Scoping Exercise on International Comparisons with China and India

China, India and Scotland International comparison Study

Contents

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14th March 2008

Foreword

The SCQF Partnership commissioned SQA to produce this report, the aim of which was to conduct:

- an analysis of the education systems of India and China and compare to Scotland
- an analysis of existing links between each country and Scotland in relation to education at all levels and all types
- a policy review for each country to identify any specific ambitions or imperatives in relation specifically to qualification frameworks, lifelong learning or international linkages
- and to make recommendations for possible next steps in relation to more detailed benchmarking activity with China and India

The research for the report was conducted through desk research examining, for example, the government websites of both India and China and reports from organisations such as UK NARIC, British Council and The World Bank, as well as information from Scottish organisations such as Scotland's Colleges International and Scottish Development International. Sources are identified in the end notes on pages 44 – 48.

In the course of the research some difficulties in establishing the validity of information were encountered. Terminology and names sometimes varied from one source to another and occasionally this meant making assumptions about the 'sameness' of the information, Sources were checked and cross referenced to ensure currency and accuracy where possible. In the time available it was difficult to access detailed, consistent descriptions of the qualifications identified in the Indian and Chinese education system that could be cross-checked. In other cases, types of institutions are named but further information was not uncovered.

It can be assumed that where we see inaccurate reporting of the Scottish Education system in some publications, the same degree of inaccuracies will also be found by the Indian and Chinese authorities of their systems. For this reason the recommendations suggest that benchmarking activities would be best supported by relevant authorities in these countries who could verify the information used to establish the benchmark.

In identifying existing institutional links, most institutions will protect their commercial enterprises from potential competitors and often only a brief overview of activities is reported.

Executive Summary

The aim of the report is to provide an analysis of the education systems of China and India and to make comparisons between them to Scotland's in terms of the education systems and national education policies. An overview of existing educational links between these countries at school, college and higher education levels is provided, highlighting some key themes. This analysis identifies possible areas of future collaboration between Scotland and India and China. From the information uncovered by the research it has been possible to identify a high, first level comparison of qualifications and to make recommendations for more detailed benchmarking of qualifications for future work.

Both India and China still work on the basis of a five-year planning cycle inherited from 20th Century Soviet style planning[1]. Five-Year Plans for the National Economy of the Soviet Union were a series of nationwide centralised exercises in rapid economic development covering all aspects of the economy.

The same method of planning was adopted by most other communist states, including India's pro-Soviet government and the People's Republic of China in the 1950–60s. These continue today, and currently each country is at the beginning of their 11th Five-Year Plan (though the Chinese government now refers to their plans as 'Guidelines'). These all-encompassing plans include separate plans for different sections of the economy and society – including education.

Since Indian Independence in August 1947 and the founding of the People's Republic of China in October 1949, successive Indian and Chinese administrations have had to address huge challenges in developing their respective education systems. These include improving access to millions of citizens in (often) desperately poor and remote areas, and providing them with basic education.

The main policies of China have a strong focus on lifelong learning, on the continuation of the expansion of vocational education, and on improving the quality of provision in higher education. A key aim for government is the provision of a nine-year compulsory education system and the eradication of illiteracy in the young and middle-aged. Participation rates at primary and junior secondary school have seen a marked increase in recent years. China is also aiming to produce 'people for employment rather than simply produce large numbers of people with qualifications'. This policy also aims to create parity of esteem between vocational education and qualifications and academic education and qualifications. Another major policy is to try and increase the quality of graduates by focusing on the top 100 higher education institutes across the country through three State Projects: State project 211, State Project 895 and State project 111. There is evidence that the Government is conscious of the need to develop international benchmarks: researchers from around the world have been invited to work in these institutions. The students from these institutions are highly regarded and part of the pool of students involved in Scottish international links.

The education system of China has a strong pre-school education ethos focussing on getting children ready for formal education. Recent figures show virtually all children attend primary school, a large percentage for 6 years, before going to junior secondary or junior vocational school, where attendance is also high. Students are streamed for academic or vocational senior secondary schools through national examinations taken at the end of this stage. Vocational education at tertiary level is provided through Higher Vocational Technical Institutes and some specialist universities, offering adult education courses and sub-degree vocational programmes leading to Diplomas. Higher education is offered through public and privately -funded institutions and Chinese-foreign Co-operatives. Students study for Bachelor and Master degrees and Doctorates. One key feature of the system has been the decrease in the number undergraduate course offered at higher educational Institutes.

The education system is heavily centrally-planned, but is currently going through a period of re-structuring which is intended to give more autonomy to Provincial governments.

The main education policies in India are to improve access to all levels of education, improve literacy rates and to increase state funding – particularly at tertiary level. The last of these objectives has been a long-term aim for successive governments, but has not been realised. Indeed, funding for education (as a proportion of overall spending) is falling and the private sector is filling the gap.

With limited funds, the state has decided on two main strategies; to develop a system of assessment and accreditation at national level and to identify and fully fund 'at least' 25 top universities and several hundred colleges (these institutions will need to be identified in a subsequent study). There is evidence that planners at the Government of India Planning commission are conscious of the need to develop international benchmarks.

A major aim of the government is to increase vocational education. Current policy is to increase enrolments in the vocational education system to about 25 percent of total secondary enrolment. Focus is also given to developing national skills standards within a coherent qualifications framework to bring consistency to vocational training.

The Indian education system is very complex and the government's aim of developing a coherent education system is hampered by poverty (resulting in low school attendance) and the need to deliver education through dozens of different languages throughout the country. After three years of general secondary education (middle school), streaming for higher secondary schools in academic or vocational institutions is through public examinations delivered by either the national board or state institutions. A further three years later, selection for university is by national or state examination at the end of the final year. Pre-vocational education is offered to students below the age of 16 and can be pursued through a number of schemes and institutions, including Polytechnics. Standards for higher education are maintained at national level but institutions are autonomous. The three main qualifications studied are Bachelor and Masters Degrees and Doctor of Philosophy.

The major strategies of Scotland's education system, i.e. Lifelong Learning, Skills and International Lifelong Learning indicate the Government's direction of travel in maintaining and developing the education system of Scotland. The common thread that runs through Scotland's lifelong learning system, the Scottish Credit and Qualifications Framework

(SCQF), underpins and supports Scottish education policy with the aim of supporting progression and widening access to education and training in order to increase the skills base of the workforce. The SCQF Strategic Plan supports the Government's policies.

The Scottish education system offers a flexible curriculum from school through to higher education with progression and access at different points across the sectors. The national awarding body, SQA, develops, maintains and certificates all national qualifications, except degrees, for delivery mainly in schools and colleges. Recent qualification developments have introduced formal vocational education to schools through partnerships with colleges. Along with colleges, private training providers also deliver vocational education and employer programmes. Universities offer degree programmes from Bachelor to Doctorates and one and two year undergraduate programmes. Articulation can be agreed from SQA's Higher National Certificates/Diplomas to year two or three of degree programmes.

The common themes of the three systems are: Lifelong Learning (including adult literacy) Skills Training and Vocational Education (including the recognition of prior learning) and international benchmarking. All three countries are prioritising skills development to meet economic needs and to encourage this through a lifelong learning agenda, including introducing or expanding vocational education at general school level. In Scotland, with its coherent, standardised national qualification system, the current focus is on how to use the SCQF to describe non-formal and informal learning and how to increase employer engagement with the SCQF to ensure that employers' in-house training is recognised. The focus for China and India is on standardising their vocational and higher education system at national level and expanding vocational provision at all levels.

Despite the huge differences between China, India and Scotland, all three are facing or have faced similar challenges and have developed similar policies. Based on these similarities, it is possible to consider ways in which Scotland can share its expertise and experience with these international partners.

Areas of potential collaboration common to both India and China:
Both countries recognise that benchmarking their qualifications against international standards[2] and to a qualifications framework will help them fit within a globalising education world. Scotland with its experience in this area is in strong position to offer strategic advice.

Both countries need to develop their teaching profession and assessor capabilities to support the implementation of their VET plans. Scotland could offer direct input to the developments and also support the development of teaching and training programmes.

Both countries want to promote parity of esteem for vocational education; Scotland's example of the valued HNC/D provision, as well as its new non-advanced vocational qualifications, may offer opportunities to support this effort.

With particular reference to China, there is the potential for additional collaboration:

1) China wishes to ensure that skills development and qualifications are relevant for employment. Scotland may be in a position to promote SCQF levelled vocational qualifications that are developed with employers to meet industry sector needs. Alternatively, the quality assured process by which this is achieved, would also be of interest.

2) With enrolment for higher education decreasing and competition for places increasing, more students are likely to consider studying overseas. Scotland may wish to explore how it can further expand its recruitment to HE from China.

3) Scotland could develop distance modes of learning for China's Television and Radio universities; using the example of Reid Kerr College's virtual campus model to deliver Scottish courses.

4) State project 211's aim is to establish 100 innovation centres nationally; it might be possible to build on SQA's existing links to provide additional structure for colleges and universities to forge links with these centres.

And with particular reference to India:

1) With the establishment of a number of new institutes to promote science and professional education in India, Scotland's colleges and universities have an opportunity to engage and develop collaborative programmes and courses in these fields.

2) With the development of internationally benchmarked National Skills Standards for trades and crafts and the ambition to develop a national test and certification system, there is an opportunity for Scotland to work with the Indian Government to benchmark these to UK standards and SCQF levels.

3) Scotland could help India to develop its capacity in quality assurance processes and procedures, as well as develop competent assessors.

4) India has a plan to develop Internal Quality Assurance Cells (IQACs) within National Assessment and Accreditation (NAAC) accredited Colleges; higher education in Scotland could support the process of capacity building for personnel and development of processes and procedures.

5) India wants to re-structure its higher education curricula in order to serve national needs and set them against international benchmarks; there is potential for the SCQF Partnership and Scottish Higher Education Institutions to work on a collaborative project to support the benchmarking aim.

6) India has a plan for 'Work and Education' for School Education to be put in place; if this is a similar approach to Scotland's Skills for Work courses, there may be an opportunity to support the plan through the sharing of experience and best practice.

7) India wishes to develop a National Qualifications Framework; there is an opportunity for the SCQF Partnership to assist in this area

Note: In addition to these specific examples of possible collaboration with India and China, this report has also identified possible future collaboration with other UK organisations such as NARIC, SCI and SDI who conduct similar research into both India and China's education systems: in order to ensure effective and efficient use of resources, consideration could be given to working with these and other relevant bodies to establish base line information that would be useful to all.

Recommendations

The recommendations focus on possible next steps for more detailed benchmarking. The analysis of the education systems identifies the key qualification types in India and China that could be benchmarked to qualifications in Scotland. To ensure valid results, a relevant authority from the education sector should verify the information used to benchmark; otherwise there is some risk of inaccuracies arising in the comparison.

With reference to existing benchmarking methodologies, recommendations for three different levels, or degrees, of benchmarking are made:

A first level benchmark would comprise comparing the key qualifications at the different stages of progression in the Indian and Chinese education systems against the SCQF level descriptors. There is some risk attached to this level of benchmarking as misinterpretation and wrong assumptions may arise where only information on level of a qualification is provided.

Drawing from the comparison of the education systems, a draft first level benchmark is suggested using the key qualifications of India and China identified from the research.

A second level benchmark is akin to the work that SQA did to map Polish qualifications to SQA qualifications. This requires more detailed knowledge of the qualification types, general aim and purpose, context of delivery and duration and provides a broad comparison of qualifications and indirect relationship to the SCQF via the Scottish qualifications used to benchmark.

A third level benchmark builds on the information provided by the second level benchmark and scrutinises individual qualifications more closely. This includes examining the learning outcomes, assessment strategy and quality assurance of the qualification. This activity is resource intensive and it is likely that this level of benchmark would be for relevant individual institutions to conduct, related to specific collaborative engagement they may have with the country in question. Alternatively, institutions working in the same area may collaborate to produce this benchmark. Some colleges and universities are likely to engage in this level of activity for entry, articulation and credit transfer agreements.

Criteria and recommendations for benchmarking activities:

Determine the purpose of the benchmarking activity
From the purpose, determine the level of benchmarking, i.e. first, second or third level
Identify key sectors and or key qualifications for benchmarking activity
Identify work already conducted by Scottish institutions to examine qualifications from China and India for entry, credit transfer or articulation
Identify key relevant authorities to verify the information used to benchmark

Education Policies - China

The Chinese education system is strongly planned at national, provincial and municipal levels[3]. The Ministry of Education authorises change and development from the top down – from system development to institutional implementation – with the aim of producing 'high quality' education that serve the nation's interests (particularly its economic development). In this sense, education is driven by a Reconstructionist philosophy whereby deliberate state intervention and planned goals are seen as the most efficient means of achieving desired educational outcomes[4]. Thus, the system does not devolve a great deal of power to city or provincial authorities, which instead normally act as agents of the central government (although some upward influence of the centre can – and does – happen)[5].

As a result, individual institutions (other than those with powerful, charismatic heads) lack autonomy and the ability to set their own direction[6], which potentially constrains educational innovation and creativity[7]. This has led a joint UK-China team (which includes the Department for Innovation, Universities and Skills (DIUS) and national experts and researchers from both countries) to suggest that a number of institutions have not militated against a number of key risks (e.g. financial, operational and managerial) and that this will affect their longer-term sustainability[8] despite the long-term strategic intensions of the centre[9].

Nevertheless, central planners have shifted their approach after a decade of significant growth – particularly at tertiary level where numbers of students across all categories of institutions have increased from some 8.5 million in 1998 to in excess of 23 million in 2006[10]. There has been an increase in the number of 18-23 years old participating in university rising from 9.8% to 21% over the same period and there has been a rapid increase in three-year rather than four-year undergraduate programmes.[11]. The preference of students is towards the study of arts and humanities.

The 9th, 10th & 11th Five Year Education Plans

The government's 11th Five Year Plan (2006-2010) sets out the framework for change in education. It is set against a background of an expected slowing of economic growth (from 9.5% p.a. to 7.5% p.a.) and a re-balancing of the financial system to develop the domestic market[12].

There are two pieces of legislation that have been passed in the last decade concerned with Lifelong Learning. These are; the Education Law (National People's Congress, 1996) and the Action Scheme for Invigorating Education (ASIE, Chinese Ministry of Education, 1998). Three of the 84 articles of the Education Law are specifically concerned with lifelong learning (viz. articles 11, 19 and 41). Article 11 of the Education Law states: 'The government will enhance educational innovation, boost the harmonization of development of all levels of education, build and perfect the lifelong learning education system to fulfil the needs of socialist market economy development'[13].

Domestically, the overwhelming priority in education is the achievement of 'The Two Basics', i.e. universal compulsory nine-year education, and the eradication of illiteracy among the young and middle-aged (particularly in rural districts)[14]. State statistics show that the Nine-Year Compulsory Education Plan has reached 95% of the relevant age population, which is an increase of 10% on the 2000 figures[15].

At present, there are about 85,070,000 people who are illiterate in China, of whom some 20,000,000 are middle-aged and young people. Besides, more than 100,000,000 people become re-illiterates and new illiterates every year. According to the Ministry of Education, the main target group of illiteracy eradication is the middle-aged and the ages of 15-24. However, those who are over 50 and illiterate are also 'encouraged' to take part in reading learning programmes.

Vocational education is being expanded and vocational training centres at county and township levels are being upgraded[16]. Existing secondary vocational schools are being encouraged to open up to the wider community and offer training programmes to those outside the formal system. Delivery modes include face-to-face teaching at institutions and schools, and distance learning distributed through television, radio broadcast and post[17]. This appears to be in response to potential shifts in the graduate labour market, the growth of service industries, and the development of start-up companies and self-employment[18].

In 2005, China had 15,591,900 students in secondary vocational schools, which is 2,747,300 more than 2000 (the annual rate of student increase is 3.95%). In the same year, the total enrolment for secondary vocational education was 6,640,000, which was an increase of 1,000,000 more students than in the previous year[19]. The long term plan is, by the end of the 21st Century, to have 50% of all adults in rural areas (whose formal education ended at junior secondary level) to receive additional training in the non-formal sector. The target figure for adults in towns and cities is 70%[20]. There is no indication on Ministry of Education websites as to how this might be achieved.

However, of greater significance to an international audience is the shift in emphasis from 'scale and speed' of educational development in favour of 'quality and efficiency'[21]. In practical terms, this has resulted in an increase in tertiary short courses of 2-3 years duration (particularly tertiary vocational programmes and regular sub-degree programmes) targeted at rural areas, and small and medium sized enterprises up to county level[22]. The total enrolment for this sector is expected to reach 4.5 million[23].

During the 9th Five Year Plan the legal framework for Vocational Education (and a reform of the legal framework for Higher Education) was developed and begun to put in process. This was followed up with two National Working Conferences on Vocational Education during the 10th Five-Year Plan, which resulted in a clear decision to make vocational education 'service-based' and 'employment-oriented'[24]. Therefore, state planners expect less direct state involvement and accept that education in this sector will be 'market-oriented'; the aim is to produce people for employment rather than simply produce large numbers of people with qualifications[25].

Since 1995, considerable attention has been given to the selective improvement of 100+ universities. The objective of the 1995 State Council Project 211[26] was to use the country's most prestigious institutions as the main means of establishing national standards in quality as measured against 'advanced international standards'. The executive of State Council Project 985 in 1998 was tasked with founding a limited number of 'world class' universities[27]. This was followed up in 2006 by a two-year plan (State Council Project 111) to invite some 1,000 world class academics from the world's top 100 universities and research institutes to work alongside Chinese colleagues in 100 subject 'innovation centres' set up in universities drawn from Projects 211 and 985[28].

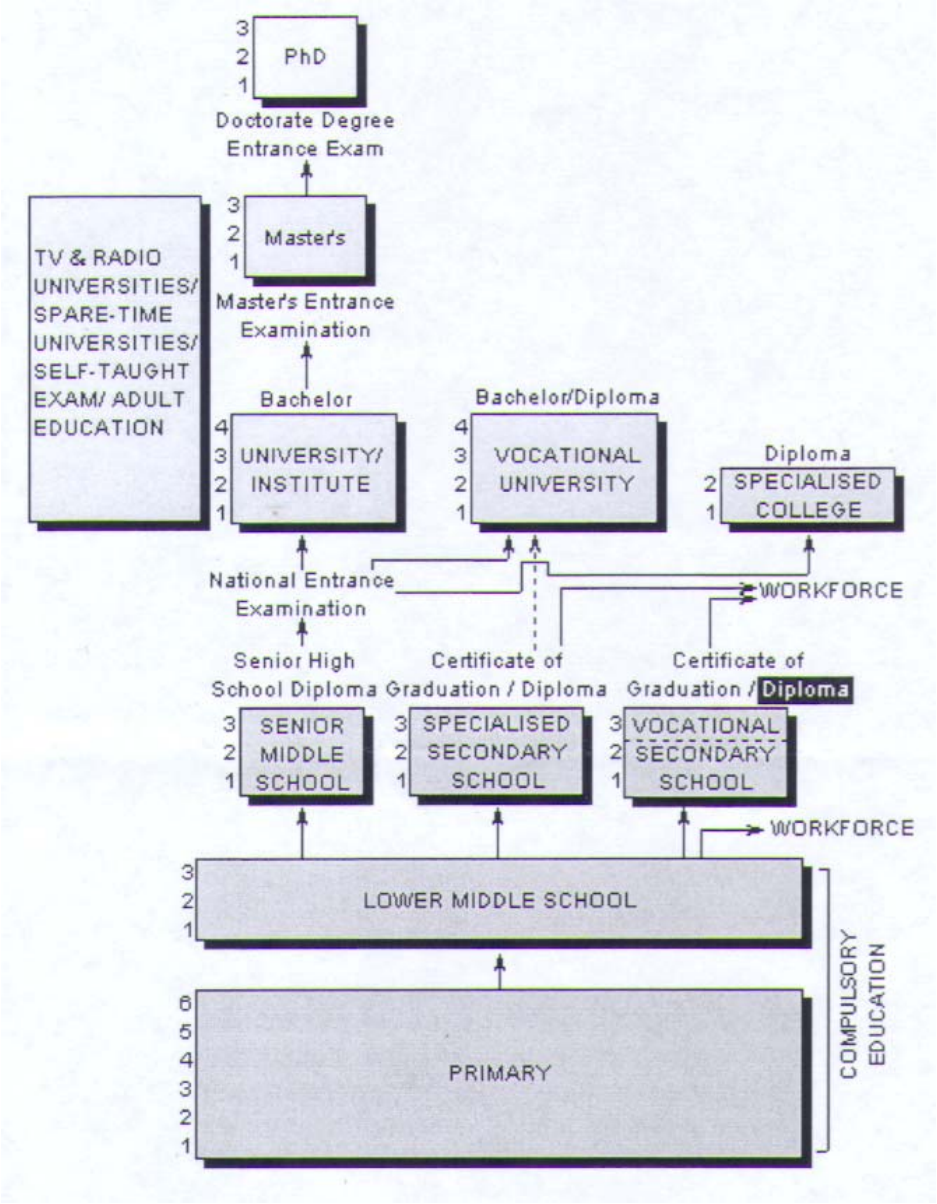
Other developments during this period included the greater involvement of the private sector in support of state objectives (including through non-government funded institutions), in co-ordinating municipal and provincial policies on higher education, and in developing lifelong learning[29]. In recent years, for example, the government has been talking about developing a 'competence-based' education system[30], 'a modern education system for lifelong learning... in which degree education and non-degree education are attached equal importance'[31], and where vocational and standard formal education are integrated'[32]

However, the 11th 5 Year Plan is likely to have a knock-on effect on education, and in particular the rate of tertiary level enrolments, which will only increase by 7 million from 23 million students in 2005 to some 30 million by 2020[33]. As a result, competition for places at Higher Education institutes (already stiff) is likely to increase. This may well result in an increase of students, who have not gained a place at the university of their choice, electing to study overseas.

The Chinese Education System – A Summary

CHINA QUALIFICATIONS CHART[34]

The diagram below shows the main qualifications of the Chinese education system. There is not a direct match in terminology of the diagram to the text as the research for this report was obtained from many different sources, not all of which uses the same terminology. However, the diagram serves as a good visual depiction of the education system of China.



School

The education system comprises pre-school and a 6+3+3 pattern (i.e. 6 years Primary; 3 years Junior Secondary; 3 years Senior Secondary [The nine years of Primary and Junior Secondary represent the scope of the government's objective of 9-Year Universal Compulsory Education]).

PRE-SCHOOL EDUCATION

Pre-school education is considered an important foundation for education in China[35], but varies widely according to the economic development of a particular region and whether provision is made in urban or rural areas:

Urban areas: Three years of kindergarten of which one or two years can be full time part-time, boarding or hour-reckoned[36]
Rural areas: Nursery classes and seasonal kindergartens
Remote, poor and ethnic minority areas: In addition to normal provision (where possible) there is irregular education through activity centres and mobile services

Language and arithmetic form the basis of the syllabus[37]. According to 2002 figures, China has more than 111,800 kindergartens with some 20,360,200 enrolled[38]. Kindergartens combine childcare with teaching so that the children 'will develop physically, morally, intellectually and aesthetically in a harmonious way'[39] to get ready for their formal school education.

The state sets standards of teaching and performance. The training of teachers is the responsibility of normal schools (a normal school is the name given to teacher training institutes in China)[40].

PRIMARY

Entry to the formal system is at six years of age though this can be postponed to seven in less developed areas of the country[41]. Primary education lasts either five or six years (35% of the total enrolment studies for five years and 65% for six years)[42]. According to state statistics (2002), 98.58% of all children of primary school age attended school, and the proportion of primary school leavers continuing their studies in junior secondary schools (including vocational ones) reached 97.02%[43].

The primary school year comprises 38 weeks of teaching with an additional week in reserve, and 13 weeks for official holidays and vacations[44].

Since 1993, Provincial Education Departments have had the chance to supplement the national state curriculum with 'locally-arranged subjects' at schools through the 'Teaching Scheme (Curriculum) for Full-time Primary and Secondary Schools (Pilot)'[45]. However, the main subjects taught in the majority of schools include the following[46]:

Chinese language	Mathematics
Science	Foreign languages
Moral education	Physical education
Geography	Nature and society
Painting	Music

Students need to pass Chinese language and mathematics in order to graduate[47].

JUNIOR SECONDARY or LOWER MIDDLE SCHOOL

The majority of students go through three years of Junior Secondary School with a small number taking four years[48]. They take 11 or 12 subjects including the following[49]:

Chinese language	Mathematics
Politics	Physics
Chemistry	Biology
Culture	Foreign languages (often English)
Moral education	Physical education
History	Geography

Students progress to Senior Secondary School on the basis of results of the following national examinations:

Lower Secondary School Diploma
Compulsory education Certificate

JUNIOR VOCATIONAL SCHOOLS

These schools are part of the compulsory education system in China and therefore courses last three years (with some lasting four years depending on the time a student may have spent in the Primary Sector)[50]. Most of them are in poorer regions and are a product of the state's two main plans which were developed to find solutions to problems of agriculture in rural areas ('Training Programme in Vocational Schools for Urgently-needed Talents in the Manufacture and Service Industry' and 'Training Programme for the Transfer of Rural Labour Forces')[51].

SENIOR SECONDARY SCHOOL

Overall, the senior secondary school curriculum is divided into two: Subject Courses (some of which are optional) and Activities (including out-of-class activities and 'practical' [technical] activities)[52]. Students are streamed according to national examinations and enter one of the following school types[53]:

General Academic or Senior Middle Schools
General academic institutions with humanities or science bent preparing students for National University Entrance Examination and entry to tertiary level

SENIOR SECONDARY SPECIALISED SCHOOLS

Combine technical and vocational disciplines running a variety of courses (Junior Secondary students enter for 3-4 years; Senior Secondary School graduates enter a 2-year diploma qualification). Courses include: Agriculture; Engineering; Forestry; Accounting; Medicine; Electronics; Politics/Law; Economics; sport; Textiles; Tailoring

SENIOR VOCATIONAL/TECHNICAL SCHOOLS

These schools are sponsored by state departments and commissions and local industrial authorities and enterprises. They offer 3-4 year programmes (depending on entry level) and award a diploma to successful graduates. Courses offered include: Coalmining; Power generation; Textiles; Telecommunications; Metallurgy; Building and construction; Catering; Civil aviation; Railway and road construction; Oil production and engineering; Service trades

SKILLED WORKERS SCHOOLS

Three year courses for Junior Secondary School graduates wanting to enter mid-level positions in production industries

Chinese students take the following examinations after Secondary School[54]:

Diploma from Vocational Secondary School or Skilled Worker School
Senior Secondary School Diploma(Graduation Examination). This examination takes place from the beginning of January. Students take nine subjects graded on a scale of A-D (A highest)
Chinese University Entrance Examination. This examination takes place in July after the Senior Secondary School Graduation Examination. Students are selected by universities on the basis of their Chinese University Entrance examination results.

The tertiary level in China comprises comprehensive universities, academies, teacher education (normal) universities, and a variety of specialised colleges and vocational schools[55] [56]. Courses last between 2-4 years depending on institution type (e.g. Advanced vocational education [2 to 3 years]; Bachelor education [generally 4 years]; Doctor's degree programmes [3 years or above]; Master's degree programmes [2 to 3 years])[57].

Technical and Vocational Education

Vocational education in China is provided at three levels: junior secondary, senior secondary and tertiary (see above)[58]. The training conducted in junior vocational schools is aimed at training workers, peasants and employees in other sectors with basic professional knowledge and professional skills (largely related to rural and agricultural development). Thus, the majority of junior vocational schools are mainly located in rural areas where the economy is less developed[59].

At secondary level vocational education occurs mostly at senior high school stage in Specialised Secondary Schools, Skilled Workers Schools and Vocational High Schools offering courses lasting 2-3 years. In 2001, there were 17,770 such schools with an enrolment of 11,642,300 and total recruitment of 3,976,300 students.

Tertiary vocational education is fed from Senior Secondary Schools and Secondary Vocational Schools. Training at tertiary level is divided into four categories by the Ministry of Education[60]. These are:

HIGHER VOCATIONAL TECHNOLOGY INSTITUTES

Five-year Higher Vocational classes (provided through Specialized Secondary Schools)
Tertiary vocational education (provided through HEIs and Adult HEIs)
'Reformed' institutions[i] (offering 2 to 3-year courses with an emphasis on skilled engineer/crafts skills[61]

In addition, there are a number of other routes to vocational training and qualifications. These include the Radio and Television Universities (see above). Admission is post Senior Secondary School and a non-competitive screening examination[62]. Courses last between 2-3 years and successful graduates are awarded a certificate or diploma (NB: the three year course is regarded as being a post-secondary, but sub-degree level qualification, similar to either a DipHE or an HND). Similarly, the diploma that is awarded to graduates of Adult Education courses (for which there is no entry qualification) is regarded as not reaching Bachelor standard. This is also the case in terms of Spare-Time Universities (*Yeda*) licensed by local authorities[63].

Training colleges offer 2-3 year work-release training programmes for Administrative Cadres.

HIGHER EDUCATION

In 2002[64], China boasted 2003[65] Higher Education Institutions (HEIs) of which 607 (30.3%) were specifically for adults. The total number of new entrants in mainstream HEIs was 3,205,000 and total enrolment 9,033,600. The figures for adult HEIs were 1,175,000(36.6%) and 2,223,200 (24.6%) respectively. A total of 202,600 (40.4%) of postgraduate students were admitted to research institutions (of these, 38,400 (19%) PhD

[i] The nature of 'reformed' institutions is not clear from the text on Vocational Training on government websites (see: http://www.admissions.cn/education/18314.shtml)

students and 164,200 (81%) Master's candidates. The total enrolment for postgraduate students was 501,000).

The system is building on work that was done by the State Education Commission (the forerunner of the present Ministry of Education) in the late 1990s to rationalise the delivery of courses. This included a slashing of the number of undergraduate courses offered at HEIs (from 504 to 209) and a merging of 'overlapping' institutions[66]. The claim made by the Ministry of Education is that 'the old system in which the state undertook the establishment of all HEIs has been broken'[67], and is being replaced by a 'new system' in which the state assumes the main responsibility for planning with the 'active participation' of society and individuals. There is no indication on official documents as to how this might be achieved, although the objective for higher education is to increase the autonomy of HEIs while the state retains responsibility for overall planning and macro management.

However, this vision is not shared by everyone. A recent report by the joint UK-China group resulting from a three-year project on 'National Policy on Higher Education Management (2005-07)'[68] describes a possible contradiction in the Chinese system. This problem is a result of attempting to achieve two goals, i.e. creating an education system that contributes to economic development and social cohesion and, secondly, developing a system that produces high quality graduates and prestigious institutions as compared to international standards. The first of these requires a high degree of planning while the second, the report authors argue, requires innovation and experimentation, which often emerges from institutions entrusted with very significant autonomy[69].

However, the system uses a single approach for both goals, i.e. central planning and a tendency for the centre to make strategic decisions for individual institutions (rather than allowing them greater autonomy). This includes universities involved in Projects 211 and 985[70], to improve the quality of the top 100 universities (see Education Policy section above for detail).

The admission requirements for HEIs are based on a standardised national examination (the National University Entrance Examination) that, since 2003, has allowed for one or two subjects determined by provincial government in addition to the three compulsory subjects of Chinese, mathematics and politics[71]. A student will need between 550-600 marks on the examination[72] in order to enter a university[73] (NB: competition for places at prestigious national universities [e.g. Beijing University, Tsinghua University, Nanjing University, Fudan University, Shanghai Jiaotong University, Zhejiang University, Xi'an Jiaotong University, University of Science & Technology of China and Harbin Institute of Technology – and other institutions under State Projects 985 and 211] is intense).

TYPES OF INSTITUTION AND MODES OF DELIVERY

There is an increasing variety of modes of HEIs. These include the following:

Public-funded HEIs (different categories of institution with differing assessment mechanisms). This includes significant distance learning capacity distributed through Central China Radio and Television University, which was founded in 1979 in Beijing, the China Education and Research Network 2 (CERNET 2) and China Education Broadband Satellite Net

(CEBSat). More than 6,000 local study centres have been set up offering over 3 million registered students 153 majors in 10 disciplines[74]

Privately-funded HEIs (NB: According to UK NARIC new legislation has been drawn up to accommodate this type of institution – there has been an increasing number of this type in recent years[75])

Mixed-mode HEIs (these institutions have greater independence in determining institutional policy)

Chinese-foreign Co-operative Institutions are subject to legislation & quality assurance[76] under the 'Regulations of the People's Republic of China on Chinese-Foreign Co-operation in Running Schools .

Students study for a number of basic qualifications, i.e. Bachelor degree (*Xueshi*), Maters degree (*Shoshi*) and Doctorate (*Boshi*). Graduates from Adult Education universities or college receive a Diploma (*Benke*).

The Special Case of Hong Kong

The Hong Kong government has been looking at the experience of other countries in order to draw up a qualifications framework. This is mentioned in a Bills Committee report into the 2005 'Accreditation of Academic and Vocational Qualifications Bill; Overseas Experience on the Qualifications Framework' (Ref: LC Paper No. CB(2)313/05-06(02). This discussion document compares frameworks developed in Australia, England & Wales and Scotland. The Bills Committee noted that the Scottish experience and the SCQF in particular, was seen as a model for the (now developed) European Qualifications Framework (EQF)[77].

This is one of the few direct references to the EQF and the SCQF in any of the documents (readily accessible from text or electronic sources) accessed during the research period. Further research will be needed to clarify the extent to which both China (and India) have taken a lead from such initiatives.

Hong Kong has also recognised the importance of the Bologna Process for HE and that this process, once completed in 2010, will involve more than 4,000 higher education institutions and 12 million students spanning 46 countries, and will stretch beyond the boundaries of the European Union. Hong Kong, along with India and some 15 other developing countries, has seen the potential in opening up opportunities in terms of study and employment for staff and students in Asia through the development of national qualifications frameworks. Hong Kong's importance is its position as a gateway to the rest of the People's Republic of China, and is therefore necessary to engage with.

Education Policies – India

Since Independence, the education policies of successive Indian governments have been broadly similar. Education is seen as being fundamental to a development agenda, and, crucially, has concentrated on three main aspects[78]:

Improving access to all levels of education
Improving literacy rates
Increasing funding – particularly at tertiary level (including technical and professional education)

These aims are fundamental to the 1986 National Policy on Education (further modified in 1992). Education policy has a broad social purpose and 'must play a positive and interventionist role in correcting social and regional imbalance, empowering women and in securing a rightful place for the disadvantaged and the Minorities'[79].

The constitutional framework is in place to provide free compulsory education[80], but the quality of provision can be very poor (with the National Alliance for the Fundamental Right to Education [NAFRE] suggesting that the children in India's 600,000 villages and urban slums receive only 'basic literacy instruction dispensed by barely qualified 'para-teachers' *in lieu* of education'[81]).

The 11th Five-Year Plan

The pursuit of 'quality' has continued with the 11th Five-Year Plans for both the Secondary and Vocational, and the Higher Education sectors. However, there is greater structure to proposed reforms, and in a form that appears to be beginning to converge with approaches in more developed education systems. For example, the working group for the 11th Five Year Plan call for a system of credits that enable horizontal and vertical mobility/transfers for teachers[82]. It also suggests curriculums should be 'revamped' to serve national needs and set them against international benchmarks[83].

The parallel report for Secondary and Vocational Training suggests the establishment of a National Board of Vocational Education and Training (NBVET) for competency based assessment and certification. And, interestingly (considering the experience of Scotland through 'Determined to Succeed'), the Working Group calls for a detailed framework of 'Work and Education' for School Education, which it suggests could be developed through the National Council of Educational Research and Training (NCERT) to be put in place during the 11th Plan[84]. The Government established NCERT in 1961 to assist and advise in co-ordinating vocational and secondary education. It is an autonomous organisation supporting the implementation of policies for education, especially to bring about qualitative changes in school education and teacher preparation[85].

Between 1998 and 2004 the national debate on education focused on the content of school curriculums, and was driven by the heavily political Hindu agenda of BJP-dominated coalition governments from 1998-2004 through Hindu nationalist organizations such as the Rashtriya Swayamsevak Sangh (RSS) and the Vishwa Hindu Parishad (VHP)[86].

In 2001, this resulted in a National Curriculum Framework for school education (under the slogan of 'Indianise, nationalise and spiritualise') developed by the National Council of Educational Research and Training (NCERT), which called for all 'foreign elements' to be removed from the curriculum in state schools[87]. Some criticised this as promoting a Hindu-centric view of the world that went against the pluralistic nature of Indian society. The new policy involved a massive textbook revision, and even attempts to introduce the study of Vedic rituals and Vedic astrology at tertiary level[88].

The huge range of languages in India was incorporated into the system by planners who suggested a Three Languages Formula as part of the 1968 National Education Policy (later adopted as a Programme of Action by Parliament in 1992[89]). In brief, the Three Languages Formula is the study of:

The home [or regional] language
English
Hindi in non-Hindi speaking states and any other modern Indian language in Hindi speaking states[90].

This has given rise to a vast number of languages used as medium of instruction throughout all levels, although the number decreases as a student progresses through the system.

N.B: This further level of linguistic complexity is of less significance in China , in purely education structure terms, and not in terms of the social inclusion of China's officially recognised 56 ethnic minorities[91] (although the two issues are clearly linked[92])..

The responsibility for central and national policy on vocational education sits with the Directorate General for Employment and Training (DGE&T) within the Ministry of Labour. It is advised on policy formulation by two bodies; the National Council for Vocational Training (NCVT) and the Central Apprenticeship Council (CAC).

The Joint Council for Vocationalisation of Education (JCVE) sets national policy and standards for vocational education at secondary level[93]. The current policy is to increase enrolments in the vocational education system to about 25 percent of total secondary enrolment[94]. The JCVE oversees a range of qualifications and training schemes.

According to a Chatham House Briefing Paper[95] there is a vast gulf between the world class Indian Institutes of Management (IIMs) and Indian institutes of Technology (IITs), and primary and secondary schools (particularly in rural areas). Part of the solution to this relates to the third of the three main themes of reform, i.e. increasing funding – particularly at tertiary level.

The 1986 National Policy on Education confirmed the focus on funding and reinforced the independent status of tertiary institutions[96]. Universities and technical education institutions were encouraged to raise fees though the private sector[97]. At the same time the proportion of education provision within the overall budget has reduced from some 25% in the 1970s to less than 10% today[98].

During the Prime Minister's address to the nation on Independence Day 2007[99], Dr Manmohan Singh announced a major extension to vocational education: 'We will soon launch a Mission on Vocational Education and Skill Development, through which we will open 1600 new industrial training institutes (ITIs) and polytechnics, 10,000 new vocational schools and 50,000 new Skill Development Centres. We will ensure that annually, over 100 lakh[100] students get vocational training – which is a four-fold increase from today's level. We will seek the active help of the private sector in this initiative so that they not only assist in the training but also lend a hand in providing employment opportunities'[101].

Thus, the balance of the public and private education provision is directly linked to quality and access. There has been rapid expansion in the tertiary sector - particularly funded through the private sector. The number of colleges and universities across the country has risen from 565 and 25 in 1953 to 15,600 and 311 respectively in 2004 (serving all sectors). During the same period the number of students in higher education rose from 230,000 to 9.28 million and the number of staff from 15,000 to 462,000[102].

Initiatives to improve the quality of vocational training provision are currently being implemented and include:

Vocational Training Improvement Project – this is concerned with creating 500 Centres of Excellence by upgrading existing training centres through domestic and World Bank funding. The aim is to improve the employment outcomes of graduates from the vocational training system, by making the design and delivery of training more demand responsive[103].

Public Private Partnership – the remaining training centres are to be upgraded and new centres built through partnership with industry

A high drop out rate from formal education before secondary schooling means a large percentage of the adult population is illiterate and engages in informal learning in the workplace,. Recognising informal learning is important to the Government who is focussing efforts on upskilling employees who have gained existing skills through informal learning or who left formal education for employment at a young age. With only 5% of 20-24 yr olds gaining skills through formal routes, priority is given to those over 14 under the following schemes:

Skills Development Initiative – employees who have learned their skills informally can be tested and certificated under the Modular Employable Framework. The objective is to generate social inclusiveness and provide the socially and economically vulnerable population a chance to be part of the mainstream economy[104].

National Skills Standards (NSS) are being developed to bring consistency to vocational training programmes. The ambition is that a national test and certification system can be developed within a coherent framework of qualifications which will support mobility of skilled workers[105]. The NSS will specify the minimum skill and knowledge requirements that workers are expected to possess. There are currently NSS for 107 trades under Craftsmen Training Scheme & 153 trades for Apprentices. These competence based standards have

been developed to test the informally learned skills of workers with assessments conducted by trained assessors.

Competency based standards are being developed in 107 trades, mostly construction based. Training will be offered on a modular basis will be expressed in learning outcomes.

The objective of the Ministry of Labour for the development of National Skills Standards (NSS) is to bring consistency to vocational training programmes that could lead to national testing and certification. The Ministry is seeking to create a national qualifications framework and to seek a co-operation agreement with partner countries for a coherent framework of qualifications[106].

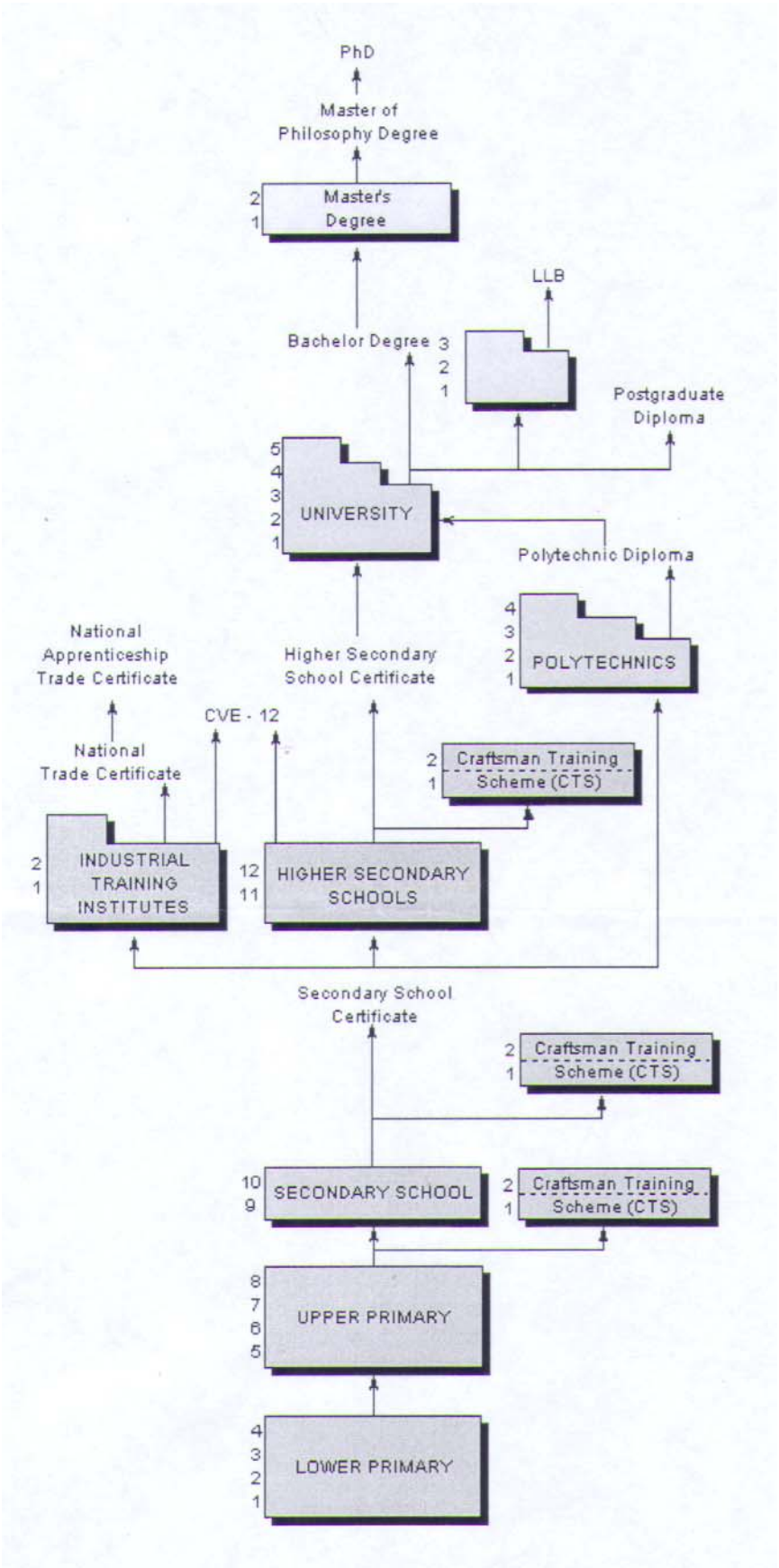
One of the striking characteristics of the Indian Higher Education system is the high proportion of Humanities & Social Science, Science and Commerce undergraduates (80% of total students) as compared to those in 'Professional' faculties such as agriculture or veterinary science (20% of total students)[107].

It is this imbalance that prompted the Prime Minister to announce in 2007 the setting up of five new Indian Institutes of Science Education and Research, eight new Indian Institutes of Technology, seven new Indian Institutes of Management, and twenty new Indian Institutes of Information Technology. The aim is to promote science and professional education, and to provide the means for economic self-improvement for young people[108].

In an attempt to address the issue of quality with limited funds, the state decided on two main strategies. The first was the creation of the National Assessment and Accreditation Council of India (NAAC) in 1994. The second was to act on University Grants Commission (UGC) advice and identify and fully fund 'at least' 25 top universities and several hundred colleges[109] . The objective was to allow them greater autonomy with regard to teaching, syllabuses, examinations and the awarding of joint degrees with affiliating universities[110].

INDIA QUALIFICATIONS CHART[111]

The diagram below shows the main qualifications of the Indian education system. There is not a direct match in terminology of the diagram to the text as the research for this report was obtained from many different sources, not all of which uses the same terminology. However, it serves as a good visual depiction of the education system of India.



The Indian education system is hugely complex. The Department of School Education and Literacy, and the Department of Higher Education are subordinated to the Ministry of Human Resources and Development[112] (a structure created in 1985, which reflects the Reconstructionist objectives of India's education policy). The ministry co-ordinates planning with individual states and can release funds for experimental programmes[113]. It acts through the NCERT and UGC. State ministries of education co-ordinate the work of City School Boards, which are under the supervision of both the state education ministry and the municipal government. In rural areas, the School Board is directed through either a District Board or Village Council (*Panchayat*)[114].

Two factors, both of which are linked, constrain the development of a coherent universal education system. The first is poverty. The Indian Constitution prohibits the use of child labour in 'hazardous employment'[115]. The 1986 Child Labour Act set an ambitious aim to eradicate child labour in such occupations by the year 2000. However, economic necessity means that children have to work. Their contributions as a proportion of total household income can be as high as 37%[116].

Thus, school attendance can be as low as 50% in Primary School[117] (although registration can be higher). As a result, the second factor – illiteracy – remains a massive problem. Literacy rates vary widely between states, and between genders. According to 1991 census figures, male literacy reached 60% in Bihar and 94% in Kerala. Female literacy was 34% and 88% in these two same states (NB: Kerala State is widely acknowledged as being very forward-thinking in terms of education in its approach to education[118]).

The Three Languages Formula has given rise to a vast number of languages used as medium of instruction (in all sectors). According to the 6th All India Education Survey (1993-94), 41 languages were used to teach (though the trend is towards fewer languages being used in the classroom (viz. 67 according to the 3rd All India Education Survey, and 44 in the 5th All India Education Survey[119]).

School years are known as 'standards', i.e. Standard I through to Standard XII[120]. Education is divided into pre-primary, primary, middle (or intermediate), secondary (or high) school, and higher levels. Primary school includes children of ages six to eleven, organized into Standards I-V. Middle school students pupils aged eleven through fourteen are organised into Standard VI-VIII, and High School students ages fourteen through seventeen are enrolled in classes nine through twelve. Higher education includes technical schools, colleges, and universities.

School

PRIMARY

Over two-thirds of all schools in India are in the Primary system[121], which lasts from entry at the age of six to exit at the age of 14. The first five years (through Standards I-V) are known as 'primary' and the final three (Standards V-VIII) are known either as 'upper primary' or 'middle school'[122]. Subjects taught at Primary level include[123]:

Reading	Writing	Arithmetic
Geography	History	Civics
General Science		

SECONDARY

The Secondary level is divided at Standard X, at the end of which students sit for public examinations set and held by either individual states or one of the two national boards of secondary education, viz. the Central Board of Secondary Education (CBSE) or the Council for the Indian School Certificate Examinations (CISCE)[124]. The main subjects covered by the curriculum include:

Language (as determined by the Three Languages Formula)
Mathematics (arithmetic, algebra, geometry)
Sciences (physics, chemistry, biology)
Social Studies (history, geography, civics)
Vocational Studies (accounts, computing, fine arts)

The final two years of Secondary level (Standards XI-XII) are delivered by schools or Junior Colleges in order to (mostly) prepare students for university[125], who are selected on the basis of examinations offered by national examinations or 34 state examinations boards[126]. The awards from the three central secondary boards are more highly valued than those from individual states according to UK NARIC, and are generally taken by more capable candidates[127]. The boards are:

The Central Board of Secondary Education (CBSE)
Founded in 1962, and based in Delhi. Prescribes courses of instruction and grants certificates to its 5000+ affiliated schools.
The CBSE offers the All India Secondary School Certificate at Standard X and the All India Senior Certificate at Standard XII

The Council for Indian Secondary Certificate Examinations (CISCE)
Founded in 1958 by the University of Cambridge Local Examinations Syndicate. Its 1000+ affiliated schools offer English as the medium of instruction.
The CISCE offers the Indian Certificate of Secondary Education at Standard X, and the Indian School Certificate and (notably) the Certificate of Vocational Education (CVE-12) at Standard XII (see below)

The National Institute of Open Schooling[128]

Standard XII examinations are grouped as Humanities, Science and Commerce.

Technical and Vocational Education

Vocational training is clearly a high priority for Indian education planners and is currently delivered through the institutions described below.

VOCATIONAL SECONDARY SCHOOL

Government Technical High School (GTHS offer pre-vocational education that provides an introduction to technical education to students below the age of 16),

A recent initiative is Minimum Competence-Base Vocational Courses (MCVC). These are centrally sponsored allowing students to take 70% vocational subjects over 2 years. However, according to a Times of India report, these courses are not very popular with students[129].

Some students opt to take non-academic courses after Standard X. They may take Certificate of Vocational Education courses or craftsman or apprenticeship courses in order to study for trade certificates. An alternative route for vocational education is through polytechnics where successful students receive a technician qualification.

The JCVE oversees a range of qualifications and training schemes, which include the following[130]:

Certificate of Vocational Education (CVE-12)
A two-year course offered through Higher Schools and Technical Schools after which graduates enter the labour market. Courses for technical and other trades include: Mechanical engineering; Telecommunications; Building construction; Printing; Air conditioning and refrigeration; Hospitality; Fashion; Business studies

Craftsman Training Scheme (CTS)
Trade courses are organised by the **Directorate General for Employment and Training (DGE&T)**. Standards equivalent to Standard VIII and Standard XII depending on course/trade and offered at a number of institutes including: Model Training Institutes attached to six major Advanced training Institutes in regional/state capitals (e.g. Mumbai, Chennai, Kolkata and Hyderabad); 10 Regional Vocational Training Institutes (RVTIs) for women

National Apprenticeship Training Scheme (ATS)
Training is co-ordinated nationally by the Central Apprenticeship Council, and regionally through Regional Boards of Apprenticeship under the General Directorate of Employment and Training at the Ministry of Labour[131]. 140 trades in 31 trade groups have been identified for the ATS. Qualifications vary from Standard VIII pass to Standard XII following courses lasting six months and four years.

Apprenticeship Training is linked to Craftsmen Training for 92 trades conducted in Industrial Training Institutes (ITIs). Trade Apprentices are contracted to employers twice a year (Feb/March and August/ Sept) with both employers and apprentices have to fulfil their obligations under the 1961 Apprentices Act (amended 1973 and 1986)[132].

Testing and Certification of Trade Apprentices (using the **All India Trade Test [AITT]**) are conducted twice-yearly (Oct/Nov and April/May) by the **National Council of Vocational Training (NCVT)**. Successful candidates receive a **National Apprenticeship Certificate (NAC)**, which is recognised as a certificate for employment by Government and 'Semi-Government' departments and organisations[133].

Training Graduates, Technicians and Technicians (Vocational)
101 subjects have been selected for this scheme to train Graduate & Technician apprentices. 94 subjects have been chosen in the Technician (Vocational) apprentices' category. Training lasting one year for both categories. Certificates are awarded on completion of training by the Department of Education at the Ministry of Human Resource Development[134].

The Board of Apprenticeship Training (BOAT) is an autonomous organisation working under the Ministry of Human Resource Development with the sole aim of improving the capability of apprentice engineers through one year 'on the job training'. There are four regional Boards in Western Region, Kanpur in Northern Region, Kolkatta in Eastern Region, and Chennai in Southern Region.

The Bureau of Indian Standards (BIS), the National Standards Body of India is involved in the development of technical standards (popularly known as Indian Standards), product quality, management system certifications and consumer affairs. The BIS establishes standards in the 14 following sectors:

Basic & Production Engineering
Chemicals
Civil Engineering
Electronics and Information Technology
Electrotechnical
Food and Agriculture
Mechanical Engineering
Management and Systems
Medical Equipment and Hospital Planning
Metallurgical Engineering
Petroleum Coal and Related Products
Transport Engineering
Textile
Water Resources

Each of these sectors has a Division Council to oversee and supervise its work

POLYTECHNICS

Entry to one of India's 1200 polytechnics to study a three- or four-year Diploma is through a successful pass at Standard X. Students wishing to study a Higher National Diploma needs Standard XII to begin the course. The polytechnics also offer Postgraduate Certificate and Diploma courses for full-time and part-time students.

UNIVERSITIES

Technical education at university level is co-ordinated through the **All India Council for Technical Education (AICTE)**. The organisation is concerned with maintaining standards through AICTE's **National Board of Accreditation (NBA)**, which became a provisional member of the Washington Accord[135] in June, 2007[136].

Higher Education

As with much of the system, the administrative structure of Higher Education is complex, and thus difficult to navigate. Much of the work of the Department of Higher Education is carried out through some 90 autonomous organisations, which for University and Higher Education, and for Technical Education include the following[137]:

University & Higher Education
University Grants Commission (UGC)
Indian Council of Social Science Research (ICSSR)
Indian Council of Historical Research (ICHR)
Indian Council of Philosophical Research (ICPR)
23 Central Universities
Indian Institute of Advanced Studies (IIAS), Shimla

Technical Education
All India Council of Technical Education (AICTE)
7 Indian Institutes of Technology (IITs)
3 Indian Institute of Science Education & Research (IISERs)
6 Indian Institutes of Management (IIMs)
20 National Institutes of Technology (NITs)
4 Indian Institutes of Information Technology (IIITs)
4 National Institutes of Technical Teachers' Training & Research (NITTTRs)
4 Regional Boards of Apprenticeship / Practical Training

The numbers of institutions and thus students and teachers are huge. Currently, there are 16,885 Colleges, 9,540,000 students and 457,000 teachers[138]. The UGC is responsible for co-ordination, setting and maintaining standards, and for disbursing funds (as determined by Central government)[139].

There are currently 18 Central Universities and 99 institutions that have been given the status 'Deemed to be a University' (typically institutions of a single faculty type that have applied to the UGC for university status. Deemed Universities are encouraged to specialise rather than develop as multi-faculty institutions[140]). State governments establish State Universities and colleges. Co-ordination between the Union and States is through the **Central Advisory Board of Education (CABE)**[141].

QUALIFICATIONS

There are three main qualifications in the Higher Education system. They are:

Bachelor Degree – 3-Years' duration (agriculture, dentistry, engineering, pharmacology, veterinary medicine take five years; architecture and medicine take five and a half years
Master's Degree – 2-Years' duration research/thesis or coursework based
Doctor of Philosophy – research-based qualification of a minimum of three years' duration (often after completing a research/coursework-based Master of Philosophy[142]).

Education Policy - Scotland

The Scottish Government's recently published Lifelong Skills Strategy, "Skills for Scotland"[143] builds on the previous Administration's Lifelong Learning Strategy for Scotland "Life through Learning; Learning through Life"[144], whose primary goal was to create a Scotland "where the people have the confidence, enterprise, knowledge, creativity and skills that they need to participate in economic, social and civic life". A key part of this strategy was the provision for all pupils and students over 14 to have the opportunity of work-based vocational learning and enterprise experience.

The new Lifelong Skills Strategy focuses on several overlapping clusters of skills.

These are:
Personal and learning skills that enable individuals to become effective lifelong learners; Literacy and numeracy;
The five **core skills** of communication, numeracy, problem solving, information technology and working with others;
Employability skills that prepare individuals for employment rather than for a specific occupation;
Essential skills that include all of those above; and
Vocational skills that are specific to a particular occupation or sector.

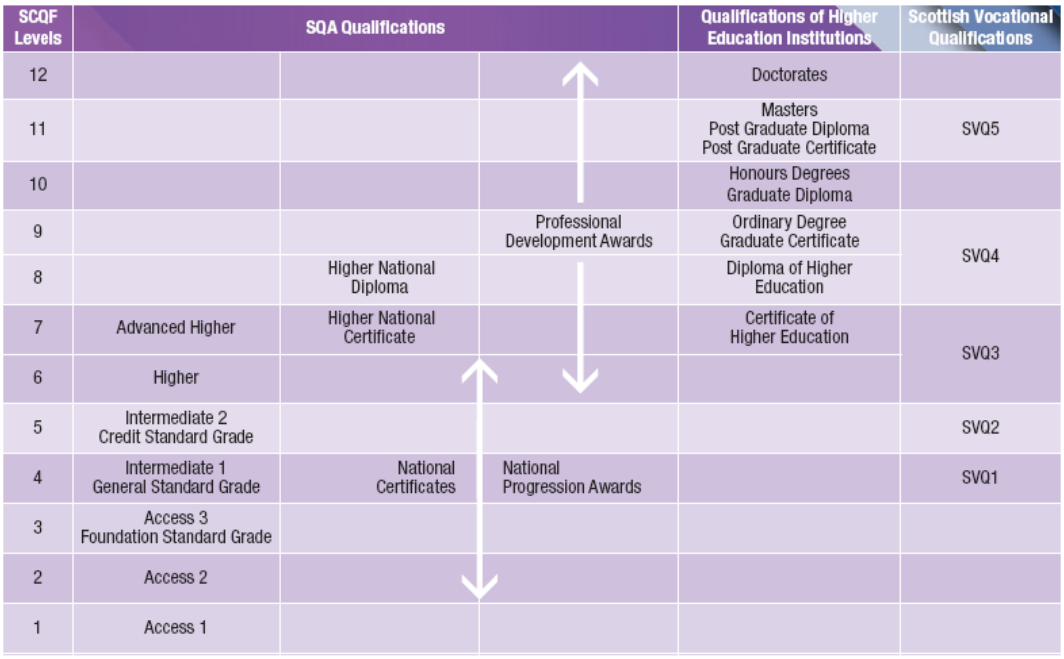
The strategy forms the view that the years spent in education generate a form of capital that has the potential to produce a long-term return. Skills development contributes to economic development from which other benefits flow such as social justice, stronger communities and more engaged citizens.

This is part of a wider vision for a smarter Scotland with a globally competitive economy based on high value jobs, with progressive and innovative business leadership.

"Skills for Scotland" highlights the essential role to be played by the Scottish Credit and Qualifications Framework (SCQF) in realising this vision. It refers to the need to challenge "...employers, learning providers, awarding bodies and others to use the Scottish Credit and Qualifications Framework (SCQF) as a tool to support learning, specifically to facilitate the recognition of learning and for enabling individuals to move smoothly through learning environments, getting credit for learning they have already achieved."[145]

The aim of the SCQF is to support progression and widening access to formal education to increase the skills base of the workforce. The SCQF includes both vocational and academic qualifications and is a tool that describes learning to enable learners, learning providers and employers to understand the full range of Scottish qualifications and how they relate to each other. This in turn aids flexible progression and the efficient choice of learning programmes across all sectors. . A key focus of the work of the SCQF Partnership is to support the recognition of prior learning.

The Scottish Credit and Qualifications Framework



SCQF Levels	SQA Qualifications			Qualifications of Higher Education Institutions	Scottish Vocational Qualifications
12				Doctorates	
11				Masters Post Graduate Diploma Post Graduate Certificate	SVQ5
10				Honours Degrees Graduate Diploma	
9			Professional Development Awards	Ordinary Degree Graduate Certificate	SVQ4
8		Higher National Diploma		Diploma of Higher Education	
7	Advanced Higher	Higher National Certificate		Certificate of Higher Education	SVQ3
6	Higher				
5	Intermediate 2 Credit Standard Grade				SVQ2
4	Intermediate 1 General Standard Grade	National Certificates	National Progression Awards		SVQ1
3	Access 3 Foundation Standard Grade				
2	Access 2				
1	Access 1				

i. The new Skills for Work courses are National Courses available as Access, Intermediate and Higher Qualifications (SCQF levels 3 – 6)
ii. Ongoing work to credit rate SVQs shows that SVQ units range from SCQF level 4 to level 12. SVQs at 3 and 4 can be placed at different SCQF levels.

The SCQF Strategic Plan seeks to support the Skills for Scotland agenda by ensuring that the SCQF becomes the language used to describe learning in Scotland. It also intends to use the experience of developing and implementing the SCQF in Scotland to play a significant role in framework development in the UK, Europe and further afield[146].

The 3 main objectives of the plan are to:

- maintain the quality and integrity of the SCQF
- promote and develop the Framework as a tool to support lifelong learning
- develop and maintain relationships with other frameworks in the UK, Europe and internationally

Scottish education policy also looks outward beyond national borders through the International Lifelong Learning Strategy. This strategy aims to position Scotland as a world leader in international post-school education and increase the economic value to Scotland from activities in this area by 50 per cent over the next five years. A wider aim is to make Scotland a more attractive place to live, work and study in order to support economic growth. This is based on a recognition that Scotland must operate competitively within a global context[147]. Supplementary aims are:

Attracting talent to Scotland and offering a high quality experience
Facilitating the universal employability of all our students
Participating actively in European and international policy development
Leading development, capacity building and sustainability projects
Fostering international partnerships and other strategic alliances

UK POLICY -PRIME MINISTER'S INITIATIVE (PMI)

The Prime Minister's Initiative (PMI) for International Education, which was launched in April 2006, is a five year strategy which will build on the success of the first PMI (which began in 1999) to secure the UK's position as a leader in international education and sustain the managed growth of UK international education delivered both in the UK and overseas.

Comparative Analysis: Scotland, China and India

Some broad comparisons between Scotland, China and India in terms of policies, approach and implementation are able to be drawn from this scoping exercise. A further period of research could examine the policies in greater depth and identify more clearly actual implementation. There are five key areas of convergence between India, China and Scotland; these include Lifelong Learning, the focus on skills development through formal vocational training and education, parity of esteem for vocational qualifications and the importance of international benchmarking.

Both India and China appear to have similar ambitions to Scotland in providing skilled individuals who are capable of contributing to the economy and society as a whole. In Scottish terms this is to produce: 'A smarter Scotland with a globally competitive economy based on high value jobs'.

The same message is expressed in different terms in China. The National Working Conferences on Vocational Education during the 10th Five-Year Plan resulted in a decision to make vocational education 'service-based' and 'employment-oriented'[148], with the aim of producing 'people for employment rather than simply produce large numbers of people with qualifications'. Both India and China have followed policies of rapid expansion of mass education in recent years, which although successful in quantitative terms, has caused a severe strain on resources. It has also created large numbers of graduates, many of whom remain unemployed.

India also has similar aims to Scotland's Lifelong Learning Strategy. Education policy has a broad social purpose and 'must play a positive and interventionist role in correcting social and regional imbalance, empowering women and in securing a rightful place for the disadvantaged and the Minorities'[149].

Both countries place some priority on adult illiteracy and have developed initiatives to reduce the scale of the problem. Although the problem in Scotland is not nearly so great, initiatives have been taken to improve adult literacy here too.

Similar to Scotland, but on a more entrenched scale, India and China face difficulty in promoting vocational education and training as credible, esteemed qualifications, on a parallel with higher education. The Skills Strategy for Scotland aims to promote parity of esteem and echoes of this can be found in the policies of India and China.

China's 9th 5 year Plan, 2010 objectives state that 'a modern education system for lifelong learning... in which degree education and non-degree education are attached equal importance'[150], and where vocational and standard formal education are integrated[151].

The Chinese government has been pursuing a policy of expanding Vocational Education for the last 20 years. During this time the proportion of regular senior high school students among all the students in senior secondary education has decreased whilst the proportion of secondary vocational school students has increased. From l980 to 2001, secondary vocational education institutions produced 50 million graduates.

Much of this change (according to official descriptions on the Ministry of Education websites[152]) appears to be directed towards skilling workers in rural and poor regions of the country.

The former Scottish Executive took note of the importance of vocational education in the text of the Memorandum of Understanding between China and the Executive on Promotion of Educational Collaboration (January 2005)[153]. It states that vocational education: 'provides an essential contribution to the development of individual chances for life, work and further education, while it also sustains the socio-cultural, economic and technological development of societies'[154].

S**imilarly, there is convergence with the** Indian government's aims to increase Vocational Education through its Mission on Vocational Education and Skill Development (announced by the Indian Prime Minister last year). The target, according to this initiative is to increase provision four-fold.

The Working Group for the 11th Five year plan called for a detailed framework of 'Work and Education' for Schools to be developed through the National Council of Educational Research and Training (NCERT).[155]. This would offer vocational education on national basis in secondary schools. This is akin to the Skills for Work Courses developed by SQA and stakeholders to introduce employability and vocational skills to school pupils.

India's initiative to develop and accredit the vocational skills learned in an informal context is akin to the one of the aims of the SCQF, i.e. to support the recognition of prior informal learning.

Each state recognises the need to benchmark their qualifications against international standards[156], and that they need to fit within a globalising education system[157]. At present this appears to be a planned, but not yet implemented, goal. Scotland's Lifelong Skills Strategy also recognises this need.

In addition, both India and China are committed to improving quality in the education system through the promotion and support of 'leading' universities.

Possible Collaboration: Scotland, China and India

Despite the huge differences between China, India and Scotland, all three are facing or have faced similar challenges and have developed similar common policies. Based on these similarities, it is possible to consider ways in which Scotland can lend its expertise and experience to these international partners. **The following suggestions represent the potential collaboration** between Scotland, India and China that have been drawn from this research.

What appears to be a planned but not yet implemented, goal for both India and China, is the need to benchmark their qualifications against international standards[158], and the need for these qualifications to fit within a globalising education system. Scotland, with its unique contributions to the Bologna Process and the shape of the European Qualifications Framework (EQF), is in strong position to offer strategic advice to both countries in both the development of a NQF and in benchmarking to international standards.

Both countries recognise a need to develop their teaching profession to provide consistent quality and to develop their training and assessor capabilities to support the implementation of their VET plans. Scotland could offer much in this area, both in terms of direct input to the developments but also in developing the teaching and training programmes to enable both countries to support themselves.

Another difficulty both countries share is the lack of esteem held for vocational education and qualifications. With Scotland's experience of HNC/D provision, and the new non-advanced vocational qualifications, there may be opportunities to help promote parity of esteem through supporting delivery of VET.

China

A primary objective of China's education planners is to produce people for employment rather than simply produce large numbers of people with qualifications. Following a detailed qualification benchmarking process, Scotland may be in a position to promote SCQF levelled vocational qualifications that are developed with employers to meet industry sector needs. Alternatively, supporting the development of a quality assured process by which this is achieved, could be geared towards enabling the Chinese government to achieve their aim.

Projected figures for enrolment in higher education suggest that a slowing down of places will occur in the years to 2020. Competition for places at Higher Education institutes is likely to increase and may well result in a greater number of students, who have not gained a place at university in China electing to study overseas. Higher education institutions in Scotland may wish to consider ways to explore this opportunity further.

Alternatively, SQA's Higher National Diplomas offered in China may be seen as a more viable option for students to consider. This would also link to the Chinese Government's policy of expanding vocational education and to increase short courses at higher education, undergraduate level.

In China, the aim of state project 211is to establish 100 innovation centres nationally. This could be an opportunity for SQA to build on existing links and also provide additional structure for Scotland's Colleges and Universities to forge links with those universities linked to State Project 211

The first supplementary aim of the International Lifelong Learning Strategy is to 'Attract talent to Scotland and offer a high quality experience'. In addition to attracting students to travel to Scotland, there may be potential in developing distance modes of learning for China's Television and Radio universities to delivery Scottish courses (particularly vocational qualifications). One example that could be used as a model is the virtual campus of Distance Learning Scotland, Reid Kerr College.

India

As indicated above, The Working Group for the 11th Five year plan calls for a detailed framework of 'Work and Education' for School Education to be put in place during the 11th Plan. There may be an opportunity to support the plan through the sharing of experience and best practice from SQA's Skills for Work courses, developed with stakeholders to introduce employability and vocational skills to school pupils,

The Indian Departments of Basic and Higher Education are currently re-structuring their curricula in order to serve national needs and set them against international benchmarks. A specific example is the 11th Five Year Plan working group's call for a system of credits that enable horizontal and vertical mobility/transfers for teachers[159]. It also suggests curricula should be 'revamped' to serve national needs and set them against international benchmarks[160]. There is potential for the SCQF Partnership, SQA and Scottish Higher Education institutions to work on a collaborative project that would comply with Supplementary Aim 4 of Scotland's International Lifelong Learning Strategy (Leading development, capacity building and sustainability projects).

The same Department is also looking towards the development of a National Qualifications framework. This is an opportunity for the SCQF Partnership to assist in this area which is directly related to the aim of its Strategic Plan to relate to international NQFs.

The Indian Directorate General for Employment and Training (DGE&T) manages the **Craftsman Training Scheme** and the **National Apprenticeship Training Scheme**. National skills standards are being developed and implemented for all trades under these schemes and it is hoped a national test and certification system can be developed.
There may be an opportunity here to work with the Indian Government to benchmark these national skills standards to UK national occupational standards and the test and certification to SCQF levels. Delivery of this initiative will also require capacity building in the development of quality assurance processes and procedures, as well as the development of competent assessors. There may also be the opportunity for Scotland's colleges to collaborate with new or existing partners in the area of apprenticeships.

In 2007, the Indian Prime Minister announced the establishment of five new Indian Institutes of Science Education and Research, eight new Indian Institutes of Technology, seven new Indian Institutes of Management, and twenty new Indian Institutes of Information Technology. The aim is to promote science and professional education, and to provide the means for economic self-improvement for young people.
This is a series of initiatives that provide an opportunity for Scotland's colleges and universities to engage and develop collaborative programmes and courses. The Lifelong Skills Strategy appears to be relevant to this initiative and could coincide with the announcement of the Indian government's mission last year to launch a Mission on Vocational Education and Skill Development.

The Indian Department of Higher Education is planning to develop Internal Quality Assurance Cells (IQACs) within National Assessment and Accreditation (NAAC) accredited Colleges, with a provision to appoint a full-time co-ordinator of IQACs. There may be an opportunity here for higher education in Scotland to support the process of capacity building for personnel and the development of quality-assurance processes and procedures to aid the Government in realising its aim. Such a programme would comply with Supplementary Aim 4 of Scotland's International Lifelong Learning Strategy (Leading development, capacity building and sustainability projects)

In terms of collaboration in the UK, many organisations such as NARIC, SCI and SDI are conducting similar research into both India and China's education systems. Whilst there may be a slightly different purpose to the research, the base information required is likely to be the same. With a view to partnership working and effective and efficient use of resources, consideration could be given to working with relevant bodies to establish base line information that would be useful to all.

Further Potential for Collaboration in the Area of Benchmarking

Background

In addition to potential areas for collaboration mentioned in the previous section, there may be opportunities to collaborate in terms of relating the qualifications systems or frameworks of China, India and Scotland. This is often referred to as “benchmarking”.

Benchmarking qualifications is the process by which qualifications can be compared against specified standards or criterion. Where qualifications frameworks exist, that are supported by level descriptors, there is an opportunity to begin the benchmark process across NQF levels if there are sufficient comparable and similar reference points within the descriptors. Where no NQF exists, a comparison may be made by examining the stages of educational progression and the key qualifications at these points.

Some methodologies have emerged through different types of benchmarking by different agencies for varying purposes. The examples provided below have been drawn upon to provide the proposed benchmarking processes described in the next section of the report.

The National Recognition Information Centre for the United Kingdom (UK NARIC) routinely carries out verification of international qualifications and compares them to UK qualifications. UK NARIC is responsible for providing information and expert opinion on vocational, academic and professional skills and qualifications from over 180 countries worldwide. It is a National Agency, managed on behalf of the UK Government. The service it provides is chargeable to members, who can be organisations or individuals.

The Council of Europe recommends a method based on a firm theoretical rationale described as ‘building an argument’[161] for linking an examination to the Common European Framework (CEF). See Appendix A for further details. The concepts involved in relating examinations to the CEF may be transferable to the processes involved in benchmarking Chinese or Indian qualifications to Scottish qualifications because there is a similar basis for comparison. The CEF has descriptors defined as sets of ‘can do’ statements and in the case of the SCQF the descriptors are realised as learning outcomes, which can be defined as statements of what the learner is expected to know, understand or be able to do at the end of the period of learning.

UK and Ireland regulators and qualifications framework owners have established a rough guide to comparing qualifications across boundaries. This benchmarking was not based on an examination of the level descriptors but instead focussed on comparing the stages of progression in the education system of each nation and benchmarking the qualifications at each stage and level of their respective qualifications frameworks. This work resulted in a diagram that shows how and where qualifications are roughly comparable in each education system and the levels where they compare. [162]

SQA's Experience of Benchmarking

SQA Polish Mapping work (see example at appendix B)
SQA provided a summary of the education system in Poland and a ready reckoner that shows comparisons with key, current Polish qualifications to SQA qualifications. This work required the exploration of the current system in Poland and identified recent changes. The main qualifications emerging from this system were examined to establish the nature of the institution where they are delivered, the general aim and content of the qualification and duration of the programme of learning. The outcomes of this research were then compared to SQA's qualifications, and therefore the SCQF level, to find as close a match as possible. This work is not about establishing equivalences of qualfications but finding sufficient comparisons to say that something is similar. It builds on NARIC's verification of Poland's education system. The complete Polish mapping work can be found at www.sqa.org.uk/poland

Exploring the relationship of the SCQF to the European Qualifications Framework (EQF)

This initial piece of work was to explore methodologies for relating the SCQF to the EQF. Two different approaches were explored which produced similar results. Both approaches looked at the level descriptors across the frameworks, comparing the incremental changes of the levels and how far a match could be found in the complexity of learning demanded at each level. A second stage of this work tested the relationship by examining SQA qualifications types at different levels and comparing them to the comparable EQF level established at the first stage by looking at the aim and purpose and the learning outcomes of the qualification. A report of this work was presented to the SCQF Partnership Board in June 2007.

Exploring the Alignment of the SCQF levels to the Qualifications and Credit Framework (QCF).

SQA worked with the UK regulators to begin the process of establishing a framework relationship to the developing framework for England, Wales and Northern Ireland. A similar approach was taken to this as was to the EQF mapping work. That is, a first stage examined the level descriptors and compared them in terms of degrees of increment and similarity of interpretation and context to find out the level to level alignment. The second stage tested this alignment by taking units from both systems and comparing them to the levels of each framework. This resulted in one unit being levelled against the level descriptors for both the SCQF and the QCF. There is a second phase of this project due to report in June 2008 to SQA Qualifications Management Team, the UK Vocational Qualifications Reform Board and to the SCQF Partnership

Criteria and Recommendations for Benchmarking Activities: Scotland, China and India

1. Determine the purpose of the benchmarking activity.

It is clear from the examples above that benchmarking can have very different purposes. Before committing resources to any benchmarking activity, it is vital to consider the purpose of the benchmarking, as this will indicate the degree of comparison that is to be made and therefore the resources, experience and authorities required to conduct the activity and confirm the results. The purpose will also influence the sector, type of qualification examined and eventual presentation of the outcomes of the work.

2. From the purpose, **determine the level of benchmarking activity**.
Taking the examples and methodologies provided in the previous section there are possibly three levels or degrees of benchmarking activities that could be conducted: **The expertise required** is also slightly different depending on the level of benchmarking.

FIRST LEVEL – Finding a Relationship to an Education System or Qualifications Framework

Expertise: First Level Benchmarking would require some knowledge and understanding of education systems, the SCQF and qualifications frameworks in general.

Where there are qualifications frameworks to compare, a first level benchmark would be at level to level of the frameworks. The aim of this exercise would be to establish what degree of comparison existed and which levels compared in terms of the same complexity of learning. Such a comparison would provide the basis for an alignment or relationship of frameworks to be agreed. It would also mean that any qualifications sitting in the comparable levels could also be said to be comparable in terms of their complexity of learning and may prompt level 2 and 3 benchmarking activities. However no NQFs are operational as yet in India or China.

There is a degree of risk attached to this type of comparison as some misconceptions may occur in the interpretation of the comparison due to little detailed information of the qualifications. A comparison of this type should be supported by information that explains the degree of comparison, the benchmarks used and how to interpret the information. An example of this is the **"**Qualifications can cross boundaries" diagram[163]. This is an example of level one benchmarking where NQFs exist and can be compared, and combines some of both activities described for level one.

Where no qualifications framework exists, the education system can be explored to provide benchmarking opportunities. This involves a review of key qualifications in an education system, e.g. school, vocational education and higher education. The age and stages of progression and the qualifications that emerge at these points provide the basis for an initial

comparison to another system. This would be a first high level benchmark based on a 'best fit' that would provide an indication of where a more detailed analysis could be conducted.

By examining the education system of China and India, it has been possible to identify stages of progression and key qualification types, as listed in the tables below. This would be a first step towards possible first level benchmarking activity.

China

SCHOOL

Institution/Level	Qualification Awarded
Senior Secondary School	High School Diploma (*Gaozhong Biye Zhengshu*) with average 80%+
Senior Secondary School	Score of 590+ in University Entrance Exam (Gao Kao)

VOCATIONAL QUALIFICATIONS

Institution/Level	Qualification Awarded
Vocational secondary School	Certificate of Vocational Education
Vocational secondary School	Diploma of Vocational Education
Vocational University/Higher Vocational Technology Institutes/	Diploma
Vocational University	Bachelor Degree

HIGHER EDUCATION

Institution/Level	Qualification Awarded
State Project 211 University	Three year Diploma (Da Zhuan)
State Project 211 University	4 year Bachelor's degree with 75%+ average
Non-211 University (though within top 250 in China)	4 year Bachelor's degree from with average 85%+
Radio & TV University/Spare-time Universities/Training Colleges for Administrative cadres	University College Graduation Diploma or a Graduation Diploma

India

SCHOOL

Institution/Level	Qualification Awarded
Senior Secondary School CBSE	All India School Certificate (Standard X)
Senior Secondary School CBSE	All India School Certificate (Standard XII)
Senior Secondary School CISCE	Indian Certificate of Secondary Education (Standard X)
Senior Secondary School CISCE	Indian School Certificate (Standard X)

VOCATIONAL QUALIFICATIONS

Institution/Level	Qualification Awarded
Industrial Training Institutes	National Apprenticeship Certificate (at Standard VIII pass level)
Industrial training Institutes	National Apprenticeship Certificate (at Standard XII pass level)
Industrial training Institutes	National Trade Certificate
Higher Secondary Schools and +Technical Schools	CVE-12
Higher Secondary Schools and +Technical Schools	CVE-12
Polytechnic	Diploma
Polytechnic	Postgraduate Certificate
Polytechnic	Postgraduate Diploma

HIGHER EDUCATION

Institution/Level	Qualification Awarded
University (From recognised top 25 University)	BA Degree (of three years' duration)
University (From recognised top 25 University)	BA Degree (of five years' duration
University (From recognised top 25 University)	MA Degree

UK NARIC provide a service very close to this type of benchmarking, using their own methodology and bands to compare education systems and their qualifications.

SECOND LEVEL – Mapping Qualification Types

Expertise: Second Level Benchmarking would require the above and some desk research experience as the investigation of institutions and qualifications types necessitates close scrutiny and innovative investigation to confirm information.

Second level benchmarking builds on level 1 and involves analysing qualifications in a more detailed, systematic way by examining the following:
The type of qualification
The institution delivering the qualification
The age or stage at which the qualification is taken
The content of the courses in general terms
Typical duration
Context of learning and delivery

Conducting this level of benchmarking will also indicate indirectly the SCQF level of the qualification form India and China via the Scottish qualifications to which it is being compared. The person(s) conducting the benchmarking should at least know and understand well the Scottish qualification types in question. Verification by relevant authorities to authenticate the information used to make the comparisons would be advisable to ensure credibility for the outcome. An example of this level of mapping is at

Appendix D which shows the Polish qualifications ready reckoner developed by SQA to help employers, enterprise companies, careers advisers, employment agencies and vocational education and training providers gain a basic understanding of Polish education and qualifications and how they relate to Scottish qualifications.
However, the NARIC Poland, part of The Polish Ministry of Education has still to respond to a request to verify this work, indicating the degree of difficulty encountered in liaising with authorities overseas.

THIRD LEVEL – Scrutiny of Structure and Content of Specific Qualifications

Expertise: Third Level Benchmarking would require subject expertise, likely at institutional/practitioner level where familiarity of the Scottish qualifications would be essential to establish comparability.

This level of benchmarking involves a more exact comparison of individual qualifications to individual Scottish qualifications, in addition to those aspects looked at in the first level and second level benchmarking. This will involve examining the:
aims and purpose of the qualification
learning outcomes
structure of the assessment systems and or assessment strategy
underpinning quality assurance
status of the qualification (e.g. is the qualification recognised by professional bodies or one required in a regulated sector.)

This degree of benchmarking may require specialists in the qualification areas who are best placed to make judgements through experience of delivery and or assessment, or at least know and understand the qualifications in question. This exercise would be resource intensive and would probably have to be conducted on only a few key qualifications from China and India. A suggested approach would be to identify Key sectors or qualifications for benchmarking activity: e.g. in areas where Scotland's Colleges and Higher Education Institutions have capacity to deliver in the key industry sectors important to India and China's policies. This will focus efforts in areas where there is more likely to be collaboration and return.

Alternatively, it would perhaps be more relevant for individual institutions to pool resources to conduct this work in relation to potential collaboration with India and China. Some colleges and universities may already conduct this type of benchmark to make entry, credit transfer or articulation agreements and it may be worth identifying what work has been done in this area.

It is important to identify key authorities where good relationships are already established, who could assist in providing the detailed information required for levels 2 and 3 benchmarking and who will verify the outcomes and could help promote further collaboration.

However, one problem encountered during this research with the education system of both countries is the lack of consistency in the nature of the qualification and in the quality of the provision. Therefore a comparison at this level may not read across all similar qualifications.

Conclusion

It seems that a first level benchmarking exercise relating the key qualifications of the education systems of China and India to the SCQF would be possible. However care should be taken in the presentation of the outcomes of this work to explain how to interpret the findings.

Where a demand is identified, and ideally with cooperation from the relevant Chinese and Indian as well as Scottish authorities, a second level mapping of qualification types would also be possible. In the case of SQA's work on Polish qualifications, a clear need was identified by employer representative bodies and this provided both the driver and the focus for this work in terms of target country and types of qualifications.
With regard to the third and most resource-intensive level of benchmarking, this would also be possible, although as indicated, likely to be confined to certain key qualifications for entry requirements to specific institutions.

By focusing on the synergies in the policy drivers across the three distinct education systems, this report has highlighted a number of areas of potential collaboration between Scotland, China and India. Scotland' s expertise in benchmarking qualifications exemplifies a key way in which Scotland could work with China and India to help these states achieve their educational goals.

ENDNOTES

[1] NB: China has recently adopted the term 'Development Guideline' instead of 'Plan', but for this report I will refer to 'Plan' See: http://www.china.org.cn/english/features/guideline/156529.htm Accessed 09/03/2008
[2] Professor Bone, President of UUK, told the House of Commons Education and Skills Committee into The Bologna Process (Fourth Report of Session 2006–07) in response to the following question [**Q6 Chairman:** But the European Union being more effective and efficient and better at research and so on, why do we need these people outside the European Union? Why are we helping them to be more effective and efficient? I thought it was the European Union that centred this whole project] that: "[…] everybody around the world is very interested in the Bologna Process [...]. We have had enormous interest from China, enormous interest from other Asian countries, from Australia, for the United States, there is terrific interest in what Bologna could do for higher education, and the fact is that we do actually work now in a global context."
[3] Watson, D. 2007. Chinese Universities in the Service of Society: A report on the China-England Study of National Policy on Higher Education Management, second phase, 22-26 May 2006. British Council and Higher Education Funding Council for England p.4
[4] Skilbeck, M. 1982. Three educational ideologies. In Horton, T. And P. Raggat (eds) Challenge and Change int he Curriculum. Sevenoaks: Hodder and Stoughton
[5] Watson, pp.4-5
[6] Ibid, p.4
[7] Ibid, p.6
[8] Ibid, p.4.
[9] See: The 9th 5-Year Plan for China's Educational Development and the Development Outline by 2010 Section V, 'Policies and Measures', paragraph 4 'An effective macro adjustment system for higher education is to be established'. http://www.moe.edu.cn/english/planning_n.htm Accessed 01/03/2008.
[10] Xie W. 2007. A Study of Higher Education Structure during the Process of Massification, 1998-2004. Beijing: ESPH
[11] Ibid.
[12] Watson, pp.3-4
[13] See: http://www.moe.edu.cn/english/laws_e.htm Accessed 12/03/2008
[14] See: The 9th 5-Year Plan for China's Educational Development and the Development Outline by 2010 Section V, 'Policies and Measures', paragraph 1.
[15] Ministry of Education. Educational Development During the 10th 5-Year Plan and the Plans for the 11th 5-Year Plan, Paragraph 1 http://www.moe.edu.cn/edoas/website18/info18515.htm Accessed 04/03/2008
[16] Ibid: Section III, Paragraph 4: 'Vocational Education will be strengthened'.
[17] Ibid
[18] Watson, Section C: 'Growth and its implications' paragraph 11
[19] Educational Development During the 10th5-year Plan, paragraph 2
[20] The 9th 5-Year Plan
[21] Ibid: Section II: The Fundamental Guiding Philosophy for Educational Development in the Next 15 Years, Paragraph 4 'The relationship between scale and speed and between quality and efficiency should be dealt with properly and more attention should be attached to the improvement of quality and efficiency'
[22] Ibid Section III, The Objectives for Educational Development, Paragraph 3, 'The scale of higher education will be expanded properly with the optimization of its structure and the improvement of its quality and efficiency'.
[23] Op. cit.
[24] Ibid 2
[25] Ibid
[26] Project 211: A Brief Introduction (II). The overall goals and mission of Project 211. http://www.edu.cn/20010101/21852.shtml Accessed 28/02/2008
[27] Cheng, J. Higher Education System in China – An Overview. Presentation at APAIE-EAIE Basel, 2006. This project had two main phases. **The first from 1998-1999 and included 8 universities**: Beijing University, Tsinghua University, Nanjing University, Fudan University, Shanghai Jiaotong University, Zhejiang University, Xi'an Jiaotong University, University of Science and Technology of China, Harbin Institute of Technology. **The second phase from 2004-07 included 39 universities**: Beijing Institute of Technology, Beijing Normal University, Beijing University of Aeronautics and Astronautics, Central South University, Central University for Nationalities, China Agricultural University, Chongqing University, Dalian University of Technology, Fudan University, Harbin Institute of Technology, Huazhong University of Science and Technology, Hunan University, Jilin University, Lanzhou University, Nanjing University, Nankai University, National University of Defense Technology, Northeastern University, Northwest A&F University, Northwestern Polytechnical University, Ocean University of China, Peking University, Renmin University of China, Shandong University, Shanghai Jiaotong University, Sichuan University, South China University of Technology, Southeast University, Sun Yat-sen University, Tianjin University, Tongji University, Tsinghua University, University of Electronic Science and Technology of China, University of Science and Technology of China,

Wuhan University, Xiamen University, Xi'an Jiaotong University, Zhejiang University, East China Normal University
[28] See: China to Undergo Brain Gain Through Plan 111. http://www.10thnpc.org.cn/english/China/181075.htm Accessed 04/03/2008
[29] Zhou. J. 2005. Higher Education in China. Thompson Learning.
[30] See: CPC emphasizes development of education, science http://www.gov.cn/english/2005-10/11/content_76462.htm Accessed 04/03/2008
[31] The 9th 5-Year Plan for China's Educational Development and the Development Outline by 2010 Objectives for educational development, paragraph 4 'Vocational education will be strengthened'
[32] Ibid
[33] Ibid
[34] Source: UK NARIC
[35] See: Basic Education in China: Pre-school education http://www.moe.edu.cn/english/basic_b.htm Accessed 04/03/2008
[36] Ibid
[37] National Recognition Information Centre for the United Kingdom (UK NARIC) China: pre-primary description (hard copy provided through SQA)
[38] Ibid
[39] Ibid
[40] Ibid
[41] Basic education in China: Primary and secondary education
[42] Ibid
[43] Ibid
[44] Ibid
[45] Ibid
[46] UK NARIC
[47] Ibid
[48] Ibid. NB: These figures from the Ministry of Education conflict with the figures given by NARIC (who suggest that there is a direct relationship between a child having five years of Primary education who then will automatically receive four years at Junior Secondary School).
[49] UK NARIC
[50] UK NARIC
[51] The Educational Development During the 10th 5-Year Plan.
[52] See Ministry of Education. Basic Education in China: A survey of the development of basic education. http://www.moe.edu.cn/edoas/website18/en/basic_b.htm Accessed 04/03/2008
[53] UK NARIC
[54] UK NARIC
[55] UK NARIC
[56] Cheng, J.
[57] Ibid
[58] NB: UK NARIC states that technical and vocational education is only provided at secondary and tertiary levels. However, the Chinese Ministry of Education website states that junior school is also included. See Vocational Education in China. http://www.moe.gov.cn/edoas/website18/en/vocational_v.htm Accessed 04/03/2008
[59] Ibid
[60] Ibid
[61] See: http://www.admissions.cn/education/18314.shtml Accessed 11/02/2008
[62] UK NARIC
[63] Ibid
[64] NB: These are the latest figures available on the Chinese Ministry of Education website
[65] NB: This contrasts with the 1319 figure given by UK NARIC. It is possible that the UK NARIC figure is the more reliable given the continuing merging of HEIs throughout China
[66] Ibid
[67] Ibid, 'Higher Education in China'
[68] See: Watson, D. 2007. Chinese Universities in the Service of Society: A report on the China-England Study of National Policy on Higher Education Management, second phase, 22-26 May 2006. This report was led by the Chinese Ministry of Education's National Centre for Education Development and Research (NCEDR), the Higher Education Funding Council for England (HEFCE), and the British Council (operating as the Cultural and Education Section of the British Embassy in Beijing), working with the former UK Department for Education and Skills (DfES), and a selection of higher education institutions (HEIs) and national experts and researchers from both countries.
[69] Ibid, Section J, paragraph 30 p.7
[70] Ibid
[71] UK NARIC
[72] Introduced in 1990
[73] Ibid
[74] Cheung J.
[75] UK NARIC
[76] See Articles 3, 5, 26 and 35 of 'Regulations of the People's Republic of China on Chinese-Foreign Co-operation in Running Schools (Adopted at the 68th Executive Meeting of the State Council on February 19, 2003, promulgated by Decree No. 372 of the State Council of the

People's Republic of China on March 1, 2003, and effective as of September 1, 2003) http://www.moe.gov.cn/edoas/website18/en/laws_r.htm Accessed 05/04/2008
[77] Hong Kong Bills Committee Accreditation of Academic and Vocational Qualifications Bill Overseas Experience on the Qualifications Framework LC Paper No. CB(2)313/05-06(02) paragraphs 24-26
[78] Lall, M. 2005. The Challenges for India's Education System. Chatham House Paper ASP BP 05/03
[79] Ministry of Human resource Development, Government of India. 2005 Annual report. http://education.nic.in/Annualreport2004-05/ar_en_05_cont.asp Accessed 05/03/2008
[80] The National Alliance for the Fundamental Right to Education (NAFRE) successfully lobbied for the 86th Amendment to the Constitution of India, which was unanimously approved by Parliament in November 2001. This amendment makes it mandatory for government to provide 'free and compulsory education to all children of the age six to fourteen years'. See: http://www.indiatogether.org/2004/jul/edu-kothari.htm accessed 05/03/2008
[81] Ibid
[82] Government of India Planning Commission. Draft Report Of Working Group On Higher Education 11th Five Year Plan, Section 3.3.7
[83] Ibid
[84] Government of India Planning commission. Report of the Working Group on Secondary And Vocational Education For 11th Five Year Plan (2007-2012), p.15
[85] See: http://www.ncert.nic.in
[86] Lall, M. 2005
[87] Ibid
[88] Ibid
[89] Mallikarjun B.2004. Indian Multilingualism, Language Policy and the Digital Divide. Language in India. Vol.4 2004
[90] Ibid
[91] See http://english.gov.cn/official/2005-07/28/content_18127.htm Accessed 05/03/2008
[92] Ibid. The Chinese state recognises that minorities may use their own languages as a medium of instruction, but have a policy of promoting the use of standard Chinese: 'Schools (classes) and other educational institutions whose students are predominantly from ethnic minority families should, if possible, use textbooks printed in their own languages, and lessons should be taught in those languages. Chinese language courses shall be offered at different times of the primary school period depending on the particular situation, to propagate the use of Putonghua (standard Chinese)'.
[93] UK NARIC
[94] See: http://66.102.9.104/search?q=cache:5YwRsw-Uj6kJ:info.worldbank.org/etools/docs/library/235724/Skills%2520Development%2520in%2520India%2520the%2520Vocational%2520Education%2520and%2520Training%2520System.pdf+vocational+education+policy+india&hl=en&ct=clnk&cd=4&gl=uk&client=firefox-a Accessed 12/03/2008
[95] Lall, M. 2005. The Challenges for India's Education System. Chatham House Paper ASP BP 05/03
[96] Ibid
[97] Powar, K.B. 2001. Reforms and Innovations in Higher Education Delhi: Association of Indian Universities pp. 138–9.
[98] Ibid
[99] Independence Day in India is August 15th
[100] NB: A 'lakh' is a unit of measurement commonly used in Bangladesh, India, Nepal, Sri Lanka, Myanmar and Pakistan. It is derived from the Sanskrit work 'laksa' meaning 100,000. Therefore, 1 lakh = 100,000.
[101] Prime Minister's Address to the Nation from the Red Fort on Independence Day, 2007; Extracts Relating to Education http://education.nic.in/policyprouncements.htm Accessed 01/03/2008
[102] NAFRE 2004
[103] See: World Bank http://www.worldbank.org/
[104] See: Confereration of Indian Industry website. http://ciionline.org
[105] Sharma, Y.P. 'Demand Driven Vocational Training; Certification & Recognition of Skills Situation Analysis – India' - Ministry of Labour and Employment.
[106] Sharma, Y.P. 'Demand Driven Vocational Training; Certification & Recognition of Skills Situation Analysis – India' - Ministry of Labour and Employment.
[107] UK NARIC
[108] Ibid, Prime Minister's Independence day Address 2007
[109] Nigavekar, A. 2002 Tenth Five-Year Plan in Higher Education
[110] See: http://www.indiatogether.org/2004/may/edu-ugc.htm Accessed 05/03/2008
[111] Source: UK NARIC
[112] See: http://www.education.nic.in/ Accessed 02/02/2008.
[113] See: US Country Studies. http://countrystudies.us/india/37.htm Accessed 02/03/2008
[114] Ibid
[115] Indian Constitution, Articles 24 and 39e
[116] Mehra-Kerpelman, K.1996. Children at work: How many and where? World of Work 15:8-9
[117] Badiwala, M. 1991. Child Labour in India: Causes, Governmental Policies and the role of Education. http://www.geocities.com/CollegePark/Library/9175/inquiry1.htm

[118] See the Kerala State Education Council Report on Restructuring Higher Education (undated) as an example. Kerala State archives http://www.kshec.kerala.gov.in/archives.htm Accessed 02/03/2008
[119] Ibid
[120] Ibid
[121] UK NARIC: India
[122] Ibid
[123] Ibid
[124] Ibid
[125] Ibid
[126] Ibid
[127] Ibid
[128] Formerly known as the National Open school See: http://www.nos.org/ Accessed 07/03/2008
[129] Source: http://timesofindia.indiatimes.com/articleshow/81464.cms
[130] Ibid
[131] See: http://dget.nic.in/schemes/ats/ATSOverview.htm Accessed 07/03/2008
[132] Ibid
[133] Ibid
[134] Ibid
[135] The Washington Accord is one of three agreements covering mutual recognition in respect of tertiary-level qualifications in engineering. These are The Washington Accord signed in 1989 recognises substantial equivalence in the accreditation of qualifications in professional engineering, normally of four years duration. The Sydney Accord commenced in 2001 and recognises substantial equivalence in the accreditation of qualifications in engineering technology, normally of three years duration. The Dublin Accord is an agreement for substantial equivalence in the accreditation of tertiary qualifications in technician engineering, normally of two years duration. It commenced in 2002. See: http://www.washingtonaccord.org/ accessed 08/03/2008
[136] Prasad, K. Advisor, Bureau of Quality Assurance, AICTE. Presentation 'Quality Assurance of Technical Education in India'.
[137] See: http://www.education.nic.in/orgastru.asp Accessed 08/03/2008
[138] Ibid
[139] Ibid
[140] UK NARIC
[141] Ibid, Department of Higher Education
[142] Ibid
[143] See: http://www.scotland.gov.uk/Publications/2007/09/06091114/0
[144] See: http://www.scotland.gov.uk/Publications/2003/02/16308/17750
[145] See: http://www.scotland.gov.uk/Publications/2007/09/06091114/0
[146] See: SCQF website: http://scqf.org.uk
[147] International Lifelong Learning Scotland's Contribution, p.11
[148] Ibid 2
[149] Ministry of Human resource Development, Government of India. 2005 Annual report. http://education.nic.in/Annualreport2004-05/ar_en_05_cont.asp Accessed 05/03/2008
[150] The 9th 5-Year Plan for China's Educational Development and the Development Outline by 2010 Objectives for educational development, paragraph 4 'Vocational education will be strengthened'
[151] Ibid
[152] See: http://www.moe.gov.cn/edoas/website18/en/vocational_v.htm Accessed 14/03/2008
[153] See: http://www.scotland.gov.uk/Topics/Education/Schools/Excellence/Chinese-Agreement Accessed 14/03/2208
[154] Ibid
[155] Government of India Planning commission. Report of the Working Group on Secondary And Vocational Education For 11th Five Year Plan (2007-2012), p.15
[156] Professor Bone, President of UUK, told the House of Commons Education and Skills Committee into The Bologna Process (Fourth Report of Session 2006–07) in response to the following question [**Q6 Chairman:** But the European Union being more effective and efficient and better at research and so on, why do we need these people outside the European Union? Why are we helping them to be more effective and efficient? I thought it was the European Union that centred this whole project] that: "[…] everybody around the world is very interested in the Bologna Process […]. We have had enormous interest from China, enormous interest from other Asian countries, from Australia, for the United States, there is terrific interest in what Bologna could do for higher education, and the fact is that we do actually work now in a global context."
[157] Op.cit
[158] Professor Bone, President of UUK, told the House of Commons Education and Skills Committee into The Bologna Process (Fourth Report of Session 2006–07) in response to the following question [**Q6 Chairman:** But the European Union being more effective and efficient and better at research and so on, why do we need these people outside the European Union? Why are we helping them to be more effective and efficient? I thought it was the European Union that centred this whole project] that: "[…] everybody around the world is very interested in the Bologna Process […]. We have had enormous interest from China, enormous interest

from other Asian countries, from Australia, for the United States, there is terrific interest in what Bologna could do for higher education, and the fact is that we do actually work now in a global context."

[159] Government of India Planning Commission. Draft Report Of Working Group On Higher Education 11th Five Year Plan, Section 3.3.7

[160] Ibid

[161] Council of Europe: Language Policy Division. 2003. Relating Language Examination to the Common European Framework of Reference for Languages: Learning, Teaching Assessment (CEF) Council of Europe: Strasbourg, p. 2

[162] See: http://www.qualifications-across-boundaries.org/compare/uk_ireland

[163] See: http://www.qualifications-across-boundaries.org/compare/uk_ireland