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Strategies for sectoral training and employability in India: Case studies of the IT/ITES and automotive sectors

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SKILLS AND EMPLOYABILITY BRANCH

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Working paper

Strategies for sectoral training and employability in India: Case studies of the IT/ITES and automotive sectors

Manipal City & Guilds

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Foreword

This is one of two research studies prepared for the ILO in 2013 on sectoral strategies for skills development. In 2010, the ILO held a Global Dialogue Forum on Vocational Education and Training as well as a Global Dialogue Forum on Strategies for Sectoral Training and Employment Security. These tripartite meetings of representatives of governments, trade unions and employers' associations concluded that sectoral approaches to skill development, if they are to be effective, should be part of long-term national growth strategies, enabling coherence to be built between skill development and labour market policies, and policies for technological innovation, service delivery, trade and investment. There was broad consensus among the participants that developing countries face an array of challenges that require implementation of a strong, sector-led approach to skill development. The forums called for policies and practices that result in a higher status for technical and vocational education and training as a means of meeting the challenges of the continued economic and jobs crisis and of preparing young people and enterprises for productive work in the future.

This paper was produced by the consultant company Manipal City & Guilds through its Delhi-based Joint Policy Advisory Group. It discusses the nascent secondary technical and vocational education and training (TVET) system in the information technology and automotive sectors in India. It highlights the role of the National Skill Development Corporation and sector skills councils, and it identifies the many challenges to improving TVET in India, from ensuring buy-in by the social partners to managing highly fragmented systems of vocational qualifications. It also covers the salaries, working conditions and job satisfaction of teachers and trainers.

The study underlines the importance of social partner involvement in the elaboration of sectoral skills strategies and ever evolving changes in skill needs. It also emphasizes the importance of sound recruitment and training practices, training strategies, and decent working conditions for TVET personnel. TVET strategies and systems are critically important components of comprehensive approaches to promote youth employability and ensure that training matches current demand in labour markets as well as future needs of developing sectors. It is hoped that the experience of India can provide useful insights for policymakers and social partners in developing such strategies in their own countries.

We would like to thank Christine Evans-Klock and Michael Axmann in the Skills and Employability Branch and Oliver Liang in the Sectoral Policies Department for their coordinated efforts to produce this study on sectoral skills approaches in the Netherlands and the companion study on sectoral skills approaches in India.

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Abbreviations

ACMA	Automotive Component Manufacturers Association of India
ASDC	Automotive Skill Development Council
ASSOCHAM	Associated Chambers of Commerce and Industry of India
BPO	business process outsourcing
CNG	compressed natural gas
CSR	corporate social responsibility
FADA	Federation of Automobile Dealers Associations of India
FICCI	Federation of Indian Chambers of Commerce and Industry
GTZ	German Agency for Technical Cooperation (Deutsche Gesellschaft für Technische Zusammenarbeit)
ICT	information and communications technology
ILO	International Labour Organization
ISO	International Organization for Standardization
IT	information technology
ITC	industrial training centre
ITES	information technology-enabled services
ITI	industrial training institute
NAC	NASSCOM Assessment of Competence
NASSCOM	National Association of Software and Services Companies
NGO	non-governmental organization
NSDC	National Skill Development Corporation
Rs.	rupees
SIAM	Society of Indian Automobile Manufacturers
SSC	sector skill council

Executive summary

India's recent economic growth and expanding working-age population have presented it with what is commonly called a "demographic dividend", whereby its low dependency ratio has the potential to boost its short- to medium-term economic growth. However, this opportunity is expected to last only until 2025, when the dependency ratio will begin to rise, and in order to benefit from it India faces the challenge of developing the skills of its people to ensure they are economically productive.

This imperative for economic growth, combined with nervousness over the social consequences of failing to offer livelihood opportunities to its enormous young population, has pushed the Indian Government to invest in developing new models for skill development. Based on international experiences, and supported by international organizations including the International Labour Organization (ILO), the Government has chosen to take a sector-based approach and is currently in the process of creating a network of sector skill councils (SSCs), based on similar bodies in other countries. This approach is being largely driven by the National Skill Development Corporation (NSDC), a public-private partnership created both to lead on the creation of SSCs and to play a leading role in building skill development capacity sufficiently to provide training to half a billion people by 2022.

The sector-based skill development system in India is therefore at a nascent stage, and has yet to achieve definition in terms of its structure, funding, scope or priorities. However, rapid progress towards setting up the system of SSCs has been made under the leadership of the NSDC. A number of features are central to the NSDC's approach, including an emphasis on large-scale projects that can develop the skills of large numbers of people; a central position for public-private partnership models; and an ambition to make skill development a sustainable business proposition for entrepreneurs rather than an area dominated by government spending. These principles are shaping the emerging system and creating potential issues for policy-makers, which are highlighted in this report. The NSDC has made progress in improving labour market information systems for skill development in India, although much remains to be done to establish comprehensive systems for use by SSCs. It has also led in engaging stakeholders in the development of the SSC system, though to date the emphasis has been on achieving employer buy-in; other stakeholders, particularly trade unions, have had limited involvement.

At the same time, the skill development policy space remains a highly contested territory in India. Policy-making is highly fractured and parallel initiatives, with likely duplication of effort, are not uncommon. At the time of writing the most obvious example of this is the current development of parallel vocational qualification frameworks by the Ministry of Human Resource Development and the Ministry of Labour and Employment. This leads to substantial uncertainty about the future direction of skill policy in India. There is an urgent need for institutions that can stand above or outside this contested space to help bring more coherence to the policy-making environment.

Due to the early stage of development of the system in India, no conclusions can be drawn about the impact of the sector-based approach on training of trainers, or on the employability of learners. Indeed, little information is yet available with regard to how the system is intended to improve either of these key issues. This report looks at the current situation with regard to these issues, particularly in the automotive and information technology (IT) sectors, with the intention of showing where good practice already exists and where the developing sector-based system could most usefully seek to

make improvements. The report also examines current training practices and attitudes within the automotive and IT sectors, based on a survey of employers and trainers and focus group discussions with employers, to understand how the sectors are currently responding to skill needs and how the emerging sector-based system may best respond to employer needs.

The report concludes with recommendations on where the ILO, as an international organization able to act as a neutral facilitation point between different, and often competing, groups of stakeholders, may be best placed to support India in the development of its sector-based training system.

Structure of this report

This report is divided into three parts. The first part looks at general trends in skill development in India in recent years, focusing on the move towards a sector-based system, which has largely occurred since 2008. It draws mainly on a desk-based review of information published by the various stakeholder organizations in India and on work by international organizations. It also draws on the results of a survey carried out for this report of training institutions serving the automotive and IT sectors and a focus group session held with Indian trade union representatives. To ensure that the information contained in the desk-based review is as accurate and up to date as possible, a series of direct interviews with key stakeholders was conducted. The report indicates where comments originate from these interviews rather than from verifiable public sources.

The second part focuses on the automotive and IT sectors in India, drawing on the publicly available information on training developments in the two sectors. This is supplemented by the results of a survey of employers in the two sectors, and of two employer focus group sessions, one for each sector, conducted for this report. For both the surveys and the focus groups the sample size was relatively small, owing to difficulties accessing large groups of employers in India and time constraints. They should therefore be seen as offering deeper perspectives and insights, rather than as statistically robust findings, and the conclusions drawing from this research should be treated with appropriate caution.

The final part draws conclusions from the analytical work on expanding sector skills approaches in India, and includes conclusions drawn by the author.

Part I. Development of a sectoral approach to training in India

1. Skill development in India: context

Skill development in India is taking place in the context of a rapidly growing and youthful population. India's Planning Commission has identified a "demographic dividend", lasting 20 to 25 years, resulting from declining birth rates and improvements in life expectancy (Planning Commission, 2011). The young workforce is expected to have a positive effect on India's economy due to a growing global skill gap (Planning Commission, 2011). The scale of India's challenge in terms of giving the burgeoning workforce access to skill development is, however, significant, with 12 million people entering the workforce each year (FICCI, 2010), four-fifths of whom have never had access to training (OECD, 2011); ninety per cent of jobs require vocational training and yet only six per cent of the workforce receives any form of it (CII and Technopak, 2009).

The Prime Minister's National Council on Skill Development aims to create 500 million skilled individuals by 2022. Some of the initiatives supporting the delivery of this target include the creation of programmes under which learners can pay providers directly, making skills "bankable" and enabling individuals to achieve higher-level qualifications through the recognition of prior learning (Planning Commission, 2008a). The National Skill Development Policy was also implemented to help meet this target and aims to "empower all individuals through improved skills, knowledge, nationally and internationally recognized qualifications to gain access to decent employment and ensure India's competitiveness in the global market" (Ministry of Labour, 2009). The National Skill Development Policy intends to meet the 2022 target by expanding public institutions in rural areas; using innovative delivery models such as mobile and decentralized delivery; using skill development centres rurally to provide training information, guidance and delivery; involving local municipal bodies (panchayats) and local government in skill delivery mechanisms; improving access to apprenticeships (in 2006, only 230,000 apprenticeship placements were available in India and of these only 172,000 were taken up) (Planning Commission, 2008b, Chapter 5); and raising female participation in training by introducing the Women's Vocational Programme (Ministry of Labour, 2009).

The 2022 target figures for skills and employment are likely only to be achievable, however, with strict reference to quality standards (FICCI, 2010). This refers to establishing quality standards and procedures within the skill development chain, and linking funding with performance outcomes for institutions. Quality needs to be driven at all levels of institutions and provider centres, including through strong governance and administration, good-quality teachers and faculty, up-to-date curricula, adequate infrastructure, a defined evaluation process and partnerships (Ministry of Labour, 2009). The World Bank has identified quality measures as being a significant issue in India. With little participation in international benchmarking or quality assurance, there is no reliable way in which to assess the quality level of India's educational output. Quantitative measures are also lacking, with few ways in which to record the number of learners and qualifications accurately. This is also due to the complex bureaucracy in India and lack of record sharing (McMillan, 2010).

There are, however, a number of initiatives currently under way to address the lack of quality assurance. These include the Quality Council of India, which was established in 1997 to act as India's accreditation authority across a wide range of areas and which

includes the National Accreditation Board for Education and Training. In the educational field its focus has mainly been on schools, but it has recently created a set of criteria for accreditation for vocational training institutions in collaboration with the Ministry of Labour and Employment (NABET, 2010). Quality is also part of the remit of the fledgling sector skill councils (SSCs), which will be responsible for "setting up a robust and stringent certification and accreditation process for the industry sector facing skill development institutes to ensure consistency and acceptability of standards" (NSDC, 2010–11a).

The Planning Commission highlights the "sheer magnitude of scale" in India as being a serious challenge to implementing quality measures and providing accreditation. It also comments that historically, some of the reasons for the lack of quality in Indian education institutions have been inappropriate teaching methods, outdated curricula, lack of resources and infrastructure, irrelevant assessments, and lack of participation of the private sector and industry (Planning Commission, 2009). The Planning Commission (2009) also notes that there are often issues with duplicated or excessive bureaucracy.

The Federation of Indian Chambers of Commerce and Industry (FICCI) calls for an independent quality system involving checks and measures throughout the entire skill development chain, not just at the assessment and certification stages. It also calls for regular assessments of training providers and the development of a plan to improve performance consistently. The illustrative framework they provide includes assessing training institutes as a whole, including past performance; improving performance by benchmarking against other institutions and introducing changes to technology or process; measuring performance through measures such as teacher retention, educational practice and processes, involvement with industry, placements and drop-out rates; and funding adequately and giving appropriate time for improvement to occur, with funding based on performance outcomes (FICCI, 2010).

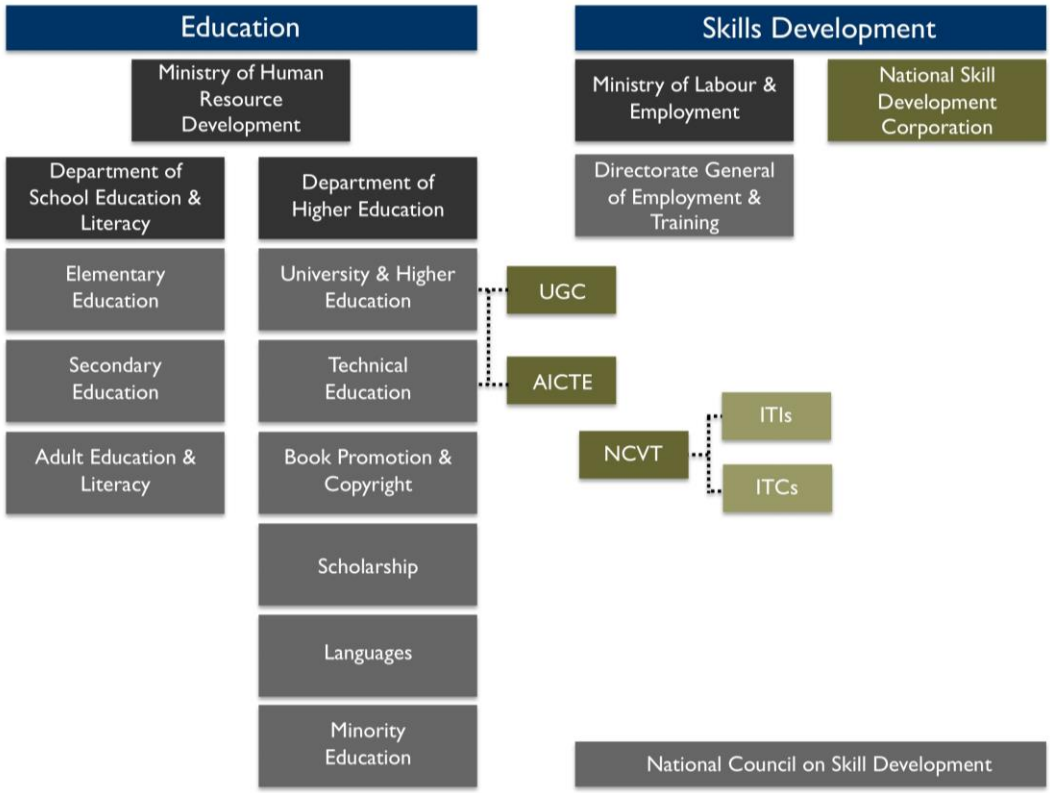
The prospect of a national vocational qualifications framework has been debated for some years; the current preferred model is similar to the Australian model, where qualifications are developed in accordance with industry needs and quality levels are based on set competencies. The introduction of a national vocational qualifications framework will enable horizontal progression between vocational and academic streams of education, which is currently not available. However, at the time of writing, two frameworks were being developed in parallel by the Ministry of Human Resource Development and the Ministry of Labour and Employment. There has been little evidence to date of cooperative work between the two ministries, and there continues to be a risk of duplication of effort with potential consequences for the coherence of the framework or frameworks adopted. However, as of May 2012 the stated intention is for convergence of the two frameworks as a national skills qualifications framework, led by the Prime Minister's Advisory Committee on Skills.[1]

Fragmentation of decision-making is evident at both the national level, with 17 ministries and departments with some responsibility for imparting skills education and development (Planning Commission, 2008b), and the regional level, with a similar breadth of structures and responsibilities. State governments have each established their own coordination bodies for skill development and vocational education programmes (FICCI, 2010).

[1] Presentation by Sharda Prasad, Ministry of Labour and Employment, at the launch of the EU-India Skills Project, 23 May 2012.

Figure 1.1 sets out the current governance structure at the federal level; Appendix I gives a summary of the key organizations and their roles within the system.

Figure 1.1. Current federal governance structure



1.1. Public-private partnerships

Public-private partnerships in skill development have become increasingly popular with employers (OECD, 2011). They have also become central to the skill development system in recent years, with partnerships in areas such as industrial training institutes (ITIs), skill infrastructure and delivery programmes, and the National Skill Development Corporation (NSDC) itself. The National Skill Development Policy states that public-private partnerships are essential for the expansion of skill development: the "Skill Development Initiative needs considerable amount of expansion of capacity and innovative delivery approaches and Pubic Private Partnerships" (Ministry of Labour, 2009, p. 15).

Many of the international institutions such as the World Bank and International Labour Organization (ILO) believe that public-private partnerships are the most appropriate and effective way to deal with a lack of financing in the vocational education and training sector (for example Fasih, 2008). The Indian public sector also tends to promote public-private partnerships as an effective way to deal with financing for vocational education and training; the National Skill Development Policy suggests that skill development initiatives need a "considerable amount of expansion of capacity and innovative delivery approaches and Public Private Partnerships" (Ministry of Labour, 2009). While public-private partnerships can add value, analysis suggests that they can frequently be overused or misused in the delivery of education and skill projects in developing countries (Genevois, 2008).

Since 2010, the NSDC has signed a number of agreements and formed joint ventures with educational companies in India. Many of these are cross-sectoral in nature. Infrastructure Leasing and Financial Services, for example, has set up a joint venture with the NSDC to establish 100 skill development centres covering the leather, textiles and general engineering sectors. The programme aims to deliver 1.9 million skilled workers in the next five to seven years (Economic Times, 2010). It offers vocational training through community colleges, placement-linked programmes, industry-driven training modules and interactive training sessions.[2] Most of the NSDC's agreements have focused on boosting the number of training places available, and have tended to focus less on capacity-building measures such as providing continued professional development to trainers or addressing terms of employment. Training of trainers is currently a major priority for the NSDC (and other key stakeholders), and is an area in which they are actively seeking private sector partners,[3] but the connection to trainers' working conditions is not often made in public policy discourses. As of February 2012, the NSDC had approved 52 partnership proposals with a total financial commitment of 12.14 billion rupees (Rs.) (US$215.5 million). Just under Rs. 2 billion of this had been disbursed, with the number of persons trained standing at just over 100,000 (Ministry of Labour, 2012).

In May 2011, the NSDC signed a memorandum of understanding with the Central Bank of India to promote and finance vocational education and training. Under the agreement, the company will provide finance for young people training with partner institutions; TeamLease was the first programme to be financed, with training in information technology (IT) and banking and financial services (Hindu Business Line, 2011).[4]

The Ministry of Labour and Employment has encouraged large employers to "adopt" local ITIs in partnerships with activities ranging from infrastructure development to advice on curriculum and work shadowing arrangements. While there appear to be no formal evaluations of these kinds of partnerships available, the focus group discussions indicate mixed results.

The Confederation of Indian Industry has launched its own Skill Development Initiative, which is aligned to the national policy aim of achieving 500 million skilled workers by 2022. As part of its work, it has introduced a number of projects, including:

- Establishing a skill centre in Madhya Pradesh to train people in bar bending, welding and grinding.[5] A skill development centre was also established in Himachal Pradesh in 2010, in association with the Indian Institute of Skill Development.

- Developing international partnerships with South Africa (training 100 apprentices from South Africa in Bangalore), Afghanistan (establishing a

[2] IL&FS website: Skills development. http://www.ilfsets.com/skilldevelopment/isdc/.

[3] Stakeholder interviews.

[4] Directorate General of Employment and Training website: Public-private partnership. http://dget.nic.in/mes/b.htm#public.

[5] Confederation of Indian Industry website: Skills development. http://www.cii.in/Sectors.aspx?enc=prvePUj2bdMtgTmvPwvisYH+5EnGjyGXO9hLECvTuNttP/oGsVu5A70LTxgbaQRW.

vocational training centre in Kabul), Brazil (disseminating technical education and skill development), Republic of Korea (developing an e-learning module for industrial control and welding) and Switzerland (enhancing cooperation in skill development).[6]

- Signing a memorandum of understanding with the Ministry of Overseas Indian Affairs for the skill development of, and pre-departure work with, potential emigrant workers.[7]

- Establishing the Swavalamban Project in association with the Hindustan Petroleum Corporation Limited, in which each year young people are given training in various vocational skills, including plumbing, two-wheeler repair and maintenance, retail, and business process outsourcing (BPO) and call centres. The programme is accredited using the standards of City & Guilds, and is committed to "organizing proper training". In 2011 the project opened a chapter in Andhra Pradesh.[8]

Public-private partnerships involved in the development of delivery and assessment models include the following:

- The Ministry of Labour's Modular Employable Skills Scheme, which is engaging public-private partnerships in the provision of on-the-job training and the development of assessment standards.[9]

- The Rajula ITI, which uses a public-private partnership mode to provide employability skills to young people graduating from ITIs. Key features of the scheme include flexible delivery programmes, different levels of programme, and testing and certification by independent (impartial) assessment bodies.[10]

- The Karnataka Employment Centre, which offers services encompassing assessment, counselling, training, certification and job placement, and is the first employment exchange based on a public-private partnership. Training is offered in employability, digital literacy, personality development, accountancy and marketing. A partnership with the Indian Institute of Job Training is also in place to address skill gaps (My Bangalore, 2011).

Public-private partnership models explored within the automotive and IT sectors are specifically addressed in Part II of this report, Chapters 5 and 6. There has been little in the way of impact assessment studies on employment outcomes from public-private partnerships.

[6] Ibid.

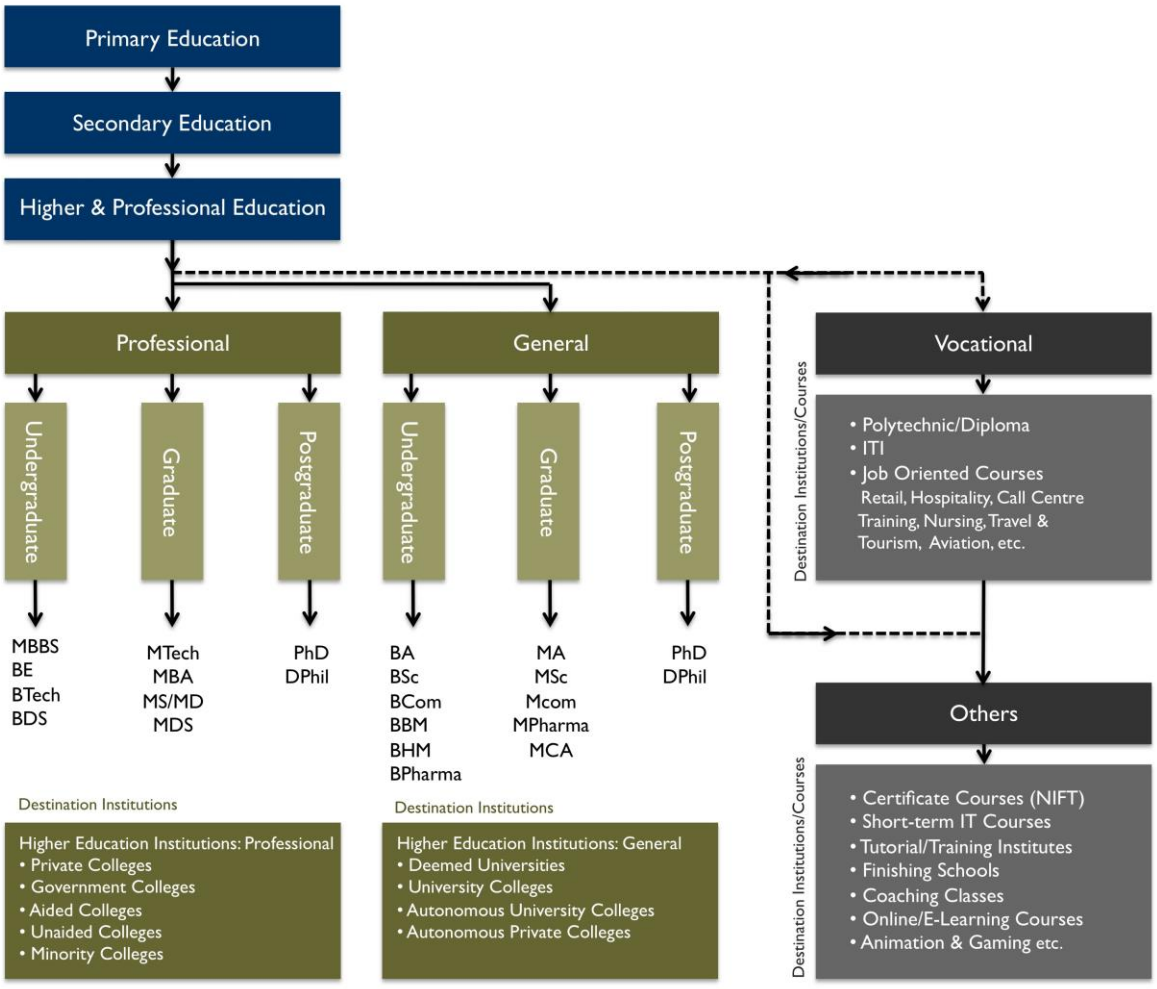
[7] Ibid.

[8] Education Andhra website. http://www.educationandhra.com/news/cii-hpcl-swavalamban-project-vocational-training-for-unemployed-youth-csr-activity-by-industry-body-to-empower-youth/.

[9] Directorate General of Employment and Training website: Public-private partnership. http://dget.nic.in/mes/b.htm#public.

[10] Industrial Training Institute Rajula website: Public-private partnership. http://www.itirajula.org/ppp.html.

Figure 1.2. Progression routes



Source: Planning Commission, 2009.

1.2. Teachers and trainers

This section draws on publicly available information as well as a survey of training institutions serving the automotive and IT sectors carried out for this report. The survey covered 104 training providers and sought to understand their perspectives and to get a picture of the skill levels, terms of work and conditions prevalent in training institutions serving the two sectors.

1.2.1. Work experience, qualifications and competencies

According to the NSDC (2010b), the profile of people employed in the education sector in terms of qualifications and experience is as follows:[11]

- Principals: Doctors or postgraduates with more than 15 years' experience;

[11] Note that job roles requiring 5–10 years' experience were not specified.

- Heads of department: Doctors, postgraduates, graduates or diploma holders with more than 10 years' relevant experience;

- Teachers, professors, lecturers, training officers: Doctors, postgraduates, graduates or diploma holders with 0–5 years' relevant experience.

Sectoral differences are prevalent. An NSDC study found that trainers working in the textiles and clothing, and gems and jewellery sectors have more experience (an average of 11 years and nine years respectively) than trainers working in the building and construction sector (an average of eight years), the banking and financial services industry sector (an average of seven years), the tourism and hospitality sector (an average of six years) or the organized retail sector (an average of five years).[12] The first two sectors tend to have a greater focus on innovation, requiring experienced trainers, whereas the other sectors tend to be more focused on processes and systems, and therefore require "younger trainers who can deliver the training within the predefined structure" (NSDC, 2011b, p. 51). Formal education tends to be less prevalent in trainers working in gems and jewellery, textiles and clothing, and building and construction than the other sectors in the study, as they employ technologies for which formal education tends not to be essential.

Requisite trainer skills are also related to licensing requirements of training institutions. Accreditation criteria for vocational training institutions include the following stipulations in terms of training methods (NABET, 2010): a high degree of interaction between learners and trainers, use of both knowledge-based and skill-based sessions, and use of directly relevant training aids, such as videos, where appropriate. These stipulations are not particularly onerous, however, and are therefore unlikely to contribute significantly to the required skill sets and experience of trainer recruits.

1.2.2. Training of trainers

Overview

Sectoral approaches to the training of trainers in India appear to be minimal (see section 6.2.3); this is likely to change with the development of SSCs. All proposals for forming SSCs submitted to the NSDC have included strategies for the training of trainers; however, these plans have not been made public and were not available for scrutiny for this study.[13]

The NSDC predicts that 12,000 trainers must be trained annually for technical training in industrial training institutes (ITIs) and industrial training centres (ITCs), and 27,000 must be trained in other vocational areas (NSDC, 2010b). Existing infrastructure to support necessary growth is limited; the five advanced training institutes have the capacity to train only 1,200 trainers each year, and little is available in the private sector to make up the shortfall (NSDC, 2011b). The Government has recently announced plans to establish 15 new advanced training institutes (Governance Knowledge Centre, 2010). Added to the capacity of the existing five, this will lead to a total training capacity of around 5,000 a year – significantly fewer than the total number needed. The National Skill Development Policy suggests that retired defence workers will be recruited to work

[12] Research Base/City & Guilds calculations.

[13] Stakeholder interviews.

as trainers to meet increased demand (Ministry of Labour, 2009), although it lacks suggestions as to how these former defence workers will be trained.

Well-defined certification and accreditation of trainers is severely lacking, meaning that a high number of trainers are uncertified. Certification of trainers' skills and competencies also varies according to institution type. In government institutions, stand-alone certificates are issued for teaching skills, whereas certification is rare in private institutions. Where stand-alone certification of trainers does exist in the private training sector, it tends to be either at university level or accredited by specialist, mostly foreign, organizations (NSDC, 2011b). Organizations such as IndiaCan and NIIT have developed in-house certification for their trainers, which has helped them "to overcome the absence of a universally acceptable certification process in the country" (NSDC, 2011b, p. 37). One of the major certification challenges is the lack of technically able assessors and evaluators. The NSDC plans to encourage uptake of relevant International Organization for Standardization (ISO) accreditation that relates to "quality professional practice and performance" among training providers (NSDC, 2011b).

The employer focus group discussions revealed some reservations among employers about the skills and experience of external training staff (see Part II, Chapters 5–7). The survey of training providers, however, found that they are largely content with the skills of their trainers. Respondents were notably more confident in the technical skills of their training staff than in their pedagogical skills: 65 per cent reported that their trainers possessed the necessary technical skills "to a large extent", compared to 40 per cent for pedagogical skills. However, only a small percentage reported a negative view of either skill set: two per cent said their trainers did not really or not at all possess the required technical skills, and 4 per cent said this about pedagogical skills. When asked what the main strengths of their teaching workforce were, 26 of the 93 who responded cited the experience of their members of staff, while 17 referred to their pedagogical skills or provision of quality training, and 15 to their technical knowledge or skills. A further 14 cited their trainers' ability to teach practical workshops; only four cited theoretical knowledge.

Notably, 53 per cent of training institutions surveyed said that they did not offer industry placements to their training staff, and only 16.5 per cent offered such placements to all their employees. Only one respondent mentioned industry experience as a key strength of their training workforce, and only seven specified industry experience as a requirement for new training staff. However, in practice the vast majority of training staff in the institutions surveyed had industry experience of at least a year (table 1.1).

Table 1.1. Training and industry experience of training staff

Years' experience	Training %	Industry %
0–1	18	33
1–5	44	47
5–10	17	10
10–15	7	2
More than 15	11	0

Fewer than 50 per cent of trainers receive continuing professional development, demonstrating an absence of focus or presence of frameworks for career development within the vocational training domain. The training institutions surveyed for this report appeared to be somewhat more supportive of continuing professional development than average. However, while 91 per cent of survey respondents said that they offered continued professional development opportunities to their training staff, only 37 per cent said that all of their teaching staff received such opportunities, and only a further 22 per cent that the majority did. Training from trainers was the most common form of continued professional development, with 46 per cent saying they offered this; however, 33 per cent said they offered training from industry practitioners. On average, 14 days of continued professional development was provided per year.

Training institutes rather than individual trainers tend to bear the cost of this development. Barriers include lack of awareness or knowledge of online learning modes; only around one in four trainers working in private institutions, for example, would be prepared to participate in online training (NSDC, 2011b). Online learning represents one way of increasing trainer skills and numbers to the extent required over the next 10 years; lack of confidence in information and communications technology (ICT) suggests that both existing and potential trainers must be trained first in ICT before roll-out of online learning programmes can be successful. Given the relatively advanced state of sectoral training approaches in the IT sector (see Chapter 6), sharing of good practice from this sector may be particularly helpful in this regard.

Terms and conditions

The National Skill Development Policy suggests that "innovative ways of recruiting trainers will be adopted including the employment of former trainees who have gained workplace experience and of practitioners of a craft, trained as master craft persons" (Ministry of Labour, 2009, p. 24). Staff at IndiaCan receive financial incentives for successful candidate referrals; if a potential candidate is placed as a trainer, the referrer receives Rs. 3,000, with an additional Rs. 2,000 available if the newly appointed trainer stays in position for three months (NSDC, 2011b).

Salaries vary by institution and type of course. The average monthly salary of a teacher at higher secondary level (2011–12) is Rs. 17,500 (Planning Commission, 2011). An examination of job sites found widely varying advertised salaries for vocational trainers. A nursing assistant trainer position was advertised at Rs. 4,000 a month and a soft skill/English trainer position was advertised at between Rs. 8,500 and Rs. 16,500 a month, dependent on experience. The salary benchmarking website www.payscale.com suggests that a vocational trainer with five years' experience working in Gujarat can expect a monthly salary of around Rs. 27,000.

For the institutions surveyed, average salaries for teachers and trainers were as follows:

- With 0–1 years' experience: Rs. 9,728
- With 1–5 years' experience: Rs. 14,744
- With 5–10 years' experience: Rs. 22,098
- With 10–15 years' experience: Rs. 33,292
- With more than 15 years' experience: Rs. 35,588.

There were no significant differences in salary by sector (table 1.2).

Table 1.2. Salary of training staff by years of experience and sector

Experience	Automotive (Rs.)	IT (Rs.)
0–1 years' experience	10,514	8,333
1–5 years' experience	15,833	12,967
5–10 years' experience	27,333	18,282
10–15 years' experience	37,143	29,167
15+ years' experience	31,222	41,200

In the two sectors surveyed, the link between qualifications and salary was not clear: 46 per cent of respondents believed that teachers and trainers with particular qualifications received a higher salary, while 54 per cent did not. In this respect, the automotive sector appears to reward qualified staff significantly less than the information technology and information technology-enabled services (IT/ITES) sector (table 1.3).

Table 1.3. Percentage of respondents who believe trainers with a certain qualification receive a higher salary

Qualifications/salary	Automotive %	IT %
Yes	28	59
No	72	41

On average, trainers at the institutions surveyed received 23 days' annual holiday. There was no significant difference between sectors (25 days for the automotive sector and 21 days for the IT sector).

Other terms and conditions of employment are rarely advertised by institutions, and there appears to have been no systematic study or benchmarking done to date. A number of jobs are advertised as freelance, suggesting little in the way of job security or other employment benefits. Among institutions surveyed, the majority appeared to offer no further employment benefits, though 18 said they offered insurance and 14 medical benefits.

The state of training infrastructure varies considerably by region. Many ITIs and other training institutions suffer from poor infrastructure and lack of appropriate equipment. This problem is compounded, even among private institutions, by learners'

inability to pay significant course fees, which leads to a lack of funds to upgrade infrastructure and facilities (Palit, 2009).

In general, training was not seen as an attractive profession in terms of prestige, pay or career progression.[14] While policy-makers appear to be engaged with the practical challenges of delivering train-the-trainer programmes on a large scale – and the NSDC is actively seeking partners to deliver this – there has been scant attention paid to policy initiatives that can improve working conditions and transform training into an attractive professional career.

Based on this survey, training institutions are largely unaware of the development of SSCs: only one respondent had heard of them.

[14] Stakeholder interviews.

2. The move towards a sectoral skill system

2.1. Background to sectoral skill development in India

India's recent recognition of the need for a sectoral skill system has emerged in part from a lack of and need for sector-specific training in India's high-growth industries, such as automotive systems, logistics, media and health care (CII and Technopak, 2009). A sectoral approach to skill development is also driven by the need to ensure fast growth, competitiveness and social development; it is also a response to "unemployable" university graduates and a lack of vocational training (NSDC, 2010–11a), particularly in the context of policy-makers' increased awareness of India's demographic dividend and the importance of a skilled workforce in enabling India to diversify its economy and maintain its rate of growth. A number of stakeholders tie this to a wider concern about existing instability in certain parts of the country, particularly those affected by Maoist and independence movements, and a need to ensure livelihoods for young people who might otherwise be tempted to join these movements.

International and bilateral organizations have played an important role in shaping sectoral skill policy in India. The ILO, for example, helped to shape the National Skill Development Policy by helping to organize a national consultation; other consultees included United Nations organizations (ILO, 2011). Bilateral contributions have come from Australia and the United Kingdom, among others (see for example Manipal City & Guilds, 2011); bilateral reasons for helping to shape strategy in India tend to involve a certain degree of self-interest, as the countries in question (and the businesses that hail from them) attempt to position themselves effectively for future work.[15] The remaining rationale for establishing a sectoral approach in India seems to be based on an understanding that it represents the best way to deliver skill-driven economic growth in the context of an expanding working-age population.[16]

Fragmentation of education institutions and decision-making, combined with low institutional capacity, a lack of sector-wide standards and the inability of small and medium-sized businesses to implement their own training programmes, have also contributed to a new preference for sector-based approaches (CII and Technopak, 2009).

A sectoral approach to skill development has been a key aspect of the National Skill Development Policy; this is most commonly cited as the principal driver behind the development of the sectoral approach in India.[17] The NSDC has been mandated to create SSCs with a remit to perform the following (Ministry of Labour, 2009):

- Identify skill development needs;
- Develop a sector skill development plan;

[15] This has been a consistent finding of international skills intelligence developed by the Research Base (material has tended to be client confidential and therefore has not been cited here).

[16] Stakeholder interviews.

[17] Stakeholder interviews.

- Determine skill and competency standards and qualifications;
- Standardize affiliation and accreditation processes;
- Participate in affiliation, accreditation, examination and certification;
- Plan and execute the training of trainers;
- Promote academies of excellence;
- Establish a sector-specific labour market information system to assist the planning and delivery of training.

SSCs will, it is hoped, enable "greater interaction between industry, government and academia, to develop curriculum that matches the industry needs, newer teaching methods, better trained faculty and trainers, 'hands-on' training, best practices and standardization of skills" (CII and Technopak, 2009, p. 2). They are proposed at a national level and will also operate state chapters. They will operate as public-private partnerships, and will focus on higher education as well as vocational education and training. The Planning Commission has proposed that relevant industry associations will develop plans for their respective sectors (Planning Commission, 2009).

The NSDC plans to achieve its mandate by focusing on three pillars (NSDC, 2010d):

- Creating large, quality vocational institutions and skill development centres;
- Reducing risk by providing "patient capital" and improving returns by providing "viability gap" funding;[18]
- Enabling the necessary support systems, including SSCs, quality assurance systems, training of trainers and setting standards.

The Planning Commission (2011) has identified a number of challenges that need to be addressed in coming years: disseminating information about the availability and effectiveness of training programmes; employer involvement in the management of ITIs; fragmentation of the vocational education and training system; a lack of impact assessment and tracer studies on learner cohorts; the use of financing as a tool to encourage quality, efficiency and market responsiveness; and a need to give training institutes greater freedom to generate income and to use that income freely.

2.2. Responsiveness to changing priorities

The sectoral skill system in India is in its infancy; it has had little opportunity to demonstrate its responsiveness or otherwise to changing demands and priorities. Where responsiveness at a sectoral level is evident, it has tended to be ad hoc and bottom-up. The exception is where individual businesses and industry bodies with national presence have also driven responsiveness to changing economic and policy priorities. These

[18] The terms "patient capital" and "viability gap" funding refer respectively to the practice of providing long-term, drip-fed funding; and the practice of only funding where there is a clear gap in provision. The aim in each case is risk reduction.

organizations, such as the National Association of Software and Services Companies (NASSCOM) and the Society of Indian Automobile Manufacturers (SIAM), have also served as the foundation for SSCs in their respective sectors.

Fragmentation is also evident at state and local governmental level; the priorities and changing economic situation in each geographical area drive change more visibly than efforts at a federal policy level. The government of Kerala has recognized the need to encourage bottom-up sectoral responsiveness with its Cluster Development Programme, which seeks to encourage "sectoral and geographical concentrations of enterprises" to collaborate to produce competitive advantage and sector-specific skills.[19] A key element of the establishment of clusters in Kerala is a diagnostic study of a particular sector, which takes into consideration the national scenario in the sector, the economic significance of the sector at state level, and requirements in terms of technology, finance and training.

Priorities are also influenced by national bodies such as the Confederation of Indian Industry; its collaboration with the government of Bihar, for example, ensures that the top priority accorded to the agricultural sector is supported by Agro Bihar, which encourages local businesses in the sector to adopt modern techniques and network with other businesses. Industry responsiveness to changing priorities is also dictated by funding from international organizations; the construction sector in Bihar has responded dramatically to the US$1 billion funding announcement by the World Bank in January 2011, with a 28 per cent growth in the cement market in 2011 (as opposed to the national average of nine per cent) (Business Today, 2011). The rapidity of the sector's response contrasts with the speed of funding availability, however: the World Bank projects of 2011 were announced in response to the Bihar floods of 2008.

While the transition to a low-carbon economy has been initiated at a national policy level – the National Action Plan on Climate Change, for example, details the requirements for a move towards a green economy (Prime Minister's Council on Climate Change, 2008) – responsiveness tends to come not from policy-makers but from individual organizations and projects. The Indian Institute of Social Welfare and Business Management set up a partnership with Energy Wise India in 2005 that combined a consultancy with in-house training in energy management and carbon trading (Business Standard, 2005). In 2010, a new research centre, the Centre for Climate Change and Labour, was created, with the objective to "carry out policy-oriented research on climate change and its inter-linkages with labour and livelihoods" (V.V. Giri National Labour Institute, 2010, p. 20). The ILO has argued that much of India's traditionally trained workforce, such as potters and rural artisans, already exist within the green skills domain; the challenge lies in training the remaining workforce, both in skills and in terms of changing mind-sets (Kumar et al., 2010).

Despite these individual examples, few training institutions to date provide training relating to green technology, although the Ministry of New and Renewable Energy is working with the Ministry of Labour and Employment to introduce relevant training courses for technicians. Kumar et al. (2010, p. 17) suggest that the gap leaves institutions with "enormous scope to design curriculum and syllabi for green technology related profession".

[19] Government of Kerala, Department of Industries and Commerce website: Cluster Development Programme. http://keralaindustry.org/kbip/cluster/ClusterFAQ.htm.

Without effective national, state or sectoral policy levers or encouragement, the growth of green skill programmes is likely to be ad hoc and represent a slow response to market demand. As mentioned above, there has been national recognition of the need to get human resource development to respond to the move towards a low-carbon economy, but there is little evidence that this is translating into effective policy responses. Green skills should, in theory, sit comfortably within the NSDC's priority sectors (building and construction, for example, has significant scope for "greening"), but there is no mention in NSDC publications or on its website[20] of either green skills or a low-carbon economy.

Kumar et al. (2010) recommend making the skill landscape responsive to the needs of the green economy through identification of relevant training requirements; restructuring of syllabi and curricula; training of trainers; and establishing formal training mechanisms that make use of the skills people have developed in informal settings. These recommendations are fairly generic and little attention is given to how individual sectors can be more responsive. It may be that little will change in the way of sectoral responsiveness without some level of national requirement; for example, the Energy Conservation Building Code, launched to improve the energy efficiency of buildings, remains voluntary, but in time is likely to become mandatory (Majumdar, no date).

The priority sectors for NSDC funding outlined in table 3.2 have been identified as high-growth sectors. The table implies, however, that formal sectoral approaches thus far have focused on a crude measure of growth rather than a more nuanced response to broad socio-economic developments.

[20] Other than its inclusion of other publications, such as an article from *The Economist*, and one mention in NSDC 2010a with reference to the scrapping of old vehicles.

3. Sector skill councils (SSCs)

3.1. Development and funding

The NSDC was established as a not-for-profit company under the Ministry of Finance. Its equity base is held partly by the Government (49 per cent) and partly by the private sector (51 per cent). The NSDC constitutes a 15-member board and a National Skill Development Fund. Its remit includes the development of strategies and operational guidelines to address issues such as regional imbalances in infrastructure; social, economic and regional divides; achieving return on investment in skills; quality of provision; and promoting apprenticeships and workplace training. It is also responsible for operating a National Skill Inventory and National Database for Skill Deficiency Mapping, which provides a portal for individuals and employers to seek information on demand for skills (Planning Commission, 2008a). The NSDC is responsible for contributing 30 per cent of funding towards the target of creating 500 million skilled people by 2022 (FICCI, 2010).

In January 2011, the NSDC announced that it would form five SSCs by the end of the financial year: four new SSCs in addition to the already established Automotive Skill Development Council (ASDC). SSCs for the energy, security, retail, rubber and leather sectors have recently been approved (table 3.1). According to the NSDC, there are 27 SSCs currently in different stages of development (see Appendix III) (NSDC, 2011e) and 28 in the pipeline in total (Business Standard, 2011b). It has seen "a huge interest from industry to set up SSCs to ensure that there is a steady pool of quality manpower across all levels on a sustained basis" (NSDC, 2011f). SSCs will use labour market information systems to identify skill gaps and training needs, establish competency standards and assist with accreditation and qualifications (Business Standard, 2011a). Detailed and up-to-date information on the establishment of SSCs and their progress is unavailable.

The National Skill Development Fund was created as a Government-owned trust, with the key beneficiaries as "the youth of India, which require skill development and vocational training" (Planning Commission, 2008a). It was established with Rs. 10 billion from the Government and also accepts funding and donations from private businesses, statutory bodies, state governments and financial institutions (Planning Commission, 2008a). The budget of the NSDC was also increased to Rs. 10 billion in the March 2012 national budget.

SSCs are designed to be self-financing within three years, but no official detail has been provided by the NSDC on how this will be achieved (Manipal City & Guilds, 2011). Interviews with stakeholders indicate that paid-for assessment, accreditation and placement services, along with the sale of teaching support materials, are likely to be the basis of SSC self-financing, but no formal business or financial plans are yet available; stakeholder interviews revealed significant doubt as to the feasibility of the three-year target. The NSDC provides funding for "businesses that seek to create employable people across all sections of society". It provides three different kinds of funding at up to 75 per cent of the project cost: debt at subsidized rates, equity and grant funding (Banerjee, 2011). Funding at 100 per cent is not offered. It also puts out calls for proposals in various sectors on a regular basis, and lists organizations eligible for funding as industry, training and skill development organizations, non-governmental organizations (NGOs), business associations and social entrepreneurs. Funds are unavailable for the acquisition of land or for the construction of buildings, in order to promote the use of existing infrastructure. Table 3.2 presents priority sectors for NSDC funding.

Table 3.1. Current development status of SSCs

Approved by NSDC	Proposals with NSDC	Proposal creation by industry core teams	Advocacy to industry	Advocacy to commence
Automotive	Foundry	Pharmaceuticals	Chemicals	Government sector
Private security	Handicrafts	Hospitality, travel and tourism	Plastics	Parts of unorganized sector, e.g. facility management
Retail	Construction and real estate	Domestic workers	Sports	
Media, animation, gaming and films	Agriculture	Beauty and wellness	Electrical equipment	
Gems and jewellery	Textiles	Plumbing	Aviation	
IT, ITES, BPO	Food processing	Education and skills	Energy: oil and gas	
Leather	Telecommunications	Mining		
Rubber		Capital goods		
Health care				
Banking, financial services and insurance				
Electronics				

Sources: Banerjee, 2011, updated and amended according to NSDC, 2011d, 2011e, 2011i, 2011j, and Business Standard 2011c; Chenoy, 2012; and information provided directly by the NSDC on 7 May 2012.

Table 3.2. Priority sectors for NSDC funding

Industry	Services
Automobile/automotive components	IT or software services
Electronics hardware	ITES, BPO
Textiles and garments	Tourism, hospitality and travel
Leather and leather goods	Transportation, logistics, warehousing and packaging
Chemicals and pharmaceuticals	Organized retail
Gems and jewellery	Real estate services
Building and construction	Media, entertainment, broadcasting, content creation and animation
Food processing	
Handlooms and handicrafts	Health care
Building hardware and home furnishings	Banking, insurance and finance
	Education, skill development

Funding from the Ministry of Labour and Employment tends not to be sector specific; there are occasional project exceptions, such as funding to establish an apex institute for skill development in the informal sector (FICCI, 2010). While not strictly a sectoral approach, employers receive a financial incentive to take on apprentices within specific sectors: they are able to reclaim 50 per cent of the monthly stipend paid to apprentices from the Government.

SSCs are expected to have both national and state-level branches, and sub-state offices for the larger states. No details are yet available on how the different structural levels will relate to each other or precisely where responsibilities will lie. There are also no figures available on what the human resource requirements of SSCs will be.

3.2. Social dialogue and stakeholder engagement

3.2.1. Background

Social dialogue as a concept is at an early stage of development within the context of Indian skill development. The dialogue that exists tends to take place under the aegis of employer representative bodies such as FICCI and the Confederation of Indian Industry; both organizations run regular events and policy summits that engage a broad range of actors. Employers have been involved with the development of SSCs but their involvement has tended to be top-down; they have responded to requests from the NSDC for engagement, rather than becoming more organically involved. Other social partners, such as training institutes, have not been deeply involved in the development of sectoral approaches (Manipal City & Guilds, 2011).

According to the Planning Commission, the current three-tier institutional structure incorporating the Prime Minister's National Council on Skill Development, the National Skill Development Coordination Board and the NSDC has "laid the institutional foundations for a more proactive role of public (Centre plus States) and private and third sector interactions and interfaces for harnessing the benefits of the demographic dividend" (Planning Commission, 2011, p. 2).

The NSDC plans to create a portal that links the stakeholders of separate SSCs. It is intended that this portal will eventually bridge states, sectors, ministries, training institutes, employers and other stakeholders; the NSDC will "partner multilateral, bilateral and development organizations in this journey going forward so as to transform the skills landscape in India" (INSSO, 2010).

3.2.2. Engagement of labour unions

Trade union roles and perceptions

The role of labour unions is noticeably absent from discussions on skill development in India, and in particular from the development of the sector-based system. The NSDC has had some engagement with unions – for instance, with the Bharatiya Mazdoor Sangh (Indian Workers' Union) on the creation of the handicrafts SSC, which was facilitated by ILO involvement – but there is no evidence of deep or systematic involvement of unions in SSC development.[21] This is despite the position outlined in the National Skill Development Policy, which specifies trade unions as key social partners in skill development and identifies their role as follows (Ministry of Labour, 2009):

- Assisting in developing competency standards;
- Assisting in course design, examination and certification;
- Raising awareness about the benefit of training, skill development plans and activities among workers;
- Promoting upgrade of skills and lifelong learning among workers;

[21] Stakeholder interviews.

- Running special skill development institutes for skill development of workers;
- Promoting investment in skill development among employers;
- Facilitating improved status of vocational education and training trained graduates.

Union representatives in the focus group discussions carried out for this study were unanimous in saying that they had largely been excluded from the development of SSCs, and from the debate on skills more broadly:

> There are no tripartite mechanisms that are functioning as of now. They are not permeated down to the trade union level, where unions are made part of social dialogue, and where views of workers are incorporated into policy-making. Corporates are doing this for their own reasons – what they are doing is training their own technicians to suit the needs of production. So to that extent training is taking place that is decided by the corporates and even there unions are not involved (trade union focus group participant).

The neglect of this acknowledged trade union role appears to stem at least in part from suspicion on the part of leading organizations as to the reliability of unions as partners. One employers' organization, for instance, said that while there is general agreement that unions need to be involved "at some point", the NSDC is unwilling to involve them in the short term as they fear that unions would be a disruptive force and slow down the rapid progress that is being made. In some cases, this suspicion borders on hostility: an SSC representative said that workers' interests were represented via the human resources forum of the relevant employers' organization, and that this precluded the need to involve unions directly in the SSC.[22] This kind of indirect involvement falls far short of the collaborative role that has been identified as playing an important part in developing stakeholder buy-in for sector-based systems (Manipal City & Guilds, 2011), and that is indicated in the National Skill Development Policy, as quoted above.

This hostility towards unions was borne out in both employer focus groups (see section 7.1). Participants conceptualized trade unions almost exclusively in terms of combatants in industrial disputes, and some rejected outright the idea that they should have any role at all in skill development. Where participants had engaged with trade unions on skill issues, this seems to have stemmed more from the need to "manage" unions than from a genuine belief in the importance of their participation.

According to one participant in the trade union focus group, however, this is at the root a question of how workers themselves, rather than trade unions, are perceived in India:

> If you think that labour is a commodity then you don't have to include this in any of these kinds of policy-making bodies. If you don't think workers are equal social partners then they are not required. It's a question of perspective (trade union focus group participant).

Union attitudes towards engagement on skill issues

For their part, while they feel that they have been insufficiently consulted on skill issues, unions themselves seem reticent about pushing for greater involvement. In an interview, one union representative said that he lacked resources to engage at a strategic

[22] Stakeholder interviews.

level: the union's efforts would remain focused on providing training for their members. This interview revealed some contradictory attitudes towards employers, government and the NSDC on skills: on the one hand expecting action and leadership from business and government, and on the other suspicious that higher skills will not be accompanied by higher wages and that other parties do not take the views of organized labour on skills seriously.[23] Participants in the trade union focus group discussion carried out for this report acknowledged that they had not always been proactive in seeking a union role in skill development:

> We have not specifically called for such involvement [in management committees of ITIs] … it's a weakness of the trade union movement, we have not created papers or submitted to the government. If others have done it I don't know about it (trade union focus group participant).

Participants recognized that the unions had been slow off the mark in seeking involvement in the evolving SSC system, and that this had disadvantaged them in terms of their ultimate status as partners in skill development. However, their comments also revealed that a certain degree of institutional inertia – a sense that only the most senior people in the union can drive the issue – continues to hinder union engagement:

> Normally I believe that when the SSCs are set up, their constitution should be like workers are an essential part. Unfortunately as things are today we asked for it after the SSC is set up, then our role is just consultation or that sort of role, it's not equal powers. Because we don't want to put any hindrances to progress but do give us that status as important partners, that will be better. *But a decision has to be taken at the top level of the trade unions* (trade union focus group participant, emphasis added).

The focus group discussions also revealed a lack of clarity from the union representatives on what the contribution of trade unions would be on strategic approaches to skill development, and a lack of experience of working on the issue. Participants struggled to identify examples of their members being actively involved in training committees in the workplace (though Tata and the Escorts Group were identified as companies known for involving unions in workplace training). At the strategic level, they acknowledged that the union movement has not focused on the issue and therefore does not have a clearly articulated offer to bring to the table:

> We are into the capacity building of the unions in terms of understanding collective bargaining, health and safety etc. But we are not into the skills development space as such (trade union focus group participant).

Focus group participants highlighted how issues of capacity and competence had limited the ability of unions to play a larger role in skill development:

> There are two shortcomings in our unions. Firstly, unions lack professional competence in many of the areas … There are some bright individuals who can speak on so many issues in the unions, but there is a dearth of skills lower down the rank and file … Secondly, unions also have to think in terms of how to build the capacities, not only limited to collective bargaining. For example occupational health and safety, similarly skills development, should not just be left to employers and government. There is a serious resource crunch, bottlenecks for resources and all those things, but still we have to think about these things (trade union focus group participant).

[23] Stakeholder interviews. Six Indian trade unions were approached to be interviewed for this research; five declined.

Participants also spoke candidly about how unions' inherently conservative attitudes towards changes in the labour market had held back their involvement in skills:

> Most of the trade unions are opposed to any sort of change. When computers were introduced in the railways we opposed tooth and nail. Fear at that time was it will cost our jobs. Subsequently when we agreed to it we found that job opportunities were increased … So SSCs also, this training and retraining, today it is the demand of trade unions … Do train us but provide us with jobs. All this training, retraining will become a slogan of the trade unions and it will be an easier transformation for SSCs as well as for the employers. Systematic way that is acceptable to the workers also, which will mean the least resistance from the employers (trade union focus group participant).

The discussion did, however, reveal that the basis for greater union involvement is present in union thinking, though it appears not to have been well refined or developed (as highlighted in Chapter 7, there appears to be little understanding of the case for involvement of unions or their potential role among employers). The importance of employee buy-in to ensure that skill development is effective in raising productivity, for instance, was clearly articulated by one participant:

> My thinking is that any good industry, if the productivity is increasing, the workers are very prosperous, it is not possible without training, which is key for productivity and prosperity of workers … the proceeds from increased productivity must be shared. Even Indian railways, their production units can be visited, that can be good example where everything is done with the support of the workers (trade union focus group participant).

Participants were also able to articulate clearly the dangers of neglecting the worker perspective and the social aspect of skill development by focusing solely on training as a business opportunity:

> Education and training has become very big business and you are finding large numbers of ITIs and engineering institutes in India, who provide training to people and after that they don't get any job. We have been raising this at Indian Labour Conference … Government ITIs are not providing adequate training, but what about those run by private organizations, why can't they provide training as needed by industry? It's not happening because it has become a business. As far as the government is concerned, they are not willing to provide resources to the trade unions for this purpose (trade union focus group participant).

Acting as a counterbalance to business interests and ensuring that the interests of the trainee or worker are also catered for was seen as a key role for trade unions:

> We don't want to run these [training] institutions, but have our suggestions in respect of the market and the demand. And then to ensure that it is managed properly, there is no misuses of the funds, no exploitation of the students, to that extent we want to be there. It should be run by the Government with the support of the employers but of course we should be part of that (trade union focus group participant).

Training practices from some multinational companies in India have taken a more proactive approach towards the engagement of organized labour. JCB's training programmes, for instance, put heavy emphasis on social dialogue and partnership as a means both to promote training and to ensure that it delivers for both corporate and employee interests (Kapoor, 2012). The wider sharing of such examples of good practice may be a way to overcome negative attitudes towards the involvement of organized labour in approaches to training.

3.3. Emerging sectoral approaches to the training of trainers

3.3.1. Examples of sectoral approaches

An overview of advertised training programmes suggests that sector-specific training of trainers tends to be through short courses that are not differentiated by trainers' levels of experience or previous qualifications. The German Agency for Technical Cooperation (GTZ), for example, working in partnership with the Ministry of Environment, ran an undifferentiated three-day training-of-trainers course in 2009 on "eco industrial estates", which aimed to share best practice between countries (GTZ-ASEM, 2010).

The Ministry of Textiles has developed a plan for the training of trainers in the textiles and apparel sector, which aims to create a pool of trainers. The scheme sits within a broader strategy to train people in skills relating to the textiles and apparel segments and puts flexibility at its core: it is designed "to cater to the wide range of skill sets required in various segments … while simultaneously ensuring sufficient flexibility to meet the dynamic needs of these segments over a period of five years" (Ministry of Textiles, 2009, p. 3). The two main targets for the scheme are the unorganized sector and trainers. The Government is funding 75 per cent of the costs, with institutions or individuals expected to contribute the remaining 25 per cent. Detailed stipulations on curriculum content have not been made; the project aims to meet industry and local demand by inviting potential applicants from external organizations, who are also invited to outline the details of how each scheme would work in practice. Pilot projects are currently in operation (Ministry of Textiles, 2009).

Beyond isolated examples such as these, there is no wider evidence of a systematic sector-based approach to the training of trainers.

3.3.2. Emerging demands

Government policies and procedures relating to the training of trainers tend to focus on generic training methods rather than specific sectoral training needs (see, for example, Ghosh, 2008). In-depth analyses of sectoral training needs for the training of trainers are similarly scarce. Government tenders for training initiatives point to a recognition of train-the-trainer requirements in sectors such as the automotive industry, electronics hardware, textiles and apparel, leather and leather goods, gems and jewellery, building and construction, food processing, IT and ITES, BPO services, tourism and hospitality, health care, and the banking and financial services industry (see, for example, NIOS, no date).

Large-scale initiatives in training trainers to meet emerging demands such as green skills appear to be limited. There are some individual case studies and examples of good practice, however. The Self-Employed Women's Association has developed a centre of excellence through which it has developed a cadre of master trainers who will train 200,000 members in green skills and will help them to start green enterprises (Nanavarty, 2010). The government of Gujarat, through the Civil Engineering Department at Birla Vishvakarma Mahavidyalaya, offers a five-day training programme for trainers on "emerging trends in civil engineering". This course covers areas such as zero-energy buildings and sustainable water usage. It also encompasses specific technical areas such as new methods in geotechnics, mass rapid transport systems in urban areas and the use of fly ash and other waste materials (Government of Gujarat, 2011). It is not clear, however, how such a broad range of important techniques can be covered effectively in so short a time frame.

4. Anticipating skill supply and demand

4.1. Background

According to the NSDC, labour market information systems are to be "the cornerstone of skill development in India" (INSSO, 2010), and their development sits within the mandate of the NSDC (NSDC, 2011c). Due to India's five-year planning model, indications of skill requirements and workforce information have been provided in the past by a large number of organizations, including the All India Council for Technical Education, the Medical Council of India and the Institute of Chartered Accountants of India. The Government has also carried out sectoral and region-based research via the National Sample Survey Office. Independent research and forecasting has also been delivered by industry organizations such as the Confederation of Indian Industry, SIAM and NASSCOM. The disparate nature of these labour market reports, and the need for coherent information systems, resulted in the National Skill Development Policy in 2009, which highlighted labour market information systems as being of central concern (INSSO, 2010).

An optimal labour market information system for India will include (NSDC, 2011a):

- data on the structure and condition of the labour market, including demographic composition, employment trends and labour force dynamics;
- industry data, including employment and wages;
- occupational data, including employment and wages;
- labour market projections based on economic growth assumptions;
- lists of established businesses;
- labour market dynamics, including employment flows and business life-cycle data;
- job vacancies information;
- information on jobseekers and those in training;
- information on educational and training resources.

The first coherent sectoral labour market information system reports were commissioned by the NSDC in 2009, in 21 key sectors. These sectors included textiles and clothing; building and construction; automobiles and automotive components; transportation and logistics; real estate services; food processing; organized retail; health-care services; education and skill development; banking, financial services and insurance; gems and jewellery; IT/ITES; tourism and hospitality services and travel trade; leather and leather goods; furniture and furnishings; electronics and IT hardware; media and entertainment; chemicals and pharmaceuticals; and construction materials and building hardware (INSSO, 2010). These reports were restricted, however, by the lack of availability of information in some sectors; areas such as private sector initiatives, geographical information on industry and employment, occupational information and wage information were also difficult to source (INSSO, 2010).

A standard methodology and focus was used across the NSDC's previous industry reports: the state of the industry, size and growth, drivers of demand, risks and opportunities for the sector, competitiveness, employment patterns, workforce profiles, emerging trends, forecast skill requirements, and areas for development. In the majority of sectors analysed, however, there was a lack of geographical data. To fill this gap, the NSDC and some state governments have now piloted district-level skill gap analysis projects, focusing on population, economic activity and projections, skill gaps and areas for development (INSSO, 2010).

The impact of these reports, according to the NSDC, was apparent in jobseekers, who used the information to gauge the opportunities available, and to industry and employers, who realized the size of the gap between supply and demand. The Government used the reports to identify the areas requiring the most investment, and training providers were able to take advantage of areas where qualifications were most in demand (INSSO, 2010).

4.2. Development

The production of labour market information system reports is, following the 2009 National Skill Development Policy, one of the primary responsibilities of the new SSCs. Following their establishment, each sector body will take over the relevant labour market information system work that was previously conducted by the NSDC. SSCs are also expected to identify competencies and standards in their sectors, and implement programmes whereby data are regularly collected and updated (INSSO, 2010).

Previously, almost all labour market information system research was funded by governments or industry associations; the NSDC acknowledges that in the future, initial short-term funding for these reports is likely to be provided through funds allocated to each sector body (INSSO, 2010). Plans for the continuing funding of labour market information systems have not been outlined further.

Sector bodies in sectors not included in the NSDC labour market information system reports are now seeking to conduct their own skill gap analysis; state governments are also commissioning surveys to establish the situation in their own labour markets (INSSO, 2010). Given the disparity in the quality of data available across governments, the NSDC is also planning to develop a model to integrate all data for common use. The National Skill Development Policy envisages a role for the National Council for Vocational Training in developing a labour market information system and disseminating information at the national level (Ministry of Labour, 2009).

In 2011, the NSDC published a concept paper on labour market information systems (NSDC, 2011a). The paper identified the following key action points:

- acceptance of its conceptual plan by all key stakeholders;
- preparation of a detailed project report, including common functionalities and guidelines for sector-specific labour market information systems;
- design and development of a solution by an external vendor;
- implementation and launch by pilot sectors and regions;
- incorporation of learning from the pilot and roll-out of the system.

4.3. Sectoral forecasting and strategies

The NSDC has projected vocational training requirements up to 2022 across various sectors (NSDC, 2010b) (table 4.1).

Table 4.1. Sector requirements, 2008–2022

Sector	2008 (thousands)	2022 (thousands)	Ave. annual % increase required[a]
Textiles (spinning, fabric processing, garmenting)	13,100	29,900	6.1
Electronics and IT hardware	906	4,129	11.4
Leather	2,500	7,139	7.8
Organized retail	283	17,623	34.3
Gems and jewellery (including jewellery retail)	3,335	7,943	6.4
Building, construction and real estate	35,968	83,270	6.2
Banking, financial services and insurance	4,250	8,500	5.1
Furniture and furnishings	1,455	4,873	9.0
Automobiles and automotive components	13,000	48,000	9.8
Tourism and hospitality	3,530	7,172	5.2
Food processing	8,531	17,808	5.4
Construction materials and building hardware	1,140	2,497	5.8
Chemicals and pharmaceuticals	1,668	3,546	5.5
Transportation, logistics and warehousing	7,374	25,101	9.1
Total	**97,040**	**267,501**	**7.5**

a. Calculation; not part of original data.

SSCs will identify data sources, proposed frequency of updated information, key stakeholders, the information that should be available to different stakeholders, the data security and policy framework for accessing information and data analysis requirements. The sector-specific labour market information systems will be integrated into the overarching national labour market information system (NSDC, 2011a).

Labour market information systems are still in their infancy in India; the depth of the NSDC's concept paper shows that they will gain traction in coming years. In the meantime, however, there is an urgent need to collate reliable, comparable data that can be shared within and across sectors.

Part II. Training and sectoral approaches in the automotive and IT sectors

This part of the report draws on the results of a survey of employers and training providers in the two specified sectors, and of two employer focus group sessions. The survey and focus groups were organized specifically for this report; detailed methodology can be found at Appendix V.

As explained above, sectoral approaches are in their infancy in India. While this part of the report does look at progress made towards establishing sectoral approaches in the two focus sectors, it focuses more on the current situation with regard to training in the two sectors and the issues and challenges that are likely to be important as the sectoral approach develops.

5. Automotive sector

5.1. Overview

The automobile industry in India is projected to reach a value of US$175–200 million by 2022. SIAM estimated employment in the sector to be approximately 13 million in 2011; a level that has, in the past, given the sector a competitive advantage. There are a number of key challenges to the sector maintaining its advantage, however: an estimated 35 million people working in the sector are required by 2022 to sustain growth; there are significant gaps in skills and labour supply throughout the sector; and quality standards for graduates and those already within employment require improvement (Chenoy, 2011b). Productivity is also an issue: international data suggests that while India produces 8.4 vehicles per worker, Brazil produces 10.3, the United States of America produces 11.5, Mexico produces 15.3 and Japan produces 16 (NSDC, 2010a).

The need to work "across the educational chain" resulted in SIAM, the Automotive Component Manufacturers Association of India (ACMA) and the Federation of Automobile Dealers Associations of India (FADA) collaborating to create the Automotive Skill Development Council (ASDC), the first NSDC-approved skill council (Chenoy, 2011b). The scope of the ASDC is to facilitate changes in course and curriculum structure through academic bodies and industry, convert new technology (fuel cells, hybrids, electric, mechatronics) into teaching modules, introduce short-term courses to convert unskilled human resources to skilled and semi-skilled, establish centres of excellence and automotive training clusters, coordinate with government agencies and institutions to implement changes, and finally to evaluate opportunities to use existing legislation (for example the Apprenticeship Act) for skill development (Development Council on Automobile and Allied Industries, 2009).

The ASDC is currently in the process of defining occupational standards within the sector (NSDC, 2011h). To date, work areas and skill sets have been established for a number of occupations, including drivers, service mechanics, salespersons and manufacturing workers; in each area, relevant competencies and a curriculum framework is established. The Ministry of Human Resource Development has agreed to accept these competencies and curricula, and requires them to be developed for classes 9–12, and at diploma and degree levels. The ASDC is also required to develop certification and accreditation procedures, and may introduce train-the-trainer programmes (Chenoy, 2011b).

Industry collaboration is required to identify supervisors as trainers and potential assessors, and to hire employees with ASDC training. The NSDC offers partnership and funding opportunities for industry members who wish to establish training institutes with the capacity to raise the skill levels of 3–4 million people per year (Chenoy, 2011b).

The sector appears to be very proactive in supporting skill development and recommending where improvements can be made (see for example ACMA and SIAM, 2008). Individual companies within the sector also stand out for their proactivity in skill development; Maruti Suzuki, for instance, announced in May 2012 that it is "adopting" 40 ITIs to help improve their infrastructure, capacity and the training skills of their staff.[24]

5.2. Training

5.2.1. Current and future training opportunities

Training in the automotive sector tends to be in the field of engineering. There are approximately 900,000 learners leaving relevant institutions each year, of which 600,000 graduate from ITIs, 100,000 from institutions offering engineering diplomas and 200,000 from institutions offering engineering degrees (NSDC, 2010a). Courses range from short vocational courses, such as the six-month auto electrician course offered by the State Institute of Vocational Education in Andhra Pradesh (State Institute of Vocational Education, no date), to postgraduate courses run by institutions, such as the AISSMS College of Engineering in Pune.[25]

In 2006, the Government proposed the formation of a national automotive institute, which would develop courses and modules for implementation by the ITIs and automotive training institutes (Ministry of Heavy Industries and Public Enterprises, 2006a). This idea appears to have been abandoned; there have been no government references to it since 2009 (see Development Council on Automobile and Allied Industries, 2009).

ACMA and SIAM have recommended that training programmes for the automotive components industry focus on manufacturing management, the promotion of research and development, and electronics and mechatronics (ACMA and SIAM, 2008). Existing training programmes often teach the use of outdated equipment and processes. Addressing this would require retraining trainers; ACMA and SIAM suggest that younger workers are more likely to be amenable to retraining. They also suggest that industry offers six-month placements to trainers and that industry runs short- and medium-term courses for trainers (ACMA and SIAM, 2008).

The Government has recently proposed specialized courses providing automotive skills in order to improve the skills of the expected influx of young people into the sector. The 21 specialized courses will be run in the ITIs, the advanced training institutes

[24] Live Mint website: http://www.livemint.com/Politics/V73hWmbLojhSbXzNO7bKxK/Maruti-Suzuki-to-adopt-40-ITIs-to-create-customized-labour-p.html.

[25] While the latter course is officially advertised as a postgraduate course so that learners understand the principles of mechanical engineering, it should be noted that it can be studied directly after completing class 12, which raises questions over its quality (Indian Express, 2011).

and private colleges. This initiative is being led by the Department of Heavy Industries, in collaboration with the NSDC, and will be supervised by the ASDC, which will also certify learners and training providers (Live Mint, 2011).

Employers in the sector generally look for trained candidates for jobs, with both a degree and a vocational qualification seen as important (65 per cent of respondents cited a degree as a minimum requirement for new recruits; 64 per cent cited a vocational qualification). Despite this, 71 per cent of employers reported that they have a structured internal training programme, reflecting the need for further training once individuals are in the workplace, which may well be related to the aforementioned issue of outdated training infrastructure.

5.2.2. Industrial training institutes (ITIs)

As indicated above, the bulk of training for the automotive industry occurs in ITIs. Focus group discussions indicated that employer concerns mostly focus on these institutions: while there was some concern about the employability of all new entrants, including diploma and degree holders, and also that fewer people than needed are coming through the diploma route because of the higher prestige of a degree, ITIs dominated discussions. Some of the key issues include:

- The interface between ITIs and industry is seen to be insufficient; this view is corroborated by the survey of training institutions, which saw improved contact with industry as the best single way to improve the training offer.

- There is inadequate infrastructure in ITIs and a lack of attention to cultivating attitudes of taking care of machinery and equipment.

- There is a need for ITIs to play a role beyond graduation in providing support to their students as they transition to work; one participant expressed his wish that underperforming employees should have their certification removed by the relevant ITI.

- There is a tendency to stereotype ITI students as “the dregs” and the ITI route as “what you do if no one else will have you”. While the employers that were spoken to bemoaned this stereotype, they also perpetuated it in the way they spoke about ITI students.

5.3. Employment pathways

The automotive industry in India provides direct and indirect employment to more than 13 million people, of which direct employment is thought to constitute between 30 per cent and 40 per cent, or 3.9 million to 5.2 million. Evidence around employability linked to sectoral approaches is limited due to (a) a lack of good-quality data; and (b) the early stage of sector-specific approaches in the country. It is possible, however, to observe a lack of employability, which may be linked to a lack, thus far, of such sectoral approaches (there is no way of demonstrating causal links with the available data, however, and they should not be read as such).

5.4. Development and green technology

India's automotive sector is the second fastest growing market in the world, with nearly 30 per cent growth in 2010 (The Hindu, 2011). The continuation of growth in the sector is assured by a predicted increase in the working-age population, increases in prosperity and access to finance, and increasing affordability (KPMG International, 2010). The pressure on the automotive sector to adopt greener technology and practices, however, is low, with key industry bodies preferring to wait until green technologies are more widespread and more driven by legislation, and until it becomes commercially viable to do so. Technologies such as battery-powered vehicles are also slow to be adopted widely, primarily because the necessary support structure (charging stations, for example) has not yet been implemented. Electrical motorcycles, however, could have particular impact, given the prevalence of motorcycles as a form of transport in India (KPMG International, 2010).

The development of green technology in the automotive sector, and the size of the sector, will necessitate significant changes in skill demand and supply. In response, the Ministry of Road Transport and Highways offers short training programmes for compressed natural gas (CNG) drivers. In 2005, Ashok Leyland (a major CNG producer) worked with the government of Delhi to establish the Driver Training Institute, which trains 2.5 drivers per bus for low-floored buses (Kumar, 2010). Other existing positions in the automotive industry that require "greening" include bus and taxi drivers (particularly in Delhi, the first city in India to switch its entire public transport system to CNG), mechanics of CNG-operated vehicles, and fuel station attendants. The move towards new technologies has already presented challenges in terms of labour supply: an executive at Maruti Suzuki noted that a significant challenge for the organization is the scarcity of skills in engineering and design capabilities; while engineering graduates are of good quality, the quality of "second-tier" graduates is inconsistent (Deloitte, 2008).

Coherent sector-driven policies concerning the development of "green skills" do not exist widely; the Automotive Mission Plan 2006–16, published by the Ministry of Heavy Industries and Public Enterprises, does not mention green skills at all (Ministry of Heavy Industries and Public Enterprises, 2006a).

5.5. Employers' perspectives: Survey and focus group results

5.5.1. Ease of finding skilled workers

Sixty-one per cent of the automotive employers surveyed reported that they had difficulty in sourcing the skilled talent they needed. This is a high proportion, but still compares favourably to the overall situation in India, where 67 per cent of employers report such difficulty (Manpower Group, 2011). The problem is most acute for workers requiring technical skills; across both sectors, 83 per cent reported difficulty in recruiting for technical roles, compared to 24 per cent for management roles and 11 per cent for unskilled or low-skilled roles.

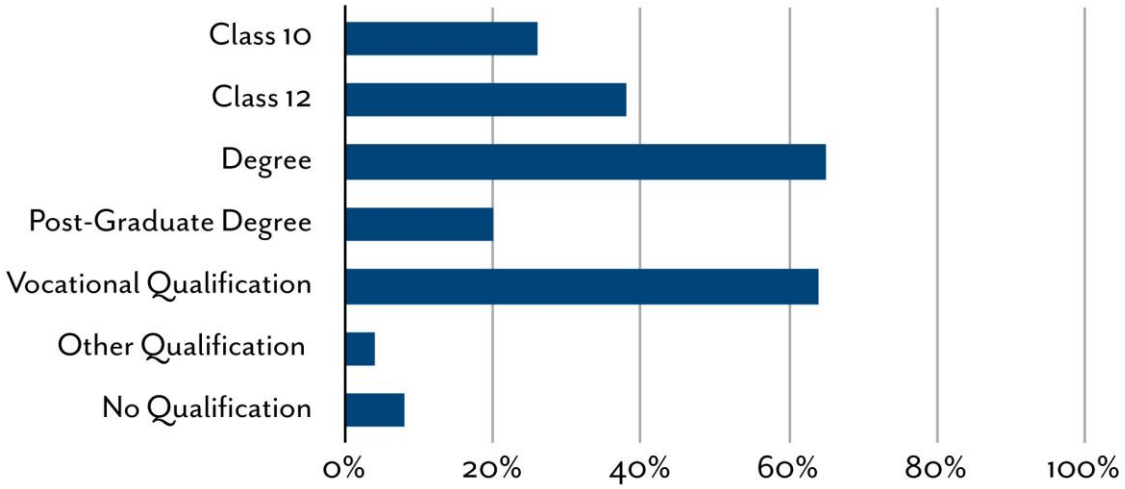
Focus group participants expressed particular frustration with the quality of applicants coming out of ITIs, and frequently linked this to a lack of interface between ITIs (either faculty or students) and industry. The survey of training institutions seems to indicate limited understanding of this issue among training institutions: when asked what could most improve the quality of the training they provided, only 17 per cent of responses identified improved industry exposure, compared to 44 per cent who opted for

unspecified "workshops" or "seminars", and 43 per cent who simply answered "training".

Companies in the automotive sector have pursued a number of initiatives to improve training, including setting up their own training institutes as well as "adopting" ITIs, with government support. As yet, however, there has been little work done on a pan-sectoral basis, and there appear to be no evaluations available of the individual initiatives taken to partner with ITIs. Focus group discussions indicated that the quality of output from ITIs remains unsatisfactory.

Despite the heavy dependence on ITIs for sourcing new skilled manpower, 65 per cent of automotive companies surveyed said that they required new recruits to hold a degree as a minimum level of qualification. This does not appear to be compatible with the fact that the majority of training courses available for the sector are offered by ITIs at a level below that of a university degree. However, given that employers expressed strong dissatisfaction with ITI graduates, and that 64 per cent of employers reported that they required a vocational qualification in new recruits, it appears that at least some employers in the sector seek to recruit people with both a degree and a vocational qualification (figure 5.1).

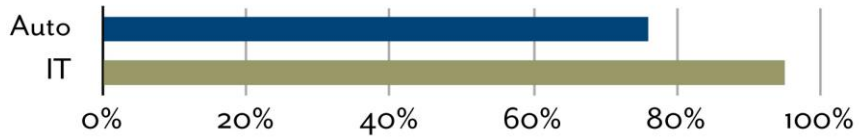
Figure 5.1. Survey results: Minimum qualifications for employment in the automotive sector



5.5.2. In-company training

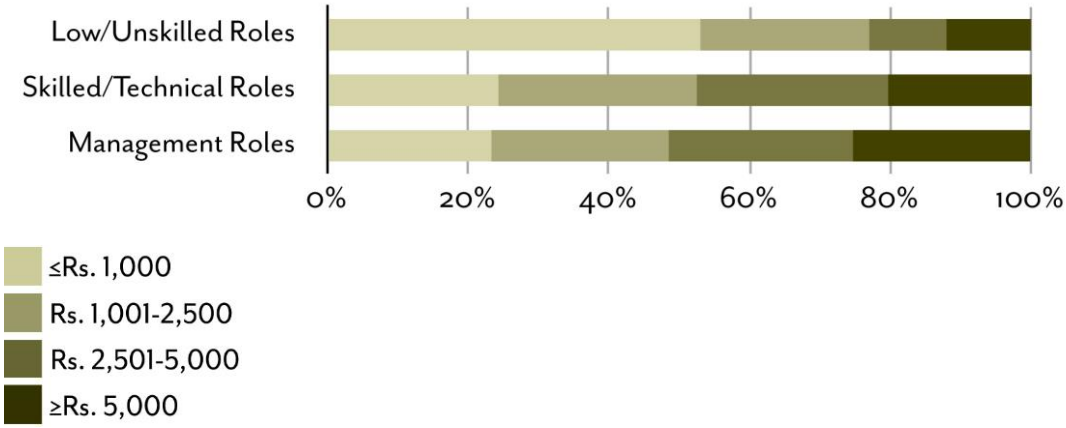
Of employers, 76 per cent reported that they used learning and development as a means to attract some or all new hires, and 71 per cent of automotive employers reported that they had a structured training and development programme. In addition, 81 per cent of respondents said that they actively encouraged continued training by their employees, with 58 per cent offering a training and development plan for employees and 32 per cent allowing employees to self-select training. Figure 5.2 shows the proportions of organizations encouraging continued training in the automotive and IT sectors.

Figure 5.2. Survey results: Proportion of organizations that encourage continued training in the automotive and IT sectors



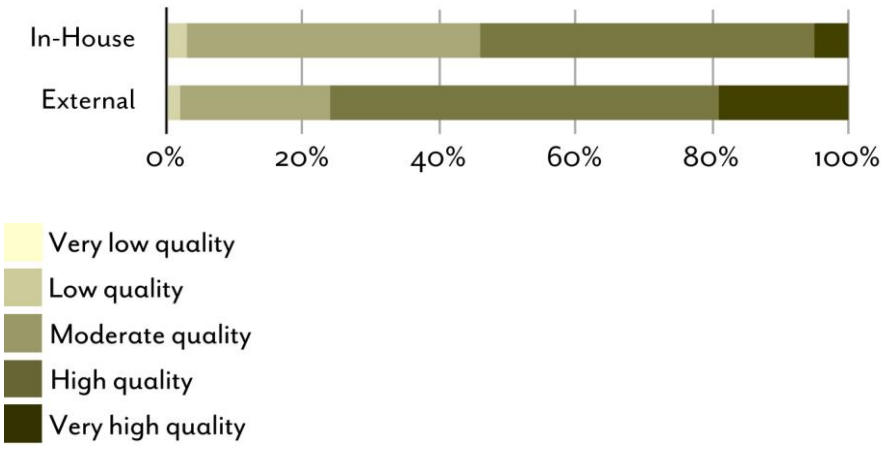
However, it appears that the training offered is significantly weighted towards managerial roles. The amount spent on training also appears to be low: for unskilled workers, over half of automotive employers reported that they spent less than Rs. 1,000 per head on training in any given year (figure 5.3). This raises significant questions about the quality of training that can be achieved at this level of expenditure. The survey also revealed that managerial staff received training more often than other employees.

Figure 5.3. Survey results: Training budgets by job role in the automotive industry



In-house provision of training is more common than the use of external trainers; in general, survey respondents reported that their own existing employees delivered training rather than training professionals. Satisfaction with this in-house training was significantly less than with externally provided services (figure 5.4).

Figure 5.4. Survey results: Satisfaction with in-house and external training, automotive industry



Externally provided training was also seen to have a bigger impact on employee effectiveness (table 5.1).

Table 5.1. Survey results: Employer ratings of impact of training on employee effectiveness, automotive sector

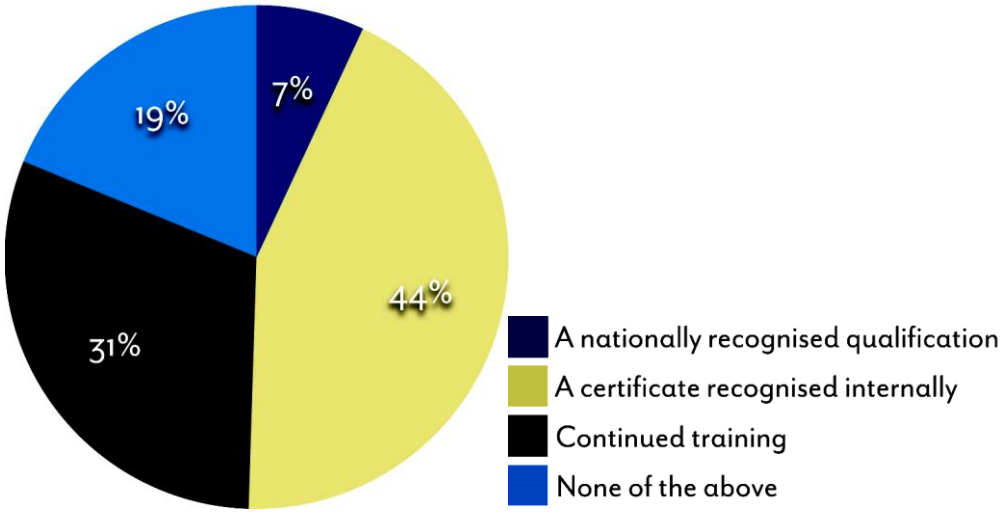
Effectiveness	In-house %	External %
Significantly greater employee effectiveness	22	36
Moderately greater employee effectiveness	65	55
No change in effectiveness	1	3
Not sure	13	5

Nearly three quarters of companies reported that they required their trainers to have a degree, compared to only 44 per cent who required them to have a vocational qualification (see figure 6.4).

Two thirds of employers reported that they had difficulty in offering technical training to their staff; this was significantly higher than for training in other areas (see figure 6.5).

The responses to the survey indicate a significant difference between the automotive and IT sectors with regard to concrete recognition of training. The automotive industry appears to be ahead on this measure, with over 80 per cent of respondents saying that their training led either to an externally or internally recognized certificate, or else to further training (figure 5.5). In the IT sector, by contrast, half of respondents said that their training led to none of these things (see figure 6.6).

Figure 5.5. Survey results: Outcomes of training, automotive industry



5.5.3. Understanding and expectation of SSCs

Indications from research carried out for this report are that awareness of SSCs is very limited in the automotive sector, both among employers and training providers. In the survey, only 8 per cent of employers and 1 per cent of training providers said that they had heard of SSCs. Of the few who had heard of them, most gave very vague answers to questions on what they expected SSCs to deliver and how they planned to work with them, indicating that there is little understanding of the role of SSCs among either employers or training providers.

This was borne out by the focus group discussion on SSCs. Several participants had not heard of them; the better informed could not give much information beyond the fact that the SSCs were an initiative of the NSDC. When asked what they would expect SSCs to deliver and how they would see them supporting skill development in the automotive sector, participants focused almost exclusively on the point of delivery of skilled persons – for instance:

> The expectation [of SSCs] is to reduce the training lead time. We now have two weeks of training, we want to cut training to one week, because we need to start production as early as possible. Response from institutes is not happening – we need to speed up response.

Another participant agreed:

> My expectation would be that you give me a person who can deliver me results after a week's induction, that … I will only tell him my process, and then he has the necessary basic and technical skills for that.

These responses indicate some degree of confusion between the roles of the SSCs and the ITIs. In fact, in general the participants in the automotive focus group understood "training" to mean "ITIs" and focused their responses entirely on this part of the system. Only one participant contributed a view as to the more strategic role SSCs can play in terms of developing shared standards and processes:

> There has to be commonality of training content. Content differs from one ITI to another so some commonality of training content and training material should be there. Second is training methodology – there is no standardization, so far as different training methodologies are concerned, someone is adopting a totally different way of teaching so there is no possibility of assessment of the output of the faculties … Thirdly, there is no uniformity of assessment systems, so no test is being conducted across the board in all states.

5.5.4. Other issues and challenges

Skilled migration

The automotive industry, which is centred around four main clusters in Delhi, Bangalore, Chennai and Pune, depends on migrant workers from other parts of India to fill the gaps in local workforces. This has had an impact on companies' own efforts to promote training within the sector. One focus group participant described a failed training initiative:

> We also did a similar experiment [training people from elsewhere for jobs in Gurgaon] but we didn't take it to its conclusion. We contacted this north-east place in Manipur and Nagaland and all those places – so they were willing to come. And they were willing to come, you know, boys and girls both. But we dropped the idea because they were

> predominantly girls and now safety issues in Gurgaon, all those things came up, so we chickened out of the whole thing.

Another commented that the reality of migration often proved overwhelming for trainees, leading to wasted investment:

> As soon as we go there and we talk to the people we ask those students directly are they interested in coming to Delhi, coming to Gurgaon, something like that. And the first time they all say yes, they are willing to come, willingness is no problem, but they are not that mature to imagine that if you go that kind of distance what is going to happen tomorrow. By the time they are ready perhaps the success ratio might not be there.

Cultural issues have also affected companies' attitudes towards training local people:

> In 1991 Gurgaon was not so prosperous so we took very poor children from this belt only, we gave them training … and we spent a lot of money teaching the children. There was a management problem and they went on strike – and it was spearheaded by these young boys from the local area, and the guys we brought in from outside they totally stayed away from the strike and they were the people to break the strike. Now what I want to know is, when you do this kind of experiment and you take these people then your working population becomes overwhelmingly local – what happens then? The people who actually did the strike are primarily local people.

This may indicate a perception that migrant workers, who lack the established social capital of local populations, are seen by managers as more pliable and therefore preferable to locals, who are more likely to cause disruption. This may hold implications for the long-term nature of training and the workforce in the automotive sector.

Contractual arrangements and implications for skill development

The workforce in the automotive sector in India is divided between permanent employees and those on temporary contracts. Focus group discussions dwelt at some length on the tension between the two groups and its implications for training. Several participants felt that labour activism among permanent staff pushed up their wages, leading to greater use of temporary staff and consequently less investment in training:

> If you see the mix between contractual manpower and the permanent labourers, in fact the permanent section of the industrial skilled population is thriving on the exploitation of the contracted section. Whenever the long-term settlement comes, the people who are in permanent roles in the company, they try to squeeze as much as possible to the settlement, and where is the balancing to be done at the end of the day? It means we increase the proportion of the contracted section of the workforce, at maybe one third of the cost. Legally it may not be correct but we are all fine with it, I am only telling you what is true.

An alternative view was offered by a participant who used the prospect of obtaining a permanent contract as an incentive for temporary staff to invest in their own skill development:

> Initially we had taken a large number of permanent people and a small number of contracted manpower because people in permanent roles will be more devoted and dedicated and give their best to the company. But our experience was the reverse. So we changed our strategy next time: we took 40 per cent as permanent, the other 60 per cent we took as contract employees and we have sold them a dream that after one year we will give you a test and those who passed that test we will give them a permanent job … this keeps hooking the new entrants as contractual manpower who otherwise have no career growth prospective in their mind.

6. IT/ITES sector

6.1. Overview

India's IT and ITES sector comprises IT services, BPO, engineering services, research and development, and software products (NSDC, 2010c). These four major components are credited with India's overall service sector growth, as well as a significant expansion of tertiary education. The sector has seen robust growth since 2004 and a Ministry of Finance economic survey (2010–11) estimated that the revenue of the sector would grow from US$64 billion in 2009–10 to US$76 billion in 2010–11. Simultaneously, direct employment in the sector was forecast to grow from 2.3 million in 2009–10 to 2.5 million in 2010–11. The India software market is mainly for export, with around two-thirds of its revenue coming from the United States and Europe. The recent financial crises in these markets saw sales growth decelerate to 5.9 per cent, but an increase to 17.8 per cent over 2011–12 was expected (Ministry of Finance, 2011).

Despite the IT sector's high revenue, it employs only 3 million people. The Reserve Bank of India's Governor sees this as a crisis and blames, in part, lack of spending on education (Firstpost, 2011). More engineers are graduating with a degree than with a diploma, which is creating an imbalanced workforce and a high number of unemployed qualified engineers. Vocational education is seen to be a solution (Goel, no date).

NASSCOM, the "premier trade body" and the chamber of commerce for the IT/BPO industry in India, has over 1,200 members (both Indian and international). In its 2009–10 annual report, it outlined the ways in which it was seeking to develop skills in the sector, namely through the introduction of a national skills registry and the NASSCOM Assessment of Competence (NAC). The proposed national skills registry would be a centralized database containing information on the qualifications and skills of employees in the sector; employers could use this information to verify the skills of current and prospective employees (NASSCOM, 2010). The NAC is an assessment and certification framework intended to provide a continual pool of talent and assist government and providers with understanding industry training needs (NASSCOM, 2011).

NASSCOM is leading on the SSC for the IT/BPO industry (NASSCOM, 2011); its proposal has been approved by the NSDC board and the SSC is currently undergoing incorporation.[26]

6.2. Training

Training institutions previously lagged behind in their provision of suitably qualified workers for the fast-growing sector, as their curriculum failed to keep up with the rapid pace of change. This saw an increase of in-house training by employers, who also worked to collaborate with education institutions, policy-makers and industry associations to increase the number of relevant jobseekers. This has not only helped employers with their own workforce, but has also raised the standard of education more broadly (Deloitte, 2008). However, participants in the focus groups expressed frustration

[26] NSDC website: http://nsdcindia.org/.

that this lack of public provision was putting serious strain on companies' internal resources.

A vast array of IT-related training is on offer in India, from basic-level training through government institutes to specialist programming courses run by private institutions. The Board of Intermediate Education in Andhra Pradesh, for example, runs an "advance certificate course in information technology", which aims to develop professional competence in the use of computers; to generate self and wage employment; and to make learners aware of society's needs.[27] Other courses are more applied to particular disciplines; the government of Delhi, for example, has started the Indian Institute of Information Technology, which is intended to become a blueprint for similar centres across the country. This institute has a particular focus on health and life sciences, finance and government (Knowledge Commission, no date). IT training is often embedded within training in other sectors. For example, 100 hours of IT training is compulsory within chartered accountancy courses run by the Institute of Chartered Accountants of India.[28]

Despite the volume of training, however, skill gaps persist. The NSDC (2010c) has identified the following skill gaps, for example, for software engineering positions:

- inability to "deep-dive" into a particular language or technology platform as experience level increases;
- inadequate soft skills;
- inadequate knowledge of corporate culture;
- gaps in systems approach and thinking due to conceptualization of the role as "programmer" rather than "software engineer";
- poor awareness of software engineering concepts.

The NSDC (2010c) has identified the following skills as areas that need prioritizing in IT training: logical thinking and problem solving, specific programming languages, project management training, business intelligence and data warehousing, enterprise application integration, modelling tools, communication skills, soft skills and teacher training modules for software engineering and programming languages. For BPO, priorities are process flows, communication skills and accent training; and for knowledge process outsourcing, they are Internet protocol advisory and filing, understanding patents, legal transcription, process specialists, project management, and information security and quality compliance (NSDC, 2010c).

6.3. Employment pathways

As with the automotive sector, there are few data available on the integration of trainees into sectoral labour markets in IT. Individual project examples exist, however.

[27] Board of Intermediate Education, Andhra Pradesh, website: Advance certificate course in information technology. http://bieap.gov.in/shortcomptwo.pdf.

[28] Institute of Chartered Accountants of India website: Frequently asked questions. http://220.227.161.86/11732faq_100hrs_itt.pdf.

Empower, for example, is an NSDC partner company that seeks to provide enduring opportunities in the private sector for 200,000 underprivileged people by 2021. It combines classroom training with on-the-job training (including IT and BPO) and hopes to use a franchise model to open 600 centres. Employing companies include Vodafone, Tata, AXA, McDonald's, Reliance, Honda, Unilever and Yamaha. Trainees to date have secured 10,000 full-time positions and earn an average of Rs. 5,000 a month.[29]

TalentSprint is another NSDC-funded initiative. It uses industry-designed curricula in IT that are backed by national and international certification; 90-day training programmes are offered to people going into banking or IT service companies.[30]

Deloitte suggests that India's IT/ITES industry is actively seeking to diversify its workforce. It is consciously recruiting those from rural areas; a third to a half of employees in the larger IT/ITES companies come from rural India. Almost two-thirds of companies surveyed by Deloitte claim to employ people with disabilities and the industry is actively training a workforce of varying abilities. In 2007–08, 30 per cent of those employed in the sector were women (Deloitte, 2008).

6.4. Development and green technology

Since 2008, India's ICT sector has been actively seeking greener technology for environmental and financial reasons. The impact of greening the ICT sector also has impact on other sectors and industries: by 2020, while 2.8 per cent of global emissions will be from the ICT industry, it will enable other industries and individuals to avoid approximately 7.8 gigatonnes of carbon dioxide equivalent emissions (NASSCOM, 2011b). There is also "immense scope" for the ICT industry to enable customers to adopt green technology and practices (NASSCOM, 2011b). Specifically, ICT can create significant improvements in sectors such as power (efficiency and reliability of generation, transmission and distribution), transport (more efficient tracking of vehicles and better public transit systems), water (real-time monitoring of the supply system and the introduction of smart sensors) and industry (better information management, financing and human resources) (NASSCOM, 2011b).

The implementation of these changes in technology, particularly across multiple industries and other sectors, will require significant changes in skill development. Evidence of coherent policies in developing green skills, however, is lacking. NASSCOM has established committees on green IT and education; collaboration between the two committees is not clear. In its analysis of the IT/ITES sector, the NSDC notes the potential for green innovation but does not reference the skill development necessary to enable such innovation (NSDC, 2010c).

[29] Empower website: Empower Pragati. http://empowerpragati.in/index.php.

[30] TalentSprint website. http://www.talentsprint.com/.

6.5. Employers' perspectives: Survey and focus group results

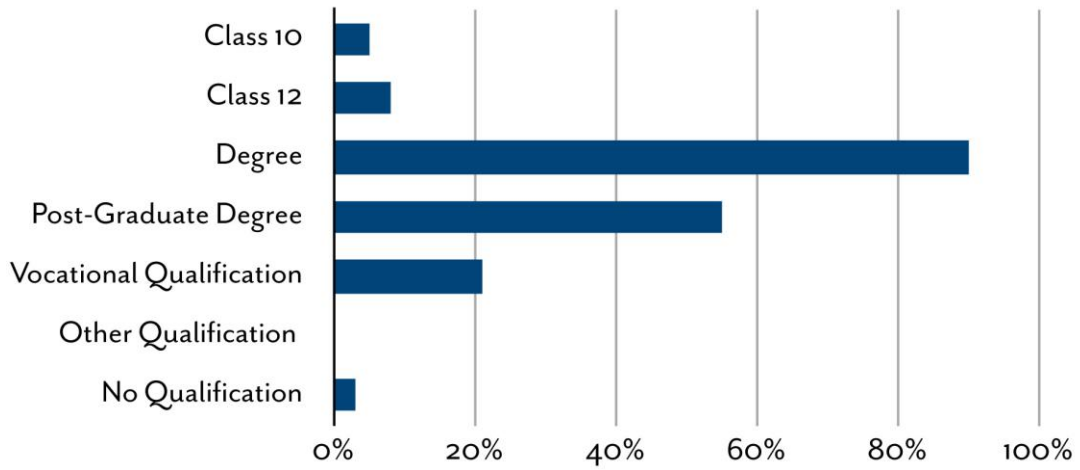
6.5.1. Ease of finding skilled workers

Forty-six per cent of the IT/ITES employers surveyed reported that they had difficulty in sourcing the skilled talent they needed, comparing favourably to the 67 per cent of Indian employers across the economy who reported such difficulty (Manpower Group, 2011). The problem is most acute for workers requiring technical skills; across both sectors, 83 per cent reported difficulty in recruiting for technical roles, compared to 24 per cent for management roles and 11 per cent for unskilled or low-skilled roles.

Larger companies in the IT/ITES sector have been active in developing training programmes to deliver to their own staff, and focus group participants described their efforts to share these externally (which have had mixed results). NASSCOM, the industry body responsible for setting up the new SSC, has made some moves towards developing a sector-wide approach to skill development, as described in section 6.1 above. This represents probably the most developed sectoral initiative existing in India at present.

The IT/ITES companies who responded to the survey overwhelmingly require new recruits to hold at least a degree: nine out of ten have this requirement. Beyond this, 55 per cent require a postgraduate degree and 21 per cent a vocational qualification (figure 6.1).

Figure 6.1. Survey results: Minimum qualifications for employment in the IT/ITES sector

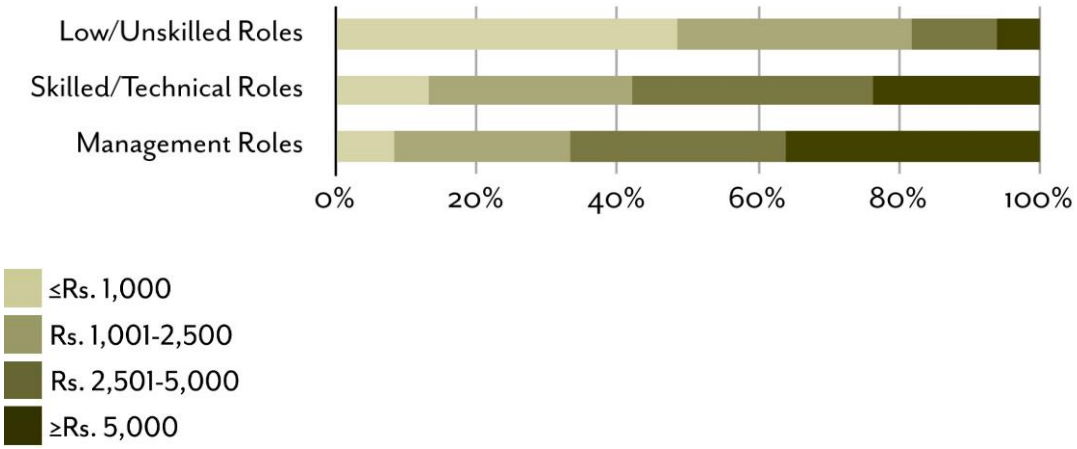


6.5.2. In-company training

Of employers, 76 per cent reported that they used learning and development as a means to attract some or all new hires, and 81 per cent of IT/ITES employers reported that they had a structured training and development programme. Also, 81 per cent of respondents said that they actively encouraged continued training by their employees, with 58 per cent offering a training and development plan for employees and 32 per cent allowing employees to self-select training.

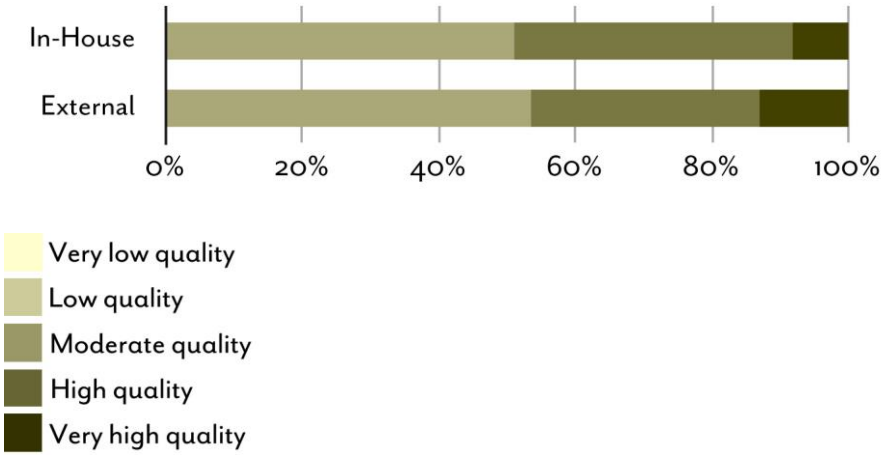
However, it appears that the training offered is significantly weighted towards managerial roles. The amount spent on training also appears to be low: for unskilled workers, nearly half of IT/ITES employers reported that they spent less than Rs. 1,000 per head on training in any given year (figure 6.2). This raises significant questions about the quality of training that can be achieved at this level of expenditure.

Figure 6.2. Survey results: Training budgets by job role, IT/ITES industry



In-house provision of training is more common than the use of external trainers; in general, survey respondents said that their own existing employees delivered training rather than training professionals. Satisfaction with this in-house training was significantly less than with externally provided services (figure 6.3).

Figure 6.3. Survey results: Satisfaction with in-house and external training, IT/ITES industry



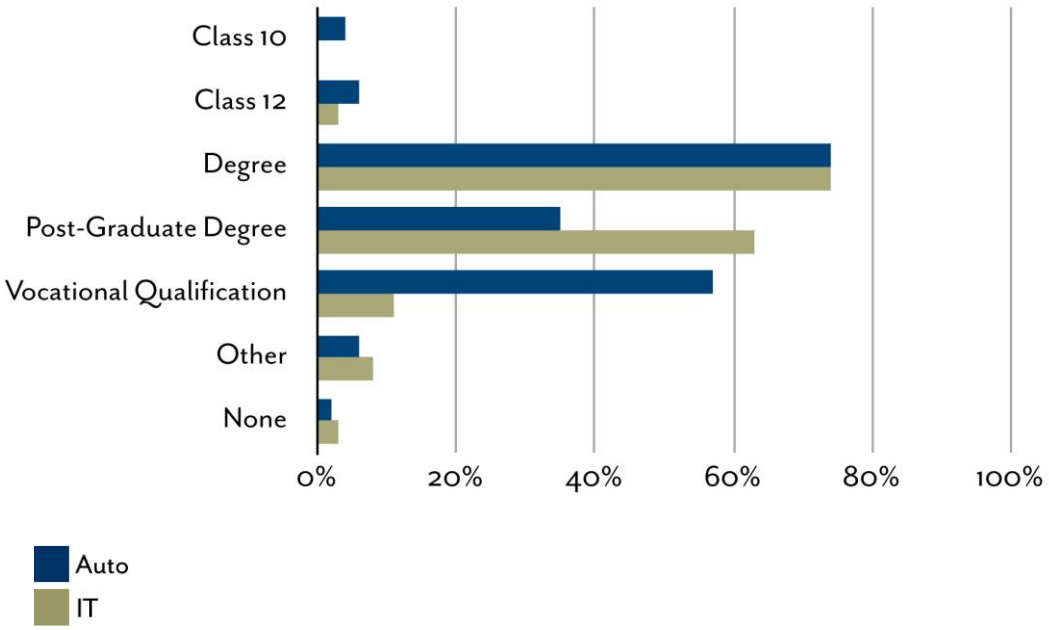
Despite this, internally provided training was seen as having a somewhat greater effect on employee effectiveness (table 6.1).

Table 6.1. Survey results: Employer ratings of impact of training on employee effectiveness, IT/ITES sector

Effectiveness	In-house %	External %
Significantly greater employee effectiveness	24	13
Moderately greater employee effectiveness	66	69
No change in effectiveness	0	3
Not sure	11	8

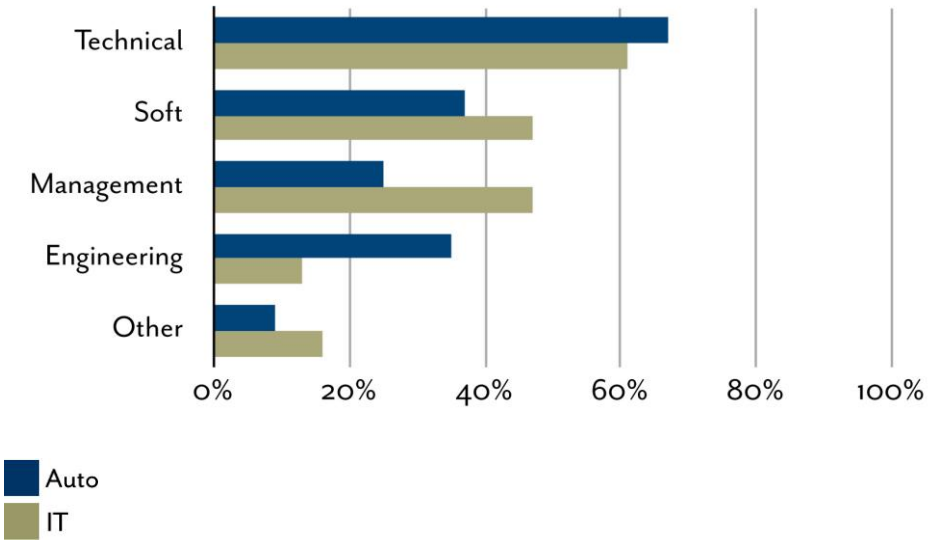
Nearly three quarters of companies reported that they required their trainers to have a degree, compared to only 44 per cent who required them to have a vocational qualification (figure 6.4).

Figure 6.4. Survey results: Qualification requirements for trainers in the automotive and IT industries



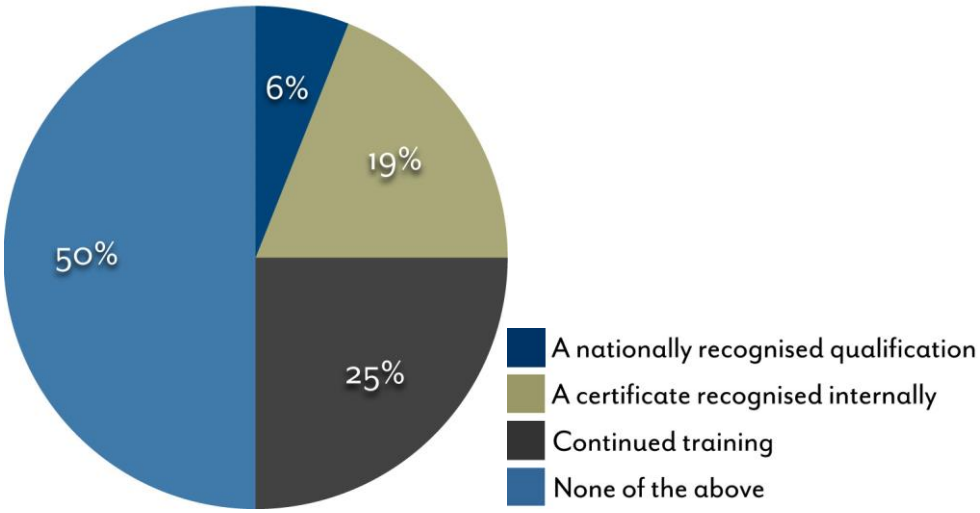
Of employers, 61 per cent reported that they had difficulty in offering technical training to their staff; as with the automotive sector, this is significantly higher than for training in other areas (figure 6.5). This contrasts strongly with the comments of focus group members, who came from large companies that routinely developed their own training programmes to supplement what is available externally. As the survey sample included smaller organizations (60 per cent of IT sector respondents had 250 or fewer employees), this highlights the greater reliance of smaller companies on public provision of training.

Figure 6.5. Survey results: Difficulty in offering training in the automotive and IT industries, by training type



As mentioned above, employers in the IT industry were far less likely than those in the automotive industry to offer their employees training that led to a recognized certificate or to further training: half of respondents said that their training led to none of these things (figure 6.6).

Figure 6.6. Survey results: Outcomes of training, IT industry



6.5.3. Understanding and expectation of SSCs

Awareness of SSCs appears to be marginally higher in the IT sector than in the automotive sector, but it remains low: in the survey, 95 per cent of respondents had not heard of SSCs. Focus group discussions also seemed to indicate a better understanding of SSCs' intended role, with expectations less focused on delivery and more on strategic leadership, mediation and understanding skill needs:

> Our wish list would be, can they do demand and supply match in terms of what is required … Two, can they get funding from the Government, can they be the intermediary or the interface between the Government and industry. Three, if there are initiatives being carried out by bodies like us can they do QA and give us grading saying "what they are doing is good". And finally, if they can chalk out a roadmap for the future of the industry. That's what the SSCs should do. But today if you tell them to run an ITI they will not be able to do.

Participants in the focus group also expressed some concerns about the way in which the SSC is being established. These included doubts as to the objectivity of NASSCOM, the industry body leading on setting up the SSC:

> I have a very good relationship with NASSCOM, but now [the SSC] is seen as a NASSCOM entity so people don't want to get aligned to it because they think it will get hijacked by NASSCOM.

Another agreed, arguing that NASSCOM's pre-existing assessment, the NAC, conflicts with the need to develop new solutions:

> What they are doing right now is saying "ooh, very big [skills] gap, we should do something, NAC test". 1,500 crores they are getting from NSDC to do that.

While the focus group participants were generally well informed about the development of SSCs, they shared concerns about the structure of the proposed body and a perceived lack of transparency with which decisions are being made:

> What we have been told is they will have only 14 members, but who decides those 14 members? Will it be by rotation or will it be on the basis of "I like you, come, join the SSC"? Or "put some money into the SSC"? We don't know what is the formation. There is no transparency on that.

Doubts also emerged as to the future ability of the SSCs to enforce their standards on ITIs:

> NASSCOM has created an SSC and a curriculum … the issue is now that we've created the curriculum, how do we go ahead and implement it at the institutions? NASSCOM goes to the college with the curriculum, says there you go, implement, it makes you more employable; the college says thank you but I'm happy with what I am doing.

Participants also expressed doubts about the rigour of initiatives being established under the NSDC:

> I think the Government has the right intent for this, the amount of money put aside for education is a very large sum, they created the NSDC, but the problem is how is that money being spent, or why is it being spent appropriately, who is monitoring that, I'm not so sure. Lots of vendors have gotten NSDC contracts where they don't even have the wherewithal to deliver that training.

6.5.4. Other issues and challenges

Policy incoherence and bureaucracy

Participants were frustrated at what they saw as a lack of policy coherence creating conflicting incentives:

> The biggest issue with the training is that the Government is not mandating that these kids must do a certain amount of training or else they cannot get jobs. The NREGA [National Rural Employment Guarantee Act] directly conflicts with that, you pick up workers, you know, construction workers from the road, and you give them x amount of money and NREGA is done. So you see there are conflicting policies, I think there is no strong hand delivering and implementing those policies very appropriately, otherwise we could really change the face of this country (IT focus group participant).

Some of these criticisms spoke directly to the kinds of concerns the SSCs are intended to address:

> I don't know if they follow a planning and forecasting process, which typically large organizations do. Do they know which industries require how many new workers in any given year, and therefore what are the five big courses we should do, we should push for or spend money on in that particular year. I mean if IT/BPO is a certain segment of the overall GDP, then what's the Government doing to push those kinds of courses within colleges?

The need for a single point of contact for employers on skill issues (a role that SSCs would logically adopt) was also particularly highlighted:

> To get a course embedded in a running curriculum you have to run from pillar to post, someone says Ministry of Human Resource Development, then you go AICTE [All-India Council for Technical Education], then they say no you have to go to private colleges, you can't do it in government colleges, you can go bonkers. By the end of it we just give up, we just give up.

Training models

There are few opportunities for combining classroom and on-the-job learning in the IT sector in India, the Empower example mentioned above being an exception. Given that employability skills are a key concern of employers, there is a need to develop models that combine learning in the two settings. The industry has made more use of internships – assigning recent graduates to a short-term project in order to impart employability skills with a view to moving on to a paid position – than of apprenticeships, which have unhelpful connotations in India:

> Apprenticeship is [seen to be] only for hand skills. What has happened in the mainstream industry, you have internships, where it could be a faculty internship or it could be a graduate student coming in or even a BTEC coming in and doing a three-month project on whatever it may be. But apprenticeship – unfortunately the connotation has now become for the low-level kind of skills.

The development of new models in this area for the IT industry will need to take into account employers' concerns about intellectual property rights:

> One of the issues when talking about this is that there is a huge concern about IP. So even if you have interns coming in they are not going to be exposed to the cutting edge of technology, they are going to be exposed to the basic stuff.

7. Issues shared by both sectors

7.1. Trade union engagement

Labour relations in India, and in the automotive industry in particular, are in general hostile and uncollaborative, and a long way from the social partnership models that have elsewhere played a key role in successful skill development (Manipal City & Guilds, 2011). The concept of organized labour and management cooperating on a shared issue of strategic importance such as skill development is not well understood, and this was reflected in the focus group discussions, where the majority of responses to questions on the potential role of trade unions in skill development focused instead on the problems caused by industrial action. There are individual examples of management and unions working together, but these have largely been overshadowed by disputes:

> We do want to involve them, we had another initiative with ILO on HIV/AIDS so we got the union leaders trained as master trainers, but when it comes to calling a strike they are no different (automotive focus group participant).

The same participant – a former union leader – was the most open to inclusion of unions, but this was presented as a management strategy rather than as part of stakeholder inclusion or in recognition of any useful role unions might play in skill development:

> See, the power of trade unions only lies in creating nuisance or in curbing nuisance … you need to learn how to use them to work for you. Any change or inconvenience will always be resisted, whatever the level, whether workers or managers. So whenever they need to be pushed you need to take the people in confidence who belong to that club who are getting affected … What harm does it do, but don't give your baton into their hands.

The IT sector, a much younger industry and one whose workers are relatively privileged in an Indian context, has only recently begun to unionize. But here too broader hostile attitudes towards unions were evident in focus group participants' responses when asked about the union role in skill development:

> No way. It'll kill the industry. Forget the sector skills, it'll kill the industry. Very disruptive.

Participants were routinely dismissive of the union role in skills, rejecting the idea that they might have valuable contributions to make:

> Let's not get nice about things, nice to involve trade unions. What skill or knowledge or specialized angle will they bring to the table? Let's not get into this "nice to involve people, nice to involve everybody, let's be very inclusive", let's get practical. Is it that people who are running the industry do not know what skill is needed, then you get somebody else. It's nice to get trade unions and get their opinion, it's nice to do that in jute mills which will close down anyway, but why close IT/ITES so fast?

It is noticeable that in both the above responses the idea of involving trade unions in skill development was construed as not just unhelpful, but a threat to the very existence of the IT/ITES industry.

7.2. Engaging small and medium enterprises

Due to time and capacity constraints, and the difficulty in getting smaller employers to participate in research, the focus group discussions reflect the views of large companies. Participants recognized this limitation and pointed to the need for SSCs to engage with, and understand the needs of, small employers if they are to be successful:

> All the people sitting across this table, we all come from companies which are highly committed to training and which have deep pockets to spend on training … With all our good intent we only bring training for what suits my organization and your organization … Go to a start-up, go to a medium-sized company which cannot really afford retraining the talent that is already available in the market … India is full of potential raw material but we are seeing them in pockets of companies represented by us here. Something has to really be thought about increasing the base, the size of the cake rather than the slice of the cake – right now we are all working on the slice of the cake. If [a large company] wants a particular skill set they will spend any amount to get the training, if we want that we will do it. What happens, if that skill, if it's too narrow for my organization or requirement, I'm not creating employability for the population (IT focus group participant).

7.3. Soft skills

Employers in both sectors see employability skills as at least as much of a problem as technical skills. Participants in the focus groups tended to focus more on soft skills, as this was seen as determining whether a new employee is "trainable"; while technical skill gaps were also seen as problematic, this was felt to be easier for companies to fill themselves:

> The guys who come to us, they are non-trainable almost. They don't want to get trained, they think they are already the cat's whiskers … they come with a bad attitude to work (automotive focus group participant).

> The facilitating skill of how do you apply your knowledge … is a serious dilemma. Technically savvy people come out but when you put them in a client-facing role, you put them in back office it doesn't matter, but the moment you put them in a client-facing role then you have a big mismatch. That has a big impact for the business because the credibility of the business goes down in the eyes of the client (IT focus group participant).

It should be noted that this perspective reflects the fact that, as noted above, the focus group participants were from large companies. For smaller companies with limited or no resources for training, technical skill gaps are likely to be as big a barrier to recruitment as soft skills.

7.4. Responsibility for skill development and the continuing employer role

Employers in both sectors have demonstrated their willingness to engage at the delivery level, by partnering with ITIs and other training providers as well as setting up their own training institutes. However, the need for business engagement and leadership at a more strategic level – as required for SSCs to work – is not understood across the board. Similarly, the need for continuing and permanent employer involvement may not have been fully grasped by industry:

> Please take care of one thing specifically, that whichever industry gets involved in the act we would not like it to be lifelong. There should be a time frame that by this time it should be sustainable by themselves. So whatever point, whatever act, whatever objectives we give

> it, given that period, they should be able themselves to take it forward (automotive focus group participant).

This wish for industry involvement to be only on a short- to medium-term basis may reflect a more general belief that responsibility for skill development lies fundamentally with the Government, not with business. For instance, one participant commented:

> You know, you might say it's government's responsibility to provide the skill set but the reality is that in 40 years we have not seen that happen. And in absence of something not available people will improvise. And industry is now taking the lead to say you keep debating in all these meetings, we will do what we want. We will send people to contribute in meetings like this and that's our contribution, you carry on, we'll carry on (IT focus group participant).

Thus, existing industry-led initiatives in skill development are seen as something that has happened as a consequence of those who "should" have responsibility – the Government – not meeting expectations, rather than a sense that responsibility rests as much with business as with government.

7.5. Regional differences

Participants in both groups agreed that there were marked regional differences in terms of the skill levels of employees and potential employees. In particular, there was a strong perception that the south of India was a better source of skilled workers, especially the area around Bangalore:

> We have figured out that probably down south you can get a better ratio of trained people compared to what happens in the north, probably it's the paucity of colleges in the north, and you may have select institutions in the north from where you are confident of hiring folks. But predominantly I think the exposure down south is much better in terms of the kinds of skill sets (IT focus group participant).

A key challenge for the nascent SSCs will be matching regional skill supply to regional skill demand, without exacerbating existing inequalities between states and minimizing the socially disruptive effects of skilled migration.

7.6. Standardization and uniformity of criteria

Focus group participants from both sectors recognized that a lack of standardization in India is a major issue, and that potentially SSCs could play a big role in addressing this. However, the discussions highlighted the fact that establishing standards does not mean they will be adhered to. Participants were quite frank about their willingness to ignore the need for properly trained staff if their unavailability jeopardized project deadlines:

> If you have limited choice then you are vying for one individual … if there is a new project that they have to execute, say a road in the next 100 days, all your certification will go down the toilet (IT focus group participant).

Establishing standards will therefore be only the first step; cultural attitudes towards skills and quality will need to change if standardization is to be effective.

7.7. Skill development and corporate social responsibility

Opinions vary as to whether skill development activity by the private sector should come under the corporate social responsibility (CSR) banner. A number of focus group participants reported that this was a key reason for contributing to skill development:

> What we do is, this is part of our, it is linked to CSR. What we do is we capture the rural youth, rural Karnataka-based students, bright students, it's purely based on merit, we give admission to 64 students every year. And we conduct a three-year course on our campus, full residential, and we teach them at the age of 17 and then they learn the attitude along with the skills and also the discipline … And then they are all, it's not a contract but generally because of the rigorousness of the training they flow into the shop-floor automatically as the best employees in the company. So we have a dedicated, the best employees available on our shop-floor (automotive focus group participant).

However, participants from both focus groups suggested that linking skill development to CSR is unhelpful:

> My suggestion would be that rather than being a CSR initiative, you know various education companies have taken on ITIs as a CSR initiative, but we have not done our job if you ask me. If it is a CSR initiative then at some point you are focusing more on your business and numbers, so there is no ownership actually (automotive focus group participant).

> We need to separate skills development from CSR. That type of thing actually leads to dilution of skills development (IT focus group participant).

The discussions indicate that the proper place of skill development for industry, and the extent to which it is understood to be in firms' own interests, is still contested ground in India.

7.8. Awareness of SSCs

Reflecting the very early stage of development of the sector-based system in India, very few of the employers surveyed had heard of SSCs – 12.4 per cent of the sample. Only one respondent, from the IT/ITES sector, had any detailed idea of how his company might work with SSCs to address its training needs. ("We can use the SSC to help bring industry-specific expertise into our training areas. We can also explore the option of getting workforce-ready skilled freshers into the organization.")

A small number of respondents volunteered ideas as to the broader potential role of SSCs. These varied widely and included:

- engaging with industry to discover skill needs;
- training graduates and engineers to be ready to transition to the corporate sector;
- bringing in innovations for improved training results;
- creating infrastructure for skill development.

Arguably, only the first of these is clearly within the remit of SSCs as it currently stands, indicating a need to address potential misunderstandings about how SSCs are intended to support skill development and highlighting the need to make employers more aware of the initiative.

7.9. Understanding of pedagogical skills

A notable finding from the survey was that, while trainers in both sectors tended to see training *experience* as more important than industry experience when it came to the effectiveness of teachers and trainers, technical *skills* were prioritized over pedagogical skills for recruitment (tables 7.1, 7.2 and 7.3).

Table 7.1. Survey results: Responses to statement "It is essential that teachers and trainers have substantial training/industry experience in order to be effective", both sectors

Extent of agreement	Training experience %	Industry experience %
Strongly agree	52	35
Agree	42	54
Neither agree nor disagree	5	7
Disagree	1	3
Strongly disagree	0	1

Table 7.2. Survey results: Prioritization of technical/pedagogical skills in each sector

Skills	Automotive %	IT %
Technical skills	31	26
Pedagogical skills	0	10
Both in equal measure	69	59
Neither/don't know	0	5

Table 7.3. Survey results: Prioritization of industry/training experience in each sector

Experience	Automotive %	IT %
Industry experience	10	15
Training experience	17	38
Both in equal measure	66	41
Neither/don't know	7	7

The implication is that, for the survey sample, possessing substantial training experience was seen in and of itself as evidence of ability to work as a trainer, whereas hard evidence of technical skills is more likely to be demanded regardless of industry experience. This seems to indicate a relative lack of understanding of pedagogy as a distinct skill set that requires training and that cannot be assumed on the basis of experience alone. This area may warrant further research to understand more fully.

Part III. Conclusions

8. Conclusions

8.1. Opportunities and challenges

India's sectoral skill development system is still at a formative stage. While this makes it difficult, if not impossible, to draw conclusions about its effectiveness, it does offer an opportunity for international organizations such as the ILO to play a helpful role in shaping the emerging system. This report highlights a number of areas where such interventions may be useful, although it is perhaps inevitable that developing a sectoral system that works in a country of India's size and diversity will be an iterative process that will take many years to achieve fully.

The NSDC has made an impressive start in the first two years of its existence, establishing the concept of SSCs as the dominant policy tool in skill development in India and mobilizing industry organizations, trainers and entrepreneurs to establish the first SSCs and add significantly to the country's training capacity. However, a number of areas are likely to prove particularly challenging as the SSCs move from establishment to operations. These include:

- **Funding.** The NSDC's stated approach that SSCs should be self-funding within three years of establishment looks over-optimistic, and risks discouraging institutions that have yet to establish any roots in the Indian system.

- **Transparency.** To date, there has been a lack of transparency in the system, particularly as regards the formation of SSCs and their plans for becoming operational. For a system that depends on effective stakeholder involvement, this could have negative consequences.

- **Structure and staffing.** The NSDC's plans for national-, state- and local-level SSCs imply complex organizations that will need significant numbers of trained staff and well-established institutional structures. Again, lack of transparency means that at present there is no way to assess how the existing SSCs are planning to address these requirements.

- **Awareness.** Whereas in policy circles the SSC concept is well established, the survey and focus group discussions implied that they are still largely unknown among industry and training organizations. While this is to be expected for such new organizations, increasing awareness quickly should be a major priority for SSCs.

- **Stakeholder involvement.** To date, the NSDC and the first SSCs appear to have taken a rather narrow view of stakeholder involvement, with the focus almost exclusively on employers. This has largely occurred in a top-down fashion rather than in a way that allows for greater leadership from employers. The challenge will be to transform the way SSCs are perceived from a government initiative to an industry-led one that brings in all key stakeholders in a substantial way, and develop mechanisms for stakeholder engagement and capacity to use such mechanisms as part of SSC development. The absence of trade union involvement to date is a particular concern.

- **Employer ownership.** The point above is strongly connected to a continuing perception among employers that responsibility for skill development lies with government. For SSCs to be successful there needs to be a change of mindset to one that accepts shared responsibility between government and industry, and other stakeholders, in this area.

- **Engagement of small and medium enterprises.** At present there are few mechanisms to engage the vast majority of India's employers who fall into the small and medium enterprise category. There is a risk that this may lead to the development of a skewed approach that takes account of the skill needs of a small number of large, multinational companies but fails to take into account the needs of the small organizations that provide far greater employment possibilities in the country. For certain sectors in particular, there may be value in making engagement of small and medium enterprises a criterion for the endorsement of qualifications developed by the SSCs; however, at present the mechanisms for this engagement to take place are not readily obvious.

- **Capacity building and training of trainers.** This is an urgent need that the sectoral approach must address if it is to be successful in India. In this regard, careful study should be made of existing good practice, such as the examples from the Ministry of Textiles and the Self-Employed Women's Association highlighted in section 3.3.

- **Professional development for trainers.** This appears to be an issue, particularly as regards training in pedagogical skills and opportunities for industry engagement. There also appears to be little linkage between qualifications achieved and salary to be expected by trainers; this is an area of significant importance to attract more people to train as trainers.

8.2. Automotive and IT/ITES sectors

The two sectors studied for this report are generally considered to be two of the most advanced in India in terms of developing an organized approach to sector-wide issues, including training. In general, this was found to be more the case in the IT/ITES sector, with more awareness of SSCs and more experience in developing sector-wide training initiatives. However, the sector employs a very small proportion of the total Indian workforce and is unrepresentative of the Indian economy as a whole, as those employed in the sector are characterized by generally higher levels of education and better terms and conditions than most, and senior management is often more internationally oriented and better versed in international good practice in management.

Even in the IT/ITES sector, there is some way to go before the underlying approach behind SSCs becomes well established. Large companies are accustomed to providing their own skill training and readily admit to obtaining skilled staff by poaching them from their rivals, while the neutrality of NASSCOM as the industry body is not universally accepted and the role of other stakeholders, particularly trade unions, is misunderstood or rejected outright. Even in the IT sector, therefore, establishing the kind of collaborative pan-sectoral structures needed for SSCs to succeed will be a major challenge.

The automotive sector is some way behind the IT/ITES sector in understanding ~~of~~ sectoral approaches to skills, both among employers and among industry associations. However, although the ASDC's detailed plans were not accessible, the leadership of the new SSC seems to be making rapid progress towards understanding its role. The sector

will face particular challenge in engaging all its component subsectors, in particular the small dealers who make up the bulk of employment in the sector but who are less readily accessed than the large manufacturers and component manufacturers, who find it far easier to make their voices heard. Given the history of hostile industrial relations in the sector in India, the automotive sector is also likely to find union engagement – and employee buy-in – a challenge.

8.3. Conclusions drawn by the author

Given its experience in skill development and its position as a neutral, international expert body with good relations with the diverse stakeholders in India, the ILO is well positioned to make a positive impact on the development of the Indian sectoral skill system at the crucial stage in its formation. It faces the choice of doing so through focusing on a specific sector or sectors, or concentrating its efforts on the NSDC and other national-level bodies in order to influence the shape of the overall system.

Sectoral focus of ILO. In the short term, substantive policy changes will be difficult to predict, or engage with, until the fragmented nature of decision-making and the continuing power struggles within the Government are resolved. At the time of writing there are some signs that the Prime Minister's Office is beginning to tackle this. For the moment, however, the overall policy landscape remains highly contested and the balance of power is far from fixed. Given this, and since, as pointed out above, the process of developing well-functioning SSCs is likely to be an iterative one, the ILO should focus its attention on a specific sector or sectors with a view to establishing models of good practice that can then support the continuing work on developing SSCs for other parts of the Indian economy. This would allow the ILO to quickly move from abstract policy dialogues to implementation and evaluation, which can then be used to engage with broader policy development when the overall direction becomes clearer.

Priority focus of ILO on automotive sector. Of the two sectors focused on in this report, the automotive sector is likely to be the better choice for ILO to focus its work on, supported by the relevant sectoral specialist in Geneva. This is because the sector is far larger in terms of employment; it is less atypical in terms of the skill sets required and the skill and education profile of its current workforce; it is generally seen as less "aspirational" than the IT/ITES sector; and it is less developed in terms of its sectoral approach. A focus on the automotive sector thus offers the ILO the opportunity to work within a sector that has done the initial groundwork in terms of setting up an SSC and beginning to establish national occupational standards, but which stands to benefit significantly from external support. Because the sector is arguably less of a special case than the IT/ITES sector in terms of skill sets and profiles, and because it shares more issues with other sectors in terms of the need to cultivate aspirational career paths, it is also more likely that a focus on this sector will produce results that can be applied elsewhere in the Indian economy. As the research for this report did not allow for a comprehensive, representative review of either the employers in each sector or of the trainers serving them, it is recommended that a more detailed piece of research would be well advised before embarking on any such focused work. In particular, the views and needs of small and medium enterprises are not well understood or documented.

Importance of engagement of all stakeholders, including unions. Any of the areas of potential challenges outlined in Chapter 8 could benefit from intervention from the ILO, but the most fruitful area of focus in the short to medium term is likely to be stakeholder engagement, and in particular the involvement of trade unions. This is consistent with the ILO's recent work in this area; it responds to an urgent need to widen and deepen buy-in of the emergent SSC system; and it makes the most of the ILO's position as a neutral,

external organization with high levels of trust across different organizations. The highly politicized, and often hostile, nature of industrial relations means that trade unions in particular are unlikely to be able to play a positive role in developing the sectoral approach in India without the mediation of a non-political body such as the ILO. Evidence from the focus group discussion with trade unions also revealed the unions' need for support to articulate their possible contribution to skill development and argue more strongly for a role. A priority for India should be the development of robust mechanisms for social dialogue; the ILO is well placed to facilitate in this area. In the field of skill development, countries such as the Netherlands and New Zealand have had considerable success. New Zealand is perhaps of particular note in this regard as it has done so with a relatively weak history of social partnership (Manipal City & Guilds, 2011).

Need to ensure training of trainers. The question of training of trainers is of particular urgency in India. While the NSDC and government bodies are making efforts to tackle this, and there are examples of good practice, there is little evidence that much consideration has been given to the connections between ensuring good working conditions for trainers and attracting more people into the profession. Related to this, there is a need to develop models to allow for improved professional development for trainers, including opportunities to develop pedagogical skills, and more opportunities for industry engagement. This is an agenda that the ILO could usefully seek to pursue.

Interface between skill policy and wider policy issues. In addition to the specific aspects of the SSC system and capacity building outlined above, there is scope for a broadened dialogue that seeks to make the connections between the skill development agenda in India and other priority areas more explicit, and to develop innovative thinking on how skill development policies and other policies can be mutually supportive. To date, skill policy has been linked almost exclusively to economic growth in simple, linear terms, rather than as part of a wider strategy with connections to diverse policy priorities. In the area of green skills, for instance, the connections with skill development are just beginning to be understood, as outlined in this report. While substantive and concrete work on developing a more holistic approach to skill development policy will most likely have to wait until the policy landscape becomes more firmly established, there may be scope for the ILO to initiate dialogue on the interface between skill policy and wider policy concerns, which to date has been limited.

References

Automotive Component Manufacturers Association of India and Society of Indian Automobile Manufacturers (ACMA and SIAM). 2008. *Skills development in the auto-component industry* (New Delhi, ACMA and SIAM).

Banerjee, B. 2011. *Approaches to skill formation, enhancement, refinement.* Presentation to Advancing Strategies to Deliver Welfare and Livelihood Development Services to India's Informal Sector Workers, CHF India (New Delhi, National Skill Development Corporation).

Business Standard. 2005. "IISWBM to teach green skills." *Business Standard*, 8 January 2005.

—. 2011a. "NSDC to form five sector skills councils this fiscal." *Business Standard*, 20 January 2011.

—. 2011b. "NSDC to set up 28 sector skills councils." *Business Standard*, 18 June 2010.

—. 2011c. "RAI becomes ninth private sector shareholder of NSDC." *Business Standard*, 29 October 2011.

Business Today. 2011. "Hot new destination." *Business Today*, 12 June 2011. http://businesstoday.intoday.in/story/bihar-corporate-indian-companies/1/15815.html.

Chenoy, D. 2011b. *Viewpoint, 1–31 January 2011* (New Delhi, National Skill Development Corporation).

—. 2012. Presentation to the CII Global Summit on Skill Development, Chennai, 22 February 2012.

Confederation of Indian Industry (CII) and Technopak. 2009. *Case for setting up sector skills councils in India* (New Delhi, CII).

Deloitte. 2008. *Indian IT/ITES industry: Impacting economy and society 2007–08* (New Delhi, NASSCOM/Deloitte).

Development Council on Automobile and Allied Industries. 2009. *Minutes of the 2nd meeting of the Development Council on Automobile and Allied Industries (DCAAI)* (New Delhi, Government of India).

Economic Times. 2010. "IL&FS-NSDC JV to set up 100 skill development centres." *Economic Times of India*, 6 October 2010.

Fasih, T. 2008. *Linking education policy to labor market outcomes* (Washington, DC, World Bank).

Federation of Indian Chambers of Commerce and Industry (FICCI). 2010. *The skill development landscape in India and implementing quality skills training* (New Delhi, FICCI and ICRA Management Consulting Services).

Firstpost. 2011. "Indian IT: Generating orders, not jobs?" *Firstpost*, 25 November 2011.

Genevois, I. 2008. *Public private partnerships and education: Can and should public private partnerships play a role in education?* Working paper presented in Directions in Educational Planning: Symposium to Honour the Work of Francoise Caillods (Paris, UNESCO International Institute for Educational Planning).

Ghosh, A. 2008. *Manual for training of trainers on human development, parts I & II* (Kolkata, Government of West Bengal, Administrative Training Institute).

Goel, V. no date. *Technical and vocational education and training (TVET) system in India for sustainable development*. India Country Paper (Berlin, UNESCO-UNEVOC).

Governance Knowledge Centre. 2010. *43rd session of the Indian Labour Conference* (New Delhi, Government of India).

Government of Gujarat. 2011. *Flyer on CEPT-Ahmedabad sponsored short term training programme on emerging trends in civil engineering* (Ahmedabad, Government of Gujarat and Industries Commissionerate).

GTZ-ASEM. 2010. *Training calendar 2010* (New Delhi, GTZ-ASEM).

The Hindu, 2011. "Auto industry grows 26% in FY'11; projected to be 6th largest in FY'12" *The Hindu*, 8 April 2011

Hindu Business Line. 2011. "Central Bank of India ties up with NSDC to finance vocational education." *Hindu Business Line*, 24 May 2011.

Indian Express. 2011. "Designing it right." *Indian Express*, 5 July 2011.

International Labour Office (ILO). 2011. *Formulating a national policy on skills development*. Skills for Employment Policy Brief (Geneva).

International Network of Sector Skills Organizations (INSSO). 2010. *International perspectives on labour market intelligence* (Ottawa, INSSO and the Alliance of Sector Skills Councils).

Kapoor, R. 2012. Presentation to the CII Global Summit on Skill Development, Chennai, 22 February 2012.

Knowledge Commission. no date. *Knowledge initiatives of the Delhi government: A blueprint for growth, innovation and inclusiveness* (New Delhi, Government of India).

KPMG International. 2010. *KPMG's global auto executive survey 2010: Industry concerns and expectations to 2014*. http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/Global-Auto-Survey-2010.pdf.

Kumar, V.; Mandal, K.; Kumar, N.; Banerjee, T. 2010. *Skills for green jobs in India.* Unedited background country study (New Delhi, International Labour Organization).

Live Mint. 2011. "Government may offer specialized courses in auto skills development." *Live Mint*, 19 September 2011.

Manipal City & Guilds. 2011. *A global study to get India world ready* (New Delhi, Manipal City & Guilds).

Manpower Group. 2011. *Talent shortage survey results 2011* (Milwaukee, Manpower Group).

McMillan, G. 2010. *India's vocational training system* (New South Wales, Australian Vocational Education and Training Research Association).

Ministry of Finance. 2011. *Economic survey, 2010–11* (New Delhi, Government of India).

Ministry of Heavy Industries and Public Enterprises. 2006a. *Automotive Mission Plan, 2006–2016: A mission for the development of Indian automotive industry* (New Delhi, Government of India).

Ministry of Labour. 2009. *National Skill Development Policy* (New Delhi, Government of India).

—. 2012. “Skill development mission.” Press release of 19 March 2012 (Government of India, Ministry of Labour and Employment, Press Information Bureau).

Ministry of Textiles. 2009. *Guidelines booklet: Integrated skill development scheme for the textiles and apparel sector, including jute and handicrafts* (New Delhi, Government of India).

My Bangalore. 2011. “Looking for a job is now easier with Karnataka Employment Center.” *My Bangalore*, 11 May 2011.

Nanavarty, R. 2010. “Green livelihoods generation and entrepreneurship development.” *Sustainability Tomorrow* 2: 48–53.

National Accreditation Board for Education and Training (NABET). 2010. *Accreditation criteria for vocational training institutions* (New Delhi, NABET and Quality Council of India).

National Association of Software and Services Companies (NASSCOM). 2010. *Annual report 2009–10* (New Delhi, NASSCOM).

—. 2011. *Annual report 2010–11* (New Delhi, NASSCOM).

—. 2011b. *Sustainable Tomorrow: Harnessing ICT Potential* (New Delhi, NASSCOM).

National Institute of Open Schooling (NIOS). no date. *Request for proposals for collaboration for the introduction of new need-based vocational courses on PPP basis* (New Delhi, NIOS).

National Skill Development Corporation (NSDC). 2010a. *Human resource and skill requirements in the auto & auto components sector (2022): A report* (New Delhi, NSDC).

—. 2010b. *Human resource and skill requirements in the education & skill development services sector (2022): A report* (New Delhi, NSDC and ICRA Management Consulting Services Limited).

—. 2010c. *Human resource and skill requirements in the IT and ITES industry sector (2022): A report* (New Delhi, NSDC).

—. 2010–11a. *An approach paper for setting up a sector skills council* (New Delhi, NSDC).

—. 2011a. *Concept paper on labour market information system* (New Delhi, NSDC).

—. 2011b. *Need assessment report on building trainers’ skills in vocational employability* (New Delhi, NSDC).

—. 2011c. *NSDC annual report 2010–11* (New Delhi, Government of India).

—. 2011d. *Skill Matters.* Issue 1, April 2011 (New Delhi, NSDC).

—. 2011e. *Skill Matters.* Issue 2, May 2011 (New Delhi, NSDC).

—. 2011f. *Skill Matters.* Issue 3, June 2011 (New Delhi, NSDC).

—. 2011h. *Skill Matters.* Issue 5, August 2011. (New Delhi, NSDC).

—. 2011i. *Skill Matters.* Issue 6, September 2011 (New Delhi, NSDC).

—. 2011j. *Skill Matters.* Issue 7, October 2011 (New Delhi, NSDC).

Organisation for Economic Co-operation and Development (OECD). 2011. *G20 Country Policy Briefs: India – The National Policy on Skill Development* (Paris, OECD).

Palit, A. 2009. *Skills development in India: Challenges and strategies*. ISAS Working Paper 89 (Singapore, Institute of South Asian Studies).

Planning Commission. 2008a. *Co-ordinated action on skill development* (New Delhi, Government of India).

—. 2008b. *Eleventh Five Year Plan* (New Delhi, Government of India).

—. 2008c. *Report of the Working Group on Secondary and Vocational Education for 11th Five Year Plan (2007–2012)* (New Delhi, Government of India).

—. 2009. *Planning Commission Sub-Committee on Improvement in Accreditation and Certification Systems* (New Delhi, Government of India).

—. 2011. *Approach to the 12th Plan: Enhancing skills and faster generation of employment* (New Delhi, Government of India).

Prime Minister's Council on Climate Change. 2008. *National Action Plan on Climate Change* (New Delhi, Government of India).

State Institute of Vocational Education. no date. *Short-term vocational certificate courses (6 months duration) in State Institute of Vocational Education and Board of Intermediate Education, Andhra Pradesh: Hyderabad* (Hyderabad, State Institute of Vocational Education).

V.V. Giri National Labour Institute. 2010. *Training calendar 2011–12* (Noida, V.V. Giri National Labour Institute).

Appendix I. Stakeholders

Table I.1. Statutory and regulatory bodies

Name	Type	About
All India Council for Technical Education	Statutory	Conducts research into technical education, forecasting the need for growth and development, and grants approval for the establishment of new institutes. Develops links between the educational system and industry, development organizations and the community. Promotes and develops schemes for development and training of teachers, sets standards for courses, curricula, facilities, admissions, staff qualifications and examinations.
National Assessment and Accreditation Council	Regulatory	Assesses and accredits higher education institutions. Established and funded by the University Grants Commission.
National Accreditation Board for Education and Training	Regulatory	Set up by the All India Council for Technical Education, it assesses and provides quality assurance and accreditation for India's technical programmes. Categories for accreditation include those for 3 years, 5 years or none at all. It also assesses and provides quality assurance for infrastructure, financial and human resources and library and physical resources.
National Council for Teacher Education	Regulatory	Headquartered in Delhi with four regional committees. Seeks to develop a coordinated teacher education system across the country. Regulates teacher education and sets national standards for those in all areas of teaching: pre-primary, primary and secondary education, non-formal, part-time, adult education, and distance and correspondence education.
National Council for Vocational Training	Statutory	Contributes to the formation of curricula for training, as well as policies and standards. Acts as a central agency to advise government on "framing the training policy and coordinating vocational training throughout India".
National Skill Development Corporation	Statutory	A public-private partnership that creates large-scale for-profit vocational education institutions. Set up as part of the National Skill Development Mission to help meet the demand for skilled human resources in a number of sectors and reduce the significant supply/demand gap. Its objective is to "contribute significantly (about 30 per cent) to the overall target of skilling/upskilling 500 million people in India by 2022". It seeks to achieve this by assisting private sector skill development initiatives and through the provision of funding.
Planning Commission	Statutory	Set up in 1951 to assess the country's needs in terms of its material, capital and human resources and to formulate a plan to ensure the most effective use of existing resources. Contributes to the formulation of policy, namely for human resources and economic development.
Quality Council of India	Statutory	National apex body for quality. Was set up jointly in 1997 by the Government and three representative bodies of Indian industry – Confederation of Indian Industry, FICCI, and the Associated Chambers of Commerce and Industry of India (ASSOCHAM). Includes the National Accreditation Board for Certification Bodies and the National Accreditation Board for Education and Training.

Table I.2. Government ministries and departments

Name	Type	About
Department of Commerce	Department	Sits within the Ministry of Commerce and Industries and regulates, develops and promotes the country's international trade. Formulates relevant policy to enable an environment and infrastructure for "accelerated growth" of international trade.
Department of Higher Education	Department	Formulates and implements national education policy. Seeks to increase access to and improve university and higher education and technical education, paying particular attention to disadvantaged minorities.
Department of Industrial Policy and Promotion	Department	Sits within the Ministry of Commerce and Industries and formulates and implements industrial strategy and policy, including intellectual property, according to development needs and national objectives. Monitors industrial growth and the consulting services around industry. Formulates foreign direct investment policy and promotion, and approval.
Department of Science and Technology	Department	Promotes research and the development of technology, formulating appropriate policy. Focused on emerging areas, including biofuel production, processing, standardization and applications.
Directorate General of Employment and Training	Department	Sits within the Ministry of Labour and Employment and is responsible for the development of vocational training programmes,[31] including setting standards and policies. Also operates a nationwide network of "employment exchanges".
Ministry of Commerce and Industries	Ministry	Houses Department of Industrial Policy and Promotion, and is also the ministerial body responsible for the Quality Council of India. Focuses on commerce and international trade.
Ministry of Food Processing Industries	Ministry	Seeks to increase job opportunities in India's rural areas, encouraging the use of modern technology and creating a surplus for export. Engaged in skill development activities, according to FICCI.
Ministry of Human Resource Development	Ministry	Comprises the Department of School Education and Literacy and the Department of Higher Education; therefore shares responsibility for education with the Ministry of Labour and Employment. Is involved in developing the National Vocational Education Qualifications Framework, possibly in competition with the Ministry of Labour and Employment and its development of the National Vocational Qualitative Framework.
Ministry of Labour and Employment	Ministry	Formulates and implements labour policy, seeking to increase India's productivity and to safeguard the country's poor, deprived and disadvantaged. Primary government department responsible for vocational education and training; responsible for the National Skill Development Policy, overseeing the NSDC and implementing the NVQF. Also incorporates the Directorate General of Employment and Training.

[31] These are as follows: Craftsmen Training Scheme, Apprentice Training Scheme, Craft Instructors' Training Scheme, Advanced Vocational Training Scheme, Supervisory/Foreman Training Scheme, Staff Training and Research Programme, Instructional Media Development Programme, Women's Training Scheme, Hi-Tech Training Scheme.

Name	Type	About
Ministry of Micro, Small and Medium Enterprises	Ministry	Considered important due to the significant employment potential of small and medium enterprises. Promotes the growth and development of small and medium enterprises. Engaged in skill development activities, according to FICCI.
Ministry of Rural Development	Ministry	The alleviation of rural poverty is one of India's key priorities. The Ministry of Rural Development seeks to eliminate "poverty, ignorance, diseases and inequality of opportunities", and one of its key drivers to achieve this is education. Oversees the National Institute of Rural Development. Engaged in skill development activities, according to FICCI.
Ministry of Textiles	Ministry	Formulates policy for the textiles sector. Seeks to ensure sufficient raw materials are available for the domestic industry sector and that fabrics are produced at "reasonable prices". The Joint Secretary within the ministry has responsibility for human resource development, training, labour issues and skill development for the sector. Engaged in skill development activities, according to FICCI.
Ministry of Urban Development and Poverty Alleviation	Ministry	Formulates policies and supports and monitors programmes relating to urban development. Programmes include urban development, water supply and sanitation, transport and local self-government.[32] Engaged in skill development activities, according to FICCI.

Table I.3. Advisory bodies

Name	Type	About
Central Advisory Board for Education	Advisory	(The Central Advisory Board of Education (CABE) is the highest advisory body to advise the Central and State Governments in the field of education.
National Council on Skill Development	Advisory	Chaired by the Prime Minister. Seeks to ensure that government agencies work effectively to improve vocational and technical education.
National Institute of Rural Development	Advisory	Sits within the Ministry of Rural Development and provides training and research activities. Considers itself a "think tank", providing information for the ministry to assist in policy formulation. Those working for government are not charged to attend training, but fees apply to those from other public sector organizations, banking or international institutions. Also carries out training within universities and research institutions. Programmes seek to educate those formulating policy and those who implement programmes on issues relating to rural development.
National Commission for Enterprises in the Unorganized Sector	Advisory	Established as an advisory body and a watchdog for the informal sector. Sits within the Ministry of Micro, Small and Medium Enterprises. Publishes working papers on skill development in the sector and heads up task forces on issues in the sector.

[32] Local self-governments are appointed by the Government to represent the inhabitants of a community. They raise their own revenues by levying taxes, and their responsibilities may include ensuring safe, clean drinking water, drainage and sewerage systems, street lighting, and park preservation.

Name	Type	About
National Council for Educational Research and Training	Research	Works to assist and advise the Ministry of Education with regard to its policies and major education programmes, providing technical support for any necessary improvements. Provides research, development, training, publications and exchange programmes, with a focus on school education. One of its constituent parts, however, is the Pandit Sunderdal Sharma Central Institute of Vocational Education in Bhopal.

Table I.4. Funding bodies

Name	Type	About
Distance Education Council	Funding	Grant-giving body (for open universities and correspondence course institutes). Seeks to promote the Open University and distance education systems in India, encouraging state governments to establish such institutions. Coordinates and determines standards of teaching, evaluation and research. Facilitates training for "indigenous capacity building in open and distance learning systems".
University Grants Commission	Funding	Grant-giving agency (for universities and colleges) that seeks to promote university education, determine and maintain teaching standards, and promote research across the country's universities. Monitors developments within higher education and acts as a link between government and higher education institutions. Also advises both central and state governments with regard to improvements within the university system. Has seven regional offices.

Table I.5. Training institutions and influencers (examples)

Name	Type	About
Association of Indian Universities	Influencer	Established to promote inter-university activities and cooperation, including education, sport and culture. Liaises between universities and state and central governments, promoting programmes to improve educational standards, including examinations, research and textbooks. Facilitates staff exchanges and assists member universities in obtaining recognition for their qualifications from other universities, both in India and abroad.
Indira Gandhi National Open University	Training provider	Refers to itself as "the People's University" and was established in 1985, providing higher education through open and distance learning. Offers 3,500 courses, covering 338 programmes. Has a network of 43 regional centres, 1,400 study centres nationwide and special study centres for those with specific physical or learning needs, military personnel and prison inmates. Has bilateral alliances with Middle Eastern, Asian and African countries. Currently working on collaborating with government agencies, other open universities, Commonwealth bodies and UNESCO.
Industrial training centres (ITCs)	Training provider	Privately run equivalent of ITIs. ITCs are self-financed, are operated under public-private partnerships and are directed at specific industries and trades.

Name	Type	About
Industrial training institutes (ITIs)	Training provider	Training organizations, funded and run by the Directorate General of Employment and Training. ITIs provide post-school vocational and technical education. Under a World Bank project, there is a scheme to turn ITIs into centres of excellence. Graduates are awarded a National Trade Certificate.
National Institute of Open Schooling	Training provider	Formerly the National Open School, set up by the Ministry of Human Resource Development. Provides open and distance pre-degree and vocational courses, as well as general and academic courses, at secondary and senior secondary level (currently with 1.5 million learners enrolled at this level). Also provides "open basic education" for 14+. Has 11 regional centres and 3,367 accredited institutions in India and internationally.
Pandit Sunderdal Sharma Central Institute of Vocational Education	Training Provider	Covers formal and informal educational systems at all levels. It seeks to "provide direction to the delivery system of instruction and support services", making the supply of skills relevant to India's demand, both directly and indirectly via other institutions. Advises the Ministry of Human Resource Development, provides information and guidance to members of the public as well as those within the vocational education system, and works to maintain uniformity and quality standards within the system. Covers agriculture, business and commerce, engineering and technology, health and education for the disabled, domestic science, and humanities science and education.

Table I.6. Industry, sector bodies and influencers

Name	Type	About
Associated Chambers of Commerce and Industry of India (ASSOCHAM)	Influencer	ASSOCHAM is India's "premier apex chamber". It consists of over 200,000 companies and professionals nationally. It is a membership organization, liaising with government on policy issues for industry.
Confederation of Indian Industry	Influencer	Non-governmental, not-for-profit body, led by industry and seeking to "create and sustain an environment conducive to the growth of industry in India". Partners industry with government "through advisory and consultative processes". Seven overseas offices, including in the United Kingdom.
Federation of Indian Chambers of Commerce and Industry (FICCI)	Influencer	The national apex body for chambers of commerce in India. Frequently works with the government and the Confederation of Indian Industry, although is more challenging of government policies than the latter. Has joint business councils with 79 countries worldwide; is an NGO and not-for-profit.
Infrastructure Leasing and Financial Services	Industry	One of the leading infrastructure development and finance companies. Working with the NSDC to develop 100 skill development centres across India.
National Association of Software and Services Companies (NASSCOM)	Industry	The premier trade body and chamber of commerce for IT and BPO sectors in India. Its membership base constitutes over 95 per cent of the total IT/BPO industry revenue in India. Reported to have bought a 5.1 per cent stake in the NSDC in 2010. Has proposed setting up the SSC for the industry.

Appendix II. Trainer profiles

The NSDC (2010b) has outlined the job functions, qualifications and competencies required in a "typical" education institution:

Principals:

Doctors or postgraduates with more than 15 years' experience. Functions:

- Handling the overall running of the institution
- Hiring qualified teachers
- Handling requisite legal aspects such as audits, complaints and reviews
- Formulating strategic plans
- Building the institution's brand
- Ensuring availability of ICT
- Increasing enrolment and turnout
- Appraising the performance of faculty on a regular basis
- Coordinating and liaising with external organizations
- Ensuring learners' safety
- Ensuring discipline

Heads of department:

Doctors, postgraduates, graduates or diploma holders with more than 10 years' relevant experience. Functions:

- Handling the overall running of the department
- Allocating work to trainers
- Preparing timetables
- Ensuring teaching quality
- Ensuring pass percentages
- Facilitating industrial visits
- Handling classes
- Reporting to the principal on learner progress
- Assisting the principal in recruiting qualified trainers

Teachers/professors/lecturers:

Doctors, postgraduates, graduates or diploma holders with 0–5 years' relevant experience. Competencies:

- Adequate knowledge of principles of teaching
- Strong theoretical subject knowledge
- Ability to communicate to learners in a clear manner
- Good communication skills
- Ability to empathize with learners
- Observation skills
- Ability to use ICT in teaching
- Industry exposure for vocational trainers

A recent NSDC study (2011b) of 360 trainers across six sectors found the following profile of trainers:

Age:

- The average trainer is 34 years old.[33]
- The most common age category of trainers is 25–29.[34]
- Trainers in government institutions tend to be older (40 years old on average) than those in private or NGO institutions (32 years old on average in both).[35]

Gender:

- Only 33 per cent of trainers are female; there are proportionately more women working in government institutions (43 per cent) than in private (30 per cent) or NGO (31 per cent) institutions.

[33] Research Base/City & Guilds calculations, assuming the average age in the below-25 category is 22.5 years, and in the 60+ category is 62.5 years. All other categories were taken at their middle point.

[34] 29 per cent of trainers fall into this age group. The next most common is 35–44 (20 per cent), and then 30–34 (15 per cent).

[35] Research Base/City & Guilds calculations. Assumptions as above.

Experience:

- The average trainer has 7.5 years' experience.[36]

- Trainers in government institutions tend to have more experience (11.7 years) than those in private (6.5 years) or NGO (6.6 years) institutions.[37]

Qualifications:

- Trainers are most commonly graduates.[38] NGO institutions have by far the highest proportion of graduates working as trainers at 67 per cent, compared to 39 per cent in private institutions and 44 per cent in government institutions.

- Of professional qualifications, just under 50 per cent of trainers have qualifications at certificate level[39]; 12 per cent have a diploma from a privately run course, 16 per cent have a two-year diploma from a government-recognized course, and 22 per cent have a three year diploma from a government-recognized course.

Skills:

- Technical skills predominate; 92 per cent of trainers have technical skills, compared to 32 per cent who have teaching skills, 19 per cent who have soft skills and 7 per cent who have entrepreneurship development skills.

[36] Research Base/City & Guilds calculations, assuming that the average number of years' experience in the 20+ category is 23. All other categories were taken at their middle point.

[37] Research Base/City & Guilds calculations. Assumptions as above.

[38] Modal average: 43 per cent of those surveyed were graduates, 7 per cent were non-matriculates, 9 per cent were matriculates (class 10 pass), 20 per cent had reached higher secondary level (class 12 pass) and 21 per cent had achieved a level higher than graduation (note that this last category is assumed, as the original report fails to assign a level).

[39] 21 per cent from government-recognized courses and 28 per cent from privately run courses.

Appendix III. Detailed development status of sector skill councils

Industry sector	Name of SSC	Governing council	Lead organizations	Mandate
Automotive	Automotive Skill Development Council (ASDC)	Members of SIAM, FADA, ACMA (3 each) Member from Ministry of Heavy Industries and Public Enterprises, Ministry of Labour and Employment, National Council for Vocational Training	SIAM FADA ACMA	Establish ASDC Recruit the core ASDC team for carrying out pilot phase activities Sign MoUs with industry to ensure commitment and support Design and develop high-standard course content for selected modules Provide certification to candidates on the selected modules Review the performance of the pilot phase and draw up the [departmental performance report]
Security	Security Knowledge and Skill Development Council (SKSDC)	7 of top 10 security companies by revenue Chair of Central Association of Private Security Industry (CAPSI) and two security associations Two small security companies Two members from customer organizations Member from NSDC Member from army/paramilitary force	CAPSI	Identify skill gaps at each level/trade and develop course curricula, training programmes and training manuals accordingly Set national standards, benchmarks and testing for each level/trade in private security Plan and execute training of trainers (also to be certified) Identify, select and accredit training providers in private security across the country and promote them as centres of excellence Create a nationwide database of trained human resources in private security Carry out research to identify future requirements in training and skill enhancement

Industry sector	Name of SSC	Governing council	Lead organizations	Mandate
Energy	Indian Energy Skill Development Council (IESD)	To be decided	University of Petroleum and Energy Studies Petrotech Indian Wind Energy Society World Energy Forum NDPL PowerGrid Corporation	Carry out sustained research to assess training facilities, demand/supply needs and skill gaps of semi-skilled/skilled workers in the energy industry, including that of the unorganized sector Develop an industry-driven competencies framework for each skill set, including provision for movement to the next competency level, that is acceptable to the energy industry, and set standards of certification Involve the energy industry, academia and other stakeholders in standardizing the curriculum and training materials, and facilitate the certification process Enhance skill training delivery and organize "training the trainers" by associating other accredited training organizations, including ISPe, UPES, EI India Develop feedback mechanisms and processes for quality assurance, and undertake accreditation of training institutes
Retail	Retailers Association Skill Council of India (RASCI)	To be decided	Retailers Association of India	Develop a culture that promotes and enhances the skill development of its workforce Ensure availability of entire value chains' requirement of appropriately trained human resources in quantity and quality across all levels, on a sustained and evolving basis Vertical and horizontal portability for vocational education and training skills as comparable education across industries, educational systems and geographies by building a robust quality assurance system Create transparency for all industry members on the availability of appropriately trained, skilled human resources, knowledge and information repository, and process and technology information

Industry sector	Name of SSC	Governing council	Lead organizations	Mandate
Media and entertainment	Film, Media, Broadcasting and Animation Skill Council	To be decided	FICCI Film and TV Producers' Guild Indian Broadcasting Association Animation, Gaming and VFX Forum Indian Outdoor Advertisers	Create a sustainable and technologically advanced platform for collection, storage and exchange of industry data, workforce data, welfare data and career-related data across the whole industry segment, called the "labour market information system" Focus on building an organization that can develop the standards, evaluation criteria and accreditation systems for providing multiple and varied technical skills in the media sector, including employability skills, for both men and women, as well as challenged persons, with regular and direct inputs from industry Build high-quality trainer and learner communities while providing effective real-time connections between job providers and job seekers Actively engage with government and industry for support to realize existing synergies and build new ones
IT/ITES	IT/ITES SSC	To be decided	NASSCOM	Develop a global employer brand and talent model to attract non-Indian workforces Identify and address specific leadership capability gaps in the new model Remainder of the list includes a list of skill gaps that need to be addressed and industry working practices that need to be changed

Appendix IV. Stakeholder interviews

To ensure the information in this report is as up to date as possible, a series of interviews with key stakeholders in the Indian vocational education space was carried out in February 2012. The following organizations were interviewed as part of this process:

- All India Council for Technical Education
- Associated Chambers of Commerce and Industry of India
- Automotive Skill Development Council
- Bharatiya Mazdoor Sangh (Indian Workers' Union)
- Confederation of Indian Industry
- Federation of Indian Chambers of Commerce and Industry
- Ministry of Labour and Employment
- National Association of Software and Services Companies
- National Skill Development Corporation
- World Bank

Appendix V. Survey and focus group methodology

V.1. Surveys

Two surveys were carried out for this report: one of training providers and one of employers. In both cases, Indian industry associations were consulted to ensure that the respondents who completed the survey were broadly representative of the two sectors of focus. In the case of the training providers, all those spoken to offered IT training, automotive training, or both; the sample included both public and private providers, with a range of sizes represented. In the case of employers, advice was sought from the relevant industry associations on the profile of the respondents that would best reflect the face of the sector in terms of area of specialization and company size. While the resulting sample leans more towards larger companies than is the case for the Indian economy as a whole, reasonable representation of small and medium enterprises (60 per cent of respondents) was achieved.

Figure V.1. Employer survey respondents by number of employees, automotive industry

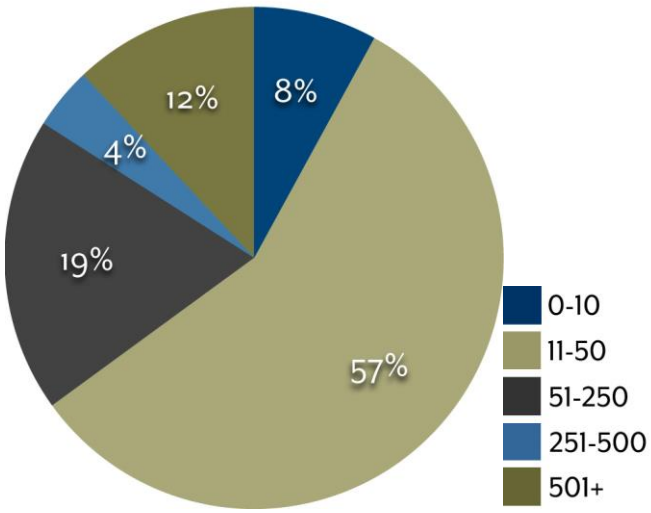
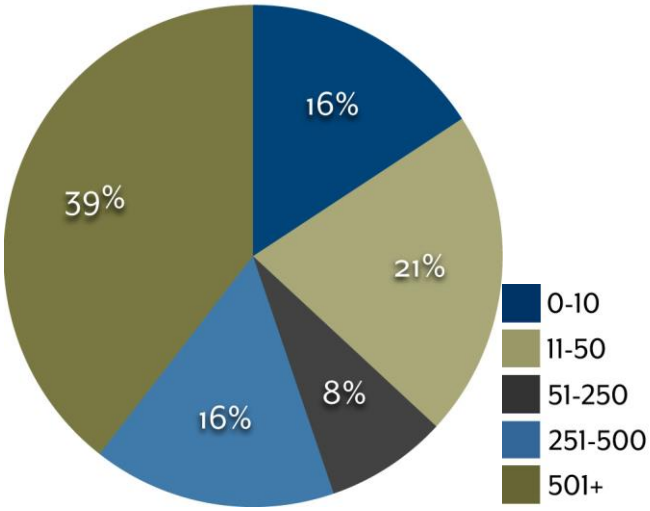


Figure V.2. Employer survey respondents by number of employees, IT/ITES industry



The surveys were carried out by telephone and face to face over a three-week period by a specialist skill research agency based in India. The respondents were mostly from human resource management positions or from general management (particularly for the small and medium enterprises in the sample group, which are mainly too small to have a dedicated human resources function).

V.2. Focus groups

Two employer focus group sessions were held, one for the automotive sector and one for the IT/ITES sector. Again, Indian industry associations were consulted to identify the participants; FICCI and the Confederation of Indian Industry also provided the venues for the two events. Both focus groups were held in the Delhi area and both were attended mainly by large employers. Accordingly, their findings should be seen as indicative of certain perspectives within each sector, and do not claim to represent the views of the sector as a whole.

A focus group with leading Indian trade unions was facilitated by the ILO, and held at their Delhi offices. Again, this was attended mainly by the Delhi representatives of larger trade unions and should not be seen as fully representative of union views across the country.

The questions for the focus groups were developed following initial analysis of the survey results, and sought to obtain a deeper understanding of employer and union perspectives. However, they were used to steer conversation only; participants were encouraged to respond to each other's points and to take the discussion in the direction that seemed most pertinent to them. This was done to ensure that the content recorded accurately reflected the priorities of the participants, rather than any prejudices of the researchers.

The focus groups were recorded and a word-for-word record later produced.

Appendix VI. Survey results

Notes on data analysis method

Data were analysed using SPSS. Variables were recoded where necessary (e.g. *main subjects taught* was recoded into a variable that showed whether institutions taught automotive, IT or both). Frequencies and descriptives were used to view the responses at a macro level; data were also analysed for significant differences between sectors ($p < 0.05$) using independent samples t-tests and chi-squares.

Where differences between groups are significant, they are highlighted with a note below the table (in cases where the entire table is statistically significant) or by an asterisk (where individual data are statistically significant).

For open-ended questions, responses were grouped and coded in order to identify broad patterns within the data.

VI.1. Survey results: Companies

VI.1.1. Company profile

A total of 144 companies were surveyed, of which 74 per cent were in the automotive sector and 26 per cent were in the IT sector.

Position type	%
General management	54
Human resource management	19
Technical roles	17
Other management	6
Sales role	3
Consultant	1

Employee numbers broke down as follows:

- 10 per cent of companies employed between 0 and 10 staff.
- 48 per cent employed between 11 and 50 staff.
- 16 per cent employed between 51 and 250 staff.
- 7 per cent employed between 251 and 500 staff.
- 20 per cent employed more than 500 staff.

Employees	Automotive %	IT %
0–10	8	16
11–50	57	21
51–250	19	8
251–500	4	16
500+	12	40

Note: $p < 0.05$ (whole table).

An average of 23 per cent of staff were employed in management roles; 56 per cent in skilled or technical roles; and 21 per cent in low-skilled or unskilled roles.

Skill level	Automotive %
Low-skilled/unskilled	25*
Skilled/technical	54*
Management	21

Skill level	IT %
Low-skilled/unskilled	11*
Skilled/technical	63*
Management	26

Staff qualifications were, on average, as follows (some employees had more than one relevant qualification and classes 10/12 are not included here, so the numbers do not add up to 100 per cent):

- 41 per cent had a degree.
- 13 per cent had a postgraduate degree.
- 19 per cent had a vocational qualification.
- 2 per cent had another qualification.
- 2 per cent had no qualifications (below class 10 at school level).

Qualifications	Automotive %
Degree	35
Postgraduate degree	7*
Vocational qualification	25*
Other qualification	3*
No qualification[a]	3*

a. Below class 10.

Qualifications	IT %
Degree	58
Postgraduate degree	29*
Vocational qualification	3*
Other qualification	1*
No qualification[a]	0*

a. Below class 10.

VI.1.2. Recruitment

Of companies, 57 per cent had difficulty finding suitably qualified employees. Of these, 24 per cent had difficulty finding suitably qualified employees for management roles; 83 per cent had difficulty with skilled or technical roles; and 11 per cent had difficulty with low-skilled or unskilled roles.

Difficulty recruiting	Automotive %
Yes	61
No	39

Difficulty recruiting	IT %
Yes	46
No	54

New recruits were expected to have, as basic qualifications:

- class 10 by 20 per cent of companies;
- class 12 by 30 per cent of companies;
- a degree by 72 per cent of companies;
- a postgraduate degree by 29 per cent of companies;
- a vocational qualification by 53 per cent of companies;
- other, such as short-term courses, skill training courses or certificates, by 3 per cent of companies.

Six per cent of companies did not have any qualification requirements for new recruits.

Qualifications	Automotive %
Class 10	26*
Class 12	38*
Degree	65*
Postgraduate degree	20*
Vocational qualification	64*
Other qualification	4
No qualification	8

Qualifications	IT %
Class 10	5*
Class 12	8*
Degree	90*
Postgraduate degree	55*
Vocational qualification	21*
Other qualification	0
No qualification	3

Of companies, 55 per cent used training and development as a means of attracting all new hires; a further 21 per cent used training and development as a means of attracting some new hires; and 24 per cent did not use it as a means of attracting employees.

Training & development: Recruitment tool	Automotive %
Yes, for all new hires	49
Yes, for some new hires	19
No	32

Note: $p < 0.05$ (whole table).

Training & development: Recruitment tool	IT %
Yes, for all new hires	71
Yes, for some new hires	26
No	3

Note: $p < 0.05$ (whole table).

Respondents were asked if this use of training and development to attract new hires was level specific, and if so how. Of the 52 who answered this question, 35 said that it applied to all levels; 10 said that it applied to technical staff only.

VI.1.3. Training and development

Of companies, 74 per cent had a structured staff training programme; 26 per cent did not (71 per cent of automotive companies and 81 per cent of IT companies had a structured staff training programme; not statistically significant).

Structured staff training programme	Automotive %
Yes	71
No	29

Structured staff training programme	IT %
Yes	81
No	19

Per employee per annum training budgets were, on average, as follows:

Budget	Low/unskilled roles %	Skilled/technical roles %	Management roles %
Up to Rs. 1,000	52	21	19
Rs. 1,001 to 2,500	26	28	25
Rs. 2,501 to 5,000	11	29	27
Rs. 5,000 plus	11	21	28

Per employee per annum training budgets for the automotive sector were, on average, as follows (note: the difference with the IT sector is not statistically significant):

Budget	Low/unskilled roles %	Skilled/technical roles %	Management roles %
Up to Rs. 1,000	53	24	23
Rs. 1,001 to 2,500	24	28	25
Rs. 2,501 to 5,000	11	27	26
Rs. 5,000 plus	12	20	25

Per employee per annum training budgets for the IT sector were, on average, as follows (note: the difference with the automotive sector is not statistically significant):

Budget	Low/unskilled roles %	Skilled/technical roles %	Management roles %
Up to Rs. 1,000	49	13	8
Rs. 1,001 to 2,500	33	29	25
Rs. 2,501 to 5,000	12	34	31
Rs. 5,000 plus	6	24	36

Employees received, on average, the following amounts of training:

Training	Low/unskilled roles %	Skilled/technical roles %	Management roles %
Never	7	2	4
Rarely (less than once a year)	27	13	16
At least once a year	30	27	38
At least twice a year	20	34	24
At least three times a year	15	25	18

Sector differences in training for low/unskilled roles were as follows:

Training	Automotive%
Never	5
Rarely (less than once a year)	33
At least once a year	31
At least twice a year	19
At least three times a year	12

Note: $p < 0.05$ (whole table).

Training	IT %
Never	14
Rarely (less than once a year)	11
At least once a year	28
At least twice a year	22
At least three times a year	25

Note: $p < 0.05$ (whole table).

Sector differences in training for those in skilled or technical roles were as follows (NB: not statistically significant):

Training	Automotive %
Never	2
Rarely (less than once a year)	16
At least once a year	28
At least twice a year	31
At least three times a year	23

Training	IT %
Never	3
Rarely (less than once a year)	3
At least once a year	24
At least twice a year	40
At least three times a year	32

Sector differences in training for those in management roles were as follows:

Training	Automotive %
Never	4
Rarely (less than once a year)	19
At least once a year	43
At least twice a year	19
At least three times a year	15

Note: $p < 0.05$ (whole table).

Training	IT %
Never	3
Rarely (less than once a year)	8
At least once a year	24
At least twice a year	40
At least three times a year	26

Note: $p < 0.05$ (whole table).

Training was provided:

- In-house at 48 per cent of companies;
- Externally at 18 per cent of companies;
- Both in-house and externally at 34 per cent of companies.

Training	Automotive %
In-house	44
Externally	25
Both	31

Note: $p < 0.05$ (whole table).

Training	IT %
In-house	58
Externally	0
Both	42

Note: $p < 0.05$ (whole table).

Within companies who trained their employees in-house, 95 per cent reported using existing employees to deliver the training and 26 per cent reported using trainers or consultants from an external organization. External training was most commonly delivered by private training institutions (91 per cent) followed by not-for-profit training institutions (nine per cent), then government training institutions (three per cent). Companies tended to be more satisfied with the quality of their employees' external training than with internal training:

Quality level	In-house %	External %
Extremely high quality	6	18
High quality	46	52
Moderate quality	45	29
Low quality	2	1
Very low quality	0	0
Not sure	1	0

Companies' views on quality in the automotive sector were as follows (note that there is no significant difference with the IT sector):

Quality level	In-house %	External %
Extremely high quality	5	19
High quality	49	57
Moderate quality	43	22
Low quality	3	2
Very low quality	0	0
Not sure	0	0

Companies' views on quality in the IT sector were as follows (note that there is no significant difference with the automotive sector):

Quality level	In-house %	External %
Extremely high quality	8	13
High quality	40	33
Moderate quality	50	53
Low quality	0	0
Very low quality	0	0
Not sure	2	0

Changes in employee effectiveness were rated as follows:

Effectiveness	In-house %	External %
Significantly greater employee effectiveness	22	31
Moderately greater employee effectiveness	65	58
No change in effectiveness	1	3
Not sure	12	8

Changes in employee effectiveness in the automotive sector were rated as follows (note that there is no significant difference with the IT sector):

Effectiveness	In-house %	External %
Significantly greater employee effectiveness	22	36
Moderately greater employee effectiveness	65	55
No change in effectiveness	1	3
Not sure	13	5

Changes in employee effectiveness in the IT sector were rated as follows (note that there is no significant difference with the automotive sector):

Effectiveness	In-house %	External %
Significantly greater employee effectiveness	24	13
Moderately greater employee effectiveness	66	69
No change in effectiveness	0	3
Not sure	11	8

Respondents were asked how, if at all, their in-house and externally-provided training could be improved. However, very few respondents offered an answer and the answers gave no clear pattern.

In 7 per cent of companies, employees' training resulted in a nationally recognized qualification; in 39 per cent, it resulted in a certificate recognized internally; in 29 per cent, it resulted in progression to the next level of training; and to none of those in 25 per cent of companies. There were no significant differences at sector level.

In terms of training outcomes, the automotive sector presented as follows (note that there is no significant difference with the IT sector):

Training outcome	Automotive %
A nationally recognized qualification	7
A certificate recognized internally	44
Continued training	31
None of the above	19

The IT sector presented as follows (note that there is no significant difference with the automotive sector):

Training outcome	IT %
A nationally recognized qualification	6
A certificate recognized internally	19
Continued training	25
None of the above	50

Companies' requirements of their trainers were as follows:

- 3 per cent required their trainers to have at least class 10.
- 5 per cent required their trainers to have at least class 12.
- 74 per cent required their trainers to have a degree.
- 42 per cent required their trainers to have a postgraduate degree.
- 44 per cent required their trainers to have a vocational qualification.
- 6 per cent required their trainers to have another qualification.
- 2 per cent did not require their trainers to have any qualifications.

Trainer qualification requirement	Automotive %
Class 10	4
Class 12	6
Degree	74
Postgraduate degree	35*
Vocational qualification	57*
Other	6
None	2

Trainer qualification requirement	IT %
Class 10	0
Class 12	3
Degree	74
Postgraduate degree	63*
Vocational qualification	11*
Other	8
None	3

Companies' most significant training needs were found in technically-skilled employees (72 per cent), followed by recruits from full- or part-time education (27 per cent), management (26 per cent), other sectors (18 per cent), competitors (15 per cent) and other (1 per cent).

Significant training needs	Automotive %
Recruits from competitors	11*
Recruits from other sectors	15
Recruits from full- or part-time education	26
Technically skilled employees	77*
Management	23
Other	1

Significant training needs	IT %
Recruits from competitors	26*
Recruits from other sectors	26
Recruits from full- or part-time education	32
Technically skilled employees	58*
Management	37
Other	3

Of companies, 81 per cent actively encouraged continued training. Of these:

- 32 per cent did it by allowing employees to self-select training and to do it in work.
- 29 per cent did it by recompensing any training costs incurred by employees that were relevant to the business and pre-agreed.
- 58 per cent did it by providing a training and development plan for employees.
- 17 per cent did it by working with external organizations to ensure that all training requirements were met.
- 6 per cent did it in some other way.

Encouragement of continued training	Automotive %
Yes	76
No	24

Note: $p < 0.05$ (whole table).

Encouragement of continued training	IT %
Yes	95
No	5

Note: $p < 0.05$ (whole table).

Some companies struggled to offer training in certain areas due to lack of availability:

- 65 per cent were unable to provide technical training.
- 40 per cent were unable to provide training in soft skills.
- 31 per cent were unable to provide management training.
- 29 per cent were unable to provide engineering training.
- 11 per cent were unable to provide other types of training.

Unable to provide training	Automotive %
Technical	67
Soft	37
Management	25*
Engineering	35*
Other	9

Unable to provide training	IT %
Technical	61
Soft	47
Management	47*
Engineering	13*
Other	16

VI.1.4. Future skill needs and sector skill councils

Of organizations, 43 per cent believed that their company's skill needs were likely to change over the next 10 years; this did not vary significantly by sector:

Change in company skill needs: 10 years	Automotive %
Yes	41
No	59

Change in company skill needs: 10 years	IT %
Yes	50
No	50

When asked how skill needs were likely to change, the most commonly given answers were technological drivers (15 responses out of 32) and adapting to changes in their industry (eight responses).

A higher proportion, however, had plans to adapt their workforces according to any changes predicted within their sectors:

- For 32 per cent, the focus would be on new recruits and bringing in new skills.
- For 29 per cent, the focus would be on investing and developing their existing workforce to adapt.
- 39 per cent had no such plans.

This did not differ significantly according to sector:

Workforce adaptation plans	Automotive %
New recruits bringing in new skills	33
Invest in and develop existing workforce	26
None	41

Workforce adaptation plans	IT %
New recruits bringing in new skills	29
Invest in and develop existing workforce	37
None	34

Of companies, 26 per cent perceived changes in terms of their skill requirements as being a significant cost to their business. This did not differ significantly by sector:

Skill requirements: Cost	Automotive %
Yes	27
No	73

Skill requirements: Cost	IT %
Yes	24
No	76

Of companies, 33 per cent worked with other industry organizations to address their sector's training needs. This did not differ significantly by sector:

Industry organizations	Automotive %
Yes	36
No	64

Industry organizations	IT %
Yes	26
No	74

When asked with which organizations they worked, 24 of 32 respondents cited a large private company in their respective sector; only six cited one or more industry bodies. Also, eight per cent had heard of SSCs. Again, this did not differ significantly by sector:

SSCs	Automotive %
Yes	8
No	92

SSCs	IT %
Yes	5
No	95

VI.2. Survey results: Trainers

VI.2.1. Trainer profile

In total, 102 training institutes were surveyed, of which:

- 38 per cent were government run, 58 per cent were privately run and four per cent were run by not-for-profit institutes.
- 12 per cent taught one main industry subject and 88 per cent taught multiple subjects.
- 29 per cent taught automotive, 60 per cent taught IT and 11 per cent taught both.

An average of 13 teaching staff was employed by each institution; numbers of teaching staff ranged between one and 85.

VI.2.2. Qualifications and experience

Of respondents, 35 per cent believed that there was a difference in the qualifications held by training staff at different levels; 65 per cent did not. There were no significant differences by training institution type or by sector.

Difference	Automotive %
Yes	32
No	68

Difference	IT %
Yes	40
No	60

The experience of teaching and training staff averaged as follows, according to their (a) training experience and (b) industry experience:

Years' experience	Training %	Industry %
0 to 1	18	33
1 to 5	44	47
5 to 10	17	10
10 to 15	7	2
More than 15	11	0

Differences in training experience differed by sector, as follows:

Years' experience	Automotive %
0 to 1	11*
1 to 5	35
5 to 10	21
10 to 15	11*
More than 15	23*

Years' experience	IT %
0 to 1	24*
1 to 5	51
5 to 10	15
10 to 15	3*
More than 15	3*

Industry experience did not differ significantly by sector or by training institution type:

Years' experience	Automotive %
0 to 1	35
1 to 5	42
5 to 10	9
10 to 15	5
More than 15	0

Years' experience	IT %
0 to 1	32
1 to 5	54
5 to 10	8
10 to 15	1
More than 15	0

Respondents were asked the extent to which they agreed with the two following statements:

- It is essential that teachers and trainers have substantial training experience in order to be effective.
- It is essential that teachers and trainers have substantial industry experience in order to be effective.

Extent of agreement	Training experience %	Industry experience %
Strongly agree	52	35
Agree	42	54
Neither agree nor disagree	5	7
Disagree	1	3
Strongly disagree	0	1

There were no significant differences by sector. For the automotive sector, the numbers were as follows:

Extent of agreement	Training experience %	Industry experience %
Strongly agree	52	38
Agree	41	62
Neither agree nor disagree	7	0
Disagree	0	0
Strongly disagree	0	0

For the IT sector, the numbers were as follows:

Extent of agreement	Training experience %	Industry experience %
Strongly agree	53	38
Agree	40	46
Neither agree nor disagree	5	10
Disagree	2	5
Strongly disagree	0	2

Teachers and trainers in institutions possessed pedagogical and technical skills as follows:

Extent of skills	Pedagogical skills %	Technical skills %
To a large extent	40	66
To a moderate extent	43	31
Neutral/unsure	13	1
Not really	3	1
Not at all	1	1

The extent to which respondents believed their teachers and trainers possessed the appropriate pedagogical skills varied by sector. For the automotive sector, the figures were:

Extent of skills	Pedagogical skills %	Technical skills %
To a large extent	28	62
To a moderate extent	62	35
Neutral/unsure	10	0
Not really	0	3
Not at all	0	0

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

For the IT sector, the figures were:

Extent of skills	Pedagogical skills %	Technical skills %
To a large extent	53	74
To a moderate extent	28	25
Neutral/unsure	13	0
Not really	5	0
Not at all	2	2

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

Respondents were asked what the main strengths of their teaching workforce were; 93 answered this question, as follows:

Response	Number of responses
Experience	27
Pedagogical skills	21
Technical/subject knowledge	19
Dedication/attitude	7
Qualifications	7
Communication skills	5
All-round knowledge	5
Theoretical knowledge	4
Maintaining discipline	3
Time management	2

Respondents were asked what, if any, were the skill gaps in their training workforce; 69 answered this question, as follows:

Response	Number of responses
None	27
Communication skills	9
Familiarity with latest technology	9
Industry experience	7
Pedagogical skills	6
Practical knowledge	4
Language skills	1

Respondents were asked to say what would be most helpful in improving the quality of training available in their institution; 72 respondents answered this question. Most answers were of a very general nature, with relatively few specific ideas for capacity building identified.

Response	Number of responses
Training/more training	31
Seminars/workshops/lectures	31
Industry exposure	12
Technology/practical training	8
Market awareness	3
Better training materials	2
Soft skill training	1
Video/audio technology	1
Refresher training	1
Pedagogical training	1

VI.2.3. Training and development

Of institutions, 17 per cent offered industry placements to all their training staff and a further 24 per cent to some of their training staff. Another seven~~7~~ per cent had plans to do so, while the majority (53 per cent) did not offer such placements.

Placements varied by sector:

Industry placements	Automotive %
Yes, to all	3
Yes, to some	24
No, but there are plans to do so	14
No	59

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

Industry placements	IT %
Yes, to all	26
Yes, to some	23
No, but there are plans to do so	5
No	46

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

Of institutions, 92 per cent offered their teachers and trainers continuing professional development. Of those, 37 per cent of institutions offered it to all their teachers and trainers, 22 per cent offered it to the majority, 26 per cent offered it to some and 15 per cent offered it to few of their teachers and trainers. There were no significant differences according to sector as to whether teachers and trainers were offered continuing professional development:

Professional development	Automotive %
Yes	89
No	11

Professional development	IT %
Yes	92
No	8

Within those institutions that offered it, however, there were significant differences in the quantity of teaching staff to whom it was offered:

Professional development	Automotive %
All	28
The majority	28
Some	28
Few	16

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

Professional development	IT %
All	49
The majority	20
Some	18
Few	13

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

This continuing professional development could consist of (respondents were asked to say yes to any that applied):

- training from industry practitioners: 30 per cent
- training from trainers: 42 per cent
- in-house training: 16 per cent
- external training: 27 per cent
- coaching and mentoring: 10 per cent.

Institutions offered, on average, 14 professional development days per annum (there was no significant difference between the automotive and IT sectors here, at 18 days and 11 days respectively). Of organizations, 62 per cent had some contact with external sectoral bodies, such as SSCs, in the development of their continuing professional development programmes for trainers; the difference between sectors was not significant here, with 65 per cent of automotive training institutes having contact and 69 per cent of IT (these are higher than the mean due to training institutes that offered both having significantly less contact, at 18 per cent).

VI.2.4. Recruitment

When recruiting teachers and trainers, technical skills were more important than pedagogical skills to 27 per cent of institutions; pedagogical skills were more important than technical skills to 6 per cent of institutions; 63 per cent believed that they were equally important; and 4 per cent did not know. Training experience, however, was more important than industry experience to 29 per cent of institutions; 12 per cent believed that industry experience was more important; 53 per cent believed that both were equally important; and 6 per cent did not know.

There was no significant difference between sectors as to either variable:

Skills	Automotive %
Technical skills	31
Pedagogical skills	0
Both in equal measure	69
Neither/don't know	0

Skills	IT %
Technical skills	26
Pedagogical skills	10
Both in equal measure	59
Neither/don't know	5

Experience	Automotive %
Industry experience	10
Training experience	17
Both in equal measure	66
Neither/don't know	7

Experience	IT %
Industry experience	15
Training experience	38
Both in equal measure	41
Neither/don't know	7

Respondents were asked what skills and qualifications were essential to them when recruiting for new trainer posts; 94 responded to the question. By far the most important factor appeared to be the possession of a degree, with "experience" ranking second (in most cases, respondents did not specify whether experience in the relevant industry or experience of training was required).

Response	Number of responses
Degree	41
Experience (unspecified)	20
Technical skills	15

Training/teaching experience	12
Teaching skills	8
Industry experience	7
Diploma	7

When asked whether, when advertising for a role, institutions received applications from candidates who had the appropriate skills and experience, respondents stated:

- yes, regularly: 54 per cent
- yes, sometimes: 25 per cent
- yes, but rarely: 9 per cent
- no: 3 per cent
- don't know: 9 per cent.

There were significant differences between sectors in terms of applicants' suitability:

Appropriate skills & experience	Automotive %
Yes, regularly	41
Yes, sometimes	35
Yes, but rarely	7
No	3
Don't know	14

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

Appropriate skills & experience	IT %
Yes, regularly	66
Yes, sometimes	23
Yes, but rarely	7
No	2
Don't know	3

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

VI.2.5. Employment terms and conditions

Trainers received on average 23 days' annual holiday. There was no significant difference between sectors (25 days for the automotive sector and 21 days for the IT sector). Average salary for teachers and trainers was as follows:

- with 0–1 years' experience: Rs. 9,728
- with 1–5 years' experience: Rs. 14,744
- with 5–10 years' experience: Rs. 22,098
- with 10–15 years' experience: Rs. 33,292
- with more than 15 years' experience: Rs. 35,588.

There were no significant differences in salary by sector:

Salary	Automotive Rs.
0–1 years' experience	10,514
1–5 years' experience	15,833
5–10 years' experience	27,333
10–15 years' experience	37,143
15+ years' experience	31,222

Salary	IT Rs.
0–1 years' experience	8,333
1–5 years' experience	12,967
5–10 years' experience	18,282
10–15 years' experience	29,167
15+ years' experience	41,200

Of respondents, 46 per cent believed that teachers and trainers with particular qualifications received a higher salary; 54 per cent did not. There was a significant difference in opinion by sector:

Qualifications: Salary	Automotive %
Yes	28
No	72

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

Qualifications: Salary	IT %
Yes	59
No	41

Note: The difference between the automotive and IT sectors is significant ($p < 0.05$).

Respondents were asked what other employment benefits their staff received; 75 responded to this question.

Response	Number of responses
None	23
Insurance	18
Medical	14
Government benefits	13
PPF (Public Provident Fund)	8
GPF (General Provident Fund)	5
Leave travel allowance	2

VI.2.6. Sector skill councils

Of respondents, 1 per cent had heard of SSCs; 99 per cent had not. There was no significant difference here by sector; only one respondent had heard of SSCs, who worked in an institution that taught IT.