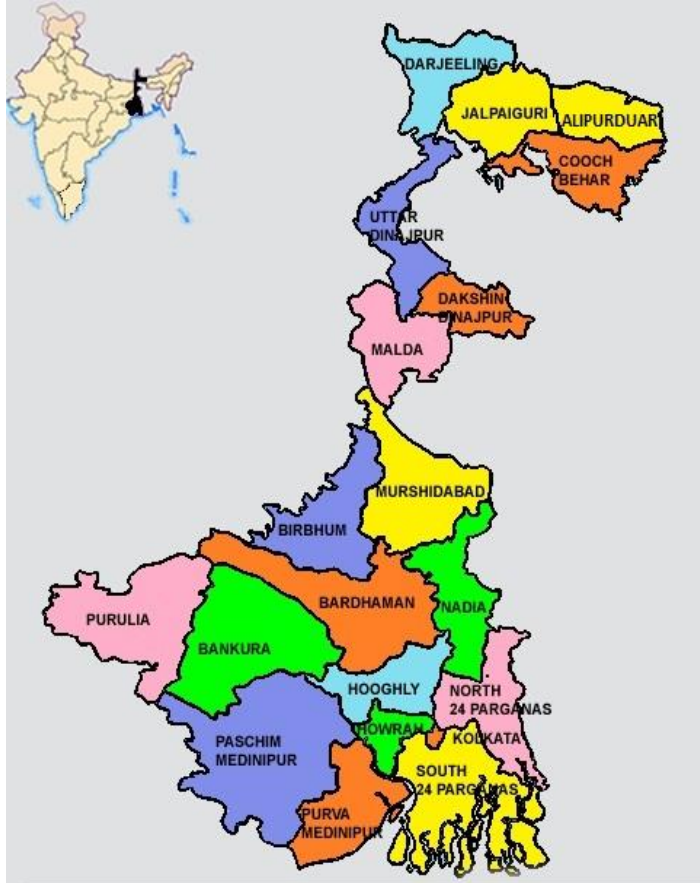




सत्यमेव जयते

Government of West Bengal



West Bengal Education Commission

Supplementary
Annexure I to Final
Report

Contents

Record Notes with Hon'ble Chief Minister of West Bengal, Smt. Mamata Banerjee on 12th December, 2014	3
Inputs from School Education Department	7
Inputs from Higher Education Department	17
Inputs from Department of Technical Education & Training.....	25
Education System Models in Oman, Saudi Arabia and Iran	27
Inputs from Agastya Foundation	32
List of suggested Vocational Courses	34
West Bengal MP list for access to MP Lad fund	35
West Bengal MLA List for access to MLA Lad fund	37
West Bengal Rajya Sabha List for access to funds.....	45
List of SBI Branches & Post Offices.....	46
Inputs from CII	47
Inputs from BCC&I	62
Inputs from Vigyan Ashram on IBT Programme for Secondary Schools.....	64
NESTA Report.....	67

**Record Notes with Hon'ble Chief Minister of West Bengal, Smt.
Mamata Banerjee on 12th December, 2014
Venue: CMO, Nabanna**

In the presence of:

1. **Dr. Partha Chatterjee** – Hon'ble Minister of Education, Govt. Of West Bengal
2. **Mr. Sanjay Mitra** – Chief Secretary, Govt. Of West Bengal
3. **Mr. Arnab Ray** – Secretary, School Education Dept., Govt. Of West Bengal
4. **Mr. Sahidul Islam** – Secretary, Dept. Of Minority Affairs & Madrasah Education, Govt. Of West Bengal

Education Commission Members Present:

1. **Prof. Samir K. Brahmachari**, Chairman
2. **Mr. Vivek Kumar**, Principal Secretary Higher Education Department; Member-Secretary Education Commission
3. **Prof. Abu Taleb Khan**,
4. **Prof. John Felix Raj**
5. **Prof. Asokendu Sengupta**
6. **Swami Shubhakarananda (Shantanu Maharaj)**,
7. **Swami Suvirananda**,
8. **Ms. Susmita Bhattacharya Chatterjee**
9. **Ms. Supti Pande**,
10. **Prof. Prabir Kumar Das**,
11. **Mr. Rajarshi Dasgupta**, Consultant, KPMG

The Chairman and the some members of the Education Commission met the hon'ble Chief Minister on 12.12.2014 at 'Nabanna'. Dr. Partha Chatterjee, hon'ble Minister-in-Charge, Education Department, was also present. Besides, the Chief Secretary, Secretaries of the Department of Higher Education, Department of School Education, Department of Minority Affairs & Madrasah Education had also participated in the meeting.

The Chairman and the members highlighted the major recommendations and observations of the Commission during the last one year. The Commission initially focused on nearly 30 points but after interaction with the hon'ble Chief Minister, there has been slight change. The hon'ble Chief Minister was very cordial and positive in her actions and very gladly appreciated almost all the recommendations. She also issued direction for extending the tenure of the Commission for two years and also

the extension of service of Prof. Prabir Kumar Das. However, the members urged that the Commission's term may be extended for one year. She expressed her desire that the Commission should frame the mechanism of implementation of the recommendations and also to frame alternate financial models for implementation of the recommendations. She mentioned that a database should be made of all renowned Bengalis who have migrated from Bengal and are located at various places. All such people should be contacted and requested to participate in the transformation of Bengal. After the meeting the Chairman and the members of the Commission met the Press and described briefly about the recommendations of the Commission as described below. Also some of the suggestions are included in the recommendation. A 'Press Release' was also uploaded in the Commission's website.

A. Identified targets to achieve 2020 & 2030

1. Bengal leads in innovation and inventions
2. Every child has access to computer
3. 100% of students to have an opportunity to complete high school
4. Value based education that enhances dignity of labour and enables every job to be discharged in a professional manner.
5. Every institution in the State is inter-connected through ICT (Information & Communication Technology) in order to achieve a seamless sharing of knowledge and resources.

B. Strategy to achieve through strengthening the four pillars of education

1. **Excellence** – focus to make West Bengal R&D hub of India and to create magnet schools and colleges in every district.
2. **Employability**- expand and restructure of vocational courses and training of trainers for skill up-gradation.
3. **Inclusiveness** – extend the mid-day meal till class X and establish ICT infrastructure in schools and colleges.
4. **Value based education** – for integrated development of character, personality and sense of caring, development of health & hygiene.

C. Specific recommendations

1. Spoken English through e-teaching medium from elementary levels – All teachers should be given mandatory training for imparting such skills.
2. All govt. and govt. aided schools and colleges to immediately start having internet and Wi-Fi facilities for students' usage at the campus in phases.

3. Activity based learning in schools and encouraging self-learning with the help of internet facilities.
4. Immediate filling up of vacant teachers/faculty positions for both schools and colleges. Retired teachers may be reemployed as part-time teacher.
5. Refresher courses for teachers to be designed and exams to be conducted for teacher's increments – This may be in the same lines as that of IAS officers. Establishment of Teacher's Academy in North Bengal.
6. School teacher designations to be re-looked at and symbolic reward programmes to be started.
7. A non-teaching staff recruitment commission to be made for Govt. aided colleges, Boards, Councils, Universities etc. This would be an autonomous body.
8. University Township – Bengal should have multiple **University townships** replicating the Visva Bharati - Sriniketan model and Manipal Academy model. [*one may be at Rajarhat and the other at Jalpaiguri*]
9. 100 Chief Minister's research fellowship to be introduced to promote industry academic collaboration with matching grants from industry.
10. Introduction of a Sanskrit board in collaboration with Ramakrishna Mission and establishment of a Sanskrit University.
11. Modernisation of interested Madrasahs in the knowledge economy like many progressive Islamic nations – eg. Qatar, UAE, Oman, Iran & Malaysia.
12. Value education to start from elementary classes. Interested retired teachers to be invited to give lectures on lives of great people.
13. Mobile Labs and 'Lab in a box' to be implemented with guidance from Ramakrishna Mission and St. Xavier's. A dedicated educational television channel in Bengali should be introduced to cater to all age groups of students.
14. Less endowed school and college students who are meritorious should be given access to library of nearby institutions.
15. Board marks weightage in Joint Entrance Exams to be brought in and best of 2 subjects to be considered during college admission. [*To be*]

further examined]

16. Scope for science education to be improved both at school and college level. Bengali Science and educational portal to be started. Develop Massive Open Online Courses (MOOCs) for enhancing access and augmenting quality of teaching-learning contents.
17. Vocational Courses to be restructured and institutions to be expanded with industry collaborations.
18. Introduction of text book library through donations for classes IX to XII specially for girl students. [*Hon'ble Education Minister preferred to give books free. However, the Chairman suggested giving books on a returnable basis.*]
19. Functional and separate boys' & girls' toilets in schools and colleges to be assured.
20. Mandatory health & hygiene classes from elementary levels should be started with cleanliness responsibility being given to students. This should be made a part of the curriculum and citizenship training should be formulated. [*Hon'ble Chief Minister suggested a caption like 'সুন্দর রাখো নিজেকে' or 'Keep yourself & surrounding clean' for this mission.*]
21. To enhance girl students' attendance, ultra-low cost sanitary napkins to be provided in secondary and higher secondary schools.
22. Up-gradation of schools & colleges into model schools & colleges should be tried by implementation of Wi-Fi, smart classes and computers in phases.
23. Online students' admissions for colleges need to be introduced.
24. Mandatory rural postings of faculty for a few years and a defined structure for faculty transfer should be worked on for Govt. aided schools and colleges. [*Deferred for the time being, need further deliberations*]
25. A model for mapping of school and college fees should be established.
26. Renaming of "Students' Union" as "Students Council" and electronic voting in colleges should be thought about. [*Suggested need for further deliberation with CS and others*]

Inputs from School Education Department

The School Education Department frames policies, sets priorities, allocates resources and coordinates implementation. Its main implementing arm is the Directorate of Education which has district units and circle level offices. Three major projects with Central Government assistance viz. Sarva Shiksha Abhijan, Mid Day Meal programme and Rashtriya Madhyamik Shiksha Abhijan are implemented through Project Directorates. There are four Boards/ Councils looking after academic matters and conducting examinations. These are :

- West Bengal Board of Primary Education
- West Bengal Board of Secondary Education
- West Bengal Council of Higher Secondary Education
- West Bengal Council of Rabindra Open Schooling

The West Bengal Central School Service Commission together with five regional units recruits teachers for aided schools.

District Primary School Councils at the district level supervise primary education. There is a State Council for Education, Research and Training which together with District Institutes of Education and Training is responsible for Teacher's training.

Goals, Objectives, Functions

The Department is functioning with numerous goals and objectives. The major ones are:

- Universal access to Elementary schools. The norms adopted by the State require providing a school within 1 km of habitation in rural areas and ½ a km of habitation in urban area. For upper primary the norm is to provide a school within 2 kms.
- Up-gradation of schools so that students can progress from primary to upper primary and secondary schools and from secondary to higher secondary schools.
- Ensure enrolment of girl students especially from backward and minority communities
- Reduce drop out and improve retention of children in schools
- Provide adequate infrastructure in schools – separate toilets for girls and boys, drinking water facilities, adequate number of classrooms and teachers, kitchen cum store for mid-day meal etc
- Improve the quality of education

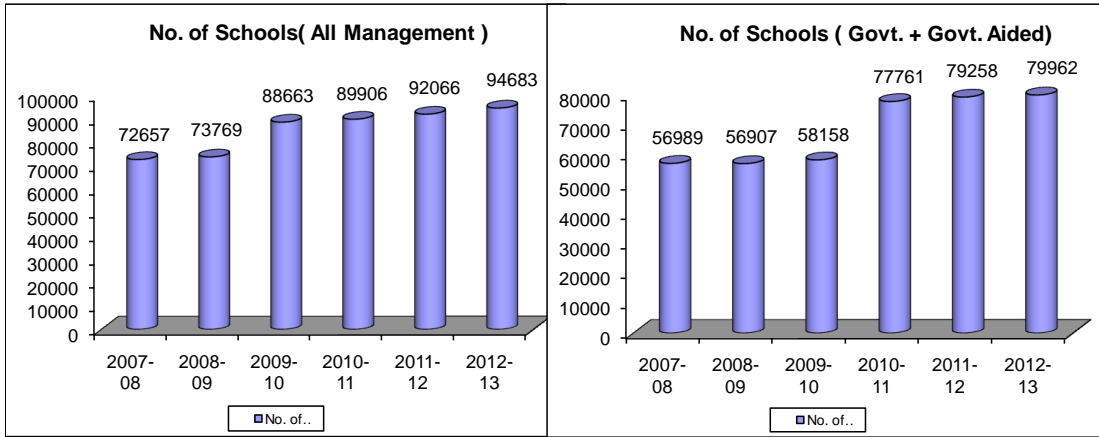
- Align syllabi and curricula to national standards and provide good quality test books
- Train teachers to obtain their pre service qualification (for those who do not have it) and to conduct regular in service training programmes
- To ensure that children are not detained till Class VIII and the evaluation is continuous and comprehensive
- Encourage Computer literacy and education
- Equip all Higher Secondary schools with laboratory and library
- Ensure all schools feed cooked mid-day meal of good quality to children.

Present Indicators

Some current indicators on education (UDISE provisional 2013-14) are:

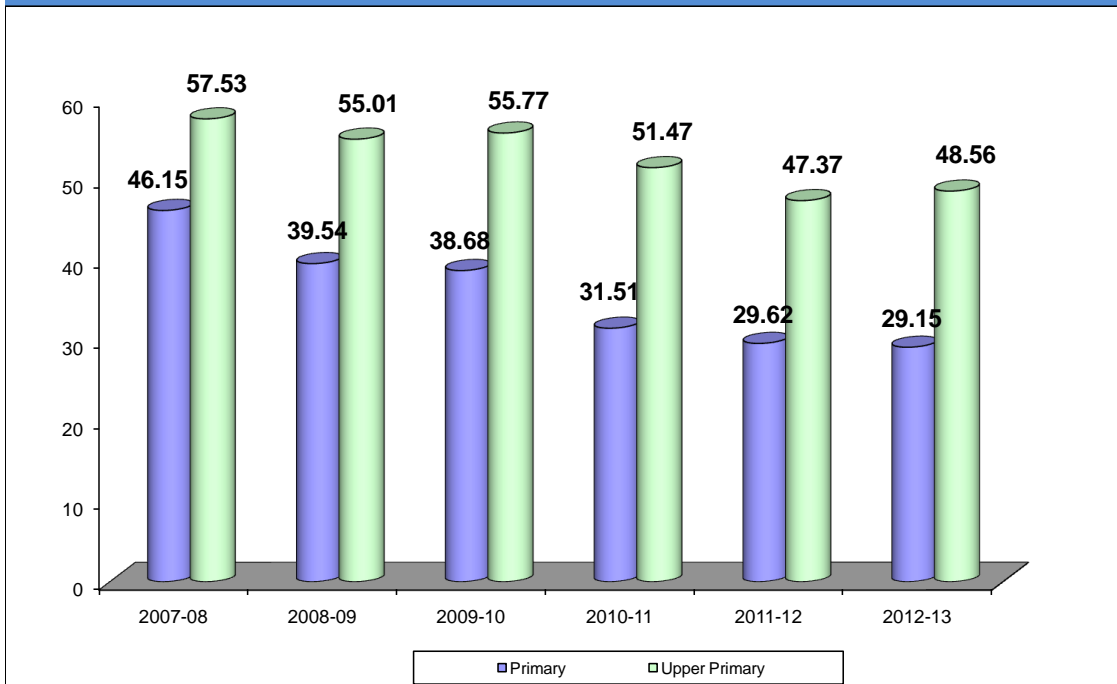
- Out of school children (6-14) : 86006
- Pupil Teacher Ratio : Pry – 24.79, U Pry – 47.97
- Gender Parity Index : Pry – 0.98, U. Pry – 1.07, Secn – 1.14, H. Secn – 0.92
- Upper Pry school required – 851
- Primary school required – 399
- Toilet-less schools – 1312
- Separate Girls Toilet less schools – 2349
- Drinking water-less school – 1219
- Dropout rate – Pry 3.8 (Boys 4.12, Girls 3.47)
U. Pry 4.65 (Boys 5.93, Girls 3.47)

Number of Schools



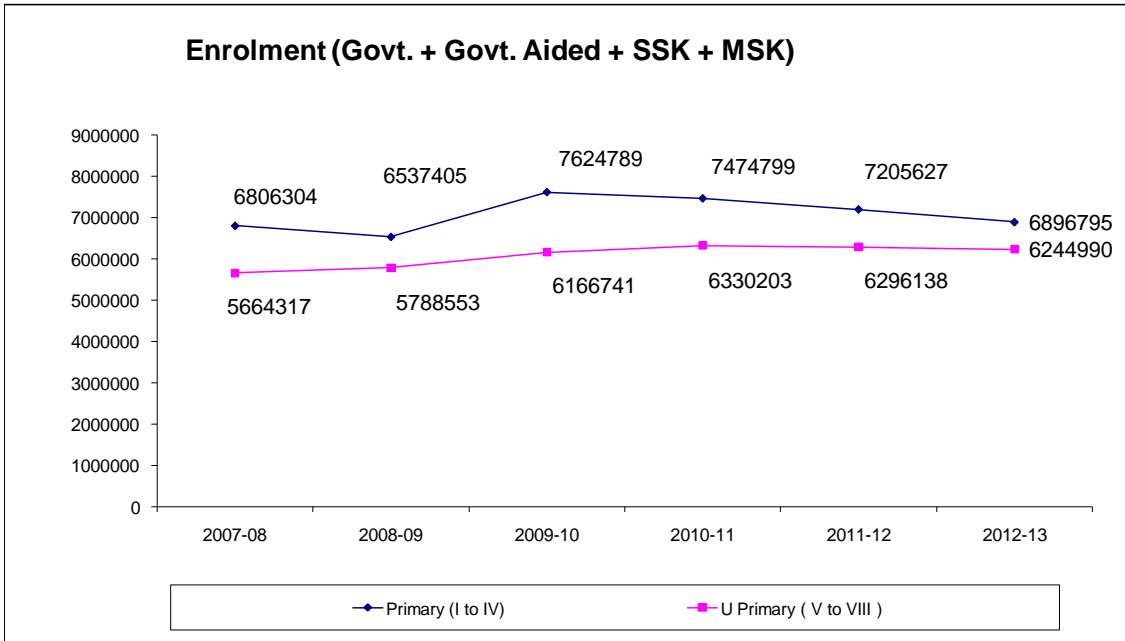
Source: Provisional UDISE as on 30th September 2012

Pupil Teacher Ratio



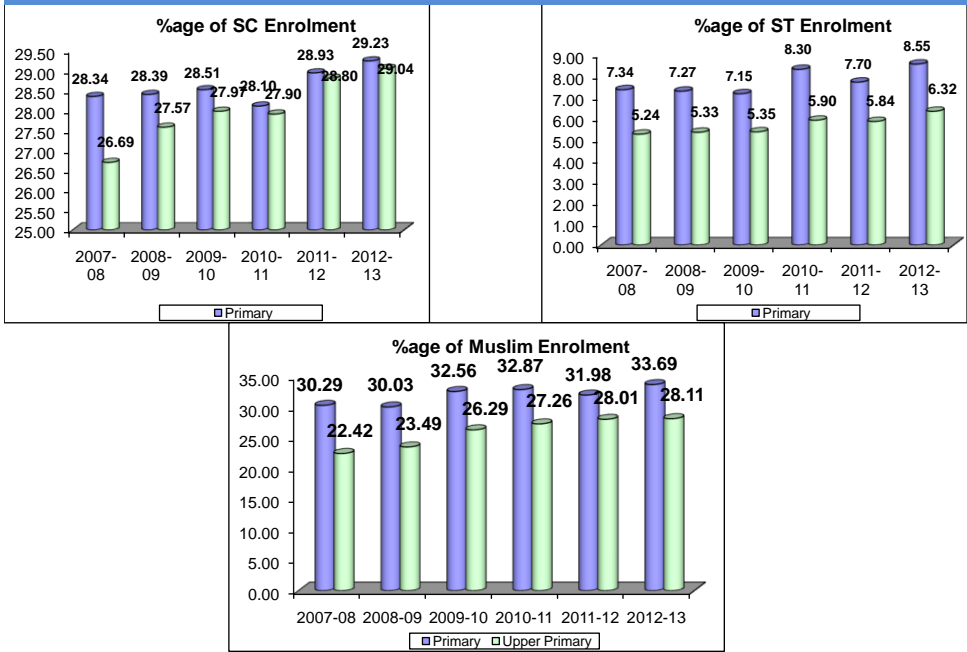
Source: Provisional UDISE as on 30th September 2012

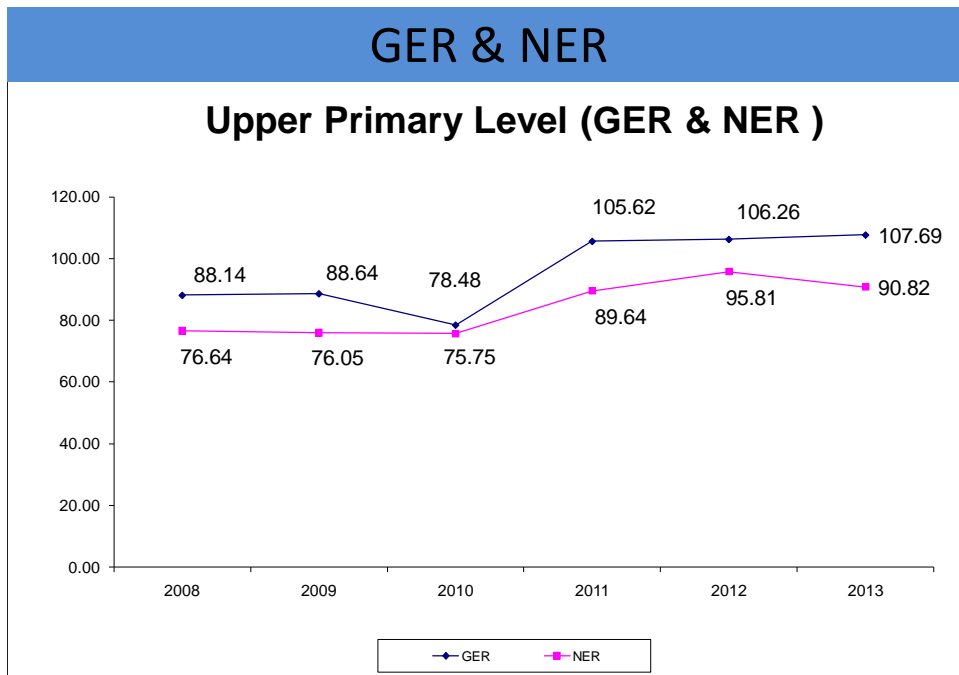
Enrolment Figures



Source: Provisional UDISE as on 30th September 2012

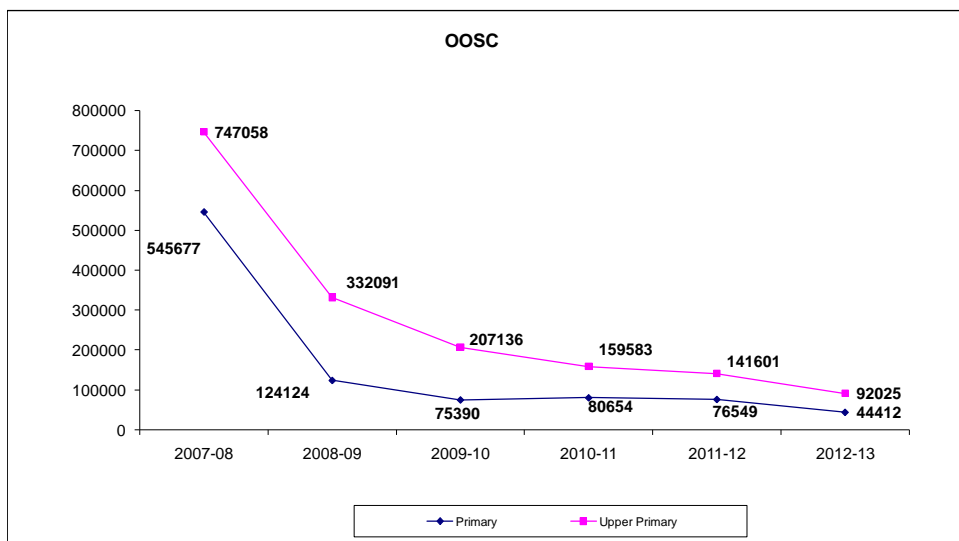
Enrolment Figures (SC,ST & Muslims)



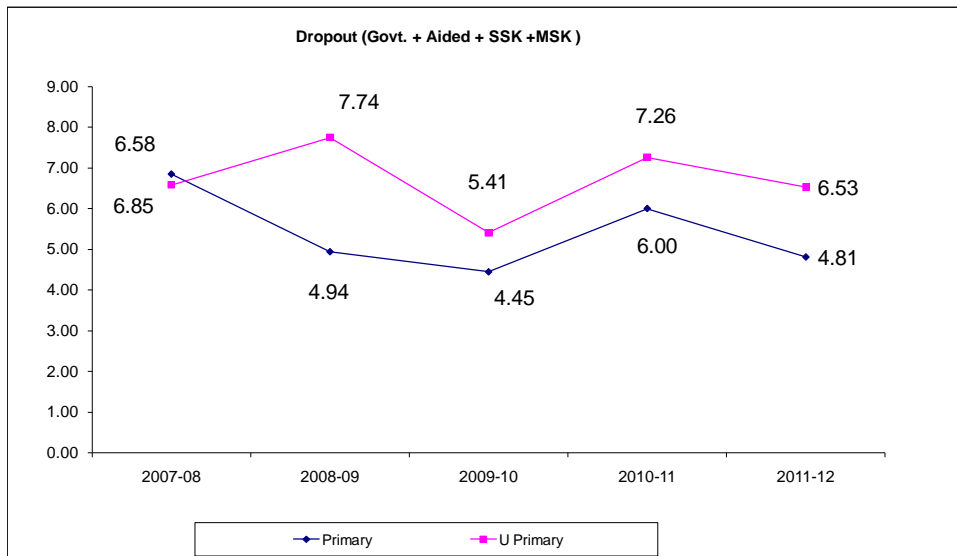


Source: Provisional UDISE as on 30th September 2012

Out of School Children



Drop Out Rate



Source: Provisional UDISE as on 30th September 2012

Ongoing Initiatives

The State Government in recent years has accelerated efforts so that the goal of universal elementary education is fulfilled in the State. Access to education has been improved so that there are now very few habitations without a primary school within 1 km and upper primary/ secondary school within 2 km. Out of school children have come down to less than 90000. Infrastructure in schools has improved tremendously over the last few years. Deficiencies of toilets, separate girl's toilets, drinking Water, additional class rooms and kitchen cum store for mid-day meal programme have been plugged in majority of schools in the State. The State is moving towards creating opportunities for all children to pursue Secondary and Higher Secondary Education. Over the last three years around 1500 Secondary schools have been upgraded to Higher Secondary. Junior High Schools are also being upgraded to Secondary Schools as needed.

Together with improving the infrastructure, the State is exerting to ensure that the quality of education imparted to the school children is enhanced. There has been a massive teacher recruitment drive and more than 46000 teachers have been recruited. All untrained teachers are being trained in Open Distance learning (ODL) mode so that they can gain the requisite qualifications and are equipped to teach well. The syllabus and curriculum have been revamped. New well illustrated and attractive books have been printed on good quality paper. These have been distributed free of cost to the children. Last year, the State Government initiated 'Utkarsha Abhijan' to carry out a learning achievement survey to know the learning levels of children.

Challenges and priorities for School Education in West Bengal

- Fill up the gaps in access to schools by children especially in very remote areas. Though considerable work has been done, there are pockets where access is to be ensured. For this, the uncovered habitations which often do not have a voice should be meticulously covered and the GIS Mapping should be relied upon.
- All 'Out of School' children have to be brought to schools. A convergence with local governing bodies, social welfare and police may be required to ensure this.
- Rationalisation of teachers in the primary and upper primary level is an urgent task which will ensure that the surplus teachers in urban areas are shifted to cover the deficiencies in rural and remote areas.
- There should be systems for regular monitoring of teacher's performance which does not exist now. Together with this, there should be a system of incentives for good teachers and disincentives for non performing teachers. A career-progression is needed so that teachers have promotional avenues to aspire for.
- Measurement of learning levels of children should be an annual exercise. This should be followed by corrective measures so that improvement can be achieved in succeeding years.
- There should be more use of computers and ICT in teaching and all children should have free access to computers.
- Considering the long time taken in teacher recruitments, the State may consider employing D.El.Ed and B.Ed graduates as intern-teachers for one year with a lump sum monthly remuneration.
- All Junior High Schools/ Upper Primary Schools should be upgraded to Secondary schools in a phased manner. Similarly primary schools should also be upgraded to upper primary schools wherever feasible
- At present the primary schools of the State are upto Class IV. The State may make all primary schools introduce Class V. This will need one additional classroom and one additional teacher.

- All schools in the same campus need to be brought under one management. Similarly all Government, Government Sponsored and Non-government aided schools may be converted to Government schools to remove confusion and disparity.
- It is seen that the performance of the students of the State in All India entrance exams like JEE Main, JEE Advance AIPMT, CLAT etc is not very good. The Government may consider aligning the syllabus with that of the entrance exams and also have a programme for special coaching of interested children especially in rural areas.

Interim Recommendations

Vision :

- Universal access to elementary education
- Universal access to secondary education
- 80% access to higher secondary education
- 20% find access to vocational education/ gainful employment after Class X and 40% after Class XII.
- West Bengal to be one of the top states in performance in JEE Main, JEE Advance, CLAT and All India Medical Exams.

Teaching/ learning:

- Shift from 'chalk & talk' to activity based teaching
- Shift from rote learning to learning by doing
- Shift from only academics to bringing out talent in multiple areas- sports, music, fine arts etc
- Develop leadership
- Less emphasis on completing syllabus and more on making sure that the child has learnt

Syllabi/ Curricula and Evaluation systems :

- Several countries have shelved a high stake single board exam and replaced it with opportunity of multiple attempts. This can be explored by the Boards.

- Inputs from CBSE and International curricula may be taken while framing the syllabi.
- The curriculum should lay stress on ability to analyse and solve rather than to memorise
- Subjects may be taught at Basic and Advanced levels in Classes IX-XII. A Basic level may be sufficient for majority of students whereas only interested students should go for advance level.
- A Credit system may be thought of in schools from Class VII onwards so that students can be given credits in various subjects which they take up.
- All schools must offer sufficient choice of subjects to students so that no student is forced to take up a subject he/ she is not interested in.

Linkage with industry/ preparing for employment

- Students who are so inclined should have the opportunity to learn for employment. Vocational options may be offered for such students
- Education to employability – development of communication, soft skills are needed to prepare students to take up employment after school.
- Systematic feedback from industry is needed so that the teaching and learning can improve the students and make them employable in the present economy
- IT skills are needed from a young age. Familiarity with computers and use of computers in learning should start by Class V.
- School campus interviews can be arranged for those seeking employment after class XII especially for the vocational subject students.
- Summer internship, co-op programmes etc are a great way to familiarise students with industry and enable them to get exposure and experience.

Reforms in Acts, Rules, Regulations, Institutions

- There is incredible complexity in the present system leading to numerous court cases. There is need to simplify Acts and Rules and have very few but well implemented laws and regulations.

- There is a need to simplify categories, institutions and types of Government support. There should be a single type of school under Government control instead of having Government, Government sponsored, Non-Government aided, SSKs and others. Similarly too many institutions with overlapping functions need to be replaced by fewer institutions with well-defined functions.
- HR policies for teachers are required. At present most teachers do not have any promotional avenue in their career. A system of incentives needs to be put in place to motivate teachers.
- To reduce multiplicity and overlap, the State may think of having one academic board, one teacher recruitment agency, one programme implementation wing and one teachers training body. All should work to achieve a common vision.

Practices and procedures

- Almost all processes and practices are mired in complexity. There should be a drive to reduce complexity.
- Incentives of teachers should be on performance and not qualification. At present higher scales are allowed upon completion of post-graduation. This may be based on performance and any qualification required for the position must be acquired prior to entering service.
- There are quite a few disincentives for performing better and no incentives for performing well. This should be addressed.
- A Welfare policy for teachers needs to be put in place.
- Quick redressal of grievances of citizens, students, guardians as well as teachers is required.
- Everyone must be accountable for results and this should be clearly defined at the beginning of each year.

Inputs from Higher Education Department

The State Government's commitment to improve the higher education sector is evident from the fact that it has increased the Plan budget of the Higher Education Department. From Rs. 200 crore in 2010-11, Plan allocation has risen to Rs. 343 crore in 2014-15. The non-Plan component too has risen from Rs. 1743.75 crore in 2010-11 to Rs. 2173.48 crore in 2014-15.

Further, to complement the State's infusion of public funds in the higher education sector, the State Government has brought out a Policy on Establishment of Private Universities in 2012 - 2013. The Policy encourages private sector participation in higher education by providing institutional procedures and safeguards which provide for a stable and consistent policy environment. The Policy balances the social obligation of providing high quality higher education with the private investor's motive of seeking a good return on his investment.

It is heartening to note that under this Policy, the State has set up three private Universities already. These are: Techno India University, Seacom Skills University and the ADAMAS University. These are valuable additions to the higher education system as several thousands of seats have been created without the State having to provide even a single penny. Private universities are expected to lead to a reversal in the annual out-migration of students to other States as also free up the seats in Government-funded institutions for other students who cannot afford privately funded education.

The State is currently witnessing its largest single expansion in higher education. Twenty eight Government Degree Colleges are being set up in the under-served parts of the State. Two Government Engineering and Technology Colleges are under construction.

In a short period of thirty six months, the State Government has set up four new State-aided Universities. These are:

- a) Cooch Behar Panchanan Barma University (commenced academic operations in 2013-14);
- b) Kazi Nazrul University, Asansol (commenced academic operations in 2013-14);
- c) Diamond Harbour Women's University (operations commencing in 2014-15);
- d) Bankura University (operations commencing from 2014-15).

The State Government's seriousness is also evident from the way in which it is going about filling up vacant posts in colleges and universities. The West Bengal Public Service Commission is currently recruiting 726 Assistant Professors while the West Bengal College Service Commission is recruiting Assistant Professors and Librarians for 2,000 vacant posts. Most of these freshly recruited teachers are expected to join service during the Academic Year 2014-15, and thereby help improve the quality of education.

The push for improving the quality of higher education is also evident from the number of teaching and non-teaching posts being created in the Universities and Colleges. This was a long-pending issue and one which was impacting the administrative and quality aspects of higher education. During the years 2011-12 and 2013-14, the Higher Education Department has created a large number of teaching posts and non-teaching posts, as described below:

In Government Colleges: 449

In Government –aided Colleges: 206

In State-aided Universities: 873

The reservation of seats in higher education for students belonging to the Other Backward Classes (OBCs) is a commendable step taken by the Government. Through a forward looking legislation, the State has reserved 22% seats for SCs, 6% for STs and 10% for OBC Category A and 7% for OBC Category B students in higher education institutions. The reservation for OBC students is to be achieved over a six year period starting from 2014-15, through the creation of additional infrastructure. This will ensure that the reservation of seats for OBC students does not lead to a reduction in the number of seats available for the general category students.

Challenges and Priorities for the Higher Education System

Expand the number of higher education institutions, especially in the under-served areas of the State. This would mean setting up new colleges and universities based on a thorough study of 'demand' and other objective criteria such as the number of students passing out of higher secondary schools in an area, etc.

Improve the physical infrastructure of existing institutions through infusion of funds. There are colleges, especially in the rural areas, which have more than three or four thousand students on their rolls but do not have the physical infrastructure to

accommodate them. This has implications on daily attendance and the quality of teaching.

Create adequate number of teaching and non-teaching posts in the institutions to arrive at a healthy Pupil Teacher Ratio (PTR). West Bengal's current PTR is 43:1 as against the national PTR of 24:1. Though this has major financial implications for the State, the teacher is unquestionably the nucleus of the education system, around which everything else revolves.

Fill up existing vacancies among teaching and non-teaching staff in the universities and colleges, particularly the posts of Principal in Government-aided colleges. More than two hundred posts of Principal in Government-aided colleges are vacant across the State. This is adversely impacting the administration of these institutions. The lack of the top executive functionary in so many Government-aided colleges is a serious governance issue.

Improve academic standards by ensuring attendance of both teachers and students. To bring in more accountability and transparency on the campuses, consider installing CCTV cameras at the major points. Also, for improving the attendance of teaching and non-teaching staff, consider introduction of biometric systems in colleges and universities.

Revise / update the curricula and syllabi to match them with the current times and the needs of a knowledge economy. Some institutions such as the Presidency University have made a start in this sphere. This needs to be replicated in all universities.

Governance reforms in higher education institutions is the need of the hour. All officials of the Universities and colleges in administrative posts (VC, Registrar, Finance Officer, Controller of Exams, Inspector of Colleges, Development Officer, College Principals, Bursars, etc.) need to be trained before joining their assignments. They also need to be put through periodic in-service training programmes to brush up their administrative skills. To do this, the Academic Staff Colleges of the Calcutta University, Jadavpur University and Burdwan University can be augmented for capacity building. Their motto should be to bring out calendars for training academic administrators and its implementation throughout the year.

Harness the power of modern technology, especially I.T. and I.T.e.S. to both expand the reach of education and to improve its quality. Provide the electronic hardware to start virtual classrooms so that physical distances do not remain a constraint between a teacher and his students. This will need a State-wide plan for **providing internet connectivity to all educational institutions**; different technology solutions can be approached - from underground fibre optics cables to wireless connectivity. Since each Block in the State has already got fibre cable connectivity, what needs to be attempted is connecting the educational institutions also. The techno commercial feasibility and technology solutions available need to be examined. The Higher Education institutions could also take advantage of the centrally-funded National Knowledge Network (NKN) initiative of the Ministry of Human resource Development. The scheme, which had been languishing due to, inter alia, slow progress by the implementing agency BSNL, is reportedly being revitalized by the Union Government and sufficient flexibility is expected to be given to the States in implementation.

Mandatory accreditation of higher education institutions. The UGC has notified a scheme under which all higher education institutions have to mandatorily get accredited by 2017-18 failing which Central funding would not be available. Current data available on the website of the National Assessment and Accreditation Council (NAAC) under UGC shows that as many 287 HEIs have got NAAC accreditation. Clearly, NAAC is over-burdened presently; requests for inspection by the State's HEIs take long to be responded to. The Union Government had moved a Bill on constituting a National Assessment and Regulatory Authority (NARA) some time back but that law has yet to see the light of day. There is some lack of clarity whether the States can set up their own accreditation councils although MHRD has talked about that possibility. The West Bengal State Council of Higher Education is in advanced talks with the National Board of Accreditation (NBA) for entering into a Memorandum of Understanding (MoU) under which WBSCHE could function as an accrediting agency for professional colleges in Eastern India. However, the policy issues still need to be clarified by the Government of India before any further progress can be made on this front. In the meanwhile, more and more HEIs in the State need to be encouraged to apply for accreditation under the present system (NAAC / NBA, etc.).

Vocationalisation of Higher Education needs to be encouraged. The UGC-funded Community College Scheme has been introduced in six Government-aided

colleges under which Diploma / Certificate courses are being offered in courses which have an employment potential, such as ICT in commercial practices, media studies, tourism management, community service extension, ITeS, etc. These courses are available to the regular under-graduate students as well as others who wish to enroll. This process needs to be replicated in more and more HEIs to increase the employability quotient of the students.

Enhance the reach of library services available to the HEIs, especially those located in the rural areas, by linking public libraries to the HEIs in the vicinity. There is a huge network of 2418 libraries in the State under the Department of Mass Education Extension and Library Services (DMEELS). This will ensure better utilisation of the State's existing library resources and also provide students greater access to books and learning material.

Provide digital connectivity the libraries under DMEELS to enable them to access the huge amount of digitized reading and learning material available through the internet. The nature of libraries, as also the nature of books and learning material, are changing rapidly; books are now available in soft versions. A large amount of high quality learning material is available at a nominal cost; even free of cost. It is heartening to note that DMEELS has made a start in this direction: it has connected many libraries through an optical fibre link and has started the process of digitizing books at the State Central Library, and this material is being uploaded for free access to users. This process needs to be accelerated as it provides the scope for providing knowledge and learning to any seeker, even outside the class room.

Encourage Open & Distance Learning (ODL) mode as a means of expanding the reach of higher education. For the State to increase its GER from 17.5 to 25 by 2020, substantial attendant financial implications will be entailed for creation of additional infrastructure. One way of cost-effectively catering to this requirement is to enroll more students under the ODL mode. The Netaji Subhas Open University (NSOU) is already conducting seventy six courses involving many students. NSOU needs to expand its operations to be able to cover more students under ODL mode.

Simultaneously, **NSOU also needs to update its syllabi, course curriculum and content.** It is encouraging to see that NSOU's course content in B.Ed. through ODL mode has been updated; a similar process for other courses too needs to be taken up.

Where feasible, **utilize the existing infrastructure of the public libraries (State-funded or State-supported) under DMEELS as NSOU's learning centres.** This would be particularly useful in addressing the problem of shortage of learning centres faced by NSOU. While the State Government has allotted land to NSOU for opening regional centres at New Town, Durgapur and Jalpaiguri and construction is expected to commence shortly, the step suggested here will increase the reach of NSOU exponentially.

The Justice Verma Commission has recommended, *inter alia*, that **the subject of teacher training be brought under the State's Higher Education Department.** Currently, there are a plethora of institutions / agencies involved in teacher training spread over different Departments. In West Bengal, for example, while the DIETs and Primary Teacher Training Institutes (PTTIs) are under the School Education Department, the B.Ed. and M.Ed. Degree programmes being run by the Universities and B.Ed. colleges are under the Higher Education Department. There has been a profusion of self-financing B.Ed. Colleges in the State over the last couple of years. Today, the figure stands at 242, up from 135 in 2012. This indicates a very high demand for the B. Ed. Programme, primarily due to the mandate of the Right to Education Act, which requires that every teacher in elementary education would have to be trained latest by 31 March 2015. This has led to a rush, especially among the in-service untrained teachers to acquire the requisite qualification within the specified deadline. Even for fresh candidates, desirous of taking up school teaching, the B.Ed. programme has highly in demand.

However, this sudden increase in the number of private / self-financed B.Ed. colleges has raised major governance issues with regard to disparity in admission norms, teaching standards, fee structure, etc. Currently, these B. Ed. Colleges obtain affiliation from the respective universities as per the guidelines of the National Council of Teacher Education (NCTE). It would be desirable to bring all these colleges under the administrative control of a single university, which would regulate the functioning of these colleges as well as provide academic programmes at the UG, PG and post-PG levels in the field of teacher training.

Hence, it is suggested that **a State University for Teacher Training and Education Administration be set up by the State Government.** There is already a precedent available in the West Bengal University of Technology (WBUT) under whose regulatory and supervisory umbrella all Engineering, Technology and

Professional colleges were brought. Today, all self-financing institutions offering professional courses in engineering, technology and management are affiliated to WBUT, thus making for certain uniformity among them.

Considering the fact that there are as many as 3.5 lakh posts of school teachers in the State, and hence teaching profession will continue to attract a large number of job seekers, the financial cost of setting up of such a University would be justified. Besides, costs could be substantially reduced if an existing Government College for Teacher Training could be upgraded into the proposed University, akin to what was done in respect of the Presidency College when it got converted into the Presidency University. Such a transition would make the proposed university see the light of day within a year or so and also impose a relatively smaller financial burden on the State.

As regards **the issue of autonomy**, HEIs in the State already enjoy a high degree of autonomy. The Universities are run by their respective Courts and Syndicates / Executive Councils and there is no interference from the State. The Government-aided colleges too are primarily run by their respective Governing Boards and are quite independent of the Government's control. However, over the years, autonomy has been misinterpreted to mean a lack of supervisory control and monitoring oversight by the Government. Autonomy has to be combined with better administrative cohesion with the Higher Education Department. Close interaction and monitoring are vital requirements especially when the State is working in a mission mode to implement specific targets in higher education. Hence, while autonomy is necessary in academic matters and internal functioning of the HEIs, closer integration with the Higher Education Department is desirable in terms of regular monitoring of the utilization of funds and for ensuring accountability of the university and college managements.

The **West Bengal State Council of Higher Education** was among the first such bodies to be set up in the country. Today, of course, all States participating under the Rashtriya Uchchatar Shiksha Abhiyan (RUSA) are required to set up such a body. The WBSCHE suffers from a lack of infrastructure, starting from inadequate office space. The large role envisaged for the Council under RUSA will require staff augmentation as also larger office space. It is heartening to note that the Government is already in the process of bringing in a legislation for this purpose, so that the Council can robustly meet the challenges ahead.

A similar infrastructural upgradation and modernisation would also be necessary for the **West Bengal College Service Commission**. The Commission is currently engaged in recruiting some 2,000 Assistant Professors in Government-aided Colleges, and going by the rapid expansion in the higher education institutions, is likely to be busy in the years ahead. The task ahead is to recruit some 200 Principals in the Government-aided colleges. Considering its increasing work load, a larger work space is the need of the hour as also making use of IT and ITeS in its functioning, including the conduct of examinations.

Inputs from Department of Technical Education & Training

TVET (Technical Vocational Education & Training) system in India covers education and training from grade VIII onwards. Technical refers to post higher secondary qualification whereas vocational refers to courses offered in grades IX & XII, and Industrial or Vocational training has a minimum qualification requirement between grades VIII to X depending on the requirement. Apart from the Ministry of Labour & Employment (MoLE), there are seventeen other Ministries, e.g. Ministry of Tourism, Micro, Small and Medium Enterprises which also offer various types of vocational education and training.

West Bengal's overall Literacy rate of 77.08% (Census 2011) is better than the national average of 74.08% with a 68.11% of rural population vis-à-vis 68.84% as that of the nation's. West Bengal's population is 9.13cr which accounts for 7.55% of the Indian population. Of this, 7 lakhs per year do not join any form of higher education. More than 40% of the employment is in agriculture and allied services and more than 90% of the population is in the informal sector. In 2009-10, 70% of all reported vocational trainings were through non-formal means and 10-11% of youth took or received any form of vocational training whether formal or non-formal.

There are 2 types of skill education institutions in West Bengal – Institutional which comprises of ITI's, Polytechnics and SDCs (Skill Development Centre); and Non Institutional which comprises of SDIS (Skill Development Initiative Scheme), School based and community college based. West Bengal is placed amongst the bottom 3 states with Manipur and Assam when ITI seat capacity of per lakh population is considered. It also produces significantly fewer diploma graduates of 0.4% when compared to India's 1.3%. In the 12th Five Year Plan (2012-17), Skill Development Mission has been approved as one of the 66 CSS (Centrally Sponsored Schemes) by the GOI with a mandate of skilling and certification of 50 million individuals.

There are a number of challenges that TVET sector faces in West Bengal for Institutional and Non-Institutional sectors. Some of the challenges in Institutional sector are – Challenges of numbers, uniformity, quality, mismatch between industry's skill set requirement and training imparted, challenge of quantity & quality of trainers, employability, etc. There are some major policy decisions which were taken like setting up of one ITI in all 341 blocks in 12th five year plan with the increase in intake capacity of 75000, mapping a convergence process for existing skill training programmes of various Government departments of the State, Establishing one polytechnic in each of 66 sub-divisions and West Bengal Skill Development Mission chaired by the Hon'ble Chief Minister undertaking the task of skilling suitable numbers of youth per year and raising the bar every year. A special drive has been taken since 2011 for both ITI's

and Polytechnic institutions. The major ones are - By 2015 March 82 more ITIs become functional in the Government Sector with a total training potential of about 28,000 in the Government Sector; and 42 more Polytechnic Institutions to become functional with total training potential of 21,750 in the Government Sector. The Institutional capacity would go up to 90,000. The Non Institutional sector comprises Vocational Training Centres (VTCs), and Vocational Training Providers (VTPs). There are currently 2535 functional Vocational Training Centres (VTCs) and 530 Vocational Training Providers (VTPs). Also there are 13 Community Colleges that are being set up in the state.

In order to overcome the challenges in the ITI sector there needs to be a paradigm shift regarding the focus from a conventional Institutional Technical education to a mix of Institutional technical educational and Non Institutional skill development. This would also need to provide a mechanism to bridge the divide between industry requirements and training imparted. For the Non-institutional sector a dual implementation strategy needs to be undertaken, which is - to reorganise and reorient existing setup and Institutional arrangement for Skill Development. Some steps to be undertaken to reorganise and reorient existing step up are - Merging existing Directorates for better coordination, reorienting the functioning of ITIs and Polytechnics and each ITIs/ Polytechnics to have a "Sector in Focus"; and for Institutional arrangement for skill development - West Bengal State Skill Development Mission (WBSDM) and Paschim Banga Society for Skills Development (PBSSD).

Currently a dynamic employment bank is being created in the state with cooperation among three government departments – MSME, technical education and labour. It is envisaged to develop the state as the skill capital of India.

Education System Models in Oman, Saudi Arabia and Iran

Education System in Oman

Since the early 1970's when Oman's Renaissance began, a major concern of His Majesty Sultan Qaboos bin Said has been to provide Education for all. His Majesty's commitment to Education is illustrated by this famous statement: "Let there be learning, even under the shade of trees". Education in Oman is provided free of charge up to the end of secondary education, though attendance is not mandatory at any level.

Pre-School Education

Pre-school education is provided to children less than 10 years old. It is offered by the private sector and some public organisations. Supervision is the responsibility of the Ministry of Education and the Ministry of Social Affairs. Nursery enrolment is very limited and estimated to be only 1%. Kindergarten is available mostly in large cities and enrolment is estimated to be 15%. Attendance usually extends from 8:00 a.m. to 12:30 p.m., the teacher being free to organise this period as she deems appropriate between school learning and artistic and leisure activities.

Basic Education

In 1997, the ministry began development work on a Basic Education programme to gradually replace the three level General Education system. The aim of the reform is to create a unified system covering the first ten years of schooling. Basic Education is organised into two cycles: the first cycle covers grades I to IV and the second cycle covers grades V to X. These two cycles are followed by two years of post-Basic Education system (secondary education).

Higher Education

In January 1994, Royal Decree separated the Ministry of Higher Education (MoHE) from the Ministry of Education; and gave the MoHE an independent mandate and a new organisational structure. It was at this time that six Colleges of Education under the jurisdiction of the MoHE were converted into Colleges of Education offering Bachelor degrees in Education. In the academic year 2005-06, and consistent with the planning imperatives of the MoHE, the Teacher Training Colleges were converted into degree granting Colleges of Applied Sciences. The number of private universities and colleges in the Sultanate has increased dramatically over the past decade, and now stands at twenty-six. There has also been a substantial increase in the number of scholarships awarded to students to study in-country, as well as abroad.

Education System in Saudi Arabia

The education system in Saudi Arabia is primarily under the jurisdiction of the Ministry of Education, the Ministry of Higher Education and the General Organization for Technical Education and Vocational Training. The Ministry of Education, however, is responsible for boys' education all over the country at most levels: elementary and intermediate general education, as well as secondary general and vocational education (the latter being divided into technical, commercial and agricultural schools). In addition, the Ministry is responsible for adult education, both in the field of eradicating illiteracy and in providing continuing education. The numerous junior colleges, male-teacher colleges and post-secondary technical schools also belong to the Ministry of Education, which supervises all private schools in the country as well. Private schools exist mainly in the larger cities. They basically teach the same curriculum and use the same books that are used in the public sector.

Until recently girls' education was a separate endeavour, under the General Presidency of Girls' Education. It was always linked to the Ministry of Education since the curriculum was the same. In March 2002, the General Presidency was fully merged into the Ministry of Education. Within the Ministry, the General Presidency is also responsible for girls' junior colleges, for female-teacher colleges throughout the Kingdom, and for nurseries and kindergartens where children of both sexes are taught together. Women's literacy programmes also fall under its supervision. It should be noted that female students are educated in separate branches of Saudi universities.

Pre-Primary Education

In Saudi Arabia, children aged 3–5 years go to kindergarten. However, attendance of kindergartens is not a prerequisite for enrolment of first grade of primary education and kindergartens are not part of the official education ladder. Some private nurseries have been established with technical and financial aid from the government.

Primary Education

In Saudi Arabia, children aged 3–5 years go to kindergarten. However, attendance of kindergartens is not a prerequisite for enrolment of first grade of primary education and kindergartens are not part of the official education ladder. Some private nurseries have been established with technical and financial aid from the government. According to UNESCO, the gross enrolment ratio for boys is 99.9%, gross enrolment ratio for girls is 96.3%, and the total gross enrollment ratio is 98.1% in 2007.

Secondary Education

Secondary education in Saudi Arabia lasts three years and this is the final stage of general education. After the intermediate education, students have the opportunity for both general and specialized secondary education. Technical secondary institute which provide technical and vocational education and training programmes lasts three years in the fields of industry, commerce and agriculture. As of 2007, gross enrollment rates are 91.8% in secondary education.

Higher Education

Higher education in Saudi Arabia lasts four years in the field of humanities and social sciences and five to six years in the field of medicine, engineering and pharmacy. In 2005, King Abdullah implemented a government scholarship programme to send young Saudi nationals to Western universities for undergraduate and postgraduate studies. The programme offers funds for tuition and living expenses for up to four years.

Education System in Iran

The education system in Iran is basically divided into five cycles namely, pre-school, primary, middle (or guidance), secondary and post-secondary. Elementary education is mandatory under the Iranian constitution but, due to increasing number of applicants, admission to post-secondary institutions is through a nation-wide entrance examination and thus only the most talented students can enter universities. In general, education (in primary, secondary, and post-secondary levels) is free of charge though private schools and universities authorised by law are allowed to charge tuition fees.

School Education System

The school system is under the jurisdiction of the Ministry of Education and Training. In addition to schools, this Ministry also has responsibility for some teacher training and some technical institutes. The structure of the educational system under this Ministry is divided into the following cycles:

Pre-school Education cycle - A one year programme for children five years old in which they receive the basic notions needed to enter primary schools. There is no examination at the end of this cycle and children proceed automatically to the following cycle.

Primary Education cycle - The five year primary cycle covers grades I- V for children 6 to 11 years old. This phase is both free and compulsory. Students take exams at the end of each year on which their promotion to the following grade is based. At the end of the grade V, students take a nation-wide examination. Those who pass the exam are qualified to proceed to the next cycle.

Middle (Guidance) Cycle - This cycle covers grades VI to VIII for children 11 to 13 years old. Like the preceding cycle, this cycle also provides students with general education. In this phase, the abilities as well as the interests of students are recognized, so they become prepared to decide which branch (academic or technical/vocational) they intend to choose in the next cycle. At the end of guidance cycle, students take a regional examination under the supervision of provincial boards of education. Those who pass the examination are eligible to proceed to the next cycle i.e., secondary cycle.

Secondary Education cycle - This is a four year stage which covers grade IX to Grade XII, from age 14 to 17. Secondary education is divided into two main branches namely, academic/general and technical/vocational. The choice of either branch is up to pupils themselves. The academic branch, also known as the "theoretical branch" is divided into four mainstreams namely, literature and culture, socio-economic, physics-mathematics, and finally experimental sciences. The technical/vocational branch is particularly designed to train technicians for the labor market. This branch covers three mainstreams namely, technical, business/vocational, and agriculture. There are specific subject and performance requirements for admission to some secondary programmes. National examinations are conducted at the end of each grade during the secondary cycle.

Higher Education

The two Ministries responsible for most post-secondary education are the Ministry of Culture and Higher Education (MCHE) and Ministry of Health and Medical Education (MHME). One thing that has not changed since the Islamic Revolution is that admission to university remains extremely competitive and thus very difficult. Although all universities work with full capacity, demand for post-secondary education still far exceeds supply. The main branches currently offered in the Iranian universities comprise Natural and Basic Sciences, Humanities, Medical and Health Sciences, Arts and Literature, Engineering, and Agriculture. The highest number of students, 25.5%, was found in engineering branches. The admission is based on the results of National Entrance Examination (KONKUR).

Inputs from Agastya Foundation

Mr. Ajith Basu, Chief Programme Executive of Agastya Foundation was invited by the Commission to present Agastya's contribution to Karnataka and other States' Education Sector. Agastya International Foundation (1999) is an Indian education trust and non-profit organisation based in Bangalore, whose mission is to spark curiosity, nurture creativity and build confidence among economically disadvantaged children and teachers in rural India. It runs hands-on science education programmes in rural and semi-urban regions across 12 Indian states. By making practical, hands-on science education accessible to rural government schools, Agastya aims to transform and stimulate the thinking of underprivileged children and teachers. It streams its vision and mission through a variety of innovative methods and channels including a Creativity Lab located on a 172-acre campus near Bangalore, 80 Mobile Science Labs (Vans) and 29 Science Centres. It has implemented programmes for over 1 million children (50% girls) and 500 teachers from vulnerable and economically disadvantaged communities. Currently Govt. of Karnataka has asked Agastya to build 5 campuses to create hands-on Science Education Eco System.

The main problems that Agastya deals with are:

- Lack of School Labs and access to quality education
- Lack of hands-on methods of teaching and learning
- Rote-based learning discouraging creativity and problem solving
- Uninspired students

It takes Agastya 3 interactions (1 interaction is a full 1 day exposure) to create a basic awareness in a child. It instills a certain level of curiosity in the child which acts as the main catalyst for further development. The target is to create leadership qualities in the child which would enable the child to interact with his/her peers and imbibe creativity skills.

Agastya also has Lab on a Bike and Lab in a Box programmes to reach remote locations where a van may not be accessible. These boxes are left in a school for two weeks for the teachers to do a follow-up programme. A full set of boxes cost about 1.5 lakhs which consist of 11 boxes. The main challenge here being the distribution system and training of the school teachers. A mobile bike costs around 4.5 lakhs and a mobile van costs around 22 lakhs, including capital and operational expenditures. Agastya was mentioned in the National Knowledge Commission report. The organisational revenue model of Agastya works on a partnership

between their benefactors and the State government. The entire capital expenditure is mainly funded by the government and the basic operational and day to day administration costs are borne by the benefactors. Agastya has started work also in Punjab and Bihar.

Bengal being very rich in Art & Craft, the Commission agreed that a Mobile Art Labs capable of reaching the interiors of Bengal disseminating skills related to this field is recommendable. Specific art centers need to be mapped where natural artisans exist and practise art that has commercial implication and economic viability. Dr. Debasish Bandyopadhyay mentioned that under the MSME Cluster Development Programme, around 10 craft centers have already been mapped.

Mr. Basu of Agastya was asked to submit a comprehensive plan and budget estimate to execute the entire eco-system as per Agastya's terms. Moreover, he was requested to submit a proposal in conjunction with Ramakrishna Mission for replicating the mobile laboratory model that has been successfully implemented in many States of India. Time lines would be around 2 weeks to prepare the preliminary concept and 4 weeks henceforth to work with the RKA. Thus, a concretised proposal could be ready within 6 weeks.

While the mobile lab initiative of Agastya could be followed up, some of the existing infrastructure could be suitably upgraded and/or re-oriented to provide hands-on training in identified areas of science. In this context he was further asked to submit a plan/ proposal for the creation of an Eco study laboratory/observatory at Eco park, Rajarhat, New Town, where students may undertake specific ecological studies. This might be taken up in a pilot mode and depending on success, the model would be appropriately replicated elsewhere in the state.

List of suggested Vocational Courses

Sl. No.	Sector	Course	Duration of Training (hours)
1	Plastic Processing	Machine Operator Blow Moulding	480
2	Plastic Processing	Machine Operator Extrusion Process	480
3	Plastic Processing	Machine Operator Injection Moulding	480
4	Plastic Processing	Plastic Processing Machine Maintenance	480
5	Construction	Junior Land Surveyor	500
6	Construction	Senior Land Surveyor	500
7	Construction	Assistant Works Supervisor	500
8	Construction	Plumber	500
9	Garment Making	Fashion Design Technology	1040
10	Garment Making	Apparel Finisher & Checker	360
11	Garment Making	Apparel Manufacturing Technologies	1040
12	Garment Making	Germents Construction Techniques	410
13	Garment Making	Industrial Swing Machine Operation (Basic & Advance)	360
14	Garment Making	Productuion Supervision & Quality Control	520
15	Hospitality	Cook (General)	520
16	Hospitality	Food & Beverages Service	544
17	Hospitality	Front Office Cum Receptionist	520
18	Hospitality	Housekeeper	520
19	Industrial Electrical	Electrician Industrial	700
20	Electrical	Electrical Winder	600
21	Electrical	Electrician Domestic	600
22	Fabrication	Arc & Gas Welder	700
23	Fabrication	Sheet Metal Workers (Panels, Cabinets & Ducts)	500
24	Fabrication	Tig Welder	300
25	Beauty Culture & Hair	Integrated Course In Hair, Skin And Make-Up	650
26	Medical And Nursing	Bedside Assistant	450
27	Medical And Nursing	Dresser	270
28	Medical And Nursing	Nursing Aides	400
29	Security	Security Guard(General)	300
30	Information And Communication Technology	Computer Hardware Assistant	500
31	Information And Communication Technology	Computer Network Assistant	500
32	Information And Communication Technology	Web Designing And Publishing Assistant	1000

West Bengal MP list for access to MP Lad fund

S.no	District	MP	Party
1	Alipurduars	DASRATH TIRKEY	AITC
2	Arambagh	APARUPA PODDAR (AFRIN ALI)	AITC
3	Asansol	BABUL SUPRIYA BARAL (BABUL SUPRIYO)	BJP
4	Baharampur	ADHIR RANJAN CHOWDHURY	INC
5	Balurghat	ARPITA GHOSH	AITC
6	Bangaon	KAPIL KRISHNA THAKUR	AITC
7	Bankura	SREEMATI DEV VARMA (MOON MOON SEN)	AITC
8	Barasat	DR. KAKALI GHOSHDESTIDAR	AITC
9	Bardhaman Purba	SUNIL KUMAR MONDAL	AITC
10	Bardhaman-Durgapur	DR. MAMTAZ SANGHAMITA	AITC
11	Barrackpur	DINESH TRIVEDI	AITC
12	Basirhat	IDRIS ALI	AITC
13	Birbhum	SATABDI ROY	AITC
14	Bishnupur	SAUMITRA KHAN	AITC
15	Bolpur	ANUPAM HAZRA	AITC
16	Coochbehar	RENUKA SINHA	AITC
17	Darjeeling	S.S. AHLUWALIA	BJP
18	Diamond Harbour	ABHISHEK BANERJEE	AITC
19	Dum Dum	SAUGATA ROY	AITC
20	Ghatal	DEEPAK ADHIKARI (DEV)	AITC
21	Hooghly	DR. RATNA DE (NAG)	AITC
22	Howrah	PRASUN BANERJEE	AITC
23	Jadavpur	SUGATA BOSE	AITC
24	Jalpaiguri	BIJOY CHANDRA BARMAN	AITC
25	Jangipur	ABHIJIT MUKHERJEE	INC
26	Jaynagar	PRATIMA MONDAL	AITC
27	Jhargram	UMA SAREN	AITC
28	Kanathi	SISIR KUMAR ADHIKARI	AITC
29	Kolkata Dakshin	SUBRATA BAKSHI	AITC

S.no	District	MP	Party
30	Kolkata Uttar	SUDIP BANDYOPADHYAY	AITC
31	Krishnanagar	TAPAS PAUL	AITC
32	Maldaha Dakshin	ABU HASEM KHAN CHOWDHURY	INC
33	Maldaha Uttar	MAUSAM NOOR	INC
34	Mathurapur	CHOUHDURY MOHAN JATUA	AITC
35	Medinipur	SANDHYA ROY	AITC
36	Murshidabad	BADARUDDOZA KHAN	CPI(M)
37	Purulia	DR. MRIGANKA MAHATO	AITC
38	Raiganj	MD. SALIM	CPI(M)
39	Ranaghat	TAPAS MANDAL	AITC
40	Serampore	KALYAN BANERJEE	AITC
41	Tamluk	SUVENDU ADHIKARI	AITC
42	Uluberia	SULTAN AHMED	AITC

Source: loksabha.nic.in/rsnew/official_sites/statelegis.asp

West Bengal MLA List for access to MLA Lad fund

S.No	MLA	District
1	Shri.Swapan Bouri	Bankura
2	Shri.Subhasis Batabyal	Bankura
3	Smt.Debalina Hembram	Bankura
4	Shri.Upen Kisku	Bankura
5	Shri. Manoranjan Patra	Bankura
6	Shri.Kashinath Mishra	Bankura
7	Shri.Asutosh Mukherjee	Bankura
8	Shri.Arup Kumar Khan	Bankura
9	Shri.Shyama Prasad Mukherjee	Bankura
10	Shri.Soumitra Khan	Bankura
11	Shri.Gurupada Mete	Bankura
12	Smt. Dipali Saha	Bankura
13	Shri.Nabin Chandra Bag	Barddhaman
14	Shri.Rabiranjan Chattopadhyay	Barddhaman
15	Shri.Basudeb Khan	Barddhaman
16	Shri.Ujjal Pramanick	Barddhaman
17	Md Hedayatullah Chowdhury	Barddhaman
18	Shri.Biswajit Kundu	Barddhaman
19	Shri.Prof Abul Hasem Mondal	Barddhaman
20	Mrs. Aparna Saha	Barddhaman
21	Shri.Banamali Hazra	Barddhaman
22	Shri.Swapan Debnath	Barddhaman
23	Shri.Tapan Chatterjee	Barddhaman
24	Shri. Rabindranath Chatterjee	Barddhaman
25	Sekh Sahonawez	Barddhaman
26	Shri.Sahajahan Choudhury	Barddhaman
27	Shri.Basudev Mete	Barddhaman
28	Shri.Sunil Kumar Mondal	Barddhaman
29	Shri.Gouranga Chatterjee	Barddhaman
30	Shri.Dr. Nikhil Kumar Banerjee	Barddhaman
31	Shri.Apurba Mukherjee	Barddhaman
32	Md Sohrab Ali	Barddhaman
33	Jahanara Khan	Barddhaman
34	Shri.Tapas Banerjee	Barddhaman
35	Shri.Moloy Ghatak	Barddhaman
36	Shri.Ujjal Chatterjee	Barddhaman
37	Shri.Bidhan Upadhyay	Barddhaman
38	Shri.Bijoy Bagdi	Birbhum

S.No	MLA	District
39	Shri.Swapan Kanti Ghosh	Birbhum
40	Shri.Chandra Nath Sinha	Birbhum
41	Shri.Gadadhar Hazra	Birbhum
42	Shri.Monirul Islam	Birbhum
43	Shri.Dhiren Bagdi	Birbhum
44	Shri.Asok Ray	Birbhum
45	Shri.Asish Banerjee	Birbhum
46	Shri.Asit Kumar Mal	Birbhum
47	Shri.Abhijit Mukherjee	Birbhum
48	Shri.Nure Alam Chowdhury	Birbhum
49	Shri.Paresh Ch. Adhikary	Cooch Behar
50	Shri.Binay Krishna Barman	Cooch Behar
51	Shri.Nagendra Nath Roy	Cooch Behar
52	Shri.Akshay Thakur	Cooch Behar
53	Shri.Hiten Barman	Cooch Behar
54	Shri.Keshab Chandra Ray	Cooch Behar
55	Shri.Udayan Guha	Cooch Behar
56	Shri.Rabindra Nath Ghosh	Cooch Behar
57	Shri.Arghya Roy Pradhan	Cooch Behar
58	Shri.Dr. Harka Bahadur Chettri	Darjeeling
59	Shri.Trilok Kumar Dewan	Darjeeling
60	Shri.Rohit Sharma	Darjeeling
61	Shri.Sankar Malakar	Darjeeling
62	Shri.Rudranath Bhattacharya	Darjeeling
63	Shri.Sunil Chandra Tirkey	Darjeeling
64	Shri Saumen Kumar Mahapatra	Purba Midnapur
65	Shri Biplab Roy Chowdhury	Purba Midnapur
66	Mr.Omar Ali	Purba Midnapur
67	Sri Bhushan Chandra Dolai	Purba Midnapur
68	Sri Sukumar De	Purba Midnapur
69	Shri Sudarsan Ghosh Dastidar	Purba Midnapur
70	Smt.Seuli Saha	Purba Midnapur
71	Smt.Phiroja Bibi	Purba Midnapur
72	Shri Amiya Kanti Bhattacharjee	Purba Midnapur
73	Shri Jyotirmoy Kar	Purba Midnapur
74	Ms. Banasri Maity	Purba Midnapur
75	Shri Ardhendu Maity	Purba Midnapur
76	Shri Ranajit Mondal	Purba Midnapur
77	Shri Dibyendu Adhikari	Purba Midnapur
78	Shri Akhil Giri	Purba Midnapur

S.No	MLA	District
79	Shri Samares Das	Purba Midnapur
80	Shri.Anup Ghosal	Hooghly
81	Shri.Dr. Sudipto Roy	Hooghly
82	Shri.Muzaffar Khan	Hooghly
83	Shri.Rabindranath Bhattacharya	Hooghly
84	Shri. Ashok Kumar Deb	24 Parganas South
85	Shri.Ashok Kumar Shaw	Hooghly
86	Shri.Asit Mazumder (Tapan)	Hooghly
87	Shri.Asim Kumar Majhi	Hooghly
88	Sk. Amjad Hossain	Hooghly
89	Shri.Tapan Das Gupta	Hooghly
90	Smt.Swati Khandoker	Hooghly
91	Shri.Snehasis Chakraborty	Hooghly
92	Shri.Becharam Manna	Hooghly
93	Smt.Asima Patra	Hooghly
94	Shri.Rachhpal Singh	Hooghly
95	Shri.Parvez Rahman	Hooghly
96	Shri.Krishna Chandra Santra	Hooghly
97	Shri.Biswanath Karak	Hooghly
98	Shri.Iqbal Ahmed	Hooghly
99	Shri.Sultan Singh	Howrah
100	Shri.Asok Ghosh	Howrah
101	Shri.Arup Roy (Apu)	Howrah
102	Shri.Jatu Lahiri	Howrah
103	Shri.Brajamohan Majumder	Howrah
104	Shri.Sital Kumar Sardar	Howrah
105	Shri.Gulsan Mullick	Howrah
106	Shri.Haider Aziz Safwi	Howrah
107	Shri.Dr. Nirmal Maji	Howrah
108	Shri.Pulak Roy	Howrah
109	Shri.Kalipada Mondal	Howrah
110	Shri.Arunava Sen (Raja)	Howrah
111	Shri.Asit Mitra	Howrah
112	Shri.Samir Kumar Panja	Howrah
113	Shri.Abul Kasem Molla	Howrah
114	Shri.Rajib Banerjee	Howrah
115	Shri. Dasrath Tirkey	Alipurduar
116	Shri.Wilson Champramary	Alipurduar
117	Shri.Debaprasad Roy (Mithu)	Alipurduar
118	Shri.Anil Adhikari	Alipurduar

S.No	MLA	District
119	Kumari Kujur	Alipurduar
120	Smt.Mamata Roy	Jalpaiguri
121	Shri.Ananta Deb Adhikari	Jalpaiguri
122	Shri.Sukhbilas Barma	Jalpaiguri
123	Shri.Khageswar Roy	Jalpaiguri
124	Shri.Goutam Deb	Jalpaiguri
125	Shri.Bulu Chik Baraik	Jalpaiguri
126	Shri.Joseph Munda	Jalpaiguri
127	Shri.Firhad Hakim	Kolkata
128	Smt.Mamata Banerjee	Kolkata
129	Shri.Sobhandeb Chattopadhyay	Kolkata
130	Shri.Subrata Mukherjee	Kolkata
131	Shri. Subrata Bakshi	Kolkata
132	Smt. Noyna Bandyopadhyay	Kolkata
133	Shri.Swarna Kamal Saha	Kolkata
134	Shri.Paresh Paul	Kolkata
135	Smti.Smita Bakshi	Kolkata
136	Smt.Dr. Shashi Panja	Kolkata
137	Shri.Sadhan Pande	Kolkata
138	Smt.Mala Saha	Kolkata
139	Shri.Khagen Murmu	Malda
140	Shri.Sushil Chandra Ray	Malda
141	Shri.Asif Mehbub	Malda
142	Shri.Tajmul Hossain	Malda
143	Shri.Abdur Rahim Baxi	Malda
144	Shri.Samar Mukherjee	Malda
145	Smt.Sabitri Mitra	Malda
146	Shri.Bhupendra Nath Halder (Arjun)	Malda
147	Shri.Krishnendu Narayan Choudhury	Malda
148	Shri.Sabina Yeasmin	Malda
149	Shri.Abu Nasar Khan Choudhury	Malda
150	Shri.Isha Khan Choudhury	Malda
151	Shri.Mainul Haque	Murshidabad
152	Shri.Touab Ali	Murshidabad
153	Shri.Emani Biswas	Murshidabad
154	Shri. Sohrab Md	Murshidabad
155	Shri. Akhruzzaman	Murshidabad
156	Shri. Subrata Saha	Murshidabad
157	Shri. Abu Hena	Murshidabad
158	Shri. Chand Mohammad	Murshidabad

S.No	MLA	District
159	Smt.Firoza Begam	Murshidabad
160	Shri.Hamidul Rahaman	North Dinajpur
161	Shri.Abdul Karim Chowdhary	North Dinajpur
162	Shri.Md Ghulam Rabbani	North Dinajpur
163	Shri.Ali Imran Ramz	North Dinajpur
164	Shri.Gokul Behari Roy	North Dinajpur
165	Shri.Khagendra Nath Sinha	North Dinajpur
166	Shri.Pramatha Nath Ray	North Dinajpur
167	Shri.Mohit Sengupta	North Dinajpur
168	Shri.Amal Acharjee	North Dinajpur
169	Shri. Susanta Besra	Purulia
170	Shri.Shantiram Mahato	Purulia
171	Shri.Nepal Mahata	Purulia
172	Shri.Dhirendra Nath Mahato	Purulia
173	Smt.Sandhyarani Tudu	Purulia
174	Shri..Swapan Kumar Belthariya	Purulia
175	Shri.Umapada Bauri	Purulia
176	Shri.Purna Chandra Bauri	Purulia
177	Kamakshya Prasad Singh Deo	Purulia
178	Smt.Shaoni Singha Roy	24 Parganas South
179	Shri.Kanai Chandra Mondal	24 Parganas South
180	Shri.Ashis Marjit	24 Parganas South
181	Smt.Protima Rajak	24 Parganas South
182	Shri.Apurba Sarkar (David)	24 Parganas South
183	Shri.Id Mohammad	24 Parganas South
184	Shri.Humayun Kabir	24 Parganas South
185	Shri.Seikh Safiujjaman	24 Parganas South
186	Shri.Manoj Chakraborty	24 Parganas South
187	Shri.Insar Ali Biswas	24 Parganas South
188	Shri.Abu Taher Khan	24 Parganas South
189	Shri.Anisur Rahaman	24 Parganas South
190	Shri.Abdur Razzak	24 Parganas South
191	Shri.Samarendranath Ghosh	24 Parganas South
192	Shri.Ranjit Kumar Mandal	24 Parganas South
193	Shri.S M Sadi	24 Parganas South
194	Shri.Nasheruddin Ahamed	24 Parganas South
195	Shri.Kollol Khan	24 Parganas South
196	Shri.Rukbanur Rahaman	24 Parganas South
197	Shri.Aboni Joardar	24 Parganas South
198	Shri.Pundarikakshya Saha	24 Parganas South

S.No	MLA	District
199	Shri.Ujjal Biswas.	24 Parganas South
200	Shri.Ajoy Dey	24 Parganas South
201	Shri.Parthasarathi Chatterjee (Babu)	24 Parganas South
202	Shri.SushiI Biswas.	24 Parganas South
203	Shri.Samir Kumar Poddar	24 Parganas South
204	Shri.Abir Ranjan Biswas	24 Parganas South
205	Shri.Naresh Chandra Chaki	24 Parganas South
206	Shri.Ramendranath Biswas	24 Parganas South
207	Shri.Nilima Nag (Mallick)	24 Parganas South
208	Shri.Upendra Nath Biswas	24 Parganas South
209	Shri.Biswajit Das	24 Parganas South
210	Shri.Surajit Kumar Biswas	24 Parganas South
211	Shri.Manjul Krishna Thakur	24 Parganas South
212	Smt. Bina Mondal.	24 Parganas South
213	Shri.Abdul Gaffar Quazi	24 Parganas South
214	Shri.Jyoti Priya Mallick	24 Parganas South
215	Shri.Dhiman Roy	24 Parganas South
216	Shri.Rafiqur Rahaman	24 Parganas South
217	Shri.Subhranshu Roy	24 Parganas South
218	Shri. Partha Bhowmick	24 Parganas South
219	Shri.Arjun Singh	24 Parganas South
220	Shri.Parash Dutta	24 Parganas South
221	Smt. Manju Bose.	24 Parganas South
222	Shri. Silbhadra Dutta.	24 Parganas South
223	Shri.Amit Kumar Mitra	24 Parganas South
224	Smt.Chandrima Bhattacharya	24 Parganas South
225	Shri.Nirmal Ghosh	24 Parganas South
226	Shri.Madan Mitra	24 Parganas South
227	Shri.Tapas Roy	24 Parganas North
228	Shri.Prof. Bratya Bose	24 Parganas South
229	Shri.Sabyasachi Dutta	24 Parganas South
230	Shri.Sujit Bose	24 Parganas South
231	Shri.Purnendu Basu	24 Parganas South
232	Shri.Rathin Ghosh	24 Parganas South
233	Shri. Chiranjeet Chakraborty	24 Parganas South
234	Shri.Dr. Narujjaman	24 Parganas South
235	Shri.Julfikar Ali Molla	24 Parganas South
236	Smt. Usha Rani Mondal	24 Parganas South
237	Shri.Nirapada Sardar	24 Parganas South
238	Shri.Narayan Mukherjee	24 Parganas South

S.No	MLA	District
239	Shri.Anandamay Mandal	24 Parganas South
240	Shri.Jayanta Naskar	24 Parganas South
241	Shri.Subhas Naskar	24 Parganas South
242	Shri.Ramsankar Halder	24 Parganas South
243	Shri.Samir Kumar Jana	24 Parganas South
244	Shri.Manturam Pakhira	24 Parganas South
245	Shri.Bankim Chandra Hazra	24 Parganas South
246	Shri.Jogoranjana Halder	24 Parganas South
247	Smt.Debasree Roy	24 Parganas South
248	Shri.Jaydeb Halder	24 Parganas South
249	Shri.Tarun Kanti Naskar	24 Parganas South
250	Shri.Nirmal Chandra Mandal	24 Parganas South
251	Shri.Shyamal Mondal	24 Parganas South
252	Shri.Abdur Razzak Molla	24 Parganas South
253	Shri.Biman Banerjee	24 Parganas South
254	Smt.Namita Saha	24 Parganas South
255	Shri.Giasuddin Molla	24 Parganas South
256	Shri.Dipak Kumar Halder	24 Parganas South
257	Shri.Tamonash Ghosh	24 Parganas South
258	Smt.Sonali Guha	24 Parganas South
259	Shri.Dilip Mondal	24 Parganas South
260	Shri.Jiban Mukhopadhyay	24 Parganas South
261	Shri.Badal Jamadar	24 Parganas South
262	Shri.Ahmed Javed Khan	24 Parganas South
263	Shri.Manish Gupta	24 Parganas South
264	Smt.Firdousi Begum	24 Parganas South
265	Shri.Aroop Biswas	24 Parganas South
266	Shri.Sovan Chatterjee	24 Parganas South
267	Shri.Partha Chatterjee	24 Parganas South
268	Smt.Kasturi Das	24 Parganas South
269	Smt.Mamtaj Begam	24 Parganas South
270	Shri.Narmada Chandra Roy	South Dinajpur
271	Smt.Mahamuda Begam	South Dinajpur
272	Shri.Shankar Chakraborty	South Dinajpur
273	Shri.Bachchu Hansda	South Dinajpur
274	Shri.Satyendranath Roy	South Dinajpur
275	Shri.Biplab Mitra	South Dinajpur
276	Shri. Arun Mohapatra	Paschim Midnapore
277	Shri.Dulal Murmu	Paschim Midnapore

S.No	MLA	District
278	Shri.Chudamani Mahato	Paschim Midnapore
279	Shri.Sukumar Hansda	Paschim Midnapore
280	Shri.Gyan Singh Sohanpal	Paschim Midnapore
281	Shri.Biram Mandi	Paschim Midnapore
282	Shri.Dr.Surjya Kanta Mishra	Paschim Midnapore
283	Shri.Dr.Manas Ranjan Bhunia	Paschim Midnapore
284	Shri.Prabodh Chandra Sinha	Paschim Midnapore
285	Shri.Haque Nazmul	Paschim Midnapore
286	Shri.Radhakanta Maiti	Paschim Midnapore
287	Shri.Ajit Bhunia	Paschim Midnapore
288	Shri.Shankar Dolai	Paschim Midnapore
289	Shri.Chhaya Dolai	Paschim Midnapore
290	Shri.Susanta Ghosh	Paschim Midnapore
291	Shri.Srikanta Mahata	Paschim Midnapore
292	Shri.Mrigendra Nath Maiti	Paschim Midnapore
293	Shri.Dibakar Hansda	Paschim Midnapore
294	Shri.Rameswar Doloi	Paschim Midnapore

Source: wb.gov.in/BanglarMukh/Download?AlfrescoPath...MLA_List

West Bengal Rajya Sabha List for access to funds

Shri Ritabrata Banerjee
Md.Nadimul Haque
Shri. Ahmed Hassan Imran
Dr. Kanwar Deep Singh
Shri. Vivek Gupta
Shri. Mukul Roy
Shri. Sukhendu Sekhar Roy
Shri. Tapan Kumar Sen
Shri. Mithun Chakraborty
Prof. Jogen Chowdhury
Shri. Sitaram Yechury
Shri. Derek O Brien
Shri. Debmrata Bandyopadhyay
Shri. Pradip Bhattacharya
Shri Kunal Kumar Ghosh
Smt. Dola Sen

Source: rajyasabha.nic.in/rsnew/official_sites/statelegis.asp

List of SBI Branches & Post Offices

District	No. of Blocks	No. of SBI Branch	No. of Head Post Office	No. of Post Office
Birbhum	19	40	2	471
North 24 Parganas	22	116	4	626
South 24 Parganas	29	63	2	780
Murshidabad	26	60	3	573
Paschim Medinipur	29	67	2	160
Hooghly	18	62	3	501
Nadia	17	58	4	456
Purba Medinipur	25	48	2	619
Howrah	14	66	2	344
Malda	15	33	1	335
Jalpaiguri	13	34	2	362
Kolkata	4	240	6	239
Bankura	22	36	1	507
Uttar Dinajpur	9	23	0	205
Purulia	16	30	1	442
Cooch Behar	12	20	1	293
Darjeeling	12	39	2	212
Dakshin Dinajpur	8	11	1	781
Burdwan	31	143	5	715
West Bengal	341	1189	44	8621

Inputs from CII



Confederation of Indian Industry



सत्यमेव जयते

Government of West Bengal

Initiatives on Industry-Academia Collaboration
*Towards excellence in higher education &
knowledge-driven economy*

**A Joint Initiative of CII and West
Bengal Education Commission**

Draft Concept Note

23 December, 2014

A. PREAMBLE

The inclusive and sustainable growth of a nation, a region and a state largely depends on how public and private sectors work together to leverage the strength of knowledge ecosystem for business competitiveness, for creating new ventures by entrepreneurs and for providing affordable technology solutions to challenges of common man.

States and regions across the world attracted maximum investments where local governments have put major emphasis in strengthening its knowledge ecosystem and in effectively deriving maximum economic and social benefits from the knowledge ecosystem. In India the knowledge ecosystem has not been directly “made” connected to economic benefit of the nation.

Traditionally West Bengal has been the hub of India’s knowledge activities. The state hosts many globally acclaimed institutions in education and research. The state has been producing global leaders and cutting-edge research from these institutions. However, the state could not draw enough economic benefits from such knowledge outputs. The situation is more or less similar for some other states in this country.

It is very important to bring a paradigm change in positioning the state as “Knowledge Hub” to attract investments and partnerships for (a) converting the outputs of state’s existing knowledge institutions into economic benefits to states and (b) attracting global investments in establishing more R&D units, research parks, research corridors, educational institutions, incubation centres, design centres, Intellectual Property Facilitation Cells, Skills development centres, Entrepreneurship development centres, Angel/Venture Funding institutions in the states.

CII has launched “Knowledge Economy” movement to bring this paradigm change by aligning economic development with investments in and outputs from knowledge institutions.

The Government of West Bengal is one of very few states (in the country) those have a very strong political will and institutional strength to be in the forefront of leveraging knowledge ecosystem for the economic and social benefits for the state.

West Bengal should take the lead in the country to showcase visible impact of its knowledge ecosystem on the society and business by creating vehicles those translate knowledge to economic development and growth.

To initiate this movement, CII and Education Commission of West Bengal are jointly launching concrete initiatives on industry-academia collaboration in that is foundation of a knowledge driven economy.

B. PROPOSED PPP VEHICLES / PLATFORMS FOR INDUSTRY-ACADEMIA COLLABORATIONS

It is important to create concrete vehicles for industry and academia to collaborate and the following vehicles are proposed. Details of each vehicle are given in next chapter.

1. **“CM Fellowships for Doctoral Industrial Research in West Bengal”** to produce large number of industry-ready researchers.
2. **“West Bengal Industry-Academia Collaborative R&D Fund”** to develop and commercialise new technologies and solutions.
3. **“Distinguished Visiting Professorship”** for industry-faculty to teach at academic institutions to enlighten students on state-of-the-arts in science, technology, management and social sciences
4. **“Faculty Chairs in industry”** for young and dynamic faculty from academic institutions to spend time in industry to provide advice (and training) to industry.
5. **“Student’s project-internship in industry”** for providing exposure to students by solving / working on industry assignments during graduate and post-graduate studies.
6. **“Industry Mentorship for Student Entrepreneurs”** for industry-mentoring and supporting students to become entrepreneurs and job creators
7. **“Students Employability Enhancement programme”** for industry to provide sector-specific specialised training to students to enhance their employability.
8. **Promotional & Research Activities**
 - a) **“Human Resource – demand and supply”** – Yearly survey of human resource needs of industry and supply by academic institutions for bringing parity.
 - b) **“Rating of academic institutions on industry-linkages”** for yearly mapping and rating industry-academia collaborations.

- c) “**Industry-Academia Congress**” – yearly mega event to showcase successful case studies of industry academia and recognising and rewarding the most successful ones.

1. CM Fellowships for Doctoral Industrial Research in West Bengal

The Scheme

Industry and Government of West Bengal will co-fund (to double the prevailing scholarship amount) selected PhD scholars to do research on sponsoring industry’s research assignments.

Who can apply?

Any student in any stream if enrolled in any recognised university and institution in West Bengal for PhD programme, can apply. Sponsoring Industry partnership, before applying will have preference. Otherwise the implementing agency will explore industry sponsorship for applicants. Sponsoring industry can be any Indian and Multi National industry irrespective their locations.

Selection

A high-level selection committee drawing members from academia and industry will select the applications primarily based on industrial applicability of proposed research

Funding

Selected PhD scholars will get Rs. 50,000 per month (all inclusive) for five years during his/her PhD tenure at the institutions. Rs. 25,000 will be provided by Government of West Bengal and balance Rs. 25,000 will be provided by sponsoring industry.

Agreement & Review

University / Institution, PhD scholar and sponsoring industry will sign an agreement highlighting their scope, roles and responsibilities including sharing of Intellectual Property Rights generated out of such research. An industry mentor and an academic guide help the PhD scholars in carrying out the research and the researcher will do research both at sponsoring industry’s premise and in institution based on needs. A yearly review will be conducted to ensure smooth progress of research projects.

Budgetary Estimate and Sources of Fund (in INR Lakhs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
No. of Fellowships to selected	10	20	30	40	50	150
Govt funding per fellow	3	3	3	3	3	
Govt funding to fellows	30	90	180	300	450	1050
Industry funding per fellow	3	3	3	3	3	
Industry funding to fellows	30	90	180	300	450	1050
Govt funding for implementation	10	15	25	40	60	150
Industry funding for implementation	10	15	25	40	60	150
Total Government funding	58	124	223	355	440	1200
Total Industry funding	58	124	223	355	440	1200

2. West Bengal Industry-Academia Collaborative R&D Fund**The Scheme**

Industry and Government of West Bengal will co-invest selected (through competitive bidding) R&D projects those will be conducted between industry and academia with an assurance of industry setting up commercial production facility in West Bengal after successful completion of R&D.

Who can apply?

Indian recognized academic/research institution based out of West Bengal in partnership with any Indian and multinational industry, irrespective of their locations jointly can apply for collaborative R&D in West Bengal. Applicant industry should give commitment for setting up commercial production facility in West Bengal after successful completion of R&D.

Selection

A high-level project evaluation committee drawing members from academia and industry will select the applications primarily based on industrial and social applicability of proposed R&D.

Funding

Up to 50% (with a ceiling of Rs. 1.5 Cr.) of the R&D cost will be provided to selected industry by Government of West Bengal and balance (equal or more than Government fund) will be invested by industry.

[Prof. Brahmachari suggested that all projects should first be segregated as either Social Relevance or Commercial Relevance. In case of Social Relevance the investment should be in a ratio of 2:1 with govt's share being 2 and industry's 1; and in case of Commercial Relevance the ratio should be 1:2, with govt's share as 1 and industry's 2. The projects should ideally be for a tenure of 3 years with a total investment of 50lakhs. The govt's and industry's share may be split as 33&17 or 17&33 depending on the project. Every year 2 new projects can be started ensuring that at a time there would be at max 2 new and 4 old projects.]

Agreement & Review

Academic / Research Institution and the industry partner will sign an agreement highlighting their scope, roles and responsibilities including sharing of Intellectual Property Rights generated out of such research. A yearly review will be conducted to ensure smooth progress of research projects.

Budgetary Estimate (in INR Lakhs)

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
No. of projects to be funded	2	3	4	5	6	20
Government funding per project	150	150	150	150	150	
Government funding for projects	300	450	600	750	900	3000
Industry investment (min) per project	150	150	150	150	150	
Industry investment (min) for projects	300	450	600	750	900	3000
Govt funding for implementation	40	47.5	55	62.5	70	275
Industry funding for implementation	15	22.5	30	37.5	45	150
Total Government funding	340	497.5	655	812.5	970	3275
Total Industry investments	315	472.5	630	787.5	945	3150

3. Distinguished Visiting Professorship Programme**The Scheme**

The Distinguished Visiting Professor will

- a) Be an eminent scholar/expert in his/her field, working in an industry
- b) Visit the Institution at least twice in a Semester (each visit for two-three days) at least for one year tenure
- c) Deliver lectures on the state-of-art of Industry, industrial ambience and R&D needs of the industry to the students and faculty of academic institutions.
- d) Guide student projects/ theses of interest to industry.
- e) Help curriculum development, keeping in view, the changing industrial needs
- f) Develop cooperative undergraduate and postgraduate programmes with industry having potential benefits to faculty, students and Industry.
- g) Take up any other activities for the mutual benefit of institutions and industry
- h) Get official approval and commitment from his/her employers to participate in this programme with financial support for his/her travel cost and honourarium if any.

The host academic institution will

- a) Provide him/her with office and secretarial facilities for his working in the Institutions.
- b) Provide him/her local hospitality including free Guest House/other accommodation and local conveyance.
- c) Appoint a senior Professor as the Coordinator of the DVP programme to facilitate arrangements of lectures, supervision of projects, etc.

Who can apply?

Industry professionals from any location in India or overseas jointly with a recognised academic institution based out of West Bengal can apply for this scheme

Selection

A high-level committee drawing members from academia and industry will select the applications primarily based on industry professional expertise and the matching needs of academic institutions.

Financial Arrangements

CII will explore distinguished visiting professorship programme through its memberships for the academic institutions in West Bengal without any financial support from West Bengal.

4. Faculty Chairs in industry

The Scheme

The Faculty Chair will

- a) Spend at least three months with not more than three phases in a year at the host industry
- b) Get exposed to host industry's production and other operations, as decided by the host institutions
- c) Deliver lectures on the state-of-art on technology, production, management to host industry's employees as mutually agreed.
- d) Deliver assignments, projects, trouble shooting as given by host industry.
- e) Take up any other activities for the mutual benefit of institution and industry
- f) Get official approval from his/her institution to participate in this programme without any financial commitment from institution.

The host industry will

- a) Provide him/her with office and secretarial facilities for his/her working in the industry.

- b) Appoint a senior management personnel as the Coordinator of the Faculty Chair programme to facilitate arrangements of lectures, supervision of projects, etc.
- c) Provide him/her local hospitality including free Guest House/other accommodation and local conveyance.
- d) Provide air fare in Y-Class or actual fares if performed by Rail/Road to the faculty chair for maximum three times in a year
- e) Provide an monthly honorarium (for the duration of faculty's stay in industry – maximum 3 months a year) to the faculty chair

Who can apply?

Young and dynamic faculty from recognized academic institution based out of West Bengal jointly with an industry from any location in India or overseas can apply for this scheme

Selection

A high-level committee drawing members from academia and industry will select the applications primarily based on faculty's expertise and the matching needs of host industry.

Financial Arrangements

CII will explore Faculty Chairs in industry through its memberships for the academic institutions in West Bengal without any financial support from West Bengal.

5. Students Project-Internships in Industry

The Scheme

The Student Project-Intern will

- a) Undergraduate students (2nd year till final year) will spend at least three months and post-graduate will spend at least six months (cumulative duration) at the host industry
- b) Get exposed to host industry's production and other operations, as decided by the host institutions
- c) Deliver assignments, projects, trouble shooting as given by host industry.
- d) Take up any other activities for the mutual benefit of institution and industry
- e) Get official approval from his/her institution to participate in this programme without any financial commitment from institution.

The host industry will

- a) Provide him/her with an assignment, trouble shooting or project based on mutual agreement on specific timeline
- b) Appoint a supervisor to coordinate with the student project-intern regarding all the matters related to student's project-internship
- c) Provide him/her local hospitality like working space, food etc.
- d) Provide a nominal internship fees to students

Who can apply?

Students studying undergraduate and post graduate courses in any discipline at any recognised academic institutions based out of West Bengal can apply clearly highlighting their interest in subject / specialization and their background.

Selection

CII secretariat will disseminate students' profiles to industry, including MSEM based out of West Bengal for them to select student project-interns.

Financial Arrangements

CII will explore Students Project-Internships programme through its memberships for the academic institutions in West Bengal without any financial support from West Bengal.

6. Industry Mentorship for Student Entrepreneurs

The Scheme

The Industry Mentor will

- a) Be an eminent scholar/expert in his/her field, working in an industry
- b) Visit the Incubation Centres located in academic institutions at least once in three months and spend three full days for mentoring budding student entrepreneurs
- c) Connect the student entrepreneurs with angel and venture funding agencies
- d) Get official approval and commitment from his/her employers to participate in this programme with financial support for his/her travel cost and honorarium, if any.

The host Incubation Centre of academic institution will

- a) Provide him/her with office and secretarial facilities for his working in the Incubation Centre.
- b) Provide him/her local hospitality including free Guest House/other accommodation and local conveyance.
- c) Appoint a senior Professor as the Coordinator to facilitate arrangements of mentorship.

Who can apply?

Students being incubated in the incubation centres in recognized academic institutions based out of West Bengal can apply clearly highlighting their business plan and their background.

Selection

CII secretariat will disseminate students' business plans to industry based out of West Bengal for them to select students for mentoring.

Financial Arrangements

CII will explore Industry mentorship programme through its memberships for the academic institutions in West Bengal without any financial support from West Bengal.

7. Students Employability Enhancement programme

The Scheme

Industry trainers will conduct employability enhancement training programmes for students in various trades in service sectors like IT, retails, banking, hospitality, tourism etc. in the recognized academic institutions (primarily non-technical) to impart skills thus enhancing student's employability.

The trainer industry will

- a) Provide training to willing students in mutually agreed skills
- b) Conduct tests to assess students' performance at the end of training
- c) Provide Certificate to students on successful completion of training
- d) Connect with industry for recruiting students for internship and/or appointments
- e) Share with host institutions 25% of training fees collected from students

The host institution will

- a) Provide infrastructure for conducting training inside the institution
- b) Promote among its students to recruit them for training
- c) Collect the training fees from students
- d) Transfer 75% training fees to trainer industry.

Who can apply?

Recognized academic institutions based out of West Bengal can apply for participating in this scheme clearly highlighting their choice of skills required for their students and with sufficient number of students enrolled for training.

Selection

CII secretariat will disseminate Institution's requests trainer industry for them to select institutions for imparting training.

Financial Arrangements

CII will explore employability programme through its memberships for the academic institutions in West Bengal without any financial support from West Bengal.

8. Promotional & Research Activities

Apart from implementing the above vehicles, CII will do the following promotional and research activities every year:

a) Human Resource – demand and supply

It is very important for policy makers, institutions, students, and industry to understand the trend in human resource required by industry in the states vis-à-vis the human resource produced by the academic institutions in the states. CII will bring out yearly survey by mapping human resource needs of industry in next five years and corresponding human resource development by the academic institutions with detailed analysis on how academia should align to industry needs.

b) Rating of academic institutions on industry-linkages

It is important to map academic institutions' linkages with industry in different layers of operations. For example how academia is involving industry at the input side like how industry is involved in institution's governing board, board of studies, research council etc.; in curriculum development; faculty development; student development; research & development. At the same time, it will be mapped to understand institutions student placements, income from industry for consultancy & research, industry's investments in institution's infrastructure etc. Detailed analysis of these parameters with successful case studies will be published every year.

c) Industry-Academia Congress

CII in partnership with Government of West Bengal will organise this yearly flagship event to showcase academic institution's capability, successful industry academia collaborations and giving away prestigious awards to top industry-linked academic institutions.

Budgetary Estimate (in INR Lakhs)

To conduct the above three initiatives every year, yearly budgetary estimate and the budget for first five years will be as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Govt funding for HR demand vs supply	15	15	15	15	15	75
Industry funding for HR demand vs supply	15	15	15	15	15	75
Govt funding for Rating of Institutions	20	20	20	20	20	100
Industry funding for Rating of Institutions	20	20	20	20	20	100
Govt funding Industry-Academia Congress	40	40	40	40	40	200
Industry funding Industry-Academia Congress	40	40	40	40	40	200
Total Government Funding	75	75	75	75	75	375
Total Industry Funding	75	75	75	75	75	375

CII Knowledge Initiatives since last two decades Towards Knowledge Driven Economy

1. CII's Key Interventions

- a. Stimulating Private Sector's investments R&D
- b. Stimulating University-Industry Collaboration
- c. Bringing "Design" closer to businesses & government for competitiveness
- d. Protecting Intellectual Property Rights (IPR) for industry, entrepreneurs, communities
- e. Promoting Innovation & Entrepreneurship

2. Stimulating Private Sector's investments R&D

- CII-Government Joint Committee to advise on policy incentives for stimulating industry investment in R&D.
- Global Innovation & Technology Alliance (GITA) - a Section 25 Company jointly promoted by CII and Government of India, funding Indian Industry

through competitive bidding, for collaborative R&D with industries in Israel, Canada, UK, South Korea, Spain and Finland.

- CII-DST Yearly Technology Summit & Technology Platform to forge Techno-business partnerships

3. Stimulating University-Industry Collaboration

- Managing Prime Minister's Fellowship Scheme for Doctoral (Industrial) Research where Government and Industry co-sponsoring (total Rs. 6 lakhs per year for 4 years) 100 PhD Fellows per year for doing doctoral research on industry assignments / problems
- Developed framework of mapping academic institutions' linkages with industry followed by industry awards to top industry-linked institutions

4. Bringing "Design" closer to businesses & government for competitiveness

- Facilitated announcement of "National Design Policy" of India and constitution of "India Design Council"
- Working for last 13 years in bringing design closer to industry through yearly global event "CII-NID Design Summit" and other initiatives
- Conducts "Design Clinics" at MSME Clusters
- Started working on bringing Design aspects in government procurements and public infrastructure

5. Protecting Intellectual Property Rights (IPR) for industry, entrepreneurs, communities

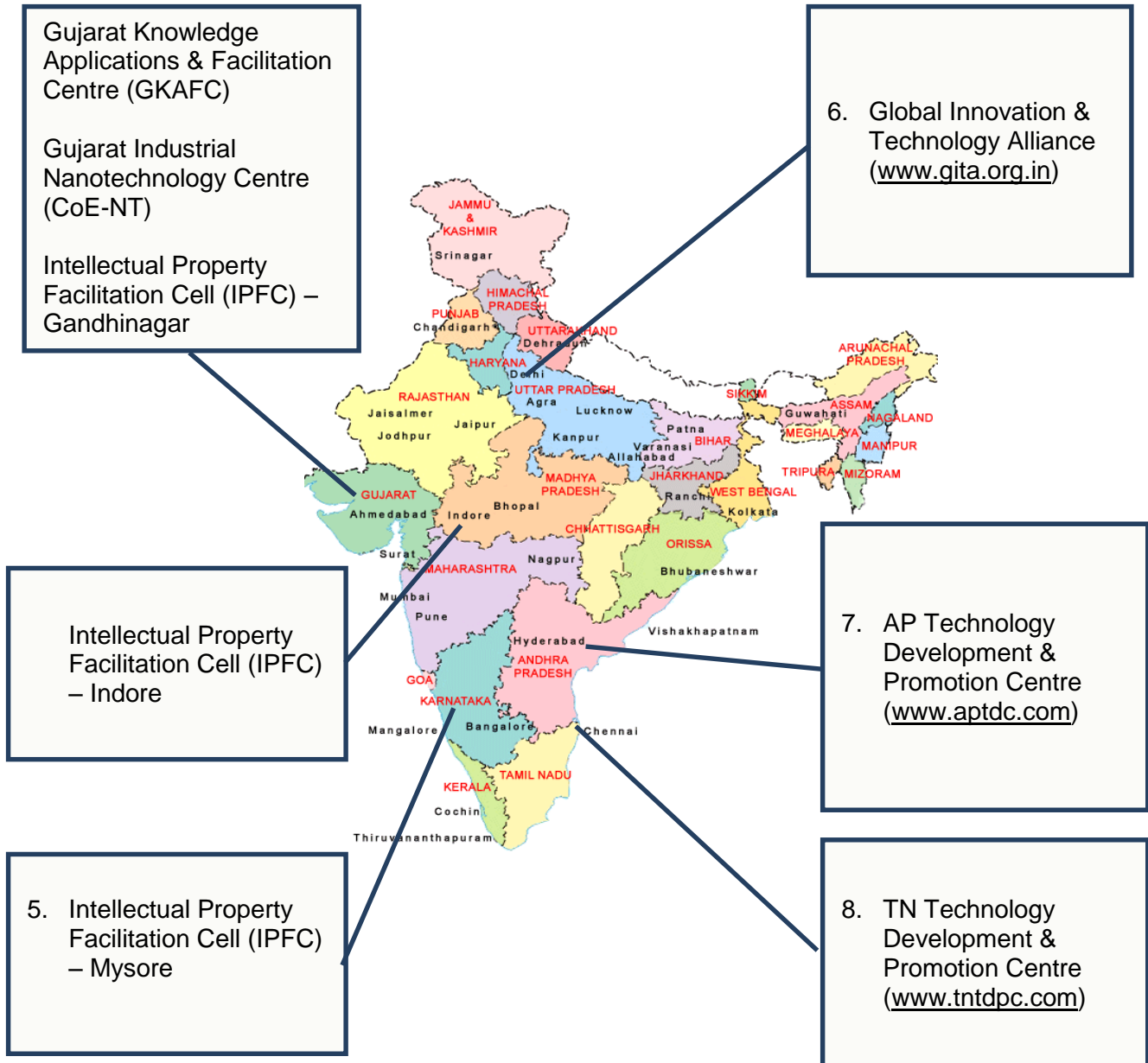
- Provides advisory services in the areas of :
 - a. Intellectual Property (IP) Audit
 - b. Patent Search & Analysis
 - c. Patent Drafting
 - d. Filing assistance of Patents, Trade Marks, Copyrights, Design
 - e. End to end assistance to communities in protecting Traditional Knowledge & Geographical Indications

- Yearly CII-Indian IP Office “National IP Summit” and International Conference on “Anti-Counterfeiting & Anti-Piracy”

6. Promoting Innovation & Entrepreneurship

- Yearly National / Regional Innovation Competitions on National & Industry-Challenge driven innovations (India-Innovation-Initiative) – A CII-DST initiative
- Industry-Awards for India’s top innovators & entrepreneurs
- Yearly Global Innovation Index – ranking countries on Innovations
- Yearly CII “Innovation & Entrepreneurship Summit”

7. Established 8 PPP Knowledge Institutions



Inputs from BCC&I

The Chambers' immediate plan of action is:

- Curricula review/change, technical & management courses, certificates to under graduates etc.
 - A special Committee to advise academia on the need to upgrade / change the curriculum for engineering and MBA students.
 - Focus on identifying the gaps in the various engineering disciplines and advise the universities / colleges on how such gaps could be bridged by upgrading the curriculum and other facilities.
 - The advice would be specific in nature to each stream of engineering.

- The Bengal Chamber is setting up a Foundation with the intention to tie up with existing NGOs for CSR project implementation and could also join such corporate CSR projects or even Government developmental projects as a consultant. It also intends to identify and execute CSR projects for corporates, including consultancy and allied co-operational work.

- Special skills initiative school, starting with one district; then expanding and covering healthcare, entrepreneurship etc.

- Starting the facilitation of school-level awareness course for Intellectual Property realisation

We are also thinking of taking up certain other agenda items as suggested by you, in course of time.

Future considerations for BCC&I

- 1 Centre of Excellence in Bengal
- Technology bank for MSME

- Private ITI facilitation
- Facilitation of school-level, awareness course for Intellectual Property realisation
- Utilizing State's capability for training and development of unique, innovative Hardware / Software as also networking capability.
- Special skills initiative school, start with one district, then expand, healthcare, entrepreneurship etc

Request to Commission, Govt. of WB

- Least political interference in Educational Institutions
- All transactions online.
- Retired Industry person for teaching, technical/management courses.
- Mandatory internship, somewhat like medical (policy, regulations needed).
- Emphasis on B. VOC/M. VOC courses by Universities in co-operation with Industry association.
- Finland model—Universities owning shares of Cos, ideal for R&D, Consultancy, training, etc.
- Exchange programmes between the university & industry can be facilitated by BCC&I after policy action. This will result in closer interaction, joint projects, R&D funding as also student acclimatization.
- Faculties must have an affiliation with the professional institutions.(for e.g., IET, IEEE)
- Thrust should be on to promote Research as a career option, which needs a lot of promotion & awareness.
- Infrastructural and technological intervention and usage is required to upgrade the existing educational infrastructure.
- More educational engagements for faculties & students in the form of assignments & projects to be incorporated.

Inputs from Vigyan Ashram on IBT Programme for Secondary Schools

Vigyan Ashram (www.vigyanashram.com) believes in 'Learning while doing in real life situation' is the 'Natural way of learning'. This learning pedagogy is recommended as 'Work Centered Education (WCE)' methodologies by National Curriculum Framework (NCF) 2005. This method is so effective that it can train student's difficult curricular concepts without burdening them. The programme got evolved since 1987 and got recognition as a subject by Maharashtra State education board from VIII- Xth std. The programme also got approval as 'Multi skill Foundation Course (MSFC)' Level I and Level II under 'National skills Qualification Framework' (NSQF).

Introduction to Basic Technology (IBT) programme is implemented in formal schools from class VIII – X std. Basic hand tools and conventional machines for fabrication, agricultural tools, electrical instruments etc are provided to schools. Using these basic tools, they work on various projects. Many interesting projects and innovation are made by these school children.

The programme Scheme in brief:

- Schools have basic hand tools and facilities (workshop equipment's).
- Students learn basic skills in the areas of Engineering, Energy, Environment, Agriculture, animal husbandry, food processing in the schools. They are taught appropriate technologies in these areas. They learn while actually doing different things.
- Young entrepreneurs (artisans) from the community are invited as 'Honorary teachers' to conduct training.
- As a part of their learning experience, students provide community services to community around it.
- Activities selected in the schools are linked to the curricular areas in the schools. The programme aims for 'Work centered Education'. Students learn different cross curricular areas while participating in 'work' activities.
- Lessons plans, power points and videos etc are available as 'Open Education Resources (OERs)' on www.learningwhiledoing.in in Hindi, English and Marathi languages.

Benefits of the programme :

- 1) Improving understanding in curricular subjects.
- 2) Increase in enrollment & attendance.

- 3) Students get better idea of their preferences for future vocation.
- 4) School becomes happening place.
- 5) Community gets services.

Spread : The programme is implemented in 122 schools & 7000 students in Maharashtra, Chhattisgarh and Karnataka. The programme is starting in 12 EMRS schools in Odisha.

Sample activities and community service areas :

Students learn following technologies by 'Learning while Doing' on their school premises.

<p>AGRICULTURE - ANIMAL HUSBANDRY Drip irrigation, Sprinkler, Vermi composting, Vermi wash, Humidity chamber, AQUA Portal, Nursery technique, Azolla culture, Weather SMS, Seedling Tray, Vaccination Poultry, Age estimation, Rice cultivation, Crop using(SRI) Mulching, Silage Feed concentrate for animals Pest control, Soil testing</p>	<p>Mosquito control (Gappi Fish breeding), Making phenyl, liquid soap and selling Water testing Healthy diet, Soya milk, Blood testing</p> <hr/> <p>ENERGY - ENVIRONMENT Electrical wiring , Solar cooker, LED lighting ,Biogas, Soak pit, Watershed, Smokeless stove(Check dam construction), Earthing, Inverter , GPS</p>	<p>Computer applications</p> <hr/> <p>FOOD PROCESSING Solar drying, Food preservation, Drying of vegetables Medicinal plant cultivation</p> <hr/> <p>ENGINEERING Workshop technique, Ferro cement, Bamboo treatment, Different Agriculture tools Ventilation – Low cost housing, Sanitation - Toilets, Pedal power, Fabrication , Plumbing, Construction</p>
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Impact of the programme:

Independent third party evaluation of IBT programme in 2012 brought following results.

- 1) Preference of the students to go for professional and technical courses increases.
 - 49% IBT Student 's (2011-12) enrolled for technical courses. Which is higher than 16.81% all India enrolment rate and 20% enrolment in controlled group.
 - 14% of Girls enrolled for technical courses when national GER for girls in rural areas are 8.3%. For Boys 38% enrolled for technical courses when National GER for is 13.7%
- 2) Even if students gets dropped out, he can have skills to earn meaningful livelihood.

- 31% students who are not pursuing higher studies after 10th std. -- 15% of them remain unemployed. Rest are employed+ self employed – engaged in agriculture.
- 3) Enhanced learning in curricular areas.
 - 4) Decrease in drop-out rate (17%)
 - 5) Wider exposure to student.
 - 6) School became happening place.

Contact:

Dr.Yogesh Kulkarni

Vigyan Ashram

At.Post.Pabal Dist.Pune 412403, Phone : 0 973 000 5016

e- mail : vapabal@gmail.com , www.vigyanashram.com

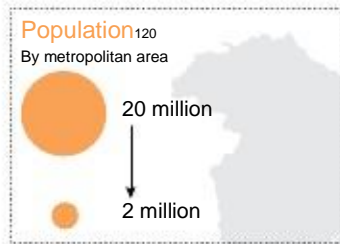
NESTA Report

NESTA, National Endowment for Science, Technology and the Arts, is an independent charity that works to increase the innovation capacity of the UK. The organisation acts through a combination of practical programmes, investment, policy and research, and the formation of partnerships to promote innovation across a broad range of sectors.

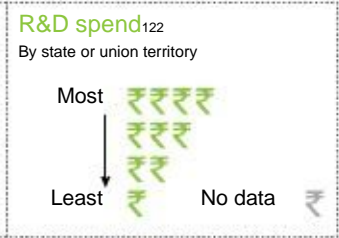
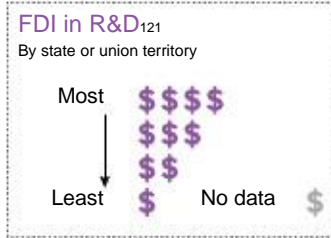
The data in the next page was published in the NESTA Report – “Our Frugal future: Lessons from India’s Innovation System” on July 2012.

NESTA Report

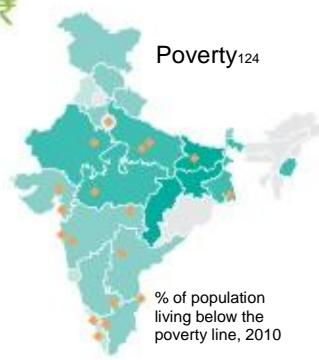
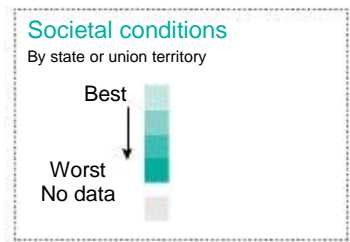
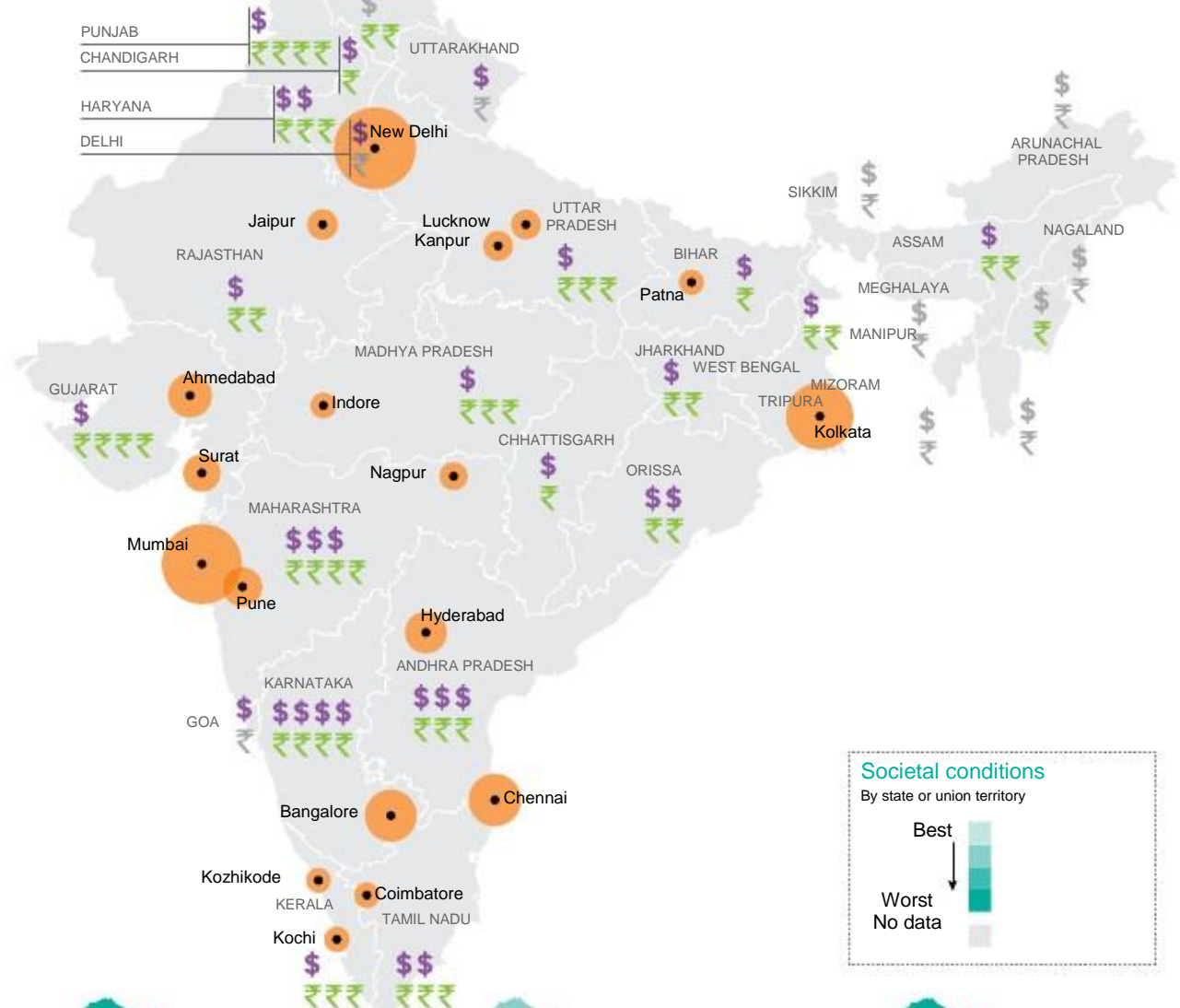
Inputs to Indian innovation: A geographical view



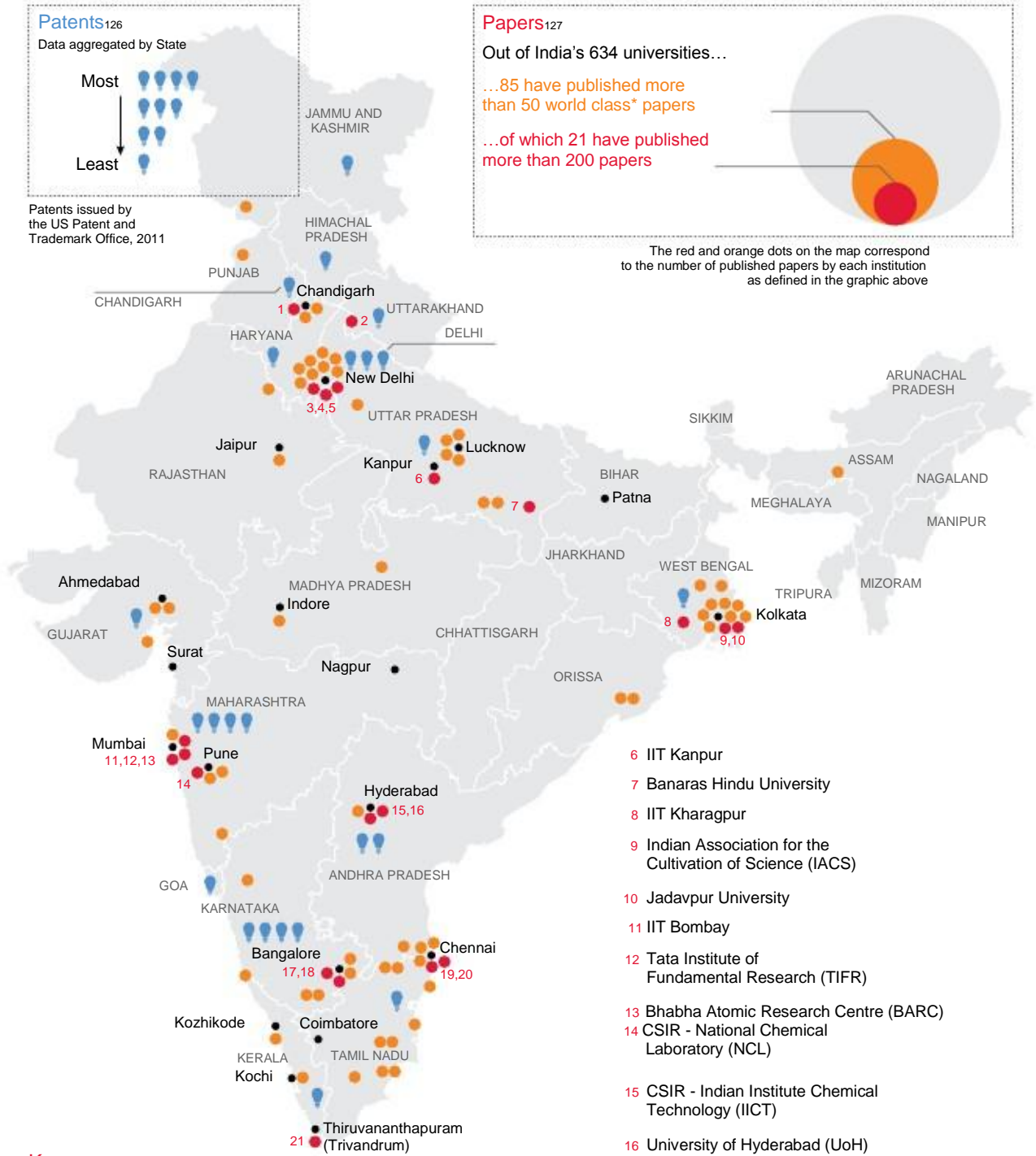
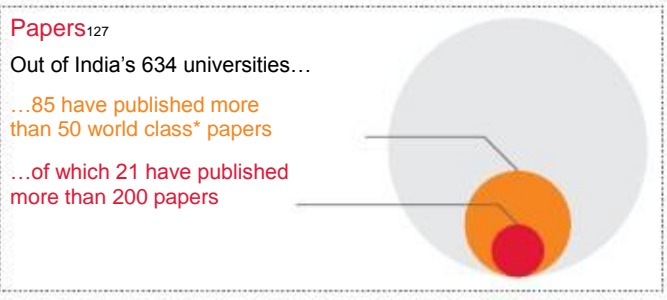
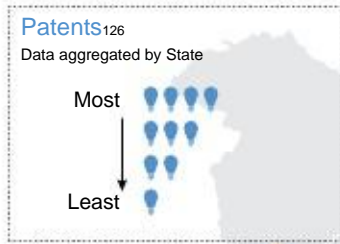
Only includes metropolitan areas with over 2 million people



Share of FDI going into R&D, 2006–2011; R&D expenditure, 2005–6; No data was available for the Union Territories of Andaman & Nicobar Islands, Dadra & Nagar Haveli, Daman & Diu, Lakshadweep, Pondicherry



India's innovation output: hotspots for quality research and invention



Key

India's 21 institutions that have published more than 200 world class* papers

- 1 Panjab University
- 2 IIT Roorkee
- 3 IIT Delhi
- 4 University of Delhi
- 5 All India Institute of Medical Sciences (AIIMS)
- 6 IIT Kanpur
- 7 Banaras Hindu University
- 8 IIT Kharagpur
- 9 Indian Association for the Cultivation of Science (IACS)
- 10 Jadavpur University
- 11 IIT Bombay
- 12 Tata Institute of Fundamental Research (TIFR)
- 13 Bhabha Atomic Research Centre (BARC)
- 14 CSIR - National Chemical Laboratory (NCL)
- 15 CSIR - Indian Institute Chemical Technology (IICT)
- 16 University of Hyderabad (UoH)
- 17 Indian Institute of Science (IISc)
- 18 Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR)
- 19 IIT Madras
- 20 Anna University
- 21 CSIR - National Institute for Interdisciplinary Science and Technology (NIIST)

*World class papers are the top decile (top 10 per cent) of citations corrected for field, year and number of authors, 2001-2010