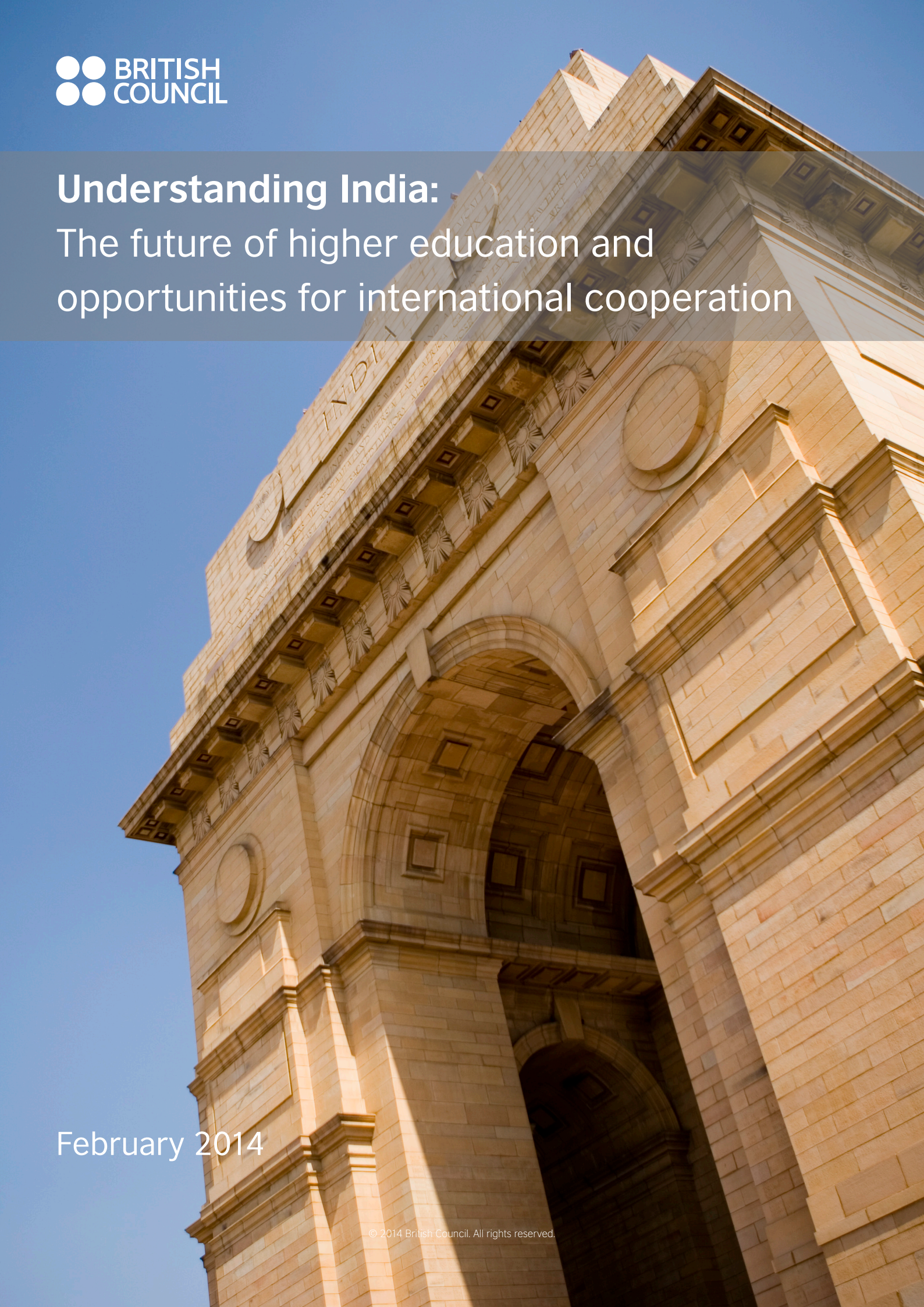


BRITISH COUNCIL

Understanding India:
The future of higher education and opportunities for international cooperation

February 2014

Foreword

India's education system, as one of the world's largest, has been studied and reflected on through academic papers, used as a case study and been the subject of many renowned books. This report does not set out to significantly change the way the Indian system is seen. It is about change and the future models of international collaboration. The report is based on over fifty in-depth interviews with the key people at the forefront of what will come next.

Its timing is critical, given that traditional Indian student mobility patterns have changed, that the UK faces new competition in research cooperation and as gaps are widening between industry demands and higher education provision. In addition, the national elections in India this year, and in the UK in 2015, are likely to provide many policy changes to navigate through.

India's demographic trend means it will soon overtake China as the world's largest population, and with an average GDP annual growth of 8% over the last decade, its middle classes that demand higher education will swell to over 500 million people in the next ten years. India's higher education system, originally designed to serve the elite, will now have to serve the people. Innovation and change are required and understanding that change will be essential. This report not only takes a look at what is coming next in India but makes informed recommendations in areas for collaboration.

The author, Lynne Heslop, with over twenty years' experience in international education, was formally the British Council's Regional Director for Education in Central and South Asia and is now Senior Education Adviser at the British Council India.

I hope you find the report both useful and thought provoking.

Richard Everitt
Director Education & Society
British Council India

Contents

Executive summary

The demand for higher education and the magnitude of planned reforms over the next ten years in India will provide the largest opportunity in the worldfor international higher education institutions and education businesses.

Through a contextual analysis and a series of in-depth interviews with higher education leaders, academics and policy makers in India, this report presents an insight into views on the future of higher education in India and areas of potential collaboration with the UK.

Higher education in India: the context for change

The Indian higher education system is facing an unprecedented transformation in the coming decade. This transformation is being driven by economic and demographic change: by 2020, India will be the world's third largest economy, with a correspondingly rapid growth in the size of its middle classes. Currently, over 50% of India's population is under 25 years old; by 2020 India will outpace China as the country with the largest tertiary-age population.

Despite significant progress over the last ten years, Indian higher education is faced with four broad challenges:

- **The supply-demand gap**: India has a low rate of enrolment in higher education, at only 18%, compared with 26% in China and 36% in Brazil. There is enormous unmet demand for higher education. By 2020, the Indian government aims to achieve 30% gross enrolment, which will mean providing 40 million university places, an increase of 14 million in six years.

- **The low quality of teaching and learning**: The system is beset by issues of quality in many of its institutions: a chronic shortage of faculty, poor quality teaching, outdated and rigid curricula and pedagogy, lack of accountability and quality assurance and separation of research and teaching.

- **Constraints on research capacity and innovation**: With a very low level of PhD enrolment, India does not have enough high quality researchers; there are few opportunities for interdisciplinary and multidisciplinary working, lack of early stage research experience; a weak ecosystem for innovation, and low levels of industry engagement.

- **Uneven growth and access to opportunity**: Socially, India remains highly divided; access to higher education is uneven with multidimensional inequalities in enrolment across population groups and geographies.

The three central pillars of the government's plans for education reflect these realities: expansion, equity and excellence. Over the next five years, every aspect of higher education is being reorganised and remodelled: funding, leadership and management, quality assurance, accountability, relationships with industry, international collaboration and the way teaching and research are conducted. Emphasis will be placed on strengthening existing institutions. In arguably the biggest reform in the governance and funding of state universities, an ambitious programme is underway to devolve authority and budgets for higher education from federal government to the state governments.

The private sector, which currently accounts for 59% of all tertiary enrolment, continues to grow rapidly, providing most of the professional courses, particularly engineering and management. Many more providers are waiting for legislation which would allow them to enter the market. The private sector is expected to play a significant role in the future expansion of higher education in India.

Stakeholder interview findings

Over fifty face-to-face interviews were conducted with higher education leaders, academics and policy makers in India to explore their views on what the future holds for them and how they would like to collaborate with the UK. The findings fall into two broad categories.

Systemic reform and legislative environment

- The Government's reforms have broad support within the sector, but many predict it will be a messy and unpredictable process. The devolution of authority and responsibility for higher education reform to the state governments has begun, but there will be huge differences in the capability and the will of different states to act. This will result in great variation in how the reforms unfold across the country, possibly with important implications for international collaboration in the future.

- Key challenges facing the system include quality assurance, credit transfer systems, movement between higher education and vocational skills streams and teacher training in higher education.

- There is an urgent need for systemic change in affiliated colleges to improve the quality of teaching and learning.

- Private businesses are waiting impatiently to enter the higher education market. The private sector will continue to grow, but 'for-profit' higher education is unlikely to be sanctioned soon.

- UK institutions were advised not to wait for transformational legislation to emerge from central government on international cooperation, but to adopt a flexible and creative approach to make the most of opportunities now.

- The Foreign Education Providers bill is unlikely to be passed in the short to medium term. There is a need for international partners to take a long term view and build closer, multi-dimensional relationships with Indian HE institutions.

Institutional engagement

- Increasing internationalisation in research and teaching is strongly supported by the Indian sector and considered vital for Indian institutions in developing India's capacity in research and innovation, driving up India's institutional rankings and increasing the quality of teaching and learning.

- India will move towards international credit recognition to enable more international student mobility, although this will be a complex process.

- Institutions want internationalisation to move beyond sending Indian students to the UK; there is strong demand for UK students and faculty to come to India. Some would like to see the restrictions on foreign faculty being hired in India lifted.

- Raising the quality of teaching and learning emerged as the highest priority of most

institutions, particularly state institutions. and there is keen interest to work with the UK in these areas. Digital learning technologies will become extremely important; most stakeholders see blended learning as the likely dominant approach but some see distance learning as also enjoying strong growth. Most felt that current digital content and distance learning materials in India are of poor quality and that little good content is being developed at present; they believe international collaboration in instructional design is essential to raise quality. Internet connectivity and accessibility will not remain barriers for much longer; however, teachers are poorly trained both in the effective use of use technology and in pedagogical terms

- There is currently limited collaboration with industry. Indian institutions would like to engage with industry in the development of science parks, incubation centres and technology transfer units and there is interest in working with the UK on systemic support and institutional models in this area

- There appears to be no shortage of funding for centrally-funded 'top tier' institutions, such as the IITs, IIMs, and Institutes of National Importance. However, research budgets remain underspent due to a lack of good quality research proposals so here international collaboration can help through professional networking and specific skills such as proposal writing. Research funding in STEM is expected to increase and continue to flow towards these institutions.

- The state universities are underfunded but are optimistic that their funding will increase in the future; they will be looking for international collaboration in areas of capacity-building assistance in teaching and research, and in developing their research networks. Others, which have stronger research capability are interested in extending their international research partnerships.

- International collaboration in the arts, humanities and social sciences is generally lacking and there is an anxiety about the recent neglect of these disciplines in India. As fewer students have been taking up research careers in these areas, departments have declined, meaning a vicious circle of lack of employment opportunities for researchers. There was optimism that this may change soon, with renewed interest from central government, especially in supporting multi-and inter-disciplinary research. The UK is considered particularly strong in these areas and there is keen interest in collaboration.

- The private sector interviewees were frustrated at the lack of freedom they have under the affiliation system and have aspirations of becoming autonomous private institutions in their own right; some of the better funded institutions are looking to develop research capabilities but many are starting from a low base. However, they believe their strong industry links will attract international higher education partners interested in developing technology transfer. Some are planning to diversify their offer as several of their markets are close to saturation.

- Demand for courses from mature learners and from current students looking to enhance their employability and develop entrepreneurial skills are creating new markets and new requirements for HE institutions as well as support for a national qualifications framework. There is little capacity at present in universities for teaching either skills for employability or entrepreneurship; this was viewed as an important emerging market.

- Much more needs to be done to nurture the next generation of Indian researchers, through providing: early stage research experience and international networking;

analysis and problem-solving skills; English for researchers; proposal and bid writing training; bilateral research student exchanges and international research student workshops and conferences.

In consideration of these two broad areas of engagement, the following table outlines future opportunities and areas for engagement. These are not necessarily in order of priority, which would be dependent on individual institutional strategies and approaches.

Summary of opportunities identified:

FUTURE OPPORTUNITIES	RATIONALE
Institutional collaborations in teaching and learning	Stated highest priority for international partnership. Increasing the quality of teaching and learning is central to government plans over next five years, including faculty exchange. Considerable scope and scale in state-funded institutions and the private sector.
Research collaboration in STEM	Top priority in research, mostly, but not exclusively, with the 'tier 1' institutions.. Research funding is likely to increase.
Research collaboration in the humanities, arts and social sciences	Supporting multi and inter-disciplinary research; emerging opportunities for professional courses. Pockets of excellence across different institution types (public/private, central/state-funded). Potential interest in wider south Asia networks.
Multi-dimensional, system-wide support for higher education reform	Emerging opportunities through state governments as devolved authority and budgets are made to states based on performance and outcomes.
Students and early stage researchers	UK to India mobility increasingly important and demanded by Indian institutions; capacity building to enhance employability skills and researcher skills; encourage greater pipeline into research careers, English.
Enterprise education, entrepreneurship, links with industry	Important for job creation and enhancing employability. Across institution types, particularly state and private institutions; potentially in partnership with state governments
Leadership and management	New roles for leaders and senior managers as reforms force more accountability and change which require strategic leadership and planning.
Vocational skills	Emerging interest in linking skills and HE sectors, increasing employability and access. Huge interest and need in developing skills market, particularly with private colleges, private universities and business
Digital learning technologies	Vital component to achieve expansion and increase access and quality. Blended learning and MOOCs have large potential. Collaboration in pedagogies and design.
Conferences, policy dialogues and networks	Support to system reform and emerging areas of mutual interest; provide forums for shared learning and relationship-building between the UK and India in HE. Across all institution types, central and state governments
Links with industry, establishing incubation centres and innovation units	Top priority for government: driving innovation, supporting technology transfer, encouraging impact-driven research. All institution types; utilise private institutions for links with industry.

Introduction

Change at the scale we will see in the next ten years in education in India is unprecedented in human history

Prof Pankaj Chandra, Director IIM, Bangalore[1]

Higher education in India is undergoing considerable change. With over 600 million people in India under 25 years old, the system is under tremendous pressure to expand. India's young population has a huge appetite for education and, as the growth in the size of the middle classes escalates, millions are increasingly able to pay for it. By 2020, India will have the largest tertiary-age population in the world[2] and will have the second largest graduate talent pipeline globally, following China and ahead of the USA[3] . The opportunities for the UK to engage with India through education are considerable.

Government plans are in place to transform the sector over the next five years. Every aspect of higher education is being reorganised and remodelled: funding, leadership and management, quality assurance, accountability, relationships with industry, international collaboration, and the way research and teaching are conducted. If these reforms succeed, the breadth and depth of the change will be transformational.

But what is actually happening on the ground in the universities and colleges across India? How do they view these national plans and how are they responding to the enormous social changes happening around them? What do they think the future will look like for their institutions? The British Council, through its presence across India and wide network of relationships with higher education leaders, set out to examine the policy environment in India from the position of stakeholders, to explore the dynamics between policies and their interpretation through to implementation and to form a clearer understanding of the reality facing higher education institutions, their views on what the future holds for them and how they would like to collaborate with the UK.

This report presents and analyses views on the future of higher education in India from those with knowledge and experience of working inside the system. Over fifty face-to-face individual interviews were conducted between November 2012 and April 2013 with Indian vice chancellors, academics and policy makers. The interviews explored in detail:

1. Stakeholders' views on the future of education in India (10+ years) – the challenges, opportunities, priorities and trends, and the implications for their institution

2. How stakeholders would like to engage with the UK and what kind of relationships they will need in the future.

These interview findings capture a snapshot of the perceived changes happening in the higher education sector in India that, hopefully, will be useful to UK higher education institutions as they plan and navigate their collaborations and relationships in India.

This report does not attempt to assess the effectiveness of current UK-India collaboration, nevertheless its findings may be useful in informing discussions on future programmes.

[1] *Going Global conference speech, Dubai 2013*
[2] *UN population division*
[3] *'Education indicators in focus', OECD (2012)*

Why is India an important education partner for the UK?

The success of the UK's research and innovation base is critical to ensuring the UK's future economic growth and prosperity. This will be increasingly dependent on long-term, strategically focused international collaboration. Research funding and publications are predicted to move towards Asian centres, including India[4]. Therefore, to ensure the UK maintains and increases its importance as a global research and innovation hub interconnected with the new regions of power and growth, UK higher education institutions need to be strongly positioned with India.

World-class research and innovation depends on access to the best future academic and research talent. In the next decade, India will have the largest tertiary enrolment in the world and will be a key source of intellectual capital; UK universities will need to tap India's talent pipeline to engage with the best researchers in the world. UK businesses and industry need the high level skills of graduates in India to grow their business and trade connections. The unmet demand for higher education by the burgeoning middle classes in India will provide a huge market for education services and products. This growth represents the largest education opportunity in the world for UK institutions and education businesses. However, as the number of Indian students coming to the UK continues to drop[5] and the outlook of further Indian student mobility to the UK appears unpredictable[6], the UK can no longer rely on a flow of alumni returning to India to form future research relationships. The UK will need to establish these long-term relationships by engaging with India in India.

The UK has built a good foundation of partnership with India in higher education, significantly boosted over the last eight years through programmes including the UK-India Education and Research Initiative (UKIERI) and the considerable growth of joint research funding with Indian government funding bodies and the UK Research Councils. However, other nations are beginning to build strong links through national programmes and individual institution initiatives, and while there appears to be keen interest in further collaboration with the UK, Indian institutions are also looking globally for partners.

The growth of Indian higher education, with its opportunities for the UK, will have a profound effect on the employability of young people in the UK. UK higher education institutions, in their efforts to ensure that their graduates are globally competitive and prepared to live and work in a world where opportunities and power are shifting towards India and the East, will both need to be strongly positioned in India and engage with India as an essential partner in the internationalisation of the UK's education institutions.

[4] *'Knowledge, networks and nations: global scientific collaboration in the 21st century', The Royal Society (2011)*
[5] *Higher Education Statistics Agency (2014)*
[6] *'Inside India: a new status quo', British Council (2013)*

Setting the scene: Economics, demographics and politics

The transformation of education in India in the next ten years is being driven by three main factors: economic growth, demographics and politics. Wider, global factors are also influencing change, including the rapid internationalisation of education, global competition for talent and research funding and the commodification of education.

Many more able and willing to pay for education, but many left behind

In the next decade, India will experience enormous growth in its middle classes: from 50 million now, to 500 million by 2025[7]. By 2020, India will be the world's third largest economy. The relationship between economic growth and growth in the tertiary enrolment ratio is particularly strong for economies with lower levels of GDP (purchasing power parity) per capita. As India's economy continues to grow, a huge number of first generation learners will demand access to higher education. In ten years' time, 25 million households across India will have an income equivalent to $15,000 and will be able to pay fees for higher education, an increase of 15 million on today's enrolment rates[8].

However, growth will be uneven; India will be challenged by a growing disparity between those who have access to better life chances, and those who do not. Despite huge strides in primary enrolment rates, India still has the largest number of out-of-school children in the world, more than the whole of sub-Saharan Africa, and 69% of India's population still lives on less than $2 a day[9]. The World Bank categorises India as "an extreme dual economy".

The world's biggest tertiary-age population

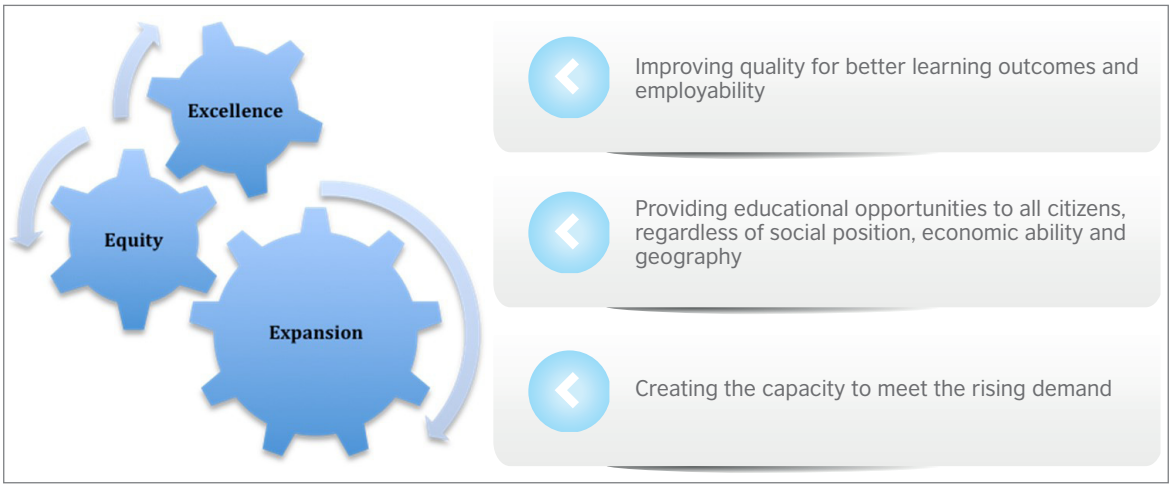
Another significant driver for educational change is population growth and the demographic profile. More than 50% of India's population is under the age of 25. By 2020, India will have one of the youngest populations in the world, with an average age of 29 years[10]. India will outpace China in the next ten years as the country with the largest tertiary-age population[11] and its relative success in boosting primary enrolment, access to secondary education and improved retention rates should see it have the largest growth in tertiary enrolment in the world in 2020[12]. The OECD predicts that in 2020, 200 million of the world's 25-34 year olds will be university graduates and 40% of these will be from China and India[13], representing a huge proportion of the global talent pool.

[7] *McKinsey Report (2007) cited in 'The Emerging Middle Class in Developing Countries' OECD Development Centre, Working Paper 285 (2010)*
[8] *Rivers of Innovation: NESTA (2012)*
[9] *World Bank (2010) accessed at http://data.worldbank.org/indicator/SI.POV.2DAY on 5/11/2013*
[10] *'Estimates and projections of the economically active population: 1990-2020', International Labour Organisation (2011)*
[11] *UN population source, cited in The Shape of Things to Come: British Council (2012)*
[12] *Source: Oxford Economics, cited in 'The shape of things to come', British Council (2012)*
[13] *Education Indicators in Focus: OECD (2012)*

Together, these factors present three interrelated key challenges for education in India: expansion of the system, equity of educational opportunities and enhancement of the quality of teaching and research in Indian institutions.

These issues are reflected in the three central pillars for the Government of India's 12th Five Year Plan for education, and are cross-cutting issues in this report:

The three central pillars of India's 12th Five Year Plan



The changing politics of education

The third factor affecting educational change is political. Education in India is highly politicised and complex. Throughout the political system to the highest levels, the education sector is powerfully represented; reforms in education are controlled by political processes and interests at both central and state levels. Many education reforms, plans and ambitions are highly contested. There is a complex interplay beneath the formal structures affecting the distribution of power and resources in education in India; underlying pressures, interests, incentives and institutions can influence or frustrate future educational change. This is particularly complex in the higher education sector.

There is a great deal of centralisation in decision-making in education, driven primarily through the five year plan system, which sets out priorities and central budget allocations to states. However, there has been increasing frustration from the states that central government is too slow and 'interfering'[14], and has held back progress in education. Education bills can languish for years in parliament without being put to the vote.

In reality, central government does not have a strong mandate to control education at the state level, and the mechanisms to ensure that states are following central decisions are not completely effective. There is now central government approval to devolve more decision-making power to the states, and this has widespread support. States are taking education reform into their own hands, albeit within the confines of central legislation. However, there are considerable variations in the ability and the political will of states to achieve this.

In the more immediate future, India is due to hold national elections this year in 2014. This will almost certainly have an impact on the progress of bills through parliament, particularly through non-cooperation in legislative voting. There are likely to be significant changes in key posts in education under the new government, which will further disrupt decision-making on pending issues

[14] *Research findings through interviews with Indian stakeholders*

and bills. Nevertheless, the devolution of key areas of responsibility for higher education to the states is set to continue[15]. Indications are that and state parties will occupy influential positions within the next government.

There are currently more than a dozen education bills pending in parliament[16], some of particular importance to foreign institutions. The Universities for Research and Innovations Bill (2012), for example, would allow universities to act as hubs for education, research and innovation which would be open to all, including foreign institutions, and would also permit the recruitment of foreign faculty. The general view holds that this bill has a better chance of being passed; in contrast, the Foreign Educational Institutions Bill regulating entry of foreign providers is regarded as unlikely to become law in the medium-term. A list of the bills, their aims and possible relevance to UK institutions is contained in the Annexes. Various issues at both state and central levels, including concerns about exploitation and competition, are delaying the passing of several of these bills.

These difficulties in regulating the higher education system have been compounded by structural issues, including a national quality assurance system which has struggled to adequately monitor standards in colleges and universities, and which has been particularly problematic in the burgeoning private sector. This situation is changing, however: accreditation of all colleges and universities became mandatory in 2013 and thousands of institutions have registered for accreditation in the last six months. There is a new impetus to strengthen national systems through mechanisms which grant more autonomy and funding to states linked to greater accountability.

Interviews with key stakeholders consistently suggest the following likely outcomes:

- The Foreign Educational Institutions Bill is unlikely to be passed in the near to medium future.
- There is strong support, in principle, for the internationalisation of Indian institutions and for foreign universities to increase their collaboration in India, not only in research, but also in teaching.
- The Innovation and Research Universities Bill is important: it could be a means to bypass the Foreign Educational Institutions Bill, enabling a number of universities, some of which may be foreign, to have total autonomy, including delivering foreign degrees and hiring foreign faculty. This appears to have a better chance of being passed by parliament.
- The upcoming national election in 2014 will delay highly contested bills until at least 2015, while less consequential bills will be passed quickly.
- Most of the action is happening at state level; the drivers of change for the vast majority of the HE sector will emerge at state level, both in the private and state-funded sectors.

[15] See 'Rashtriya Uchchatar Shiksha Abhiyan', Ministry of Human Resource Development in association with the Tata Institute of Social Sciences (2013)
[16] Pre Legislative Research (PRS): www.prsindia.org/downloads/bills-pending-in-parliament/

The context for change

The Indian government is planning huge expansion at all levels of education. While there is no doubt that this will be the decade of change at a transformational scale and pace, India's rise faces daunting challenges. The education system as a whole is beset with issues of quality, access and equity, and change is happening much faster in some states than others.

The general standard of education in India is low. There are not enough places in schools, colleges or universities to cope with the enormous and increasing demand. Traditional approaches to meet this demand will not be sufficient in the time-scale needed.

With the rise of the middle classes, an increasing number of people need not rely on the state to provide an education service. As a consequence, India has seen a dramatic shift towards private provision across the entire education spectrum, including higher education. The private sector is already playing a significant role in the development of education in India, and its influence and presence will increase substantially.

Education is vital for India's competiveness and economic growth, but also for social stability. The disparity between rich and poor is growing, and expectations on the part of young people and their parents are high. Geographical differences are vast, compounded by social divisions and inequalities in education provision.

By 2020, India needs

40 million university places[17]- an increase of 14 million - and

500 million skilled workers[18]

Over the last decade, higher education has been on a steep growth trajectory. India now has the largest higher education system in the world in terms of the number of institutions, and the second largest in terms of the number of students.

However, despite impressive growth, India's higher education gross enrolment ratio (GER) at 18% is currently well below the global average of 27%. This difference is even more stark when compared to China and Brazil at 26% and 36% respectively (2010 figures)[19]. The government plans to increase GER in higher education to 30% by 2020[20]. This will require a transformational change at a pace and scale never seen before. As India currently has 26 million students enrolled in tertiary education, by illustration, it would need another 800 universities and over 40,000 colleges in the next eight years to provide the planned additional 14 million places (40 million places by 2020)[21].

At current growth rates, India will fall very far short of this figure, therefore the Indian government has put an ambitious five-year plan into place to boost the rate of expansion significantly.

[17] *'40 million by 2020: preparing for a new paradigm in Indian higher education', Ernst & Young (2011)*
[18] *'National policy on skills development', Ministry of Labour and Employment, Government of India (2009)*
[19] *'Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond', Ernst and Young (2012)*
[20] *'Twelfth five-year plan': Government of India Planning Commission (2012)*
[21] *'40 million by 2020: preparing for a new paradigm in Indian higher education': Ernst and Young (2011)*

Higher education institutions in India: a brief overview

A brief overview of the Indian higher education system provides an essential backdrop for the following research findings and comments.

There are three main types of tertiary institution in India: 1) universities and university-level institutions, 2) colleges and 3) diploma-awarding institutions. These are categorised by funding source: central government, state government and private.

Table: Higher education institutions in India

TYPE AND NUMBER OF INSTITUTION	CENTRAL	STATE	PRIVATE	TOTAL
University and university-level institutions	152	316	191	659
Colleges	669	13,024	19,930	33,023
Diploma-awarding institutions	0	3,207	9,541	12,748
Percentage enrolment in 2012	**2.6%**	**38.6%**	**58.9%**	**100%**

Source: 'Higher education in India: twelfth five year plan and beyond', Ernst and Young (2012)

If there is one overall structure which defines Indian higher education, it is the affiliated college system. The vast bulk of students study at public and private colleges which are affiliated to state universities. These colleges do not have their own degree awarding powers; they deliver the courses, curricula and examinations specified and regulated by their parent state university. The affiliated college sector is huge, enrolling over 90% of undergraduates, 70% of postgraduates and 17% of doctoral students[22]. Some universities have as many as 1000 colleges affiliated to them. There are considerable challenges in regulation and quality control; and while there are notable exceptions, many are perceived to be sub-standard. Last year, accreditation through the National Assessment and Accreditation Council and the National Body for Accreditation of all universities and colleges was made mandatory. A huge exercise is underway to accredit the two-thirds of universities and four-fifths of colleges that do not have accredited status.

State universities, therefore, through their activities, form by far the greatest element of higher education in India. They are run and funded through their respective state governments. There is wide variation in the amount of funding they receive, but in general, they have been critically underfunded over the last 20 years. State universities depend on affiliation fees paid by the colleges for their survival. These fees, supplemented by state government funding, are generally used to pay salaries and little else; most have poor infrastructure and conduct little research, although pockets of excellence exist. Many state universities spend much of their time administering the exams and admissions to their affiliated colleges. Places at state universities are highly sought after by students.

Most, but not all, state governments have legislation in place to grant university status to private colleges, providing them with their own degree-awarding powers and much more autonomy. This is the fastest area of growth in new universities. There are currently 100 such private universities in India (16% of degree-awarding institutions)[23].

The central government also has the means to grant university status to private institutions, under the 'deemed university' category. There are currently 129 deemed universities (20% of degree-awarding institutions)[24]. It is unclear whether or not this central role will continue, given the plans to devolve more decision-making to the states.

[22] *Ibid.*
[23] *'Higher education in India at a glance': University Grants Commission of India (2012)*
[24] *Ibid.*

Over the last two decades, central universities and Institutes of National Importance have been the focus of central government priorities and funding. These include the IITs, IIMs and IISERs and several national institutes in specific discipline areas. Most international collaboration is concentrated in these institutes, many of which are research-based. They have high prestige in India and beyond.

The private sector has outpaced the state sector in tertiary education and is rapidly expanding. The private sector will continue to be crucial in the growth of higher education in India and already comprises 64% of the total number of institutions and 59% of tertiary enrolment across the country[25]. Currently, private higher education universities are growing at 40% per annum and worth $6.5 billion[26]. Many potential private investors are waiting in the wings.

Most research collaboration between India and the UK formed through programmes or initiatives (through UK Research Councils and the UK-India Education and Research Initiative or UKIERI) are focused on the 'best' research institutions in India, primarily the centrally-funded universities and Institutes of National Importance, where only 2.6% of Indian students are enrolled. While Phase 2 of UKIERI has encouraged broader participation with 'tier2 and 3' institutions, forming over 20% of the partnership awards, this is still a very small representation.

There remains limited international research collaboration with state universities and private institutions, with a few notable exceptions. Therefore, the international higher education community is generally not engaging with the institutions where most students (97.5%) are studying.

Undergraduate boom, research gloom

The undergraduate sector in India is huge: currently 14.6 million (86%) students are enrolled on undergraduate courses, compared to 2 million (12%) on post-graduate courses[27]. Under the new five-year plan (2012-17), undergraduate education, for the first time, has been elevated to a top priority position in the government's push on expansion, inclusion and excellence.

While general university and diploma courses account for the majority of students (two-thirds of tertiary enrolment), there has been much faster growth over the last five years in professional courses (one third of tertiary enrolment), which include engineering, medical, management, law and other vocational courses. Professional courses form the bulk of study in private institutions and are significantly more expensive than general courses, sometimes up to ten times more[28].

India is not producing enough PhDs. Very few students continue on to research degrees compared to other countries: only 140,000 (1%) students are enrolled as post-graduate researchers. The lack of enquiry-based learning and early researcher skills is limiting the capacity of Indian institutions to engage in vital research and innovation activity.

Not-for-profit?

University education is, by law, not-for-profit in both public and private sectors. The reality is a little more complicated. The majority of private institutions in certain parts of the country operate a widely prevalent means of making money through illegal 'capitation fees', in the form of one-off fees paid by the student, off-the-books. It is reported that in Tamil Nadu the capitation fee for an engineering course can be 3-400,000 rupees (£3-4000[29]) and has been reported to reach up to

[25] *'Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond', Ernst and Young (2012)*
[26] *'Private universities in India: an investment in national development': The Parthenon Group (2012)*
[27] *'Higher education in India at a glance': University Grants Commission of India (2012)*
[28] *'Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond', Ernst and Young (2012)*
[29] *Approximate exchange rate in February 2014*

4.5m rupees (approx. £45,000) at a prestigious medical college[30]. The private sector argues that caps on the low, but legitimate, student fees, make it impossible for private institutions to operate without charging capitation fees. There are indications that the government increasingly recognises that the low levels of funding support and student fees in both private and state-funded institutions are unsustainable and are therefore likely to rise in the future.

Challenges facing higher education

These fall into four broad categories: the low quality of teaching and learning; the supply-demand gap; uneven growth and access to opportunity; and constraints on research capacity and innovation.

The low quality of teaching and learning

Arguably, the greatest challenge facing higher education in India is the chronic shortage of faculty. Various reports estimate that 30-40% of faculty positions are unfilled[31]. Most faculty have had no training in teaching. Other issues in teaching and learning which compound the problems include:

- Outdated, rigid curricula and the absence of employer engagement in course content and skills development. Very few opportunities for interdisciplinary learning.
- Pedagogies and assessment are focused on input and rote learning; students have little opportunity to develop a wider range of transversal skills, including critical thinking, analytical reasoning, problem-solving and collaborative working.
- High student: teacher ratio, due to the lack of teaching staff and pressure to enrol more students.
- Separation of research and teaching; lack of early stage research experience.
- An ineffective quality assurance system and a complete lack of accountability by institutions to the state and central government, students and other stakeholders.

This has resulted in graduates with low employability, a common feature of higher education across south Asia[32], and an insufficient basis for movement to higher levels of study and research. These problems are endemic across higher education institutions in India, including many of the 'top tier' institutions, but particularly so in affiliated colleges and state universities.

The supply-demand gap

Despite an average growth rate of over 7% in the last decade, India's GER in higher education is very low. By some estimates, even if India succeeds in its target of 30% GER by 2020, 100 million qualified students will still not have places at university[33]. India needs to drastically increase the number of places at universities and enrolment through distance learning programmes. Over the last decade, the diversity of courses offered by universities and colleges has narrowed, resulting in saturated markets for engineers, technology graduates and MBAs.

Uneven growth and access to opportunity

Despite efforts to spread the location of higher education institutions more evenly across the country, there is wide variation, particularly between urban and rural areas, but also between states.

[30] *Interview findings*
[31] *Several sources. See, for instance, "Higher Education in India: Twelfth Five Year Plan (2012-2017) and beyond', Ernst and Young (2012)*
[32] *'High university enrolment, low graduate employment', British Council with the Economist Intelligence Unit (2014)*
[33] *Nikhil Sinha, Vice-Chancellor of Shiv Nadar University in presentation at Going Global 2013 conference.*

There are still significant multi-dimensional inequalities in enrolment rates between rural and urban populations, rich and poor, minority and mainstream communities, men and women and people with disabilities. 'Inclusive growth' is a priority for reform in Indian education. With the growth in the middle classes, Indian universities must prepare themselves for considerable changes in student profile.

Constraints on research capacity and innovation

India does not have enough high quality researchers. The number of students taking PhDs and entering research posts is very low: 4,500 PhDs are awarded per year in science and engineering, compared to 30,000 in China and 25,000 in the US[34]. There is systemic segregation of teaching and research; most teaching-focussed universities (the vast majority) do not provide students with research experience or the skills which would prepare them for research careers.

Despite a growing reputation for 'frugal innovation'[35], mainly driven from the private sector, the ecosystem for innovation in Indian research institutions is weak. The causes, among others, stem from a lack of multidisciplinary working, no development for faculty and students in areas to stimulate innovation and few links with industry. These constraints reveal themselves in the failure of Indian institutions to make their mark in the world global rankings.

All the above challenges are addressed through the Government of India's 12th Five Year Plan for higher education, the main points of which are outlined below[36].

Key reforms in India planned in the next five years

The central government operates a five-year planning cycle. The twelfth five-year plan (2013-17) for higher education addresses three overarching challenges: excellence, equity and expansion.

Excellence

Priority issues include improvements in teaching and learning, and a focus on learning outcomes; faculty development to improve teaching; increased integration between research and teaching; more international partnerships in teaching as well as research; better links between industry and research to stimulate innovation; and connecting institutions through networks, alliances and consortia.

Equity

Further initiatives targeted at underprivileged and underserved populations in society and geography, addressing urban/rural, gender, people with disabilities and community divisions and inequities.

Expansion

Scaling up capacity in existing institutions, rather than creating many new government-funded institutions; enabling discipline diversity, counteracting the skewed growth towards engineering and other technical subjects; enabling flexible and skills-based learning; ensuring a more even spread across the country; alignment to the needs of the economy; and encouraging private investment.

[34] *'Twelfth five-year plan', chapter on Higher Education, Government of India Planning Commission (2012)*
[35] *'Our frugal future: lessons from India's frugal innovation system': K.Bound and I.Thornton; NESTA (2012)*
[36] *Link to full plan: http://planningcommission.gov.in/plans/planrel/12thplan/welcome.html*

Key elements of the 12th Five Year Plan

These three interrelated areas are not new: all have been addressed in various forms in previous five-year plans dating back to 1980. The main difference in the 12th plan is its holistic nature, with a clear focus on quality, or 'excellence', as an overarching guiding principle for expansion and equity. The excellence principle incorporates the diversification of higher education courses in response to changing economic and industry needs, the provision of greater choice and career paths for students and brings teaching quality to the fore, alongside research capability.

Underpinning these reforms are:

- An emphasis on leveraging technology: a huge investment in ICTs and internet access under a 'meta university framework', which enables multi-disciplinary collaboration and development of technology-enhanced learning and teaching, including MOOCs and online courses
- A national mission for 'teachers and teaching'
- Further support for multi-disciplinary research
- Further support to vocational education institutes
- More autonomy and transparency for institutions, and better coordination between regulatory bodies

Key proposals in the 12th Five Year Plan include:

- A strengthened accreditation system along with more autonomy for states and universities
- Improving the quality of teaching and doubling the number of faculty
- Doubling of investment in R&D to 2% over five years
- Significant investment in ICT in terms of infrastructure and content development
- A shift to a credit-based and internationally recognised assessment system
- Strengthening the capacity of existing institutions, establishing 20 'innovation and research universities' and 50 centres of excellence, training and research in science, technology, social sciences and humanities
- A review which could pave the way for for-profit private education in some areas
- The introduction of schemes to target underprivileged and underrepresented students
- Support for further internationalisation through a broad range of initiatives, including increased international research collaboration, international programmes for faculty development and attracting foreign faculty to India.

A more detailed summary of provisions in the plan is contained in the Annexes.

Devolution to the states

The greatest reform in the governance and funding of state universities will come through the central government's Rashtriya Uchchatar Shiksha Abhiyan (RUSA) or National Mission for Higher Education programme, a key part of the 12th Five Year Plan. RUSA aims to "have a completely new approach towards funding, regulation and governance of higher education in state universities; it will be based on key principles of performance-based funding, incentivizing well performing institutions and decision-making through clearly defined norms."[38] This new framework was approved, with funding, by the Indian government in October 2013. Although it is too early to make any long term predictions, the initial stages of the programme, which lay the groundwork for national implementation, have been markedly swift.

Under RUSA, the central government has committed extra funding to most states for higher education in the ratio 65:35 central to state funding. This represents a significant increase in ring-fenced funding to state universities. However, there are conditions: state governments have to set up autonomous State Higher Education Councils (SHECs), which will be responsible for the planning, quality assurance, monitoring and evaluation of the state's higher education provision, in order to enhance quality and improve access to the sector. In effect, the governance of higher education, except for centrally-funded institutions of national importance, will be devolved almost entirely to the states. This will have important implications for UK cooperation in system and institutional capacity building, where opportunities for consultancy services are likely to come directly from state governments.

If successful, RUSA will bring in a new era of quality assurance and accountability in state universities and colleges in India. At the time of writing, 19 states had signed up to the RUSA reforms, with more expected to follow in the next year. The first funding round is due to take place in October 2014.

Like its predecessors, the 12th plan is highly ambitious with challenging targets. Although substantial progress was made under the 11th plan (2007-2011), particularly in the creation of new institutions and driving significant expansion which moved Indian higher education from an elite to a mass system, 46.5% of the plan's budget for higher and vocational education was unspent at the end of the term. It remains to be seen whether the 12th plan can be effectively transformed into action. Interviews with Indian stakeholders in the following sections provide insights into this crucial question.

[38] *'Rashtriya Uchchatar Shiksha Abhiyan', Ministry of Human Resource Development in association with the Tata Institute of Social Sciences (2013)*

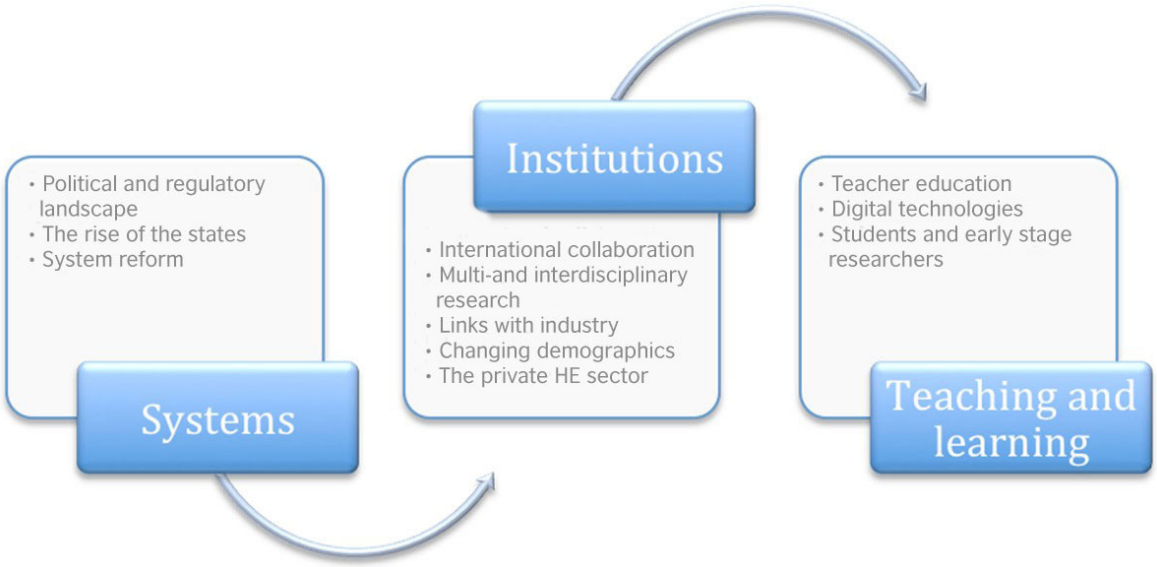
The views of Indian stakeholders: Interview findings

Over fifty face-to-face individual interviews were conducted between November 2012 and March 2013 with Indian policymakers and academics. The purpose of these meetings was to explore in detail:

- Stakeholders' views on the future of education in India (over 10+ years): the challenges, opportunities, priorities and trends, and the implications for their institution
- How stakeholders would like to engage with the UK and what kind of relationships they need with UK institutions in the future

The interview subjects were chosen for their knowledge and influence on national and/or state education policy, and also to include a range of institutions (private, state and central) within the sample. A list of stakeholders is given in the annexes. The research was conducted by the British Council using semi-structured qualitative interviews to allow the discussion to flow within the question framework in order to capture nuanced and perception-based data, and to explore emergent views, ideas and opinions.

This section is divided into three parts, each dealing with interviewees' perceptions and insights on future priorities in the following areas: a) systemic reform, b) institutional development, and c) teaching and learning. Key topics which emerged are indicated in the following diagram.



Systemic reform: structures, barriers and priorities

The following areas emerged as priorities and key challenges for the future of higher education in India. In general, the research revealed widespread dissatisfaction with the central and state governments' performance in giving clear direction and momentum to systemic reform, while at the same time, broad support for the government's future plans.

The political and regulatory environment and the rise of the states

While there was broad endorsement of the 12th Five Year Plan and the associated RUSA plans, which will enable states and institutions to access funding based on performance and outcomes, most interviewees cautioned against taking an overly optimistic view of the future of higher education in India. Reform will be "slower and messier" compared to China.

Stakeholders expressed discontent with the way central and state universities are currently funded. As a side effect of the government's drive to establish centres of excellence through 'top tier' institutions and Institutes of National Importance, state universities were regarded as having been neglected and underfunded, despite these institutions enrolling the vast majority of students.

Several interviewees believed that there will be an influx of corporations entering the higher education space in the next decade. Corporates were 'waiting in the wings' for central government legislation to be passed on the innovation universities[39]. One interviewee was confident that at least 50 large businesses were seriously interested in establishing universities under the Bill. However, most believed that for-profit higher education will not be possible in India within the next ten years.

Many interviewees expressed their reservations over the ability and will of state and central governments to push through reforms in higher education, particularly in the state universities, citing issues of corruption and vested interests, politicisation of key institutional posts, including the recruitment of vice chancellors, entrenched bureaucracy, lack of funding for higher education and the ban in some states on recruiting academics to full faculty positions.

Not a single interviewee believed that the Foreign Educational Institutions Bill would be passed in the medium future. Most interviewees suggested that the way forward for foreign institutions would be through bilateral institutional collaborations in research and teaching and not through foreign-owned campuses. Foreign institutions were advised not to wait for conducive legislation, but be more creative and flexible in their approaches to collaboration and business planning in India.

Devolution of power to the states is coming amid huge variations in readiness

The interviews revealed a clear shift of power from the central government to states. None of the academics and institutional leaders interviewed had confidence that central government would be able to effect transformational reform in higher education without this. There was general agreement that the devolution of authority to states would enable them to drive functional and structural reforms. However, it was acknowledged that some states were more ready to take on this responsibility than others; there is, reportedly, huge variation in the readiness and will of states to reform higher education. Outwardly, however, some states are preparing for change.

The following three short descriptions provide examples of the variety across states. These are drawn from comments given in interviews and give an indication of the aspirations and reputation held by some of their approach to higher education:

Gujarat

Gujarat is one of the most industrialised states in India, which is reflected in its approach to education reform towards employability. Overall, there is a strong sense that Gujarat is moving forward quickly to internationalise its education and trade. The state is dynamic and supportive; there is a sense of optimism that they are on the right track. They are not waiting for central government legislation, but are determined to move ahead with major reforms within their HE system over the next decade within the existing legislative frame.

[39] *See the Universities for Research and Innovation Bill (2012), pending in parliament: http://164.100.47.5/newcommittee/press_release/bill/Committee%20on%20HRD/Universities%20for%20Research%20and%20Innovation%20Bill,%202012.pdf*

The Gujarat Knowledge Consortium would like to see more partnerships with UK institutions in teaching, research and links with industry. There is a key role for the UK in system-to-system collaboration: quality assurance, creating and managing digital resources and outcome-based assessment were specifically mentioned.

There are open entry points for collaboration now, and these will increase as reforms continue to open up the system for international engagement. The UK needs to increase its visibility in Gujarat; there was a sense that other countries, particularly Canada and Japan, are more strongly represented.

Tamil Nadu

The State Government of Tamil Nadu, the 7th most populous state in India, is ambitious and wants to brand Tamil Nadu as a state at the frontier of education reform. With a government keen to engage, it is open to innovative ideas within its priorities and is keen to show results.

There are opportunities for UK engagement, particularly in system-wide approaches. The government is very supportive of international collaboration, most recently through a mobility scheme for Indian faculty and students to the UK.

There is a clear emphasis on the importance of enhancing employability skills among students and the Tamil Nadu government is reported to have investment funding for enterprise and entrepreneurship education.

West Bengal

West Bengal, with a population of 91 million, is the fourth largest state in India, and the seventh largest sub-national entity in the world. It has one of the lowest tertiary enrolment rates in India. After 34 years of communist government and slow economic reform, last year West Bengal elected a new party into power, which is seen by commentators as pro-business and open to reform, possibly heralding a new era of economic growth and private sector development. This has important implications for the expansion of higher education.

West Bengal has some of the oldest and most venerated higher education institutions in the country, and is particularly strong in the social sciences, arts and humanities. They are keen to collaborate further with the UK in these areas. Engagement with industry did not seem to be a high priority during any of the research interviews. There is deep-seated scepticism in state-funded institutions over the growing private education sector, which was seen at odds with the commonly held principle among academics of higher education as a cultural and social good.

The new government's focus on economic growth may have important implications for reforms in the education sector; we may see a state government-directed drive towards new priorities for higher education in industry-university engagement, employability and innovation. It is unclear how academics will respond. Future government strategy and plans need to be further explored, but there are already indications that the government is keen to encourage public/private partnerships.

Priorities for system reform

Four key priorities for system reform emerged from the interviews: quality assurance, international credit recognition, a unifying national qualifications framework and teacher development.

Quality assurance

Interviews with the National Assessment and Accreditation Council (NAAC), along with the directions outlined in the 12th Five Year Plan and RUSA, confirmed that the accreditation and regulation of the higher education system is in the process of considerable reform. These changes include the expansion of NAAC's scope, acting through the formation of multiple agencies. States will have greater responsibilities for quality assurance through state regulatory bodies.

There is wide agreement at state government level and among those involved in national policy planning that, currently, universities are not held accountable to government or students, do not provide information about their operations and achievements, and that there is no effective system of performance-based control or support. All interviewees regarded the future reform of the quality assurance system a top priority and many interviewees were generally aware of the upcoming changes to the system, but several were concerned by the size of the task ahead of them.

Several interviewees expressed concern about the affiliated college system and the poor quality of teaching and learning. Some had extremely negative views on the state of teaching in the majority of engineering colleges. Most interviewees recognised the need for systemic change in the regulation, quality assurance and management of affiliated colleges, and welcomed dialogue with other countries similarly affected.

Credit recognition

The university leaders and academics interviewed predicted that India will move towards international recognition of credits, leading to wider recognition of learning and achievements and supporting the international mobility of students, although several acknowledged the journey will be a complex and difficult one. Some interviewees expressed a desire for wider policy dialogues and future collaboration with Asia on this issue, including the idea of a 'Bologna for Asia'.

National qualifications framework

The interviewees who mentioned this area saw the need for a unifying national qualifications framework for skills and higher education to enable mobility across streams in both directions. Several HEIs were involved in interesting initiatives linking vocational and higher education at institutional level.

University and college teacher training

Teacher development was considered crucial for the future of higher education in India, particularly for state government support systems. However, there was little confidence that central government could effectively act in this area. Leaders of institutions were concerned that the onus of responsibility would fall on the institutions themselves, but that they did not have the capacity, experience or skills to respond. Several institutions indicated that interactions with other countries would be useful, for example with the UK's Higher Education Academy and partnerships with institutions and centres of teaching excellence in the UK.

Institutional development

Stakeholders indicated a number of priorities for change at institutional level:

Increasing internationalisation of research and teaching:

All institutions viewed international collaboration in both research and teaching to be essential for the future of Indian higher education. Many were keen to develop further partnership opportunities with the UK, in order to:

- Develop their capacity in research and innovation, work with the best research teams in the world on national and global challenges and improve the global rankings of Indian institutions
- Modernize and internationalise out-of-date curricula, enhance employability and improve teaching and learning outcomes
- Provide skills, learning opportunities and networks for the next generation of Indian researchers

There was common agreement among interviewees that for centrally funded institutions (the IITs, IIMs and Institutes of National Importance), the availability of research funding is not an issue. The biggest challenge is the lack of good quality proposals. Research funding has been consistently underspent as a result. Indian institutions would like to partner with UK HEIs to strengthen their capacity to compete for research funding, nationally and internationally. Specifically, they require contact with UK and other Indian researchers through networking and other professional events, and UK support in providing essential skills for researchers, including proposal writing.

It is a different story with state universities. Unlike centrally-funded institutions, state universities have been chronically underfunded over the past decade. Interviewees expected this to change in the next decade, but with wide variations across states. Many state universities do not have substantial experience of international activity; some very large state universities in India have no links with UK or US universities at all. Interviewees noted that state universities are too isolated, with few linkages with other Indian states, let alone internationally. State universities are seeking more research collaboration opportunities and international teaching partnerships with the UK. Although there are pockets of good research, generally research activity is either non-existent or not up to international quality. Therefore, international collaborative arrangements with some of the state universities will need to incorporate capacity building.

Many interviewees expressed concern around the failure of Indian institutions in global university rankings, particularly in relation to China's growing success. International partnerships were considered essential for this situation to be reversed. State governments and the 'top tier' institutions articulated their frustrations with the 'Western dominated' global ranking systems, indicating that a new Asian ranking needs to be developed. In the meantime, the UK could contribute to awareness-raising in India around the criteria and metrics used in the global rankings for them to develop coherent strategies to rise up the rankings.

There is a strong need to internationalise Indian higher education. This was perceived to be important for Indian students by providing them with a more international world view, developing intercultural skills, and exposing them to different approaches to learning and research. Several of the 'top tier' institutions are looking to embed internationalisation through the recruitment of foreign students. The ten-year strategy for one of the IIMs, for example, aims for 10% of their student intake to come from other countries. Stella Maria College in Chennai currently enrols students from Myanmar, China, South Korea, Sri Lanka and several countries in Africa. All interviewees wanted to

move beyond the established one-way model of sending Indian students to the UK.

A smaller number of interviewees, but particularly from some of the centrally funded universities, argued that due to the imbalances in research expertise between India and developed nations, current international collaboration in India was artificial and could not be considered truly mutual. They suggested that the next big step for research in India would be to employ foreign academics in Indian HE institutions. Collaboration could only thrive if more international academics spent time in Indian institutions, building capacity and capability to collaborate from a basis of strength on both sides. This required a long-term view. It was felt that international competition for senior posts would push up quality in India. However, this requires changes in government legislation to allow non-Indian citizens the right to work in Indian universities. India's IITs are pushing this agenda with central government. There is hope that the Innovation Universities Bill will allow some institutions the freedom to hire foreign faculty, and the interviewees would like the UK to be active in this area.

All institutions interviewed requested more bilateral faculty exchanges linked to teaching and research collaboration. In order to do so, several interviewees advised Indian and UK institutions to invest in building closer, longer-term, multi-dimensional relationships.

Several institutions reflected on the success and importance of previous higher education partnership schemes offered by the UK, some dating back to the 1980's, which in many cases, acted as the primary catalyst for international activity in their institutions and, for some, led to other research funding. Among the central universities, established private institutions and centres of national importance, UKIERI is seen as an important and successful programme. However, other universities, particularly state institutions and some in the private sector, felt that they were not given sufficient opportunity to partner with UK institutions.

The importance of research networks emerged in several of the interviews. There was particular interest in the British Council helping to connect researchers across South Asian countries, as well as with the UK. In the social sciences and humanities, connections with Pakistan were highlighted as important; it was also noted that there is no active network in social sciences and humanities to connect researchers and to share opportunities for research funding and collaboration.

Discussions around foreign institutions operating in India highlighted the difficulties involved; many of the interviewees were aware of the often painful experiences of foreign institutions trying to set up in India. Some suggested that foreign providers did not have enough knowledge of the Indian higher education market and that foreign providers should operate through institutional partnerships, rather than through overseas campuses or business affiliations.

Encouraging prospects for international collaboration in the social sciences, arts and humanities

The lack of international collaboration in the social sciences, arts and humanities was frequently raised during the interviews. There is widespread concern in India about the future of these disciplines and broad agreement that Indian higher education, including international collaboration opportunities, is extremely biased towards the science and technology professions.

The country's past strengths in the social sciences, humanities and arts were consistently referred to, but interviewees noted that in recent years, expertise and talent had been lost. Despite the recognition that these areas of study were vital for the future growth and development of Indian society and culture, there are challenges to any revival:

- The lack of opportunity for international collaboration; international research networks are weak or non-existent, and researchers are isolated, even within their own institutions. This is reflected in the meagre number of international partnerships

compared to those in science and technology. UKIERI has made efforts to extend its partnering opportunities to include these disciplines, but there are still large gaps. Some of the top institutions in these disciplines do not have any international research collaborations, despite the enthusiasm of their academics to develop them.

- University students in the social sciences, humanities and arts are not continuing into research careers, which have reduced to a trickle and have resulted in a chronic shortage of PhD students.

However, the interview evidence appears contradictory: most interviewees reported that because large numbers of engineering graduates are increasingly unable to find engineering jobs, many are taking further degrees in other subjects, often social sciences, to increase their chances of employment. It was reported that ninety-five per cent of MBA students at an IIM, for instance, are engineering graduates. Despite this trend, nearly all interviewees predicted that IT and engineering will continue to dominate student subject choice in the next decade.

There is also a wide degree of variation in the state of the social sciences, humanities and arts across different states: while some remain relatively strong despite adverse funding conditions (those mentioned in this category were Delhi, Kolkata and Kerala), others are much weaker. There is also wide variation between subjects: among the social sciences, economics is by far the most popular; other subjects are struggling to survive.

In addition, social science research funding is available from central government, but much of it is unspent due to the lack of good research proposals. Government attempts to revitalise the social sciences and humanities are not yet being reflected at institutional level; there is a significant policy-implementation gap.

Nevertheless, the interview findings also revealed some promising indications that the social sciences, humanities and arts are not destined to languish in the coming decade:

- The social sciences and humanities have re-emerged in the 12th Five Year Plan (2012-17), which emphasises a need to diversify and extend courses offered by universities and colleges, and there is optimism that there will be a revival in the next five years.

- Some of the key institutions in these areas predict an expansion of courses catering to a non-traditional student market. Several are already experiencing a rise in demand from professionals in specific fields such as gender studies and other areas relating to development priorities, including education management and school leadership. There is also interest in languages, not only English, but others, including Indian minority languages. Some universities are planning to expand their offer in the coming years, but are constrained by a chronic shortage of faculty.

- There are indications that government is becoming more proactive in encouraging growth in the social sciences, arts and humanities departments in state universities. Some interviewees were fairly confident that states will subsidise enrolment in these disciplines, probably through scholarships. The 12th Five Year Plan includes setting up a social science institute, perhaps located across several universities.

- One of the top national institutions noted a recent change in the career preferences of applicants in grades 11 and 12, in that significantly more were choosing the social sciences and humanities. It was suggested that an explanation lay in the new-found economic stability of the upper middle-classes, which enabled parents to allow their children more choice in their careers, rather than opting for the 'safe' professional degrees (e.g. engineering and medicine). This may reflect a growing trend over the

next ten years within this socio-economic group. However, the same trend is probably not happening in the emergent lower middle classes, from where the majority of future students will come.

- Perhaps in response to the point above, there is a growing interest in the liberal arts, particularly in the top social science institutions and elite private institutions. Progressive liberal arts programmes, combining social sciences with natural and physical science subjects, are becoming more popular.

- The social sciences and humanities were seen by interviewees to be essential to understanding and preventing conflict and social unrest within and around India's borders. This is likely to rise up the government's agenda; one interviewee reported that 100 districts out of 600 in India are conflict-affected.

- There are still pockets of expertise in the social sciences and humanities. For instance, West Bengal is still a stronghold in the humanities; Kolkata University alone produces 1000 history graduates a year.

- There is interest in collaborating with the UK in a broad range of areas in the social sciences, humanities and arts. The emergence of interest in short professional training courses may also provide opportunities for international partnership.

Future critical: multidisciplinary research

Most interviewees saw multi- and inter-disciplinarity in research as critical for future research impact and innovation. Many concurred that the social sciences, humanities and arts will be essential in this process. It was noted by some that Indian science research is starting to turn its attention towards social impact; 'surroundings'-driven research will become more important in the coming decade and beyond.

Interviewees discussed at length the barriers associated with enabling interdisciplinary research, which included the silos between and within individual disciplines, a shortage of researchers with the appropriate skills and the absence of effective formal mechanisms and networks to link disciplines around research challenges.

Several senior leaders in Indian institutions commented on the narrowness of most Indian PhD training, in which research students are 'lab-bound' and do not receive any training in areas such as communication skills (including giving presentations and writing proposals), ethics, problem-solving and interdisciplinary working. It was suggested that UK institutions could work with Indian universities on developing these skills. There are examples of recent initiatives aimed at developing multi- and inter-disciplinary working in Indian institutions, including a mandatory one-year course at the Indian Institute of Chemical Biology (IICB) which encompasses the skills outlined above. Initial pilots show that students are finding these courses very challenging. IISER Kolkata is planning the introduction of social sciences across their programmes to enable multidisciplinary research.

An opportunity highlighted for UK engagement in multi- and inter-disciplinary working was to promote social science courses for engineers. Interviewees felt that this would direct researchers in engineering towards social purposes in India.

Growing links with industry

Most interviewees predicted growing interest and involvement by industry in research and teaching, and some of the more proactive states were supporting this through state-level policy instruments. However, there was broad consensus from the universities interviewed that "industry has not pulled its weight" over the last few years, and with few exceptions, has not sufficiently engaged in higher education.

While there are several examples of industry collaboration with the 'top tier'institutions, many large corporations appear to be more interested in setting up their own universities (see section below on the private sector). There appeared to be widespread interest among the universities interviewed, however, in working with industry through joint development of research parks, incubation centres and technology transfer units.

The research revealed indications of state government strategies to encourage collaboration between industry and higher education:

The Gujarat state government, through their Knowledge Consortium, is keenly focused on the links between trade and education; their skills and higher education sector reforms are driven primarily by the needs of business and industry.

The Tamil Nadu state government is also attempting to take a lead on industry-higher education collaboration. They are currently exploring proposals to establish collaborative centres in universities to encourage industry engagement in curricula reform, people exchange and technology sharing and transfer. They expressed a desire to work more closely with the UK on how government can create an enabling environment for this to happen.

This could be happening in several states across the country. Interviews uncovered a common interest in working with the UK on systemic support and institutional models to encourage industry-university partnerships and stimulate technology transfer.

The continued rise of the private sector

All interviewees saw a vital role for the private sector in the expansion of higher education. The subject proved to be highly emotive and presented a wide and divergent range of opinions. While some academics (employed in state institutions), most notably from West Bengal, regard the growth of private higher education with deep scepticism, others, from both the public and private sectors, were highly supportive of the private sector; some suggested that the government pull out of higher education completely and turn the entire system over to private enterprise. One interviewee, in the latter category, suggested that "if the education sector was deregulated today, India would be a world class education hub in twenty years' time". Although there were divergent views on the consequences of the huge growth in private higher education, all interviewees agreed that the coming decade would see many more corporates entering higher education.

Even among supporters of private institutions, many expressed concern over a number of issues related to the future of higher education:

- The growth of the private sector will have a detrimental effect on the diversity of courses offered, driving out demand for social sciences, arts and humanities and inflating demand for professional and business-related courses.

- Private institutions will be primarily teaching-led, and very few will engage in research. This will further separate undergraduates and teachers from research experience, new knowledge will not be incorporated into teaching and curricula, and private institutions will not provide the badly-needed recruits for research careers.

- Problems with teaching faculty will increase: the higher salaries offered by private institutions will draw the best senior teachers away from state and central universities, but the majority of staff in private institutions will be comprised of inexperienced junior teachers on short term or zero-hour, low wage contracts. This will lead to extreme polarization of skills in the private sector, exacerbate the teacher shortage in the state sector, and result in a high staff turnover with low incentives to improve quality.

The view from the private sector

The private colleges interviewed expressed their frustration at the lack of freedom under the affiliation system, which denies them degree-awarding powers and gives them no control over the curriculum and courses they offer. Most of those interviewed (although a relatively small sample) expressed their desire to become autonomous private universities, but were deeply cynical about state and central legislation to enable this.

Many private universities and large private colleges are keen to develop their research capacity through international partnerships, but most are starting afresh; apart from the few well-established private universities, they do not have any experience in research and very few international contacts. However, they believe that their strong industry connections give them an advantage over public universities, and that the increasing interest in technology transfer and employability will attract international collaborations. They would like to work with UK institutions with this focus.

Several institutions interviewed were looking to diversify their courses away from engineering, believing that the market is close to saturation. Kumaraguru College of Technology in Coimbatore, for example, is planning to expand its course offerings into finance, arts, humanities and educational management, and to establish themselves in courses not currently being offered elsewhere, for example in traditional architecture and heritage engineering. Although it is not clear how widespread this is among private institutions, it appears to contradict the views of some public university interviewees that private institutions would further reduce diversity in course offerings. The 12th Five Year Plan for higher education also specifically aims to broaden course choice in the future, although it is not clear how this will happen.

Some private universities see a future in opening branch campuses outside India mainly for Indian students, where regulations are more favourable. This has already started happening. Amity University, for instance, has several overseas campuses including one in London.

In general, interviews with private colleges and universities revealed an ambitious, entrepreneurial spirit, a desire to collaborate and, for the bigger, well-financed institutions, enthusiasm to grow their reputation through international partnerships. They were very keen to work with the UK.

Significant changes in student profile and segmentation

Several institutions expressed the need for institutions to address socio-demographic changes, which many believed would have a profound effect on education in the coming decade in India.

- In some areas, for example in Tamil Nadu, up to 30% of new entrants to higher education are first generation learners. This presents specific demands and challenges to institutions, which, in the past, have been geared to servicing an urban elite.

- Changing demographics are also affecting the demand for degree subjects; the rapid growth in student enrolment from rural areas and from urban females is resulting in more demand for science subjects (which India needs), while urban males are moving towards professional and business-oriented courses. The Indian Institute of Chemical Biology reported that the generation who are now professors or senior

lecturers come from elites who emerged from the immediate post-independence era. In marked contrast, 60% of their students currently studying sciences come from rural communities. These new entrants have particular learning needs, particularly proficiency in English.

- The changing demands of different market segments will have a particularly strong impact on the growth of the private sector, which currently almost exclusively offers professional courses.

The desire for international collaboration or discourse around these issues did not arise. However, there is undoubtedly a role for the social sciences in understanding and managing the impact of these demographic changes, not only on the education system, but also across society.

Future debate and leadership in Indian higher education

Several interviewees expressed frustration over the lack of opportunity for the sector to discuss and debate the issues and challenges facing higher education. There is a need to stimulate discussion among academics, rather than policy makers. Many appreciated discussing their needs, ambitions and challenges through these research interviews.

None of the interviewees mentioned leadership in higher education as a priority. In contrast, the UGC and the Ministry of Human Resources Development regard this area as increasingly important, and plan to provide more international mobility funding for leadership training, particularly to the UK and Australia, and possibly other countries. One senior member of the Planning Commission stated: "If we can get one thing off the ground, it is this." As noted earlier, the RUSA reforms currently underway specifically require the development of formal leadership functions and strategic management at both state and institution levels.

The absence of comments around leadership in the interviews may have been due to the fact that most interviewees were themselves leaders in their institutions, or at least senior managers, and did not regard their own professional development as within the scope of this research. Given the range of critical issues facing Indian higher education, and, broadly speaking, a need for strategic solutions to these problems, leadership is clearly an area which requires further investigation.

Teaching and learning

Teacher development

The primary concern for all institutions interviewed was the poor quality of teaching in higher education across all levels of study, particularly at undergraduate level. Interviewees recognised that poor learning outcomes in many Indian institutions had at its roots the following interrelated issues:

- Lack of teaching skills in faculty and limited understanding of the learning process
- The use of outdated pedagogies (input oriented, lecture-based approaches, rather than student-centred, enquiry driven and outcomes-based)
- Outdated and inflexible curricula
- A rigid assessment system, which encourages rote-learning and does not test students' broader skills or deeper learning
- Lack of an effective quality assurance system for teaching and learning

There are no effective formal national systems and few institutional mechanisms to support teaching faculty development. There was broad agreement that the Academic Staff Colleges, set up under previous five-year plans, have not worked as intended. Under the 12th Five Year Plan, the government would like to encourage institutions to set up their own teaching and learning centres to improve teaching quality. The Planning Commission has taken the idea of Centres for Teaching and Learning (COTLs) from the UK and incorporated it into the 12th Five Year Plan, with a focus on pedagogical skills development and subject centres. All institutions interviewed expressed a desire to work with UK HEIs and organisations to address these challenges.

Several interviewees expressed the view that the role of the teacher needed to change from information providers to learning facilitators. This required a switch of focus from content teaching to learning outcomes. It was thought that very few teachers are professionally equipped for this transition.

Looking a decade ahead, several institutions predict a much younger and larger faculty as the drive to rapidly expand HE provision accelerates. IIM Madras, for instance, is anticipating a 35-50% expansion of its faculty in the next 8-10 years. If this is reflected more widely across the system (and this is indeed part of the government's 12th plan), institutions will find themselves with a large, young faculty, inexperienced in research and teaching.

Several interviewees commented on the huge growth of private coaching, not only in higher education, but across the education sector as a whole. In West Bengal, for instance, some interviewees estimated that 80% of students take private coaching lessons alongside their regular classes, often delivered by the same university teachers. It was felt this was ultimately destructive, discouraging teachers from covering subjects adequately in class in order to protect their private tutoring business. Future institutional reforms in teaching will have to tackle this problem.

Another present and future challenge cited by several institutions concerns the new system of employing short-term teachers in universities. Salaries are very low (10,000 rupees a month, approx. £100[40]), only a quarter the rate paid to teachers in permanent positions. Interviewees believed this situation did not bode well for the future: it was not only exploitative, but would also result in high turnover, undermining efforts to enhance quality.

An Indian revolution in digital learning technologies

The majority of interviewees predicted that digital learning technologies will transform higher education in the coming decade, and some believed this would occur in the next 2-3 years. All indicated that international collaboration was urgently needed in this emerging area.

Most interviewees emphasised the importance of educational technologies for higher education for two reasons: a) to meet the expanding future student demand, and b) to enhance the quality of teaching and learning.

Most saw future educational technologies having most impact through blended approaches (a mix of face-to-face classroom teaching enhanced by technology-enabled learning). A smaller number foresaw a strong growth in fully distance education (degrees and modules), which would probably be provided by a smaller number of Indian institutions, although there was scepticism around the appropriateness of digital learning/teaching for disciplines which required lab skills and hands-on learning.

The development of Open Educational Resources (OERs) and bespoke interactive courses will be

[40] *Approximate exchange rate in February 2014*

very important for India. Several interviewees were despondent about the current state of affairs, particularly the general low quality of the digital content and poor learning outcomes on current distance education courses; despite pockets of innovation and good practice, there is a dearth of good educational content being developed in India. Most felt that this required a global effort and that international collaboration was needed in instructional design to produce high quality content which can be contextualised for use in India.

Most teachers are untrained in the use of technology, and also in basic pedagogical methods and skills. There were concerns that it would take a long time for teachers to cope with the 'flipped classroom' model, whereby content is learned outside the classroom and class time used for higher level understanding and skills development. Without capacity building, even the best digital materials would not lead to improved learning outcomes.

There was broad agreement that, in higher education at least, connectivity and internet accessibility would not be barriers for much longer. The government rollout of the Aakash tablet[41], to be made available to all university students with the university acting as a wifi hub, is expected to provide a platform for online learning. Interviewees reported that state governments are also becoming active in this area; the Tamil Nadu government, among others, has provided laptop computers produced by TATA at only 2000 rupees (approx. £20) per student. It was predicted that access to technology and the internet will accelerate quickly in urban India, but will take longer to reach rural areas.

Massive Online Open Courses (MOOCs), on the whole, were regarded as potentially transformational for India (but see above comment on blended learning). At several campuses visited, a surprising number of students were taking MOOC courses (EdX and Coursera) alongside their degrees, although exact figures were hard to come by. Academics recognised the potential for students to have access to some of the best teaching in the world and the opportunity to offer courses to professionals already in the workplace, but at the same time, foresaw the pressures this would place on Indian teachers.

Several interviewees doubted that fully digital courses would be accepted in the market in the short to medium term. In general, distance qualifications in India are considered second-rate by students, parents and employers.

Life-long learning and skills: a changing market for higher education in India

Higher education institutions are starting to adapt and respond to professionals already in employment, mature learners and the demand from enrolled students for skills for employability. This is leading universities into the skills market. Many have recently started to offer short courses and flexible modes of study. It is possible that many more HE institutions across the country are beginning to engage in the skills sector.

Several interviewees emphasised the future importance of integrating vocational education and higher education through a national qualifications framework which would enable easier mobility and access to study for students in both directions. Community colleges were identified as key institutions for linkages with higher education. Interviewees were interested in working with UK HEIs, colleges and bodies with experience in bridging HE and skills education.

Students and early stage researchers: future priorities

Without exception, all interviewees stressed the importance of transforming their institutions to better provide to the needs of the next generation of students and early stage researchers. Three

[41] *See www.akashtablet.com/aakash/index.html , accessed at 10/11/2013*

key areas emerged:

1. Provide students and early stage researchers with experience of research and development of research skills early on in their careers

2. Enable students to have international experiences during their studies at undergraduate and postgraduate levels to provide them with a globally relevant education, develop an open, wider world-view and ensure they are able to compete in an international market

3. Provide all students with skills related to employability and job creation, including English, entrepreneurship and enterprise skills

Early stage research experience

There was widespread concern that undergraduates, PhD students and post-doctoral researchers are not being exposed to research early enough in their careers. This was considered one of the key reasons for the general low quality of research in Indian institutions and the chronic shortage of undergraduates and postgraduates choosing to pursue academic careers.

Most academics interviewed saw a bleak future ahead for Indian higher education unless this was reversed; India's academia is drastically understaffed with 30-40% of teaching posts vacant. Moreover, PhD output in India is seriously lagging behind all the other BRIC countries, that India produces less than half the number of PhDs as China was frequently cited by interviewees. There was concern that without the best minds of the next generation entering the academy, India would not be able to increase the quality of its research, nor successfully compete in research and innovation in the global marketplace.

The IISERS were felt to be doing an excellent job in developing early stage research skills, but were producing small numbers of good researchers for their own institutions. The small scale of the initiative relative to the size of the problem meant that the benefits were unlikely to percolate through the system.

Researcher skills

Most institutions wanted the UK to support capacity building in researcher skills at undergraduate through to post-doctoral researcher levels. Skill areas mentioned included:

- English for researchers
- Proposal/bid writing
- Creative approaches to problem-solving
- Critical analysis
- Collaborative and intercultural working, including in virtual teams
- Learner training and information sourcing and management

Bilateral exchanges

Almost all institutions interviewed requested bilateral student exchanges with the UK. There was little interest in one-way exchanges (from India to foreign countries), but there was for a mechanism to allow foreign students to come to India. The UK and the US were perceived to be lagging behind

other countries; Germany and France were viewed as much more active. Interviewees cautioned that the UK was seen as less receptive to student exchange. If this trend continued, future collaboration opportunities may be hampered. Although most of the initiatives cited by interviewees were small-scale, they were held in high regard.

International conferences and workshops

There was interest in the idea of international student research conferences. The US was reported to have been running an annual event for the last five years (mainly for US academics and Indian early stage researchers),but there is interest in a UK or European style initiative. The Indian Institutes of Science Education and Research (IISERs) are reported to have generous funding and are looking for innovative ideas and collaborations which bring students and early stage researchers together.

Several institutions saw future university classrooms linked internationally through learning partnerships with universities in other countries facilitated by technology, not as one-off activities, but as a fully integrated and regular feature of the student experience.

Several interviewees articulated a need for workshops and seminars to be delivered in India by foreign academics skilled in communicating science issues, challenges and theories in ways which motivate and excite young researchers; it was felt the UK and Germany were strong in this area.

Public engagement in science education

IISERs, with their unique mission to integrate state-of-the-art research with teaching and learning, are branching out into public science education, where there may be opportunities for UK engagement. Strong interest was shown in British educational resources for science, particularly digital and video.

Skills for employability

The majority of those interviewed felt that many Indian universities and colleges were performing poorly in preparing students for employment.

Engineering colleges are particularly affected by low graduate employment and an over-saturated market. One interviewee was of the view that only 10% of the 300,000 annual engineering graduates from Tamil Nadu's colleges are employable, and reported that 1000 people with engineering degrees recently applied for a vacancy as a rail track clearer for Indian Railways, which only required a Grade 8 education.

This view of oversaturation and unemployment is supported by other interviewees' comments. Anna University, for instance, which is a large state university in Tamil Nadu, claims to enrol 150,000 students per year in its 616 affiliated colleges. Five hundred and forty of these colleges (88%) only teach engineering. It was estimated that, at best, only half their graduates are employable. Despite this, in four years' time, they expect enrolment in engineering at their colleges to reach 600,000. Anna University is currently working on an initiative with Microsoft to help increase employability.

Several interviewees believed that as other industrial and service sectors develop and grow in India, for instance retail and food supply, India will see a shift away from engineering.

Other professional programmes, particularly MBAs, were felt to be losing traction in the job market, except those from the 'top tier'institutions, due to saturation and low levels of job-ready skills in graduates.

Skills needed for the future, outlined by the interviewees, include analytical thinking, problem-

solving, critical reasoning, collaborative working, innovation, creativity and ICT skills. English was considered essential.

Three main challenges to providing these skills were presented by interviewees:

- Teaching: there is very little awareness of the importance of these skills and little capacity to teach them. There are virtually no opportunities for collaborative working, creativity or real-life problem-solving.
- Assessment is based on rote learning and regurgitation of information. Teachers therefore teach to the exam and students' learning is often narrow and theoretical.
- Lack of employer engagement or consultation by institutions has resulted in out-of-date curricula and a lack of awareness of the skills needed by industry.

Entrepreneurship and enterprise education

Interviews revealed a growing awareness among leaders and senior managers of the importance of entrepreneurship and enterprise education for future employability and job creation. Not a single institution visited appeared to be offering these subjects, either as stand-alone modules or embedded across the curriculum, but most identified this as a critical gap.

There were indications that States may be interested in funding initiatives which develop the entrepreneurial skills of students as an integral part of their studies. The UK was viewed as a potential partner in these areas.

Although it seems that many Indian institutions have not yet incorporated enterprise education or entrepreneurship in their programmes, there are small signs that the employment market is driving a more entrepreneurial mind-set in students. IIM Ahmedabad has started to see a tangible shift in attitude and an increase in entrepreneurialism in their graduates. Five years ago, only five out of 500 graduates would take up 'non-conventional' careers; now, at least 100 (20%) do so, by starting their own businesses, or entering radically different forms of employment, despite being offered well-paid jobs in the management sector. This shift may also be a consequence, as previously mentioned, of the greater financial stability, and therefore more appetite for risk-taking, of the upper middle classes. The same trend may not be seen in the emerging lower middle classes.

Summary:

Future opportunities & recommendations

The interview data and the extensive reforms in higher education in India reveal a system undergoing considerable transformation. There is a sense of urgency in policy makers, institution leaders and faculty to expand the system at a fast enough pace to meet the surge in demand, while increasing quality and ensuring equitable access. There is a great deal of caution about the way reforms will unfold; progress is likely to follow an unpredictable course. The federal government is enabling states and institutions more autonomy to drive through reforms, which is creating greater potential for international engagement. Indian institutions are seeking more international collaboration on their terms and which will address their challenges.

These reforms and the needs of the higher education sector have implications for future collaboration with Indian higher education. This section provides some considerations and opportunities for UK institutions as they plan for future strategic engagement with India:

Strategic approach

- For the UK sector as a whole, establish a deeper, broader and more diverse engagement with India in higher education.
- The expansion and reform of higher education in India will be driven by the states. The increasing devolution of authority and budgets will probably mean that the significant opportunities for institutional partnering and large-scale, system-wide, multidimensional cooperation will emerge at state level. Some states will move faster than others: there will continue to be considerable variation in the ability and will of state governments to reform their higher education sectors. Therefore, strategic partnerships with Indian institutions will need to be highly selective; UK institutions would benefit from being aware of new state plans and their implications and opportunities. The central government in India will continue to be highly influential in a strategic and regulatory capacity.
- The UK has an opportunity to link strategically with government and state plans and to develop mutually beneficial partnerships which also respond to India's development needs.

Systemic reform and legislative environment

- The pace and scale of expansion and reform in Indian higher education over the coming decade will require UK institutions to develop programmes that are flexible and responsive to changes in regulation and opportunity. Due to the highly contested process of passing education bills, it may not be worth waiting for federal government regulations to provide further movement on international cooperation, but UK institutions may need to operate more flexibly and creatively within the current regulatory understanding. It was suggested that this be achieved through institutional partnerships rather than overseas campuses.
- There are opportunities for strategic engagement and capacity building in higher education leadership and management at the state level, in preparation for the implementation of the new regulatory system under the RUSA reform programme.

- There are opportunities for India-UK collaboration at state and national levels on areas of systemic reform, including quality assurance, international credit recognition, and unified national qualifications framework. There may emerge opportunities for larger-scale cooperation at state level, which may require consortia-style approaches.

Institutional engagement

- Wider opportunities beyond the relatively narrow focus of current UK-India collaboration are emerging. There will be increasing scope for the UK to partner with Indian institutions. The Innovation Universities Bill may be important in this regard. Science, technology and innovation will continue to be a top priority for research partnerships, but there is strong interest for collaboration with the UK in the social sciences, humanities and arts, particularly where these support inter- and multi-disciplinary research. This interest by corroborates the findings of the British Council's Re-image research[42], published last year.

- Strong interest and wider opportunities are emerging for collaboration with state-funded and private institutions, in addition to the centrally-funded institutions. The central government will continue to support the 'top tier' centrally-funded institutions; the largest funding opportunities for joint research is likely to remain with these institutions in the coming decade. However, they represent only a small fraction of the sector; considerable opportunities exist for engagement with the vast and underserved state and private sectors, which educate the majority of Indian students. The new performance-related funding mechanisms for state universities are likely to open up opportunities for international collaboration. There is strong interest in collaboration with UK institutions in teaching and learning, not only research; this emerges as the highest priority of institutions in India and is not being sufficiently addressed through existing programmes.

- International experience and learning opportunities for students, faculty and early stage researchers are a top priority for Indian institutions. Institutions in India want partners which will send students and faculty to India; there is less interest in, and deep frustration over, the one-way movement of students to the UK. Other countries, notably Germany and France, are reported to be more active in sending their students and faculty to India and this is highly valued by Indian institutions. This will be important for future relationship-building, access to India's talent pipeline and increasing UK students' global competitiveness in the job market.

- Extensive capacity building needs exist for early stage researchers using UK resources and expertise in research skills, communication (including English for researchers), and a broad range of transferable skills.

- Huge potential exists in digital learning technologies with UK partnerships and expertise: online and blended learning, instructional design, teacher development, management and support systems.

- Opportunities exist for the UK sector to establish collaborations and also to provide advice on industry-university links, technology transfer and incubation centres. This is a top priority for government and institutions in India.

- The need to enhance the employability of graduates is presenting entry points

[42] *Re-imagine: India-UK cultural relations in the 21st century', British Council, 2013*

for collaboration in enterprise education and entrepreneurship, links with industry, research skills and the wide range of transferable skills, including English. The emerging interest in Indian higher education institutions in the vocational skills market provides areas for potential engagement with UK partners.

- There is a need to build stronger relationships and increase mutual understanding in higher education by increasing support and participation in platforms (conferences, workshops, seminars) which enable debate and dialogue between Indian and UK leaders and academics on issues affecting higher education.

In summary, there is expanding scope and opportunity for the UK higher education sector to engage with India and keenness within the Indian sector to partner with the UK through a broader, more diverse relationship. However, Indian institutions are looking globally for partners and other countries and their institutions are perceived to be more responsive in areas such as inward mobility to India. While the UK is still positioned strongly to be a key partner in India's growth, it will need to increase its engagement if it is to play a significant part in the biggest opportunity for international higher education in the world in the coming decade.

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Annexes

Abbreviations

IIM	Indian Institute of Management
IISER	Indian Institute of Science Education and Research
IIT	Indian Institute of Technology
MOOC	Massive Online Open Course
NAAC	National Assessment and Accreditation Council
RUSA	Rashtriya Uchchatar Shiksha Abhyan
SHEC	State Higher Education Council
UKEIRI	UK-India Education and Research Initiative

List of external stakeholders interviewed

Meetings and interviews with external stakeholders in India:

1. Adani University, Ahmedabad: Dr Bakul Dholakia, Vice Chancellor
2. Alagappa College of Technology, Anna University, Chennai: Professor Dr P.Kaliraj, Vice Chancellor
3. Calcutta University: Women's Studies Research Centre, Prof Ishita Mukhopadhyay, Director
4. Government of Gujarat and CEO Knowledge Consortium of Gujarat, Jayanti Ravi and team members
5. Federation of Indian Chambers of Commerce and Industry (FICCI) Higher Education Committee: Professor Anantha Krishnan, Chairman Indian Institute of Technology, Kanpur, former member of the Tamil Nadu State Government for Higher Education
6. Former Chair, University Grants Commission: Professor Arun Nigavekar
7. Foundation for Liberal Arts and Management Education (FLAME), Pune: Dr Shinge, Dean
8. Government of India Planning Commission: Professor Dr E. Balaguruswarmy, Member
9. Government of India Planning Commission: Pawan Agarwal, Higher Education Adviser
10. Indian Institute of Chemical Biology, Bangalore: Professor Siddhartha Roy, Director

11. Indian Institute of Management (IIM) Ahmedabad: Professor Rakesh Basant

12. Indian Institute of Science Education and Research (IISER), Pune: Professor Shashidhara, Professor and Coordinator, Biology; Professor K.N.Ganesh, Professor and Coordinator, Chemistry

13. Indian Institute of Science and Educational Research, West Bengal: Prof R.N.Mukherjee, Director

14. Indian Institute of Technology (IIT), Madras: Professor Sudhir Chella Rajan, Dept of Humanities and Social Sciences

15. Jadavpur University, Kolkata: School of Education Technology, Prof Samar Bhattacharya, Director and Dr K.Datta; School of Women's Studies, Prof Samita Sen, Director; Department of English, Prof Supriya Chowdhury

16. Jawarharlal Nehru Centre for Advanced Scientific Research, Bangalore: Professor C.N.R.Rao, Honorary President

17. Kumaraguru College of Technology, Coimbatore: Thiru Shankar Vanavarayar, Correspondent and NIA Education Institutions

18. National Centre for Biological Sciences, Bangalore

19. National Chemical Laboratory (NCL), Pune: Dr Sivaram, Former Director

20. SRM University, Chennai: Professor T.V.Gopal, Dean International Relations, and team of academics

21. Stella Maris College, Chennai: Dr Sr Jasintha Quadras, Principal and Head, Department of Mathematics

22. Tamil Nadu State Government: Dr Cynthia Pandian, Vice-Chairperson, Council for Higher Education

23. Tata Institute of Social Sciences (TISS), Mumbai: Dr S Parasuraman, Director

24-52. Interviewees who wished to remain anonymous or did not give permission to be listed

List of education bills pending

EDUCATION BILLS PENDING*	BROAD AIM	RELEVANCE TO UK INSTITUTIONS
The Foreign Educational Institutions (Regulation of Entry and Operations) Bill	To regulate entry and operation of foreign educational institutions.	Much anticipated by foreign institutions, but many commentators in India are highly sceptical that this will be passed in the near to medium-term future.
The Universities for Research and Innovations Bill (2012)	To allow the establishment of universities as hubs for education, research and innovation; open to all, including foreign institutions; allows full freedom in faculty recruitment, including foreign.	This could be a more important bill for foreign institutions. Many believe that this this has a much higher chance of being passed. Indian corporates are watching this bill keenly.
The National Accreditation Regulatory Authority for Higher Educational Institutions Bill, 2010	To make provisions for the assessment of academic quality in HEIs, their programme and infrastructure, and to create a body for this purpose.	Could provide opportunities for the UK at both system level and institutional level. Enhancing teaching and learning outcomes is very high priority.
The Indian Institutes of Information Technology Bill (2013)	To declare certain institutions of information technology to be Institutes of National Importance.	Worth keeping an eye on. Further central funding might accompany, along with opportunities for foreign collaboration.
The Higher Education and Research Bill (2011)	To promote further autonomy of HEIs in India and the establishment of a Commission for Higher Education and Research.	This has been held up for some time. Important to keep in sight, especially if research grants accompany and if it affects research collaboration.
The Prohibition of Unfair Practices in Technical Education Institutions, Medical Educational Institutions and Universities Bill (2010)	To protect the interests of students through various measures, including banning admission charges (aka capitation fees) above the tuition fees, and other charges without receipts.	Very contested area in India. Of more interest is the related discussion among policy makers around raising student fees in public universities.
The Educational Tribunals Bill (2010)	To create an effective process and system to deal with disputes affecting teachers, students and other education stakeholders.	If it is ever passed, it will have an impact on staffing in Indian universities.
The National Institute of Design Bill (2013)	To declare the National Institute of Design, Amhedabad, to be an Institute of National Importance.	Possible collaboration opportunity for the UK.
Plus various bills and amendments related to specific institutions or discipline areas, for example, to establish new Institutes of National Importance.		

* Not comprehensive, but deemed most relevant to UK universities. See reference for full list of pending bills: Pre-legislative Research (PRS): www.prsindia.org/downloads/bills-pending-in-parliament/

Summary of the 12th Five Year Plan (2012-17)

SYSTEMIC CHANGE	TEACHING AND RESEARCH FACULTY	RESEARCH AND INNOVATION	EXPANSION	EQUITY	GOVERNANCE
A strengthened accreditation system, with better coordination between regulatory bodies; institutions will be encouraged to seek international accreditation. This may involve setting up a new overarching National Accreditation and Regulatory Authority.	Scholarships to enable PhD students to spend time at foreign institutions.	Double the government's investment in research and innovation from 1% to 2% over 5 years to create and reinforce centres of excellence in research and research training.	The government will re-visit the not-for-profit regulations which may pave the way for for-profit private education with government oversight in areas of acute shortage.	Strengthen and introduce schemes and initiatives targeted at underprivileged and underrepresented students.	Further categorisation of institutions into research-led, teaching-led and vocational institutions.
Encouraging a move towards four-year undergraduate degrees (from three) to include research experience at early stages; a shift from annual exams to a credit-based system which is globally compatible and internationally recognised	An international faculty development programme to enable Indian faculty to spend 3-6 months in 'the best' foreign institutions in the world, and 40-50 workshops per year led by international teachers and researchers to build capacity for selected teachers and researchers in India	Establish 20 'innovation and research universities' either by expanding existing institutions or setting up new ones.	Innovations in PPP models will be encouraged.	Strengthen capacity, scholarship and delivery in Indian languages	Greater diversity in university governing bodies to include alumni, external experts and faculty.
Support further ternationalisation: more exchange programmes for faculty and students; collaborations in teaching and research; innovative use of technologies for teaching and learning; setting up an India International Education Centre to support institutions to set up their own international units.	Establish 50 Teaching and Learning Centres across the country to promote research activity and train faculty.	Create 20 centres of excellence in areas of national importance, and 50 centres of training and research in frontier areas in science and technology, social science and humanities.	Further development of a framework for community colleges based on the US model, allowing links with HE and curricula based on occupational standards.		The establishment of an Academic Leadership for Higher Education programme with at least 5 Academies for Academic Leadership in selected institutions, which will act as hubs.

	Stronger engagement with industry in curriculum design to ensure relevance and quality.	Establish a national initiative in excellence in basic sciences and in social sciences and humanities, to encourage students to take up these subjects and improve research and teaching.	Further government support for IGNOU and other institutions involved in distance education, and encouragement of all institutions to provide online materials and courses to students.	Greater autonomy from government to states for universities; funding and incentives based on performance.[43]
		A national initiative in innovation and entrepreneurship to encourage technology transfer, industry-academia partnership, creativity and protection of IPR.	More international students will be encouraged to study in India.	Enhanced transparency through improved information for parents and students about study choices, and fewer admissions tests.
		A national mission for design and innovation, and the creation of 20 Design and Innovation Centres		Increases in fees to reflect a more reasonable and sustainable fee structure.
		Provide mechanisms to encourage networks and partnerships of universities for research, innovation and teaching. The government is keen to encourage and strengthen international research links, particularly through Indian diaspora.		

The full 12th Five Year Plan can be accessed at www.12thplan.gov.in/

[43] *'Rashtriya Uchachatar Shiksha Abhiyan' (RUSA): Ministry of Human Resource Development, in association with the Tata Institute of Social Sciences (2013).*