram University Act, 2000, as a Central University of India. The central university of Mizoram affiliates 28 undergraduate colleges, 2 professional institutions and has 1 constituent college. Pachhunga University College is the one and only constituent college of the university.

The objectives of the university are to "to disseminate and advance knowledge, to make provisions for integrated courses in humanities, natural and physical sciences, social sciences, forestry and other allied disciplines, to take measures for promoting innovations in teaching-disciplinary studies and research; to educate and train man-power in the development of the state of Mizoram; and to pay special attention to the improvement of the social and economic conditions and welfare of the people

of the State. The Mizoram Central University has 7 Schools and 30 departments. The various schools are Economics, Management & information science, Earth Sciences & National Resource Management, Life Sciences, Physical Sciences, Social Sciences, Education & Humanities and Engineering & Technology.

The state of Mizoram also houses a National Institute of Technology (NIT) in Mizoram (formerly known as the Regional Engineering College), which is one of the ten new NITs established by the Ministry of Human Resources and Development, Government of India in 2009-10. The institute currently has 3 departments namely, Electric & Electronic Engineering, Electronic & Communication Engineering and Computer Science Engineering.

The only private university in the state is ICFAI University, which offers programs in Management Computer Science (MCA) and Hotel Management (BHTM) programs. The university is recognized by the University Grants Commission (UGC) and has achieved recognition for its academic delivery and industry-institute interface.

Most of the prominent institutions and the central university are located in the state capital of Aizawl, with many affiliated colleges scattered around in the state in different cities such as Lunglei, Khawzawl, Champai and Chawngte.

Table 2: Growth of Enrolment in Different Institutions between 2007 & 2012

Type of College/Institute	Number of Institutions	2007-08	2008-09	2009-10	2010-11	2011-12	CAGR (%)
Government Colleges	20	5,111	5,654	6,195	8,075	10,190	18.83
Teacher Training Colleges	2	157	171	256	237	218	8.55
Grant In Aid Colleges	2	354	673	398	415	470	7.34
Polytechnics	2	513	568	566	558	475	-1.91
Total	26	6,135	7,066	7,415	9,285	11,353	16.63

Source: Directorate of Higher & technical Education, Government of Mizoram

Table 3: Growth of Enrolment in different Technical Institutions between 2007 & 2012 in Mizoram

Institutions	2007-08	2008-09	2009-10	2010-11	2011-12	CAGR (%)
Higher & Technical Institute Mizoram (HATIM)	44	30	44	54	112	26.31
ICFAI University*	0	201	178	274	391	24.56

Source: Directorate of Higher & technical Education, Government of Mizoram, * 4 Year CAGR

The Higher & Technical Education Department of the state monitor 20 government degree colleges imparting degree courses in Arts, Science (including IT) and Commerce. There are 2 Grant in Aid colleges namely 1 Law College and 1 Arts college and there are 2 Teacher Training colleges under the jurisdiction of the department. The department also looks after the Women's Polytechnic and Mizoram Polytechnic institute that offers diploma courses in Engineering, IT, Beauty Culture & Cosmetology, Garment Technology etc.

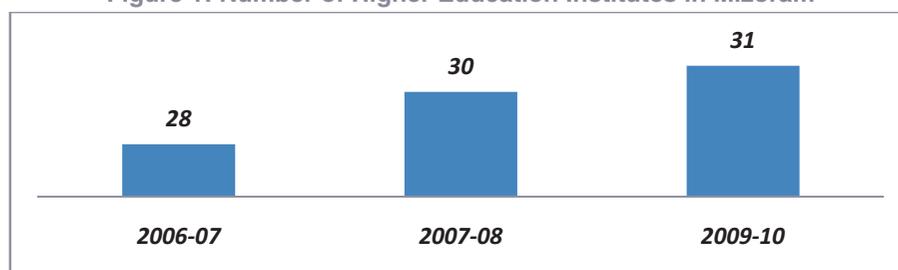
As can be seen in Table 2, there has been considerable growth in enrolment at the college/institution level at a rate of 16.63% over a five year period. The maximum growth was registered in the government colleges (18.83%) followed by teacher training colleges (8.55%).

In Table 3, it can be seen that even though the Higher & Technical Institute of Mizoram has shown 26.31% growth in enrolment in 5 years, the enrolment in polytechnic institutes has declined at a rate of 1.91% over the same 5 year period. The only private university in the state has shown a strong growth, with enrolment increasing at a rate of 24.56% between the years 2008 and 2012.

Key Higher Education Indicators: Institutes and Enrolment

The growth rate in the number of higher education institutes in Mizoram stands at 10.7%, vis-à-vis the national Compounded Annual Growth Rate (CAGR), which stands at 9.58%. This indicates an average performance in ensuring access to higher education for the people of Mizoram.

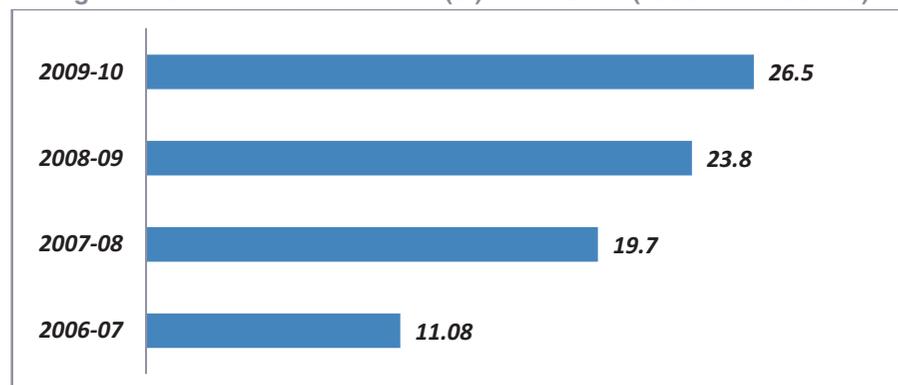
Figure 1: Number of Higher Education Institutes in Mizoram



Source: Statistics of Higher and Technical Education, 2006-2010, MoHRD

The state Gross Enrolment Ratio (GER) increased at a strong pace between the years 2006 and 2010, thereby reflecting increased access for the population in the 18-24 age groups to higher education. While the GER during the year 2006-07 was only 11.08%, it had more than doubled with a GER of 26.5% in 2009-10

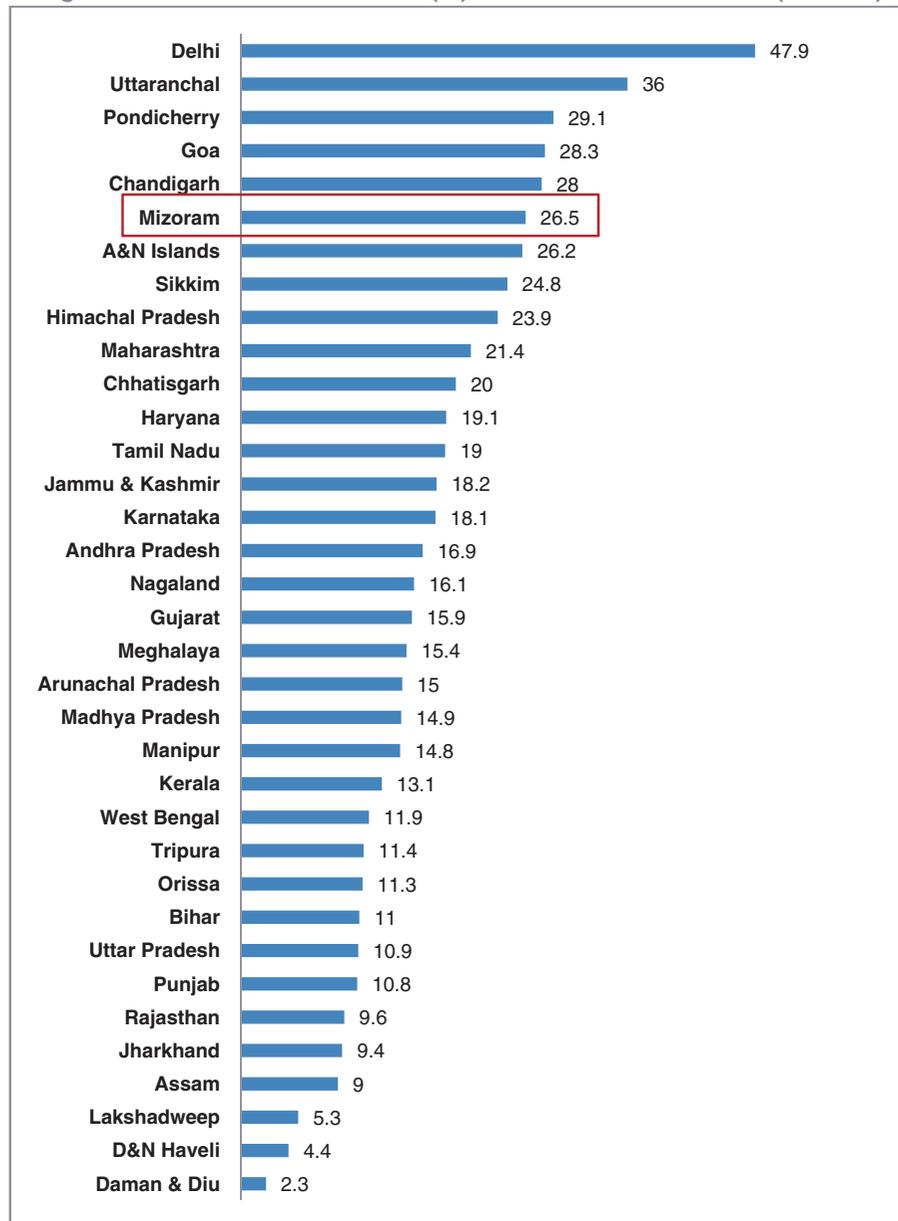
Figure 2: Gross Enrolment Ratio (%) in the State (2006-07 to 2009-10)



Source: Statistics of Higher and Technical Education, 2006-2010, MoHRD

The Compounded Annual Growth in GER is a healthy 33.34% over the 4 year period, with the state ranked at the 6th position amongst the states and union territories of India in terms of GER. The state also has the best GER in the north eastern region of the country.

Figure 3: Gross Enrolment Ratio (%) across all States in India (2009-10)



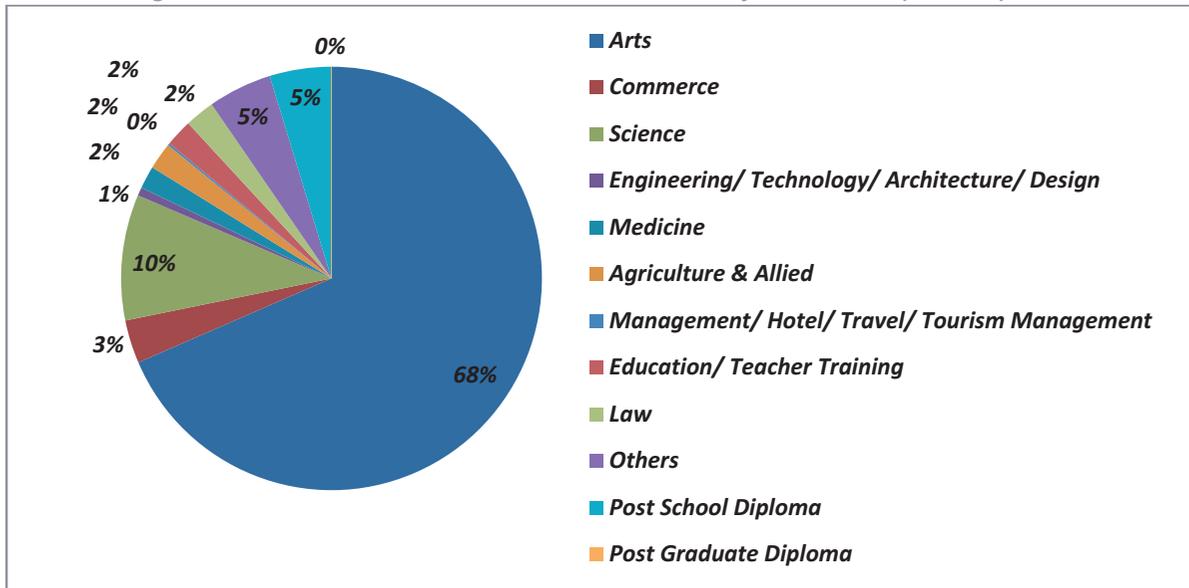
Source: Statistics of Higher and Technical Education, 2009-10, MoHRD

The following sections present a brief description of the current higher education scenario and industry & employment scenario in the state of Mizoram. The key initiatives and challenges in higher education that are being faced by the state are also briefly discussed.

Growth in Higher Education Institutes and Enrolment

It has been seen that at the national level, the dominant programs that are offered in higher education are in the areas of Arts, Science and Commerce. The same trend is seen in the state of Mizoram as well, with 68% of the total of enrolment being in Arts and 10% of the total enrolment being in the faculty of Science.

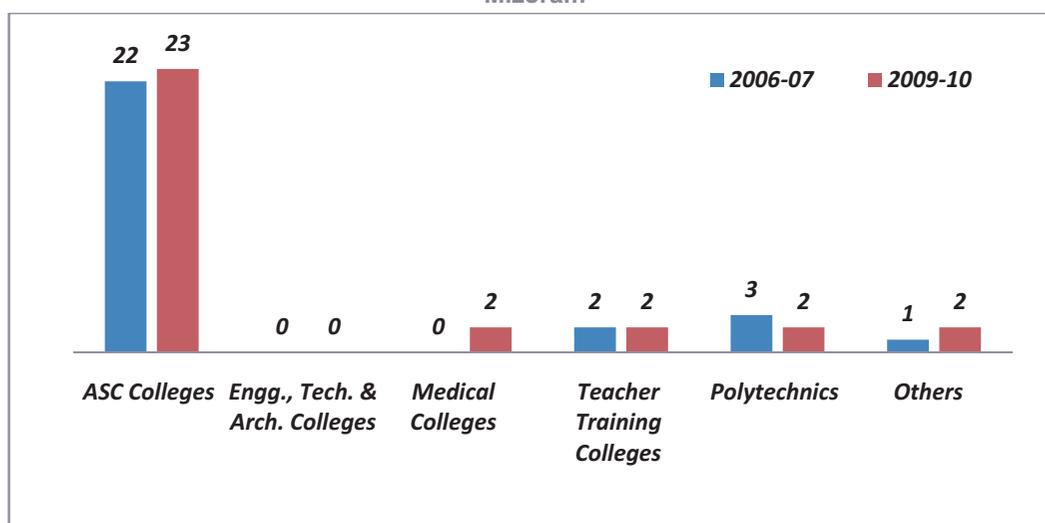
Figure 4: Distribution of Enrolment based on Faculty in Mizoram (2009-10)



Source: Statistics of Higher and Technical Education, 2006-2010, MoHRD

There has not been a considerable increase in the number of institutions in the state between the years 2006 and 2010. Only one arts, science, commerce (ASC) College, two medical colleges and one law college were established between 2006 and 2010. The number of polytechnic institutes also decreased from three to two during this period.

Figure 5: Faculty-wise Growth in Number of Institutes between 2006-07 and 2009-10 in Mizoram



Source: Statistics of Higher and Technical Education, 2006-2010, MoHRD

As can be seen in Table 4, across the various faculties, the number of students enrolled at the undergraduate (UG) level (92%) was significantly higher than the number of students enrolled at the postgraduate (PG) level (8%), in the 2009-10.

In 2009-10, the maximum enrolment was in the arts stream with 75.81% of total enrolment, followed by science with 10.6% enrolment in the same year.

Table 4: Distribution and Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) level in Mizoram in 2007-08 & 2009-10

Faculty	2007-08					2009-10					Growth (%)
	UG	%	PG	%	Total	UG	%	PG	%	Total	
Arts	6,661	93	472	7	7,133	7,675	94	505	6	8,180	14.68
Commerce	256	87	38	13	294	354	90	41	10	395	34.35
Science	1,330	92	120	8	1,450	1,007	88	140	12	1,147	-20.90
Engg. / Tech./ Arch./ Design	0	0	32	100	32	0	0	76	100	76	137.50
Medicine	218	100	0	0	218	207	100	0	0	207	-5.05
Agriculture & Allied	216	100	0	0	216	222	91	23	9	245	13.43
Management	0	0	20	100	20	0	0	20	100	20	0.00
Education/ Teacher Training	157	80	40	20	197	208	84	40	16	248	25.89
Law	303	100	0	0	303	271	100	0	0	271	-10.56
Others	505	80	130	20	635	505	86	81	14	586	-7.72
Total	9,141	93	722	7	9,863	9,944	92	845	8	10,789	9.39
Post School Diploma	513					566					10.331
Post Graduate Diploma	0					0					

Source: Statistics of Higher and Technical Education, 2006-2010, MoHRD

In terms of total enrolment in higher education, the maximum growth was registered in the faculty of commerce (34.25%), followed by teacher education (25.89%) and arts streams (14.68%). The streams of law, science and medicine saw a decline in enrolment, with enrolment in law declining at 10.56%, enrolment in science declining at 20.9% and enrolment in Medicine declining at 5.05%.

In the area of technical education, engineering, technology, architecture and design have shown exceptional growth of 137.5%. Post School Diplomas have also seen a growth of 10.3% indicating an increased awareness of job-oriented courses after graduating from school by the youth of the state. Overall the state has increased its enrolment at 9.39% between the years 2007-08 and 2009-10. However, enrolment is primarily skewed towards the undergraduate level of education with only 8% of total enrolment in 2009-10 being at the postgraduate level.

Quality of Institutes

The National Accreditation and Assessment Council (NAAC)⁸⁹ has graded only 13 colleges in the state of Mizoram, all of which are affiliated with the Central University of Mizoram. Out of the 13 colleges, only 1 has been awarded A (Very Good) grade, 7 have been awarded B (Good) grade and 5 have been awarded C (Satisfactory) grade.

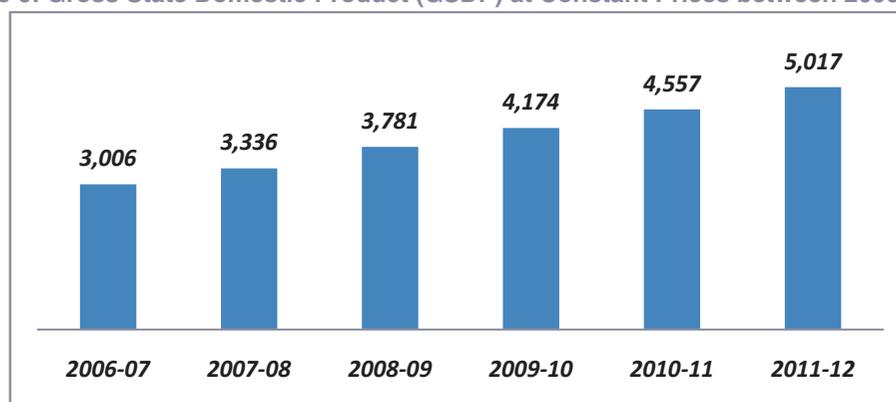
⁸⁹National Accreditation and Assessment Council

Industry and Employment Scenario

Overview of the Economy

At constant prices in 2011-12, the Gross State Domestic Product (GSDP) of the state was Rs 5,017 Crore and it contributed .09% to the Indian GDP during that time period. The GSDP grew at a CAGR of 10.78% between 2006 & 2012. This growth rate has been better than the North East Region (7.5%) and the country (7.94%) as well. It can be concluded that the economy of Mizoram has been steadily growing in size at a healthy rate.

Figure 6: Gross State Domestic Product (GSDP) at Constant Prices between 2006 & 2012



Source: Central Statistical Organization

Table 5: State/Region/Country wise CAGR of GSDP between 2006 & 2012

State/Region/Country	CAGR (%)
Mizoram	10.78
NER	7.50
India	7.94

Source: Central Statistical Organization

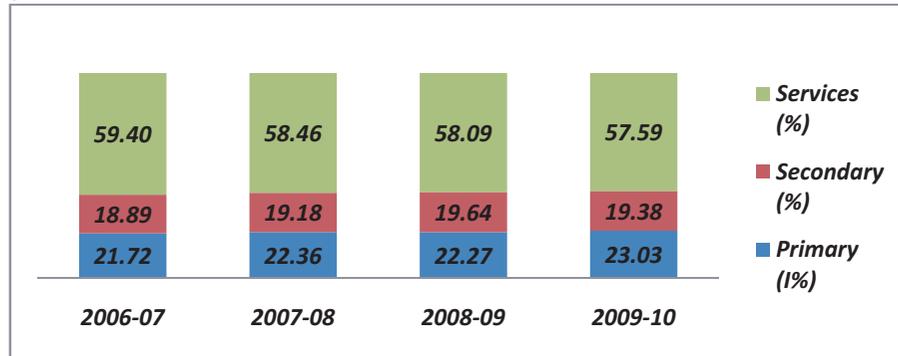
At a CAGR of 15.01% between 2006 & 2010, the primary sector is the fastest growing among all the sectors. This growth was driven by the development and enhancement in the area of agriculture and its allied fields of agro-processing, horticulture and sericulture. The primary sector has contributed the second most to the GSDP with a contribution of 23.03% in 2009-10.

The services sector continues to be the most dominant sector in the state with the sector contributing 57.59% of the total GSDP of the state in 2009-10. This sector has been growing at a rate of 11.65% and is primarily driven by construction, manufacturing & electricity, gas and water supply.

The secondary sector, during the same period has contributed 19.38% to GSDP and grew at a rate of 13.75% between the years 2006 and 2010

Overall the state of Mizoram is primarily services oriented and the primary sector of the state is growing slowly. The secondary sector, which includes industry, is recording minimal growth and is not a main driver of the economy.

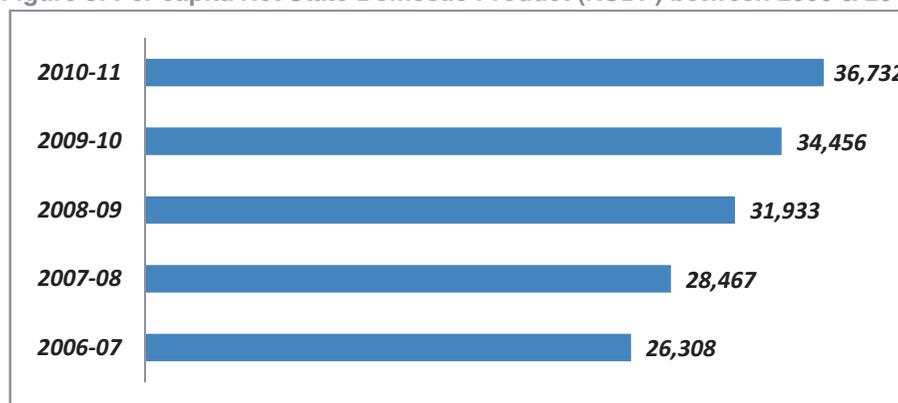
Figure 7: Sectoral Distribution of GSDP at Constant Prices between 2006 & 2010



Source: Central Statistical Organization

The per capita Net State Domestic Product (NSDP) at constant prices in 2010-11 stood at Rs 36,732, which is better than the national NSDP in the same period of Rs 35,993. The per capita NSDP grew at a faster rate of 8.7% as compared to national rate of 6.4% in the 5 year period between 2006 and 2011. This indicates that the per capita income of the citizens of Mizoram is better as compared to the citizens of other states of the nation.

Figure 8: Per capita Net State Domestic Product (NSDP) between 2006 & 2011



Source: Central Statistical Organization

Employment Scenario

According to the Fifth Economic Census 2005, Mizoram had over 47,730 establishments, employing 1,06,706 persons. While 35% of the employment belongs to the category of Own Account Enterprises (OAE), the remaining 65% belongs to the category of establishments.

Of the total employment in enterprises sector in Mizoram, the maximum concentration is in public administration (33%). Retail trade and education follow this. Retail trade is mostly concentrated in the informal sector.

In the agricultural sector, a total of 13,481 persons were employed out of which 39.5% belongs to rural areas and the rest 60.5% belongs to urban areas. Similarly, in the non-agricultural sectors, a total of 93,225 persons were employed out of which 30% belong to rural areas and the rest 70% belong to urban areas.

As shown in Table 6, the maximum proportion of employment is in government (State & central) and semi-government organizations, with employment in these organizations accounting for 94.2% of total employment.

Table 6: Total Employment in Different Organizations in the State

Organization	Total Employed
State Government	40,603
Central Government	3,673
Semi-Government	711
Banking & Insurance	805
Autonomous District Council	1,784
Constitutional Bodies	128
Stat AIDS Society	13
Total	47,717

Source: Department of Economics & Statistics, Government of Mizoram

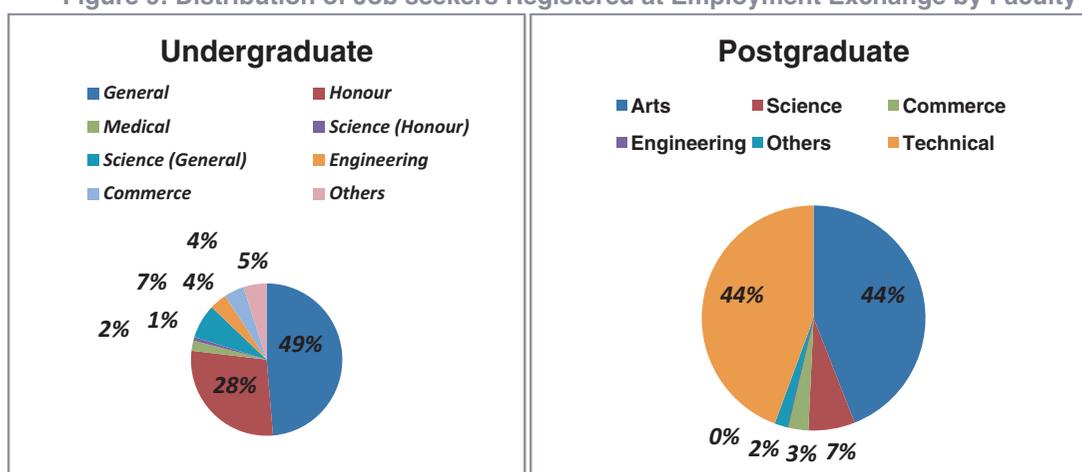
Table 7: Distribution of Job Seekers Registered with Govt. Employment Exchanges in 2010

Level of Education	No. of registered Job Seekers
Graduate	6,386
Post Graduate	1,818
Technical	1,449

Source: Department of Economics & Statistics, Government of Mizoram

The maximum numbers of persons registered with employment exchanges in the state are individuals who have completed there under graduation (66.15%). As can be seen in the figure below, amongst the undergraduate job seekers maximum persons are from general course of study (49%). At the postgraduate level, the maximum numbers of persons registered with employment exchanges belong to the arts faculty (44%), followed by the science faculty (7%). The technical graduates constitute 44% of the total number of post graduates registered with employment exchanges in the state during 2010.

Figure 9: Distribution of Job seekers Registered at Employment Exchange by Faculty



Source: Statistical Handbook, Mizoram-2010

It is seen that almost half of all fresh undergraduates in general studies are seeking employment after their course of study; which indicates a demand for job oriented courses at an undergraduate level, which is not being met by the state.

Key Industries⁹⁰

The natural resources, climatic conditions and policy incentives in the state support investments in bamboo, sericulture, tourism, agro-products and agro-processing sectors. Food processing, handloom, wood-based and metal products constitute more than 60 per cent of the small scale units in the industrial estates. Some of the descriptions of the key industries are as follows.

- 1. Bamboo**
 - Around 14% of the bamboo stock in the country is supplied by the state of Mizoram.
 - The state grows 23 varieties of bamboo, out of which five provide high economic value.
- 2. Sericulture**
 - Mulberry, Muga, Eri, Oak-Tasar and silk are cultivated in Mizoram. The State Government had established one research & training institute at Zemabawk to impart training in sericulture.
- 3. Agriculture and Horticulture**
 - Horticultural production of fruits, vegetables, spices, cotton, coffee, tea, bird's eye chilli, anthurium and rose has immense potential in Mizoram.\
- 4. Tourism**
 - The number of domestic tourist arrival has been increasing consistently.
 - According to the Ministry of Tourism 0.629 lakh domestic and foreign tourists visited Mizoram in 2011.
- 5. Food Processing**
 - A Special Purpose Vehicle (SPV) was formed with private sector companies to set up a plant for processing turmeric, ginger, chilli, fruits and other horticultural products.
- 6. Handloom and Handicrafts**
 - The state has 750 handloom units with around 4,700 employees. There are three handloom training centres.
- 7. Minerals and Stones**
 - Mizoram has mineral deposits of shell limestone, siltstone, clay mineral, coal seam, oil and gas. It has numerous natural water springs and offers potential for manufacturing mineral water.

Key Challenges & Current and Proposed Initiatives

Challenges faced in Higher Education

- Due to the poor quality of education in the state, very high numbers of students go out of the state to pursue higher education, which they finance themselves. The quality of higher education should necessarily improve in order to retain local students
- Most of the state funds are directed towards paying teacher salaries rather than being allocated to the development of colleges in the state.
- There is a big concern of fragmentation of colleges, consolidation, and low capacity over different streams in colleges.

⁹⁰ India Brand Equity Foundation, Manipur -2010

- The state has the potential to develop local talent in the fields of BPO, travel, tourism and hospitality etc., enabling companies from other states to recruit young professionals in these fields.
- The number of colleges should be reduced and the Central University should be given more focus with regards to fund allocation and quality improvement to make it the main centre of higher education in the state.
- Rationalization of existing facilities and resources by way of mergers of certain Colleges within and outside Aizawl.

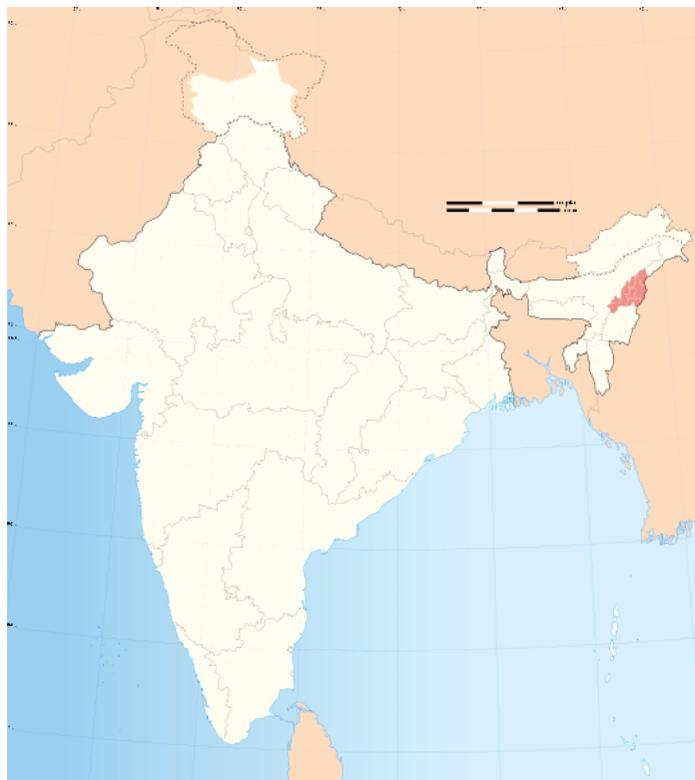
Initiatives Started

- Introduction of semester system in all affiliated undergraduate colleges.
- The College of Teacher Education, Aizawl has been upgraded to Institute of Advanced Education Studies.
- The Mizoram Scholarship Board (MBS) has been upgraded to the Level Directorate.

Initiatives Proposed

- Establishment of Indian Institute of Information Technology (IIIT) and Rajiv Gandhi Indian Institute of Management (RGIIM).
- Government of India has proposed to establish 6 polytechnics in the state in 6 different districts. The implementation of this scheme is being currently sought in Public Private Partnership (PPP) mode.
- Stipend for long term department trainees and tie up arrangement with banks regarding study loans for economically backward students.
- Setting up of law and medical colleges in the state has been proposed.

State Focus: Nagaland



State Profile

Capital	Kohima
Total Area (in sq. km.)	16,579
Total Population	19,80,602
Population Density (per sq. km.)	119
Number of Districts	11
Literacy Rate (%)	80.11
Sex Ratio (per 1,000 males)	931
State Domestic Product, 2008-09 (In Rs. Crore)	8,622
Per capita income, 2008-09 (Rs.)	45,353

Introduction

Nagaland gained its statehood in the year 1963. It is bounded by the states of Assam to the west, Arunachal Pradesh and part of Assam to the north, and Manipur to the south. It shares international borders with Myanmar to the east. The state is mostly mountainous except those areas bordering the Assam valley. Agriculture is the most important economic activity in Nagaland. Principal crops include rice, corn, millets, pulses, tobacco, oilseeds, sugarcane, potatoes and fibres. Other economy boosters are forestry, cottage industries, insurance, real estate and tourism.

The many advantages of the state are that it is connected to other parts of the country through rail, road and air. More than 60% of its population belongs to the working age group. Tourism is a major industry, with several foreign tourists attracted to the state. There are investments & employment opportunities in the sectors of food processing, agro & forest based industries, mineral based industries, petrochemicals, handloom & handicrafts, horticulture & floriculture and tourism.

Universities and University Level Institutes

There is 1 central university in the state, Nagaland University (NU). In addition, there are 2 private universities in the state. There are no deemed or state universities in Nagaland. The National Institute of Technology, (which is an institute of national importance), was established during the 11th Five Year Plan.

The Nagaland University was established in 1994 as a central university. The university has Kohima Campus at Meriema, an agricultural campus in Mezdiphema and an engineering, technology & management at Dimapur. The headquarters has been functional since 2010 in Lumami. The university has 6 schools in the fields of science, social science, humanities & education, agricultural sciences & rural development, engineering & technology and management studies. The university currently affiliates 51 colleges in the state. The state has 2 private universities - Institute of Chartered Financial Analyst of India University (ICFAIU) which offers Bachelor's and Master's Degree Programs in management and computer science and The Global Open University which is recognized by the University Grants Commission (UGC) and Ministry of Human Resources Development (MoHRD) for imparting higher education in distance mode of study so as to introduce vocational, job oriented and employment centric education in north-east in general and in the state in particular.

The National Institute of Technology (NIT), Nagaland is one among the ten newly established NITs by the MoHRD, Government of India (Gol) in 2009 during the 11th Five Year Plan. It is located in Dimapur, the commercial hub of the state. At present the institute has 3 undergraduate courses in engineering namely Electrical & Electronics Engineering, Electronics & Communication Engineering and Computer Science Engineering.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Nagaland (2011-12)	India (2011-12)
State University	0	285
Private University	2	112
Institute of National Importance	1	39
Deemed University	0	129
Central University	1	40
Total	4	605

Source: UGC

Most of the premier institutes of the state are located in the commercial capital of the state - Dimapur. Nagaland University has three campuses out of which two are located in Dimapur and one in the state capital of Kohima. Most of the affiliated colleges of the state are however spread across the state there by providing opportunities for higher and technical education for all the youth of the state.

Figure 1: Location of Universities and University Level Institutes in Nagaland



As can be seen in Table 2, in 2011-12, the state had 56 colleges, of which 73.21% were private colleges and the remaining 26.79% were government colleges. The overall growth of higher education institutes during the 4 year period between 2007-08 and 2011-12 has been 2.87%, with the growth of government colleges (3.64%) outpacing the growth of private colleges (2.6%) in the state. However, private colleges dominate the higher education ecosystem in the state and the state government relies heavily on private sector participation in imparting higher education.

Table 2: Distribution of Government & Private Colleges between 2007-08 and 2011-12

Year	Government Colleges	Private Colleges	Total
2007-08	13	37	50
2008-09	13	37	50
2009-10	14	37	51
2010-11	14	38	52
2011-12	15	41	56

Source: Higher Education Annual Report-2011-12, Dept. of Higher Education, Govt. of Nagaland

Technical education in the state was initiated in 1972 when the first polytechnic institute, Nagaland Polytechnic was established in Zunheboto, now renamed as Khelhoshe Polytechnic Atoizu (KPA). Subsequently Women's Polytechnic (now Government Polytechnic Kohima) and Institute for Communication and Information Technology (ICIT) were also established in 1994 and 2003 respectively. Thus, the state now has 3 technical institutes that are offering 3 year engineering diploma programs in areas of civil, electrical and electronics, mechanical, automobile, computer, electronics and communications, computer applications, modern office practice and an advanced diploma program in apparel production. It can be seen in Table 3 below, that the maximum number of colleges offer programs at the undergraduate level in the fields of arts, science and commerce. There are 4 teacher education colleges and 3 law colleges in the state.

Table 3: Distribution of Colleges by Courses Offered

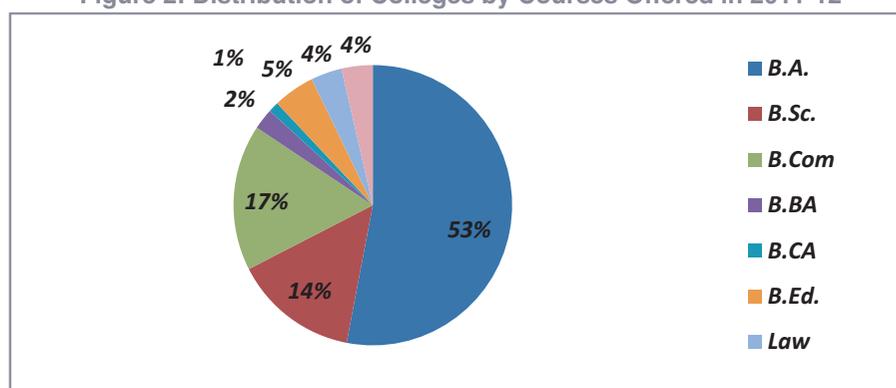
Course Offered	No. of Colleges
Bachelors in Arts (B.A.)	44
Bachelors in Science (B.Sc.)	12
Bachelors in Commerce (B.Com)	14
Bachelors in Business Administration (BBA)	2
Bachelors in Computer Application (BCA)	1
Bachelors in Education (B.Ed.)	4
Law	3

Source: Higher Education Annual Report-2011-12, Dept. of Higher Education, Govt. of Nagaland

Key Higher Education Indicators: Institutes & Enrolment

Among the various colleges in the state, 53% of the higher education institutes offered undergraduate courses in arts faculty, followed by 17% offering undergraduate courses in commerce faculty in the year 2011-12. At the undergraduate level, the faculties of arts, science and commerce together constitute 84% of the total number of institutes.

Figure 2: Distribution of Colleges by Courses Offered in 2011-12



Source: Higher Education Annual Report-2011-12, Dept. of Higher Education, Govt. of Nagaland

The total enrolment in government and private colleges in 2011-12 was 29,601, of which 70.59% of the students were enrolled in private colleges and 29.41% were enrolled in government colleges. There has been an overall growth in enrolment at 4.35% between 2007-08 and 2011-12. Enrolment in government colleges has outmatched enrolment in private colleges with government institutes registering a growth rate of 5.54% as compared to 3.8% in private colleges. On an average, for every one government college there are three private colleges in the state.

Table 4: Distribution of Colleges by Enrolment between 2007-08 & 2011-12

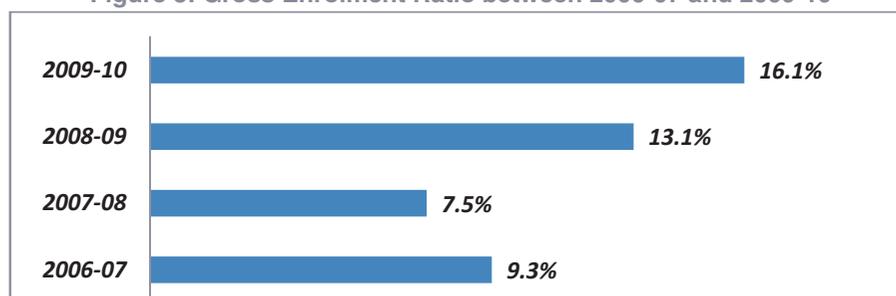
Year	Government Colleges	Private Colleges	Total
2007-08	7,015	17,998	25,013
2008-09	7,237	18,143	25,380
2009-10	8,777	19,899	28,676
2010-11	8,815	20,807	29,622
2011-12	8,704	20,897	29,601

Source: Higher Education Annual Report-2011-12, Dept. of Higher Education, Nagaland

The GER of the state currently stands at 16.1%. Between the years 2006-07 and 2009-10, the GER has increased to 16.1% from 9.3%; and the growth has been strong and steady. As of 2009-10, the

state's position was 17th among all the 35 states and union territories in India. The state GER of 16.1% is higher than the national average of 15% and thereby indicates an above average performance with regard to providing access to higher education for the age group of 18 to 24 years.

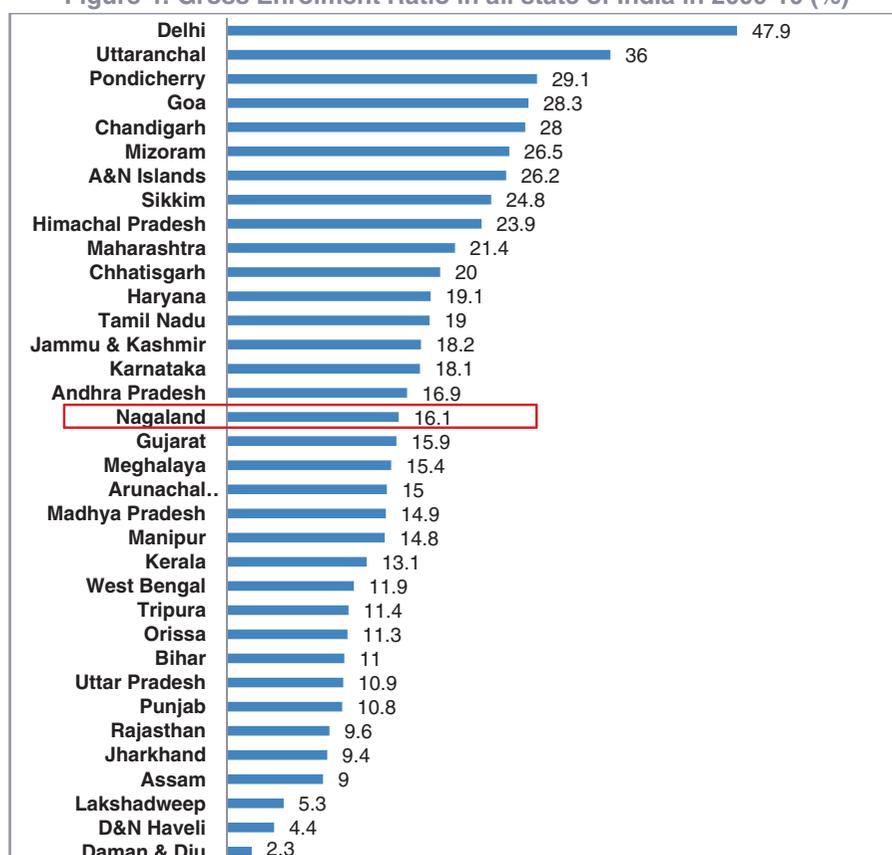
Figure 3: Gross Enrolment Ratio between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education- 2006-10, MoHRD

As compared to Nagaland's neighbouring states in the northeast region of the country, the GER in 2009-10 was the 3rd best with only Mizoram and Sikkim above it. However, Nagaland still has a long way to go and it requires investment in infrastructure for higher and technical education, so as to attract more local youth to pursue higher education in the state rather than seek it in other states of the country.

Figure 4: Gross Enrolment Ratio in all state of India in 2009-10 (%)



Source: Statistics of Higher & Technical Education- 2009-10, MoHRD

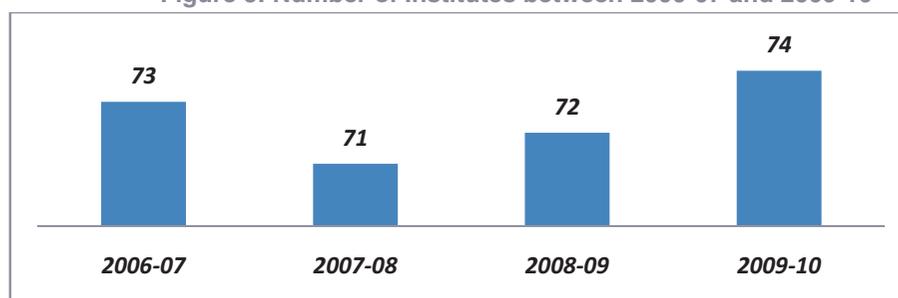
The following section will elucidate on the current higher education scenario in the state, which includes the various trends in the state higher education scenario. One section has been dedicated to

the industry and employment scenario of the state to gauge the linkage between higher education and industry in the state.

Growth in Higher Education Institutes and Enrolment

As can be seen in Figure 6, there has been a marginal growth in the number of institutes in the state of Nagaland between 2006 and 2010 (.45%). Arts, science & commerce institutes have grown at 2.3% between 2006 and 2010; however there has been no growth in teacher education institutes and polytechnic institutes in the state during this time period.

Figure 5: Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education-2006-10, MoHRD

Table 5: Growth of Enrolment at Undergraduate & Postgraduate level between 2007-08 & 2009-10

Faculty	UG +PG		Growth (%)		
	2007-08	2009-10	UG	PG	Total
Arts	8,762	23,512	178.94	0	168.34
Commerce	3,064	3,049	-0.50	0	-0.49
Science	1,508	2,227	52.37	0	47.68
Engg. /Tech./Arch.	0	0	0	0	0
Medicine	0	0	0	0	0
Agriculture	241	56	-100	0	-76.76
Management	9	19	111.11	0	111.11
Teacher Education	280	186	-33.57	0	-33.57
Law	259	412	59.07	0	59.07
Others	261	2,583	889.66	0	889.66
Total	14,384	32,044	129.49	0	122.78
Post School Diploma	648	691	6.64		
Post Graduate Diploma	3	0	-100.00		

Source: Statistics of Higher & Technical Education-2006-07 & 2009-10, MoHRD

Before interpreting Table 4, it must be noted that data at postgraduate level was unavailable for 2009-10 and was reported same as that of 2007-08. Hence, growth in enrolment for PG level of study could not be calculated. Overall enrolment has increased by 122.78%, with undergraduate programs registering 129.49% growth between 2007 and 2010.

Arts faculty has seen the maximum growth at undergraduate level (178.94%), followed by the faculty of management (111.11%). There has been a marginal increase in post school diploma courses as well (6.64%). The least amount of growth in the state at the undergraduate level has been in faculty of teacher education, which has declined at a rate of 33.57%.

Quality of Institutes

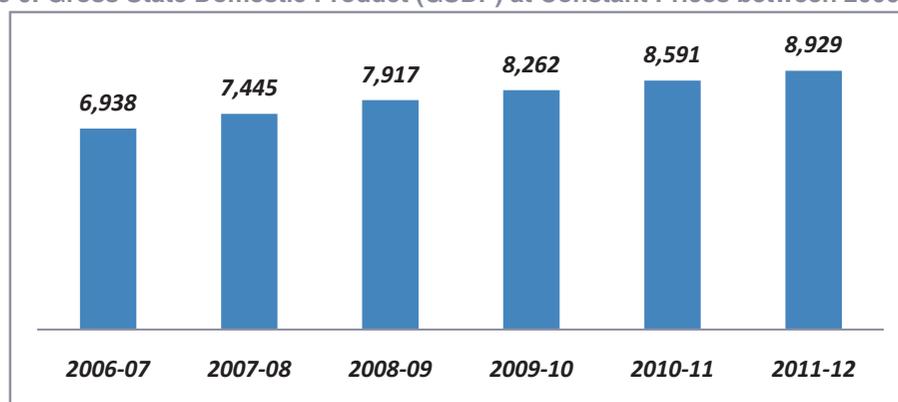
According to the Annual Report on Higher Education 2011-12, 1 university and 6 colleges have been accredited by NAAC⁹¹. Out of the 6 colleges, 2 have received A (Very Good) grade and 4 have received B (Good) grade.

Industry and Employment Scenario

Overview of the Economy

At constant prices in 2011-12, the Gross State Domestic Product (GSDP) of the state was Rs 8,929 crore and it contributed .17% to the Indian GDP during that time period. The GSDP grew at a CAGR of 5.18% between 2006 & 2012. This growth rate was lesser than the growth in northeast region (7.5%) and the country (7.94%) as well. It can be concluded that the economy of Nagaland seems to be steadily growing in size; however the rate at which it is growing is lesser as compared to the region it belongs to and the country.

Figure 6: Gross State Domestic Product (GSDP) at Constant Prices between 2006 & 2012



Source: Central Statistical Organization

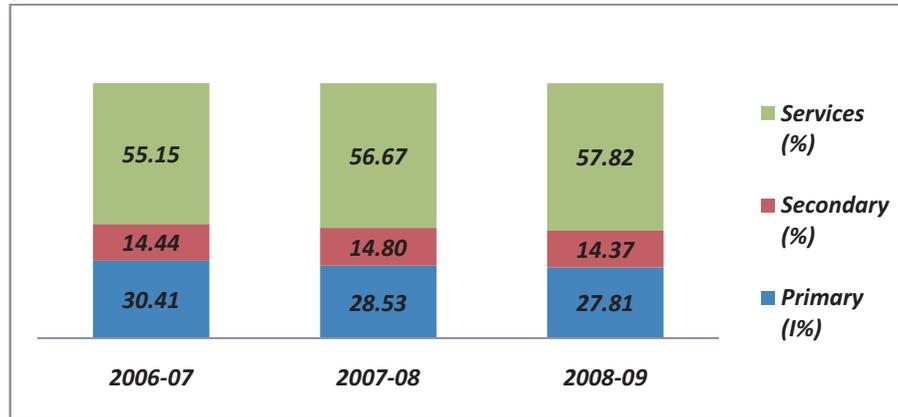
Table 6: State/Region/Country Wise Compound Annual Growth Rate of GSDP between 2006 & 2012

State/Region/Country	6 Year CAGR of GSDP
Nagaland	5.18%
NER	7.50%
India	7.94%

Source: Central Statistical Organization

⁹¹National Assessment & Accreditation Council

Figure 7: Sectoral Distribution of GSDP at Constant Prices between 2006 & 2012

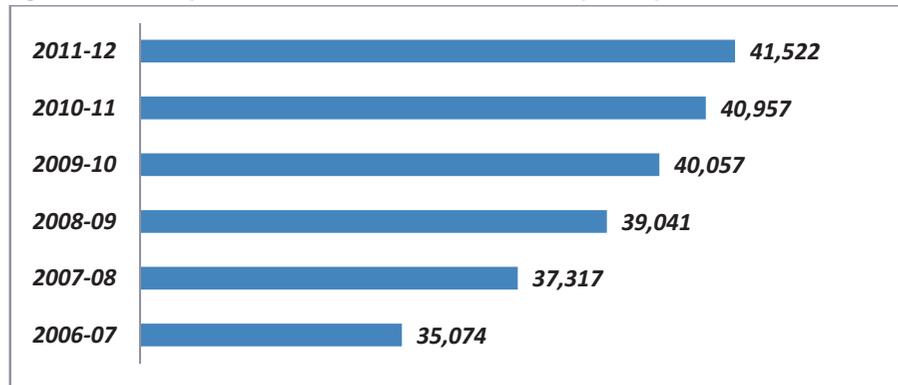


Source: Central Statistical Organization

At a growth rate of 19.78% between 2006 & 2009, the services sector is the fastest growing among all the sectors. This growth is driven by the development and enhancement in the tertiary sector and includes activities in the areas of construction, manufacturing and electricity, gas and water supply. The services sector contributed the most to the GSDP with 57.82% in 2008-09. The primary sector continues to be the 2nd most dominant sector in the state contributing 27.81% of total GSDP in 2008-09. This sector has grown at a rate of 4.46% between the years 2006-07 and 2008-09 and its sluggish growth is due to the lack of investment and technological advancement in the field of agriculture and its related fields. The secondary sector contributed 14.38% to GSDP and grew at 13.69% between 2006 and 2009.

Overall the state of Nagaland is primarily services oriented and the secondary sector of the state is gradually growing. The primary sector, which includes agriculture and its allied fields, is recording minimal growth and hence is not a main driver of the economy.

Figure 8: Per capita Net State Domestic Product (NSDP) between 2006 & 2012



Source: Central Statistical Organization

The per capita Net State Domestic Product (NSDP) at constant prices in 2010-11 stood at Rs 41,552, which is better than the national NSDP of Rs. 38,005 in the same period.

Employment Scenario

According to the Fifth Economic Census conducted in 2005, Nagaland had 35,578 establishments, employing 1,75,169 persons. While 18% of the employment was in Own Account Enterprises (OAE), the remaining 82% was in establishments. As can be seen in the Table 6 below, retail trade alone accounts for 51% of enterprises, while public administration accounts for the highest employment, at

32%. After public administration, the retail trade sector employs maximum persons employing 22.4% of the total work force. Out of the remaining half of the employed population, the education sector employees 13.9% & the manufacturing sector employees 5.8% of the total work force.

Table 7: Sector Wise Distribution of Enterprises and Employment in Nagaland

Major Activity Group	No. of Enterprises	Total Employment
Farming of Animals	1,045	3,099
Agricultural Services	35	132
Fishing	197	656
Mining & Quarrying	79	546
Manufacturing	4,087	10,323
Electricity, Gas & Water Supply	16	103
Construction	6	223
Sale, Maintenance & Repair Of MV and MC	702	2,966
Wholesale Trade	182	546
Retail Trade	18,182	39,332
Restaurants & Hotels	1,925	8,221
Transport & Storage	348	854
Posts & Tele-Communication	643	1,988
Financial Intermediation	68	1,252
Real Estate, Renting & Buss. Serv.	401	1,209
Pub Admin., Defence, Social Security	1,470	56,120
Education	2,318	24,450
Health & Social Work	961	7,044
Community, Social & Personal Services	2,912	16,092
Other Activities	1	13
Total	35,578	1,75,169

Sources: Fifth Economic Census, 2005

Public administration, retail trade, education and manufacturing account for nearly three-fourth of the total employment in the state and these sectors account for 26,057 enterprises (73% of the total number of enterprises in the state).

Key Industries⁹²

The natural resources, climatic conditions and policy incentives in Nagaland support investments in industries related to bamboo, sericulture, tourism and agro-processing. Other promising sectors in the state include paper and pulp processing, minerals and mining, and petrochemicals. The Nagaland Industrial Development Corporation (NIDC) is responsible for the development of industrial infrastructure in the state. Some of the key industries are discussed as follows.

1. Bamboo

- Nagaland promotes bamboo processing as an enterprise, covering various applications such as food-based, medicinal usage, handicraft, art, tiles and flooring.
- The state has technology tie-ups with several national and international agencies in the area of bamboo research and application.

2. Agriculture, Floriculture, Horticulture & Food Processing

⁹² India Brand Equity Foundation, Nagaland-2010

- Nagaland has a suitable climate for agricultural and horticultural produce.
- Jhum cultivation (or shifting cultivation) is widely practiced in the state; however, crop yields are low under such cultivation. There is potential for increasing capacity utilization by adopting modern techniques.
- Nagaland has a rich wealth of flora and fauna. Several varieties of orchids are available in the state, offering significant investment potential.
- Exotic and hybrid varieties of flowers are also being developed in Nagaland; the state is also home to the tallest Rhododendron tree in the world.
- The food and meat processing sector also provides immense potential for investment in the state.

3. Sericulture

- Mulberry, muga, eri, oak-tussar, and silk are widely cultivated in Nagaland.
- The Sericulture Department of Nagaland is promoting exports of silk.

4. Minerals and Mining

- Nagaland has vast, untapped natural resource reserves of limestone & marble, petroleum & natural gas, coal & substantial reserves of slate sandstones, basalt, chert, dunite, gabbro, granodiorite, serpentine, spilite pyroxenite, quartzite.
- Geology & Mining Department, Geological Survey of India, Oil and Natural Gas Corporation Limited (ONGC), Atomic Minerals Division and Central Ground Water Board are carrying out explorations.

5. Handloom and Handicrafts

- The varied ethnic handloom and crafts of Nagaland have a ready market in India and abroad.
- Bamboo crafts and handloom are being promoted as a part of the bamboo policy of the state.
- The state has a tie-up with National Institute of Fashion Technology to promote and provide sustained market for ethnic handloom.
- With modern weaving-equipment being popularized in Nagaland, the handloom sector is poised for growth in production and trade.

6. Tourism

- Wholesome climate, green hills, criss-crossing rivers, interspersed lakes, vibrant culture, colourful handicrafts and weavings, and numerous festivals make Nagaland a tourist's paradise.
- According to the Ministry of Tourism, .275 lakh domestic and foreign tourists visited Nagaland in 2011.

Key Challenges and Initiatives in Higher Education

Challenges of Higher Education

- There is a need to explore ways to bring more private players in the state to cater to increasing demand in courses like B.A, B.Com etc. and seek help for setting up more central institutes.
- The issue of employability of students is a problem that is faced by the students of the state hence affecting the development of higher education.
- The colleges in the state suffer from poor quality of education due to which they are unable to retain students to the state.
- There is a need to strike a balance between private players and the government sector. Currently the state has private colleges outnumbering government colleges at the ratio 3:1.

Initiatives Started

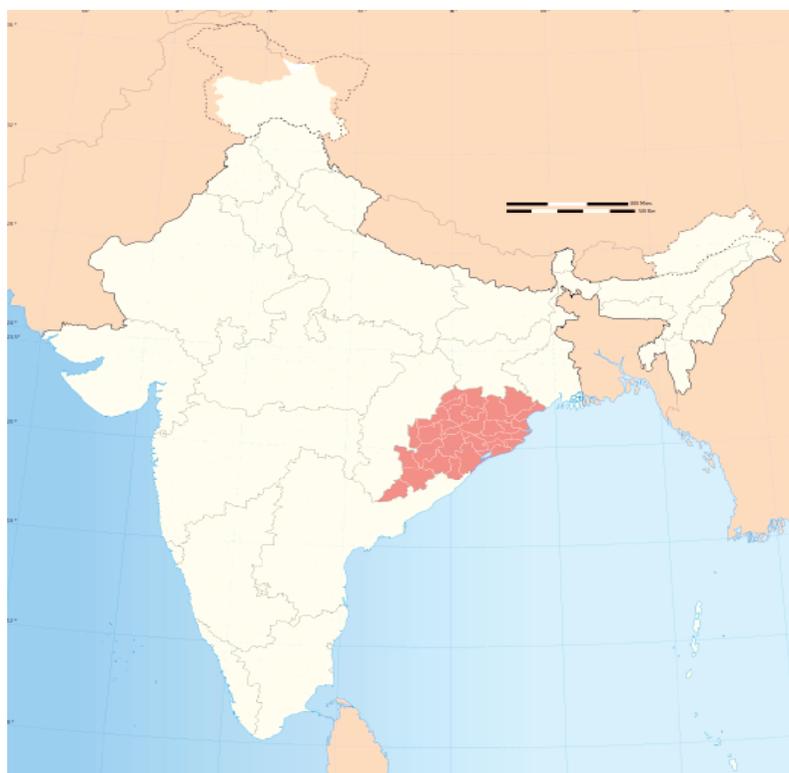
Various post metric scholarship schemes implemented under the Department of Higher education are:

- Centrally Sponsored Schemes (CSS): Post metric scholarships to schedule tribe students of Nagaland state & post metric Scholarship for students belonging to minority communities.
- NEC stipend and book grant.
- Nagaland State Merit Scholarship and Nagaland State Research Scholarship.

The Technical Education sector in the state has improved due to the following initiatives:

- Strengthening of the Directorate of Technical Education has been achieved through modification and revamping of the examination system.
- The libraries in all the polytechnics are being upgraded by acquiring adequate number of books, LR's, OHP's etc.
- Student hostels, staff quarters, administrative blocks etc. in all the polytechnics have been renovated.
- Stipends for technical students have been revised and the current year has been earmarked for award as stipends for students undergoing technical courses within and outside the state at the diploma and degree levels.
- The department has taken over the subject of JEE since 2006 and a total number of 302 students were nominated for medical & allied and engineering & allied courses during 2008-2009 through JEE.
- The department, through the Chief Minister's corpus fund facilitated 15 students to take up 9 months vocational studies in the UK during 2008-09 by way of joint scholarship from the Nagaland Government and Llandrillo International College Wales, UK.
- To properly monitor the functioning of commercial/vocational institutes and computer centres, the department has taken extensive touring within the state for on-the-spot inspection of various institutes and has formulated guidelines and terms of reference for such centres which have been approved by the government. This will ensure maintaining the standard of quality of such centres and institutes.
- All polytechnics have been provided with VSAT connectivity for easy access to the Internet.
- Govt has approved and sanctioned opening two new polytechnics within the state. Preliminary groundwork is currently underway to enable them to function early.

State Focus: Odisha



State Profile

Capital	Bhubaneswar
Total Area (in sq. km.)	1,55,820
Total Population	4,19,47,358
Population Density (per sq. km.)	269
Number of Districts	30
Literacy Rate (%)	73.45
Sex Ratio (per 1,000 males)	978
State Domestic Product, 2010-11 (Rs. Crore)	1,50,868
Per capita income, 2010-11 (Rs.)	36,923

Introduction

The state of Odisha is located on the east coast of India and is situated along the coast of the Bay of Bengal. Odisha is the modern name of the ancient kingdom of Kalinga. It is the 9th largest state and the 11th most populated state in India.

As the state is inundated with a long coastline along the Bay of Bengal it has abundant natural resources. It contains a fifth of India's coal reserves, a quarter of its iron ore, a third of its bauxite reserves and most of the chromite of the nation. The first public sector integrated steel plant was setup in Rourkela. The state receives exceptional investments in steel, aluminum, power, refineries and ports.

The state also has the ruins of major ancient university and Buddhist learning center located at Ratnagiri. Odisha has three of the oldest universities in the world namely, Taxila, Nalanda and Ratnagiri.

Universities and University Level Institutes

12 state universities, 1 private university, 2 deemed universities and 1 central university characterize the higher education landscape of Odisha. In addition to these universities, there are 3 Institutes of National Importance located in the state namely the Indian Institute of Technology (IIT) at Bhubaneswar, National Institute of Technology (NIT), Rourkela and the International Institute of Information Technology (IIIT), Bhubaneswar.

Table 1: Distribution of Universities & University Level institutions at State & National Level

Type of university	Odisha (2011-12)	India (2011-12)
State University	12	285
Private University	1	112
Institution of National Importance	3	39
Deemed University	2	129
Central University	1	40
Total	19	605

Source: UGC

Higher Education in Odisha was previously an under developed area, and was not the focus of the Indian government. However in recent times this has changed and the state is seeing rapid transformation. The state capital of Bhubaneswar is emerging as a knowledge hub in the country with several new higher educational institutions being setup by the government as well as by the private sector.

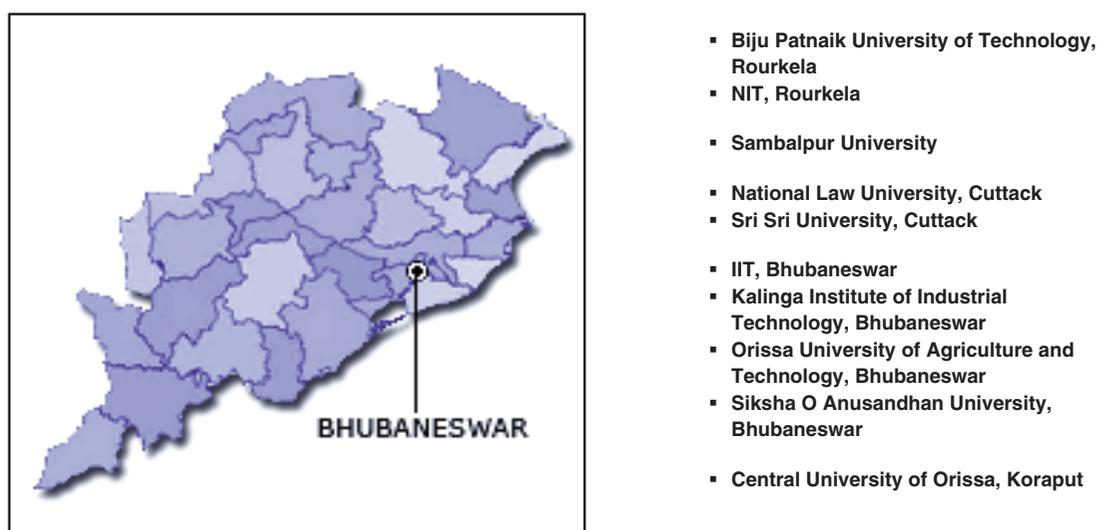
Bhubaneswar, the state capital since independence and the 'Temple City of India' is the host to many premier institutes and universities. The Indian Institute of Technology (IIT) and the International Institute of Information Technology (IIIT) are two premier institutes of engineering and information technology in the country, which are located in the city. One of the youngest institutions to be awarded deemed university status in the country is the Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar which is a co educational autonomous university offering Engineering, Bio-technology, Medicine, Management, Law, Computer application, Rural management, Fashion, Film Studies, Journalism and Sculpturing. The other deemed university of the state: Siksha 'O'

Anusandhan University is also located in the city. The 2nd oldest agricultural university, Orissa University of Agriculture and Technology (OUAT) was established in 1962 and is one of the leading institutions in agricultural studies and allied fields.

The central university of the state is situated in Koraput and is known as the Central University of Orissa. It is a general university offering programs in the areas of Social Sciences, Languages, Basic Sciences & Information Sciences, Development Studies, Health Sciences and Biodiversity & Conservation of Natural Resources.

National Institute of Technology (NIT) (formerly the Regional Engineering Colleges) and the Biju Patnaik University of Technology (BPUT) are two prominent institutes of Science and Technology located in Rourkela, which is a major hub for steel production in the country. Almost all the Engineering, Pharmacy, Architecture and most of the colleges offering MBA degree programs are either constituent or affiliated colleges of BPUT. One of the older universities of the state is Sambalpur University, established in 1967, offers 27 degree programs.

Figure 1: Location of Premier Institutes in Odisha



The geographical spread of higher education institutes in the state is well distributed and each region of the state has reputed general and technical education institutes. Bhubaneswar is rapidly becoming a knowledge hub of the state and the country with many education and industry linkages being forged here.

Table 2: Distribution of Government, Government Aided & Private Colleges in 2010-11

Category of College	No. of Colleges
Government	46
Government Aided	283
Private	339

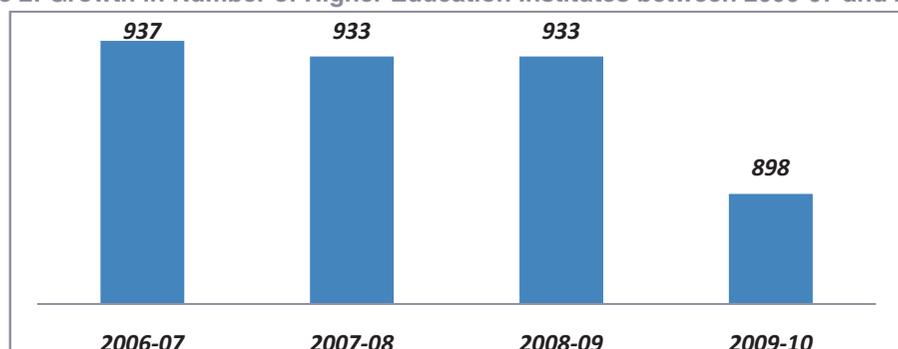
Source: Higher Education Department, Government of Odisha

There are a total of 668 colleges in the state either funded by the government or are government aided or privately aided. Over half of the colleges are privately aided (50.7%) in the state, this is followed by government aided colleges (42.3%) and the least number of colleges are funded by the government (7%). This indicates a strong dependence on private players and central funding; and a weak presence of state government funded colleges.

Key Higher Education Indicators: Institutes & Enrolment

The growth rate in the number of higher education institutes in Odisha was a dismal (-)4.16% between 2006 and 2010, vis-à-vis the national average of 30.5% which indicates that the state is not following the nation's trend of providing access to higher education to its youth. The distribution of number of institutions and their growth rate over the period can be seen in Table 3.

Figure 2: Growth in Number of Higher Education Institutes between 2006-07 and 2009-10



Source: MoHRD (Higher and Technical Education Statistics), 2006-2010

The maximum growth has been in the faculty of Engineering/Technology/Architecture with a healthy growth rate of 74.47% over the three year period. Besides the Engineering faculty the state has not shown significant growth in any other faculty. However the number of Arts, Commerce & Science institutions (-9.43%) and Polytechnics (-27.27) has fallen considerably between 2007 and 2010.

Table 3: Growth in Number of Institutions by Faculty

Faculty	2007-08	2009-10	Growth (%)
Arts, Science & Commerce	700	634	-9.43
Engg./Tech./Arch.	47	82	74.47
Medical	66	69	4.55
Education/ Teacher Training	14	14	0.00
Others	73	75	2.74
Polytechnics	33	24	-27.27
Total	933	898	-3.75

Source: MoHRD (Higher and Technical Education Statistics), 2006-2010

As can be seen in Table 4, the current scenario of technical education in the state is dominated by the private sector with majority of technical degree level institutions providing high intake. The number of private technical degree colleges and institutes are 15 times more than government technical degree colleges & institutes in the state; also intake in private institutes is 13 times more than the government institutes. This trend can also be seen at the diploma level in both private and government institutes. Such dependence on private sector implies that private players are more capable of providing technical education in the state as they are able to impart quality education, infrastructure and provide higher capacity of intake.

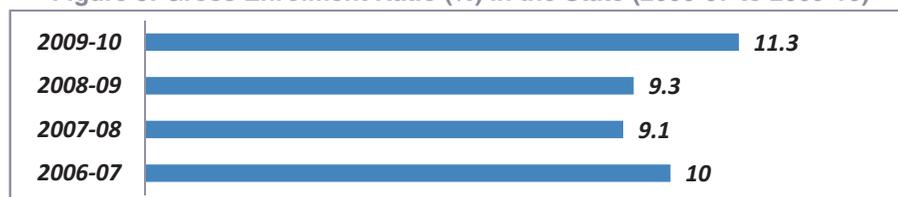
Table 4: Number of Technical Colleges & Institutes in 2011-12 by degree/diploma with intake

Degree/Diploma	Number of Colleges & Institutes	Intake
Degree Government	4	1,439
Degree Private	61	19,285
Diploma Government	13	3,185
Diploma Private	79	27,250

Source: Directorate of Technical Education & Training, Government of Odisha

The state Gross Enrolment Ratio (GER) has been rising steadily, however it reduced between 2007 and 2009. An increasing GER reflects greater access to higher education among the 18-24 years age group of the state. While the GER during the year 2006-07 was 10%, it has marginally improved to 11.3% in 2010. The GER of the state is marginally below the national average of 13.37 % during 2006 and 2010.

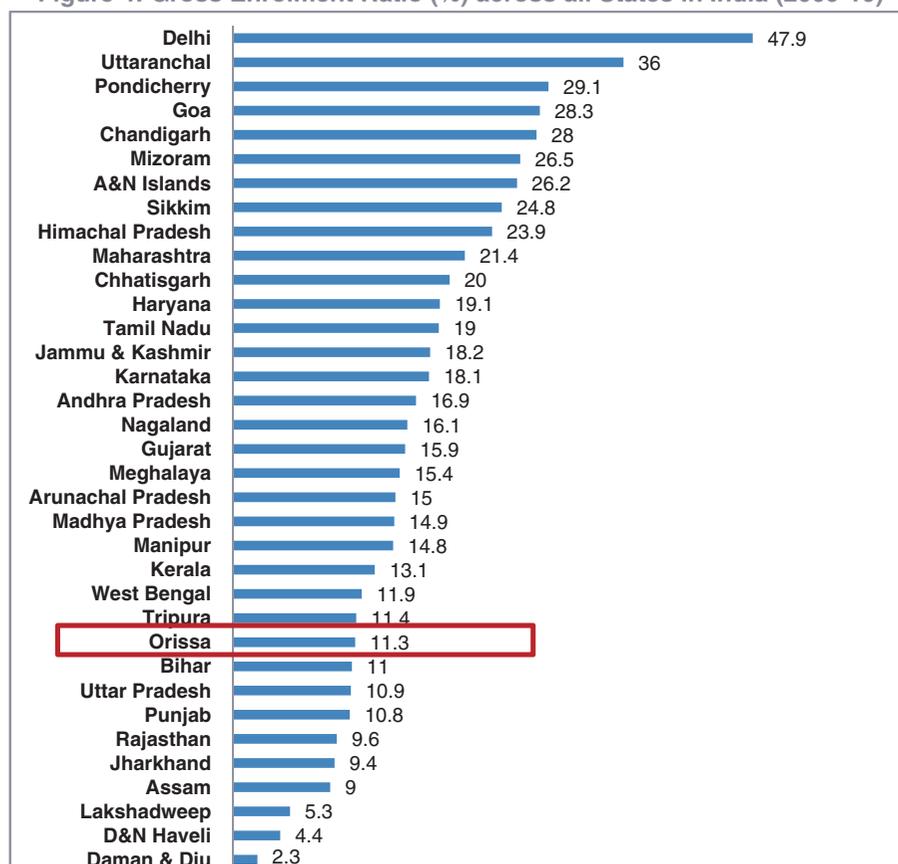
Figure 3: Gross Enrolment Ratio (%) in the State (2006-07 to 2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

Despite the marginal increase in GER, the state still stands at 26th position among the various states and union territories in India. As the GER was lower than the national average of 15% in 2009-10, Odisha still requires a lot more investment in qualitative and quantitative terms to meet the vision of achieving a GER of 30% by 2020.⁹³

Figure 4: Gross Enrolment Ratio (%) across all States in India (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

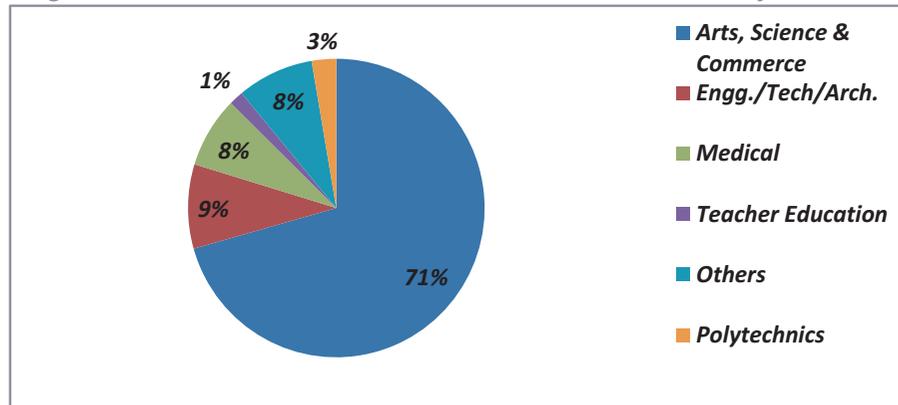
The sections below present a brief description of the current higher education scenario in Odisha, industry and employment scenario and the key initiatives in higher education undertaken and challenges in faced by the state.

⁹³Meeting Of State Higher And Technical Education Secretaries, Press Information Bureau, Gol

Growth in Higher Education Institutes and Enrolment

It has been seen that at the national level, the major programs that are being offered in higher education are in the areas of Arts, Science & Commerce (ASC). The same trend is seen in the state as well, with 71% of the total number of institutes offering programs in ASC. Institutes offering programs in Engineering, Technology & Architecture (9%) and Medicine (8%) are the 2nd and 3rd most popular categories respectively.

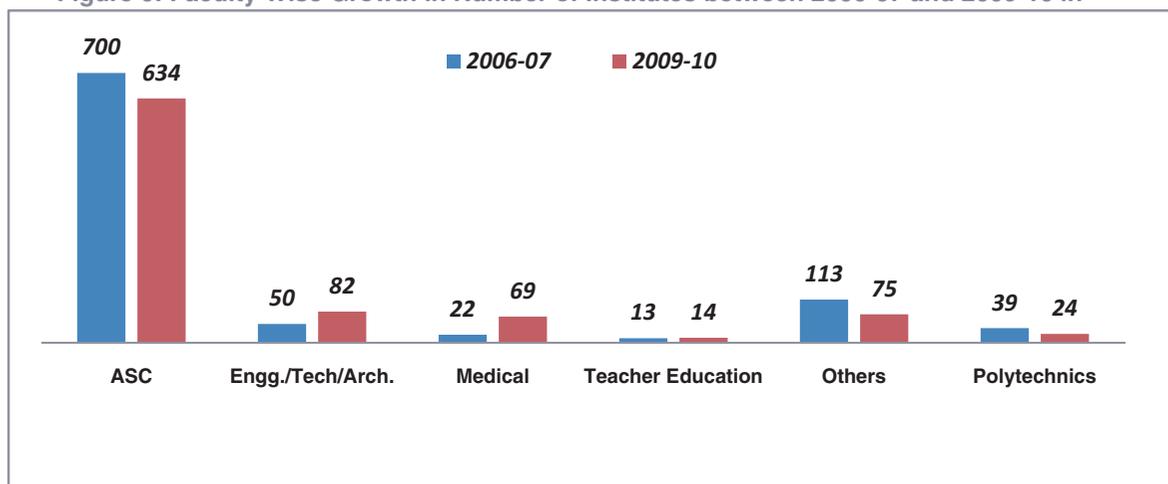
Figure 5: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

The maximum growth in the number of institutes has been in the field of Medicine at the CAGR of 45.82%, the field of Engineering/ Technology/ Architecture has also recorded a steady CAGR of 17.73% followed by Teacher Education institutes (2.48%). Thus, there has been a strong thrust on promoting education in the fields of medicine and engineering at all levels of education. However, the number of institutes offering programs in the area of ASC (-3.22%), other faculties (Law Management, IT etc.) (12.65%) and Polytechnic (-14.8%) has declined considerably between 2006 and 2010.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10 in



Source: Statistics of Higher & Technical Education, MoHRD

As depicted in Table 5, across various faculties, the number of students enrolled at the undergraduate level is significantly higher than the number of students at the postgraduate level during 2009-10. The faculty of Management, however, has equivalent number of students enrolling for both the undergraduate (49.59%) and postgraduate program (50.41%). The faculties with the least number of students are Agriculture & allied fields (0.16%) and Teacher Education (0.19%).

Table 5: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) level in 2009-10

Faculty	Enrolment in 2009-10		Total	UG (%)	PG (%)
	UG	PG			
Arts	1,27,814	10,191	1,38,005	92.62	7.38
Commerce	32,289	2,284	34,573	93.39	6.61
Science	51,254	3,524	54,778	93.57	6.43
Engg. /Tech./Arch./Design	1,11,948	1,819	1,13,767	98.40	1.60
Medicine	26,633	797	27,430	97.09	2.91
Agriculture & Allied	532	161	693	76.77	23.23
Management	6,099	6,200	12,299	49.59	50.41
Education/ Teacher Training	700	112	812	86.21	13.79
Law	8,337	77	8,414	99.08	0.92
Others	17,177	7,230	24,407	70.38	29.62
Total	3,82,783	32,395	4,15,178	92.20	7.80

Source: Statistics of Higher & Technical Education, MoHRD

It should be noted that between 2007 and 2010 the number of Engineering, Technology, Architecture & Design colleges increased with a growth rate of 64%, this led to further enrolment in this field, which is inferred by 132.2% (Table 6) growth in the enrolment of students at an undergraduate level during the same period.

As seen in Table 6, there was strong growth in the number of students enrolling for under graduate programs (38.23%), as compared to the enrolment for postgraduate programs, which marginally decreased by 0.18% (data for post graduate level was not available in 2009-10, hence sufficient analysis could not be performed). During the period 2007 and 2010, Arts and Commerce stream showed positive marginal growth at both undergraduate and postgraduate level at an average of 5.52% and 2.6% respectively. In the Science stream, there was a steady growth (31.2%) at the UG level, however PG enrolment dropped (-10.6%). The Law stream at thug level grew exceptionally at a rate of 65.25%. The stream of Medicine witnessed the highest growth amongst all streams at the UG level, with growth being recorded at 182.3%. Such a meteoric rise could be due to increased capacity intake through infrastructure development of existing medical colleges and an increase of medical and related field colleges in the state.

Table 6: Faculty Wise Growth of Enrolment at UG and PG level between 2007-08 and 2009-10

Faculty	Undergraduate		Postgraduate		Growth (%)		
	2007-08	2009-10	2007-08	2009-10	UG	PG	Total
Arts	1,18,207	127,814	9,903	10,191	8.13	2.91	5.52
Commerce	31,305	32,289	2,235	2,284	3.14	2.19	2.67
Science	39,063	51,254	3,918	3,524	31.21	-10.06	10.57
Engg/Tech/Arch	48,208	1,11,948	1,819	1,819	132.22	0	66.11
Medicine	9,434	26,633	797	797	182.31	0	91.15
Agri. & Allied	532	532	161	161	0	0	0
Management	7,242	6,099	6,200	6,200	-15.78	0	-7.89
Teacher Edu.	700	700	112	112	0	0	0
Law	5,045	8,337	77	77	65.25	0	32.62
Others	17,177	17,177	7,230	7,230	0	0	0
Total	27,6913	3,82,783	32,452	32,395	38.23	-0.18	19.03

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes⁹⁴

The NAAC has ranked only 3 universities in the state and has awarded A grade (Very Good) to Siksha 'O' Anusandhan University, and B grade (Good) to Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar and North Orissa University, Mayurbhanj.

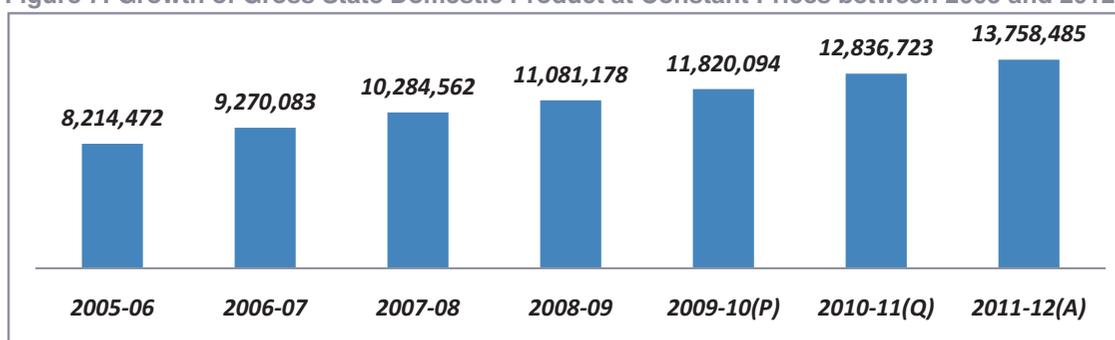
Out of the 58 colleges NAAC has ranked, 12% colleges have received A grade (Very Good), 51.8% colleges have received B grade (Good) and 36.2% colleges have received C grade (Satisfactory).

Industry and Employment Scenario

Overview of the Economy

Odisha's economy slowed down in the last 3 years of the 11th Five Year Plan; this was primarily due to the economic slowdown faced by the country as well as the world. Odisha has grown at a CAGR of 4% in the same time period.

Figure 7: Growth of Gross State Domestic Product at Constant Prices between 2005 and 2012



Source: Economic Survey, Odisha: 2011-12, (Q): Quick Estimates, (A): Advance Estimates

In terms of Nominal Gross Domestic Product in 2010-11, Odisha ranked 14th out of 28 states of the country and in 2011-12. Odisha contributed 2.63% to the country's GDP. It is ranked 23rd in terms of per capita income among all states and union territories of the country. As seen in Table 7, Odisha's real per capita income for 2009-10 at Rs.24,275 was higher than that of Bihar, UP, M.P., Jharkhand, Assam and Rajasthan.

Table 7: Per Capita NSDP of Selected States in 2010-11

State	Per Capita NSDP in 2010-11 (In Rs)
Bihar	11,558
Uttar Pradesh	16,182
Madhya Pradesh	19,736
Jharkhand	22,780
Rajasthan	23,669
Odisha	24,275
West Bengal	30,504
Himachal Pradesh	40,690
Tamil Nadu	46,823

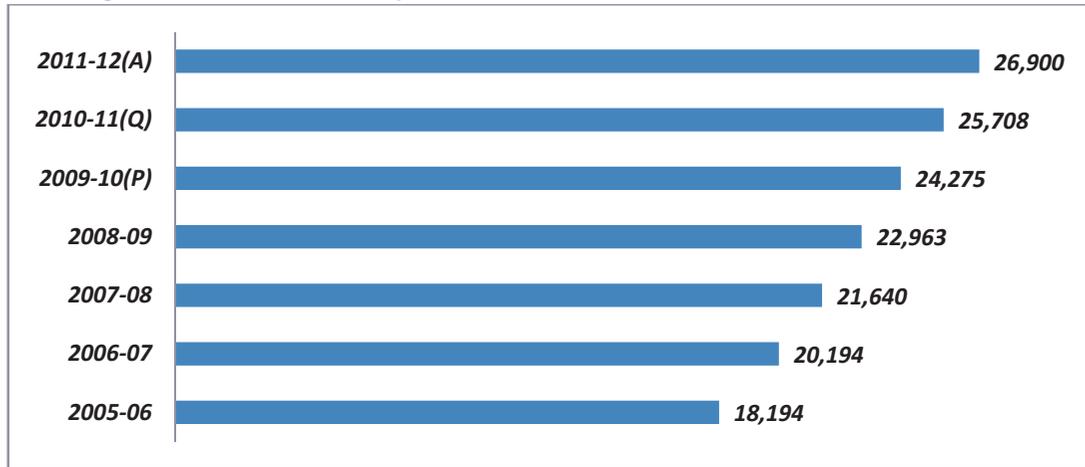
Source: Handbook of Statistics on Indian Economy, RBI

Figure 8 clearly depicts that the states per capita Net State Domestic Product (NSDP) is growing at a sound rate of 6.74% over a 6 year period, this is similar to the rate of growth of the country (6.53%).

⁹⁴ National Accreditation and Assessment Council

However the Per Capita NSDP in 2011-12 of Rs 26,900 is much lower than that of the national average of Rs 38,005.

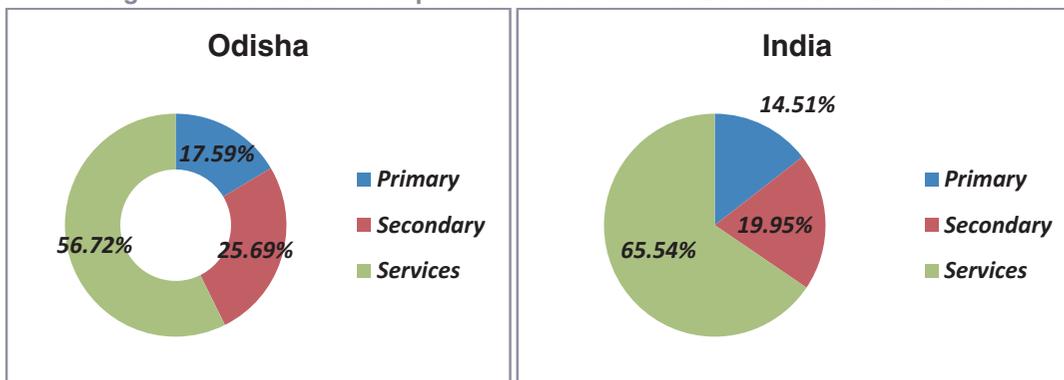
Figure 8: Growth of Per Capita NSDP at Constant Prices between 2005 and 2012



Source: Economic Survey, Odisha: 2011-12, (Q): Quick Estimates, (A): Advance Estimates, (P): Provisional Estimates

As per the composition of GSDP in 2010-11 (Figure 9), Odisha's primary sector (Agriculture) accounts for 17.59% as compared to 14.59% for the country, secondary sector (Industry) accounts for 25.69% which is greater than the country's secondary sector contribution of 19.95% and service sector constitutes 56.72% which is less than India's services sector contribution of 65.54%. Thus it can be concluded that as compared to the Indian economy, the economy of Odisha was more agricultural & industrial and relatively less service-oriented in 2010-11.

Figure 9: Sector wise Composition of Odisha's GSDP & India's GDP in 2010-11



Source: Directorate of Economics and Statistics, Odisha

Similar to other states, Odisha's economy has been undergoing a structural change, with the service sector becoming more and more dominant. The high growth rates recorded by the state in the 10th and 11th Five Year Plans are mainly due to high growth registered by the industry sector and the services sector which have averaged annual real growth rates of 9.16% and 9.56% respectively with the base of 2004-05 prices.⁹⁵

⁹⁵ Economic Survey, Odisha: 2011-12

Employment Scenario

In Table 8, the annual growth rates of the labor force and the work force have been estimated as 1.38% and 1.55 % respectively and the projected year end unemployment rates were estimated as 8.76% in 2011-12 as compared to 9.37% in 2007-08.

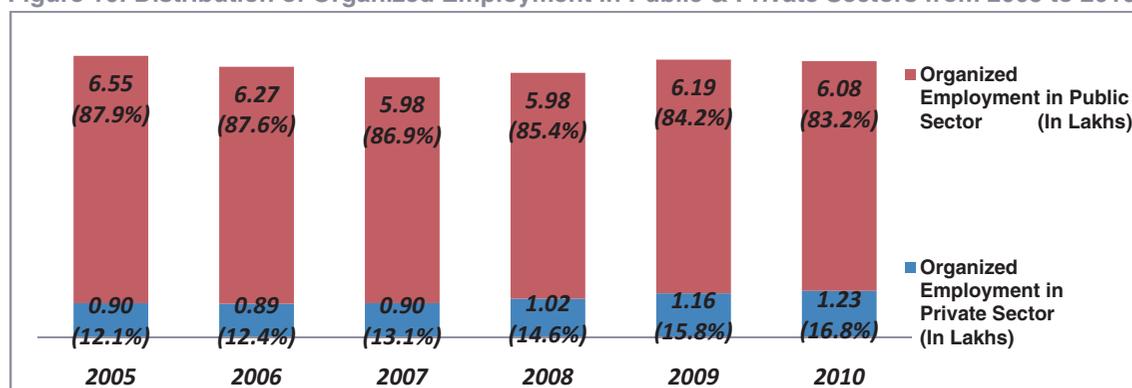
Table 8: Employment-Unemployment Projections for the 11th Plan (2007-12)

#	Attributes of Labour Force	In lakh person				
		2007-08	2008-09	2009-10	2010-11	2011-12
<i>Labour Force of Odisha</i>						
1	Estimated labour force at the beginning of the year	148.41	150.46	152.54	154.65	156.78
2	Labour force at the end of the year (@ 1.38% Projected Annual Growth)	150.46	152.54	154.65	156.78	158.94
<i>Work Force of Odisha</i>						
3	Total work force at the beginning of the year	134.28	136.36	138.47	140.78	142.8
4	Total work force at the end of the year (@ 1.55% Projected Annual Growth)	136.36	138.47	140.62	142.96	145.01
<i>Unemployment in Odisha</i>						
5	Magnitude of unemployment at the beginning of the year	14.13	14.10	14.07	13.87	13.98
6	Magnitude of unemployment at the end of the year	14.10	14.06	14.03	13.82	13.93
7	End of The Year Rate of Unemployment (%)	9.37	9.22	9.07	8.82	8.76

Source: Economic Survey, Odisha: 2011-12

The total employment in organized public and private sectors declined slightly from 6.55 lakh in 2005 to 6.08 lakh in 2010. While the share of private sector employment has been steadily increasing (16.8% in 2010 as compared to 12.1% in 2005), this sector still absorbs less than a quarter of employment.

Figure 10: Distribution of Organized Employment in Public & Private Sectors from 2005 to 2010



Source: Economic Survey, Odisha, 2011-12

As evident from Table 9, the number of educated job seekers registered at various Employment Exchanges in Odisha stood at 8,19,000 persons in 2010. In 2010, the maximum numbers of job seekers were matriculate and undergraduates with 67% of the total number of applicants registering, this was followed by graduate and postgraduate applicants in general stream (26%).

The number of diploma holders (excluding technical streams) registering with the state's employment exchanges has also gradually increased and has doubled in a five year period (25,000 in 2005 to 50,000 in 2010), this could be due to the fact that diploma programs in the state lack quality and are not designed to be job-oriented.

Table 9: Distribution of Educated Job Seekers Registered at Employment Exchanges in Odisha

In '000s							
Year	Total Applicants	Below Matric	Matriculate & Under Graduate	Graduate & Post Graduate (General)	Graduate & Post Graduate (Technical)	Other Diploma holders	Total educated job seekers through exchanges
2005	834	117	523	163	6	25	717
2006	907	151	559	171	5	21	756
2007	797	124	498	142	5	28	673
2008	833	136	510	152	5	30	697
2009	864	115	533	172	5	39	749
2010	942	123	549	215	5	50	819

Source: Economic Survey, Odisha: 2011-12

As seen in Table 10 below, the number of technical graduates registering for employment at Employment Exchanges has increased between 2005 and 2010, especially after a drop in number between 2006 and 2009. The number of technical postgraduates however registering for employment has steadily decreased, which translates in to more employment opportunities for postgraduates in the state.

Table 10: Live Register Position of Technical Graduates and Post-Graduates (in actual numbers)

Level of Education	2005	2006	2007	2008	2009	2010
Technical Graduates	5,064	4,870	4,766	4,517	4,248	5,138
Technical Post Graduates	487	573	361	319	311	330
Total	5,551	5,443	5,127	4,836	4,559	5,468

Source: Economic Survey, Odisha: 2011-12

Key Industries⁹⁶

Odisha's industries are based mostly on the natural resources available. The state has significant reserves of iron ore, bauxite, nickel and coal. Hence, it is an attractive destination for mineral-based industries. Agriculture and allied sector have provided employment, directly or indirectly, to more than 60% of the state's total workforce. The state is one of the top producers of aluminum in the country, both in terms of production capacity as well as actual production. Some of the key industries in the state are:

1. Iron and Steel, and Ferroalloy

- Odisha is one of the largest producers of iron and steel in the country. The state accounts for about 32.9% of all the iron-ore deposits in India, thus making it one of the favored investment destinations for domestic and international iron and steel players.
- The state has substantial reserves of other minerals that go into steel making such as coal, dolomite and limestone.

⁹⁶ India Brand Equity Foundation, State Report- Odisha

- Key players in this sector who have setup businesses in the state are Tata Steel, POSCO India Pvt Ltd, Visa Steel Ltd and Essar Steel.

2. Aluminum

- Odisha has over 50% of the bauxite reserves of India, making it an ideal location for setting up aluminum and aluminum-based companies. It also has adequate water and power supply for such industries.
- Some key players in this segment are National Aluminum Company Limited, Hindalco Industries Limited and Vedanta Group.

3. Handloom

- Odisha's small scale industries (SSI) are characterized by low capital investment, low gestation period, high value addition, and high export promotion prospects.
- The Orissa State Cooperative Handicrafts Corporation is engaged in strengthening the production base, enhancing marketing opportunities, encouraging exporters and introducing new designs and technology in the handicrafts sector.

4. Agro-Based Industry

- Odisha's main agriculture products are rice, pulses, oilseeds, vegetables, groundnut, cotton, jute, coconut, spices, potato and fruits. Coconut is cultivated over an area of around 52,200 hectares.
- There is a vast scope for agro-based industries for rice, lentils, edible oil-milling, dehydration of vegetables, maize-milling, cattle and poultry rearing, cotton oil, potato chips, coconut oil, sugar mills, mushroom cultivation, non-edible oils and others.
- Key players in this field are Nayagarh Sugar Complex Limited, Sakthi Sugars Limited, Aska Cooperative Sugar Industries Limited and Paradeep Phosphates Limited

5. Mining

- The key minerals found in the state are iron, coal, bauxite, manganese, nickel, chromite, limestone, dolomite, graphite, decorative stones, beach sand, china clay, tin ore, etc.
- Odisha is one of India's richest states in terms of mineral reserves.
- Major players which have undertaken mining activity in the state are Orissa Mining Corporation, Mahanadi Coalfields Limited, Rungta Mines Limited and Ferro Alloy Corporation Limited (FACOR)

6. IT/ITeS & Electronics Industry

- The IT sector is dominated by over 300 small and medium enterprises. The sector employs about 12,000 software professionals.
- The state has an ample talent pool to cater to the needs of this industry. It produces 20,000 B.Tech and MCA graduates, about 3,000 management professionals and 50,000 general graduates every year.
- Prominent players in this sector which do business in Odisha are Infosys Ltd, Tata Consultancy Services, Wipro Ltd and Orisys Infotech Pvt Ltd.

7. Tourism

- Odisha has vast potential for the development of tourism. It is one of the critical sectors of the state economy in terms of foreign exchange earnings as well employment generation opportunities.
- Bhubaneswar, the capital city of the state, is known as the temple city of India and is home to about 500 temples. Puri, Bhubaneswar and Konark are the main centres for religious tourism in the state.

Key Challenges and Educational Initiatives

Key Challenges

- The state suffers from a lack of qualified teachers in professional courses.
- The quality of diploma teaching is below par and there is a need for a National Institute for Technical Teachers Training and Research (NITTTR), which can help train teachers to impart knowledge better.
- There is a need for new engineering and polytechnics in different districts of the state and demand for more multilingual schools, especially in tribal areas.
- Provisions for infrastructure facilities at engineering colleges, polytechnics and ITIs are needed urgently. Ways to bring in more private players should be looked in to as the demand for UG level courses is increasing every year.
- Higher and technical education departments should cater to the needs of the youth by providing them latest market driven and job oriented courses.
- Implementation of National Vocational Quality Education Framework (NVQEF) through engineering colleges, ITIs and polytechnics needs suitable action.

Initiatives Started

- National Law University established during 11th Five Year Plan in Cuttack.
- Infrastructure assistance given to Institute of Information Technology (IIT) (Sambalpur University) and the institute was established as an autonomous constituent institute on the lines of IITs to impart training and have quality research programs related to IT and allied subjects.
- Infrastructure grant to Ravenshaw University and other non government aided colleges.
- Students Academic Management System (SAMS): e-admission process for all degree colleges in the state.
- New initiative in e-governance such as e-Abhiyog and Personnel Management Information System, Human Resources Management System etc.
- To monitor the academic performance, infrastructure, proper utilization of Government & UGC grants; the state government established an Evaluation & Monitoring Cell to ensure observance of quality parameters by the institutions and the quality of academic delivery.
- Establishment of Centre of Excellence for multi skill education including language skills. English language laboratories have been proposed in all government colleges.
- Odisha Knowledge Corporation Limited established in JV with Maharashtra Knowledge Corporation Limited with a view to accelerate socio-economic development of the state by providing IT education.
- Career Advancement Scheme has been given to faculty in government colleges and non government aided colleges by giving them promotion to Lecturer and Reader grade.
- To promote technical and professional education, the state government has introduced award of Rs 10,000 per year per student pursuing professional education (Medical/Engineering/BDS etc.) with a target of 10,000 students.
- Skill development initiatives based on Modular Employable Skill have been implemented.

Initiatives Proposed

- National Mission on Education through Information & Communication Technology funded by Government of India.
- Uniform academic calendar for all institutions.
- Establishment of 8 new model colleges where GER is less than the national average.
- Establishment of Government Vocational Junior Educational Colleges.

- Infrastructure support for new engineering colleges, existing technological universities and polytechnics.
- Teacher Education Quality Improvement Program Phase (TEQIP) II needs to be implemented and work of TEQIP I needs be further improved.
- Infrastructure support to new and existing ITIs. Introduction of Hospitality sector courses at select ITIs.
- Establishment of Central Placement Cell.
- Establishment of state of art Institute of Training of Trainers (IToT) to meet the need of training trainers and skill gap training of the polytechnic graduates and ITI graduates.
- Implementation of ICT program.

State Focus: Puducherry



State Profile

Capital	Pondicherry
Total Area (in sq. km.)	492
Total Population	1,244,464
Population Density (per sq. km.)	2,598
Number of Districts	4
Literacy Rate (%)	86.55
Sex Ratio (per 1,000 males)	1,038
State Domestic Product, 2010-11 (In Rs. Crore)	11,512
Per capita income, 2010-11 (Rs.)	98,719

Introduction

Puducherry (formerly known as Pondicherry) literally means 'New Town' in Tamil language⁹⁷; it consists of 4 small unconnected districts: Pondicherry, Karaikal and Yanam on the Bay of Bengal and Mahé on the Arabian Sea. Pondicherry and Karaikal are by far the larger ones and are both enclaves of Tamil Nadu. Yanam and Mahé are enclaves of Andhra Pradesh and Kerala respectively.

Pondicherry is a union territory (UT) of India and Puducherry is the capital. It is not a separate state, which implies that the governance and administration of the territory falls directly under the federal authority in the capital, New Delhi. However, along with Delhi, Pondicherry is one of the 2 union territories in India, which is entitled by special constitutional amendments to have an elected legislative assembly and a cabinet of ministers, thereby having partial statehood powers.

Pondicherry has one of the highest levels of quality of life in the country with moderate physical infrastructure and a very high literacy rate compared to the rest of the country. Puducherry is a major tourist destination of India, with travellers coming from all over the world to experience the uniqueness of this quaint city. Many travellers come here to study yoga or meditation at Sri Aurobindo Ashram, so there's always a large contingent of foreigners in Puducherry.⁹⁸

The government of Puducherry, in order to impart quality higher education has established various colleges in the government sector and also under various societies. Many private initiatives in the field of higher education are being encouraged by the government to start arts & science colleges and professional colleges. There is one central university by the name of "Pondicherry University" located at Kalapet. Most of the government arts & science colleges, professional colleges, and engineering & medical colleges are affiliated to Pondicherry University. It also offers various courses on its campus. The National Institute of Technology (NIT) started at Karaikal during the year 2010-11 offering quality technical education in the field of science & technology. Large number of students from other states (nearly 28,000) comes to pursue higher education in Puducherry.

Puducherry Vision 2025, (2009) a document by the Confederation of Indian Industry (CII), places 'Higher education, Learning & Research' as the top most developmental agenda for Puducherry's transformation. This was the aspiration of the stakeholders of this UT.⁹⁹

Universities and University Level Institutes

The higher education landscape of Puducherry consists of 1 central university and no state & private universities and 1 deemed university. In addition to these institutes, the UT has 1 institute of national importance in the form of a National Institute of Technology.

Table 1: Distribution of Universities & University Level institutions at State & National Level

Type of University	Puducherry (2011-12)	India (2011-12)
State University	0	285
Private University	0	112
Institution of National Importance	1	39
Deemed University	1	129
Central University	1	40
Total	3	605

Source: UGC

⁹⁷ South Asia: New name for old French territory. BBC News (20/09/2006).

⁹⁸ <http://www.lonelyplanet.com/india/tamil-nadu/puducherry-pondicherry>

⁹⁹ Higher & Technical Education, UT of Puducherry, Background note for planning commission

Currently, the state is dominated by 116 private unaided colleges, which form 77% of the total number of colleges in the UT. Besides private funded colleges the UT has 11 state government colleges, 4 central government colleges and 19 society colleges. The various areas of study that can be found in these colleges include arts, science & commerce (ASC), research in fields of dentistry & nursing, veterinary studies, agriculture, law, engineering & technology, education and catering.

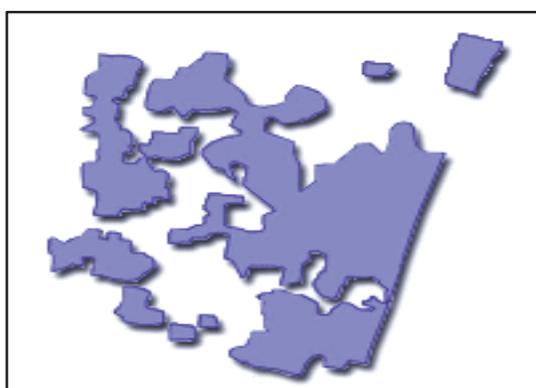
The only central University of the UT is Pondicherry University; it was founded in 1985 by the central government and is a collegiate university with a jurisdiction spread over the union territories of Pondicherry, Lakshadweep and Andaman and Nicobar Islands. It has introduced innovations like the choice-based credit system and on-line admission for postgraduate studies.¹⁰⁰ Other than providing affiliation to colleges in the UT, teaching and research are its primary functions. The university has 13 schools in the areas of management, mathematical sciences, engineering, applied sciences, life sciences, humanities, social sciences & international studies, education, medical sciences, media & communication and green energy technologies.

The National Institute of Technology (NIT), Puducherry, is one of the 30 NITs and is situated in Karaikal, Pondicherry (Puducherry). NIT Puducherry is one of the 10 NITs sanctioned by the Government of India in 2009 as part of the 11th Five Year Plan. Currently the institute only offers 3 B.Tech programs in Electronics & Communication Engineering, Electrical & Electronics Engineering and Computer Science Engineering.

Mahatma Gandhi Medical College & Research Institute (MGMC & RI), the flagship institution of Sri Balaji Educational and Charitable Public Trust is a modern medical college and hospital located in Pondicherry. This tertiary care teaching hospital, better known as 'Architectural Wonder of Pondicherry', is an imposing landmark on the national highway. The institute offers both undergraduate and postgraduate courses in Child Health, Child Health (D.Ch), Psychiatry , Tuberculosis & Chest Diseases, Dermatology, Venereology & Leprosy, Anaesthesiology, Obstetrics & Gynaecology, Orthopaedics and Ophthalmology.

Rajiv Gandhi College of Engineering and Technology (RGCET) is a premier private engineering institute located at Pondicherry, under Sri Balaji Educational and Charitable Public Trust, and affiliated to Pondicherry University. The college offers UG courses in Bio Medical Engineering, Computer Science & Engineering, Electric & Electronic Engineering, and Information Technology. PG course are offered in Business Administration and Computer Application.

Figure 1: Location of Premier Institutes in Puducherry



- Pondicherry University
- Mahatma Gandhi Medical College & Research Institute (Sri Balaji Vidyapeeth University)
- Rajiv Gandhi College of Engineering and Technology
- Rajiv Gandhi College of Veterinary and Animal Sciences
- Sri Venkateshwara Medical College Hospital and Research Centre

- Pondicherry Engineering College

- NIT, Karaikal

¹⁰⁰ Distance Learning and Vocational Instruction: Need, Impact and Challenges, ICDE conference paper & Pondicherry University launches online admission for postgraduate courses, The Hindu, Aug 21, 2006

Most premier institutes of the UT are located in Puducherry as can be seen in Figure 1 above. The distribution of different colleges in districts of the UT is given in Table 1 below. 70.7% of all colleges in the UT are in the capital of Puducherry, followed by Karaikal (20.6%) and the rest in Yanam (4.7%) & Mahe (4%). The maximum number of institutes is in the faculty of education (51.33%) offering UG (B.Ed.) and diploma (D.Ed.) courses in teacher education, and then by arts, science & commerce (ASC) colleges (13.33%) and engineering & technology institutes and colleges (11.33%).

Table 2: District Wise Distribution of Colleges by Faculty in 2010-11

Faculty	Puducherry	Karaikal	Mahe	Yanam	Total
ASC Colleges	14	3	1	2	20
Research Institutes	1	0	0	0	1
Medical	8	1	0	0	9
Dental	2	0	1	0	3
Nursing	8	1	0	0	9
Para Medical	2	0	0	0	2
Veterinary	1	0	0	0	1
Agriculture & Allied Fields	0	1	0	0	1
Law	2	0	0	0	2
Engineering & Technology	10	6	0	1	17
Education	54	17	3	3	77
Polytechnic	2	2	1	1	6
Catering	2	0	0	0	2
Total	106	31	6	7	150

Source: Directorate of Higher & Technical Education, Government of Puducherry, Puducherry

Looking from the type of management among the various colleges in Puducherry, majority of the colleges (77.33%) are private, unaided institutions followed by society colleges (12.66%). Central and state government colleges only constitute 10% of all colleges in the state in 2010-11 (2.6% are central govt. & 7.33% are state govt. colleges) as can be seen in Table 3 below.

Table 3: Distribution of College by Type of Management in 2010-11

No.	Type of Management	Nos.
1	State Government Colleges	11
2	Central Government Colleges	4
3	Society Colleges	19
4	Private Colleges (Unaided)	116
	Total	150

Source: Directorate of Higher & Technical Education, Government of Puducherry,

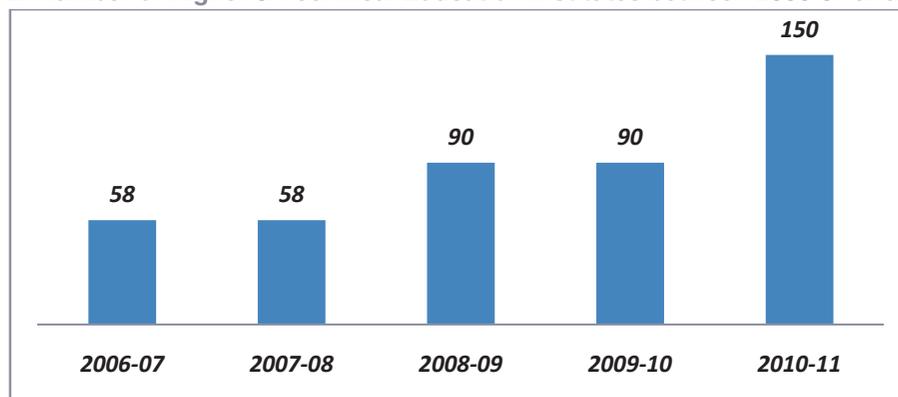
Key Higher Education Indicators: Institutes & Enrolment

The growth rate in the number of higher education institutes in Puducherry stands at 15.6% vis-à-vis the national CAGR of 7% between 2006-07 and 2009-10 as can be seen in Figure 2 below. In 2010-11, the total number of higher and technical education institutes stood at 150 as compared to 68 in 2006-07, thereby registering a CAGR of 26.81% in the 5 year period. Such rise in number of institutes indicates an above average performance in ensuring access to higher education to the citizens of the state.

(It must be noted that we have found inconsistent matching between the number of higher and technical institutes in the data provided by the Ministry of Human Resource Development (MoHRD) and the data provided by the Directorate of Higher & Technical Education, Govt. of Puducherry. We

have tried to make the data as consistent as possible; however some of our findings may be ambiguous in interpretation on analysis).

Figure 2: Number of Higher & Technical Education Institutes between 2006-07 and 2010-11



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10 & Directorate of Higher & Technical Education, Govt. of Puducherry

As can be seen in Table 4, enrolment in UG and PG courses have grown at a rate of 2.76% & 19.8% respectively between 2007-08 and 2011-12 in state owned colleges (SOC). The enrolment in society owned technical institutes (SOTI) has dropped at the PG level (-.87%) but increased at the UG level (1.53%). The greatest increase in enrolment has been seen in diploma programs in SOTIs, where they have been growing at 11.74% indicating a high demand for job oriented courses in the field of science and technology. Overall, enrolment has been steadily increasing in SOC (2.58%) as well as in SOTIs (7.44%).

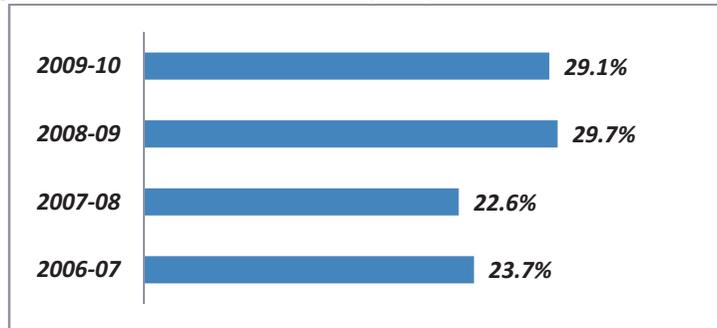
Table 4: Enrolment in SOC's & SOTIs between 2007-08 & 2011-12 by UG, PG & Diploma Level of Study

Year	State Owned Colleges (SOC)				Society Owned Technical Institutes (SOTI)			
	UG	PG	Diploma	Total	UG	PG	Diploma	Total
2007-08	2,571	447	50	3,068	621	203	1,066	1,890
2008-09	2,605	487	50	3,142	655	156	1,112	1,923
2009-10	2,854	486	50	3,390	631	185	1,513	2,329
2010-11	2,697	517	50	3,264	632	178	1,583	2,393
2011-12	2,867	480	50	3,397	660	196	1,662	2,518
CAGR (%)	2.76	1.80	0.00	2.58	1.53	-0.87	11.74	7.44

Source: Directorate of Higher & Technical Education, Govt. of Puducherry

The state Gross Enrolment Ratio (GER) increased at a healthy pace between 2006-07 and 2009-10, thereby reflecting an increased participation in enrolment in higher education by the 18-24 year age group. While the GER during the year 2006-07 was 23.7%, it has steeply increased to 29.1% in 2009-10.

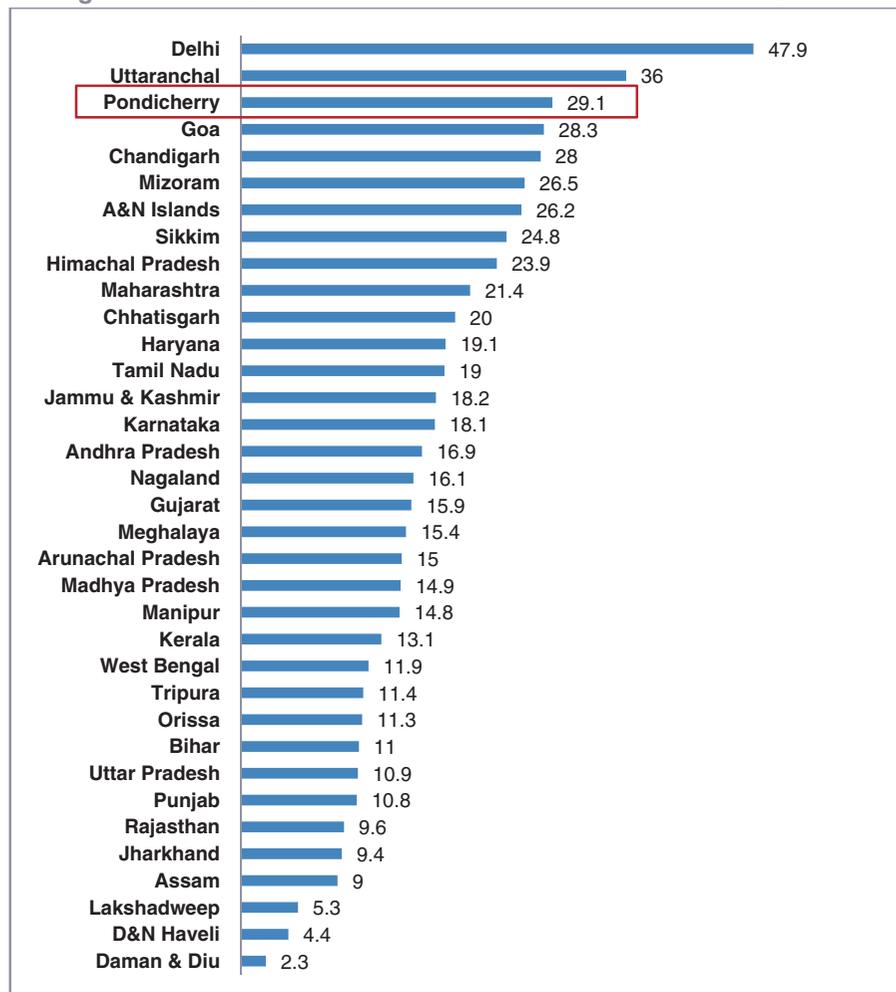
Figure 3: Gross Enrolment Ratio (GER) between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MoHRD 2006-10

Puducherry stands at an impressive 3rd position in the list of states according to GER in 2009-10, only behind the Delhi and Uttarakhand. The GER of 29.3% is almost double of the national average in 2009-10 of 15%. Although, Puducherry still has to improve in many other areas pertaining to higher education so as to ensure productive growth in quality of education imparted in the union territory and for it to become a benchmark for the other states and UTs in the country in the future years to come.

Figure 4: Gross Enrolment Ratio across all states in India in 2009-10



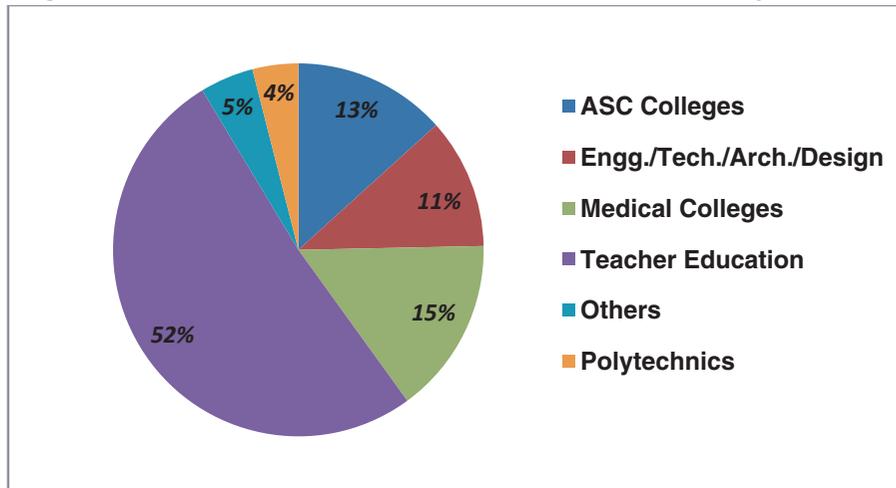
Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

The following sections present a descriptive analysis of the current higher and technical education scenario in the UT. This is followed by a brief overview of the industry and employment situation. We conclude by highlighting the current and proposed initiatives the UT and central govt have undertaken in order to make higher and technical education more productive, relevant and accessible.

Growth in Higher Education Institutes and Enrolment

It has been revealed that at a national level, the dominant programs that are being offered in higher & technical education are in the areas of arts, science and commerce. A similar trend is reflected in Puducherry as well in 2010-11, with 52% of the total number of institutes offering programs in arts, science & commerce (ASC) as can be seen in Figure 5 below. Institutes offering programs in medicine, which includes medical, dentistry and nursing (15%) and engineering, technology, architecture & design (11%) are the 2nd and 3rd most preferred categories in 2010-11. The UT has the fewest number of polytechnics among all faculties of education with only 6% of all higher and technical institutes offering degree and diploma programs in the field of science and technology.

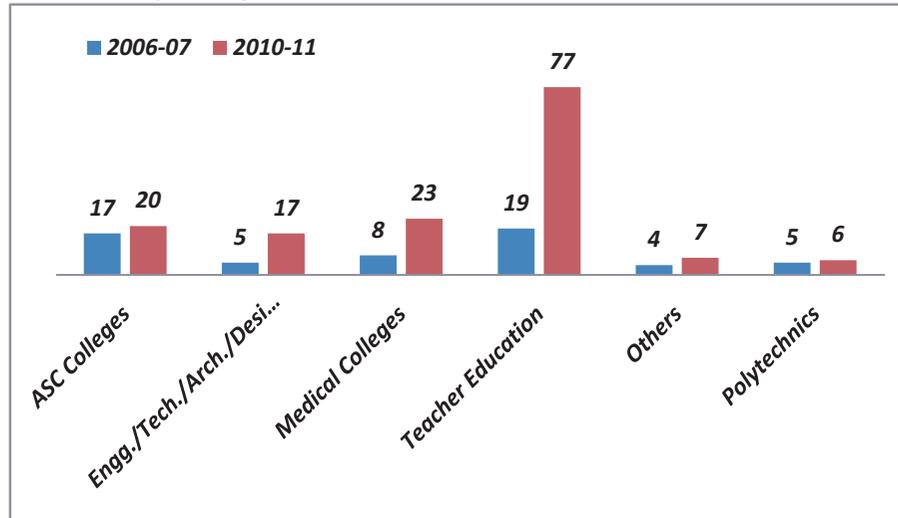
Figure 5: Distribution of Number of Institutes Based on Faculty in 2010-11



Source: Directorate of Higher & Technical Education, Government of Puducherry

The maximum growth in the number of institutes between the years 2006-07 and 2010-11 has been in the field of teacher education, with a CAGR of 41.88%; followed by engineering, technology, and architecture & design institutes (35.29%). Thus, there has been a strong impetus on promoting teacher education both at UG and diploma level. The least growth was witnessed in ASC colleges, which grew at a marginal rate of 4.15% in the 5 year period. Professional education in the state has been promoted quite significantly as all job oriented faculties such as teacher education, medicine and engineering have grown at more than 30% over the 5 year period between 2006-07 and 2010-11; this is a sign of growing interest among the youth of the UT to pursue specialized professional courses.

Figure 6: Faculty wise growth in number of institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MOoHRD-2006-7 & Directorate of Higher & Technical Education, Government of Puduchery

Across the various faculties, the number of students enrolled at the undergraduate level (97.54%) was significantly higher than the number of students at the postgraduate level (2.46%) in 2009-10. No faculty in 2009-10 had more than 10% of their enrolment at PG level; such a statistic indicates decreased participation of youth in specialized fields of study in varied fields.

Enrolment in PG studies is very low in the UT and maximum enrolment at this level is in the faculty of arts (38.74%). The arts faculty has maximum enrolment at the UG level as well with 36.81% of total UG enrolment. This is followed by engineering (25.35%) and then by teacher education (12.15%) at the UG level. A significant proportion of students have enrolled in diploma programs with majority of students being enrolled in post school programs (73.26% of all diploma programs) and the remaining are enrolled in PG diploma programs (26.74% of all diploma programs).

Table 5: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) level in 2009-10

Faculty	UG	%	PG	%	Total
Arts	13,933	97.41	370	2.59	14,303
Commerce	2,075	99.19	17	0.81	2,092
Science	3,608	95.65	164	4.35	3,772
Engg. /Tech./Arch.	9,597	98.31	165	1.69	9,762
Medicine	2,892	100.00	0	0.00	2,892
Agriculture	184	91.54	17	8.46	201
Management	432	100.00	0	0.00	432
Teacher Education	4,602	99.35	30	0.65	4,632
Law	524	93.40	37	6.60	561
Others	0	0.00	155	100.00	155
Total	37,847	97.54	955	2.46	38,802
Post School Diploma	2,760				
Post Graduate Diploma	1,007				

Source: Statistics of Higher & Technical Education, MoHRD -2009-10

The total enrolment of the UT has grown by 143.12% between 2007-08 and 2009-10 and it is primarily due to an impressive growth in enrolment in the faculty of arts which has grown by 426.7% in the a three year period. This followed by strong growth in law (143.85%), teacher education (138.39%) and engineering (117.91%). The faculty of management, which has grown steadily at

45.48%, has witnessed least growth. However both post school and postgraduate diploma programs have declined in this time period at a rate of 1.39% and 31.31% respectively indicating a fall in demand in diploma education in the UT.

Table 6: Faculty wise Growth of enrolment at UG and PG level between 2007-08 and 2009-10

Faculty	UG +PG		Growth (%)		
	2007-08	2009-10	UG	PG	Total
Arts	3,352	14,303	384.96	-22.76	426.7
Commerce	2,305	2,092	0.00	-92.61	90.76
Science	4,496	3,772	0.00	-81.53	83.9
Engg. /Tech./Arch.	8,279	9,762	31.79	-83.45	117.91
Medicine	3,675	2,892	-15.71	-100	78.69
Agriculture	57	201	360	0	352.63
Management	952	432	0.00	-100	45.38
Teacher Education	3,347	4,632	38.95	-14.29	138.39
Law	390	561	48.44	0	143.85
Others	259	155	-100	55	59.85
Total	27,112	38,802	60.61	-73.08	143.12
Post School Diploma	2,799		2760		-1.39
Post Graduate Diploma	1,466		1007		-31.31

Source: Statistics of Higher & Technical Education, MoHRD 2007-08 and 2009-10

Table 6 shows that the UG growth has outpaced PG growth quite significantly with the former registering a growth of 60.61% whereas PG is declining at a rate of 73.08% between 2007-08 and 2009-10. Such inequality translates in to students preferring UG courses for higher education and either pursuing PG and/or postdoctoral studies outside the state or seeking gainful employment. Another point to be considered is that since there is an exclusive PG and research institute in the UT, the degree colleges have very few PG courses, which explains low enrolment in PG courses over the years as well.

Maximum growth has been seen at UG level in the faculty of arts (384.96%) followed by law (48.44%). (It must be noted, due to the unavailability of data for certain faculties, some results have return inflated values, however the inferences that has been made are accurate to the present scenario in the UT)

Quality of Institutes

The only central university in the UT, Pondicherry University has been accredited and assessed by the NAAC¹⁰¹ up to 2012, has been awarded A (Very Good) grade and 4 colleges have also been graded and given B (Good) grade.

Out of the government manned institutes, only 5 institutes have been given NAAC accreditation, of which two have received B++ grade, two have received B+ grade and one has received C++ grade.

Employment and Industry Scenario

With a small industrial inheritance of 3 textile mills, Puducherry has come a long way. Now it has 7,553 industries representing a cross section of industries. Seven well established industrial estates with comprehensive infrastructure facilities propelling the industrial growth. There have been spectacular performances on the export front with principal export items being leather, chemicals, textiles and metallic products.

¹⁰¹National Accreditation and Assessment Council

Government of Puducherry also provides good infrastructural facilities of roads, electricity and water supply. Above all Puducherry has very informal work culture where all government executives and even ministers are easily approachable. It provides a peaceful and quality work force with no hassles of trade unions. And all this has made Puducherry a heaven for existing and new industrial units.¹⁰²

Industry Strength

Puducherry is already known as “Hardware capital of India”. Almost all the majors in the Hardware industry such as Lenovo, Acer, WIPRO, HCL and HP have set up their units. Name of the other players are LG, Samtel, Proview, Thapars, Henkel, Hindustan Unilever, Kotharies, Sriram, L&T, Chemcrown, Foseco, Chemfab Alkalis, Whirlpool, Suzlon, Lucas TVS Ltd, Rane Madras Ltd, MRF Ltd, Ace Glass, Berger Paints, Sundram Fastners, Rane Brake linings, Johnson, Neycer, Regency and Marico, etc.

Key Challenges and Initiatives in Higher Education

As far as the UT of Puducherry is concerned, the access and equity components to higher education are of a high order, conforming to all India norms. The Human Development Index, Education Development Index and GER are consistently higher than the country level averages. Its main concern is the quality of higher & technical education in this territory, which is fast becoming the hub for higher education in the country.

There is a constant need to improve and innovate by designing and delivering effective courses and modules. A total revamping is required with respect to teaching, learning, and evaluation and outreach activities in the realm of higher education. Some of the key challenges that plague the UT currently are as follows.

Key Challenges

- There is a need to separate higher education statistics pertaining to local students in the state from the students who come from outside the state to avail higher education, to have an in depth analysis of current issues in the UT.
- There is an urgent need to upgrade the quality of existing educational institutes to address the language gaps, employability of students, and promote smart classrooms and academia-industry interface.
- A large part of the plan outlay is allocated towards salary component as grant in aid to society colleges, which should be shifted to non plan expenditure.
- At present, open ended assistance without any syntax of salary element is given for scholarship to students. Hence there is a need to review the scheme for assisting students in terms of an income ceiling, to lead to better targeting of needy and deserving sections of society.

Innovative Practices in Higher Education

- Introduction of add on certificate/diploma courses in the area of languages, information technology etc. Utilization of IGNOU convergence scheme for conducting master degree courses like MBA and MCA as well as UGC merged schemes for conducting coaching classes for NET examination, coaching classes for weak and minority students and coaching for in service and soft skill training.
- Introduction of smart class room to have visual and more interactive education. Setting up of language labs for developing language skills and digital classrooms for implementation of modern facilities in teaching and learning processes.

¹⁰²Note on Industry in Puducherry, Confederation of Indian Industries (CII)

- Introduction of choice based credit system with flexibility given to the students in earning the credits by prescribing the maximum and minimum credits per year.
- Introduction of audit courses with a view to enable the students to acquire multi disciplinary knowledge.
- A student centric teaching learning process to encourage the usage of advanced teaching aids and learning materials. Introduction of mini projects and creative industry relevant assignments in the curriculum.
- Providing online learning resources in the library such as e-journals, e-books etc. Evolving more transparent and objective evaluation and examination methodology.
- Introduction of shift system will give opportunity to train double the strength of the students by optimum utilization of the available infrastructure and resources.
- Setting up Career Guidance and Counselling Centre, as well as a Training and Placement Cell that would provide more employment opportunities to the students.

Special Initiatives Funded by the State Government

- In order that no meritorious student is prevented on grounds of financial constraints from an academic career in the field of medicine, engineering etc., the Govt. of Puducherry has introduced a financial assistance scheme to cover the tuition fee to the students selected through CENTAC (Centralized Admission Committee) studying medical/engineering courses in private unaided professional institutions.
- National Institute of Technology (NIT) has been setup in the academic year of 2010-11 at Karaikal. Out of 90 seats, 50% are for Puducherry and Andaman region. Starting a NIT at Karaikal induces and reassesses the thoughts of the students of Puducherry.

Achievements in Higher Education during the 11th Five Year Plan Period

During 2006-07 and 2011-12, the UT of Puducherry has managed to increase the quality, access and relevance of higher and technical education in the state. Some of their more prominent achievements are:

- NIT has been established at Karaikal in 2010-11 to promote science and engineering at UG level and at a PG level in the future.
- The Puducherry State University Bill has been submitted to the Government of India (GoI) for approval.
- An engineering college has been established in 2007-08, a community college has been established for dropouts in 2009-10 and a women's polytechnic has been established in Karaikal as well in 2010-11.
- 10% of seats have been increased in the govt. and society colleges in 2009-10.
- Add on courses on soft skills, information technology and handicrafts have been started in government and society Colleges.
- Centralized admission procedure for arts and science courses (CAPASC) has been started from 2011-12 in Puducherry region.
- The University Grants Commission (UGC) has awarded Kanchi Mamunivar Centre for Post Graduate Studies in Puducherry as 'Centre for Potential with Excellence'.

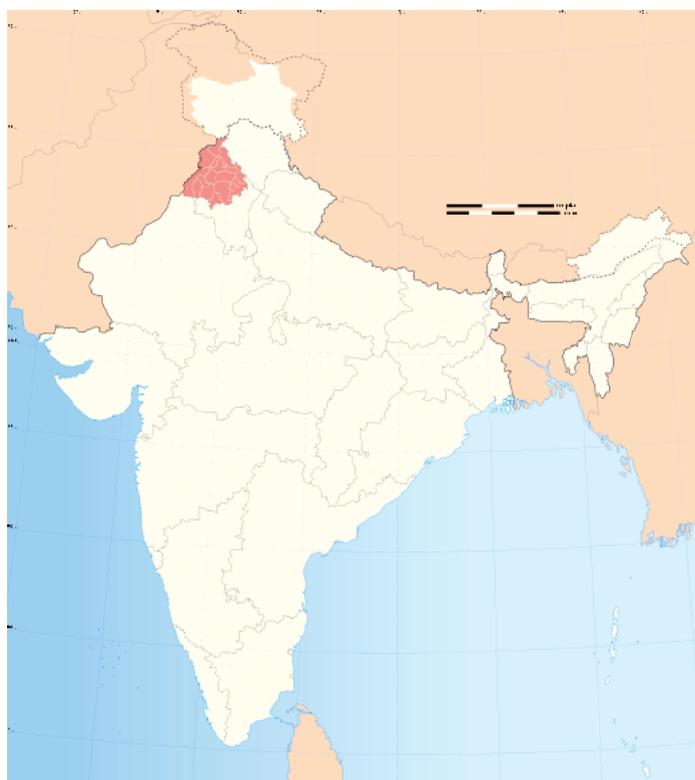
Initiatives Proposed

Extensive inclusion and intensive learning should be considered to ensure that quality education is available for citizens regardless of caste, class or gender. Student centric modes of delivery should be

incorporated and faculty regeneration should be given special emphasis to keep the education system up to date with national and global practices. Some of the other such initiatives are as follows.

- Establishment of Puducherry State University.
- Steps are being taken to start a new arts and science college in Karaikal and new polytechnic college in Puducherry under the centrally assisted scheme of the Govt.
- Implementation of the CSS scheme 'Community Development through Polytechnics (CDTP)' in Karaikal Polytechnic College.
- Psychometric testing to be made mandatory as it provides information on the student's current and potential competence.
- Bridge courses to be introduced for 4-6 weeks for ensuring that students are effectively able to deal with the challenges presented to them.
- Academic skills, research skills, job skills and life skills to be given special focus and short term add on courses to be introduced that have employable and entrepreneurial value.
- Postgraduate courses of interdisciplinary nature and disciplinary nature to be introduced.
- Examination and evaluation reform to improve the existing system of assessment in all colleges.

State Focus: Punjab



State Profile

Capital	Chandigarh
Total Area (in sq. km.)	50,362
Total Population	27,704,236
Population Density (per sq. km.)	550
Number of Districts	17
Literacy Rate (%)	76.68
Sex Ratio (per 1,000 males)	893
State Domestic Product, 2010-11 (In Rs. Crore)	195,901
Per capita income, 2009-10 (Rs.)	67,473

Introduction

The state of Punjab is located in the North West part of India and forms a part of the entire Punjab region, which stretches into Pakistan. The state is bordered by the Indian states of Himachal Pradesh to the east, Haryana to south and southeast and Rajasthan to southwest as well as the Pakistani province of Punjab to west. It is also bounded in north by Jammu & Kashmir.

The Indian Punjab region is called the 'Granary of India' or 'India's bread-basket'¹⁰³. It produces 10.26% of India's cotton, 19.5% of India's wheat, and 11% of India's rice. Agriculture is the largest industry in Punjab and it is the single largest producer of wheat in India.¹⁰⁴ Other significant industries in the state include the manufacturing of scientific instruments, agricultural goods, electrical goods, machine tools, textile, sports goods, fertilizers, bicycles, garments, and the processing of pine oil and sugar. Punjab also has the largest number of steel rolling mill plants in India, which are located in the steel town of Mandi Gobindgarh.

Punjab houses many reputed public institutes in the field of higher education. All the major arts, humanities, sciences, engineering, law, medicine, veterinary science, and business courses are offered at both undergraduate and postgraduate levels. Advanced research is conducted in all major areas of excellence. Punjab Agricultural University is one of the world's leading institutions in agriculture. It played an instrumental and vital role in Punjab's Green Revolution in the 1960s-70s. The state government accords high priority to the technical education sector and undertakes continuous up gradation and expansion of human resources development. The state government also encourages the participation of the private sector and strives to find a balance between them and the private sector to impart quality higher and technical education to the youth of the state.

Universities and University Level Institutes

7 state universities, 5 private universities, 2 deemed universities and 1 central university characterize the higher education landscape of Punjab. In addition to these universities, there are 3 Institutes of National Importance located in the state. The universities in Punjab offer a wide variety of specializations in the fields of Agriculture, Technology, Legal Studies, Veterinary Studies and Healthcare, besides offering general courses in Arts, Science & Commerce at both undergraduate and postgraduate level of study.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Punjab (2011-12)	India (2011-12)
State University	7	285
Private University	5	112
Institution of National Importance	3	39
Deemed University	2	129
Central University	1	40
Total	18	605

Source: UGC

The 5 private universities in the state provide general studies at UG and PG levels and provide a competent alternative to the 7 state universities of the state. The 2 deemed universities specialize in

¹⁰³ Official Punjab Govt. Website

¹⁰⁴ "Punjab" - Overseas Indian Facilitation Centre.

Engineering & Technology and are considered the top technical education centres in the state. Punjab state has 3 Institute of National Importance, namely the Indian Institute of Technology at Ropar, B.R. Ambedkar National Institute of Technology at Jalandhar and the National Institute of Pharmaceutical Education & Research in Mohali.

Panjab University, located in the state capital and union territory of Chandigarh, is one of the oldest universities in the country. The university offers courses and research in the fields of Science, Engineering & Technology, Humanities, Social Sciences, Performing Arts and Sports. It has 188 affiliated colleges spread over Punjab, Haryana, Himachal Pradesh, Chandigarh & regional centres at Muktsar, Ludhiana and Hoshiarpur.

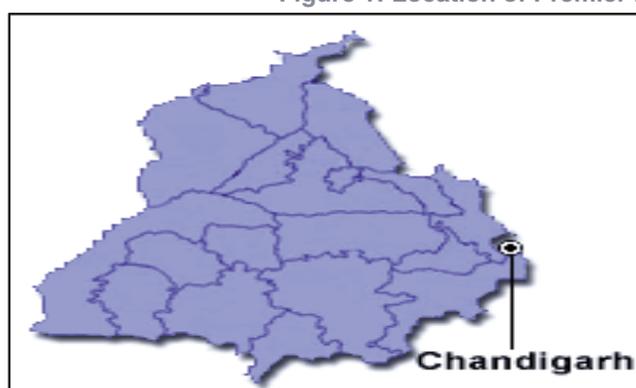
The Guru Nanak Dev University (GNDU) located in Amritsar is one of the oldest state universities in Punjab. GNDU is both a residential and an affiliating university. The university has 13 faculties in the areas of Applied Sciences, Engineering & Technology, Life Sciences, Arts & Social Sciences, Economics & Business, Humanities & Religious Studies, Languages, Law, Architecture, Physical Education and Sports Medicine, and Physiotherapy.

Punjab Technical University (PTU) is a state university located in Jalandhar. An act of State Legislature, to promote technical, management and pharmaceutical education in the state at both UG and PG levels established it. Punjab Agricultural University in Ludhiana is the 1st agriculture university in the state, which was established in 1962 and is the 2nd oldest agriculture university in the country. The university has international reputation for innovative practices in agriculture and related fields. The university was pivotal in bring about the green revolution in the state during the 1960s and 70s.

The Indian Institute of Technology (IIT), situated in Ropar, is one of eight new IITs established by the Ministry of Human Resource Development (MoHRD). The institute is a leading engineering and technological institute that offers an undergraduate (B.Tech) in Computer Science, Electrical and Mechanical Engineering. The 'Dr. B. R. Ambedkar National Institute of Technology' (NIT), Jalandhar, is a public engineering institute located in Jalandhar. It was one of the first NITs to be established and was formerly the Punjab Regional Engineering College. The institute offers B.Tech programs in nine disciplines of engineering and technology along with research programs leading to M.Sc., M.Tech and Ph.D. National Institute of Pharmaceutical Education and Research (NIPER) is a higher education institute located in Mohali, which focuses on education and research in the pharmaceutical sciences. It is an institute of National Importance and offers a Master's and Doctoral programs in various fields of the pharmaceutical sciences.

Indian Institute of Science Education and Research (IISER), Mohali, is an autonomous academic institution established in 2007. As one of the five Indian Institutes of Science Education and Research (IISERs), it was established by the Ministry of Human Resources and Development to research in frontier areas of science and to provide science education at the undergraduate and postgraduate level.

Figure 1: Location of Premier Institutes in Punjab



- Guru Nanak Dev University, Amritsar
- BR Ambedkar NIT, Jalandhar
- Punjab Technical University, Jalandhar
- IIT, Ropar
- Thapar University, Patiala
- Lovely Professional University, Patiala
- Punjabi University, Patiala
- Rajiv Gandhi National University of Law, Patiala
- National Institute of Pharmaceutical Education and Research, Mohali
- IISER, Mohali
- Panjab University, Chandigarh
- Punjab Agricultural University, Ludhiana
- Guru Nanak Dev Engineering College, Ludhiana

The higher education landscape of Punjab is spread across different regions of the state, thereby, providing access to higher and technical education to all citizens. Some reputed institutes of the state are located in the tricity area of Chandigarh i.e. Chandigarh, Mohali and Panchkula in the east.

Table 2: Distribution of Government, Grant-in-Aid and Self Financing colleges affiliated to State Universities

No.	University	Colleges			Total
		Govt.	Grant-in-Aid	Self Finance	
1	Guru Nanak Dev University	13	53	13	79
2	Panjab University	14	45	11	70
3	Punjabi University	23	27	14	64
	Total	50	125	38	213

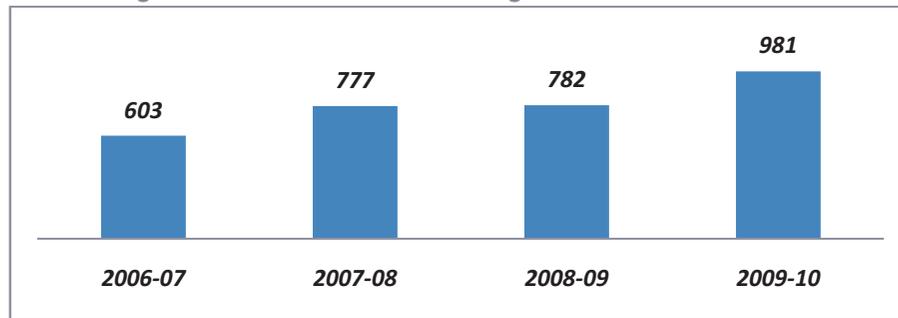
Source: Higher Education Sector in Punjab: High Growth and Change

An assessment of data on number of recognized colleges in Punjab reveals that there were 213 affiliated colleges providing general higher education at the end of 2005-06 as seen in Table 2. Out of these colleges, maximum number of colleges is grant in aid colleges (58.68%); followed by government colleges (23.47%) and least number of colleges are self financed (17.84%).

Key Higher Education Indicators: Institutes & Enrolment

The growth in the number of higher education institutes in Punjab stands at 11.85% as compared to the national growth of 7%, which indicates an above average performance in ensuring access to higher and technical education.

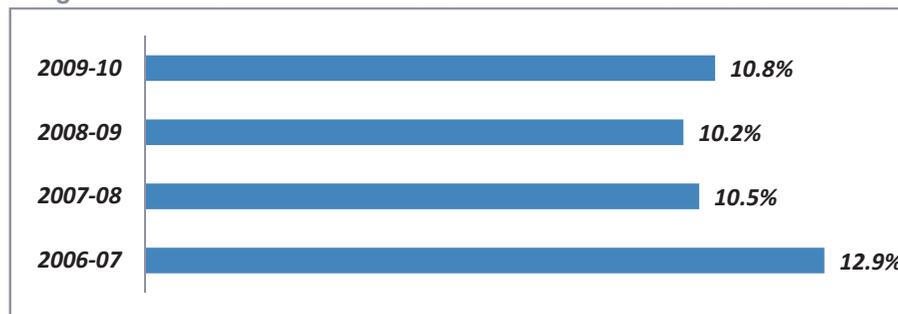
Figure 2: Growth in Number of Higher Education Institutes



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

The state Gross Enrolment Ratio (GER) did not rise at a healthy rate between 2006 and 2010, thus reflecting decrease in access to higher education for 18-24 years age group. The GER fell from 12.9% in 2006-07 to 10.8% in 2009-10. Such a low GER is a major cause of concern because if the state is not able to provide access to higher education to its youth, it will not grow socially and economically in the years to come.

Figure 3: Gross Enrolment Ratio in the state between 2006-07 & 2009-10



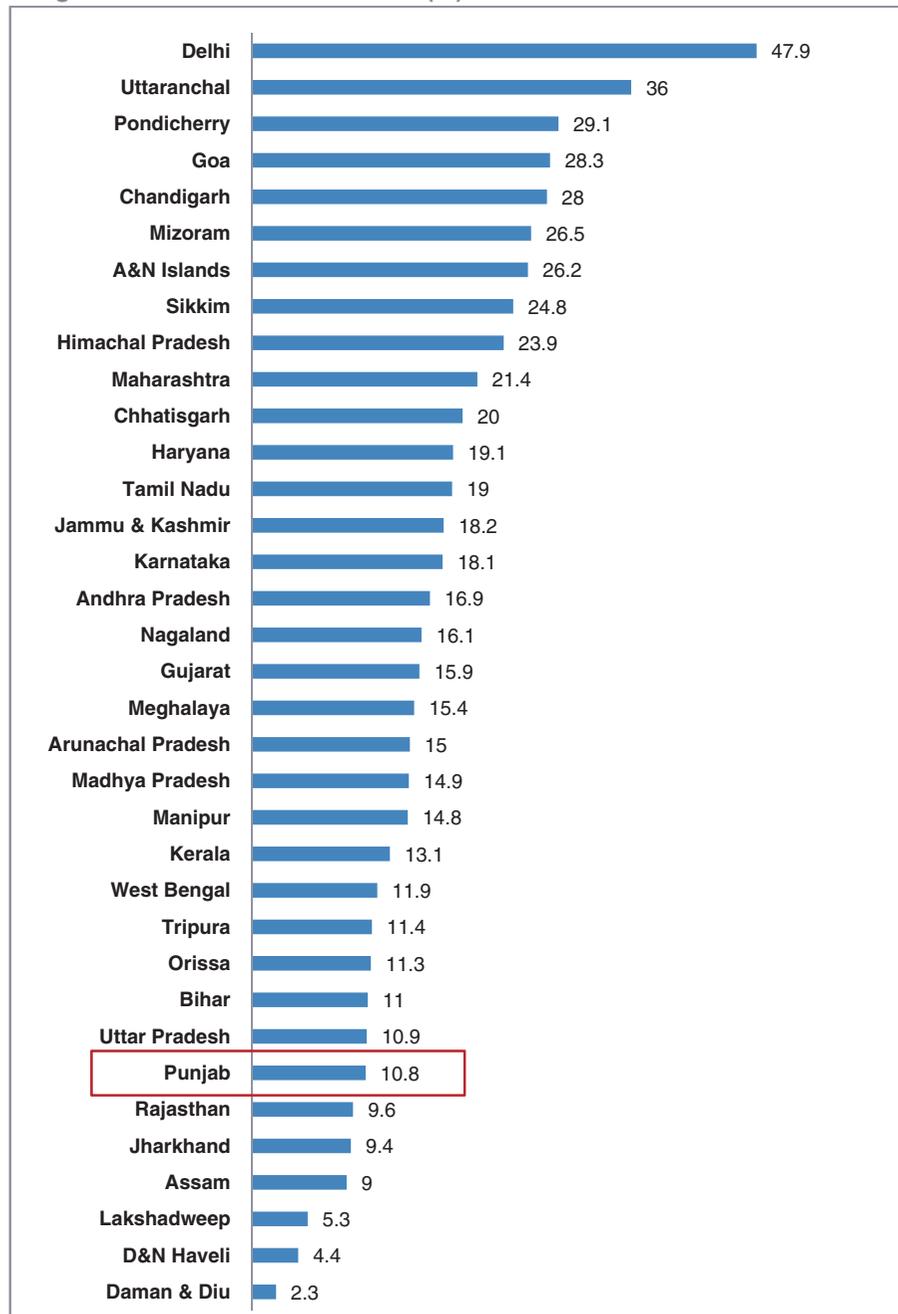
Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

The state still stands 29th amongst the various states and union territories as seen in Figure 4. The GER for higher education in the state is around 11.12% as per the survey conducted by the UGC in the year 2011 and it is lower than the national ratio of 12.4%.

To encourage private participation in higher education, the state has notified the Punjab Private Universities Policy, 2010 for setting up of self financed private universities. The target of raising GER in higher education to 15% by 2015 as per the estimate of the National Knowledge Commission and 30% by 2020 as per the estimate of the Ministry of Human Resource Development (MoHRD) is possible only with the help of central assistance in terms of establishment of more colleges and infrastructure.¹⁰⁵

¹⁰⁵Economic Survey of Punjab, 2011-12

Figure 4: Gross Enrolment Ratio (%) across all states in India in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

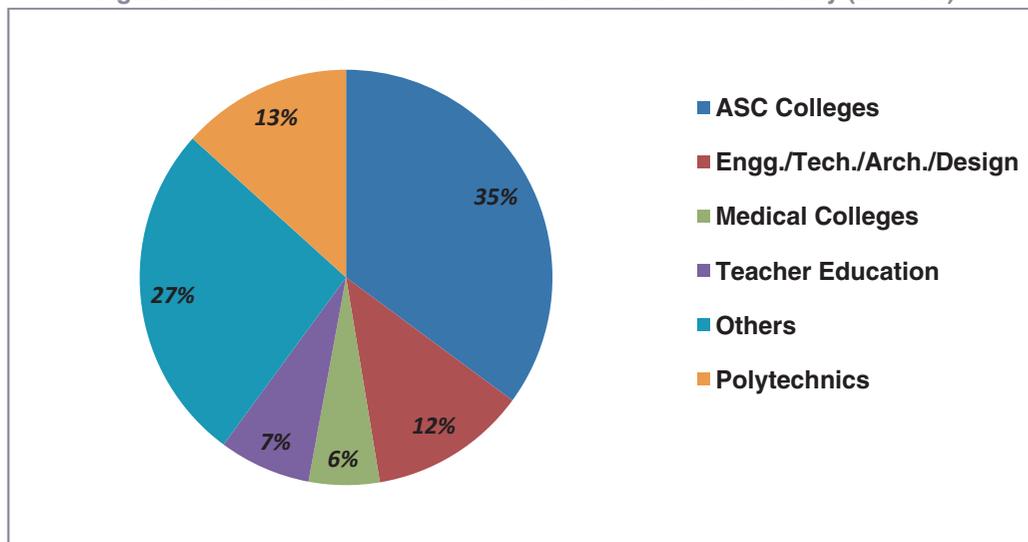
The following section will present a description of the past and current scenario of higher and technical education in the state. Data regarding higher education will be analyzed and presented in a manner that will reflect the growth and trends present in higher education. The next section will give an outline of the industry and employment environment in the state and highlight the link that the state's economy holds with higher education. The report will also elaborate on the key challenges plaguing the higher and technical education in the state and the steps that are being taken by the government in the form of initiatives and educational reforms.

Growth in Higher Education Institutes and Enrolment

It has been documented that at the national level, the dominant programs that are being offered in higher education are in the areas of arts, science & commerce (ASC) in 2009-10. A similar pattern can be seen in the state of Punjab as well, with 35% of the total number of institutes offering programs in ASC streams.

Polytechnic institutes offering different types of programs formed the 2nd highest number of higher education institutes in the state in 2009-10 (13%), followed by institutes in the field of engineering, technology, architecture & design (12%). The 'Others' category forms a significant share of the total number of institutes in the state (27%). It comprises law, agriculture & its allied fields, information technology and management (General, Hotel, Travel) institutes, as per the statistics from 2009-10.

Figure 5: Distribution of Number of Institutes based on Faculty (2009-10)



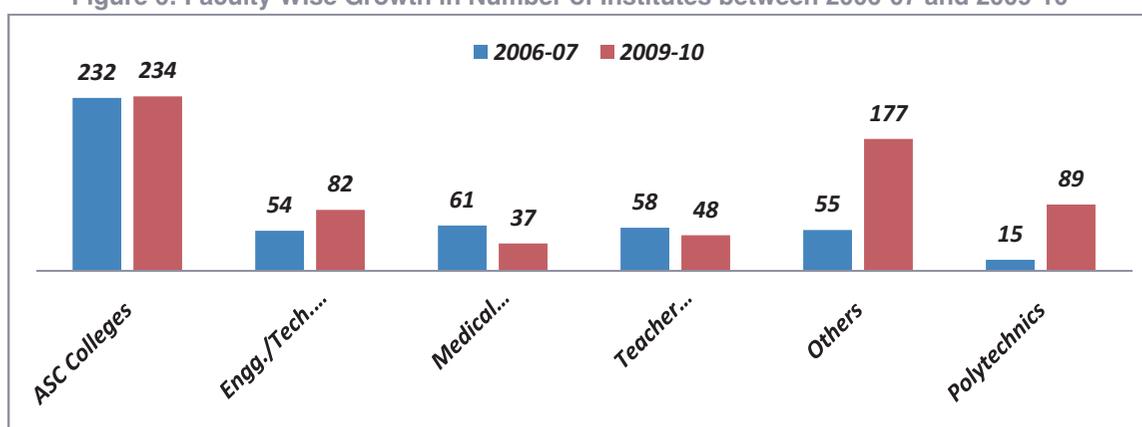
Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

As can be seen in Figure 6 below, Polytechnic institutes recorded the maximum growth between 2006 and 2010, at 79.97%. The 2nd highest growth rate has been of the 'Other' (47.07%) category; mainly due to increase in number of management, agriculture and law institutes in the state between 2006 & 2010. Engineering, technology, architecture and design institutes have also grown at a healthy rate of 12.78%.

The state government accords high priority to the technical education sector and undertakes continuous up gradation and expansion of human resources development; this is reflected in the impressive growth of both engineering and polytechnic institutes in the state.

The least amount of growth has been registered by Medical Colleges, which has declined at rate of 15.21%, along with institutes of Teacher Education, which have declined at 6.05% between 2006 and 2010. There has been a stagnant growth in ASC colleges (.28%) in the state during the 4 year period.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

Punjab is one of the few states in the country in which there is no specific bias towards a certain level of education with regard to undergraduate or postgraduate levels of study. It can be seen from Table 4 that 82.46% students are enrolled at UG level and only 17.54% are enrolled at PG level in 2009-10. This is primarily driven by high enrolment at UG level in arts stream (90.33), commerce stream (94.10%), engineering (87.96%) and law (83.95%). However at PG level, the enrolment is quite high in the faculties of management (54.77%), agriculture (47.28%), medicine (43.1%) and teacher education (42.26%). Such high enrolment in PG education indicates growing awareness and demand for specialized courses in specific areas of management, medicine and agriculture in the state.

The Arts faculty had maximum total enrolment (UG & PG) in 2009-10, with 48.44% of total enrolment, followed by the fields of Engineering, Technology, Architecture and Design (19.82%). The least amount of enrolment is in the faculty of Law with only .51% of all enrolment at both UG and PG levels. The faculty of Management has the 2nd highest enrolment at PG level with 21.74% of all PG enrolment in 2009-10, behind Arts faculty (26.5%), indicating a growing number of students enrolling themselves in to MBA programs and other related fields of management. A large proportion of students enrol in diploma programs (39,594 in 2009-10), of which 99% are pursuing post school diploma programs and only 1% are pursuing post graduate diploma programs, this indicates that a growing number of students are looking for job oriented course once they graduate from high school and would rather prefer such a degree over a traditional degree.

Table 3: Distribution of Enrolment Faculty Wise at UG & PG level in 2009-10

Faculty	UG	UG (%)	PG	PG (%)	Total
Arts	1,18,365	90.33	12,671	9.67	1,31,036
Commerce	21,730	94.10	1,363	5.90	23,093
Science	17,995	66.10	9,227	33.90	27,222
Engg. /Tech./Arch./Design	47,499	87.96	6,502	12.04	54,001
Medicine	6,560	56.90	4,970	43.10	11,530
Agriculture	678	52.72	608	47.28	1,286
Management	8,581	45.23	10,391	54.77	18,972
Teacher Education	1,618	57.74	1,184	42.26	2,802
Law	1,166	83.95	223	16.05	1,389
Others	371	36.62	642	63.38	1,013
Total	2,24,563	82.46	47,781	17.54	2,72,344
Post School Diploma	39,217				
Post Graduate Diploma	377				

Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

With regard to total enrolment, the maximum growth has been registered in the faculties of Law (129.97%), followed by Management (67.76%) and Engineering (43.87%) between 2007 and 2010. The streams of Arts (-1.14%), Science (-8.75%), Agriculture (-3.38%) and Teacher Education (-59.99%) have all recorded negative growth in the same period. Post school diplomas have registered an impressive growth of 29.11%, indicating a growing demand for diploma courses offered after school. However, postgraduate diploma courses have witnessed a slump, with the enrolment in such diploma degree programs declining at 50.98%.

We can see in Table 4 that there has been a marginal growth at UG (3.37%) and overall levels of enrolment (7.38%) between 2007 and 2010; however PG level enrolment has registered an impressive growth of 31.3% in the same time period. Such impressive growth in PG is indicative of students opting for specialized degrees in the form of M.A, M.Sc., and MBA etc. after completing their UG degrees in the state.

There has been an impressive growth in the enrolment at PG level in the faculties of Medicine (481.29%), Management (120.34%) and Science (29.3%). The enrolment at UG level has decreased in the faculties of Medicine (-31.45%), Science (-20.72%), Arts (-2.03%) and Teacher Education (-72.95%).

Table 4: Faculty Wise Growth of Enrolment at UG and PG level between 2007-08 & 2009-10

Faculty	UG +PG		Growth (%)		
	2007-08	2009-10	UG	PG	Total
Arts	1,32,552	1,31,036	-2.03	7.98	-1.14
Commerce	22,425	23,093	7.09	-36.10	2.98
Science	29,833	27,222	-20.72	29.30	-8.75
Engg. /Tech./Arch.	37,535	54,001	60.35	-17.82	43.87
Medicine	10,425	11,530	-31.45	481.29	10.60
Agriculture	1,331	1,286	-12.52	9.35	-3.38
Management	11,309	18,972	30.15	120.34	67.76
Teacher Education	7,004	2,802	-72.97	16.42	-59.99
Law	604	1,389	206.04	0.00	129.97
Others	617	1,013	-27.25	500.00	64.18
Total	2,53,635	2,72,344	3.37	31.30	7.38
Post School Diploma	30,375	39,217	29.11		
Post Graduate Diploma	769	377	-50.98		

Source: Statistics of Higher & Technical Education, MoHRD, 2007-08 & 2009-10

Quality of Institutes

In total 68 colleges have been graded by the NAAC¹⁰⁶ in 2005 and out of these, only 2 colleges have been graded under the previous star system and have been awarded 4 Star, while the remaining 68 have been accredited and graded according to the 9-point scale system.

A notable cluster of colleges falls in the grade range of B and A+ (62 colleges) with maximum number of colleges receiving B++ grade (32.35%). From Table 5 below, it can be noted that 50% of the accredited colleges of Guru Nanak Dev University are graded as A or A+; 68% of colleges of Panjab University have secured B++ and A; while 66% of the colleges of Punjabi University have secured B+ and B++ grades.

¹⁰⁶National Assessment & Accreditation Council

Table 5: Number of Affiliated Colleges Graded by NAAC in 2005

University	4-star	A+	A	B++	B+	B	C++	C+	C	Total
Guru Nanak Dev University	1	6	4	3	3	2	1	0	0	20
Panjab University	1	2	6	14	4	1	1	1	–	30
Punjabi University	0	1	2	5	7	2	0	0	1	18
Total	2	9	12	22	14	5	2	1	1	68

Source: State Wise Analysis of Accreditation Reports- Punjab, 2005

Industry and Employment Scenario

Key Industries¹⁰⁷

Punjab has emerged as a key hub for textile-based industries including yarn, readymade garments and hosiery. In 2009-10, the industry accounted for more than 35% share of the total exports of industrial goods from the state. Punjab is also a leading exporter of rice, including the well-known variety known as Basmati.

The state offers a wide range of subsidies, fiscal and policy incentives as well as assistance for businesses under the Industrial Policy, 2009. Additionally, the state has sector-specific policies for textile, IT and agro-based industries. Due to the major rivers flowing through the state, it has a rich and productive agricultural land. After the introduction of “Green Revolution” in the late 1960s, it has become the leading food-grain supplier in the country. This makes it suitable for agro-based industries, dairy farming and products, and other food processing industries. Descriptions of some of the key industries in the state currently are given as follows.

1. Agro-based Industries

- The state government has actively promoted contract farming. Some of the notable contract farming agreements includes those with the Tata Group for basmati rice, the UB Group for malting barley and Advanta India for hyola (high-breed rapeseeds and mustard). Crops being promoted include maize, hybrid basmati and sunflower.
- Key players in these industries are Nestle India, MILKFED, Jagjit Industries Ltd and Marfed.

2. Light Engineering Goods

- The light engineering goods industry in Punjab includes bicycle and bicycle parts, hand tools, sewing machines and machine tools. The industry accounts for around 21% share of the manufacturing output and more than 25% of the industrial employment in the state.
- The state accounts for around 15% of bicycle production and 80% of bicycle parts production in India. The industry is primarily located in Ludhiana.
- Key players in this industry are Hero Cycles and Avon Cycles

3. Petrochemical Products & Fertilizers

- Industrial activity in the petrochemicals and fertilizer categories includes refining, petrochemicals, chemicals, fertilizers and other related products and distribution.
- Future growth in this sector is expected with the development of Hindustan Petroleum Corporation Ltd. refinery project as well as increasing the production of fertilizer in the state.
- Major players in this industry are Hindustan Petroleum Corporation Ltd, National Fertilizers Ltd, Punjab Chemicals and Crop Protection Ltd and Punjab Alkalies & Chemicals Ltd.

¹⁰⁷India Brand Equity Foundation – State report on Punjab

4. Textiles

- The textile sector in the state is strong in all aspects of the value chain, i.e., from the raw material stage to the finished products (garments) stage. Punjab is among the largest producers of cotton and blended yarn as well as mill-made fabrics in India.
- The district of Ludhiana is often referred to as the 'Manchester of India'.
- Prominent textile brands in Punjab are Nahar Group, Vardham Group, JCT Ltd. and Prince Textile Mills.

5. IT and Electronics

- Punjab's IT policy and the incentives offered to the IT industry are aimed at promoting Punjab as an attractive destination for the industry.
- Mohali has been developed as an IT and ITeS hub in the state. The Electronic Test and Development Centre at Mohali provide testing facilities to electronics industries.
- Major players are Infosys Ltd., JCT Electronics Ltd., Punjab Communications Ltd. and APLAB Ltd.

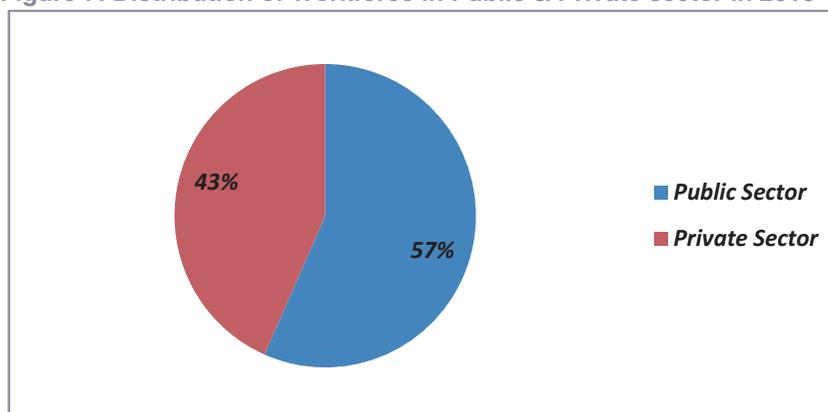
6. Tractors and Auto Components

- Farming and light commercial vehicle manufacturers, such as International Tractors, Punjab Tractors and Swaraj Mazda, dominate the automotive industry in Punjab. The auto component industry in Punjab predominantly comprises small-scale industrial (SSI) units. The state is also strong in tractor production.
- The auto components produced range from simple items such as nuts and bolts to complex ones such as shafts, radiators and axles.
- Major players in this filed present in Punjab are International Tractors Ltd, Swaraj Engines Ltd, Swaraj Mazda Ltd and Pabla Bearings Ltd.

Employment Scenario

According to data reported by the Economic Survey of Punjab in 2011-12, the majority of employment in the state is in the Public Sector with 57% of total employment and the private sector constitutes the remaining 43%, as can be seen in Figure 7 in 2010-11. The total employment in 2010-11 was 7.99 Lakh, of which the public sector grew at a rate of 1% and the private sector grew at a rate of 4.83% from 2007-08 to 2010-11.

Figure 7: Distribution of Workforce in Public & Private sector in 2010-11

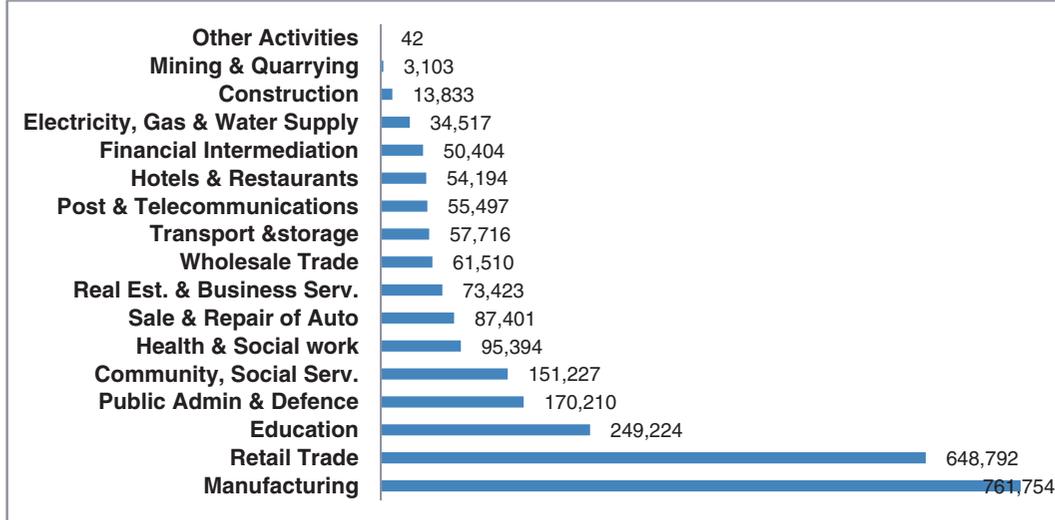


Source: Economic Survey of Punjab, 2011-12

With regard to industrial classification, the maximum employment has been generated by the Manufacturing with 7.61 lakh (29.66%) of the total workforce being engaged by the sector. The other

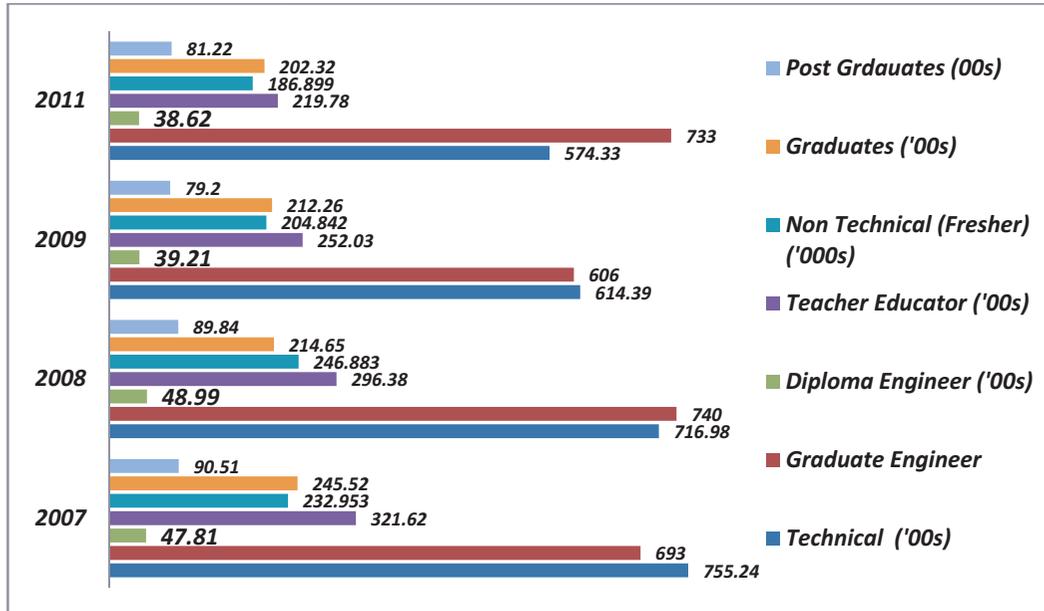
major contributing sectors are Retail Trade (25.26%), Education (9.7%) and Public Administration and Defence (6.63%).

Figure 8: Distribution of Workforce in Public & Private Sector by Industrial Classification



Source: 5th Economic Census-2005

Figure 9: Growth in Number of Job Seekers Registered (Selected) with Employment Exchanges between 2007 and 2011 by Level of Education



Source: Department of Employment generation & Training, Government of Punjab

During 2010-11, among the job seekers with higher education qualifications registered with the Punjab Employment Exchanges (2.99 lakh), the maximum number of job seekers were non-technical applicants, (primarily first time employment seekers) at 62.4%. The next dominant segment of job seekers was the category of teacher education graduates at 7.3%. The magnitude of unemployment in the state continues to be a cause of serious concern. The number of job seekers (both educated and uneducated) on the live registers of Employment Exchanges during 2011 was 3.45 lakh, out of which 2.44 lakh were educated unemployed. Out of the educated job seekers, 76.49% were non-technical, whereas 23.51% had technical qualifications. (These unemployment figures do not accurately measure the unemployment situation in Punjab as these pertain to only those unemployed

persons who registered themselves with the employment exchanges in search of assistance in finding gainful employment)

Key Challenges & Initiatives in Higher Education

Some of the challenges that plague the higher and technical education setup in the state are:

- Vocational education needs special attention in the state, as it requires up gradation along with revision of curricula so as to give training to students in market-oriented skills.
- The issue of lack of faculty in higher and technical education needs to be given special attention.
- There is a need for the state to maintain a database of higher education to assess 'push factors' that could help in policy development for higher education.
- Mode of curriculum delivery must be upgraded in terms of using latest technologies like audio and video facilities.

The state government, along with the help of the central government have implemented many state and centrally sponsored schemes to enhance the quality, relevance and access to higher education. Some of the initiatives that have been undertaken are as follows:

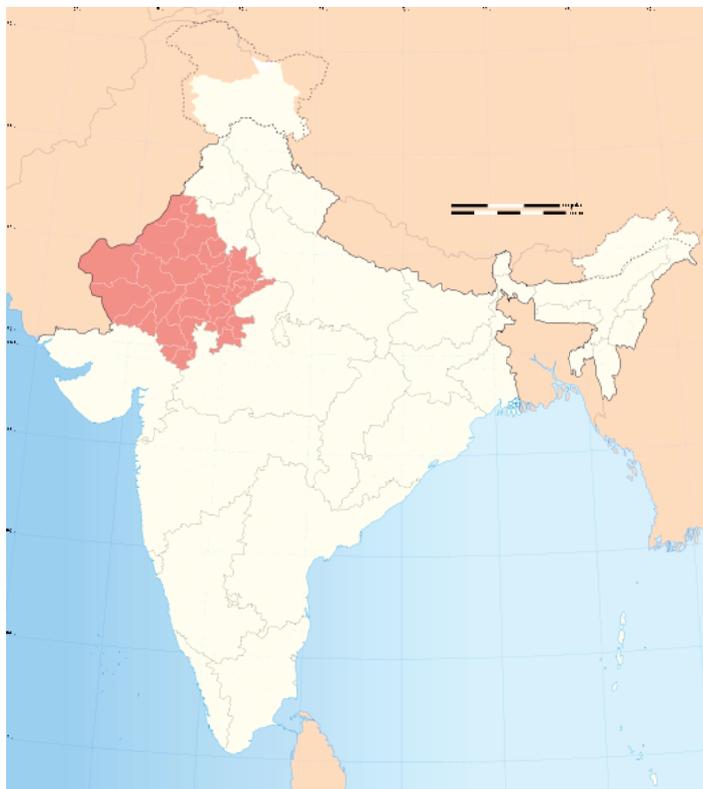
- Preparing rural students of the state for admission to IITs across the country.
- Setting up of NCC Remount and Veterinary Squadron at Bathinda.
- Creating infrastructural facilities for running diploma courses for food processing.
- Implementation of TEQIP in the state (Technical Education Quality Program Phase II).
- Converting technical institutions of rural areas into multidiscipline academies for enhancement of skill development and employment of rural youth under NABARD Project
- Establishment of Engineering Institute in the campus of Govt. Polytechnic, Lehragaga, District Sangrur
- Development of special trade Institutions: Govt. Institute of Textile Chemistry and Knitting Technology, Ludhiana.

Along with certain initiatives already in place, the state government also proposes many new initiatives that it feels will enhance the higher and technical education scenario of the state. Some of these proposed plans are as follows:

- To encourage private participation in higher education, the state has notified Punjab Private Universities Policy, 2010 for setting up of self financed private universities. A total of 4 private universities have been approved and Letters of Intent (LOI) has been issued to 10 private universities.
- ICT project for higher education have been proposed with the main purpose of this scheme being to deliver quality education to students in far off & remote areas and link the local education system with the global trends to encourage research.
- Setting up of Virtual Private Network (VPN) in Govt. Colleges and LAN in 3 universities.
- Establishment of new PG degree colleges in the state where GER is low.
- Up gradation of infrastructure in existing Government Colleges and setting up of new Government Colleges.
- Establishment of Rajiv Gandhi National University of Law, Punjab.
- Matching grant to Raja Ram Mohan Rai Trust, Kolkata for supply of books to libraries.
- New Home Science College known as the Regional Centre, Punjab University.
- Computerization of district libraries.
- Establishment of Central University at Bathinda and establishment of World Class University at Amritsar.
- Introduction of Youth Parliamentary Scheme: Under this scheme youth parliament competitions in recognized educational institutions in the state/union territories are proposed to be held.
- Setting up of Knowledge City
- Establishment of Indian Institute of Information Technology (IIIT) in Punjab in PPP mode.

- Setting up of new polytechnics in districts where no Government Polytechnic exists at present. Community development through polytechnics.
- Up gradation of 18 Government Polytechnic Colleges into multi-purpose academies (B.Pharm, D.Pharm and opening of ITIs, Polytechnics, Engineering Colleges and 10+2 Science schools) within the same premises.

State Focus: Rajasthan



State Profile

Capital	Jaipur
Total Area (in sq. km.)	3,42,239
Total Population	68,621,012
Population Density (per sq. km.)	200
Number of Districts	33
Literacy Ratio (%)	68
Sex Ratio (per 1,000 males)	926
State Domestic Product, 2010-11 (In Rs. Crore)	2,69,381
Per capita income, 2009-10 (Rs.)	39,967

Introduction

Rajasthan is the largest state in terms of area and is located in the north-western part of India. Bordered by Gujarat, Madhya Pradesh, Uttar Pradesh, Haryana and Punjab; the state covers 10.4% area of India. Primarily an agricultural and pastoral economy, Rajasthan also has an abundant supply of mineral resources. The state accounts for majority of India's output of zinc concentrates, emeralds, garnets, gypsum, silver ore, asbestos and feldspar.

Over the past decade, the state has been making large strides in improving the field of education. While the literacy rate of Rajasthan in 1991 was 39%, the initiatives of the state government have resulted in a sharp increase in the literacy rate that currently stands at 68%. With the establishment of many private universities in the state, students from outside Rajasthan, pre-dominantly Uttar Pradesh and Bihar are gradually moving to the state for their higher education endeavours.

Universities and University Level Institutes

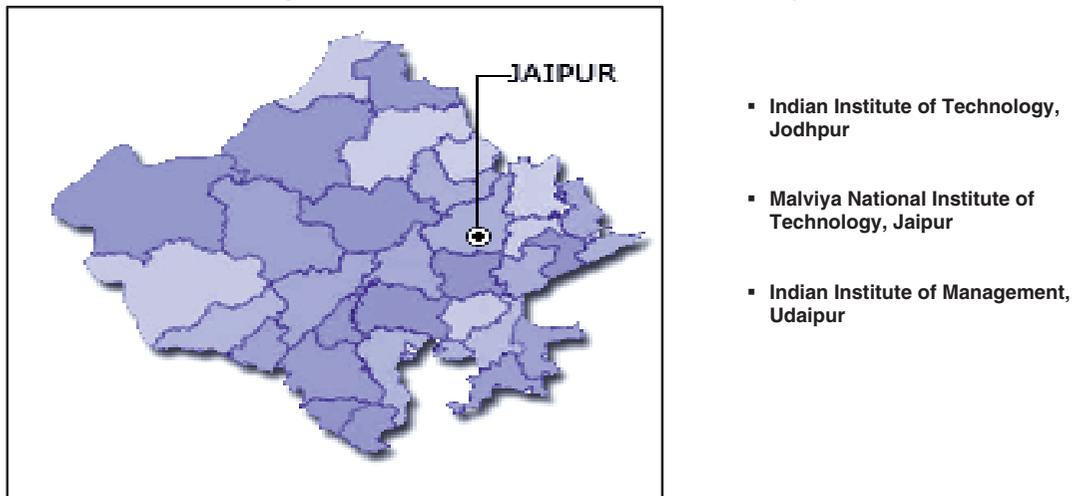
Rajasthan is home to 58 universities and university level institutions –9.58%of the total number of such institutes at the national level. This consists of 1 central university, 14 state universities, 33 private universities and 8 deemed universities. In addition, the state also houses institutes of national importance like the Indian Institute of Technology (IIT), Jodhpur- and Malaviya National Institute of Technology Jaipur. While IIT Jodhpur was established in 2008, and is currently operating under the mentorship of IIT Kanpur; IIM Udaipur was established more recently, during 2011. The Malaviya National Institute of Technology was established in 1963, and is today one of the most well recognized institutes at the national level.

Table 1: Distribution of Universities & University Level Institutions at State & National level

Type of university	Rajasthan (2011-12)	India (2011-12)
State University	14	285
Private University	33	112
Institution of National Importance	2	39
Deemed University	8	129
Central University	1	40
Total	58	605

Source: UGC

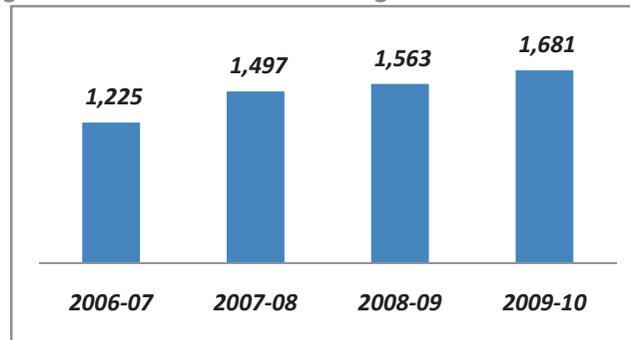
Figure 1: Location of Premier Institutes in Rajasthan



Key Higher Education Indicators: Institutes and Enrolment

As per MoHRD data, the growth rate in the total number of higher education institutes in Rajasthan stands at 11% between 2006-07 and 2009-10. This is higher as compared with the national level CAGR of 7% in the same period.

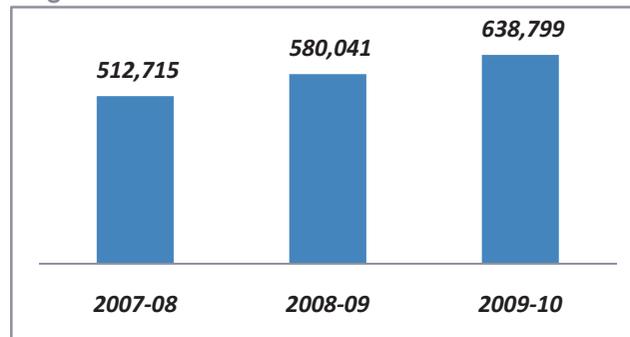
Figure 2: Growth in Number of Higher Education Institutes



Source: Statistics of Higher & Technical Education, MoHRD

The enrolment figures have also been steadily increasing in Rajasthan. In 2009-10, the total higher education enrolment figure stood at 6.38 lakh. Between the years 2007-08 and 2009-10, the higher education enrolment has been growing at a CAGR of 7.5%.

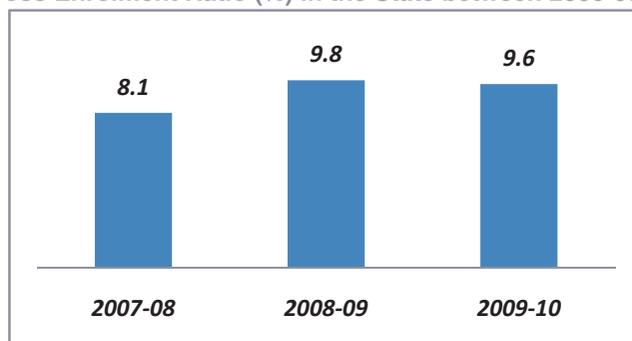
Figure 3: Higher Education Enrolment in between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

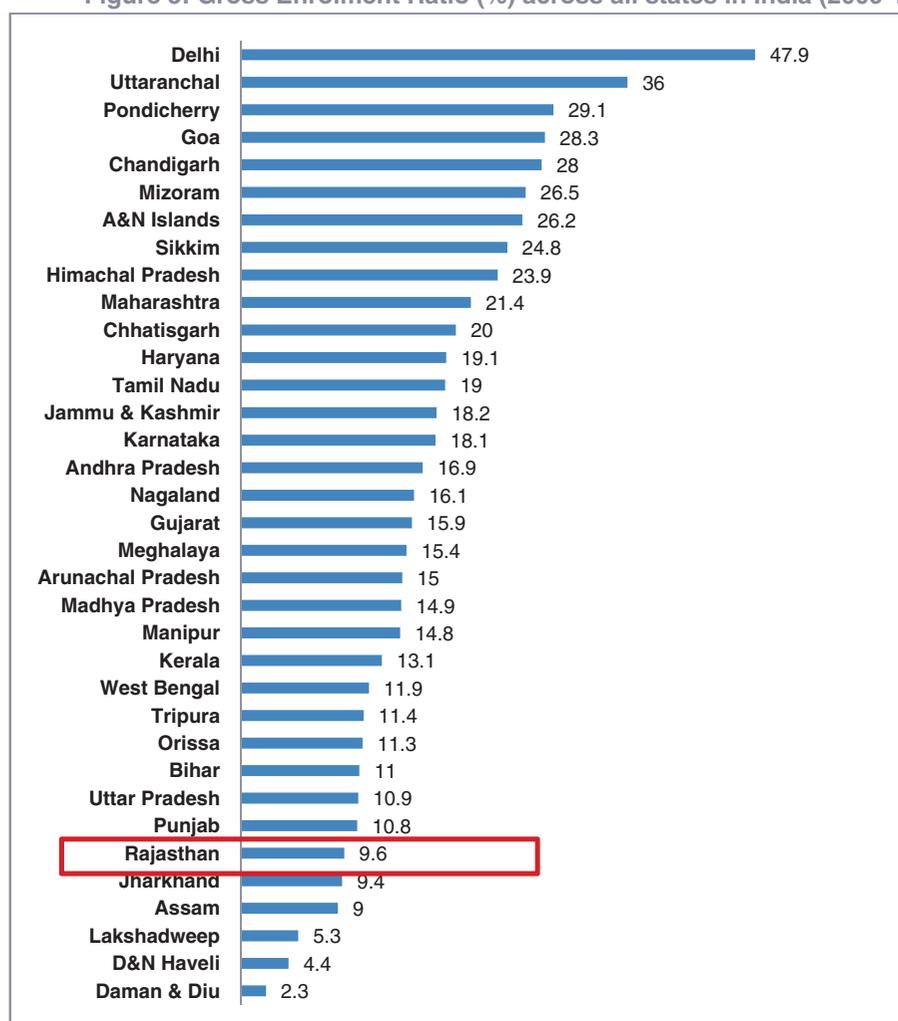
Despite the steady growth in the number of higher education institutes and enrolment figures over the past 3-4 years, the Gross Enrolment Ratio in the state has not improved proportionately. During 2009-10, the state GER was 9.6%, and the growth has been minimal between 2007-08 and 2009-10. While several initiatives have been designed and implemented by the state government, the state is still ranked very low as compared to the other states in India.

Figure 4: Gross Enrolment Ratio (%) in the State between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Figure 5: Gross Enrolment Ratio (%) across all states in India (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

The sections below present a brief description of the current higher education scenario, industry and employment scenario in Rajasthan and various key initiatives and challenges in higher education that are being addressed by the state.

Growth in Higher Education Institutes and Enrolment

In 2010-11, the state had 2,945 institutes, offering programs across general education, technical education, medical education and agricultural education. The distribution of these colleges is shown in table 2 and 3 below:

Table 2: Distribution of General & Technical Education Colleges

Type of General College	Number	Type of Technical College	Number
Government colleges	127	Govt. engineering colleges	11
Government law colleges	15	Private engineering colleges	111
Private aided college	70	Govt. management colleges	12
Private colleges	953	Private management colleges	121
SFS Institutes	8	Govt. MCA colleges	6
PPP Institutes	3	Private MCA colleges	32
Teacher education colleges	843	Govt. polytechnic institutes	33
Sanskrit Colleges	52	Private polytechnic institutes	136
Total	2,071	Total	462

Table 3: Distribution of Medical Education and Agricultural Education Colleges

Type of College	Number
Government medical colleges	140
Private medical colleges	213
Government agricultural colleges	3
Private agricultural colleges	3
Government veterinary colleges	4
Private veterinary colleges	49
Total	412

Among the 2,945 higher education institutes in Rajasthan, 2,825 of them are affiliated to 13 universities. The maximum number of universities is affiliated to Rajasthan University (34%), followed by Rajasthan Technical University (16%).

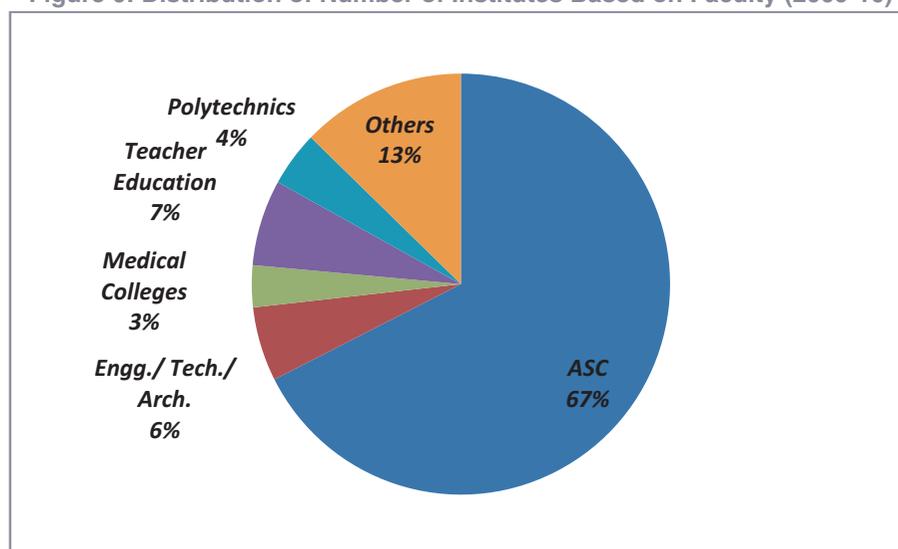
Table 4: University Wise Distribution of Affiliated colleges

No.	Type of College	Constituent colleges	Affiliated colleges
1	Rajasthan University	6	955
2	Rajasthan Technical University	-	462
3	MDS University	-	302
4	MGS University	-	293
5	MLS University	4	195
6	Rajasthan University of Health Sciences	-	193
7	Kota University	-	155
8	JR Sanskrit University	-	120
9	Rajasthan University of Veterinary Sciences	8	53
10	JNV University	2	54

11	Rajasthan Ayurveda University	1	40
12	Rajasthan Agriculture University	5	6
13	Maharana Pratap Agriculture University	6	0

As per MoHRD data, the state of Rajasthan had 1,681 higher education institutes in 2009-10, catering to both the general and technical education needs of the state. The majority of these institutes offer programs in Arts, Science and Commerce (67%), followed by institutes offering teacher education (7%) and programs in engineering/ technology/ architecture (6%).

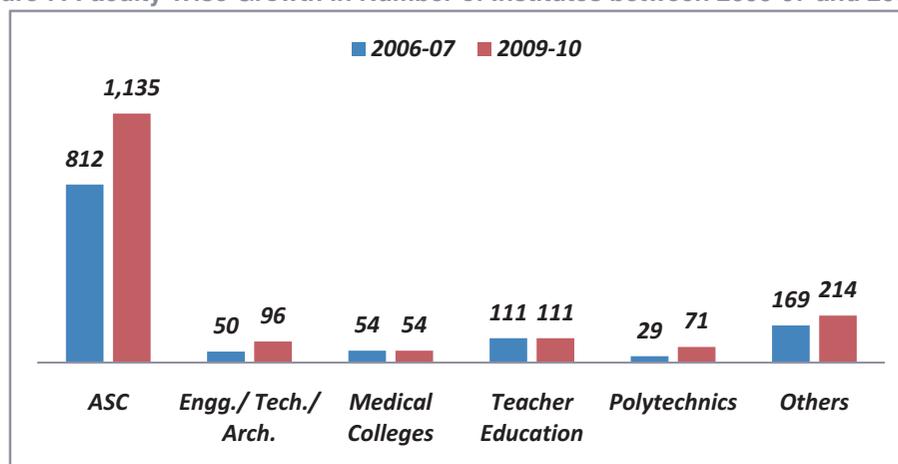
Figure 6: Distribution of Number of Institutes Based on Faculty (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD

In terms of CAGR, the maximum growth in the number of institutes between 2006-07 and 2009-10 has been in polytechnic institutes, with a CAGR of 34.3%; followed by engineering institutes (24%) and institutes offering arts, science and commerce programs (11.6%). It is to be noted here that the data about the number of medical colleges and teacher education institutes have not been updated during this period.

Figure 7: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Except for the faculty of management, for the which the post graduate program is more preferred by students across the nation, all other programs pre-dominantly have students enrolled for under graduate programs. In terms of total enrolment, the maximum number of students is enrolled in arts programs, with the arts faculty contributing to 49% of the total enrolment; followed by engineering/ technology programs with 16% of the total enrolment. Faculties of law and agriculture have the lowest number of students enrolled with only 1% of the total enrolment.

Table 5: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) Level in 2009-10

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
Arts	2,67,716	27,477	2,95,193	91	9
Commerce	61,002	4,296	65,298	93	7
Science	47,449	16,561	64,010	74	26
Engg. / Tech./ Arch./Design	94,961	1,046	96,007	99	1
Medicine	11,707	1,926	13,633	8	14
Agriculture & Allied	3,066	536	3,602	85	15
Management	1,676	11,078	12,754	13	87
Teacher Education	46,395	599	46,994	99	1
Law	6,864	416	7,280	94	6
Others	276	397	673	41	59
Total	5,41,112	64,332	6,05,444	89.3	10.7

Source: Statistics of Higher & Technical Education, MoHRD

In terms of total enrolment at undergraduate and postgraduate level, there has been a healthy CAGR of 12.2%. However, this growth has not been uniform across faculties. The maximum growth has been seen in the faculty of engineering/ technology/ architecture with a CAGR of more than 100%, followed by management (49%). There has been a decline in the enrolment for law and science programs, at a CAGR of 21% and 1% respectively.

Table 6: Faculty Wise Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) Level between 2007-08 and 2009-10

Faculty	Total Enrolment (UG+PG)		CAGR (%)
	2007-08	2009-10	
Arts	2,60,216	2,95,193	7
Commerce	50,124	65,298	14
Science	65,517	64,010	-1
Engg. / Tech./ Arch./ Design	21,577	96,007	111
Medicine	13,633	13,633	0
Agriculture & Allied	3,163	3,602	7
Management	5,720	12,754	49
Teacher Education	46,994	46,994	0
Law	11,673	7,280	-21
Others	1,810	673	-39
Total	4,80,427	6,05,444	12.25

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Among the various universities, National Assessment & Accreditation Council (NAAC) has assessed only three universities till date. The Birla Institute of Technology and Science, Pilani and Banasthali

Vidyapeeth have been awarded A grade (Very Good), while the Jai Narain Vyas University has been awarded B grade (Good).

Among colleges, 70 colleges have been accredited by NAAC, with 12 institutes being awarded A rating (Very Good), 48 institutes being awarded B rating (Good) and 10 institutes being awarded C grade (Satisfactory).

Industry and Employment Scenario

Key Industries¹⁰⁸

1. Cement

- With 14 major cement plants and two white cement plants, having a total capacity of 41 million tonnes per annum, the state is the second highest cement producing state in India.
- The state contributes about 15% to the total cement production in the country. It has been further planned to establish more than 10 cement plants in the near future, further strengthening the state's position.
- Key players: ACC Ltd, Ambuja Cement Ltd, Shree Cement Ltd, Grasim Industries Ltd.

2. Mining and mineral processing

- The state is among the largest mineral producing states in India, with about 210 million tonnes of identified lead-zinc ore and 639 million tonnes of copper ore reserves.
- Key players: Hindustan Zinc Ltd, Hindustan Copper Ltd, Rajasthan State Mines and Minerals Ltd

3. Auto and auto-components

- The districts of Alwar and Jaipur are situated in close proximity to the major auto production hubs of the country (Noida, Gurgaon and Dharuhera); thus offering these cities the advantage for setting up of auto and auto ancillary units.
- Currently, more than 100 units are functional in Bhiwadi, Neemrana and Pathredi in Alwar district. In addition, a special auto and engineering zone is also being developed in Alwar.
- Key players: Amtek Auto Ltd, Ashok Leyland, TAFE, Honda Siel Cars India Ltd.

4. Textiles

- Rajasthan occupies a leading position in the country in the production of polyester viscose yarn and synthetic suiting material as well as processing of low cost, low weight fabric. The city of Jaipur is considered as a hub for manufacturing of garments, primarily for exports. The city of Bhilwara has emerged as India's largest manufacturer of suiting fabrics and yarn.
- Key players: Rajasthan Spinning and Weaving Mills, Jaykay Enterprises, Shree Rajasthan Syntex Ltd, Shriram Rayons

5. IT/ITeS

- The low cost of operations in well-developed cities of the state has gradually made Rajasthan an attractive location for IT and ITeS units. While still not established, the state is emerging as one of the best locations in India to invest in the IT/ ITeS sector.
- IT parks with special infrastructure have been set up at cities like Jaipur, Jodhpur, Udaipur, Kota and Alwar.
- Key players: Infosys, Tech Mahindra, Genpact, Wipro Technologies

Employment Scenario

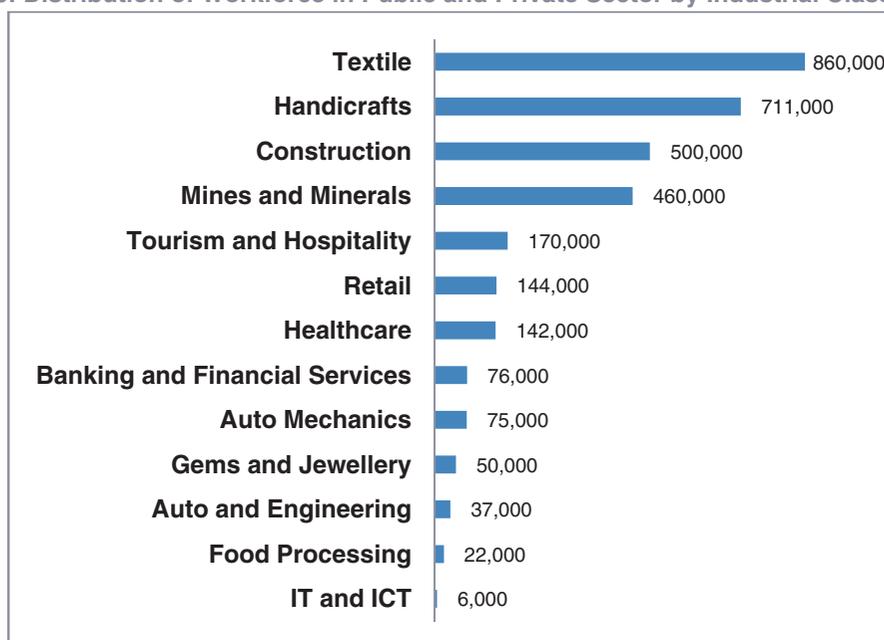
¹⁰⁸India Brand Equity Foundation – State report on Rajasthan

The working population in state is more than 280 lakh and is currently growing at the rate of 2.2% per annum, effectively meaning that there is an addition of 6 lakh persons in the workforce every year. After including the total number of unemployed persons in the state, it is estimated that an additional 7-8 lakh new livelihoods are to be created every year.

Agriculture is the prime livelihood in Rajasthan, with two-third of the workforce employed in the sector. While the share of agriculture towards the state domestic product is gradually declining, the workforce involved in agriculture has declined only marginally. Thus, it becomes critical for the state to develop manpower suited towards the local needs of the state, by focusing on job-oriented programs and laying emphasis on sectors like gems and jewellery, textiles, mining, information technology, automobile which are amongst the sectors contributing the maximum to the state domestic product.

In terms of industrial classification, in 2007, the majority of the workforce was involved in textiles industry with 26.5% of the total manpower employed in textiles based firms. The other major industries employing workforce on a large scale are handicrafts (21.6%), construction (15.4%) and mines and minerals (14.2%).

Figure 8: Distribution of Workforce in Public and Private Sector by Industrial Classification



Source: Labour and Labour welfare – Planning Department, Rajasthan

With steady growth registered across the various industries in Rajasthan, it is estimated that the manpower requirement in the state would more than double by the year 2015. In a study conducted by the state government, it has been estimated that the manpower requirement would increase from 32.42 lakh in 2007 to 83.23 lakh by the year 2015. It is expected that this growth in manpower required would be driven by the construction, textiles, health care and tourism sectors.

Current Initiatives and Key Challenges

There are several initiatives being planned by the state government to strengthen the higher education system in the state. A brief about these initiatives is given below:

- **Online admission in polytechnic colleges and engineering colleges:** Admissions are currently being done online in the colleges to save time, manpower, printing and paper cost.

At the same time, the online facility has made it easier for the students to register for the admission process across colleges.

- **Digital library:** To improve the efficiency and utilization of library resources in polytechnic libraries, the process of digitization has been initiated.
- **E-governance:** To combat the issue of lack of systematic data collection and dissemination process, e-governance infrastructure has been operationalized between DTER Jodhpur and the various higher education institutes.
- **Self-finance courses** have been introduced in polytechnic institutes.
- **Community development through polytechnics:** Training of work force in the informal (especially in the rural sector) has been started through community development programs implemented through various polytechnic institutes in the state. Under this scheme, each of the 19 selected polytechnic institutes will train 600 unemployed youth every year.
- **Institute management committee:** Industry institute interaction has been strengthened in various polytechnic institutes by constituting an Institute Management Committee (IMC), with eminent industrialists in the area as the chairmen of the respective IMC.

Key Challenges in Higher Education

While there has been steady progress in the higher education environment in the state, the state is faced with concerns that are to be imminently tackled. Some of these concerns are as given below:

- The unprecedented growth in higher education in the state has also led to issues that are unique to the state. There are multiple control mechanisms and controlling regulations that have stifled innovative initiatives in recruitment of faculty, admission of students, curricula revision and financial management in majority of the institutes. The existing institutes are also faced with issues of resource constraints and poor efficiency of existing resources. The curriculum also lacks relevance and requires immediate up gradation.
- **Faculty quality:** Institutes are finding it difficult to attract and retain high quality faculty due to archaic recruitment and promotion procedures, lack of systematic performance evaluation systems and lack of staff development policies in majority of the institutes.
- **Lack of data collection mechanisms:** The mechanism for data collection and dissemination has not yet fully evolved in the state. There are no uniform methods or formats for collection of data among the different government departments, which are under separate administrative control.
- **Financing:** The state expenditure on higher education has been a significant small percentage of the total expenditure on education. To further improve the higher education infrastructure in the state, and to meet the demands of the industry in the coming future, it is imperative for the state to infuse more funds in to higher education.

State Focus: Sikkim



State Profile

Capital	Gangtok
Total Area (in sq. km.)	7,096
Total Population	6,07,688
Population Density (per sq. km.)	86
Number of Districts	4
Literacy Rate (%)	82.2
Sex Ratio (per 1,000 males)	889
State Domestic Product, 2009-10 (In Rs. Crore)	4,943
Per capita income, 2009-10 (Rs.)	81,159

Introduction

Sikkim is a land locked state located in the Himalayan Mountains in the northeast region of the country. Sikkim borders Nepal to the West, Tibet to the North and East, Bhutan to the South East and West Bengal to its South. Sikkim is the least populous state in India and the second-smallest state after Goa in terms of total area. However, the state is geographically diverse due to its bio diversity and climatic ranges, which vary from sub tropical to high alpine. Though land-locked, Sikkim is one of the most beautiful and strategically important states of the Indian Union.

The state of Sikkim is one of the few states in the country with a literacy rate of over 80%; it also has the unique distinction of having enrolment of equal number of males and females at different levels of education in some programs of studies. Enrolment figures of girls surpass that of boys in all undergraduate courses in major government colleges.

Universities and University Level Institutions

1 central university, 4 private universities and no state or deemed universities characterizes the higher education landscape of Sikkim. Currently, the state does not have any Institutions of National Importance located within it.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Sikkim (2011-12)	India (2011-12)
State University	0	285
Private University	4	112
Institution of National Importance	0	39
Deemed University	0	129
Central University	1	40
Total	5	605

Source: UGC

Sikkim University is a Central University established under the Act of Parliament of India, on 2nd June 2007 and the campus is built in Yangang in South Sikkim District. The university offers traditional courses in humanities, physical and life sciences and forestry along with non-traditional courses that are unique and related to the state including subjects like ethnic history, mountain studies, border studies and hill music and culture.

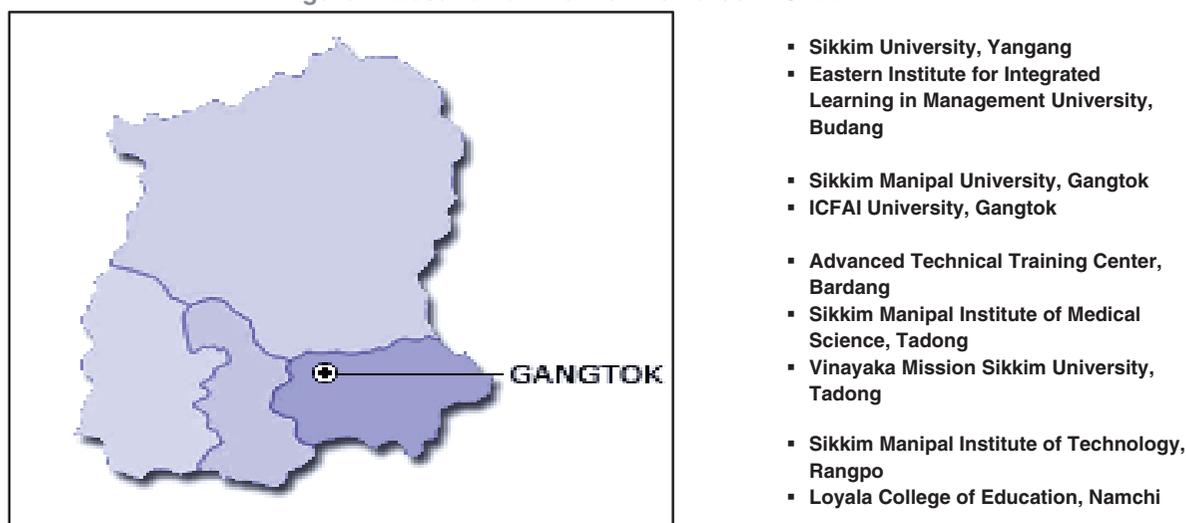
All the colleges in the state are affiliated to this university. There are 10 government colleges affiliated with the central university, including one law college, one Sanskrit college and one government teacher college. Out of the 4 private universities in the state, Sikkim Manipal University (SMU) is the largest and is located in the state capital of Gangtok. Competing with likes of the Indira Gandhi National Open University, SMU is considered by the students as the "Most Preferred University" for distance education in India.

SMU provides courses in IT, Engineering, Management, Commerce, Hospitality, Journalism & Mass Communication, Biotech and Health Sciences. It has two constituent institutes: Sikkim Manipal Institute of Medical Sciences (SMIMS) and Sikkim Manipal Institute of Technology (SMIT). Apart from

regular college-based programs, the university provides courses in distant education through Sikkim Manipal University Distance Education (SMUDE).

The state has two Technical Training Institutes, namely Advanced Technical Training Centre (ATTC) at Badang and Centre for Computers and Communication Technology at Chisopani.

Figure 1: Location of Premier Institutes in Sikkim



Higher education institutes in Sikkim are pre dominantly situated in the south and south east district of Sikkim. Such distribution of institutions enables access to higher education for all residents of Sikkim.

In addition to colleges that offer programs across areas like arts, science, commerce, engineering, management, teacher training and technology through classroom delivery; the Sikkim Manipal University Distance Education (SMUDE) provides distant learning courses in varied fields to students across the country.

Table 2: Distribution of Institution by Type of Funding in 2011-12

No.	Type of Institute	Number of Institutes
1	Central Government Institutes	1
2	State Government College	4
3	Private Degree College	2
4	Technical Institutes (Excluding ITIs)	2
5	State Government Institute	1
6	Private Institute	4
7	Teacher Training Institutes- State Govt.	5
8	Teacher Training Institutes- Private	3
9	Sanskrit Colleges	1
	Total	23

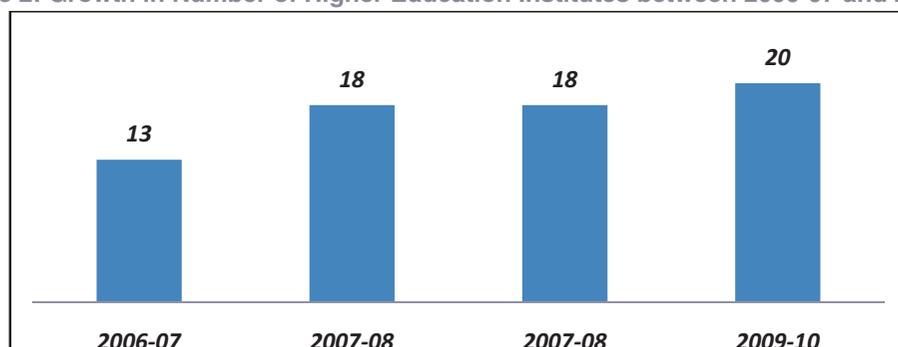
Source: Human Resources Development Department, Govt. of Sikkim

Among the various institutions in Sikkim, there are 4 state government colleges and all affiliated to the Central University of Sikkim. Out of 20 institutions in the state, about 40% institutions are privately funded and operated. The state has 8 teacher training institutes out of which 3 are district institute of educational and training (DIET) and 3 are private teacher training colleges/institutes.

Key Higher Education Indicators: Institute, Teachers and Enrolment

The growth rate in the number of higher education institutes in Sikkim stands at 15.27%, which is higher than the National Compounded Annual Growth Rate (CAGR) of 7%, which indicates an above average performance in ensuring access to higher education for the youth of the state. The numbers of Institutes/Colleges have increased by more than 50% over a 4-year period, from 13 in 2006-07 to 20 in 2009-10. In 2011-12, there were 23 institutes/colleges including central, state and private funded institutions. Hence, a trend of increasing capacity can be identified which translates into greater access and greater variety of education programs for the citizens of Sikkim.

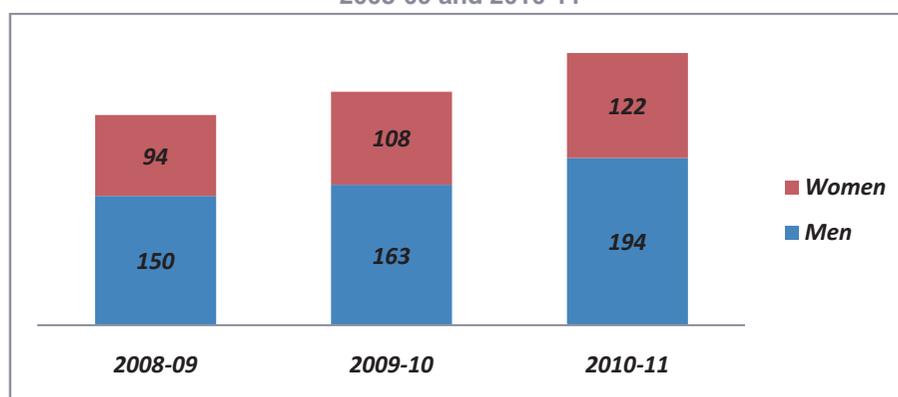
Figure 2: Growth in Number of Higher Education Institutes between 2006-07 and 2009-10



Source: Statistics of Higher and Technical Education, MoHRD, 2006-10

It can be seen that numbers for both men and women as man power employed in higher education institutes grew at the same rate of 29% between 2008 and 2011. This indicates that with the increasing number of institutes in the state, job opportunities are being created for both men and women in the field of higher education.

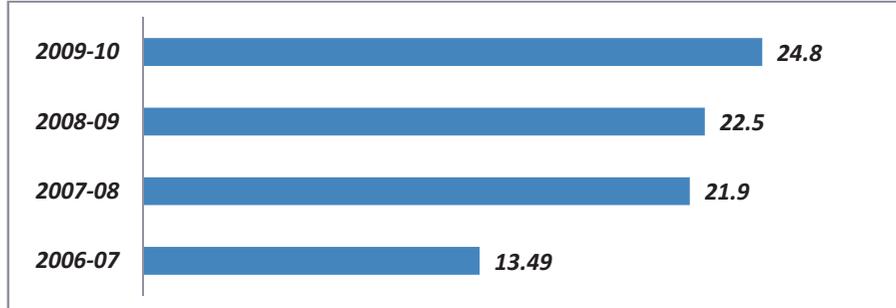
Figure 3: Growth in Man Power employed in Higher Education Institutes between 2008-09 and 2010-11



Source: Human Resources Development Department, Govt. of Sikkim

The state Gross Enrolment Ratio (GER) has been increasing rapidly between 2006 and 2010, thus reflecting an increase in access to higher education for the age group between 18 to 24 years. While the GER during the year 2006-07 was 13.49%, it doubled to a GER of 24.8% in 2009-10.

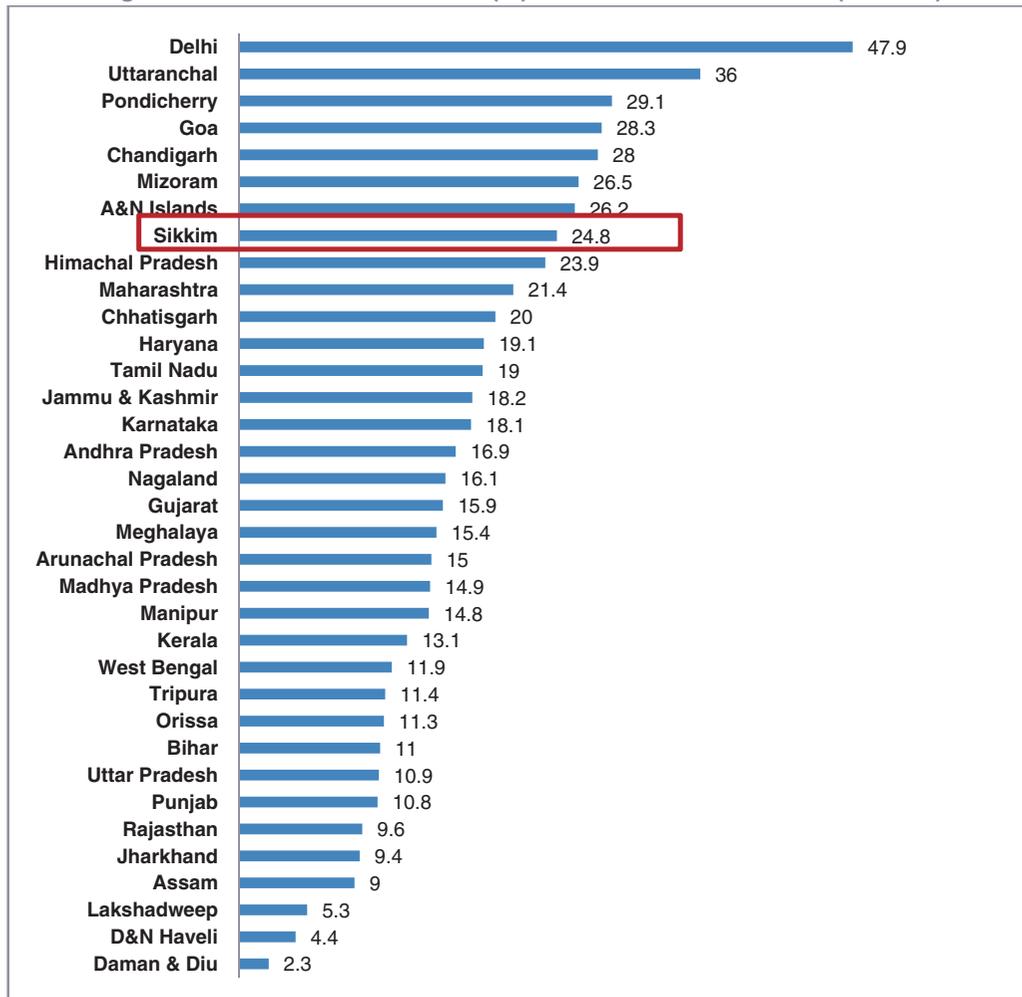
Figure 4: Gross Enrolment Ratio (%) in the State between 2006-07 and 2009-10



Source: Statistics of Higher and Technical Education, MoHRD, 2006-10

Due to this growth in GER, the state stands 8th amongst the various states & union territories and 2nd only marginally behind Mizoram in the North East region. Even though the GER is well above the national average of 15%, Sikkim still needs to provide the quality of education at all levels to be considered one of the knowledge hubs of the country.

Figure 5: Gross Enrolment Ratio (%) across all States in India (2009-10)



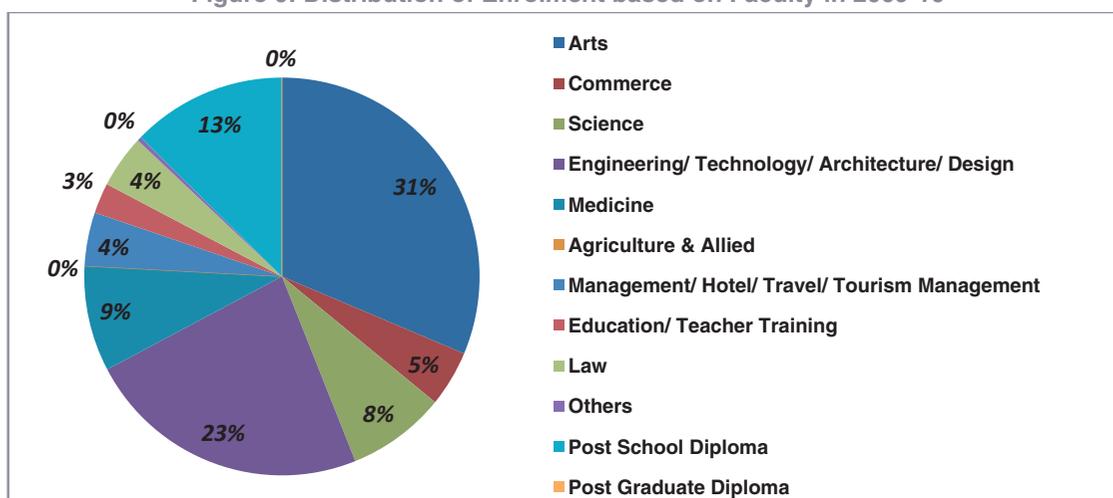
Source: Statistics of Higher and Technical Education, MoHRD, 2009-10

The following sections present a brief description of the current higher education scenario, industry & employment scenario and the key challenges & initiatives in higher education that are undertaken in the state of Sikkim.

Growth in Higher Education Institutes and Enrolment

The dominant programs that are being offered in higher education at the national level are in the streams of arts, science and commerce (ASC). A similar pattern can be seen in the state of Sikkim as well, with 31% of total enrolment being in programs of Arts, followed by Science with 8% and Commerce with 5%. In total ASC constitutes 44% of all enrolment in 2009-10 in Sikkim. Engineering, Technology, Architecture and Design was the 2nd most dominant faculty in the state in 2009-10 with 23% of the total number of enrolments. The percentage of Post School Diploma Graduates was relatively high at 13% in 2009-10, indicating that many students in the state of Sikkim are looking for job-oriented programs as soon as they graduate from high school.

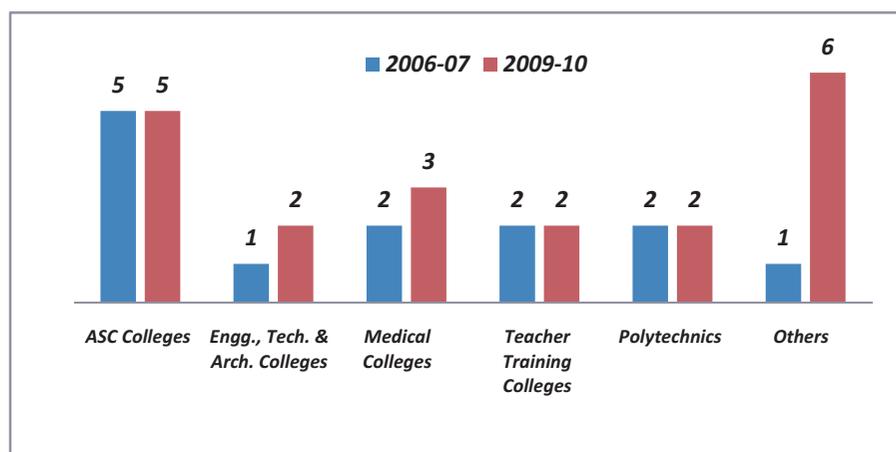
Figure 6: Distribution of Enrolment based on Faculty in 2009-10



Source: Statistics of Higher and Technical Education, MoHRD, 2006-10

There has been no significant increase in number of colleges in any faculty between 2006 and 2010. There has been an addition of one engineering college in the state between 2006 and 2010.

Figure 7: Faculty Wise Growth in Number of Institutes between 2006-07 & 2009-10



Source: Statistics of Higher and Technical Education, MoHRD, 2006-10

The number of students enrolled at the undergraduate (UG) level (93%) was significantly higher than the number of students enrolled at the postgraduate (PG) level (7%) during the year 2009-10. The faculties of science, law and management have a relatively more balanced distribution of UG and PG enrolment with Science having 71% in UG & 29% in PG, Medicine having 72% in UG & 28% in PG and Management having 74% in UG and 26% in PG in the year 2009-10. The faculties with the least number of students are Teacher Education and Commerce with 4.93% and 5.12% of total students enrolled at both UG and PG level combined respectively.

Table 3: Distribution and Growth of Enrolment at Undergraduate (UG) & Postgraduate (PG) Level in 2007-08 & 2009-10

Faculty	2007-08					2009-10				
	UG	%	PG	%	Total	UG	%	PG	%	Total
Arts	4,731	100	0	0	4,731	2,841	100	0	0	2,841
Commerce	450	100	0	0	450	412	100	0	0	412
Science	431	83	88	17	519	515	71	215	29	730
Engg. / Tech./ Arch.	2,063	99	13	1	2,076	2,102	99	11	1	2,113
Medicine	671	91	67	9	738	673	87	105	13	778
Agri. & allied	0	0	0	0	0	0	0	0	0	0
Management	207	47	230	53	437	292	74	104	26	396
Teacher Education	197	89	25	11	222	199	89	25	11	224
Law	212	97	7	3	219	283	72	108	28	391
Others	71	100	0	0	71	31	100	0	0	31
Total	9,033	95	430	5	9,463	7,348	93	568	7	7,916
Post School Diploma	1,075					1,148				
Post Graduate Diploma	0					0				

Source: Statistics of Higher and Technical Education, MoHRD, 2007-10

In terms of total enrolment, the maximum growth was registered in the faculties of law (79%), followed by science stream (41%). The faculties of arts and management have seen the least growth, with enrolment in arts declining at 40% and enrolment in management also declining at 9%. Medicine and engineering faculties have both shown consistent and marginal growth between 2007 and 2010, with 5% and 2% growth respectively.

Overall the scenario of enrolment in higher education at both UG and PG level is not healthy, with enrolment declining at a rate of 16%. This is due to decreased enrolment in the faculties of arts, management and commerce. Enrolment in Post School Diploma has increased steadily over the years. This could be due to the fact that better job opportunities are available after pursuing a Post School Diploma as compared to UG programs of study in Sikkim.

Quality of Institutes¹⁰⁹

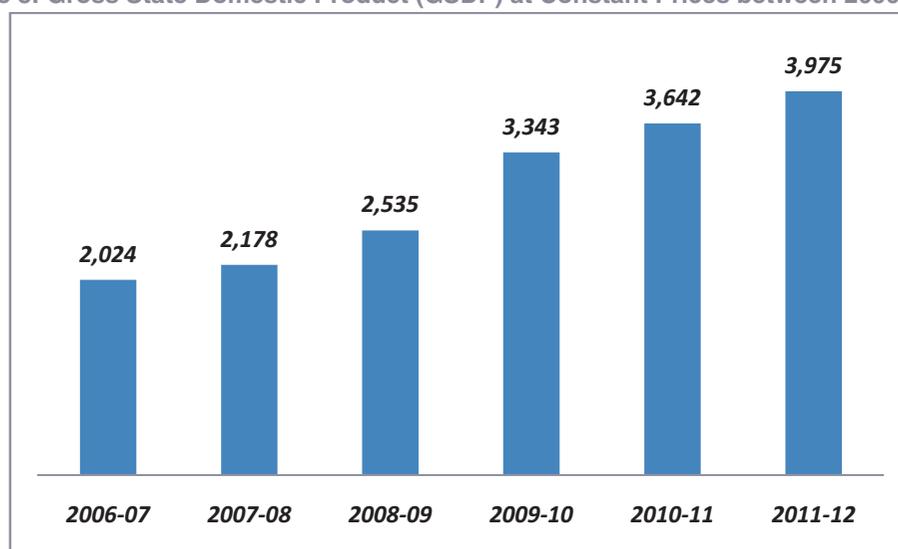
Only 2 colleges have accredited by the National Accreditation and Assessment Council (NAAC) in the state of Sikkim. The two colleges are Loyola College of Education and Harkamaya College of Education and both the institutes received a B (Good) grade.

Industry and Employment Scenario

Overview of the Economy

At constant prices in 2011-12, the Gross State Domestic Product (GSDP) of the state was Rs 3,975 Crore and it contributed 0.07% to the Indian GDP during that time period. The GSDP grew at a CAGR of 14.45% between 2006 & 2012 and this growth was better than the North East Region (7.5%) of India and better than the country (7.94%) as well. It can be concluded that the economy of Sikkim may not be growing in volume but is forging ahead at an above average pace.

Figure 8: Gross State Domestic Product (GSDP) at Constant Prices between 2006 & 2012



Source: Central Statistical Organization

Table 4: State/Region/Country Wise CAGR of GSDP between 2006 & 2012

State/Region/Country	6 Year CAGR of GSDP
Sikkim	14.45%
NER	7.50%
India	7.94%

Source: Central Statistical Organization

At a CAGR of 24.04% between 2006 & 2011, the secondary sector was the fastest growing among all the sectors in Sikkim's economy. This could be driven by the development in the state in the form of increased investment in hydroelectric power, minerals and precision engineering. The Secondary sector contributed the 2nd most to the GSDP with 38.86% in 2010-11.

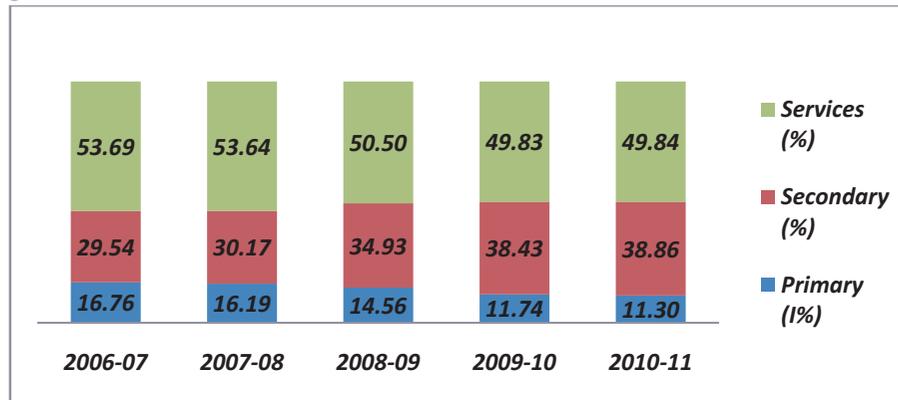
¹⁰⁹National Accreditation and Assessment Council

The services sector continues to be the most dominant sector in the state, contributing 49.84% of total GSDP of the state in 2010-11. This sector is growing at a rate of 13.68% and is primarily driven by construction, manufacturing and electricity, gas & water supply.

The primary sector contributed the least (11.3%) to GSDP and grew at a slow rate of 4.95% between 2006 and 2011.

Overall the state of Mizoram is primarily secondary and services oriented and the primary sector of the state is growing at a slow pace. The secondary sector, which includes industry participation is recording maximum growth and can be considered the main driver of the economy in the years to come.

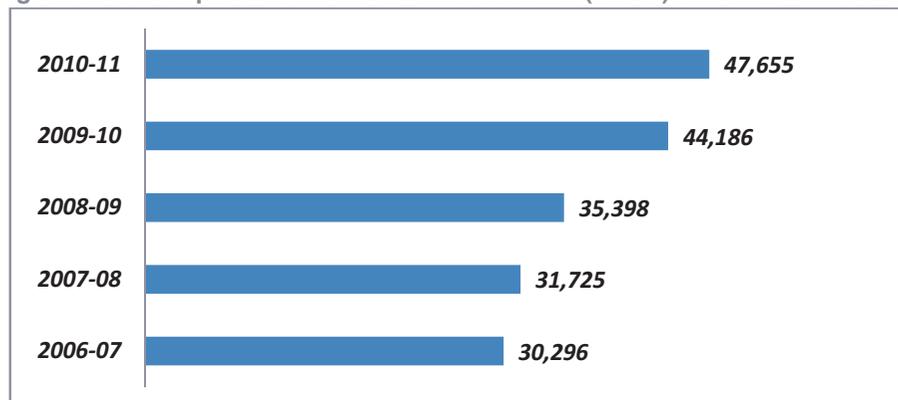
Figure 9: Sectoral Distribution of GSDP at Constant Prices between 2006 & 2011



Source: Central Statistical Organization

The per capita Net State Domestic Product (NSDP) at constant prices in 2010-11 stood at Rs 47,655, which was better than the national NSDP in the same period of Rs 35,993. The per capita NSDP grew at a rate of 11.99% as compared to 6.4% of the nation in the 5-year period between 2006 and 2011. This indicates that the performance of state in terms of per capita income of the citizens of Sikkim is strong as compared to other states of the nation and is continuing to grow at an above average rate.

Figure 10: Per capita Net State Domestic Product (NSDP) between 2006 & 2011



Source: Central Statistical Organization

Employment Scenario¹¹⁰

Sikkim has no large or medium scale industry in the state due to its small size, limited infrastructure, raw materials and accessibility. Small-scale industries have however grown in the last 10 years. Over half of these units are concentrated in the east district. East district is the economic and connectivity

¹¹⁰ NSDC Skill Gap Study of the North East - Sikkim

hub of Sikkim. The state capital, Gangtok, is located here. Many industries and educational institutes have come up in east Sikkim district, especially, in Gangtok, Sing tam and Tadong.

The informal sector plays a key role in the economy, providing employment to around 60,000 people. Most of these people are employed in retail trade and agricultural activities.

Sikkim is opening up its economy for employment opportunities, especially, in the hospitality and pharmaceuticals sectors. The employment pattern of Sikkim, according to its 4 districts, is as follows:

1. **North Sikkim** is characterized by harsh landscapes prone heavily to landslides and the proximity to China, which makes setting up of big industries difficult, thereby having a major impact on opportunities for employment in sectors other than agriculture.
2. **South Sikkim** has the second highest number of main workers (after East Sikkim) due to the land being more suited for agriculture and tea. The main workers are cultivators and other agricultural workers.
3. **East Sikkim** is mainly a rural economy with non-workers at number of 128,511. The main reason for this high a number of is that the infrastructure is not sufficient enough to reap good agricultural produce.
4. **West Sikkim's** economy is mainly agrarian, despite most of the land being unfit for cultivation owing to the steep and rocky slopes. Awareness needs to be increased to reduce the number of non-workers with modern methods of agriculture and horticultural crops.

Key Industries¹¹¹

The Commerce and Industries Department of Sikkim is responsible for promotion of trade and industry in the state. The Sikkim Industrial Development & Investment Corporation Limited (SIDICO) is the state-level institution engaged in promoting, financing and developing the tiny and small-scale industries (SSI) sector in the state.

Eco-tourism, handicrafts and handlooms, silk reeling & processing, precision engineering, electronics, IT, medicinal plants, floriculture, tea, spices, honey and biotechnology are thrust areas identified by the state. Description of some of these industries is given in the following section.

1. Electronics and Precision Engineering

- Electronics and precision engineering has been identified as a thrust area by the Sikkim government due to the presence of state-run precision engineering industry.
- Sikkim Precision Industries Ltd., Sikkim Jewels Ltd. and Sikkim Time Corporation are the state-run precision engineering facilities.

2. Handlooms and Handicrafts

- Carpet weaving, blanket making, handloom, cane and bamboo, thanka painting, lepchahats-making and angora shawl-weaving are the various handlooms and handicraft activities practised in Sikkim.
- Sikkim's handicrafts are being promoted in various national and international trade fairs and have found ready buyers.

3. Agriculture, Horticulture & Food Processing

- Sikkim has a suitable climate for agricultural and horticultural products. It supports multiple crops.
- The Sikkim government is working on an ambitious plan to achieve 100 per cent organic farming by the year 2015.

¹¹¹ India Brand Equity Foundation – Sikkim, 2010

- The agro-climatic conditions in the state support a wide variety of exotic flora and fauna that have utility in the medicine sector.
- The state has identified medicinal plants and bamboo as one of the priority sectors for investment.
- Sikkim has 28 varieties of bamboo, offering potential for developing the handicrafts, construction, medicine, packaging, and food processing industries.

4. Hydroelectric Power

- It is estimated that Sikkim has a peak potential capacity of 8,000MW and a steady 3,000 MW hydroelectric power. The state has invited PPP projects in the sector and 24 projects are already being set up in the state.

5. Tea

- Tea grown in the Temi region of South Sikkim is famous by its brand name "Temi" tea.
- The tea has its unique flavour and about 100 million tonnes of tea is produced, annually.

6. Minerals

- Sikkim has significant, untapped natural resource reserves of Coal, Lime Stone, Marble, Quartzite, Graphite and Garnet.

7. Sericulture

- Mulberry, muga, eri, oak-tussar and silk are cultivated in Sikkim. The Sericulture Department of Sikkim promotes exports of silk from Sikkim.

8. Tourism

- Sikkim has the perfect blend of natural wealth and topography, which ranges from tropical to temperate to alpine. The state is richly endowed with thick forests, flora and fauna, lakes, glaciers and mountain peaks, which makes it a tourist's paradise.
- According to the Ministry of Tourism 5.76 lakh domestic and foreign tourists visited Sikkim in 2011.

Key Challenges & Initiatives in Higher Education

Issues and Challenges

- The number of students pursuing PG level degree programs in the state is very low as compared to UG level degree programs in all colleges such a disparity is a cause of concern for the state's higher education landscape.
- A trend has been observed of increasing number of students going out to other state for pursuing higher education. Retention of local students at higher education level is a huge challenge for the state.
- There is a need to upgrade the quality and standards of education in existing institutes in order to increase enrolment.
- B.Sc. courses need to be introduced in all colleges, augmenting the intake of students in Mathematics, Chemistry and Physics.

Initiatives Started

- The World Bank assisted the state in its 3rd Technician Education Project under which 2 Polytechnics were established in the state.
- Fellowship grants for those pursuing Ph.D. were approved and scholarships for higher studies were provided to students of all colleges.
- Teacher training institutes were strengthened with establishment of proper infrastructure.

Initiatives Proposed

- Establishment of National Institute of Technology.
- Professional teacher training to all teachers by 2015.
- Up gradation of government degree College at Tadong in to a Centre of Excellence.

State Focus: Tamil Nadu



State Profile

Capital	Chennai
Total Area (in sq. km.)	1,30,058
Total Population	7,21,38,958
Population Density (per sq. km)	555
Number of Districts	32
Literacy Rate (%)	80.3
Sex Ratio (per 1,000 males)	995
State Domestic Product, 2010-11 (In Rs. Crore)	4,91,049
Per capita income, 2010-11 (Rs.)	72,993

Introduction

Located in the southern part of the Indian peninsula, Tamil Nadu (TN) is the eleventh largest by area and the seventh most populous state in India. It is the second largest state economy in India as of 2012. In terms of Human Development Index (as of 2006), the state was among the top 5 states in India.

Tamil Nadu also has the highest number of business enterprises and stands second in total employment in India, as compared to the population share of the state. The state has one of the highest literacy rates in India and is one of the few states in India with 100% Gross Enrolment Ratio in primary and upper primary education. Historically an agricultural state, it is now considered one of the most urbanised states in India.

Universities and University Level Institutes

There are 6 universities & university level institutions in the state, including 2 central universities, 24 state universities, 29 deemed universities and 5 Institutes of National Importance. The Central University of Tamil Nadu was established in 2009, and currently offers integrated masters programs in the subjects of physics, chemistry, mathematics and life sciences. The university also offers postgraduate and doctoral programs.

The Indian Maritime University is the other central university in Tamil Nadu, which was established in 2008 and offers programs in marine engineering and research, ship design and port management. Nationally reputed institutes like IIT Madras and NIT Trichy are also located in the state. Among the state universities, Anna University and Madras University are included in the most reputed universities in the country.

The Vellore Institute of Technology (VIT), Madras – a deemed university; is another premier institute and has been continuously ranked in the top 10 engineering colleges in India. VIT University has the distinction of being the first educational institution in India to be awarded the International Organization for Standardization 9002 certificate for three years. It is also the first university to receive ABET (a globally recognized accreditor) accreditation for their mechanical and computer science departments.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Tamil Nadu (2011-12)	India (2011-12)
State University	2	285
Private University	0	112
Institution of National Importance	24	39
Deemed University	29	129
Central University	5	40
Total	60	605

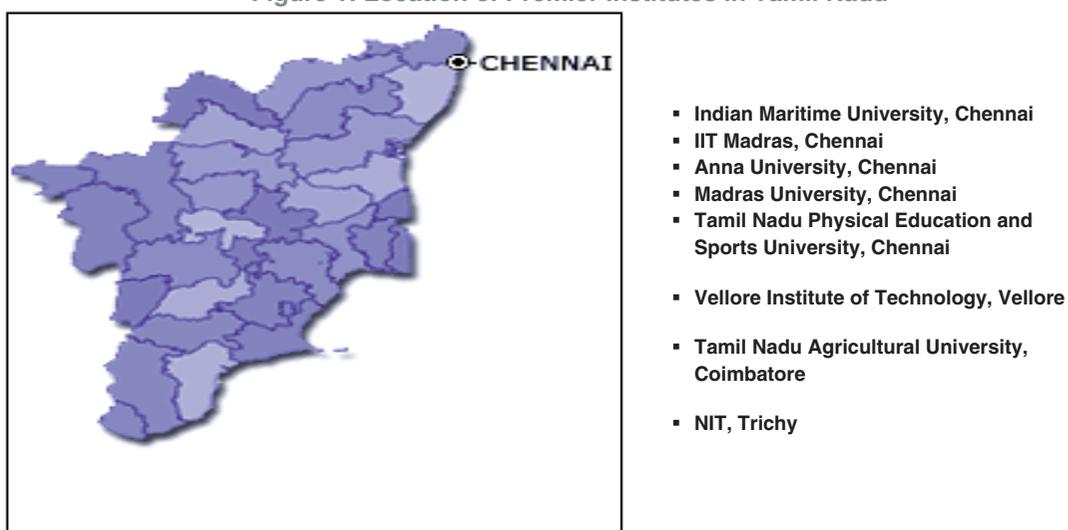
Source: UGC

In addition to general and technical education, there are several universities focusing on areas such as agriculture, teacher education, medicine, physical education and sports, veterinary and animal sciences. The Tamil Nadu Agricultural University was established in 1971 and has 11 constituent

colleges & 4 affiliated colleges. The university offers undergraduate, postgraduate and doctoral programs.

Tamil Nadu is one of the few states in India with a separate university focused on teacher education. The Tamil Nadu Teacher Education University was established in 2008, and in 4 years has managed to affiliate 661 teacher education colleges. The state also has India's first university focused exclusively on physical education. Established in 2005, the Tamil Nadu Physical Education & Sports University affiliates 10 colleges, and offers select physical education and allied courses, through collaborative programs and distance education

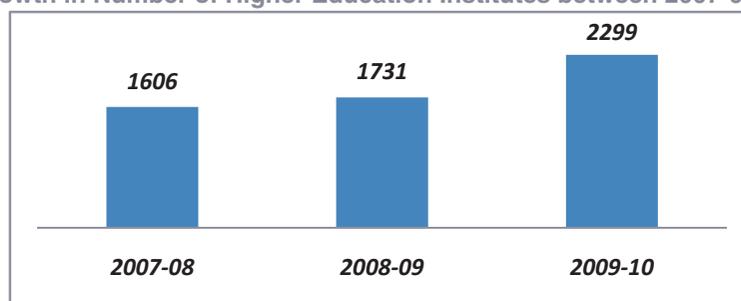
Figure 1: Location of Premier Institutes in Tamil Nadu



Key Higher Education Indicators: Institutes and Enrolment

As per MoHRD data, the total number of higher education institutes in Tamil Nadu has increased from 1,606 in 2007-08 to 2,299 in 2009-10, at a growth rate of 19.5%. The new teacher education institutes that have been established during this period have registered the maximum growth.

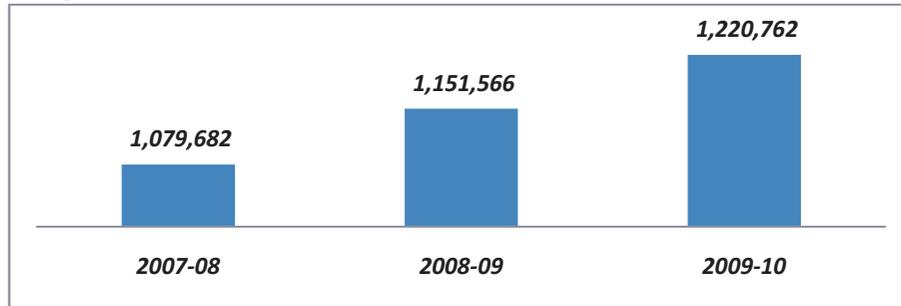
Figure 2: Growth in Number of Higher Education Institutes between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

The total higher education enrolment across streams in general education and technical education has been growing steadily from 10.8 lakh in 2007-08, the higher education enrolment has increased to 12.2 lakh in 2009-10, at a growth rate of 6%.

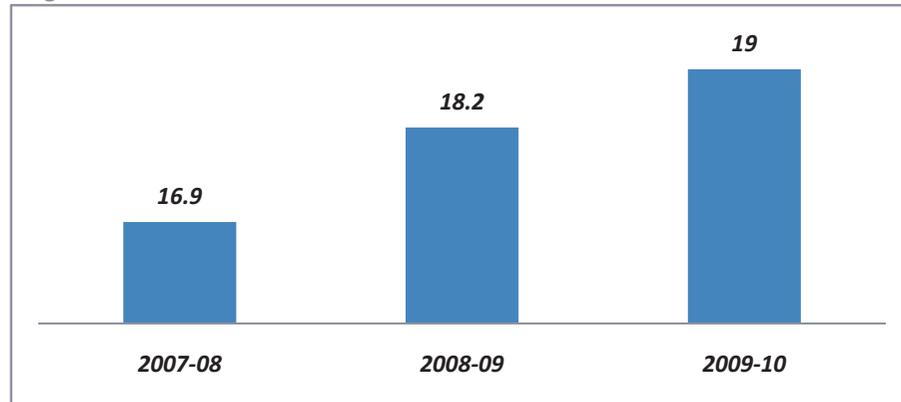
Figure 3: Growth in Number of Enrolment between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

Tamil Nadu's Gross Enrolment Ratio (GER) stood at 19% in 2009-10, which was higher than the national average of 15%, thus exhibiting a strong higher education infrastructure in the state. The GER of the state has increased from 16.9% in 2007-08 to 19% in 2009-10.

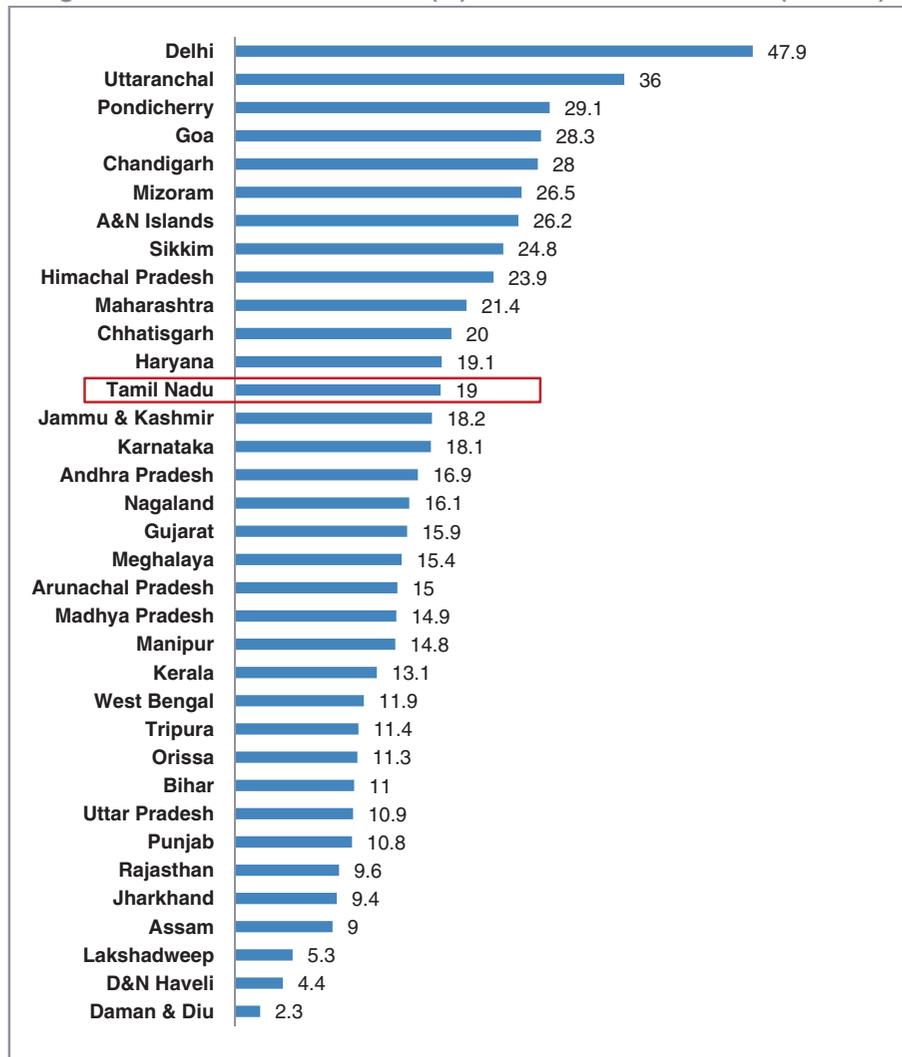
Figure 4: Gross Enrolment Ratio in the State between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

In 2009-10, in terms of the GER, the state was ranked 13th among 28 states and 7 union territories in India.

Figure 5: Gross Enrolment Ratio (%) Across all States in India (2009-10)



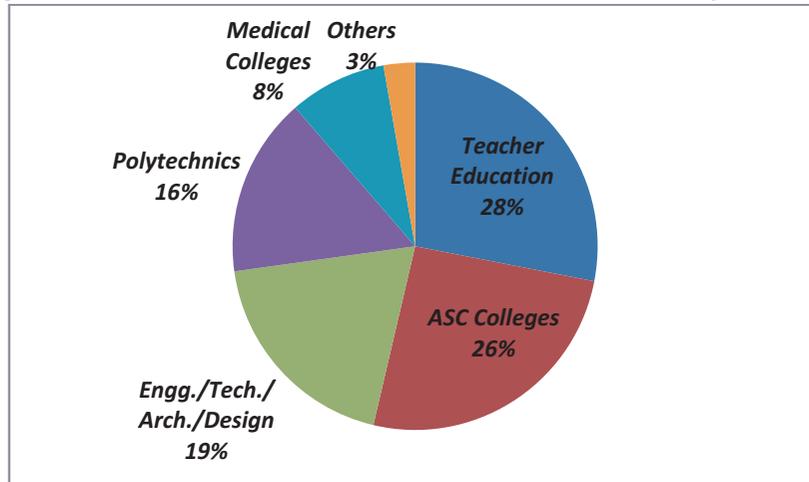
Source: Statistics of Higher & Technical Education, MoHRD

The following sections present a brief description of the current higher education scenario in the state. The report presents an outline of the industry & employment scenario and its linkages to the higher & technical education conditions in the state.

Growth in Higher Education Institutes and Enrolment

In 2009-10, the state had a total of 2,299 higher education institutes catering to both the general and technical education needs. The majority of these institutes are teacher education institutes, with 28% of institutes focused on teacher education and training. The second major category of institutes are those offering Arts, Science and Commerce (ASC) programs (26% of the institutes), followed by institutes offering programs in engineering/ technology/ architecture (19% of all institutes).

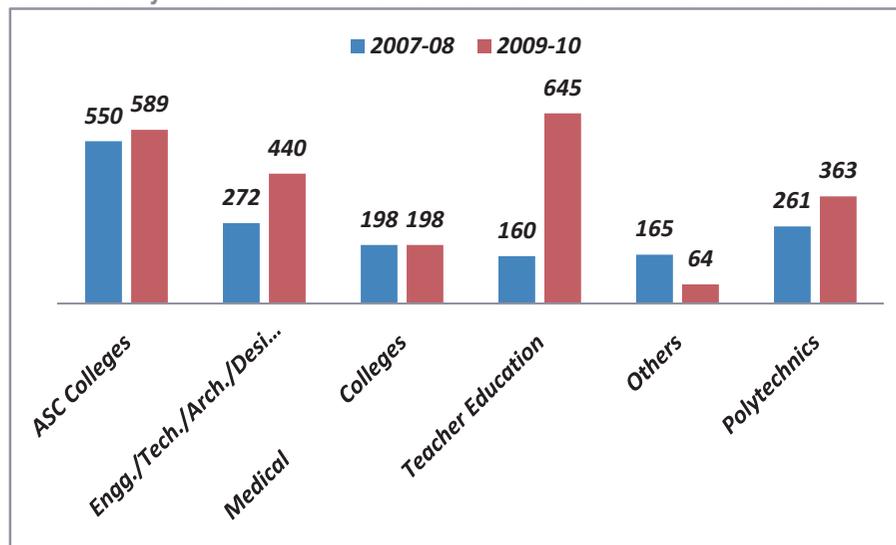
Figure 6: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

The maximum growth in the number of institutes between 2007-08 and 2009-10 has been in the field of teacher education, with a growth rate of 101%; followed by institutes offering engineering/ technology/ architecture (27%).

Figure 7: Faculty Wise Growth in Number of Institutes between 2007-08 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

In line with the national level trend, majority of students are enrolled in the undergraduate programs. Maximum number of students was enrolled in arts and science programs, followed by engineering/

technology/ architecture programs. The number of students enrolled in postgraduate programs is slightly higher in Tamil Nadu as compared to the majority of the other states, with 14.7%.

Table 2: Distribution of Enrolment at Undergraduate (UG) and Postgraduate (PG) Level in 2009-10

Faculty	Enrolment (2009-10)		Total	UG (%)	PG (%)
	UG	PG			
Arts	2,43,404	31,557	2,74,961	89	11
Commerce	1,25,377	20,339	1,45,716	86	14
Science	2,43,401	64,702	3,08,103	79	21
Engg. / Tech/ Arch.	1,77,421	19,562	1,96,983	90	10
Medicine	41,696	2,484	44,180	94	6
Agriculture & Allied	781	398	1,179	66	34
Management	40,804	18,839	59,643	68	32
Teacher Education	63,236	3,039	66,275	95	5
Law	8,486	350	8,836	96	4
Others	5,997	1,875	7,872	76	24
Total	9,50,603	1,63,145	11,13,748	85.3	14.7

Source: Statistics of Higher & Technical Education, MoHRD

In terms of total enrolment (including undergraduate and postgraduate levels), there has been a steady growth across all the streams (enrolment for medicine and law streams not updated in MoHRD data released). The maximum growth has been registered in the field of teacher education, with 74% growth.

Table 3: Faculty wise Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) level between 2007-08 and 2009-10

Faculty	Total Enrolment (UG+PG)		CAGR (%)
	2007-08	2009-10	Total
Arts	24,52,05	2,74,961	6
Commerce	13,35,81	1,45,716	4
Science	2,95,963	3,08,103	2
Engg. /Tech./Arch./Design	1,88,655	1,96,983	2
Medicine	44,180	44,180	0
Agriculture & Allied	1,028	1,179	7
Management	52,680	59,643	6
Teacher Education	21,804	66,275	74
Law	8,836	8,836	0
Others	5,870	7,872	16
Total	2,45,205	2,74,961	6

Source: Statistics of Higher & Technical Education, MoHRD

Quality of Institutes

Among the various universities in Tamil Nadu, 12 universities have undergone assessment by National Assessment & Accreditation Council (NAAC), out of which 8 universities have been awarded grade A (Very Good) and 4 universities have been awarded grade B (Good).

Among the higher education colleges, 187 institutes have undergone accreditation by the NAAC, with 72 institutes being awarded grade A (Very Good), 108 institutes being grade B (Good) and 7 institutes awarded grade C (Satisfactory).

Industry and Employment Scenario

Key Industries

A brief overview of the various key industries in Tamil Nadu is as given below:

1. Textiles

- Known as the 'yarn bowl' of the nation, Tamil Nadu accounts for 46.1% of the country's spinning capacity and is the leading state in the country in the export of cotton yarn. The cities of Coimbatore and Tirupur are the major textile centres in the state.
- Key players: Coats India Ltd, Primus Fabrics, Gem Spinners India Ltd, Lakshmi Mills

2. Automotive Industry

- Tamil Nadu currently has 35% share in the Indian automotive industry. The strong performance of the state in the auto industry is because of the presence of skilled manpower with strong engineering capabilities.
- Around US 1 billion dollars have been invested by some of the major tyre companies in the state.
- Key players: Ford Motor Company, Hyundai Motor India, Mitsubishi Motors Corporation, Ashok Leyland

3. Engineering

- Tamil Nadu has a strong engineering base, particularly in the cities of Chennai, Coimbatore and Salem.
- The state has a network of nearly 3,000 engineering units, employing 2.5 lakh strong skilled workforce, making high quality inputs including castings, forgings and a wide variety of ancillary products.
- Key players: Amalgamations Group, Bharat Heavy Electricals Ltd, TVS Group, Greaves Cotton Ltd

4. IT and ITeS

- Tamil Nadu has 22 approved IT parks. The TIDEL Park in Chennai is spread over 1.28 m sq ft and is the largest IT facility in India. A similar TIDEL park was also inaugurated in the city of Coimbatore in 2010.
- Key players: Mahindra Satyam, Tata Consultancy Services, Infosys Technologies, HCL Technologies

5. Cement

- Tamil Nadu is among the nation's leading cement manufacturing states.
- Key players: ACC Ltd, Madras Cements Ltd, Grasim Cements, Tamil Nadu Cements Corp. Ltd.

6. Drugs and Pharmaceuticals

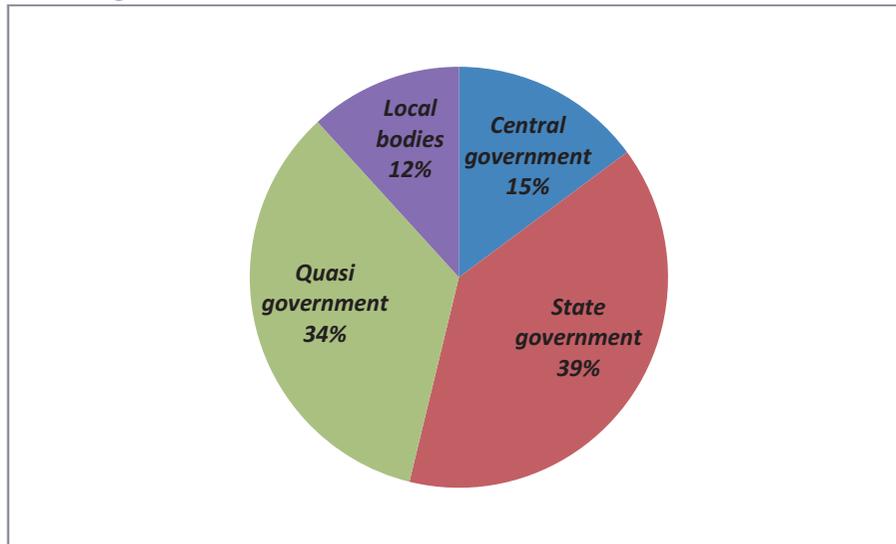
- Tamil Nadu is the fifth largest pharmaceutical producing state in the country and is dominated by companies producing mainly formulations.
- Key players: Orchid Chemicals and Pharmaceuticals, Indian Drugs and Pharmaceuticals Ltd, Medopharm Pharmaceuticals, Sun Pharmaceutical Industries Ltd

Employment Scenario

As per the Economic Census (2005) conducted for the state of Tamil Nadu, the size of the total employable manpower is 6.66 crore. Among these, 3.13 crore persons belong to the category of labour force, and 3.06 crore persons belong to the category of work force. The total number of unemployed persons is .452 crore.

In the public sector, a total of 15 lakh persons were employed in 2008-09, with the maximum number of persons being employed in state government bodies (39%), followed by quasi government bodies (34%) and central government organizations (15%).

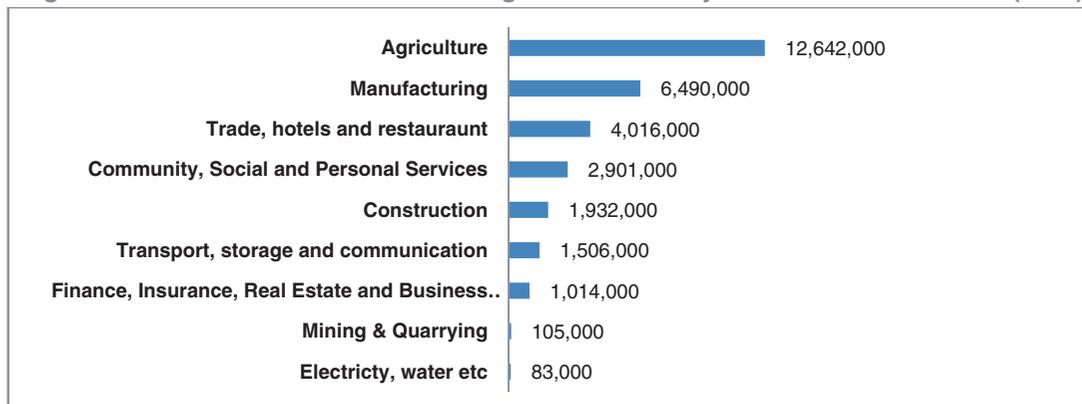
Figure 8: Distribution of Workforce in Public Sector in 2008-09



Source: Department of Employment and Training, Tamil Nadu

In terms of industrial classification, the maximum employment has been generated by the agriculture sector with 1.26 crore (41.19%) of the total workforce being engaged by this sector. The other major contributing sectors are manufacturing (21%); trade, hotels and restaurants (13%) and community, social and personal services (9.4%)

Figure 9: Distribution of Workforce in Organized Sector by Industrial Classification (2005)



Source: Economic Census, Tamil Nadu (2005)

Current Initiatives in Higher Education

The Tamil Nadu government has taken several initiatives, with a view to improve the higher education scenario in the state, particularly in terms of improving access. Several initiatives are currently underway to improve the quality of universities to ensure that world class education is delivered. A brief about these initiatives is given below:

- All self-supporting courses in government engineering and arts & science colleges have been converted into regular courses to enable students from financially weaker families to access higher education at an affordable cost.
- **Introduction of shift system:** Shift system has been introduced in government polytechnic colleges and arts & science colleges.
- **Reducing of minimum marks for admission:** The minimum marks for admission in engineering colleges has been reduced for all categories of students from the year 2007-08, thus enabling students from rural areas to join professional courses in large numbers.
- **Abolishment of Common Entrance Test:** The Common Entrance Test for admission to professional courses was abolished from 2007-08. This enabled students belonging to rural areas to join professional programs in large numbers. This is reflected in the fact that enrolment of rural students for professional courses increased from 24,670 during 2006-07 to 54,073 during 2009-10.
- **Single window counselling system:** To increase the transparency of the admissions process, admission in B.Ed colleges and arts & science colleges is being conducted in a window counselling system, thus benefiting the meritorious students.
- **Waiving of tuition fee:** Tuition fee has been waived for all the students studying in government polytechnic institutes. Similarly, to encourage students from families with no degree holders, the government has decided to bear the entire tuition fee payable by such students pursuing professional education.
- **Choice Based Credit System** has been introduced in the government arts and science colleges to enhance the quality of education.
- **Up gradation of infrastructure:** Audio-visual facilities have been provided to all the government arts and science colleges. Similarly, 21 language laboratories have been established in government polytechnic colleges and 5 digital libraries were set-up in government engineering colleges.
- **Centre of Excellence:** To establish Centres of Excellence in the state, an assistance of Rs 1 crore each is provided by the state government to the following universities, Bharathiar University, Bharathidasan University, Madras University, Periyar University and Manomaniam Sundaranar University.

State Focus: Tripura



State Profile

Capital	Agartala
Total Area (in sq. km.)	10,492
Total Population	36,71,032
Population Density (per sq. km.)	555
Number of Districts	4
Literacy Ratio (%)	87.75
Sex Ratio (per 1,000 males)	961
State Domestic Product, 2010-11 (In Rs. Crore)	13,854
Per capita income, 2010-11 (Rs.)	38,493

Introduction

Tripura is located in the North East region of the country and is part of the 7 sister states of the northeast region. In terms of area, Tripura is the 3rd smallest state in the country. The state shares a border with Bangladesh on its North, South & West Side and Assam & Mizoram lie on its East.

As a landlocked state, Tripura's terrain is characterised by numerous north-south hill ranges with valleys in between and plain in the western part of the state. Only one major highway connects Tripura to the rest of the country and so this serves as a major disadvantage as economic activity of the state gets adversely affected.

Tripura is a 'sanskritized' version of Tipra, which is the name of the local inhabitants of the state. Mainstream Indian culture and Scheduled Tribes coexist in this state where more than half of the area is covered by Forest. Most of the population is agrarian; however the services sector is the biggest contributor to the state's economy.

Education infrastructure in Tripura has developed at a very fast pace and this can be seen in the state's relatively high literacy rate. It is one of the few states in the country to record a literacy rate of more than 85%.

Universities and University Level Institutions

The State Department of Higher Education is entrusted with the task of providing opportunities to the students of the state for pursuing higher studies ranging from general education to sports and youth services and also for promotion of art and culture in the state.

The landscape of Higher Education in the state is characterized by one Central University and one Private University. Tripura has no state or deemed university till date and only one Institute of National Importance has been established in the state, namely the National Institute of Technology at Agartala.

Table 1: Distribution of Universities & University Level institutions at State & National Level

Type of University	Tripura (2011-12)	India (2011-12)
State University	0	285
Private University	1	112
Institution of National Importance	1	39
Deemed University	0	129
Central University	1	40
Total	3	605

Source: UGC

In Tripura a number of Undergraduate (UG), Postgraduate (PG), Medical, Engineering, Law, Polytechnics have been established both by the Government and the Private sector.

At present the Higher and Technical Education in the state comprises 16 degree colleges, out of which 14 are affiliated to Tripura Central University. The state has one Institute of Advanced Studies in Education (IASE), one Government Law Colleges, one Government Music College and one Arts and Crafts College. The state has 3 Engineering colleges and 3 Polytechnics as well. The state has 2 Medical Colleges as well as one Pharmacy College. The All India Technical Education Council (AICTE) has recognized all technical institutions in the state.

The programs offered by Tripura colleges are in the fields of Arts, Science, Commerce, Computer Application, Information Science and Languages. They are delivered by classroom mode and some are even delivered by distance mode. The programs offered by specialized Colleges include Pharmacy, Journalism, Engineering, and Medical Sciences etc.

The state has 1 Private University - ICFAI University - and two private colleges, which have been setup by Bharatiya Vidya Bhavan and Holy Cross Society.

The state capital of Agartala houses the National Institute of Technology (NIT), which was formerly known as Tripura Engineering College. After the establishment of Tripura University, NIT became affiliated to it. After the enactment of the NIT Act the institute has become an "Institute of National Importance" and will shift to a new campus, which is presently under construction. The institute offers 8 undergraduate (B.Tech) programs in Engineering of four-year duration. Postgraduate M.Tech courses are also being offered. The Department of Computer Science and Engineering offers a three-year degree in Masters in Computer Applications (MCA) course. Some departments also offer Ph.D. and post doctorate fellowships.

The Tripura Polytechnic Institute has been converted into the Tripura Institute of Technology (TIT) in 2007-08 and offers degree and diploma level programmes. Degree level programmes are offered in Civil, Mechanical, Electronic & Tele-communication, Computer Science & Engineering, Food Processing Technology, Automobile Engineering and Architectural Engineering.

Tripura University, the Central University of the State runs 13 post graduate programmes. The colleges for general education offer undergraduate courses in Science, Arts and Commerce streams at pass and honours level. In total, 26 (twenty-six) subjects are offered in under-graduate level in different degree colleges having enrolment of more than 27,500 students.

The only private university in the state is the Institute of Chartered Financial Analysts of India (ICFAI) University and at present it has faculties in Management Studies, Science & Technology, Education and Law.

Figure 1: Location of institutes in Tripura by Districts



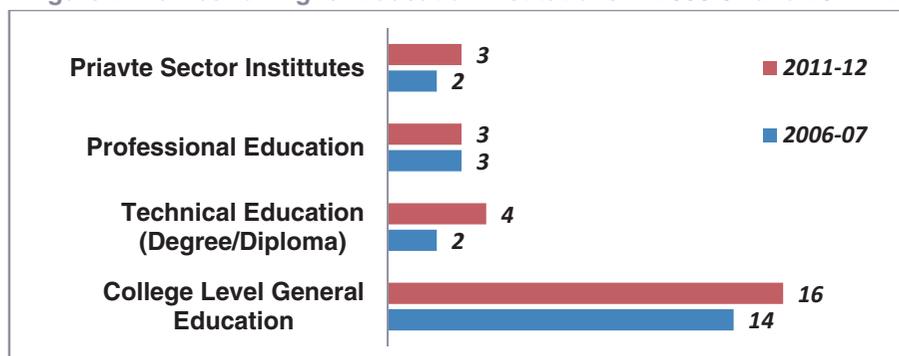
- 3 General Degree Colleges
- 2 Universities: Tripura Central University, Agartala & ICFAI University, Agartala
- 7 General Degree Colleges
- 1 Law College, 1 Music College, 1 Art College
- 2 Polytechnics : NIT and Tripura Institute of Technology (TIT)
- 1 Pharmacy and 2 Medical Colleges
- 1 Institute of Advance Studies in Education (IASE)
- 1 General Degree College
- 4 General Degree Colleges

The majority of major institutes and colleges of the state are in the West District, especially in the state capital of Agartala. Agartala has Tripura Central University and the regional Centre of the Indira Gandhi Open University. It also houses the only Medical and Pharmacy colleges of the state. Both major engineering institutes NIT and TIT are also located in Agartala. Other districts of the state only house General Degree Colleges and don't have any specialized colleges.

Key Higher Education Indicators: Institutions & Enrolment

As can be seen from Figure 2, between 2006-07 and 2011-12, there has been an increase in the number of institutions at college level (general education), technical education at both degree and diploma levels and in private sector institutions. Although, the increase in number of institutions is marginal, it is a positive sign for the development of higher education in the state of Tripura. In General Degree Colleges, education was imparted in 25 subjects at the undergraduate level in 2006-07, whereas in 2011-12, the taught programs increased to 29. In Technical Education, 7 subjects were taught in 2006-07, and the number has increased to 8 subjects in 2011-12.

Figure 2: Number of Higher Education Institutions in 2006-07 and 2011-12



Source: Higher Education Directorate, Government of Tripura

Table 2 depicts the growth of enrolment in the state of Tripura during the 11th Five Year Plan period from 2006-07 to 2011-12. Overall, the enrolment is increasing at 4.11% Compound Annual Growth Rate (CAGR), which is healthy but is hindered by migration of students to other states for the pursuit of better higher education. The technical education enrolment grew at a healthy pace of 19.16% between 2006-07 and 2011-12, at both degree and diploma level; this could be due to the increase in technical institutions in the state. Private sector institutions have recorded a maximum growth of 26.9%.

Table 2: Growth in Enrolment in Higher & Technical Education Institutes in 2006-07 & 2011-12

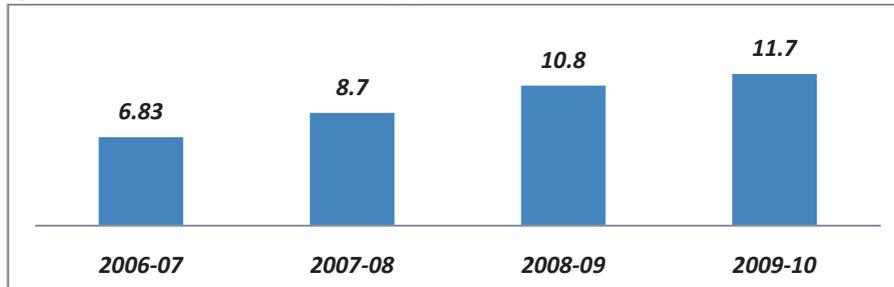
	College Level General Education	Technical Education (Degree + Diploma)	Professional Education	Private Sector Institutes	Total Enrolment
2006-07	25,720	811	506	110	27,147
2011-12	30,254	1948	647	362	33,211
CAGR	3.30	19.16	5.04	26.90	4.11

Source: Higher Education Directorate, Government of Tripura

It should be noted that the National Institute of Technology, the only Central Government Institute in the state registered a CAGR of 23% between 2006 and 2012 with enrolment increasing from 795 in 2006-07 to 2,240 in 2011-12.

The state Gross Enrolment Ratio (GER) increased between 2006 and 2010, thereby reflecting increased access to higher education for its youth in the 18-24 year gap. This GER is still very low, even though the GER almost doubled in the 4-year period from 6.83% in 2006-07 to 11.7% in 2009-10. The GER in 2009-10 is much below the national average of 15% and this is a major cause of concern for the development of higher education in the state of Tripura.

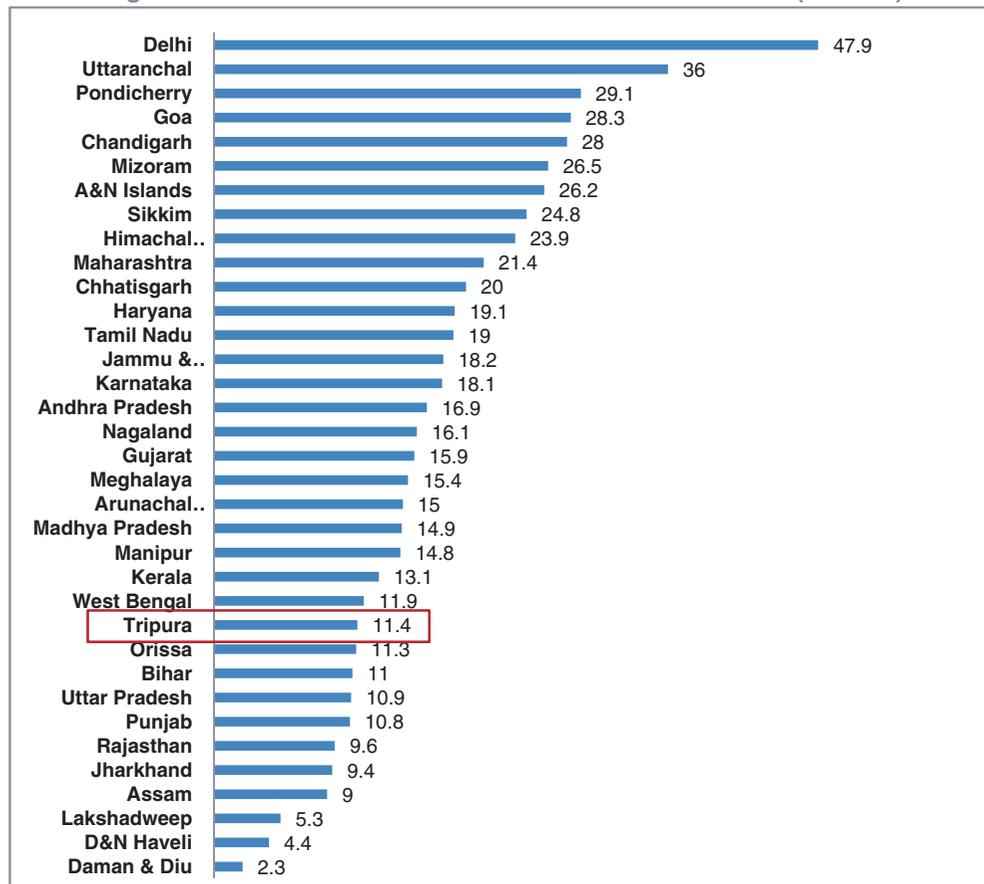
Figure 3: Gross Enrolment Ratio (%) in the State between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

It can be seen in Figure 3, that despite the growth in GER, the state still stands 25th among the various states and union territories of India. Tripura had the second worst GER in the north east region, only marginally above that of Assam at 9% in 2009-10. Such a low GER could be due to poor capacity intake, less number of colleges and institutions and lack of quality of education, thereby driving the youth of Tripura to other states to seek higher education opportunities.

Figure 4: Gross Enrolment Ratio across all States in India (2009-10)



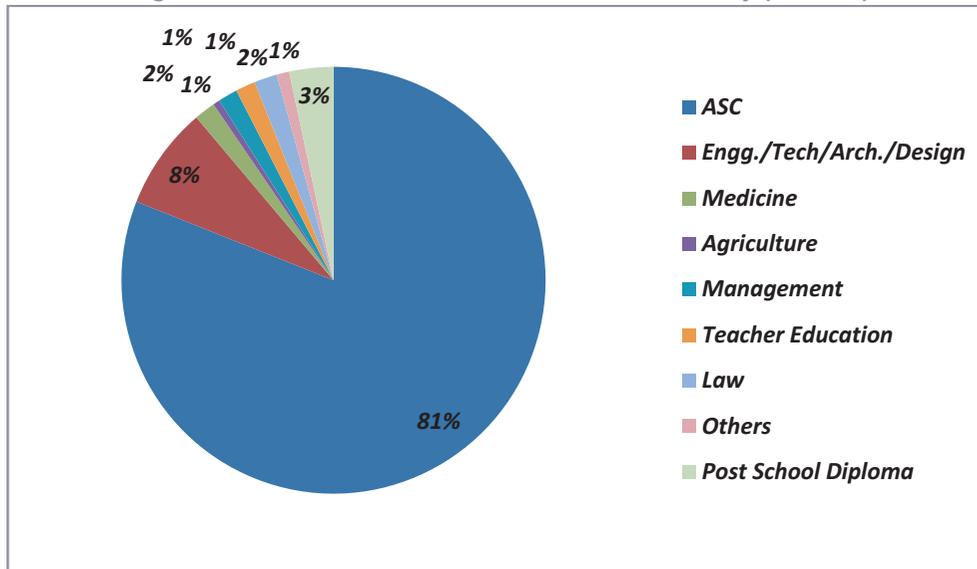
Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

The following sections present a brief on the state of affairs in higher and technical Education in the state. Then the report elaborates on the Industry and Employment opportunities in Tripura. It finally presents the key challenges faced in higher education and initiatives started & proposed.

Growth in Higher Education Institutes and Enrolment

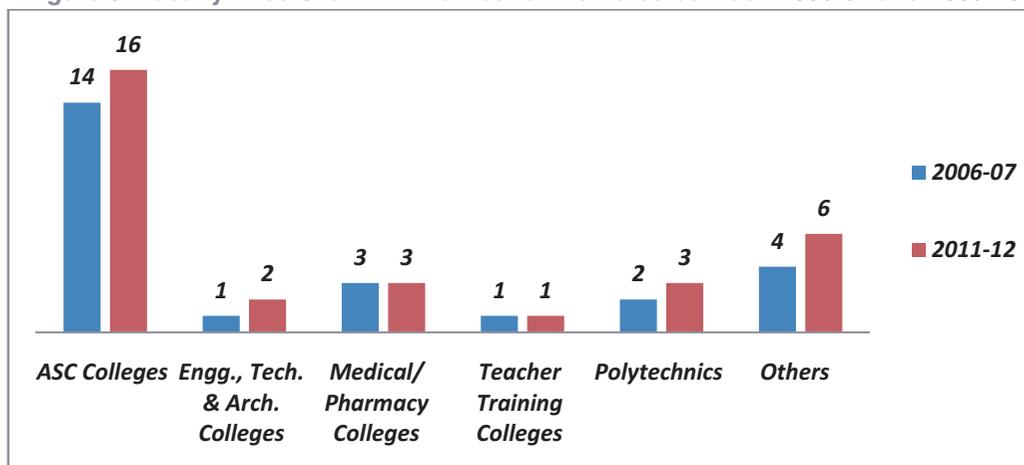
It has been noted that at a national level, the majority of the programs offered in higher education are in the areas of Arts, Science & Commerce (ASC). A similar trend is seen in the state of Tripura as well; with 81% of the total number of enrolment of students being in ASC streams. Institutions offering programs in engineering, technology & architecture have the second highest enrolment at 8% and the Medical stream has the third highest enrolment at 3%.

Figure 5: Distribution of Enrolment based on Faculty (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-07 & Directorate of Higher Education, Govt. of Tripura

The number of colleges in different faculties has marginally increased between 2006 & 2012. There has been an increase in the number of ASC general degree colleges and an additional Polytechnic in the state. A new engineering college also opened in the state, during the same period.

As seen in Table 4, the number of students enrolled at the undergraduate (UG) level (93%) is significantly higher than the number of students at the postgraduate (PG) level (7%) in 2009-10, across various faculties.

The faculty of Law however, has a relatively more even distribution with enrolling for both the undergraduate (43%) and postgraduate program (57%) in 2009-10. The faculty with maximum enrolment in 2009-10 was the Arts faculty, with 68.85% of total enrolment in the state, followed by the Science faculty with 9.16% of total enrolment and the third most dominant faculty was Engineering, Technology, Architecture and Design with 8.07% of total enrolments. The faculties with the least number of students are Management (1.5%), Teacher Education (1.5%) and Agriculture and its allied fields (0.5%).

Table 3: Distribution and Growth of Enrolment at Undergraduate (UG) and Postgraduate (PG) Level in 2007-08 and 2009-10

Faculty	2007-08					2009-10					Growth (%)
	UG	%	PG	%	Total	UG	%	PG	%	Total	
Arts	17,364	94	1,016	6	18,380	20,504	96	950	4	21,454	16.72
Commerce	1,190	93	93	7	1,283	1,393	94	83	6	1,476	15.04
Science	2,484	92	207	8	2,691	2,501	89	313	11	2,814	4.57
Engg. /Tech./Arch./Design	179	81	41	19	220	2,416	97	65	3	2,481	1027.7*
Medicine	25	100	0	0	25	16	3	497	97	513	1952*
Agriculture & Allied	95	95	5	5	100	156	96	7	4	163	63
Management	66	53	59	47	125	427	90	46	10	473	278.4*
Teacher Education	400	95	20	5	420	458	96	20	4	478	13.81
Law	279	50	279	50	558	241	43	316	57	557	-0.17
Others	355	56	284	44	639	304	100	0	0	304	-52.43
Total	22,437	92	2,004	8	24,441	28,416	93	2,297	7	30,713	25.66
Post School Diploma	13,46					1,069					-20.58
Post Graduate Diploma	0					0					0

Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

*(This value is inflated as the base year had minimum number of students enrolled in 2007-8 as compared to a much higher number in 2009-10; this is due to the establishment of large capacity institutions in the concerned field of study)

In terms of total enrolment, the maximum growth was registered in the faculties of Medicine (1,952%), followed by Engineering, Technology, Architecture & Design (1,027.7%) and Management stream with 278.4%. The stream of Law registered the least growth, with enrolment declining at 0.17%. Arts (16.72%), Commerce (15.04%) and Science (4.57%) registered an average growth between 2007 and 2010.

There was a decline in the number of students opting for Post School Diploma, with a growth rate of -20.58%, indicating that more students from the state are opting for general or specialized undergraduate programs of study and are not looking for job oriented diploma courses after graduating from high school.

Student growth showed a positive trend with 25.66% being the growth rate between 2007 and 2010. Growth in undergraduate enrolment (26.6%) has exceeded the growth in the postgraduate enrolment (14.6%) between 2007 and 2010.

Quality of Institutes

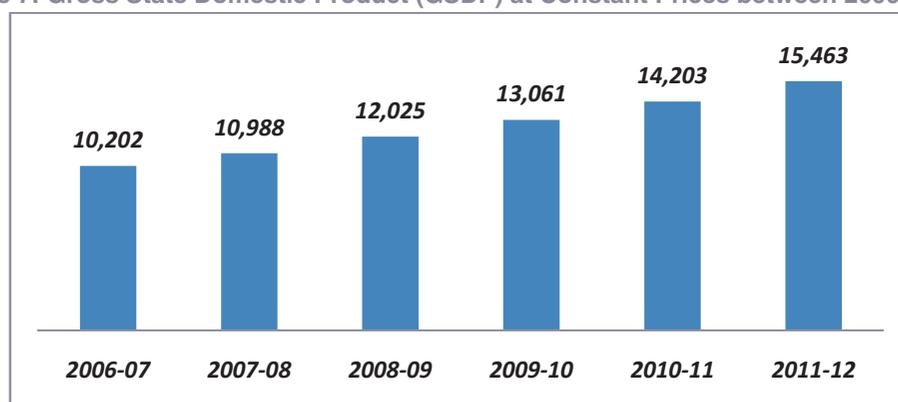
Tripura Central University has been awarded C+ (Satisfactory) grade. Out of the 4 affiliated colleges that have been reviewed, 3 colleges have been awarded B (Good) grade and 1 has been awarded C (Satisfactory) grade by NAAC.¹¹²

Industry and Employment Scenario

Overview of the Economy

At constant prices in 2011-12, the Gross State Domestic Product (GSDP) of the state was Rs 15,463 Crore and it contributed 0.29% to the Indian GDP during that time period. The GSDP grew at a CAGR of 8.67% between 2006 & 2012, which was better than the North East Region (7.5%) and that of the country (7.94%) as well. It can be concluded that the economy of Tripura is steadily growing in size at a healthy rate.

Figure 7: Gross State Domestic Product (GSDP) at Constant Prices between 2006 & 2012



Source: Central Statistical Organization

Table 4: State/Region/Country Wise Compound Annual Growth Rate of GSDP between 2006 & 2012

State/Region/Country	6 Year CAGR of GSDP
Tripura	8.67%
NER	7.50%
India	7.94%

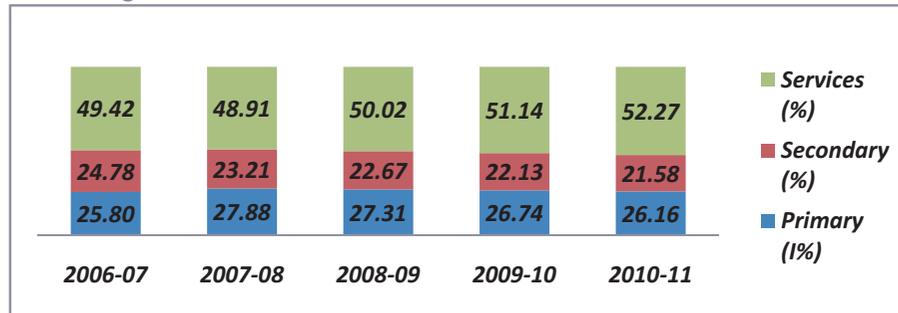
Source: Central Statistical Organization

At a CAGR of 7.63% between 2006 & 2011, the services sector is the fastest growing among all the sectors in the state of Tripura. This is probably driven by the development in construction, manufacturing and electricity, gas and water supply in the state. The services sector is the leading contributor to the GSDP with a contribution of 52.27% in 2010-11. The primary sector is the second most dominant sector in the state contributing 26.16% to the total GSDP of the state in 2010-11. This sector is growing at a rate of 6.5% and is primarily driven by agriculture and its allied fields. The secondary sector contributed 21.58% to GSDP and grew at a marginal rate of 2.53% between 2006 and 2010. Overall, Tripura is primarily a Services oriented state and the primary sector of the state is

¹¹²NAAC: National Assessment and Accreditation Council

contributing significantly to the growth of the economy. The secondary sector is growing at a modest rate and is not a main driver of the economy.

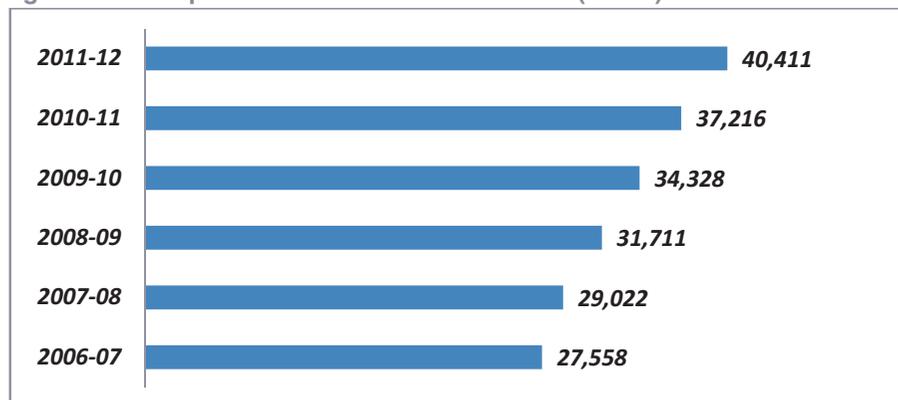
Figure 8: Sectoral Distribution of GSDP between 2006 & 2011



Source: Central Statistical Organization

The per capita Net State Domestic Product (NSDP) at constant prices in 2011-12 stood at Rs 40,411, which is better than the national NSDP, which was Rs 38,005 in the same period. The per capita NSDP grew at a faster rate (7.95%) than that of the nation (6.25%), in the 6-year period between 2006 and 2012. This indicates that the performance of the state is strong in terms of per capita income of the citizens as compared to other states of the nation.

Figure 9: Per capita Net State Domestic Product (NSDP) between 2006 & 2012



Source: Central Statistical Organization

Employment Scenario

The state of Tripura is characterized by geographical isolation, poor infrastructure facilities, communication bottlenecks, inadequate exploitation of natural resources (natural gas, rubber, forest etc.), low capital formation, limited existence of industry and high level of incidences of poverty and unemployment.

The Fifth Economic Census has revealed that about 3,85,708 persons were working in 1,89,423 establishments. Out of the total, 67.38% of workers were employed in rural areas and the remaining 32.61% of the workers were employed in urban areas. Hired workers in 2005 constituted 53.25% of the total workers.

Table 5: Sector Wise Distribution of Enterprises and Employment

No.	Major Activity	Total Employment
1	Farming of Animals	7,775
2	Agricultural Services, Forestry & Hunting	7,950
3	Fishing	2,297
4	Agricultural Activities (1+2+3)	18,022
5	Mining & Quarrying	980
6	Manufacturing	68,385
7	Electricity, Gas & Water Supply	3,261
8	Construction	2,548
9	Wholesale Trade	70
10	Retail Trade	1,03,721
11	Restaurants & Hotels	14,017
12	Transport & Storage	17,793
13	Communication	3,541
14	Financial Insurance, Real Estate & Business Services	8,197
15	Community, Social & Personal Services	21,502
16	Other (Un-Specified) Activities	1,19,588
17	Non-Agricultural Activities (5-16)	3,67,686
18	Agricultural & Non-Agricultural Activities (4+17)	3,85,708

Source: Fifth Economic Census-2005

The maximum number of workers was found to be engaged in retail trade (28.21%), followed by manufacturing (18.60%), public administration (14.54%), education (14.40%) and other community and personal services (4.84%). The non-agriculture sector of the state constituted 94.85% of all employment in the state and the share of the agricultural sector in generating employment was 5.15%.

During 2009-10, the state had 1,647 registered factories with 57,873 workers employed in them. Maximum number of factories (and number of employee) was based in the West district of the state with 56.83% of all registered factories and 45.22% of all workers employed.

Due to the increase in population and the resulting increase in the labour force, the supply of labour continues to exceed the demand of labour, thus leading to the problem of unemployment and under employment. Total job seekers in the employment exchanges of the State were 5,77,866 as on March 2010, out of which women were 2,14,881 (37.18%).

Tripura has about 2,00,000 own account enterprises and establishments. They provide employment to 4,00,000 people. Majority of these are involved in activities related to retail trade and manufacturing.¹¹³

Key Industries¹¹⁴

The resources, policy incentives, infrastructure and climate in the state supports investment in sectors such as natural gas, food processing, rubber, tea, bamboo, handloom and handicrafts, sericulture, tourism, IT and medicinal plants. Natural gas deposits are among the most important reserves of Tripura's natural-resource base. The following section presents a brief discussion on the key industries of Tripura.

1. Natural gas

- Tripura has vast reserves of natural gas. The gas is available in non-associate form, with high methane content of up to 97 %.

2. Food processing

- The agro-climatic conditions are favourable for growing various fruit and horticultural crops.
- The major spices produced in the state are ginger, turmeric, chillies and black pepper.
- A modern food park is being set up near Agartala to promote the sector. An agri-export zone for pineapple is also being developed.

3. Rubber

- Tripura is the second largest rubber producer in the country, after Kerala.
- Natural rubber-based activities were declared as the thrust sector because of its special significance to the state.
- The state government is setting up a rubber park with technical support of Government of India's Rubber Board.
- India's second biggest heat-resistant; rubber-thread manufacturing plant was commissioned in Tripura in 2006.

4. Tea

- The agro-climatic conditions in Tripura are suitable for tea plantation. Tripura is categorized as a traditional tea-growing state.
- Tripura is the fifth-largest tea producing state, after Assam, West Bengal, Tamil Nadu and Kerala.

5. Bamboo

- Tripura is endowed with rich and diverse bamboo resources. Tripura is home to 21 species of bamboo out of 130 species available in India.
- Bamboo is commercially used for crafts, mats, incense sticks, furniture, home décor, baskets and bags. There is potential to develop more industrial products based on bamboo.

6. Handloom, Handicrafts & Sericulture

- Tripura handloom represents a unique harmonious blend of three traditions-tribal, Bengali and Manipuri weaving.
- Tripura is known for its cane and bamboo handicrafts.
- Sericulture is also an important occupation in the state. Around 4,500 beneficiaries are directly involved in this occupation.

¹¹³ NSDC Skill Gap Study of the North East - Tripura

¹¹⁴ India Brand Equity Foundation, Tripura - 2010

- The state produces a wide variety of products such as silk and cotton saris, *lungis*, shirts, jute carpets, bedspreads and furnishing fabrics.

7. Tourism

- Tripura is an attractive tourist destination because of its rich flora and fauna.
- As of 2011, 3.5 lakh domestic and foreign tourists visited the state according to the Ministry of Tourism.

Key Challenges and Initiative in Higher Education

Current Challenges

- The current Gross Enrolment Ratio is very low as compared to the national as well as regional levels.
- Many students from the state decide to pursue higher education outside the state due to unavailability of their course of study, limited intake capacity and/or the quality of education that is being provided in the state.
- Most major institutes are located in the state capital of Agartala and only a few general degree colleges are established in other districts of Tripura, due to this students from different parts of the state do not get an opportunity to pursue specialized higher education.
- Limited industry - university interface in the state results in poor placement. Some programs are outdated, irrelevant and don't prepare students for the job market.
- There are only two Polytechnics in the state and there is need for more such establishments so as to meet the demand of this course of study.
- Basic Infrastructure and facilities in the state need immediate expansion and up gradation.

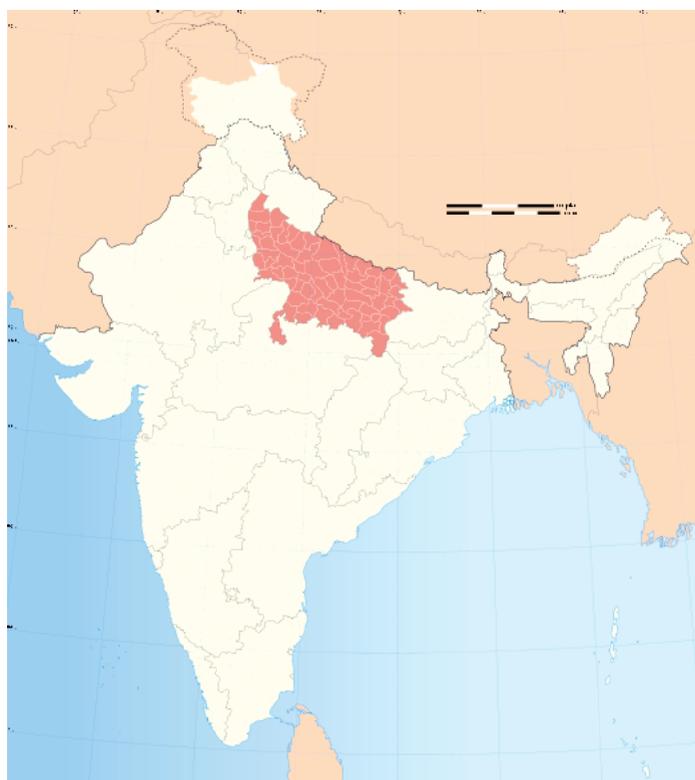
Initiatives Started

- Polytechnic Institutes were upgraded to degree level engineering colleges that offer both diploma and degree programs.
- New general degree colleges were set up in remote tribal localities for widening the scope of higher education in tribal areas.
- To create avenues for employment by skill development, new Polytechnics were setup in unreserved districts.
- Broadband/Internet was provided to 9 Colleges and SMART Class with modern technologies started under the NMEICT scheme.
- New college of Teachers Education was started.
- Convergence scheme of IGNOU as well as distance education facility of Tripura University was introduced.

Initiatives Proposed

- Introduction of job oriented honours/pass courses in general degree colleges.
- Setting up of new state University and up gradation of Government Law College to Law University.
- Setup a new College exclusively for Science Education for both UG and PG studies.
- Modernization of Science Labs of general degree colleges and workshops of Technical Institutions by providing modern equipment, machineries and apparatuses etc.
- Introduction of new branches in both UG and PG which are demand driven and have social and market relevancy in both Tripura Institute of Technology and Women's Polytechnic.
- Setting up of 4 Polytechnics in 4 districts under centrally sponsored schemes.
- Introduction of Food Processing Technology & Rubber Technology in the state Polytechnic institutes.

State Focus: Uttar Pradesh



State Profile

Capital	Lucknow
Total Area (in sq. km.)	2,43,286
Total Population	1,99,581,477
Population Density (per sq. km.)	828
Number of Districts	72
Literacy Rate (%)	69.72
Sex Ratio (per 1,000 males)	908
State Domestic Product, 2010-11 (In Rs. Crore)	5,19,328
Per capita income, 2010-11 (Rs.)	26,051

Introduction

The state of Uttar Pradesh (UP) as the name suggests, is located in the northern region of the country and literally means 'Northern Province'. Uttar Pradesh shares its border with Nepal in the north and the Indian states of Uttarakhand & Himachal Pradesh in the northwest, Haryana, Delhi and Rajasthan in the west, Madhya Pradesh in the south, Chhattisgarh and Jharkhand in the southeast and Bihar in the east.

The state covers 6.88% of the total area of the country, and is the fifth largest Indian state by area. It is also the most populous state in the country. Uttar Pradesh is the second largest Indian state by economy with agriculture and the service industry contributing the maximum to the state's economy. The service sector comprises travel & tourism, hotel industry, real estate, insurance and financial consultancies in the state.

It has emerged as a key hub for IT and ITeS industries, including software, captive Business Process Outsourcing (BPO) and electronics. It is also a leading agricultural state in the country and is among the top producers of major agricultural items including wheat, rice and sugarcane. The state has a large base of skilled labour, making it an ideal destination for knowledge-based sectors. The presence of large pool of semi-skilled and un-skilled labour adds to the advantages of doing business here.

Ranked among the first few states to have successfully implemented 'education for all' policy, the state has made investments towards enhancing the standard of education across different levels. It has a good presence of private players in the education sector. Uttar Pradesh has more than 30 universities, more than 3,000 colleges and several polytechnics, engineering colleges and industrial training institutes currently.

Universities and University Level Institutes

23 state universities, 18 private universities, 10 deemed universities and 4 central universities characterize the higher education landscape of the state. In addition to these universities, there are 4 Institutes of National Importance located in the state. Overall, Uttar Pradesh has 60 university and university level institutions, which constitutes 9.75% of all the university and university level institutions in the country. It is the only state to have 4 central universities along with the Union Territory of Delhi, thereby making it one of the prominent centres for higher education in the country. The 23 state universities offer general studies at undergraduate and postgraduate level as well as specializations in agriculture, medicine, legal studies, and disability studies, technology, management, local & foreign languages & dentistry.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	Uttar Pradesh (2011-12)	India (2011-12)
State University	23	285
Private University	18	112
Institutions of National Importance	4	39
Deemed University	10	129
Central University	4	40
Total	59	605

Source: UGC

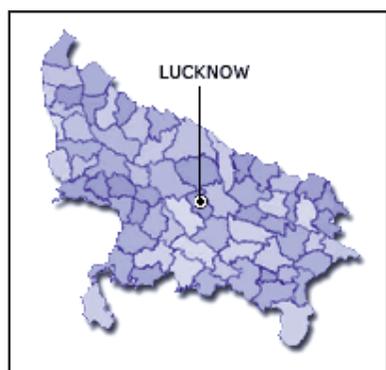
Prestigious autonomous institutes are present in the state like the Indian Institute of Technology (IIT), Kanpur; the Indian Institute of Technology (BHU) in Varanasi, the Indian Institute of Management (IIM) in Lucknow, the Indian Institute of Information Technology (IIIT) and the Motilal Nehru National

Institute of Technology (NIT) in Allahabad; which are known worldwide for their quality education and research in their respective fields. The presence of such institutions provides the students of the state with ample opportunities for higher education¹¹⁵.

The 4 central universities of the state are some of the oldest universities in the country. Aligarh Muslim University (AMU) was established in 1875 in Aligarh, Allahabad University was established in 1887 and the Banaras Hindu University in Varanasi was established in 1916. All 4 central universities including the recently established Babasaheb Bhimrao Ambedkar University (1996) in Lucknow offer general programs at undergraduate, postgraduate and doctoral levels of study. The prominent state universities present in UP are the University of Lucknow (est. 1921), Dr. B.R. Ambedkar University in Agra (est. 1927), Deen Dayal Upadhyay Gorakhpur University (est. 1957) in Gorakhpur and Chhatrapati Shahu Ji Maharaj University (est. 1965), formerly known as Kanpur University in Kanpur. All these state universities offer programs at all levels of education.

The Institutes of National Importance in the state are IIT Kanpur, a public engineering institution located in Kanpur. It was established in 1959 as one of the first IITs; the institute was created with the assistance of a consortium of nine leading US research universities as part of the Kanpur Indo-American Programme (KIAP).¹¹⁶ Another prominent engineering institute of national importance is the Indian Institute of Technology (BHU) Varanasi formerly known as Institute of Technology, Banaras Hindu University (IT-BHU). IT-BHU was designated as an IIT by The Institutes of Technology (Amendment) Act, 2012.

Figure 1: Location of Premier Institutions in Uttar Pradesh



- Aligarh Muslim University, Aligarh
- University of Lucknow
- IIM, Lucknow
- Babasaheb Bhimrao Ambedkar University, Lucknow
- IIT, Kanpur
- Chhatrapati Shahu Ji Maharaj University, Kanpur
- BHU, Varanasi
- IT-BHU, Varanasi
- Allahabad University, Allahabad
- Motilal Nehru National Institute of Technology, Allahabad

The Motilal Nehru National Institute of Technology (MNNIT) is located in Allahabad and was formerly the Motilal Nehru Regional Engineering College. MNNIT is a public higher education institute that offers programs in engineering and science at both undergraduate and postgraduate levels of study. It is among the few technical institutions in India to house two supercomputers, PARAM 8000 and PARAM 10000.¹¹⁷ The Rajiv Gandhi Institute of Petroleum Technology (RGIPT), in Rai Bareilly, is a training and education institute that gives technical and management training to the petroleum industry professionals. Established in 2007, it has been accorded the Institute of National Importance status.

¹¹⁵ "List of Universities in Uttar Pradesh". Education department of U.P.

¹¹⁶ Norman Dahl: Kanpur Indo-American Program

¹¹⁷ "Summary of proceedings of the Review Workshop - list of premier institutes in India". CDAC website.

The state also houses an Indian Institute of Management (IIM) in the state capital of Lucknow. The IIM in UP was the fourth IIM to be established by the Government of India in 1984. IIM Lucknow offers post-graduate diploma, fellowship and executive programs in management and serves as the mentor institution for IIM, Rohtak and IIM, Kashipur. The state government to provide education in technical, applied science, and other disciplines established the Integral University, a state level institution. The National Ministry of Culture founded the Central Institute of Higher Tibetan Studies as an autonomous organization. Jagadguru Rambhadracharya Handicapped University is the only university established exclusively for the disabled in the world.

As can be seen in Figure 1, premier institutes of the state are spread across the state. The north of the state has Rajiv Gandhi Institute of Petroleum Technology in Rai Bareilly and the south has Allahabad University and Motilal Nehru NIT in Allahabad. In the central region of the state lies the capital in which University of Lucknow and IIM are located and in the commercial capital of Kanpur lies an IIT.

Table 2: Growth of Govt., Govt. Aided & Self Financed Private Colleges between 2007-08 and 2010-11

Type of College	2007-08	2010-11	CAGR (%)
Govt. Colleges	124	137	3.34
Govt. Aided Private Colleges	335	331	-0.39
Self Financed Private Colleges	1,580	2,698	19.31
Total	2,039	3,166	15.62

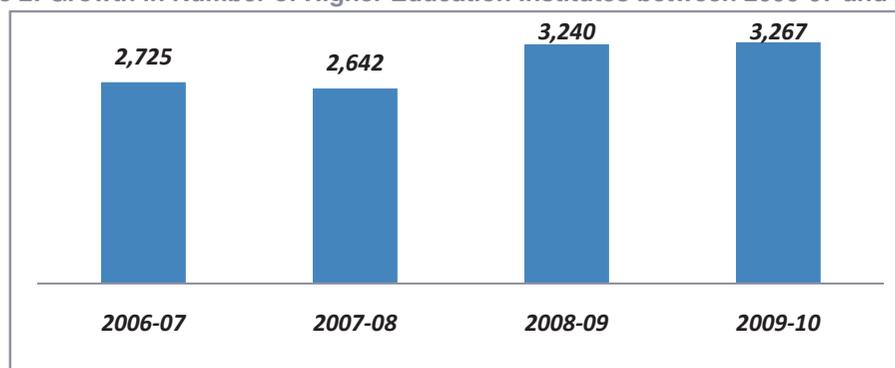
Source: Department of Higher Education, Govt. of Uttar Pradesh

Among the various types of colleges in Uttar Pradesh during 2010-11, the maximum number of colleges was self financed private colleges (85.2%), followed by govt.-aided colleges (10.5%), and followed by govt. colleges (4.3%). In terms of CAGR, the maximum growth was achieved by self-financed colleges (19.31%) between 2007 and 2011. Such high number of private institutions and strong growth indicates a strong dependence of the state on private sector to provide higher education facilities to the youth of the state.

Key Higher Education Indicators: Institutes, Enrolment and Teachers

The growth rate of the number of higher education institutes in Uttar Pradesh stands at 6.17% as compared to the national growth of 7%. This growth rate indicates an at par performance in providing access to higher education to the youth of the state, however the majority of growth is fuelled by private investment and does not always guarantee quality higher education.

Figure 2: Growth in Number of Higher Education Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MohRD, 2006-10

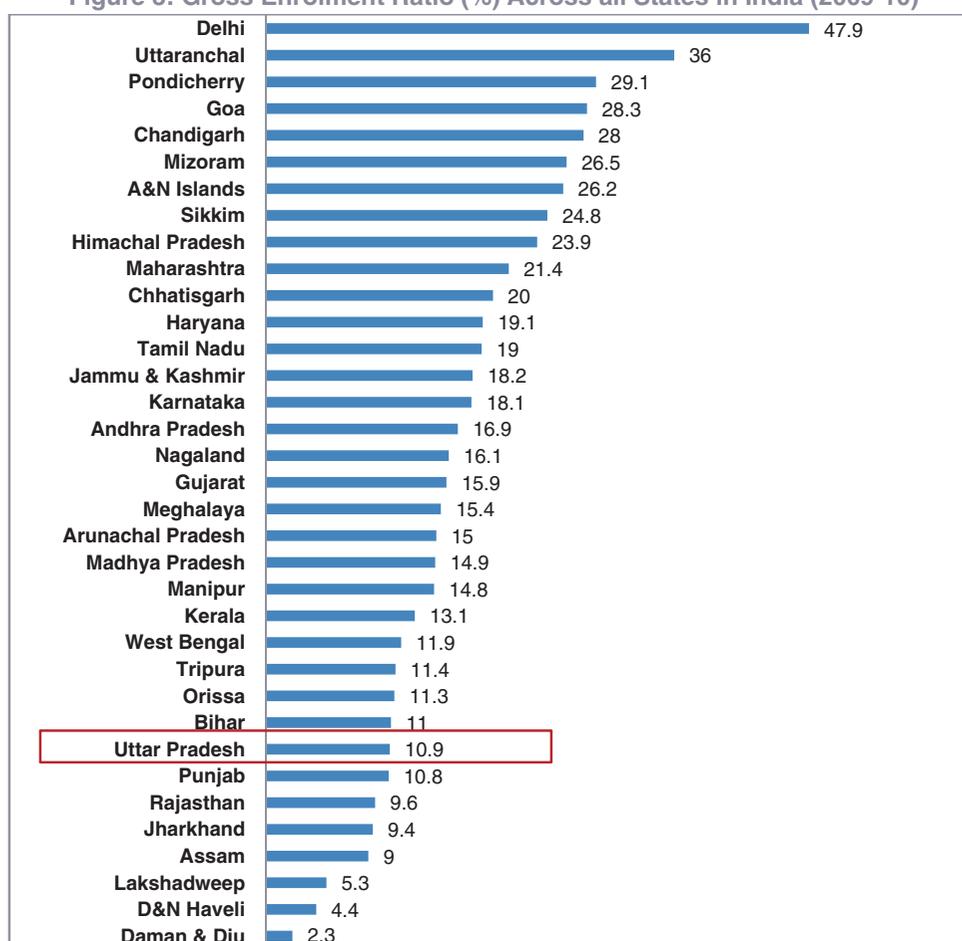
Table 3: Pupil Teacher Ratio in Higher Education

Category	2007-08	2010-11
Degree College Enrolment	1,818,595	2,138,637
Teachers in Degree Colleges (Govt. & Aided)	15,493	15,567
Pupil: Teacher Ratio	117:1	137:1

Source: Department of Higher Education, Govt. of Uttar Pradesh

While the number of enrolled students in degree colleges has been increasing over the years (between 2007-08 and 2010-11) at a growth rate of 5.49%, the growth rate of the number of teachers is only 1.5% in govt and govt aided degree colleges in the state. As a result, the pupil teacher ratio has been consistently decreasing (137:1 during the year 2010-11 as compared to 117:1 in 2007-08).

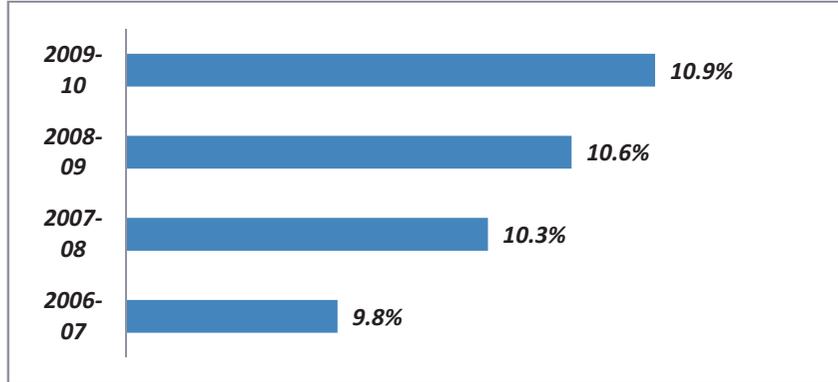
Figure 3: Gross Enrolment Ratio (%) Across all States in India (2009-10)



Source: Statistics of Higher & Technical Education, MohRD, 2009-10

In 2009-10, the GER was 10.9%, with a growth rate of 3.5% over the past 4 years, while the national GER was 15% in 2009-10. Such low GER is indicative of the fact that the state is not providing enough access to higher education for the youth in the age group of 18 to 24 years of age.

Figure 4: Gross Enrolment Ratio in the State between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

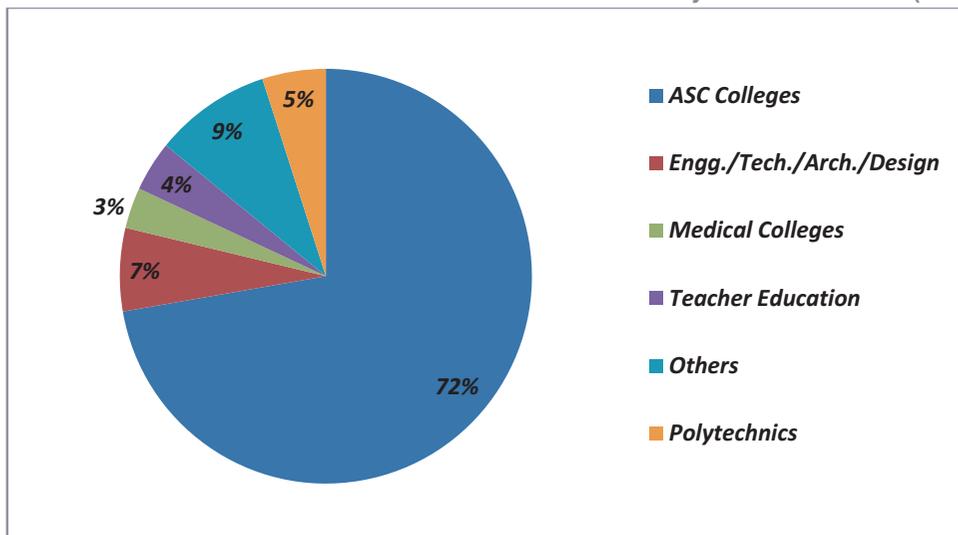
UP is ranked 28th in terms of GER among all states and union territories of country in 2009-10 as can be seen in from the above figure. The GER in higher education of 41 districts of the state is still much below the national average. The target of 15% GER in higher education is yet to be achieved, which requires a multi pronged strategy for increasing enrolment in higher education in the state.

In the following sectors, a brief description of the current higher education scenario has been presented. The following section presents the industry and employment scenario in the state, followed by the various key initiatives undertaken and proposed by the state government to meet the state specific higher education challenges.

Growth in Higher Education Institutes and Enrolment

It has been documented that at the national level, the dominant programs that are being offered in higher education are in the areas of arts, science & commerce (ASC). The same trend is reflected in the state of as well, with 72% of the total number of institutes offering programs in ASC streams in 2009-10. Institutes offering programs in engineering, technology, architecture & design and polytechnics (5%) were the 2nd and 3rd most dominant categories in 2009-10.

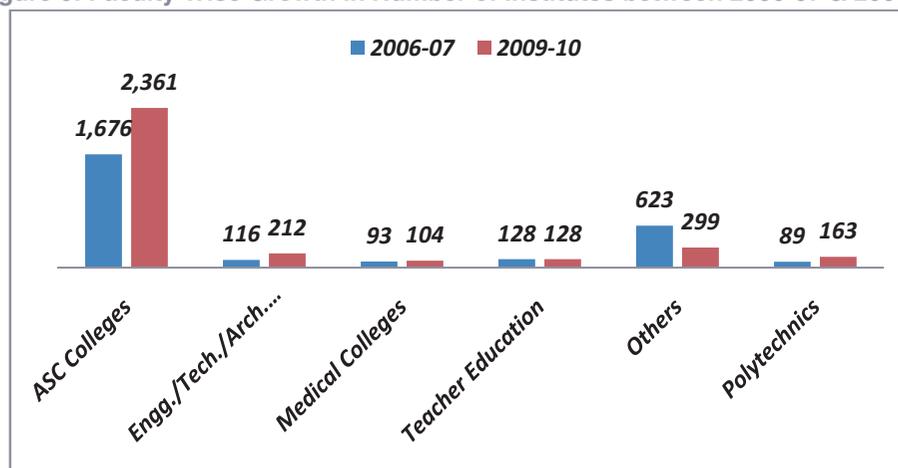
Figure 5: Distribution of Number of Institutes based on Faculty in Uttar Pradesh (2009-10)



Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

The maximum growth in the number of institutes between the years 2006-07 and 2009-10 has been in polytechnic Institutes (22.1%) closely followed by institutes in the fields of engineering, technology, architecture and design with a growth rate of 22.02%. This was followed by ASC colleges (11.97%) and medical colleges (3.76%).

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 & 2009-10



Source: Statistics of Higher & Technical Education, MohRD, 2009-10

Across the various faculties, the number of students enrolled at the undergraduate level (88.66%) is significantly higher than the number of students at the postgraduate level (11.34%). The faculty of management, however, depicts a different picture with enrolment skewed in favour of postgraduate programs (97.73%) as compared to undergraduate programs (2.27%). Such a bias is indicative of the fact that many students prefer taking up PG courses in management after completing their undergraduate courses in other fields in order to improve their employability in the field of business and industry.

Table 4: Distribution and Growth of Enrolment at UG and PG level in Uttar Pradesh

Faculty	UG	%	PG	%	Total
Arts	1,334,090	88.45	174,287	11.55	1,508,377
Commerce	194,472	91.78	17,418	8.22	211,890
Science	280,848	86.57	43,553	13.43	324,401
Engg. /Tech./Arch./Design	93,053	96.86	3,018	3.14	96,071
Medicine	9,724	82.75	2,027	17.25	11,751
Agriculture	20,237	90.66	2,085	9.34	22,322
Management	411	2.27	17,707	97.73	18,118
Teacher Education	72,280	98.97	753	1.03	73,033
Law	45,999	97.96	957	2.04	46,956
Others	4,833	79.27	1,264	20.73	6,097
Total	2,055,947	88.66	263,069	11.34	2,319,016
Post School Diploma					41,383
Post Graduate Diploma					1,057

Source: Statistics of Higher & Technical Education, MohRD, 2009-10

The total enrolment (UG+PG) of the faculties of arts, science & commerce accounted for 88.16% of the total enrolment of the state in 2009-10, whereas the faculty of medicine had the least total enrolment in the state (.5%). Post school diploma enrolment is high in the state as well, reflecting the demand of job oriented courses after graduating high school. The postgraduate diploma enrolment

however is low and students prefer enrolling themselves in traditional PG courses on completion of their UG degrees or looking for gainful employment in the state and/or country.

In terms of total enrolment, the maximum growth has been registered in the faculties of engineering/technology/architecture (112.36%), followed by the faculty of arts (23.04%) and the faculty of management (22.27%). The streams of law, agriculture and science have seen the least growth, with enrolment in law declining at 11.36%, enrolment in agriculture declining at 7.94% and enrolment in science declining at 5.74%.

There is a strong growth in the number of students enrolling for undergraduate programs (20.21%) as compared to students enrolling in postgraduate level programs (-10.03%) between 2007 and 2010. All faculties at the postgraduate level (except the faculty of management which showed at growth of 35.52%) have shown declining enrolment between 2007 and 2010 with the stream of commerce registering maximum decline at 35.47%.

Post school diploma programs have registered an impressive growth of 51.9% over a 3 year period, however, enrolment in post graduate diploma programs has declined at 41.7% indicating that there is a preference for pursuing diploma level programs only after high school and not after completing graduation.

Table 5: Faculty Wise Growth of Enrolment at UG and PG level between 2007-08 & 2009-10

Faculty	UG +PG		Growth (%)		
	2007-08	2009-10	UG	PG	Total
Arts	1,225,940	1,508,377	27.35	-2.30	23.04
Commerce	202,898	211,890	10.55	-35.47	4.43
Science	344,164	324,401	-2.58	-22.07	-5.74
Engg. /Tech./Arch.	45,240	96,071	120.39	0.00	112.36
Medicine	12,149	11,751	-3.93	0.00	-3.28
Agriculture	24,248	22,322	-5.03	-29.08	-7.94
Management	14,818	18,118	-76.54	35.52	22.27
Teacher Education	62,491	73,033	17.47	-21.64	16.87
Law	52,975	46,956	-10.94	-27.66	-11.36
Others	17,778	6,097	-51.59	-83.78	-65.70
Total	2,002,701	2,319,016	20.21	-10.03	15.79
Post School Diploma	27,244	41,383		51.90	
Post Graduate Diploma	1,813	1,057		-41.70	

Source: Statistics of Higher & Technical Education, MohRD, 2006-07, 2009-10

Quality of Institutes

In the state, 4 universities have been assessed and accredited by the NAAC¹¹⁸, of which 3 state universities have been awarded grade B (Good) and 1 private university has been given A (Very Good) grade in their assessment under new methodology from 1st April 2007 to 15th September 2012.

Out of the 258 colleges accredited and assessed by the NAAC, 82.95% colleges have received B (Good) grade, followed 11.2% colleges receiving A (Very Good) grade and 5.81% colleges have received C (Satisfactory) grade.

¹¹⁸National Accreditation and Assessment Council

Industry and Employment Scenario

Key Industries¹¹⁹

The resources, policy incentives, infrastructure and climate in Uttar Pradesh are ideally suited for investments in sectors such as IT, sugar, auto components, petrochemicals & fertilizers, electronics, consumer goods and manufacturing.

The state government has set up the “Udyog Bandhu” to facilitate investment in industrial and service sectors. The government of Uttar Pradesh is promoting the development of several Special Economic Zones (SEZs) across the state, such as IT and ITeS, electronic hardware and software, handicrafts and agro-based industries. Presented in the following section is a brief description of some of the major industries of the state.

1. IT

- The driving factors of IT and ITeS industry in the state are infrastructural facilities in areas such as Noida and Greater Noida, the proximity to Delhi and the easy availability of manpower. There are five operational SEZs in Noida and Greater Noida, of which three are primarily, dedicated to IT/ITeS industries.
- Some of the key IT players in the state are Birlasoft, HCL Technologies, EXL and NIIT Technologies.

2. Sugar

- Uttar Pradesh is the largest producer of sugarcane in India. The state contributed 40% to the country's total sugarcane production during 2010.
- Bajaj Hindustan Limited, one of the largest sugar producers in the country has its plants in Uttar Pradesh.

3. Auto & Auto Components

- One of the country's auto-clusters is located in Delhi-Gurgaon-Noida-Ghaziabad, part of which is situated in Western Uttar Pradesh. A number of original equipment manufacturers and auto component suppliers are located at Noida and Ghaziabad.
- Some of the major Auto & Auto Component suppliers in the state are ANG Auto Ltd, Honda Siel Cars Ltd, Delphi and Motherson Sumi Systems Ltd.

4. Petroleum, Chemicals and Fertilizers

- Uttar Pradesh is one of the largest consumers of fertilisers in India, owing to its large size and agricultural activities.
- Apart from fertilisers, a number of manufacturing units spanning petroleum (Indian Oil), gas (GAIL), basic chemicals (Tata Chemicals) and paint (Kansai Nerolac) are located in the state.

5. Electronics

- The major incentives for the companies are the industrial infrastructure and access to consumer markets of Uttar Pradesh and National Capital Region. Majority of the companies are located in Noida and Ghaziabad.
- A number of major multinational companies such as LG Electronics, Samsung and Xerox have their operations in the state.

6. Consumer Goods

¹¹⁹India Brand Equity Foundation – State report on Uttar Pradesh

- The key incentives for consumer goods companies to set up manufacturing units in the state are access to large consumer markets and easy availability of raw material sources.
- The consumer goods companies that have their manufacturing facilities in the state are Dabur, ITC and Godfrey Phillips India.

7. Manufacturing

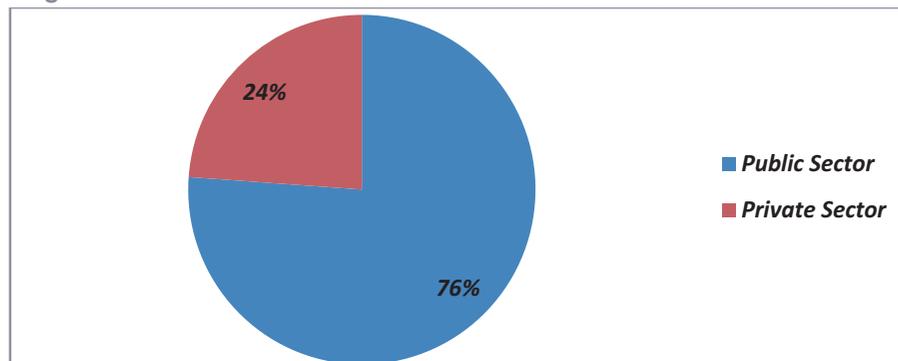
- The driving factors of the manufacturing industry in the state are the industrial infrastructure, which includes growth centers and industrial parks, extensive railway and road network, availability of work force and incentives offered by the state government.
- Some of the major manufacturing companies preset in the state are Alstom T&D India Ltd, Atlas Cycles Ltd, Bharat Heavy Electricals Ltd and Eveready Industries India Ltd.

Employment Scenario

The distribution of workers by broad categories indicates that agriculture sector still plays a vital role in the state's economy. It was expected that with the industrialization and economic development, there would be a shift in focus from the primary to the secondary and tertiary sectors. But the goal was not achieved as a higher number of workers continued to be engaged in the agriculture sector. As per the statistics released by Directorate of Training & Employment in 2009-2010; the size of the registered workforce is 21.21 lakh with majority of them being employed in the private sector (76%).

The overall growth in employment in the organized sector has been at a CAGR of 0.49% from 2006-07 to 2009-10, of which public sector employment has declined at a rate of 0.43%, whereas private sector employment has increased at a rate of 3.64% in the same period.

Figure 7: Distribution of Workforce in Public and Private sector in 2009-10



Source: Directorate of Training & Employment, Govt. of Uttar Pradesh

The live register statistics of Employment Exchanges in the state shows that about 19.02 lakh persons were registered for employment in 2004 while it slightly decreased to 18.62 lakh by December 2005, which rose to 27.97 lakh in April 2007 (due to government unemployment allowance policy). But the government decision to withdraw unemployment allowance was reflected in Dec. 2008, when the number of registrations in employment exchanges reduced to 31.89 lakh as compared to 33.47 lakh in Dec. 2007 and again decreased in 2009 to the level of 21.26 lakh.¹²⁰

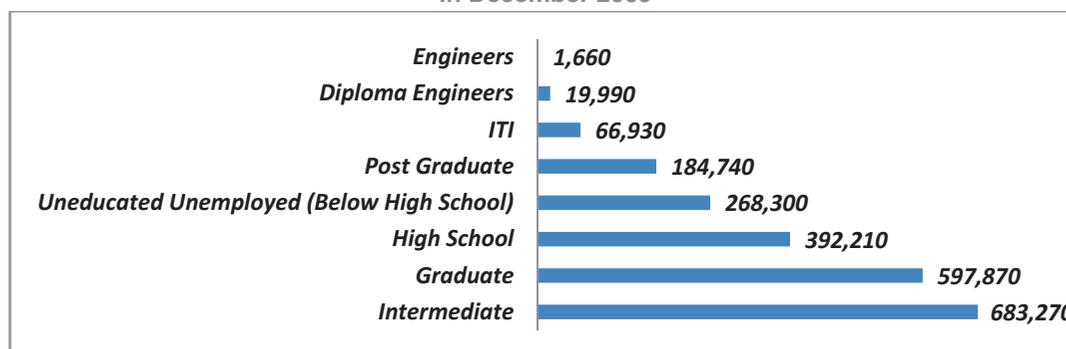
The below figure reveals that among unemployed educated persons, intermediate educated accounted maximum 30.85% followed by graduates with 26.99%, high school with 17.71%, postgraduates with 8.34% and below high school accounted for only 12.11% of total number of persons registering at the Employment Exchanges. With regard to technical persons registered, the maximum was found to be persons with ITI qualification with 3.02% followed by diploma engineers

¹²⁰ Poverty Alleviation And Employment, Annual Report of Uttar Pradesh 2010-11

with 0.9% and the least number of technical persons registered with employment exchanges were engineers with 0.07%.

One of the important sources for ascertaining unemployment situation is the live register of Employment Exchanges. The low level of registration may be attributed to the lack of job opportunities through the exchanges in the organized sector, which might have de-motivated the unemployed youth to get them registered.

Figure 8: General & Technical Persons Registered in Live Register Of Employment Exchanges in December 2009



Source: Directorate of Training & Employment, Govt. of Uttar Pradesh

In Uttar Pradesh, only 3% of labour force in the age group of 20-24 years has received vocational training whereas in the industrialized countries it is much higher, varying between 60% and 96%. Under the Skill Development Mission, one of the objectives is to provide vocational training to 50 crore persons India by the end of 2022. It is expected by the Prime Minister of India from all the states to achieve the above goal by utilizing the available resources and infrastructure. According to the population ratio, U.P. will have to train 80 crore persons by the end of 2022. For this purpose a Skill Development Mission has been constituted under the chairmanship of Chief Secretary, Government of UP.¹²¹

Key Challenges & Initiatives in Higher Education

During the past few years a lot of emphasis has been given for increasing the GER, access, equity in higher education, relevance & quality, however, the target mark has yet to be achieved. Keeping in view the requirement of the job market, expectations of stakeholders of higher education and the challenges which higher education faces, there is a need for focus on vocationalization, enhancing access and monitoring & improving quality through curriculum reform, period and mandatory assessment and accreditation of higher education institutes (HEIs), networking among higher education institutes and setting up model degree colleges in the state to enable the system to sustain in this competitive era of globalization.

Key Challenges

- Very few degree colleges have attained 'A' (Very Good) grade in universities and colleges. Poor quality in sector of higher education can be attributed to under investment, inadequate faculty resources and deficiency in teaching learning process.

¹²¹ Poverty Alleviation And Employment, Annual Report of Uttar Pradesh 2010-11

- Shortage of faculty members have been a major deterrent in implementation of academic reforms in universities and colleges like introduction of new courses, restructuring of syllabi and innovation in teaching learning processes.
- Delay in recruitment of faculty and staff force the state universities to appoint faculties on contractual and part time basis, which in turn has an adverse impact on the quality of knowledge imparted.
- The GER in higher education in 41 districts of UP is very low and much below the national average. The target of 15% GER is yet to be achieved which will require a multi pronged strategy
- Making higher education relevant to the contemporary as well as future need of society at large, while making it more inclusive by enhanced participation of underserved population is another challenge before higher education in the state.
- There are certain courses with unfilled sanctioned seats. Universities and colleges need to find out reasons and provide incentives to launch special drive including curriculum revision, introduction of skilled-based courses to enrol more students in these courses.
- While focussing on vocational and market oriented courses, it is to be ensured that such courses do not prosper at cost of humanities and social science subjects, as these disciplines are paramount for making a humane society.
- There is urgent need to raise the percentage of youth participating in higher education network in order to contribute in national progress and development.
- There is an urgent need to revise the syllabus of subjects in accordance with emerging demand.
- Infrastructure in HEIs needs urgent attention especially in the context of ICT and e-Education.

To compete successfully in the knowledge based economy, Uttar Pradesh needs higher education institutes that not only produce bright graduates for export but can also support advanced research in several scientific and scholarly fields and produce at least some of the knowledge & technology needed for an expanding economy. The vision for the 12th Five-year plan for higher education in the state is as follows.

Goals in Higher Education

- To impart, disseminate and advance knowledge by quality and innovative teaching in different branches of learning.
- To support horizontal expansion and vertical growth of universities and colleges through infrastructural development and opening of new courses.
- To ensure welfare of students, faculty and staff, extend opportunities for their capacity building and professional development.
- To produce skilled human resource; employable & socially sensitive responsible citizens of the state and country.

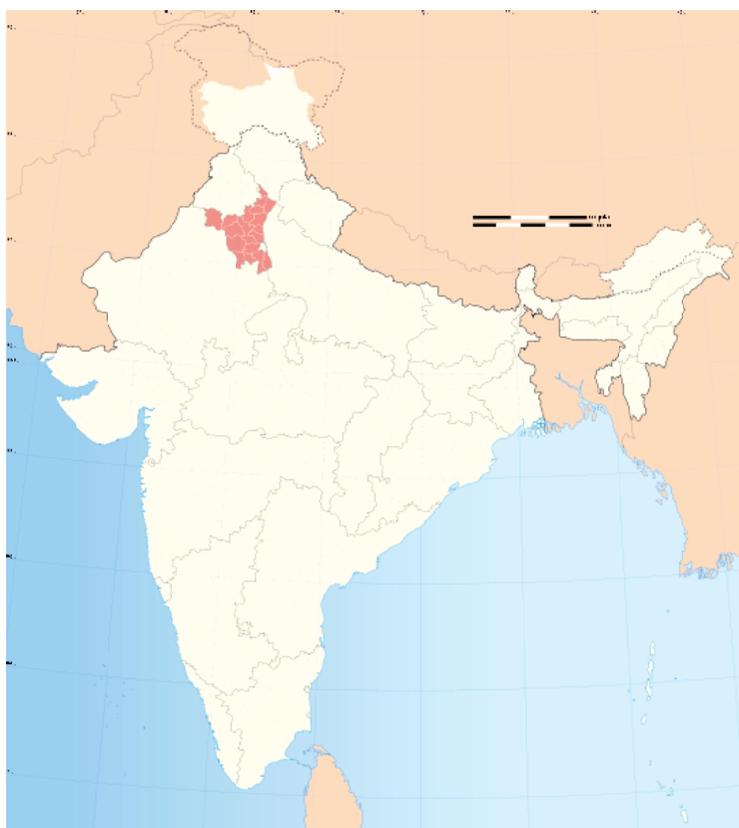
Priorities & Objectives

- **Quality & Assurance:** NAAC assessment for all the institutions to be made mandatory. Stimulating research culture in higher education institutes. Incorporating ICT based teaching in all HEIs.
- **Access & Equity:** Equitable access and minimizing gender disparities in all HEIs in the state.
- **Infrastructural Development**

Initiatives Proposed

- Development grants to universities and up gradation of basic amenities of universities.
- Assistance to universities in developing centres of excellence.
- Implementation of programs of National Service Scheme (NSS)
- To establish 36 model government degree colleges in low GER districts encompassing minority concentration districts and unreserved blocks.
- To develop 5 model government degree colleges with state support and approved centre of assistance.
- Improve GER in 41 educationally backward districts of UP,
- Infrastructure development including ICT infrastructure and basic amenities in universities and colleges.
- To fill the nearly 4,342 vacant teaching posts in universities and colleges.
- Mandatory NAAC accreditation of 2,803 degree colleges.
- To start B.Ed. courses within 5 years in newly established government degree colleges.
- Establishment of 16 polytechnics in those districts that have no polytechnics.
- To prepare curriculum of 20 new trades and revision of 52 curriculum in IRDT
- The level of placement will be increased from 70% to 90% and to gain the national level GER new courses will be started in 50 existing polytechnics.
- To establish one world class IIT, centres of excellence, faculty development institutes and placement enhancement centres.
- To strengthen industry- institute interaction for better job opportunities.
- To ensure availability of latest and modern equipment as per industry demand and as per new course curriculum.
- To start virtual classrooms in all government polytechnics.
- Establishment of new engineering institutions and colleges at the division where government institutions do not exist.

State Focus: Uttarakhand



State Profile

Capital	Dehradun
Total Area (in sq. km.)	53,566
Total Population	1,01,16,752
Population Density (per sq. km.)	189
Number of Districts	13
Literacy Ratio (%)	79.63
Sex Ratio (per 1,000 males)	963
State Domestic Product, 2010-11 (In Rs. Crore)	67,506
Per capita income, 2009-10 (Rs.)	68,292

Introduction

Located in the northern region of India, Uttarakhand is often referred to as the 'Land of the Gods' due to the many holy Hindu temples and pilgrimage centres found here. The state was carved out of the Himalayan and adjoining north-western districts of Uttar Pradesh in 2000, thus becoming the 27th state of India.

The state is situated close to the National Capital Region (NCR), and has excellent connectivity with its neighbouring states. Uttarakhand has abundant natural resources, including water resources, favouring hydropower generation. The agro-climatic conditions also support horticulture-based industries and fruits like apples, oranges, pears, peaches etc. are widely grown and contribute to the state's large food processing industry. Other key industries in the state include tourism, and there is a large potential in the state to develop sectors like IT & ITeS, biotechnology, pharmaceuticals and automobile industries.

Universities and University Level Institutes

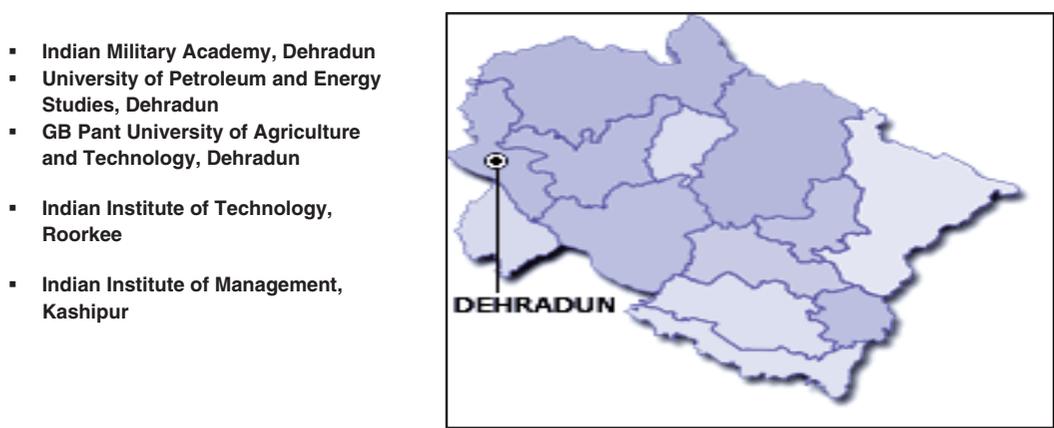
The state of Uttarakhand is home to 18 universities and university level institutions, including 1 central university, 6 state universities, 4 deemed universities, 6 private universities and 1 Institute of National Importance. The state houses an Indian Institute of Management (IIM), located in Kashipur, which was the thirteenth IIM that has been established in India (in 2011). IIT Roorkee, one of India's premier institutes for technical education is also located in Uttarakhand. The institute has 18 academic departments and enrolls more than 4,000 students across their undergraduate and postgraduate programs. The GB Pant University of Agriculture and Technology, which is the first agricultural university in India and was established in the year 1960 is located in the city of Pantnagar. The other key institutes in the state are the Indian Military Academy and the University of Petroleum and Energy Studies, both located in Dehradun.

Table 1: Distribution of Universities & University Level Institutions at State & National level

Type of University	Uttarakhand (2011-12)	India (2011-12)
State University	6	285
Private University	6	112
Institution of National Importance	1	39
Deemed University	4	129
Central University	1	40
Total	18	605

Source: UGC

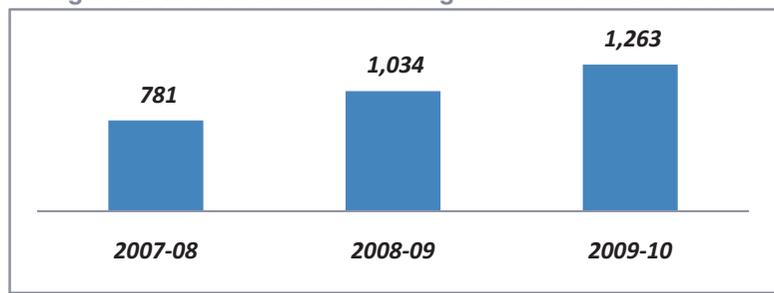
Figure 1: Location of Premier Institutes in Uttarakhand



Key Higher Education Indicators: Institutes and Enrolment

As per data released by the Ministry of Human Resource Development (MoHRD), the growth rate in the total number of higher education institutes in Uttarakhand stood at 27% between 2007-08 and 2009-10. The state has performed exceedingly well as compared to the national performance, with the national level CAGR only being 7%.

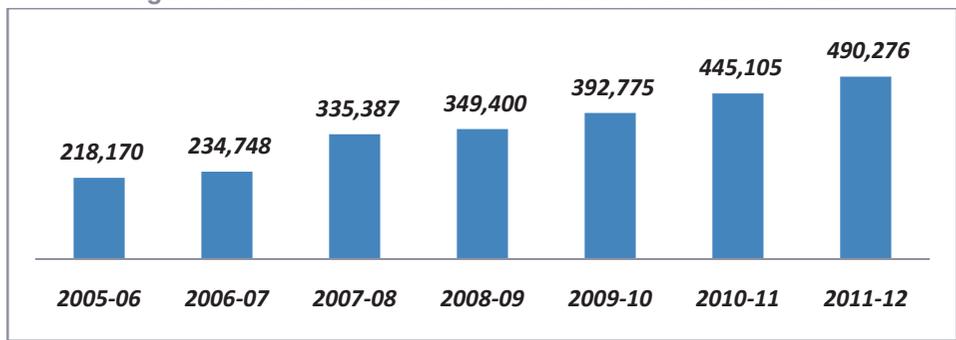
Figure 2: Growth in Number of Higher Education Institutes



Source: Statistics of Higher & Technical Education, MoHRD

The enrolment figures have also been steadily increasing in Uttarakhand. The total enrolment figure in 2011-12 stood at 4.9 lakh as compared to 2.2 lakh in 2005-06 thus resulting in a CAGR of 14.4% during the 6 year period. The maximum growth in enrolment was seen between 2006-07 and 2007-08 with a 30% growth in 2007-08 over the previous year. Over the last three years, the increase in student enrolment has been steady between.

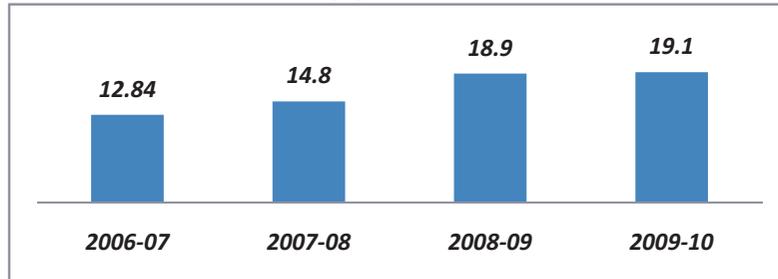
Figure 3: Growth in Enrolment between 2005-06 and 2011-12



Source: Statistics of Higher & Technical Education, MoHRD

The state Gross Enrolment Ratio (GER) has been rising steadily over the last few years, thus reflecting increased access among the 18-24 population to higher education. While the GER during 2006-07 was 12.84%, it reached 19.1% during the year 2009-10. The target of the state is to achieve a GER of 30% by 2020.

Figure 4: Gross Enrolment Ratio (%) in the State between 2006-07 and 2009-10



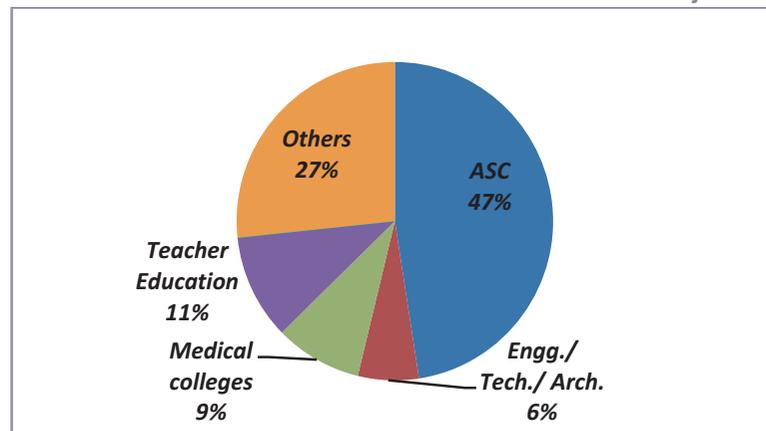
Source: Statistics of Higher & Technical Education, MoHRD

The following sections present a brief description of the current higher education scenario in Uttarakhand. The report highlights the industry and employment scenario and its linkages to higher education in the state.

Growth in Higher Education Institutes and Enrolment

In 2009-10, there were 225 higher education institutes catering to both the general and technical education needs of the state. The majority of these institutes were arts, science and commerce (ASC) colleges (47%), followed by teacher education institutes (11%) and medical colleges (9%).

Figure 6: Distribution of Number of Institutes based on Faculty in 2009-10



Source: Statistics of Higher & Technical Education, MoHRD

In 2009-10, more than 4 lakh students were enrolled in various higher education programs in the state. Among these students, 7,659 students were enrolled in diploma programs that include post school diploma and postgraduate diploma programs. With regards to faculty wise enrolment, it has largely been skewed towards the faculty of arts, with 81.9% of the students enrolled in arts programs. The other dominant faculties are commerce (7.2%) and science (7%).

Table 2: Distribution of Enrolment at Undergraduate (UG) & Postgraduate (PG) Level in 2009-10

Faculty	Enrolment (2009-10)		Total
	UG	PG	
Arts	2,89,784	33,797	3,23,581
Commerce	24,904	3,669	28,573
Science	22,724	4,957	27,681
Engg. / Technology/ Arch.	5,577	9,53	6,530
Medicine	1,762	49	1,811
Agriculture & Allied	282	64	346
Management	120	1,768	1,888
Teacher Education	2,095	116	2,211
Law	1,426	68	1,494
Others	654	126	780
Total	3,49,328	45,567	3,94,895

Source: Statistics of Higher & Technical Education, MoHRD

Industry and Employment Scenario

Key Industries¹²²

Uttarakhand has abundant natural resources due to its hills and forests. It has abundant water resources, favouring hydropower generation. The agro-climatic conditions also support horticulture-based industries. The natural resources, policy incentives and infrastructure in the state support investments in the drugs and pharmaceuticals, biotechnology, IT/ITeS, mines and minerals, textiles, leather and tourism sectors. Uttarakhand has been successful in attracting long-term investments because of its key industrial and sector-specific policies. Developing appropriate infrastructure has also been a key strategy of the state to attract investments in various industries.

The average level of literacy is high in the state. A large pool of talented human resource is available here as some of the leading educational institutions in the country are present in the state. Some of the key industries are:

1. ICT Industry

- Information and Communication Technology (ICT) has received special attention from the State Government.
- Several initiatives have been taken to promote the ICT industry such as the establishment of the Software Technology Parks of India (STPI) earth station at Dehradun, \
- Facilities by BSNL and Reliance are also available in the state. Some ICT companies in the state are Hiltron, HCL Infosystems, Wipro Infotech and Modi Infotech Services.

2. Agro and Food Processing

- Many Agri-Export Zones (AEZs) have already been declared under the AEZ scheme of Government of India for products such as leechi, floriculture, herbs, medicinal plants and basmati rice.
- Fruits such as apples, oranges, pear, grapes peach, plum apricot, litchi, mangoes and guava are widely grown in the state and therefore have immense potential for development of horticultural crops and processing units.

¹²² India Brand Equity Foundation- Report on Uttarakhand, 2012

- The state government provides assistance in establishing small and medium-sized agro parks and food parks, which in turn are expected to provide common infrastructure facilities for storage, processing, grading and marketing.
- Prominent players in this field are Britannia Industries Ltd, Nestle India Ltd, PepsiCo and KLA India Public Ltd.

3. FMCG Industry

- Proximity to key markets and supply centres of North India, further add to the attractiveness of the state as an investment destination. Pantnagar is a primary location for FMCG companies in the state.
- Key FMCG companies in the state are ITC Ltd, Dabur India Ltd, CavinKare Private Ltd and Hindustan Lever Ltd.

4. Engineering and Allied Industries

- Many Indian and multi-national companies have established their manufacturing bases in Uttarakhand as a result of the state's emphasis on industrial and infrastructure development by providing incentives as well as easy availability of manpower.
- Many automobile and auto component companies have set up their manufacturing units and R&D centres in the state.
- BHEL is one of the oldest and most important companies in the engineering sector in the state. Tata Motors, Ashok Leyland, Hero Honda, and Mahindra and Mahindra are some of the well-known automotive companies that have set up units in the state.

5. Floriculture and Horticulture

- Uttarakhand has several agro-geo-climatic zones making it particularly conducive to commercial horticulture and floriculture. The floriculture industry is being developed aggressively in order to meet the demand of domestic as well as foreign markets.
- The climate of the state makes it ideal for growing flowers all round the year. Floriculture parks with common infrastructure facilities for sorting, pre-cooling, cold chain and processing, grading, packing and marketing facilities have been planned in order to provide adequate incentives and facilities to the industry.

6. Forest Product Industry

- Forest products have excellent potential for development due to easy availability of raw materials in the state. The state has ample scope to develop industries based on forest- and agro-wastes such as lantana, pine needles, plant and vegetative fibers.
- Uttarakhand is a storehouse for a rich variety of herbs, medicinal and aromatic plant species. This enables the state to offer immense opportunities for the development of export-oriented units based on such products.

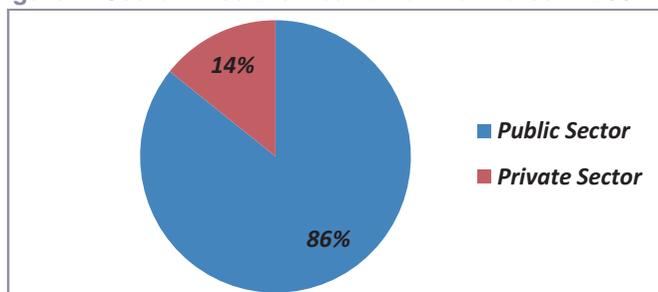
7. Tourism

- Uttarakhand is a well-renowned religious and wildlife tourism destination.
- Investment opportunities in the tourism sector include: Development of facilities for providing spiritual lessons, reiki and other rejuvenating courses, Eco-tourism hotels, spa, resorts, amusement parks and ropeways.

Employment Scenario

The public sector has remained the major source of employment in the organized sector of Uttarakhand as seen in figure below in 2004-05. Employment in the public sector has registered a negative growth rate between 2001 and 2005, with a CAGR of -0.63%. However, the state private sector has reported positive growth in the same period with a CAGR of 0.35%.

Figure 7: Sector Wise Distribution of Workforce in 2004-05



Source: Ministry of Labour and Employment, Govt. of India

Since its formation, the economic development of the state has taken a new turn. Growing at one of the fastest rates, Uttarakhand is poised to bridge the gap in per capita income from the average of all India to become part of the leading states in the country. The results of the Economic Census 2005 indicate Uttarakhand has performed better than the all India average in terms of growth of employment as well as growth in enterprises. Some of the details of the establishments and employment figures are displayed in Table below.

Table 3: Details of Establishments and Employment

Total Establishment	3,25,157
Own Account Establishment	2,20,729
Establishments at Least One Hired Worker	1,04,428
Agricultural Establishment	31,880
Non- Agricultural Establishment	2,93,277
Persons Usually Working in Establishments	7,37,869
Persons Usually Working in Establishments on Hired Basis	4,02,469

Source: 5th Economic Census-2005

In 2003-04, the number of unemployed persons registered in the live register of 23 employment exchanges in Uttarakhand was 3.3 lakh. During 2003-04, 75,529 registrations took place. Of these, only 2727 (3.6 %) were actually employed in 2003-04. The number of state government employees of Uttarakhand as of 2003-04 was 1.08 lakh. Thus, government appears to be one of the major job providers with almost every 85th person of the population in government service.

According to the Census 2001, the total workers in the state were 31.34 lakh. Of these, about 25 lakh were in the rural areas and 6.35 lakh in the urban areas. These workers are classified as main and marginal workers according to their work in the reference period of the Census.

Table 4: Total, Main & Marginal Workers in Urban and Combined (Rural & Urban) Areas

Type of Worker	Total (In'000s)			Urban (In '000s)		
	Total	Main	Marginal	Total	Main	Marginal
Cultivators	1,570	1,068	503	14	12	2
Agricultural Labourers	260	143	117	15	10	5
Household Industry Workers	72	49	23	16	12	4
Other Workers	1,232	1,063	169	591	543	48
Total	3,134	2,322	812	635	577	58

Source: Census-2001

Within the main and marginal workers category there is further classification into cultivators, agricultural labourers, household industry workers and other workers. The group of other workers includes factory jobs as well as services sector jobs. Uttarakhand had 37% of its population in its workforce. The total of main and marginal workers in Uttarakhand was distributed in the ratio of 74%

and 26% respectively. Both these conditions are in line with lower per capita income of the state vis-à-vis that of all India average. On the contrary, Himachal Pradesh has its 49% of population in the workforce, but a relatively larger proportion (34%) as marginal workers. Yet, the per capita income of Himachal Pradesh is better than that of Uttarakhand. It can be inferred that getting an opportunity to work is of primary importance and then to seek regular and permanent work.¹²³

The industrial requirements for a skilled workforce are far higher than the availability due not only to the shortage of Industrial Training Institutes (ITIs) in the state but also, more importantly, due to the quality and orientation of education and training imparted at these institutes which does not fit job requirements at the factories. It is estimated that around 70% of the ITI-trained local persons do not get employment in the industries, whereas outside candidates are given employment opportunities. Vocational courses should be encouraged to meet the shortage of skilled labour and the government should take steps to tackle this problem. There is need for training that should include industry-specific training. Given this scenario in the state, there has been suggestions proposed by CII that the state government should privatize five ITIs to impart industry-oriented training that matches industry requirements. These training institutes should tie up with industry.

Creating education centers would lead to development in a radius area around it. High-level vocational training is required for which polytechnics should be set up; they could train students for the hotel and construction industries. Course development is also required in every block of the state but it should be customized and not standardized. Since soft skills are very important, 10-20% of training time should be spent on developing these skills.¹²⁴ The state government has generated good employment opportunities. The unemployment rate in Uttarakhand was 4.9% (2009-10), which is better than the national average of 9.4%. It is ranked 4th in terms of unemployment at all India level. To generate employment, the government has opened 24 employment exchanges in the state. The total number of unemployed persons registered in the live register as on 31 March 2010 in Uttarakhand was 4,84,972.

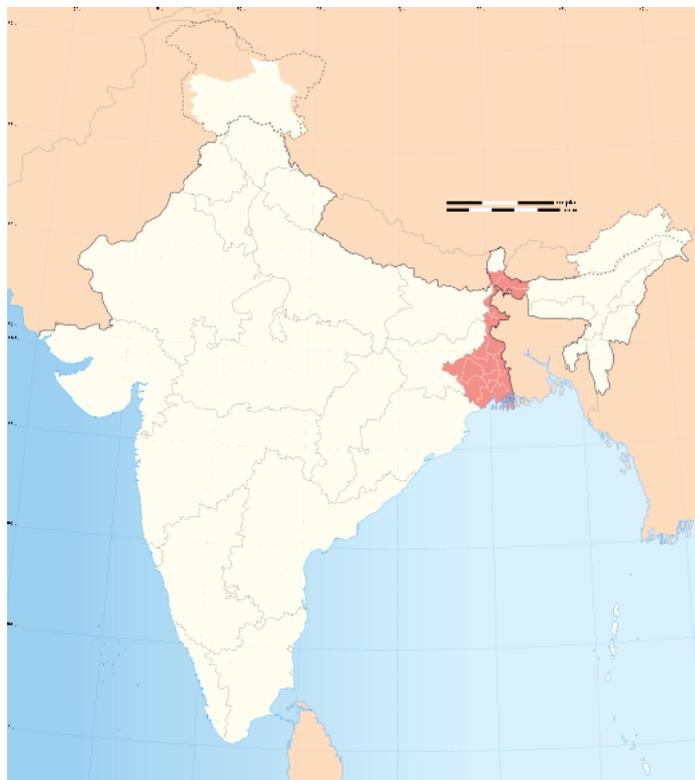
Although, the level of education is quite good in the state, there is a need to develop human resources and conduct capacity building programs to boost the momentum and to achieve higher literacy rate. It is imperative to set up more and more skill development centres and vocational training institutes to create more employment opportunities, improve income level and enhance the potential for economic growth.¹²⁵

¹²³ Uttarakhand Development Report-2009, Planning Commission

¹²⁴ Development Strategy for the Hill Districts of Uttarakhand, Working Paper # 127, ICRIER

¹²⁵ Uttarakhand: State Profile, PHD Chambers

State Focus: West Bengal



State Profile

Capital	Kolkata
Total Area (in sq. km.)	88,752
Total Population	9,13,47,736
Population Density (per sq. km.)	1,029
Number of Districts	18
Literacy Rate (%)	77.08
Sex Ratio (per 1,000 males)	947
State Domestic Product, 2009-10 (In Rs. Crore)	3,64,111
Per capita income, 2009-10 (Rs.)	41,219

Introduction

The state of West Bengal (WB) is situated in eastern India. The state shares its borders with Jharkhand, Bihar, Odisha, Sikkim and Assam. The state also shares its borders with international neighbouring countries of Bangladesh, Bhutan and Nepal. The Bay of Bengal is in the south of the state. West Bengal encompasses two broad natural regions: the Gangetic Plain in the south and the Sub-Himalayan and Himalayan area in the north.

West Bengal is the 4th most populous state in the country¹²⁶ and the 6th largest contributor to the nation's Net Domestic Product (NDP). Due to its location, West Bengal offers definite advantage as the traditional domestic market in eastern India, the northeast and the land-locked countries of Nepal and Bhutan, which are easily accessible. The state is also an entry point to markets in Southeast Asia via north-eastern states. West Bengal has abundant natural resources of minerals and suitable agro-climatic conditions for agriculture, horticulture and fisheries.

West Bengal has more than 20 universities. The University of Calcutta is the oldest public university in India and has 136 colleges affiliated to it. The state capital, Kolkata, has played a pioneering role in the development of the modern education system in India. It is the gateway to the revolution of European education. The state has several higher education institutes of prominence, including the Indian Institute of Foreign Trade (IIFT), the Indian Institute of Management Calcutta (the 1st IIM to be established in the country), the Indian Institute of Science Education and Research (IISER) Kolkata, the Indian Statistical Institute (ISI), the Indian Institute of Technology Kharagpur (the 1st IIT to be established in the country), National Institute of Technology (NIT) Durgapur in the field of science, engineering & technology and the West Bengal National University of Juridical Sciences in the discipline of legal education.

Universities and University Level Institutes

20 state universities, no private universities, 1 deemed universities and 1 central university characterize the higher education landscape of West Bengal. In addition to these universities, there are Institutes of National Importance located in the state. West Bengal and other large states such as Andhra Pradesh, Bihar, Maharashtra and Tamil Nadu have no private universities, as other (central, state and deemed) types of universities are abundant.¹²⁷

The state has two of the oldest state universities in the country, namely, the Bengal Engineering and Science University in Shibpur (Est. in 1856) and the University of Calcutta (Est. in 1857), located in Kolkata. The central university of the state – Visva-Bharati University was established after independence in 1951 and it is located in Santiniketan. The universities in the state offer programs in diverse fields, at both undergraduate and postgraduate levels, such as General Studies (arts, science & commerce), Technology, Agriculture, Veterinary Science, Distance Education, Medical Studies and Legal Studies.

¹²⁶ "India: Administrative Divisions (population and area)"- Census of India.

¹²⁷ "List of State Universities"- University Grants Commission.

Table 1: Distribution of Universities & University Level Institutions at State & National Level

Type of University	West Bengal (2011-12)	India (2011-12)
State University	20	285
Private University	0	112
Institutions of National Importance	3	39
Deemed University	1	129
Central University	1	40
Total	25	605

Source: UGC

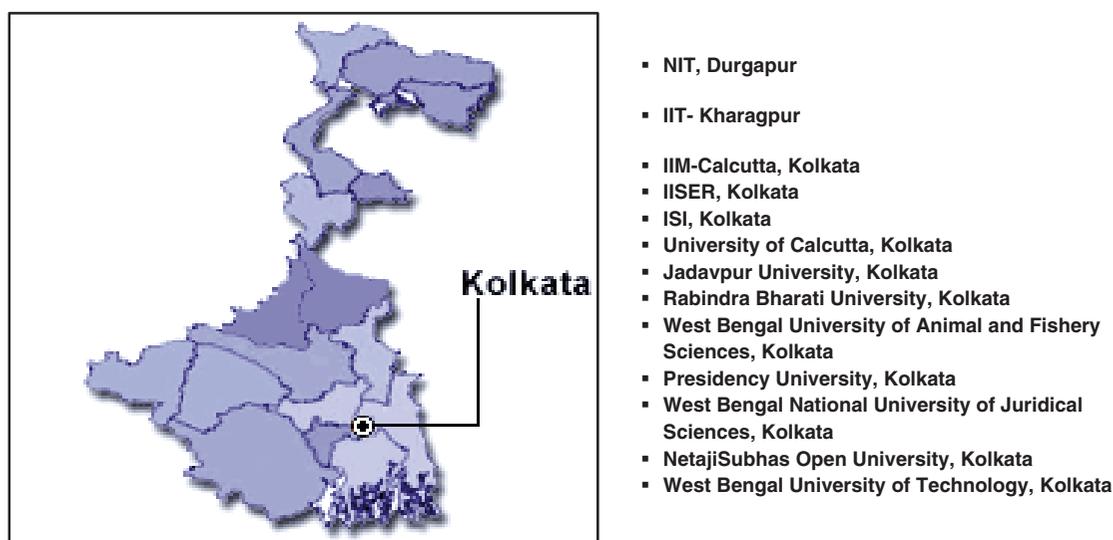
Kolkata, formerly known as Calcutta, is the principal commercial, cultural, and educational centre of east India. As of 2010, Kolkata urban agglomeration is home to 14 universities run by the state government. The colleges are affiliated with a university or institution based either in Kolkata or elsewhere in India.

The University of Calcutta, founded in 1857, is the oldest modern university in South Asia. Bengal Engineering and Science University is the 2nd oldest prestigious engineering institution of the country. It is located in Howrah. Jadavpur University is known for its arts, science, and engineering faculties. The Indian Institute of Management Calcutta (IIM C) was established in 1961, at Joka, a locality in the south-western suburbs. The West Bengal National University of Juridical Sciences is one of India's autonomous law schools, while the Indian Statistical Institute (ISI) is a public research institute and university.

The two engineering institutes of national importance in the state are the Indian Institute of Technology in Kharagpur (IIT Kharagpur) and the National Institute of Technology (NIT) in Durgapur. IIT Kharagpur was the 1st IIT to be established in the country and is a public engineering, management and law institution offering degrees at UG, PG and postdoctoral levels of study. NIT at Durgapur was formerly known as the Regional Engineering College (REC) and it is among the first 8 RECs to be established in the country in the 1960s. Today it is one of the 30 National Institutes of Technology in India and has been recognized as an Institute of National Importance by the Government of India under the National Institutes of Technology Act, 2007.

The Ramakrishna Mission Vivekananda University is a private university that is administered by the Ramakrishna Mission order of monks; however it has been given a Deemed University status and is the only deemed university in the state of West Bengal situated in Belur, close to Kolkata. The state has two agricultural universities, one situated in Haringhata (Bidhan Chandra Krishi Viswavidyalaya) and the other in Cooch Behar (Uttar Banga Krishi Vishwavidyalaya) in the north of the state.

Figure 1: Location of Premier Institutes in West Bengal



Most of the prominent institutes and universities of West Bengal are situated in the state capital of Kolkata; however the central university is located in Santiniketan. Two premier engineering institutes of national importance have also been established in smaller cities of Kharagpur (IIT) and Durgapur (NIT). The north region of the state has the University of North Bengal in Siliguri and the agricultural universities of the state in Cooch Behar (Uttar Banga Krishi Vishwavidyalaya).

Table 2: Distribution of Government & Non Govt. Self Financing Colleges by Faculty in 2010-11

Type of College	Government Colleges	Non Govt. & Self Financing Colleges	Total Colleges
General Degree Colleges	20	432	452
Colleges for Education (including Colleges for Physical Education)	7+4	135*	146
Art College	1	3	4
Law College	1	22*	23
Music College	0	2	2
Engineering & Technological Colleges (Excluding University Engineering Department)	6+1	78*	85
Business Management / Business Administration College	0	42**	42
Hotel Management	0	4	4
Other Professional Colleges (Non AICTE)	0	84	84
Total	40	802	842

Source: Higher Education Annual Report-2010-11, Department of Higher Education, Govt. of West Bengal

*Exclusive of University Colleges/Departments, **Exclusive of University Management Departments and inclusive of Engg. Colleges with Management Departments

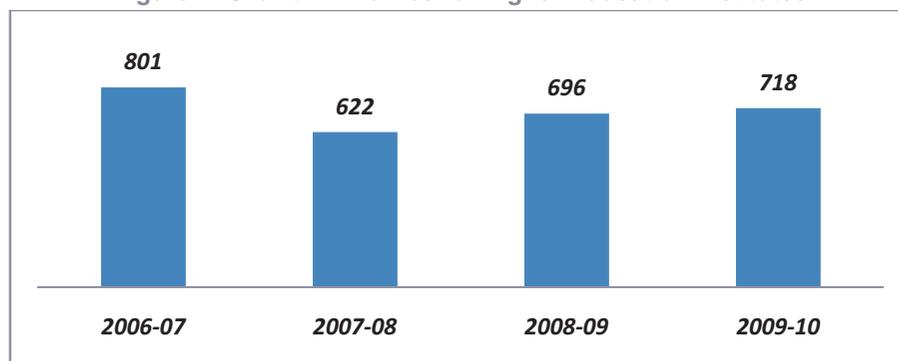
The landscape of colleges in 2010-11 was characterized by 842 colleges of which only 4.75% were government colleges and the remaining were non government self financed colleges (95.25%). The number of non-government self financed colleges outnumber government colleges in all types of colleges. This indicates a strong dependence on private players to setup colleges in the state and a

weak presence of state government funded colleges. Over half the colleges in the state were general degree colleges (53.68%), followed by colleges for education (including physical education) (17.33%).

Key Higher Education Indicators: Institutes & Enrolment

The growth rate in the number of higher education institutes in West Bengal has declined at 3.55% between 2006-07 and 2010 and it is far below the national level CAGR of 7%, indicating poor performance in ensuring access to higher education in the state.

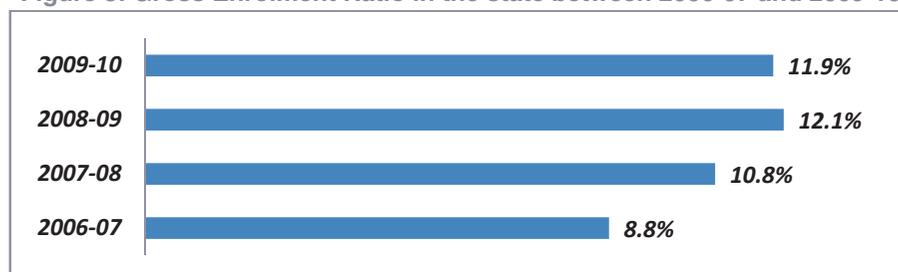
Figure 2: Growth in Number of Higher Education Institutes



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

The state Gross Enrolment Ratio (GER) has been rising steadily over the last few years, thus reflecting increasing access among the 18-24 year age group to higher education. However, the ratio is in the range of 8% to 12%. While the GER during the year 2006-07 was 8.8%, it has marginally increased to 11.9% in 2009-10. Such low GER is a major cause of concern as only a small percentage of persons in the age group of 18-24 years are able to take up higher education in the state.

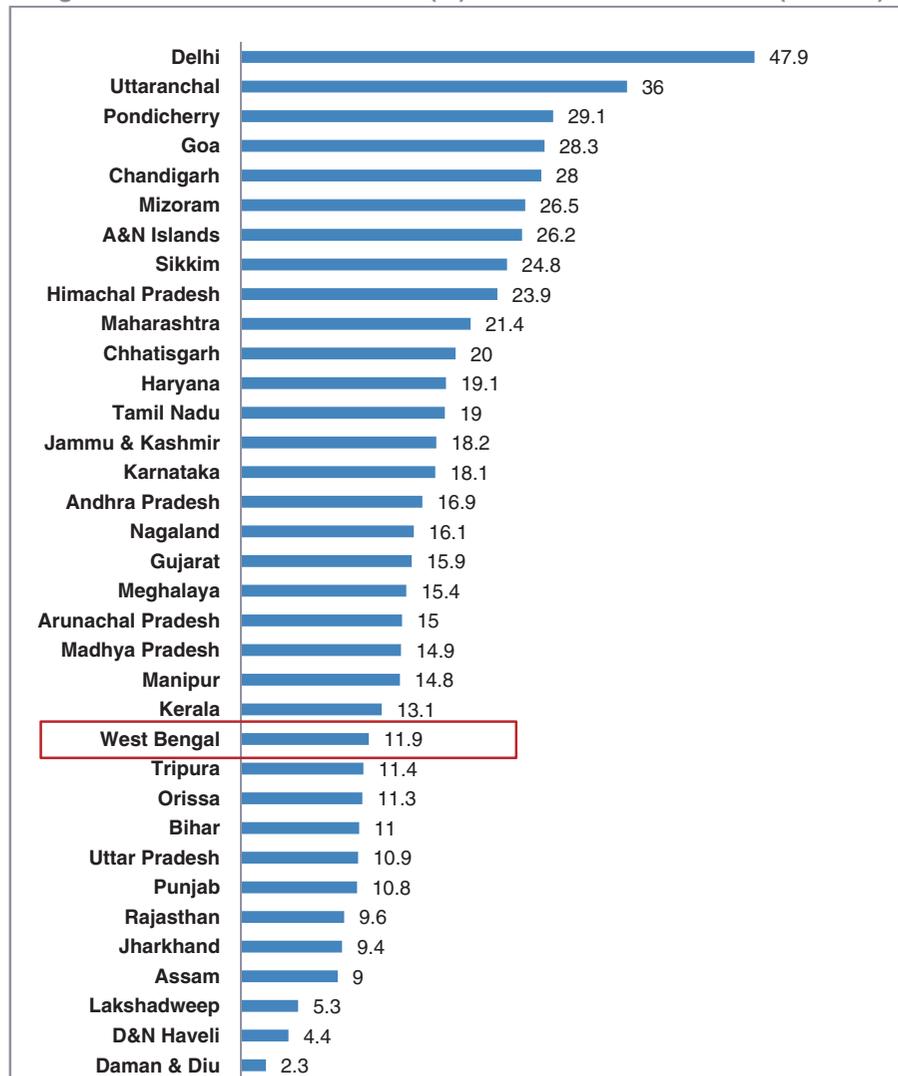
Figure 3: Gross Enrolment Ratio in the state between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-10

However, despite the marginal growth in GER between 2006-07 and 2009-10, the state still ranks 24th among the various states and union territories. This is much lower than the national average of 15%. Thus, West Bengal still has a long way to achieve the nation's target of 20% by the end of the 12th five-year plan.

Figure 4: Gross Enrolment Ratio (%) Across all States in India (2009-10)



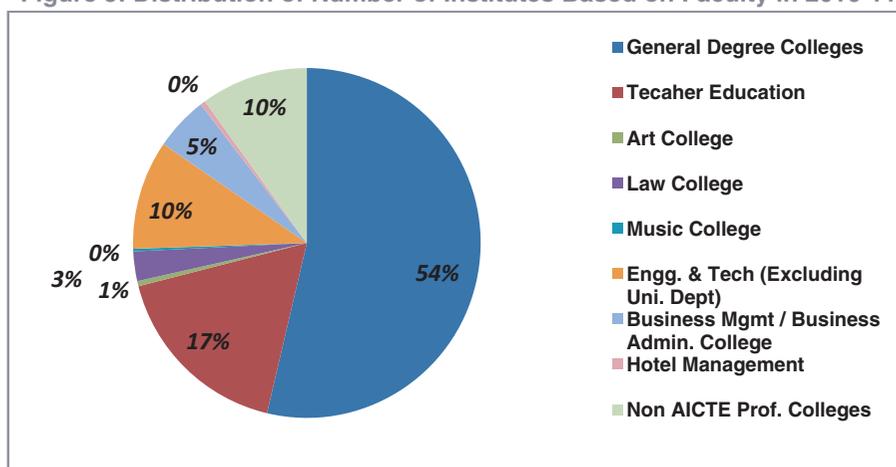
Source: Statistics of Higher & Technical Education, MoHRD, 2009-10

The following sections present a brief description of the current higher education scenario in the state. This follows with an overview of the industry and employment situation in the state and its linkages to higher education. The report concludes with presenting the key challenges and initiatives in higher education in the state.

Growth in Higher Education Institutes and Enrolment

At a national level, the dominant programs that are being offered in higher education, at both UG and PG levels are in the areas of arts, science & commerce (general studies). The same trend is reflected in the state as well, where 54% of the total numbers of institutes offering Arts, Science & Commerce were from general degree colleges in 2010-11. Teacher education is the 2nd most dominant type of institute in the state (17%), followed by engineering and technology institutes (10%) & non-AICTE approved professional degree colleges (10%).

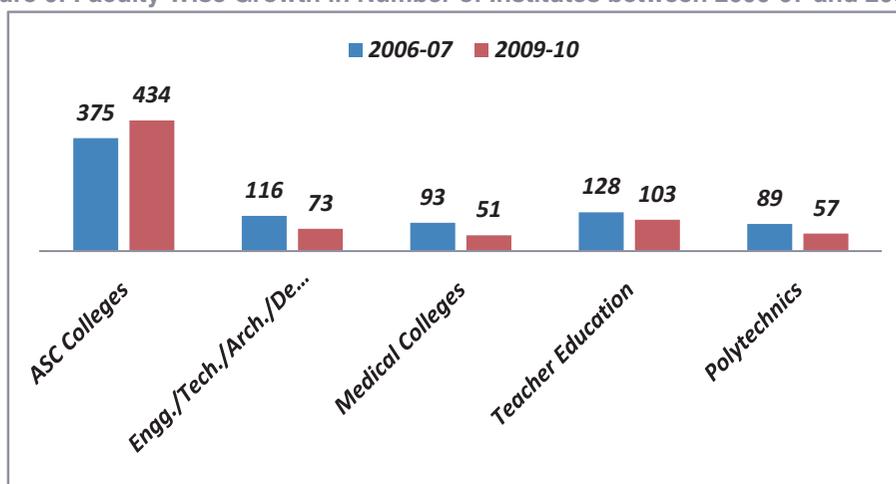
Figure 5: Distribution of Number of Institutes Based on Faculty in 2010-11



Source: Higher Education Annual Report-2010-11, Department of Higher Education, Govt. of West Bengal

The maximum growth in the number of institutes, between the years 2006-07 and 2009-10, has been in arts, science & commerce (ASC) colleges, with a CAGR of 4.94%. At a negative rate of 17.98%, medical colleges registered the maximum decline, followed by engineering, technology, and architecture & design colleges at a rate of 14.17%.

Figure 6: Faculty Wise Growth in Number of Institutes between 2006-07 and 2009-10



Source: Statistics of Higher & Technical Education, MoHRD, 2006-07 & 2009-10
 (It must be noted the data used to compute CAGR values, depicted in Figure 6, are not accurate and is incomplete, thereby providing ambiguous results on analysis.)

In the year 2010-11, the number of students enrolled at the undergraduate level (91.72%) was significantly higher than the number of students enrolled at the postgraduate level (8.28%). The faculty of education, however, had relatively proportionate number of students enrolling for UG (69.62%) and PG programs (30.38%). The faculty of management depicts a skewed relationship in favour of higher enrolment in PG (90.81%) as compared to UG programs (9.19%). The faculties of arts, science & commerce (ASC) combined constitute 90.44% of total enrolment at UG and PG level combined. Engineering constitutes 6.79% of total enrolment, thereby indicating a strong presence of students enrolling themselves in engineering institutes at both UG and PG level of study.

Table 3: Distribution of enrolment at Undergraduate (UG) & Postgraduate (PG) Level in 2010-11

Faculty	UG	UG (%)	PG	PG (%)	Total
Arts	6,17,088	94.37	36,810	5.63	6,53,898
Science	81,770	82.81	16,978	17.19	98,748
Commerce	79,714	94.85	4,325	5.15	84,039
Education	4,606	69.62	2,010	30.38	6,616
Law	3,805	91.07	373	8.93	4,178
Engineering	58,787	93.55	4,053	6.45	62,840
Management	410	9.19	4,050	90.81	4,460
Others	2,325	22.63	7,951	77.37	10,276
Total	8,48,505	91.72	76,550	8.28	9,25,055

Source: Higher Education Annual Report-2010-11, Department of Higher Education, Govt. of West Bengal

In terms of total enrolment, the maximum CAGR has been registered in the faculties of arts (10.54%) followed by engineering (4.95%) and others streams (8.23%). The faculties of management and education have seen the least growth, with enrolment in management declining at 28.62% and 18.95% in education. Overall student enrolment is growing at rate of 4.79%, of which growth in PG enrolment (14.11%) is greater than UG enrolment (4.09%), between 2007 and 2011. The faculty of arts has registered the maximum growth at the UG level (10.35%), whereas the faculty of education has shown maximum growth at the PG level (74.34%). The faculties of management and law have both declined between 2007-08 and 2010-11 in UG as well as PG enrolments. It can be concluded that the faculties of arts & engineering in the state are growing both in terms of number of institutes and enrolments. However, the faculties of management and law are not being promoted in the state as inferred by the fall in both enrolments and the number of institutes between 2007 and 2011.

Table 4: Growth of Enrolment by Faculty at UG & PG Level between 2007-08 and 2010-11

Faculty	UG+PG		CAGR (%)		
	2007-08	2010-11	UG	PG	Total
Arts	482,646	653,898	10.35	14.02	10.54
Science	118,310	98,748	-8.83	18.70	-5.79
Commerce	107,412	84,039	-8.44	9.62	-7.78
Education	12,507	6,616	-27.36	74.34	-18.95
Law	7,105	4,178	-15.56	-20.66	-16.07
Engineering	54,277	62,840	5.44	-1.19	4.95
Management	12,387	4,460	-57.77	-15.71	-28.62
Others	8,086	10,276	-30.49	92.83	8.23
Total	802,730	925,055	4.09	14.11	4.79

Source: Higher Education Annual Report-2010-11, Department of Higher Education, Govt. of West Bengal

Quality of Institutes

As per NAAC¹²⁸ stipulation, 342 colleges in the state are eligible for "NAAC-Accreditation". Out of these colleges, (till Dec 2010) 232 general degree colleges were accredited by NAAC for the first time. In addition to the figures mentioned below, 15 teacher training (B.Ed.) colleges/ institutions, 1 arts college and 2 technical colleges were also accredited by NAAC. NAAC also accredited 8 general degree colleges in 2010.

As per institutions accredited by NAAC under the new methodology, 4 universities have been graded in West Bengal, of which 2 have received the highest grade of A (Very Good) and 2 have received grade B (Good).

¹²⁸National Accreditation and Assessment Council

According to the latest grading released by the NAAC in 2012, of the 73 colleges that have been assessed and accredited under the new methodology, 72.6% have received B (Good) grade, 15.07% colleges have received the highest grade of A (Very Good) and the remaining 12.33% have received C (Satisfactory).

Table 6 depicts the grading of universities and colleges in 2004, in which majority of colleges lied in the range of B+ to C+ and the universities were graded according to the older star system in which two universities each got 5 star and 4 star respectively.

Table 5: Grade-wise Distribution of Accredited Institutions in 2004-05

	A++	A+	A	B++	B+	B	C++	C+	C	5 Star	4 Star	3 Star	Total
Universities	0	0	0	0	0	0	0	0	0	2	2	3	7
Colleges	0	0	5	9	11	10	7	2	2	1	0	0	47*
Total	0	0	5	9	11	10	7	2	2	3	2	3	54

Source: State Wise Analysis of Accreditation Reports- West Bengal, 2004

Industry and Employment Scenario

Key Industries¹²⁹

The natural resources, policy incentives and infrastructure in the state support investments in major sectors such as iron and steel, biotechnology, coal, leather, jute products, tea, IT, gems and jewellery. Climatic conditions suitable for cultivation of tea and jute have made West Bengal a major centre for these products and related industries. West Bengal occupies a predominant position in the development of micro and small-scale enterprises. The state has 25,13,303 working MSMEs (both registration & un-registered), providing employment to around 5.83 million persons. A brief description on the industries present in the state follows in the next section.

1. Tea

- West Bengal is the second-largest tea growing state in India, after Assam, and accounts for around 23.1% of the total tea production in India.
- Tea gardens in the state are located in Darjeeling and Jalpaiguri, the two northern districts.
- Major tea companies in the state are Tata Global Beverages, Goodricke Group Ltd, Mcleod Russel India Ltd and Duncans Industries Ltd.

2. Petroleum & Petrochemicals

- West Bengal accounted for around 3.33% of the country's refinery crude throughput in 2010-11. Haldia Petrochemicals Limited is one of India's largest integrated petrochemical complexes. Mitsubishi Chemicals and Corporation, Japan's major chemical firm has invested in a Purified Terephthalic Acid (PTA) plant at Haldia.
- Other prominent players in this sector are Indian Oil Corporation Ltd (IOCL), Oil India Ltd (OIL) and Oil and Natural Gas Corporation Ltd (ONGC) and Haldia Petrochemicals Ltd (HPL).

3. Leather Industry

- West Bengal is one of the leading exporters of finished leather goods. The state's share in the Indian leather export basket is 16%.

¹²⁹India Brand Equity Foundation – State report on West Bengal

- West Bengal Leather Industrial Development Corporation provides assistance to small & micro scale industries of the state for the development and marketing of leather goods.
- Some key players are Khadim India Ltd., Bata India Limited, Singhvi International and Balmer Lawrie and Company Limited.

4. Iron & Steel Industry

- West Bengal has emerged as a favoured destination for the steel industry. Its deposits of iron ore have helped attract new projects.
- The Chota Nagpur plateau, bordering West Bengal, is the nerve-centre of this industry. The state accounts for about 10% of country's total steel capacity.
- Major steel companies doing business in the state are JSW Steel Ltd, SAIL, Shyam Steel and Super Forgings & Steel Ltd (SFSL).

5. Information Technology Sector

- Around 500 IT and ITeS companies are operating in the state, employing more than 1,00,000 professionals.
- The state has identified IT as a priority sector to be developed into a growth engine for the future. West Bengal has 16 IT/ITeS based SEZs with formal approval.
- Some of the IT companies present in the state are Genpact, Cognizant Technology Solutions, HCL and Tata Consultancy Services.

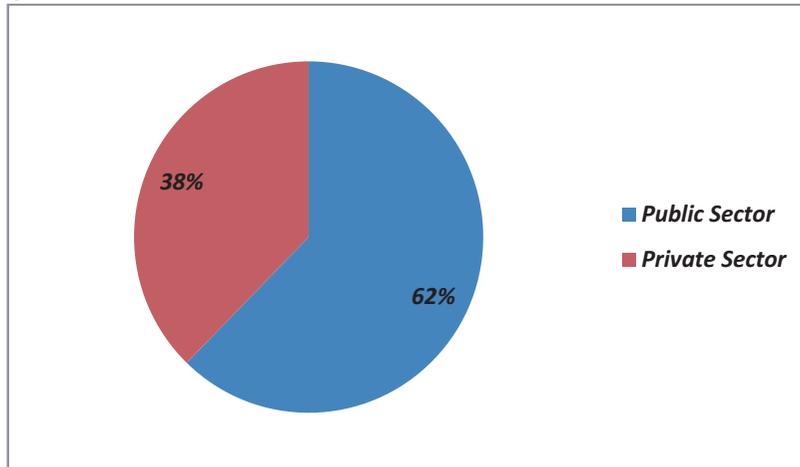
6. Biotechnology

- West Bengal has many attributes that favor the development of biotechnology industry. It has rich natural resources based on a diversity of flora and fauna. A wide variety of commercial crops are cultivated, which can be improved by biotechnology interventions.
- Examples of such interventions are application of bio-fertilizers for soil fertility, bio-pesticides for environment friendly integrated pest management, genetic modification to produce golden rice, tissue culture for horticulture, floriculture and medicinal plants.
- Research institutes such as Bose Institute, Indian Institute of Chemical Biology, Indian Association for the Cultivation of Science, National Institute of Cholera and Enteric Diseases, Jadavpur University, All India Institute of Hygiene and Public Health, Calcutta School of Tropical Medicine and Indian Institute of Technology, Kharagpur are engaged in high quality research in various areas of biotechnology.

Employment Scenario

As per the statistics released by “Directorate of National Employment Services, West Bengal in 2010”, the size of the registered workforce in West Bengal is 19.1 lakh, with majority of them being employed in the public sector (62%) and the remaining 38% working in the private organized sector, as can be seen in Figure 7 below.

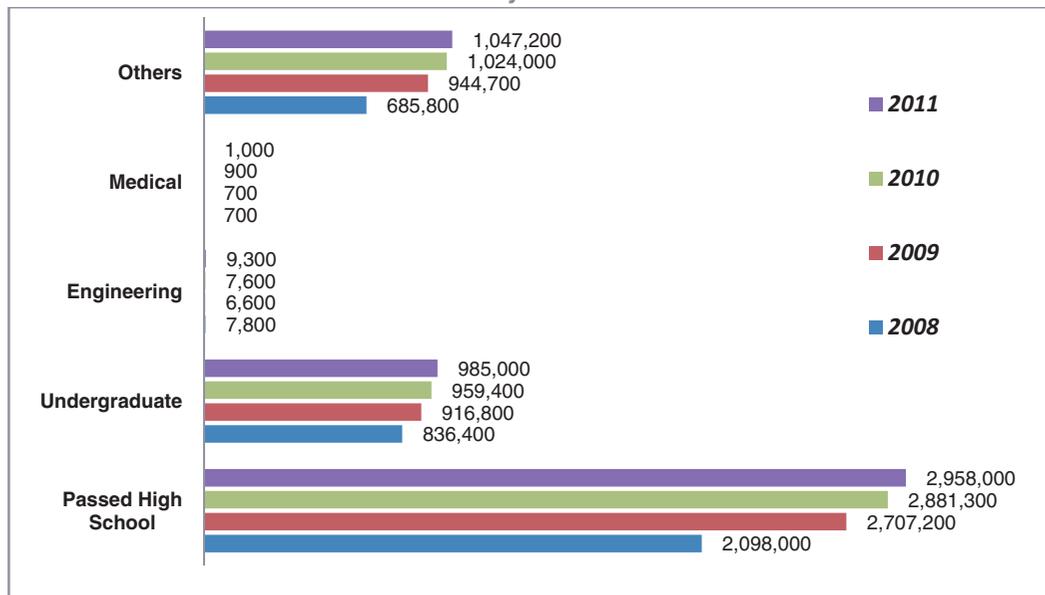
Figure 7: Distribution of Workforce in Public and Private Sector in 2010



Source: Directorate of National Employment Services, Govt. of West Bengal

There has been a declining trend in the overall growth of employment in the state, with the workforce declining at 2.43%, the public sector employment decreasing at 2.9% and the organized private sector declining at 1.63%, between 2006 and 2010.

Figure 8: Growth in Number of Job Seekers Registered with Employment Exchanges between 2008 and 2011 by Level of Education



Source: Directorate of National Employment Services, Govt. of West Bengal

During 2010-11, among the job seekers with higher education qualifications who were registered with the West Bengal Employment Exchanges (50.05 lakh), the maximum number of job seekers was high school graduates (59.14%). The next dominant segment of job seekers was the category of

undergraduates with 19.69% contribution. The category of 'Others' (20.94%) is not included, as the composition of the level of education in this category is not known.

The total number of educated graduates (engineers, medical & others) and undergraduates stood at 20.4 lakh. Thus the state had 40.84% of the total persons registered with the employment exchanges as 'educated unemployed'. Out of which there were an equal share of undergraduates and postgraduates. Such a high number of qualified persons looking for employment is a cause for concern as it can be deduced that the education imparted at the UG and PG level is not up to the standards required by industry and other places of work.

The maximum growth rate, in the number of job seekers registering at the government employment exchanges, has been registered by 'Others' category (14.99%) and followed by medical graduates (12.49%) and high school pass individuals (12%) between 2008 and 2011. This increasing trend reflects that more and more educated individuals are finding it difficult to secure gainful employment in the state and that the degree that they have procured, at UG or PG level, is not providing them with enough knowledge and expertise that is required by industry standards in the state and the country.

Key Challenges and Initiatives in Higher Education

Initiatives funded by the State Government and their impact

- The World Bank and Government of India (GoI) coordinated the 1st phase of Technical Education Quality Improvement Program (TEQIP) in West Bengal. 127 institutions (18 centrally funded) from all over the country participated in this program. Implementation of TEQIP in West Bengal has earned 'Satisfactory' ranking from the World Bank and GoI, along with states like Maharashtra and Karnataka.

Academic Achievements

- Production of high quality graduates (75% or more marks) has been increased from 2,346, in 2004-05 to 2,860, in 2007-08, marking an increase of 22% over 4 years.
- In total, 22 new 'demand driven' UG/PG course have been introduced and 117 courses have been restructured, reoriented or revised.
- In the 3rd part quality audits by educational experts, West Bengal has always scored above the national average. (In 2008-09, the national average was 8.5 on a 10 point scale and the state scored 8.9)
- Number of private institutions (universities and colleges) and technical institutes has grown exponentially during the 11th Five Year Plan. This is mainly due to the establishment of new self-financed institutes.

Institutional Reforms

- One of the most important aspects of Project Implementation is granting academic, financial, managerial and administrative autonomy to the institutes with accountability, especially in the 4 government engineering colleges.
- Four funds viz. Corpus Fund, Staff Development Fund, Depreciation Fund and Maintenance Fund have been established in these institutions in which their annual savings are being invested to strengthen the institutes' own financial backbone, and hence become self sufficient over the coming years.

Initiatives Proposed

- Under the sub-component, “Scaling up Post Graduate Education and Demand Driven, Research and Development and Innovation”, 3 state funded universities and 1 private university has been selected and all four of them have signed a MoU with the state government.

Innovative Practices in Higher Education

- Students are encouraged to perform industry-based projects with their own innovative ideas during the course of study.
- Students are allowed to perform industry based projects with other well know institutions in their desired field of study.
- The teachers for weaker students conduct special classes/tutorial classes.
- The students have developed feedback system for the teachers’ evaluation.
- Non-salary, non-plan budget provisions have been converted to ‘Block Grants’, to keep flexibility in fund utilization instead of following many number of sub heads.
- Institutes have been allowed and encouraged for Internal Revenue Generation (IRG) through consultancy and projects with the industry, and conducting short courses etc.

Main Activities and Achievements during 2010-11

- Consolidation and qualitative improvement of colleges and expanding the base of social relevance of higher education.
- Linkage of education to employment through vocationalization.
- There has been emphasis on engineering and technological education with special focus on information technology and biotechnology.
- Diversification of subject compositions.
- Emphasis on basic science courses and scientific research.
- Emphasis on liberal arts, culture, languages, physical education and humanistic values.
- Mobilisation of internal resources.

Brief Note on Certain Union Territories (UTs)

The union territories of Andaman & Nicobar Islands, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Lakshadweep have not been included in this report as key data points pertaining to these states were not readily available. However for the purpose of completeness, we present a brief outline of the landscape of higher education and some of the initiatives and challenges that are present in these UTs.

1. Andaman & Nicobar Islands

Andaman and Nicobar Islands state education has a very strong network of schools and centers of higher education. The education department of Andaman and Nicobar is devoted towards enhancing the education profile of the State, specially the comparatively deprived tribal regions. As a result of their tireless work and efforts, Andaman and Nicobar is presently a Union Territory with one of the highest literacy rates in the country.

Andaman and Nicobar Islands state education also has a great infrastructure for higher education. The colleges of Andaman and Nicobar were originally affiliated to the Rangoon University. However, the cessation of Burma from India brought about a change in the structure of state education at Andaman and Nicobar Islands. The colleges thereafter became affiliated to the Calcutta University. The higher education of Andaman and Nicobar State education includes two training institutes, two polytechnic colleges, a government B.Ed. College and a government college.

2. Chandigarh

The union territory of Chandigarh has 1 state university and 1 deemed university, namely Panjab University and PEC University of Technology. The Chandigarh administration has 7 privately managed Government Aided Colleges imparting higher education; however there is no private unaided college in the UT. There are 2 Medical Colleges, 3 Teacher Training Colleges, 6 Engineering Colleges, 11 Arts & Science Colleges and 6 Polytechnics. Two Polytechnics and two ITIs are under the purview of the Directorate of Technical Education in Chandigarh.

Some of the initiatives that have been implemented in the state include increased use of ICT tools, job oriented courses and amenities for students studying in various institutes and colleges. The following provides brief description of some of the initiative in the UT:

- E-Content development in all Government colleges for the students to access through college websites.
- College libraries are fully computerized and provided with Internet connectivity.
- Personality Development and Soft Skills course and workshops made compulsory for students.
- College facilities are put to optimum use and various Hobby Classes, Computer Literacy Courses, and Personality Development Courses are run at different times of the day at these facilities.
- Campus Placement, Job Fairs and Career Counseling are regularly conducted in all colleges and a placement cell has been established in each college.
- Add-on job oriented, vocational and honours courses have been introduced in all colleges.
- Regular alumni interaction is conducted at all colleges so as to provide avenues for job prospects for students currently studying.
- Anti Stress help desks, Women Cell and a Grievance council has been setup for all the students of various colleges.
- Various Government colleges have conducted national conferences, seminars and workshops.
- Up gradation of Govt. ITIs through PPP mode.
- Skill Development Initiative Scheme implemented in 2007-08 and 12 Institutions have been registered as Vocational Training Providers (VTPs).

- Skill Mapping i.e. to determine the mapping and gaps between the courses offered and the local demand by the industry is under taken by CII, Northern Region, Chandigarh.
- Community Development through Polytechnics (CDTP) program has been initiated.

Along with some of the initiatives that the Government of the UT has already implemented, there are some initiatives that have been proposed for the coming years. Some of them are:

- 'EduCity Project' is an initiative proposed by the Government of India with an objective to set up a world-class education Institutions of excellence that will offer high-end professional courses.
- TEQIP Phase II will be implemented after the successful completion of TEQIP Phase I.
- Introduction of Diploma Level Courses in Polytechnics and ITIs.
- Modernization of Workshops, Development of Institution campus and setting up/renovation of Computer Centers.
- Introduction of new trades/Diversification of existing trades.

3. Daman & Diu

The landscape of higher and technical education in the UT of Daman and Diu consists of Technical Training Institutes (TTIs) in both the districts of Daman and Diu. A Polytechnic College was established in Daman during 1990-91 and at present there is no College in Diu.

Some of the initiative that have been started by the Government here are with regard to enhancing infrastructure, improving quality of education imparted and incentives provided to students. Some of the initiatives have been listed below:

- Strengthening of Government College and promoting extracurricular and co curricular activities Govt. College in Daman.
- Strengthening and expansion of TTIs in Daman& Diu.
- Craft training to tribal youth with the objective of providing technical training to tribal to enable them to get suitable jobs in necessary industries.
- Grant of merit cum means stipend to students for Professional/Technical Degree/ Diploma Courses.
- Establishment of Technical Education Cell in Daman, in order to coordinate technical education in the state.

As there is a long way to go before higher education in the UT meets the standard of the nation, there are many initiative that have been proposed in order to make higher and technical education relevant and accessible to all in the UT. Some of them are:

- Establishing Model College in Diu in PPP mode with objective of providing opportunity of higher education to the students of UT of Daman and Diu district, which is identified as one of the higher educationally backward districts. Setting of Centre for Study of Business and Finance.
- Implementation of Vocational Education courses for out of school Government of India students. The scheme is aimed at providing employable skills to post matric drop out students who are working as unskilled workers in industry or remain unemployed. The Technical Training Institutes, Daman & Diu will conduct the appropriate training and act as an Accredited Vocational Institute (AVI). The vocational courses are affiliated with National Institute of Open Schooling (NIOS) and Technical Education Board, Gujarat State.
- Modernization of Technical Training Institutes in Daman & Diu.
- Incentive to girl students for pursuing professional courses at UG and PG Levels.
- Establishment of Govt. Polytechnic in Diu and a New Govt. Engineering College in Daman.

4. Dadra & Nagar Haveli

Dadra & Nagar Haveli is predominately inhabited by the Tribal community which constitutes 64 % of the population. Education is free of cost up to standard XII in the UT. A major problem faced by this state is that students have to look at neighbouring states like Gujarat and Maharashtra for Higher Education due to lack of facilities in the UT itself.

The Silvassa Institute of Higher Learning has been established as degree level college due a strong demand by the citizens of the UT. In 2011 the College started functioning with Arts and Commerce Stream. The College is affiliated to Gujarat University, Ahmadabad. This institute is financed under the Grant-in-Aid Scheme of the central government. Certain construction and up gradation work is under Capital Head during 12th Five Year Plan.

5. Lakshadweep

Most of colleges in Lakshadweep are affiliated to the University of Calicut. Though presently, Lakshadweep does not have many educational institutes, the state government is promoting higher education among schools and colleges. The colleges of the island offer degree courses in various disciplines of arts, science and technology. The Lakshadweep Colleges specializes in the departments of English, British History, World History, Chemistry, Mathematics, and Computer Applications, Physics, Botany, Zoology and other allied disciplines. The various colleges in Lakshadweep, besides imparting education thorough knowledge and quality education also focus on character building for effectively grooming responsible citizens for the country.

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